CANADA

TELECOMMISSION STUDY 8(c)

NORTHERN COMMUNICATIONS STUDY

Volume 3: Northern Communications Requirements

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NORTHERN COMMUNICATIONS STUDY

VOLUME 3: NORTHERN COMMUNICATIONS REQUIREMENTS

FORWORD

This Volume of Telecommission Study 8(c) was written by T.V. Myrick, D.S. Loftus, W.P. Bracuk, and H. Turkowsky. It is based on information obtained from field trips and responses to a communications survey questionnaire. The findings are tentative because Telecommission schedules did not allow sufficient time for an exhaustive field study to determine first hand all communication requirements.

TELECOMMISSION DOCUMENTATION

This is Volume 3 of Contribution No. 4 to Telecommission Study 8(c).

The complete documentation for the Telecommission Study is:

Contribution No. 1 - Report: "Communications in the Canadian North"

Contribution No. 2 - Catalogue: "Communications Systems in Northern Canada"

Contribution No. 3 - Report: "Yellowknife Northern Communications Conference"

Contribution No. 4 - Northern Communications Study

- Vol. 1 - Synopsis
- Vol. 2 - Prospects for Northern Development
- Vol. 3 - Northern Communications Requirements
- Vol. 4 - General Information and Broadcasting Services for the North
- Vol. 5 - Terrestrial Systems
- Vol. 6 - Communication Satellite Systems
- Vol. 7 - Northern Communications Co-ordination and Planning.

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SYNOPSIS

This volume of Telecommission Study 8(c) is a preliminary statement of telecommunication requirements for the Canadian North. The area covered includes the Yukon and Northwest Territories, and the northern parts of the Provinces of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, and Newfoundland. Several field trips were undertaken to investigate, first hand, the adequacy of services in the Yukon, Mackenzie Delta and Great Slave Area, Baffin Island, Northern Quebec and Labrador. Surveys of existing telecommunications facilities were briefly made in the Provinces of British Columbia and Alberta. Information on the Provinces of Manitoba, Saskatchewan and Ontario is based on surveys conducted by the Department of National Health and Welfare.

An attempt was made to obtain information on communication requirements in places that could not be visited by the distribution of a communications survey questionnaire. The questionnaire was circulated to as many agencies as possible that were active in the North by the Department of Communications and the Trans Canada Telephone System. Each provincial telephone company was responsible for submitting responses on their provinces to the Telecommission Study. The questionnaire attempted to elicit present and future communication user requirements. An attempt was also made to assess the adequacy of existing communication systems in the areas visited or surveyed.

Chapter I of this report outlines the general requirements for telecommunication services to bring telephone, teletype and data services to remote communities in the North.

Chapter II of the report discusses the special requirements of agencies who operate throughout the North and fulfill a special role, e.g. Ministry of Transport and the Department of National Defence.

Chapter III deals with the requirement for services to provide information, education, and entertainment - the type of services closely associated with broadcasting.

Chapter IV Draws some conclusions from the study.

Annex I tabulates the status of existing services and details the locations where improvements are needed in the form of Telecommunications Status Reports.

Annex II contains the Communication Survey Form that was distributed for the Telecommission.

Annex III is a detailed report on the Labrador Coast survey trip.

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GENERAL REQUIREMENTS FOR

TELEPHONE, DATA, AND TELETYPE SERVICES

CHAPTER I

GENERAL REQUIREMENTS FOR TELEPHONE, DATA, AND TELETYPE SERVICES

There are three broad user categories for northern communications services;

(a) General Public
(b) Government Agencies
(c) Business and Industry

(a) General Public

There is a tremendous need for telecommunications to serve the general public in northern Canada. This need exists not only in the two Territories but extends deep into southern Canada. A typical community deprived of adequate communications has a population varying from 50 - 800. In the majority of cases these communities are occupied by Indians or Eskimos. These communities have either no telecommunications or are connected into the national telephone network by High Frequency (HF) radio stations that do not provide a sufficiently high degree of reliability.

This study had adopted the following criteria to permit a quantative assessment of which communities are entitled to improved telecommunication services:

(1) Every permanent community having a population greater than 50 should have at least one telephone channel for intra and inter-regional communication and access to the national telephone network. Local exchange facilities for intra-community use should be provided.

(2) Service should be available on a 7-day 24-hour basis.

(3) Reliability should be in the order of 95% and prolonged outages should not exceed $\frac{1}{2}$ day in the worst (and exceptional) cases.

(4) Communications should be sufficiently private to allow the transmission of confidential information.

It should be appreciated that the above criteria may not find general acceptance, but they can be used as a first attempt to establish benchmarks for northern requirements.

(b) Government Agencies

Government agencies in the Territories and the Provinces have a requirement to use telecommunications facilities for administrative purposes. They require a telephone voice channel and a teletype channel for connection to regional centres. The telephone channel should meet the reliability and availability requirements discussed above for General Public Services. The teletype channel should be capable of carrying low speed data at a rate of 60 - 100 words per minute. The major government users are the Provincial and Territorial Governments and their agencies, and federal agencies including the Ministry of Transport, National Health and Welfare, Indian Affairs and Northern Development, Energy, Mines and Resources, R.C.M. Police, and the Department of National Defence.

For communities with a population of 300 or more there is a requirement for Telex or TWX service.

(c) Business and Industry

The industrial requirement for the retail traders and the transportation companies is similar to the above government needs for northern telecommunications. But industry has special additional needs particularly in the mining and oil exploratory fields. For oil, gas, and mineral exploratory work there is a need for transportable stations which can be easily moved at short notice. These stations should be able to transmit voice and data signals to a base or regional centre for onward routing to southern Canada. When large industrial projects are launched, such as large mines or hydro works, there is a requirement to transmit many voice channels and data signals at speeds of 1200 and 2400 bits/sec.

A general rule for traffic in northern areas is that 75% of telephone calls are of an intra-regional nature. The essential requirement is for remote communities to contact their regional centre where connections can be made to the national network. From the regional centre the major portion of telephone calls are destined for southern Canada.

The North has many special communication requirements apart from services that are to be connected into the national telephone network. The harshness and desolation of the environment and the life of the residents render further communication needs important.

Concern has been expressed that many northern residents involved in hunting and fishing activities do not have any means of communicating with their resident communities. More important, they do not have the means to alert their home communities if an emergency develops.

The priorities for telecommunication services are:

(1) A reliable telephone (voice) service so that emergency or urgent situations can be reported and help obtained.

(2) A reliable telephone (voice) service for intra-regional communications both for the general public and government agencies.

(3) A reliable teletype channel for the transmission of hard copy messages by government agencies.

(4) Reliable inter-regional telephone (voice) and teletype circuits.

(5) Trunk facilities for the transmission of audio (first priority) and video program material for broadcast distribution. (See Chapter III).

(6) Facilities for the transmission of medium or high speed data to and from industrial centres.

(7) Telex or TWX connections to communities with populations in excess of 300 for government administration.

Since intra communications are high on the list of priorities the North has been divided into the following regions for planning purposes:

(a) Baffin Region
(b) District of Keewatin
(c) Arctic Islands
(d) Arctic Quebec
(e) Northern Manitoba
(f) Northern Saskatchewan
(g) Northern Ontario
(h) Yukon
(i) Labrador Coast
(j) Northern Alberta
(k) Northern British Columbia
(l) Mackenzie Delta and Great Slave Area

A synopsis of the requirements of the various regions is given below and details are given in the Tables at the end of the Volume. Attention is given primarily to general public and government needs since the areas of industrial mining and exploratory activity are reviewed in Volume 2 of Telecommission Study 8(c) entitled "Economic Prospects for the Territories".

(a) Baffin Region

The survey revealed that 11 locations in this area require reliable voice and data communications. Existing service is by HF radio only. There are HF systems operated by Bell Canada, Ministry of Transport, R.C.M.P., and the Hudson Bay Company. The residents of the communities, the Territorial Government, and the transportation companies have voiced their concern about the inadequacy of the public services in this region. The communities where reliable voice and teletype services should be provided, and the distance to the nearest trunk interconnection point, are:

Location	Population	*Distance
Arctic Bay	250	750
Broughton Island	350	300 (75)
Cape Dorset	588	225
Clyde River	292	450 (325)
Grise Fiord	100	900 (600)
Hall Beach	250	475 (2)
Igloolik	530	525 (35)
Lake Harbour	200	75
Pond Inlet	412	650
Pangnirtung	642	175 (125)
Resolute Bay	254	950 (425)

All communities are tied into Frobisher Bay for administrative purposes. From Frobisher Bay there is a heavy requirement for traffic to southern Canada. Frobisher Bay is the regional centre of the Territorial Government and it is expected that traffic to Yellowknife will increase substantially in the future. An urgent requirement exists for reliable communications between Frobisher Bay and Resolute Bay on Cornwallis Island. Resolute Bay is the centre of activity for such communities as Grise Fiord, Arctic Bay, Pond Inlet and Clyde River.

Apart from the requirement of the Territorial Government for reliable communications for the administration of the region, the Department of National Health and Welfare must have reliable communications to support health services. In the event of illness it is important that doctors at Frobisher Bay can

* Distances in brackets show how far the community is from the DEW line or Polevault System.

communicate with local nurses or area administrators in the remote settlements to give emergency instruction. It is also important for community administrators to contact Frobisher Bay for aircraft if patients have to be flown out to Frobisher Bay for treatment at this regional centre, or for subsequent transfer to Montreal.

Airline companies are dissatisfied with the existing services in the Baffin Region. Requests have recently been received from Atlas Aviation to establish their own HF radio system operating out of Resolute Bay. Airline companies have a particularly serious requirement to know the weather and landing conditions before they travel to or from remote communities.

Nordair has expressed strong dissatisfaction with communications in the Baffin Region. They have indicated a requirement for reliable voice and message communications at the following places:

Povungnituk	Pond Inlet
Lake Harbour	Clyde River
Arctic Bay	Broughton Island
Resolute Bay	Pangnirtung
Grise Fiord	

They desire communications to those points from Frobisher Bay and Montreal. In their opinion the present public service is very inadequate and in cases of emergency they have to use the HF radio systems of the R.C.M.P. and the Oblate Fathers.

The Glaciology Division of the Department of Energy, Mines and Resources has two base HF stations on Baffin Island working several transportable stations. It is expected ultimately that the number of base stations will increase to 10, while the number of remote transportable stations may be increased to 20. Messages are carried between remote stations and from the base stations to Ottawa.

(b) District of Keewatin

The survey revealed that ten locations in this area require reliable voice and data communications. Existing service is by HF radio only. There are HF systems operated by Bell Canada, C.N. Telecommunications, the Hudson Bay Company, R.C.M.P., Les Missionaires Oblats de Marie Imaculee, and the Ministry of Transport. Exchange facilities for local distribution exist in most communities. The Territorial Council, the Territorial Government, and transportation companies have complained about the inadequacy of public service in these regions. The communities where reliable voice and teletype services should be provided, and the distance to the nearest trunk interconnection point are:

Location	Population	Distance
Baker Lake	596	375
Belcher Islands	210	350
Coral Harbour/Southampton Island	310	450
Chesterfield Inlet	220	325
Eskimo Point	480	150
Gjoa Haven	250	225
Pelley Bay	180	225
Rankin Inlet	430	275
Repulse Bay	146	525
Whale Cove	200	225

There is also a community of interest with settlements in the Baffin Region. Keewatin District is presently administered from Churchill, Manitoba. There is a requirement for solid communications, by other than HF radio means, for communications between Baker Lake and Churchill, and between Baker Lake and Yellowknife. The Department of National Health and Welfare has a requirement for reliable communications to support health services. Communications from Churchill to southern Canada are good but there is no reliable system or circuit linking Churchill with the Keewatin communities.

(c) Arctic Islands

There is a requirement to serve seven communities on the Arctic Islands with improved public communications. There is also a requirement for communications in this area to serve government and industry exploration activity and scientific surveys. The Glaciology Division of the Department of Energy, Mines and Resources have a requirement for communications between stations at Barnes Ice Cap (73°W, 70°N), Generator Lake (71°51'W, 69°38'N), and Decade Glacier (69°48'W, 69°38'N). Communications are required between these stations and from the station at Generator Lake to the Per Ardua Glacier (76°35'W, 81°32'N) and from there to Ottawa. The Department has plans for an additional field area at Southeast Ellesmere Island, so that communications from this area will be needed.

It would appear ultimately that this Department will require extensive telemetry networks throughout the Arctic to relay data to Ottawa or some other large centre. There will also be a requirement for voice communications between field operators for emergency and administrative communications.

The major oil companies have expressed interest in transportable stations in the Arctic Islands to transmit voice and data information to points in southern Canada such as Edmonton or Calgary. Presently communications are required for exploration activity. Precise numbers cannot be given for the number of

transportable stations required. The oil companies presently work into a private HF radio system to Edmonton. An entrepreneur at Edmonton has recently established a telephone answering service for HF radio to the High Arctic, which is used by many oil companies. There are complaints now that the service is inadequate and that remote stations have to queue for long periods before their calls can be completed. It is noteworthy that the existing HF system is used for voice communications only but that the availability of a medium speed data link has been requested. Another point for consideration is that planning should take place now to meet requirements in the event that there is a major oil discovery on the Arctic Islands.

In summary for oil exploration activity, flexible communications systems should be designed to meet requirements at short notice in areas of the Arctic where oil exploration is proceeding.

The communities where reliable voice and teletype should be provided, and the distance to the nearest trunk interconnection are:

Location	Population	Distance
Bathurst Inlet	50	180
Holman Island	180	325
Paulatuk	100	250
Perry River	50	125
Sachs Harbour	132	260
Spence Bay	270	280
Thom Bay	50	300

(d) Arctic Quebec

There are 26 locations in Arctic Quebec having a requirement for new or improved telephone and data services.

Communities in Arctic Quebec are connected to the telephone network by HF radio. There are also HF systems operated by the Hudson Bay Company. The communities where reliable voice and teletype services should be provided and the distance to the nearest trunk interconnection point are:

Location	Population	Distance	Location	Population	Distance
Eastmain	171	120	Nemiscou	172	
Fort Chimo	701	400	One Goeland Lake	100	
Fort George	1300	200	Obedjiwan	400	100
George River	194	375	Paint Hills	535	150
Grand Lac Victoria*	211	30	Payne Bay	159	275
Great Whale River	965	300	Port Harrison	515	500
Koartak	97	200	Povungnituk	639	375
Ivugivik	117	300	Rapid Lake	139	
Lac Albanal*	200		Romaine	704	
			Rupert House	832	90

Location	Population	Distance	Location	Population	Distance
Lac Evans*	50		Sugluk	337	250
Lac Simon*	239		St.Augustine*	900	
Leaf Bay	50	350	Wakeham Bay	194	200
Manouane*					

*Clarification of the status of these communities is required.

There is likely to be a communication requirement for Raglan Mines on Deception Bay to support a large asbestos operation in this part of Quebec. The requirement is for voice and date transmission. Communications with Frobisher Bay are requested.

Nordair has complained about the quality of services in Arctic Quebec. They are anxious to have reliable communications to the following points:

Fort George	Asbestos Hill
Great Whale	Raglan Lake
Port Harrison	Douglas Harbour
Povungnituk	Wakeham Bay
Ivugivik	Payne Bay
Deception Bay	Fort Chimo

Fecteau Airlines indicate that they are interested in having good communications to the following points: Gagnonville, Seneterre, Paint Hill, Cape Jones, Povungnituk, Sugluk, Wakeham Bay. Mining Companies have a requirement for transportable stations.

Occasionally there is a demand for communication channels handling data at the rate of 2400 bits/sec. (Teletype information is also required at a speed of 100 words per minute.) Error rates of the order of 1 error in 10^5 bits is desired. The usual need is for transportable stations to operate into major centres, preferably those in southern Canada.

(e) Northern Manitoba

There are 34 locations in northern Manitoba having a requirement for new or improved telephone and data services. Most of the communities concerned are populated by Indian people. The requirement is for reliable public telephone service and a communications system to support health services provided by National Health and Welfare. Steps were taken recently to implement an HF radio system by Manitoba Telephone System in cooperation with the Department of Communications and National Health and Welfare. But this is an HF system which is not considered adequate for permanent service because

a) the reliability cannot approach an acceptable level for emergency communications
b) there is no provision for public telephone service to serve the communities with reliable trunk connections to the telephone network.

(c) This system is dedicated to the use of National Health and Welfare only and public access to the system is not possible. The places where requirements exist are as follows:

Location	Population	Distance	Location	Population	Distance
Berens River	763	90	Nelson House	1282	35
Bloodvein	308	60	Oxford House	800	298
Brochet	637	77	Pauingassi	160	120
Cross Lake	1840	38	Pinedock	109	45
Dauphin River	80	28	Popular River	385	135
Easterville	344	25	Pukatawagan	836	7
Garden Hill	1129	208	Red Deer Lake	62	6
God's Lake Narrows	887	258	Red Sucker Lake	218	258
God's Lake	83	258	Sault Point	60	30
God's River	50	258	Shoal River	490	
Granville Lake	80	110	South Indian Lake	477	150
Hole River	300	7	Split Lake	400	15
Jackhead	242	60	St. Theresa Point	880	208
Little Black River	168	18	Shamattawa	344	107
Little Grand Rapids	450	110	Wasagamach	450	208
Matheson Island	160	50	Waterhen	677	40
Moose Lake	630	38	York Landing	80	8

It appears clear that the Province of Manitoba is in need of improved telecommunication facilities that will connect the above communities into the national telephone network. The number of HF stations licensed to private operators is in the order of 1,000 stations. Licensees include such diverse agencies as the Department of Indian Affairs and Health and Welfare for Manitoba, United Church of Canada, Lamb Airways, Sherritt Gordon Mines Ltd., Central Geophysics Ltd., etc. It is interesting to note that the Manitoba Government Air Services have a very extensive communication network serving Northern Manitoba. They have base stations at The Pas, Thompson and Norway House. The system is used for air-ground communications for the agency's operations in Northern Manitoba, for aircraft in constant contact with the ground for patrol purposes, and for protection purposes. This agency expresses satisfaction with the capability of its own system to handle its particular requirements, although there is no indication that the public need has been fulfilled.

(f) Northern Saskatchewan

About 60 communities in northern Saskatchewan require improved communications. The communities are inhabited by Indian bands. Most of these communities are tied into a system operated by the Department of Natural Resources of the Saskatchewan Provincial Government over HF radio. The premise is that the service to these

communities is not sufficiently reliable, nor is an adequate level of service maintained. The Department of Natural Resources provides telephone service for the general public in addition to a number of provincial departments such as the Departments of Highways, Forest Products, Saskatchewan Power Corporation, Department of Indian Health Services, etc. The Department of Natural Resources serves the northern subscribers with HF radio base stations at

i) Lac La Ronge
ii) Buffalo Narrows
iii) Brabant Lake
iv) Cree Lake
v) Stoney Rapids
vi) Uranium City
vii) Wollaston
viii) Flin Flon
ix) Meadow Lake
x) Hudson Bay
xi) Prince Albert

The quality of transmission of the network, as admitted by the Department of Natural Resources, is unsatisfactory. There are difficulties in transmission and there are difficulties in providing operating schedules on an 8-hr. 5-day week basis. There is considerable jamming of the network in view of the large number of stations in the system.

Specific agencies in Saskatchewan have indicated requirements for special services to support their operations. These facilities are required to

(a) provide trunk facilities for the Department of Education to transmit radio and perhaps television programs to northern schools;
(b) Saskatchewan Power Corporation require more efficient and reliable communication system for monitoring and controlling the electrical power network;
(c) The Saskatchewan Hospital Services Plan needs a basic reliable communications system between their various hospitals and clinics in northern Saskatchewan in addition to a means of communication with southern hospitals for information, emergencies, etc.;
(d) Industries such as pulp and sawmill operators require reliable voice and data facilities. It is predicted that the pulp and sawmill complex in the Canoe Lake area will require these facilities.

Note: Future needs identified by the Department of Natural Resources include a new air transportation system for northern settlements requiring communications support. Very long range plans for northern hospitals would include data facilities with long line terminals to a central computer for diagnostic and data purposes. The Department of Highways would like a more reliable private communications system, and the Anglo Rouyn Mine has a potential need for a system to carry voice and data transmission to sourthern areas.

The communities where new or improved voice and teletype services are required and the distance to the nearest trunk interconnection point are:

Location	Popn.	Distance (mi)	Location	Popn.	Distance (mi)
*Albertville	78	on trunk route	Hudson Bay	1957	on trunk route
*Arbourfield	494	" " "	Ile-a-Crosse	941	104
*Aylsham	176	" " "	Island Falls	178	60
Beauval	486	85	La Loche	1090	200
* Big River	898	on trunk route	*La Ronge	994	on trunk route
Birch Hills	723	" " "	*Mayfair	114	" " "
Black Lake	415	100	*Meadow Lake	3317	" " "
Buffalo Narrows	611	130	*Meath Park	198	" " "
Canoe Lake	320	80	Molonosa	214	15
*Carrot River	1069	on trunk route	Montreal Lake	90	
Chitik Lake(I.R)	260	2	*Nipawin	4300	on trunk route
*Chitik Lake	134	on trunk route	Patuanak	118	105
* Choiceland	493	" " "	Pelican Narrows	130	35
*Christopher Lake	163	" " "	Pinehouse Lake	336	58
*Clemenceau	60	" " "	*Rabbit Lake	225	on trunk route
*Codet	187	" " "	Red Earth	372	50
Cree Lake	57	165	*Reserve	187	on trunk route
*Creighton	1904	on trunk route	Sandy Bay	561	65
Cumberland House	628	55	*Shell Brook	1057	on trunk route
Deschambault Lake	253	29	*Shipman	69	" " "
Dillon	90	127	Shoal Lake	182	55
Dore Lake	112	72	*Snowden	65	on trunk route
*Dorintosh	102	on trunk route	Southend	114	116
*Erwood	119	" " "	Stanley Mission	156	37
*Flin Flon	527	" " "	Stoney Rapids	123	116
Fond du Lac	398	55	Sturgeon Lake	615	25
*Frenchman'sButte	111	on trunk route	*Uranium City	1665	on trunk route
*Glen Bush	55	" " "	*Whire Fox	389	" " "
*Green Lake	744	" " "	Wollaston Lake	57	222
*Gronlid	151	" " "			

* Clarification of the public services available at these locations is necessary.

(g) Northern Ontario

There is a requirement for telecommunications services for telephony and data transmission in 31 locations in Northern Ontario. The essential requirement is to support health services of the

Department of Health and Welfare. The communities where new or improved communications are required and the distance to the nearest trunk interconnection point are:

Location	Popn.	Dist.	Location	Popn.	Dist.
Angling Lake	125	170	New Osnaburgh	600	21
Attawapiskat	441	140	North Spirit Lake	100	112
Bearskin Lake	270	170	Ogoki	195	144
Big Trout Lake	550	160	Pikangikum	661	60
Cat Lake	157	75	Poplar Hill	150	80
Deer Lake	120	115	Round Lake	434	
Fort Albany	220	80	Sandy Lake	850	140
Fort Hope	450	85	Sachigo	140	190
Fort Severn	144	450	Slate Falls	110	68
Grassy Narrows	485	36	Weagamow (Round Lake)	144	150
Kasebonica	100	167	Webique	105	160
Kashechewan	350	84	White Dog	495	35
Kingfisher Lake	90	111	Winisk	134	330
Lansdowne House	350	100	Wunnummin Lake	209	120
Lac La Croix	141	36			
Lac La Seul	506	23			

The Ontario Provincial Government have indicated their dissatisfaction with existing services. They hope to introduce an airstrip program for Northern Ontario, and they are giving equal priority to communications improvements in this program. The Department of Communications is entering into a crash program with Bell Canada and the Department of National Health and Welfare to install an HF system to support health services. This system is a temporary measure and will not meet the standard of reliability ultimately required. It is also a dedicated system that will not serve the needs of the general public for a telephone service into the national telephone network.

(h) Yukon

The existing telecommunication facilities in the Yukon for telephone and data service are satisfactory. The only permanent community that is unserved by reliable telephone service is Old Crow in the northwestern portion of the Territory. The Yukon forestry service operates an HF system that is unreliable and not properly maintained but this is for a special purpose where connection to the national network is not a prime consideration. The Commissioner of the Yukon Territory has indicated that he is very satisfied with the quality of service in his Territory.

(i) Labrador Coast

A special survey trip was made to examine the status of telecommunications facilities in Labrador. It was hoped that the information gained from a detailed investigation of this area could be extrapolated to communication problems in other remote areas.

The communities where new or improved communications are required and the distance to the nearest trunk interconnection point are:

Location	Population	Distance
Batteau	75	55
Davis Inlet	175	45
Indian Tickle	70	50
Makkovik	400	52
Nain	650	95
Packs Harbour	125	12
Paradise River	150	
Pitts Harbour	60	
Postville	125	47
Rigolet	150	70
Spotted Islands	150	60

Note: Attached in Annex is a detailed report of the Labrador Coast telecommunications problems and suggested recommendations for improvements in services.

(j) Northern Alberta

In Northern Alberta the important problem is to provide telecommunications services to 27 communities inhabited by Indian bands. There is a need for reliable trunk facilities and for exchange facilities. The communities where new or improved telecommunications are required, and the distance to the nearest trunk interconnection point, are:

Location	Popn.	Dist.	Location	Popn.	Dist.
Anzac	225	24	Fort McKay	230	13
Atikmeg	420	20	Fox Lake	475	61
Beaver Ranch	51	11	Gambler	183	
Cadotte Lake	85	39	Garden River	125	72
Casalan	60		Gift Lake	370	26
Chipewyan Lake	150	67	Heart Lake	70	39
Chipewyan I.R.	236	10	Indian Cabins	63	1
Conklin	150	42	Janvier	191	45
Driftpile River	502		Jean D'or	424	32
Little Buffalo Lake	105	42	Sandy Lake	110	19
Loon Lake	150	18	Sturgeon Lake	735	
Meander River	300	1	Sweetgrass Landing	143	29
O'Chiese	262		Utikoomak Lake	155	
Peerless Lake	85	18			

Many oil companies operate extensively in northern Alberta and make use of their own private HF systems for communication to Edmonton. There is a heavy requirement for transportable stations providing voice and data communications into the telephone network.

(k) Northern British Columbia

A requirement for new or improved telephone and data services exists in 14 communities. The need is for adequate connections to the telephone network for public use and to support health services provided by the Department of National Health and Welfare. The communities where new or improved services should be provided are as follows:

Location	Population	Distance
Blueberry River	70	148
Dease Lake	100	267
Eddontenajon	174	250
Halfway River	100	25
Kincolith	412	50
Kitkatla	470	40
Kitwancool	198	15
Nation Lakes	under 250	130
Omineca	96	170
Stewart Trembleur	439	105
Takla Lake	under 250	170
Takla Landing	under 250	170
Tahltan	144	320
Telegraph Creek	150	250

(1) Mackenzie Delta and Great Slave Area

Communications in this area are generally good. Service is provided along the Mackenzie River by the Mackenzie Poleline system. Improved or new communication facilities are required at 6 communities:

Location	Population	Distance
Coleville Lake	67	
Fort Liard	160	300
Nahanni Butte	85	300
Lac La Martre	168	140
Snowdrift	209	125
Rocher River	150	100

CHAPTER II

SPECIAL REQUIREMENTS

CHAPTER II

Special Requirements

The requirements stated in Chapter I have concerned the provision of point-to-point services for public telephone and data services and for certain government agencies, such as the Territorial Governments and the Department of National Health and Welfare, for the transmission of administrative messages. However, there are agencies which operate in the North to serve particular functions, e.g. the Ministry of Transport, Department of National Defence, R.C.M.P., and Hudson Bay Company. Their requirements are discussed below.

Ministry of Transport
Navigational Requirements

Air Traffic Control

Positive control of aircraft (both Military and Civil Aviation) over Canadian territory is carried out where radio aids are installed and reliable two-way voice circuits are available on a 24-hour 7-day week (landline, microwave, tropospheric scatter cable).

Flight information and control clearances are transmitted to the Area Control Centre by either peripheral facilities whereby the controller and the aircraft pilot may talk directly to one another, or the message may be relayed by a third party such as an aeradio station. For example, an aircraft in range of Cambridge Bay Aeradio may pass a flight message to the Radio Operator over the air-ground facility and the operator will immediately pass the message to the controller at the Area Control Centre in Edmonton over an ATC Interphone circuit.

Any improvement to the communication capability in the Central Northern Region would enhance the control of aircraft through that area and make it possible to extend the ATC Interphone system to such points as Baker Lake and Coral Harbour through Churchill and Great Whale on the eastern shore of Hudson Bay possibly through Moosonee.

Extension of reliable commercial telephone capability north of Cambridge Bay to Resolute would enhance the ATC capability

of providing Air Traffic Services to the users in the Arctic Control Area.

Marine Aids to Navigation

There are 12 Marine Radio Stations north of the 55th Parallel in support of shipping in northern waters including Hudson Bay. These stations provide a safety service to shipping and ship-shore communications for the handling of operational and paid messages as well as providing weather synopsis and forecasts and dangers to navigation. Many of these stations are physically combined in an Aeradio station and all are connected to the national computerized teletype network.

Up to the time of the first MANHATTAN trip in the summer of 1969, no serious communications problems were encountered. This was, no doubt, because the Northern resupply operation was planned in advance each year, and because of its short duration and simplicity involving only C.C.G. ships and a few others chartered by the Canadian Coast Guard. This type of operation rarely demanded more than one or two short operational messages from each ship each day and because of the non-urgent nature of the great majority of such messages, delays in reception were often tolerated or even unnoticed. The present system although not 100% adequate for today's type of operations nevertheless meets the needs in normal circumstances.

However, except as now arranged for the LOUIS S. ST. LAURENT, that is radioteletype in the vessel with use of the private MOT circuits from Resolute and Cambridge Bay, the present system is incapable of handling quickly the volume of traffic anticipated if the Northwest Passage is to be used by commercial ships. It is certainly less capable of handling the type of instant communications that would be required in emergencies such as major oil spills, marine disasters, epidemic diseases in ships, etc. Means of direct voice communications with ships in the Arctic are at present unavailable except through the High Seas Telephone Service with vessels within radio coverage of Halifax or Vancouver. Vessels are of course out of coverage of these two stations most of the time during Arctic operations. Another consideration of the present system is that facsimile transmissions for ice and weather maps, as they now originate from Halifax and Edmonton with a minor contribution from Frobisher, are not received too well in some areas of the

Arctic in which C.C.G. ships operate. To sum up, the present communications system is short of being fully adequate for the operations now conducted in the Arctic. However, owing to the short duration of these operations each year and the type and number of ships taking part, it would perhaps be hard to justify high cost improvements in the system except in parallel with an increase in marine activities and a lengthening of the shipping season in those regions.

As far as future communications requirements are concerned, provided that the present plans for exploitations of Northern resources through the Northwest Passage materialize, it is evident that the delays in communications that are now experienced because of lack of coverage, poor propagation, saturation or simply because of lack of means in some parts will then be non-acceptable to the Canadian Coast Guard and commercial users. It is envisaged that, if the Northwest Passage is ever used on an extended season as some people think is possible, the volume of communications will greatly increase because of the greater number of ships in the Arctic and also at least for some time because of an increase in scientific, ice, weather and other information (data) transmitted from each vessel.

Apart from the operational traffic mentioned above, there would also be an increase in communications on the part of individuals in ships, including some Government Coast Guard ships, which would remain in the Arctic for more extended periods than at present.

The advent of mammoth tankers as well as other large type vessels in the Arctic, would bring an extra and very definite need for a Marine Communications System capable of handling a large volume of communications with the shortest delays possible. In this instance, the necessity of having a system capable of handling emergency communications of the highest priority such as during a marine disaster or even a light grounding involving tankers which could pollute the Northern seas and coasts if their oil cargoes were to escape. In such emergencies, it is conceivable that a C.C.G. vessel could be required to remain on the scene as a communications centre during salvage or cleaning up operations.

A Marine Communications System covering the Arctic waters in the future should be one capable of providing solid coverage for radioteletype, C.W., voice and facsimile anywhere along the main Arctic Sailing Route from Alaska to some point within coverage of East Coast stations. To complete the network, it

would of course be necessary that all shore stations in the system be equipped with radioteletype and the means necessary for the quick forwarding of marine traffic to southern destinations. Direct voice communications by duplex with ships anywhere along the Route would be a must for the type of emergency situations mentioned earlier and every shore station in the system should be capable of handling such calls. Lastly, the system should be capable of handling a volume of traffic such that it would not become saturated during peak periods or by extra traffic caused by emergency situations.

Future communications requirements in the North will, to a very great extent, be dictated by the amount of marine activities and the length of shipping seasons. As there have been no firm decisions made yet by potential exploiters of northern resources, it would be a bit premature to state future requirements in more definite terms.

Supporting Communications

A number of years ago the Ministry of Transport established a national teletype communications network primarily to support aeronautical operations. The network has been upgraded and extended over the years and a fully automatic computerized teletype network is scheduled for commissioning in September, 1970, replacing the present semi-automatic network. The network will interconnect all Ministry of Transport establishments having reliable landline facilities through a Montreal based computer. Delivery from any one point on the Network to any other point in Canada will be almost instantaneous and well within a five minute delivery requirement for operational messages. The Canadian network also forms part of the world wide aeronautical fixed teletypewriter network. In addition to Air and Marine Operational traffic and Meteorological traffic, Ministry of Transport Administrative messages are passed over this network on a lower priority basis.

At the more northerly or isolated points the national network is extended by means of radio circuits. The Ministry of Transport is presently converting their radio circuits to either L.F., RTT or HF SSB voice and/or RTT circuits. Where practical LF circuits are established using an existing non-directional beacon for transmitting purposes. These transmitters operate at 400 watts although high power NDB's (2 KW) are utilized at Baker Lake, Cambridge Bay, Coral Harbour,

Resolute Bay and Frobisher. The HF SSB circuits make use of 500 watt P.E.P. transmitting equipment.

The Ministry of Transport have established base radio stations at Churchill, Baker Lake, Chesterfield Inlet, Ennadai, Resolute, Eureka, Isachsen, Mould Bay and Alert to provide communications for field and survey parties operating in range of these points.

In addition to the Air and Marine Operational messages Meteorological messages and MOT Administrative messages handled on the computer network, other Government Departments' administrative messages and commercial messages may be handled on the radio circuits where no other communications facilities are available. This traffic is routed to the nearest landline interchange point where it is transferred to commercial circuits.

Meteorological Communications

Weather Observing System

The weather observing system of the Canadian Meteorological Service comprises a network of stations located at specified intervals throughout Canada.

Stations on the complete network may be operated by one or any of the following:

CON - Contract (with private person, corporation, etc.)
DND - Department of National Defence
ITCA - International Telephone and Telegraph Arctic Services, Inc.
JAWS - Joint Arctic Weather Stations (United States Weather Bureau/Meteorological Service of Canada)
MSC - Meteorological Branch, Department of Transport.
MAR - Marine Services, Department of Transport
PCSP - Polar Continental Shelf Project
TEL - Telecommunications and Electronics Branch, Department of Transport
USN - United States Navy

Stations located north of the 55th Parallel are either CON, JAWS, ITCA, MSC, TEL, or combined MSC/TEL and one PCSP.

As of March 1, 1970 the meteorological communications system was converted from semi-automatic operation to a computer controlled switching system. The system consists of a number of individual circuits, operating at 100 w.p.m. connected to a third generation Collins Model C-8500 computer, located at C.N.T. Headquarters in Toronto.

The teletype equipment, circuits and the computer switching equipment for the system are leased from CN/CP Telecommunications and sub-contractors such as Quebec Telephone Company, Alberta Government Telephones, etc.

An efficiency rating of 95% is generally considered as acceptable for Met. operation. Anything less usually results in complaints and the need for supervisory attention.

Ideally, all stations on the weather reporting network should be connected to circuits controlled by the computer, which allows data to be picked up direct and weather information fed to the station from the computer. Another advantage is that stations will obtain a hard copy of data required for meteorological support, by use of teleprinter equipment. However, it is recognized that this may not be economically feasible nor practical, particularly for stations located in remote areas. For these stations, the requirement is for suitable communications that will ensure the collection of data within the transit times of 10-30 minutes and the dissemination of data to the stations.

In regard to physical operational requirements it is desirable that failures or outages to any new northern circuits would be kept to the same minimum as that for regular landline. Garbling or error rate (as distinct from outages) is of importance in computer operation and in the transmission of large amounts of digital data containing symbols and numbers. Circuit assurance and parity checks are proving useful if only to indicate questionable sources. While there has definitely been improvement in northern communications, it should still be pointed out that weather information from this area is as much or more vital as that in other areas. Any new measures designed to upgrade reliability, accuracy and consistency in day-to-day communications to the north country would be invaluable.

In addition to the teletype system, the Ministry of Transport operates two separate and distinct facsimile systems, National/Regional and Supplementary, for the transmission of weather charts by facsimile communication processes.

The transmitting stations to the National/Regional network are the national transmitting centre: Central Analysis Office (CAO) at Montreal and six Regional transmitting centres at: Halifax,

Montreal, Toronto, Winnipeg, Edmonton and Vancouver. (At certain periods of the year, Resolute and Frobisher may act as radio transmitting stations for ice information.)

The Supplementary network has only one transmitting centre, CAO at Montreal. The transmissions on both networks are made to a large number of recording stations, with most of the stations under Meteorological jurisdiction, the remainder operated by Department of National Defence, government offices other than Transport, Provincial Governments, Universities and industry.

Most of the stations are located south of the 55th Parallel except the following:

Fort St. John
Yellowknife
Whitehorse
Frobisher
Inuvik
Resolute

The networks consist of a main trunk circuit, emanating from Montreal (CAO)and extending to Victoria on the West Coast and to St. John's on the East Coast. The main circuit is routed over the microwave facilities of the Telegraph Companies' landline circuit extensions to recording stations.

In addition to the landline circuit, two stations, Edmonton and Halifax, make a radio facsimile broadcast of the charts received to designated areas. The Edmonton radio facsimile broadcast is intended for reception by stations in the Arctic areas and ships operating in Arctic waters, equipped with facsimile equipment. The Halifax radio facsimile is operated by DND and is mainly intended for ships operating in the Northern Atlantic.

The landline circuits have a general efficiency rating of 90 to 99 per cent. For radio facsimile transmissions, the efficiency rating varies between 30 and 75 per cent.

The operation of a facsimile network at 120 rpm requires good quality circuits of voice frequency or better, with conditioning for phase delay and other conditions a requirement. An operating efficiency of 95% or higher is desirable. When the rating is below 95% usually the quality of reproduction suffers, or the chart is not received resulting in requests

for re-transmission. In view of the much lower percentage figures for radio facsimile reception, it would be desirable to have as many of the present radio recording stations converted to landline, or its equivalent, as possible.

Department of National Defence Requirements

A. General - A study is underway investigating and detailing the future tasks and roles of the newly formed Northern Region Headquarters (NRHG). The results of the study will be presented for consideration in October, 1970. From this study, communications planning will evolve. Meanwhile, we can list the requirements which are known at this time and possibly forecast future trends.

B. New Requirements - The following requirements are known at this time:

(1) Fixed Locations:

(a) Yellowknife, NWT - This is the location of a Canadian Forces Liaison Detachment. This detachment is serviced by local telephone service and has access to a Telex terminal operated by another federal agency. The NRHG will be relocated from Ottawa to Yellowknife by November, 1970, and will require the following service at that time:

(i) Teletype: DND provided terminal equipment with a 60 wpm commercial line from Yellowknife to Edmonton, Alberta. This terminal will operate as a detachment of the Canadian Forces Communication System on an eight hour, five day per week basis with a full-period capability when required.

(ii) Telephone: A 10 line, 50 local PABX with direct-in-dialing capability will be required for local service. Long distance voice service to selected locations in the South and to communities in the North will be required. An accurate forecast of long distance traffic volume is not possible at this time, however, an estimate of two outgoing and two incoming messages per day would appear adequate for planning purposes.

(2) Whitehorse, Y.T. - This is the location of a Canadian Forces Liaison Detachment. This detachment will continue for the next year at least to be serviced by local telephone service. An estimated message volume of one outgoing and one incoming message per day exists

at this detachment. At this time, this traffic is being handled through another government agency.

(3) Mobile Land and Air Units - These units operate out of permanent bases in the South. When deployed on tasks or exercises in the North, they will provide their own radio communications to NRHQ and their southern bases. Requirements will occur for local telephone and/or teletype service at advance bases or airfields in the North to support these mobile units, however, no firm requirement can be forecast at this time.

(4) Canadian Rangers - Detachments of the Canadian Rangers exist at virtually every settlement North of 55° latitude. While routing communications between NRHQ and each detachment will only average one telephone call or message in each direction per year, it is imperative to our National Security that quick emergency communications be established between these detachments and NRHQ Yellowknife when required. Since the volume of traffic cannot justify full time service to each of these detachments, DND will be dependent on the assistance of other federal agencies and commercial concerns to provide communications in time of civilian or military emergency.

C. Future Trends - While it is safe to forecast increased military interest and activity in the North, it is too early to predict what form this activity will take. Two of the more likely areas of military activity that would affect northern communications are the following:

(1) Search and Rescue - This task could be carried out by military units either permanently sited in the North or units deployed as required from the South with a small headquarters and communications detachment permanently located in the North. In either case the permanent site for such a unit would be associated with a large airport/DOT facility such as Yellowknife or Inuvik and would be capable of providing emergency surface and ground to air, HF (SSB) communications throughout the North.

(2) Northern Region Detachments - Depending on the scope and direction of military activities in the North it is possible that NRHQ will deploy several small (three to five men) permanent detachments. Thses detachments would be responsible for such things as liaison with local government and civilian agencies; ground search

co-ordination; co-ordination of local Ranger activites and providing an advance base and other assistance to mobile ground and air units from the South. These detachments would require voice communications (telephone or radio) to all government and commercial agencies within their local area of responsibility and both voice and teletype communications to and from NRHQ Yellowknife. These local detachments could be located in any or all of the following communities:

(a) Whitehorse, Y.T. - Present Canadian Forces Liaison Detachment.

(b) Inuvik, NWT - Associated with Canadian Forces Station, Inuvik.

(c) Alert, NWT - Associated with Canadian Forces Station, Alert.

(d) Frobisher Bay NWT- At present a detachment from Maritime Command, Halifax.

(e) Resolute Bay, NWT- Possible site of Canadian Forces Liaison Detachment.

(f) Churchill, Man. - Possible site of Canadian Forces Liaison Detachment.

HUDSON BAY SYSTEM

The Hudson Bay Company radio system is an extensive one. Comprised of seventy-five stations, it is represented in the North of all the provinces, and in the Northwest Territories, including the Arctic Islands.

The system was established to provide an administrative link between the Hudson Bay Company's stores and administrative centres in Edmonton, Winnipeg and Montreal.

However, use of the network to relay messages for government and commercial groups is substantial and growing. This "outside" traffic is relayed to the nearest commercial outlet in accordance with Hudson Bay Company licence provisions. These outlets include the Department of Transport, the Canadian National Telegraphs, and several telephone companies.

A charge of $1.50 for 50 words (25 cents for each additional 10 words) is levied over and above the phonogram or telegram rates that may apply. A daily schedule is observed of two to three transmissions daily, with the Public Commercial radio outlet concerned.

RCMP SYSTEM

The RCMP own, operate and maintain their HF radio system and provide for 24 hour operation where necessary. Their radio system is operated primarily as a point-to-point communications service. In northern Canada, and less densely populated areas, where due to vast distances involved, VHF-FM mobile radio range is insufficient, HF radio is also used as the main mobile communication service. The RCMP system, apart from its use for carrying administrative traffic for the Force, is also the most reliable emergency system available covering the North. Reliability is very high because stations can work between each other and do not necessarily have to home onto a particular base station. By relaying messages between adjacent locations it is possible to communicate quickly though indirectly between two points.

The appendix to this chapter contains a detailed listing of all stations operated by the Hudson Bay Company and by the RCMP. It is apparent that both these agencies would be able to use more reliable service provided by terrestrial or satellite means if such service could be made available on economic terms. This is particularly so in the case of the Hudson Bay Company who permit the public to make use of their system for a small charge. Since the RCMP system is a very effective and reliable system for the use of the force it is unlikely that this agency would be quite so anxious to curtail their own operations.

APPENDIX TO CHAPTER II

I HUDSON BAY SYSTEM

The following list shows the locations connected into the Hudson Bay HF radio system.

Athabasca District 6 stations	Babine	(B.C.)
	Burn's Lake	(Alta.)
	Garden River	(Alta.)
	Stony Rapids	(Sask.)
	Black Lake	(Sask.)
	Fort Chipewyan	(Alta.)
Central Line District 1 station	Hudson	(Ont.)
Northern Ontario District 15 stations	Fort Hope	(Ont.)
	Lansdowne House	(Ont.)
	Ogoki	(Ont.)
	Grassy Narrows	(Ont.)
	Kingfish	(Ont.)
	Trout Lake	(Ont.)
	Bearskin Lake	(Ont.)
	Cat Lake	(Ont.)
	Round Lake	(Ont.)
	Gull Bay	(Ont.)
	Lac Seul	(Ont.)
	Sandy Lake	(Ont.)
	Pikangikum	(Ont.)
	Wunnummin Lake	(Ont.)
	Webequie	(Ont.)
Saskatchewan District 2 stations	Southend Reindeer Lake	(Sask.)
	Montreal Lake	(Sask.)
Manitoba District 12 stations	Nelson House	(Man.)
	Island Lake	(Man.)
	Little Grand Rpd	(Man.)
	St. Theresa Pt.	(Man.)
	Red Sucker Lake	(Man.)
	Shamattawa	(Man.)
	South Indian Lake	(Man.)
	Split Lake	(Man.)
	Poplar River	(Man.)
	God's Narrows	(Man.)
	Oxford House	(Man.)
	Cross Lake	(Man.)

Eastern Arctic District 12 stations	Broughton Island	(N.W.T.)
	Lake Harbour	(N.W.T.)
	Cape Dorset	(N.W.T.)
	Payne Bay	(Que)
	Pond Inlet	(N.W.T.)
	Povungnituk	(Que)
	Sugluk	(Que)
	Pangnirtung	(N.W.T.)
	Fort Chimo	(Que)
	Wakeham Bay	(Que)
	Arctic Bay	(N.W.T.)
	Belcher Islands	(N.W.T.)
Western Arctic District 4 stations	Holman	(N.W.T.)
	Bathurst Inlet	(N.W.T.)
	Spence Bay	(N.W.T.)
	Gjoa Haven	(N.W.T.)
Central Arctic District 5 stations	Igloolik	(N.W.T.)
	Eskimo Point	(N.W.T.)
	Repulse Bay	(N.W.T.)
	Rankin Inlet	(N.W.T.)
	Hall Beach	(N.W.T.)
Hudson Bay District 11 stations	Moose Factory	(Ont)
	Albany	(Ont)
	Attawapiskat	(Ont)
	Rupert's House	(Que)
	Paint Hills	(Que)
	Nemaska	(Que)
	Eastmain	(Que)
	Fort George	(Que)
	Kashechewan	(Ont)
	Winisk	(Ont)
	Severn	(Ont)
Quebec District 5 stations	Obedjiwan	(Que)
	Mistassinni	(Que)
	Manouane	(Que)
	Parent	(Que)
	Riviere Galette	(Que)

II R.C.M.P. SYSTEM

	'Hub' Centre	
Lower Mackenzie & Keewatin District	Yellowknife	Yellowknife Baker Lake Cambridge Bay Eskimo Point Fort Smith Hay River Liard Pine Point Providence Rae Rankin Inlet Resolution Simpson Spence Bay
Eastern Arctic District	Frobisher Bay	Frobisher Bay Cape Christian Cape Dorset Grise Fiord Igloolik Lake Harbour Pangnirtung Pond Inlet Resolute Bay
Labrador, Nfld	Cornerbrook	Cartwright Churchill Falls Goose Bay Hopedale Labrador City Nain
Northern Manitoba	Dauphin	Churchill Gillam Lynn Lake Thompson
Northern Saskatchewan	Prince Albert	Buffalo Narrows Ile a la crosse La Loche La Ronge Pelican Narrows Stony Rapids Uranium City
Northern Alberta	Edmonton	Fort Chipewyan Fort McMurray
	Peace River	Beaver Lodge Fairview Fort Vermillion Grand Prairie Grimshaw High Level High Prairie Manning McLellan Peace River Rainbow Lake Spirit River Valleyview

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Northern British Columbia	Prince Rupert	Atlin Hazelton Stewart Telegraph Creek
	Prince George	Cassiar Chetwynd Dawson Creek Fort Nelson Fort St. John Hudson Hope

CHAPTER III

BROADCAST AND INFORMATION SERVICE REQUIREMENTS

CHAPTER III

Broadcast and Information Service Requirements

The first two contributions to Telecommission Study 8(c) entitled "Communications in the Canadian North" and "Catalogue of Communication Systems in Northern Canada" describe those facilities which are presently available in the North for the transmission of television and radio services. It can be seen there is no transmission capability for bringing live television to the Yukon, Northwest Territories, and northern parts of the Provinces generally above the 55° parallel. Network radio service does not reach the District of Keewatin, Baffin Island, or the Arctic Coast. Many communities in the northern parts of the Province are similarly not connected to the CBC radio network. Those locations lacking live television and medium wave radio network service are listed in the Tables at the end of this Volume.

Radio

It is clear from the recommendations of the Yellowknife Communications Conference that the first requirement is for each community to have its own broadcasting station. This station might be a low-power radio transmitter to be used for education, information, entertainment, and social action purposes.

The second requirement is for these stations to be connected intra-regionally, inter-regionally, and finally to the national radio CBC network.

Presently, the CBC operates two networks in the Territories - the Mackenzie and the Yukon networks. The Yukon network consists of stations at Fort Nelson, Watson Lake, Swift River, Cassiar (B.C.), Teslin, Whitehorse, Haines Junction, Destruction Bay, Beaver Creek, Dawson City, Carmacks, Mayo, and Elsa. The Mackenzie network has stations at Hay River, Pine Point, Fort Smith, Uranium City (Sask.) Fort Providence, Yellowknife, Fort Simpson, Wriglon, Fort Norman, Norman Wells, Fort Good Hope, Inuvik, and Fort Chippewyan (Alta.). Both these regional networks broadcast, in addition to regular CBC programs, programs in Eskimo, Chippewyan, Slavee, Cree, and Loucheuse.

The following requirements have been identified for the extension of network radio service.

(a) Extension of the Mackenzie network to the eastward to cover the Western Arctic - with Inuvik as the program centre.

(b) A new regional network established to cover the large Indian population of Northern Manitoba - possibly from a program centre at The Pas.

(c) A regional network originating at Churchill to cover the Keewatin communities.

(d) A French regional network to cover the Eastern Shore of Hudson Bay and Northern Quebec.

(e) Extension of the Labrador network to cover communities on the Labrador Coast.

(f) A regional network for the East Coast of Baffin Island and the communities on the Arctic Coast.

Television

The Eskimo and Indian people of the North have not so far expressed a priority need for the reception of television programs in their communities. Their main concern, if live television is brought to them, is that the program material should be suitable for their culture and education. However, it is probable that the younger g eneration of native people will respond to television if the problem of programming can be solved.

The need for live television has been stressed by northern residents who have come from the south, and particularly by industry, to encourage longer turn-arounds of labour forces. The requirement for live television is evident in those communities having Frontier Package Service because delayed programs have not been well received.

No community in the Yukon or Northwest Territories has live television now. It appears that the priority at the moment is to serve large, particularly industrial centres. Since industrial development in the Yukon and the western front of the Northwest Territories is far ahead of the Central and Eastern Arctic, it is likely that live television will be brought to these areas first. But television can be a potent instrument for education and would be most effective for this purpose if programs were originated in the North - say Yellowknife.

Information Facilities

Survey trips to Labrador, Baffin Island, the Arctic Coast, Keewatin District, the Yukon, and the Mackenzie Delta Region indicate that there is an unstated but definite need for availability of educational and informational facilities such as film and VTR equipment. The availability of a film service would provide many dividends. It is apparent that films of any kind when shown to northern audiences receive enthusiastic response. It is important that the community rather than a teacher or entrepreneur decide the type of films to be distributed between communities. This selection has to be done

through consultation with community leaders and councils. An attempt should should be made to reach all residents with material of direct interest to them.

Video tape recorders appear to be on the threshold of playing an important role in the dissemination of information for educational, social and entertainment purposes. It is a visual medium and one that has sufficient flexibility to vary programs and times of presentation to allow for selected audiences and at the same time permit inputs from the viewers. Where live television or other means cannot be made available to northern communities, it is considered that video tape recorders might be an optimum solution. Video tape recording and playing equipment is on the whole portable, versatile, and relatively inexpensive. Tapes can be made easily and played back for comments. In this way, residents can get a more objective outlook on their ideas and problems. Exchange of tapes among communities could help overcome the sense of isolation and make villagers aware of common problems and aspirations. Such an awareness is one prerequisite for united group effort to bring about social change.

Package programs could also be made available on video tape. This is particularly important for educational purposes. Prepackaged lessons and information programs could be made available and exchanged between communities. These programs could be supplemented with printed lessons or follow-up material as suggested for radio. This medium might prove to be an improvement over radio because of the possibilities of visual presentation and repetition of the material.

Considerable work could be done on the dissemination of a wide variety of books on a broad range of subjects. It is clear that in the school libraries visited in northern communities, there are not sufficient books to interest all adults and many of the children. The best service would probably be by air.

Departments of education could make more use of educational technology both in schoools and in the general community, particularly radio, TV, VTR, and sound cassets. Each community could regard the school as a community centre, equipped with a range of resources such as books,pictures, slides, cassets, records, etc. The educational experience must be made more flexible, less confined to the class room, making more use of the general environment.

Regional production and distribution centres could be created to serve educational needs, perhaps in cooperation with southern university centres. Also research in specific problems could be undertaken with cooperation between northern communities and southern research facilities.

There is one area where a need to know situation prevails in the North. In many cases the native people are unable to articulate properly their communication requirements. It will be necessary for southern Canadians to help them interpret their needs. It is clear also that most northern residents have a hazy idea of the role of various governments and industrial agencies that are active in the North.

Of particular importance to an adequate total information service is the need to present material on preventive medicine. In many regions with small isolated settlements provision of medical care is of necessity a communication and transportation problem. An educational program of preventative medicine by dissemination of literature, VTR programs, or by radio, would serve an invaluable purpose.

The importance of using native languages is important so that families can keep in touch with each other. It is oral communication that is so essential. In addition, educational, economic and linguistic patterns must be kept in mind. Appreciation must be taken of the variety of native dialects. The dissemination of programs of Eskimo and Indian languages could go a long way towards introducing an element of uniformity in language across the North.

Short Wave Service

The CBC operates a short wave service to the North which, in the view of many northern residents, does not provide sufficient and reliable coverage. The suggestion has been made that attempts be made to enhance the signal level of short wave broadcasts and to use the service itself as a more effective medium for serving the North.

APPENDIX TO CHAPTER III

THE CANADIAN BROADCASTING CORPORATION'S REQUIREMENTS FOR RADIO AND TELEVISION SERVICE IN NORTHERN CANADA

The Canadian Broadcasting Corporation restricts its national broadcasting service to the two official languages - English and French. There is one notable exception to the rule which the Corporation has followed and it concerns the Eskimos and Indians. Within its Northern Service the Corporation has organized small, regional networks which broadcast along with regular programs in English and French, programs in Eskimo, Chipewyan, Slavee, Cree and Loucheux.

A community oriented radio service to the widely spread and sparsely populated locations in Canada's North can be provided utilizing regional networks of CBC's 40 watt low-power A.M. relay transmitters. The existing Mackenzie Radio Network could be extended eastwards to cover the western Arctic region with Inuvik as program centre. A new regional network could be established possibly from a program centre at The Pas, to cover the large Indian population of Northern Manitoba. A second regional network originating from Churchill could be set up to cover the Eskimo population of the Keewatin area. A French regional network could be set up from possibly Chicoutimi to cover the eastern shore of the Hudson Bay and Northern Quebec. The Labrador Network with its program centre at Happy Valley could be extended to serve the Labrador coastline. Once Frobisher Bay is connected to the national network, it could act as a program centre for a regional network to provide English and Eskimo language service to Northern Quebec, the central Arctic and East coast of Baffin Island. Radio service would be for eighteen hours per day.

In order to extend the existing regional networks and establish new ones, the communications companies will have to provide program channels which should meet these Performance Limits:

1. Attenuation Frequency Distortion

   The service to each Low Power Relay Transmitter shall have a frequency range of 100 to 5000 Hz.

   The spread (Attenuation Frequency Distortion) for each LPRT shall not be greater than 4.0 db.

2. Harmonic Distortion

   The Harmonic Distortion for each LPRT shall not be greater than 2.5% when the test signal is one of 400 Hz sine wave applied to the network input at 8 dBm. With an increase to 18 dBm, the Harmonic Distortion for each Receiving Station and LPRT shall not exceed 9.5%.

3. Signal-to-Noise Ratio

For each LPRT, the Signal-to-Noise Ratio Program-Weighted shall not be less than 50 dR.

For each LPRT, the Signal-to-Noise Ratio 15 KHz Flat-Weighted shall not be less than 40 db.

4. Transit Time Delay

The Transit Time Delay differential between 100 Hz and 1000 Hz, as well as between 1000 Hz and 5000 Hz, shall not be greater than 10 milliseconds for each Receiving Station and each LPRT.

5. Gain Stability

Each Receiving Station and LPRT shall have its own established level depending on the channel attenuation between the Regional Transmitting station and the station, when the Regional Transmitting Station is sending 1000 Hz sine wave test signal at a level of 0 dBm.

For each Receiving Station and LPRT, variations in the received level from the established level shall not exceed 1 dB when averaged.

For each LPRT, variations in the received level from the established level shall at no time exceed 2 dB.

6. Maximum Channel Attenuation

For each Receiving Station, the maximum channel attenuation shall not exceed 25 dB.

For each LPRT, the maximum channel attenuation shall not exceed 8 dB.

The extension of coverage for television will utilize the Frontier Coverage Package videotape programmed stations until a domestic satellite is available. Once the satellite is in operation, television receive only stations could be established to feed the existing television transmitters. Further extension of television service could then be achieved by satellite fed relay stations; re-broadcast stations; microwave connected relay stations; or any combination of these which would prove to be the most economical. The satellite would also permit the hours of programming to be increased to ten hours of live programming from its present four-hour tape delay package.

The attached lists of communities show the localities the CBC is hoping to provide with radio and television service when network facilities and television satellite receiving stations are established. Any extension of service will of course depend on the funds available to the Corporation for their implementation.

The program centre at Frobisher Bay would require a telex or similar service connection. Telephone communications to all communities with LPRTs is essential.

THE CANADIAN BROADCASTING CORPORATION'S EXISTING RADIO AND TELEVISION SERVICE IN NORTHERN CANADA

The existing radio network facilities in use by the CBC in Canada's North are leased from the Canadian National Telecommunications and the Trans-Canada Telephone System through Bell Canada. Landlines, microwave, V.H.F. Radio and tropospheric scatter systems are used to provide the network connections. The reliability of the landline systems during winter months is poor due to outages caused by hoar frost accumulation on the wires.

The following is a list of existing Frontier Coverage Package Television Stations:

LOCATION	CALL SIGNS	LOCATION	CALL SIGNS
Yellowknife, N.W.T.	CFYK-TV	Clinton Creek, Y.T.	CBTE-TV-2
Inuvik, N.W.T.	CHAK-TV	Fort Smith, N.W.T.	CBTE-TV-4
Pine Point, N.W.T.	CBTE-TV	Fort Nelson, B.C.	CBTD-TV-1
Uranium City, Sask.	CBTA-TV-1	Elsa, Y.T.	CBTE-TV-5
Whitehorse, Y.T.	CFWH-TV	Lynn Lake, Man.	CBTA-TV
Cassiar, B.C.	CBTD-TV	Fort McMurray, Alta.	CBTA-TV-3
Watson Lake, Y.T.	CBTE-TV-1	La Ronge, Sask.	CBTA-TV-2
Dawson City, Y.T.	CBTE-TV-3	Churchill Falls, Lab.	CBTC-TV

The program centres at Whitehorse, Y.T., Yellowknife, N.W.T., Inuvik, N.W.T., Churchill, Man., and Happy Valley, Labrador are equipped with telex.

ENGLISH SERVICE REQUIREMENTS

Radio Service (R) Television Service (TV) Program Centre (PC)

1. Old Crow, Y.T. (R)
2. Mayo, Y.T. (TV)
3. Faro, Y.T. (R, TV)
4. Ross River, Y.T. (R, TV)
5. Whitehorse, Y.T. (R, TV, PC)
6. Atlin, B.C. (R)
7. Edmonton, Alta. (PC)
8. Rainbow Lake, Alta. (R, TV)
9. High Level, Alta. (R, TV)
10. Fort Vermilion, Alta. (R, TV)
11. Slave Lake, Alta. (TV)
12. Yellowkn ife, N.W.T. (TV, PC)
13. Rae, N.W.T. (R, TV)
14. Inuvik, N.W.T. (TV, PC)
15. Fort McPherson, N.W.T. (R)
16. Tuktoyaktuk, N.W.T. (R, TV)
17. Coppermine, N.W.T. (R, TV)
18. Cambridge Bay, N.W.T. (R, TV)
19. Stoney Rapids, Sask. (R)
20. The Pas, Man. (R, TV, PC)
21. Nelson House, Man. (R, TV)
22. Cross Lake, Man. (R, TV)
23. Norway House, Man. (R, TV)
24. Oxford House, Man. (R, TV)
25. God's Lake, Man. (R, TV)
26. Island Lake, Man. (R, TV)
27. Churchill, Manitoba (TV, PC)
28. Eskimo Point, N.W.T. (R, TV)
29. Rankin Inlet, N.W.T. (R, TV)
30. Baker Lake, N.W.T. (R, TV)
31. Chesterfield Inlet, N.W.T. (R)
32. Coral Harbour, N.W.T. (R)
33. Happy Valley, Nfld. (Goose Bay) (TV)
34. Cartwright, Nfld. (R, TV)
35. Hopedale, Nfld. (R, TV)
36. Nain, Nfld. (R, TV)
37. Frobisher Bay, N.W.T. (TV, PC)
38. Cape Dorset, N.W.T. (R, TV)
39. Hall Beach, N.W.T. (R)
40. Igloolik, N.W.T. (R)
41. Resolute Bay, N.W.T. (R)
42. Pangnirtung, N.W.T. (R, TV)
43. Broughton Island, N.W.T. (R)
44. Clyde River, N.W.T. (R)
45. Pond Inlet, N.W.T. (R)
46. Mary's River, N.W.T. (R)
47. Fort Chimo, Que. (R, TV)
48. Port Nouveau, Que. (R)
49. Asbestos Hill, Que. (R, TV)
50. Sugluk, Que. (R)
51. Povungnituk, Que. (R, TV)
52. Inukjuakjuk, Que. (R)
53. Poste de la Baleine, Que. (R, TV)
54. Fort George, Que. (R, TV).

FRENCH SERVICE REQUIREMENTS

Radio Service (R) Television Service (TV) Program Centre (PC)

1. Chicoutimi, Que. (R, TV, PC)
2. Fort George, Que. (R, TV)
3. Poste de la Baleine, Que. (R, TV)
4. Inukjuakjuk, Que. (R)
5. Povungnituk, Que. (R, TV)
6. Sugluk, Que. (R)
7. Asbestos Hill, Que. (R, TV)
8. Fort Chimo, Que. (R, TV)
9. Port Nouveau, Que. (R)
10. Frobisher Bay, N.W.T. (R)
11. Thompson, Man. (R, TV)

CHAPTER IV

CONCLUSIONS

CONCLUSIONS

A number of observations can be made from this survey and report on northern communication requirements.

1. There is a tremendous need for reliable telecommunications services (i.e. telephone, telegraph, and data) in the Canadian North. Most essential is the requirement for two way point-to-point telecommunications for general public services and government administration.

2. Non-existent or inadequate services present serious problems in the Eastern and Central Arctic, and the northern parts of the Provinces of Alberta, Saskatchewan, Manitoba, Ontario and Quebec. Northern British Columbia and Newfoundland (Labrador) have less serious telecommunications inadequacies. The Yukon and the western part of the Northwest Territories are generally well served.

3. Virtually all users of HF systems are dissatisfied with the performance of public telecommunication services as presently operated. In many cases there has been insufficient attention given to choice of correct operating frequencies, HF system design, and proper operation and maintenance. The average reliability of an HF system is about 60-70% when a reliability in the order of 95% is needed, particularly for emergency or urgent communications.

4. The dearth of reliable common carrier systems in many northern areas has meant that agencies have installed their own private systems. Two major and extensive systems are operated by the RCMP and the Hudson's Bay Company. It is interesting to note that the Hudson's Bay Company state that:

> "Future trends for expansion are not being considered. If any trend is shown it would be to curtail the network as and when reliable stations are set up by the various telegraph and telephone companies concerned".

In a similar vein, the RCMP state that:

> "By means of the existing HF radio system and commercial telex and telephone service the unique communication requirements of the Force have been met in the North. This is not to say, however, that the RCMP will not consider any alternative communications facility, present or future, which will provide more efficient and/or economical service commensurate with our operational requirements".

5. The transmission capability does not exist to carry radio or television program material to the Central and Eastern Arctic or to large regions of the northern parts of the Provinces.

6. The proliferation of private systems must increase unless steps are taken to provide reliable public telecommunication services - this will result in frequency congestion and interference in the HF spectrum, a further dimunition in the economic base for viable commercial service, and unsatisfactory services for all.

7. The responses to the Survey Questionnaire indicate that considerable economic hardship is incurred by government and industry by the lack of adequate services. This means that the cost of not providing adequate telecommunications should be taken into account when decisions affecting the extension of public services are taken.

8. This study of northern communications requirements is only a beginning - the tip of the iceberg has been exposed. There is a pressing need to establish the authenticity and accuracy of information in those places that could not be visited first hand - this especially applies to the northern parts of the Provinces. The only way that conclusive information can be obtained is by going to the areas and determining the precise needs of the residents by interviews and direct observation. It is also vital to assess the nature and flow of telecommunication traffic so that realistic planning can proceed.

ANNEX I

TELECOMMUNICATIONS STATUS REPORTS

PROVINCE OR TERRITORY: BAFFIN REGION

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Arctic Bay	N/A	250					Bell HBC DOT	Exchange			750 mi. to nearest trunk route.		Voice - NH & W - NWT. Improved public communications.
Broughton Island	65 35 63 30	350					HBC				Radio planned when network available 300 mi. to nearest trunk route. 75 mi to Dewline.		Voice - NH & W. Data - NWT Public communications.
Cape Dorset	64 14 76 32	588					HBC RCMP Bell	Exchange			Radio and TV planned when network available 225 mi. to nearest trunk route.		Voice NWT. Improved public communications.
Clyde River	70 22 69 50	292					DOT				Radio planned when network available 450 mi. to nearest trunk route. 325 mi to Dewline.		Voice - NH & W. Public communications.
Frobisher Bay	63 44 62 28	1700	CN Bell DOT		RCMP		Bell DOT RCMP	Exchange	NWT CN RCMP	Radio	Network connection TV planned when network available ATC interphone	Regional Hqs of NWT Government Airport Hospital Commercial	

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Grise Fiord	76 25 83 01	100					RCMP Bell				900 mi. to nearest trunk route. 600 mi to Dewline.		Voice - NH & W - NWT. Public communications.
Hall Beach	68 46 81 11	250					HBC				Radio planned when network available 475 mi. to nearest trunk route. 2 mi to Dewline.		Voice NH & W - NWT. Public communications.
Igloolik	69 24 81 49	530					HBC RCMP Bell	Exchange			Radio & TV planned when network available. 525 mi. to nearest trunk route. 35 mi to Dewline.		Voice - NH & W - NWT. Improved public communications.
Lake HR	62 51 69 53	200					HBC RCMP				75 mi. to nearest trunk route.		Voice NH & W - NWT. Public communications.
Pond Inlet	72 41 78 00	412					Bell HBC RCMP DOT	Exchange			Radio planned when network available 650 mi. to nearest trunk route.		Voice - NH & W. Improved public communications.

PROVINCE OR TERRITORY: BAFFIN REGION

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Pangnirtung	66 08 65 44	642					Bell HBC RCMP DOT	Exchange			Radio & TV planned when network available. 175 mi. to nearest trunk route. 125 mi. to Dewline.		Improved public communications
Resolute Bay	74 41 94 54	254					Bell RCMP DOT	Exchange			DOT LFRTT Telemetry tracking station. Radio planned when network available. 950 mi. to nearest trunk route. 425 mi. to Dewline.	Airport Tower foundation Supply depot.	Voice Telex - N.W.T. Improved public communications
Resolution Island	61 18 65 56	N/A									U.S. Base Station.		

PROVINCE OR TERRITORY KEEWATIN

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Baker Lake	64 18 96 03	596					RCMP Bell DOT	Exchange Toll			Radio and TV planned when network available 375 mi. to nearest trunk route.		Telex - NWT. Improved public communications.
Belcher Islands	56 15 78 45	210					Bell HBC DOT				350 mi. to nearest trunk route.		Voice - NH & W. Improved public communications.
Coral HR	64 08 83 10	310					Bell DOT	Exchange Toll			Radio planned when network available DOT L/F RTT 450 mi. to nearest trunk route.		Improved public communications.
Chesterfield Inlet	63 25 90 45	220					Bell DOT	Exchange Toll			Radio planned when network available. 325 mi. to nearest trunk route.		Improved public communications.
Eskimo Point	61 07 94 03	480					HBC Bell RCMP DOT	Exchange Toll			Radio and TV planned when network available 150 mi. to nearest trunk route.		Improved public communications required.

PROVINCE OR TERRITORY: KEEWATIN

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Gjoa Haven	68 38 95 57	250					HBC CN				225 mi. to nearest trunk route.		Voice - NH & W Improved public communications.
Pelly Bay	68 53 89 51	180					CN				225 mi. to nearest trunk route.		Voice - NH & W Improved public communications.
Rankin Inlet	62 45 92 10	430					Bell RCMP HBC DOT	Exchange			TV planned when network available. 275 mi. to nearest trunk route.		Telex - N.W.T. Improved public communications.
Repulse Bay	66 32 86 15	146					HBC Bell DOT	Exchange			525 mi. to nearest trunk route.		Improved public communications.
Whale Cove	62 09 92 35	200					Bell	Exchange Toll			225 mi. to nearest trunk route.	Whale canning plant.	Improved public communications.

PROVINCE OR TERRITORY: ARCTIC ISLANDS

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Bathurst Inlet	N/A	50					CN				180 mi. to nearest trunk route.		Improved public communications.
Gjoa Haven	68 38 95 57	250					HBC CN						Voice - NH & W. Improved public communications.
Holman Island	N/A	180					CN HBC				325 mi. to nearest trunk route.		Voice - NH & W - N.W.T. Improved public communications.
Paulatuk	N/A	100					CN				250 mi. to nearest trunk route.		Voice - NH & W - N.W.T. Improved public communications.
Perry River	N/A	50					CN DOT				125 mi. to nearest trunk route.		Improved public communications.
Sachs Harbour	71 58 125 15	132					RCMP DOT CN				260 mi. to nearest trunk route.		Voice - NH & W - N.W.T. Improved public communications.
Spence Bay	69 32 93 31	270					CN HBC RCMP DOT				280 mi. to nearest trunk route.		Voice - NH & W Improved public communications.

PROVINCE OR TERRITORY: ARCTIC ISLANDS

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Thom Bay	N/A	50					CN				300 mi. to nearest trunk route.		Improved public communications.

PROVINCE OR TERRITORY: QUEBEC

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Eastmain	52 15N 78 30W	171					HBC				HF Planned for 1971. 120 miles from good facilities.		Public communications.
Fort Chimo	58 06N 68 25W	701					HBC Bell	Exch Toll			Radio & T.V. planned/400 miles from good facilities	Provincial Government Administrative Centre Airport	Improved public communications.
Fort George	53 50N 70 00W	1300					HBC Bell	Exch Toll			Radio & T.V. planned/200 miles from good facilities	Forest products Domtar	Improved public communications.
George River	N/A	194					Bell				375 miles from good facilities		Improved public communications.
Grand Lac Victoria	47 40N 77 37W	211									NH & W Nursing staff Telephone 30 miles		Public communications.
Great Whale River Poste-de-la (Baleine)	N/A	965					Bell				Radio & T.V. planned/300 miles from good facilities		Improved public communications.
Ivugivik	N/A	117					Bell				300 miles from good facilities		Improved public communications.

PROVINCE OR TERRITORY: QUEBEC

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Koartac	N/A	97					Bell				200 miles from good facilities		Improved public communications.
Lac Albanal	50 50N 77 05W	200									NH & W Nursing		Public communications. Voice - NH & W
Lac Simon	48 04N 77 18W	239									NH & W Nursing staff Telephone 3 miles		Public communications. Voice - NH & W
Lac Evans	50 50N 77 05W	50									NH & W Nursing staff		Public communications. Voice - NH & W
Leaf Bay	N/A	50					Bell	Toll			350 miles from good facilities		Improved public communications.
Nanouane	N/A	N/A					Bell HBC				100 miles from good facilities		Improved public communications.
Nemiscou	51 18N [illegible] 54W	172					HBC						Public communications.

PROVINCE OR TERRITORY: QUEBEC

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
New Raglan Mines												Raglan Mines	Full communications for townsite of 1000 men Aug 1971 Teletype 100 wpm Data 2.400 BPS Public communications.
Obedjiwan	N/A	400					Bell HBC	Exch			100 miles from good facilities		Improved public communications.
One Goeland Lake	49 50N 76 55W	100										NH & W Nursing Stn	Public communications. Voice - NH & W
Paint Hills	53 00N 79 49W	535					HBC Bell				150 miles from good facilities		Improved public communications.
Parent	N/A	700					HBC			Radio (E)(F)	T.V. planned (E) (Fr)	Armed forces stn.	Public communications.
Payne Bay	60 01N 70 01W	159					HBC Bell	Exch Toll			275 miles from good facilities		Improved public communications.
Port Harrison) Inoucdjouac)	N/A	515					Bell				500 miles from good facilities		Improved public communications.

PROVINCE OR TERRITORY QUEBEC

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Povungnituk	60 02N 77 10W	639					HBC Bell	Exch Toll			375 miles from good facilities. Radio & T.V. planned		
Rapid Lake	47 40N 76 43W	139										NH & W Nursing Stn.	Voice - NH & W Public communications.
Romaine	50 15N 60 35W	704										NH & W Nursing Stn.	Voice - NH & W Public communications.
Rupert House	51 30N 78 45W	832					HBC Bell				90 miles from nearest good facilities		Improved public communi-cations.
St. Augustine	51 15N 58 40W	900					HBC					NH & W	Voice - NH & W
Sugluk	62 13N 75 38W	337					HBC Bell				250 miles from nearest good facilities. Radio planned.		Improved public communi-cations.

PROVINCE OR TERRITORY: QUEBEC

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Wakeham Bay	61 36N 71 58W	194					HBC Bell	Toll			200 miles from good facilities		Improved public communications.
Wasnanapi	49 30N 76 25W	100									NH & W		Voice - NH & W Public communications.

PROVINCE OR TERRITORY: MANITOBA

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Arnot	55 46 96 41	48					MTS					On CN Rly	
Athapapuskow Siding	54 33 101 40	12					MTS					On CN Rly	
Atikamag Lake	55 59 100 56	60						MTS			Dial Service	On CN Rly	
Berens River	52 22 97 02	DBS 763					RCEC UC MTS			Radio (E)	Voice (poor service) Planning (E) T.V. 90 mi. from nearest trunk line.	Indian communities Missions 90 miles from nearest trunk line	NH & W Improved public communications
Big Black River	53 50	46											MTS by April 1970 (HF)
Big Eddy	53 51 101 19	137						MTS Toll Exch.			Dial Service		
Bloodvein	51 4[illegible]	NH&W 308					MGAS			Radio-MGAS T.V.	60 mi. from nearest trunk line.	60 miles from nearest trunk line	H.F. Voice - NH & W Improved public communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Brochet	57 53 101 40	637					MTS RCEC			Radio	77 mi. from nearest trunk line.	NH & W Nursing station under construction.	Voice - NH & W Lack of good clear broadcast radio reception. Improved public communications.
Churchill	58 47 94 11	2,005	Bell		RCMP	CN	RCMP Lambair	MTS Toll		Radio (E) T.V. (Coverage)	Planning (E) T.V.	Hqrs. of Keewatin area.	
Cormorant	54 14	350						MTS manual Exch.				On CNR Magneto service	
Cranberry Portage	54 35 101 23	907	MTS				MGAS	MTS		Radio (E) T.V. (E)	Dial service		
Cross Lake	54 37 97 47	1,840					MTS MGAS RCEC U.CHURCH HBC				Planning (E) Radio Planning (E) T.V. 38 mi. from nearest trunk line.	United Church - no privacy NH & W - unsatisfactory Indian communities. Hopes for admin. centre.	HF Voice - NH & W Improved public communications

PROVINCE OR TERRITORY: MANITOBA

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE	LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
				MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Dauphin River			80					MTS				28 mi. to nearest trunk line.		Voice - NH & W Improved public communications
Deer Lake	55 94	37 08	N/A					U.Ch.					Indian communities	
Easterville	53 99	07 49	344					MTS				25 mi. to nearest trunk line.	Radio phone to The Pas. Improved public communications.	Voice - NH & W
Fisher River	51 97	26 22	1,045	NH&W t'phone			MTS	NH&W			Radio (E) T.V. (E)	Dial service		Voice - NH & W
Flin Flon	54 101	46 53	10,201	MTS				MGAS U.Ch. H.B.E.	MTS Exch.		Radio (E) T.V. (E)			D.D.D. '73
Fort Churchill	58 94	47 11	1,774						MTS Exch.		T.V.			

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Garden Hill	53 52 94 42	MTS 1,129 NH&W 1,300					MTS				208 miles from nearest trunk line	Indian Reserve	Voice - NH & W Improved public communications.
God's Lake	54 40 94 09	83					MTS MGAS RCEC U.Ch.				Planning (E) Radio Planning (E) T.V. 258 miles from nearest trunk line		Voice - HF NH & W Improved public communications
God's Lake Narrows	N/A	887					MTS				258 miles from nearest trunk line		Improved public communications
God's River	54 50 94 05	50									258 miles from nearest trunk line	Indian Settlements	Improved public communications
Gillam Town Camp	56 21 94 42	4,070	MTS RCMP			CN	RCMP MTS	MTS Exch.	Telex	TV (E) Radio (E)		On CNR	Increase in TV power
Grand Rapids	53 10 99 18	804	MTS				MGAS	MTS Exch.		TV (E) Radio (E)	Dial Service		

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Granville Lake	56 09 100 22	80					Airways MTS				110 miles from nearest trunk line		Improved public communications
Hole River		300					MGAS				7 miles from nearest trunk line		Improved public communications
Ilford	56 04 95 35	150				MTS	MTS	MTS Toll				Remote settlement on CNR	Other - telephone More power for live T.V. MTS
Island Lake	53 52 94 40	2359				HBC U.Ch. MTS					Planning (E) Radio	Indian community	
Jackhead	51 53 97 16	242					MTS				60 miles from nearest trunk line		HF Voice - NH & W Improved public communications
Little Black River	53 27 97 41	168									18 miles from nearest trunk line. No public communi-cations		Voice - NH & W public communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Little Grand Rapids	52 03 95 28	450					HBC				110 miles from nearest trunk line		Voice - NH & W Improved public communications
Lynn Lake	56 51 101 03	2800			Sherriff Gordon Mines	MTS	RCMP SGM U.Ch. MGAS	MTS Exch.	CN CP Telex	Radio (E) T.V. (E)			
Matheson Island	N/A	160					MTS				50 miles from nearest trunk line		Improved public communications
Moose Lake	53 43 100 20	630					MGAS MTS Lambair			Radio (E) T.V. (coverage)	Planning (E) T.V. 38 miles from nearest trunk line.	Pulp, limbering, mining, and oil explorations.	Voice - Nav/Aids Lambair Improved public communications
Nelson House	55 47 98 51	MTS 1282 NH&W 978					MTS MGAS HBC RCEC U.Ch.			Radio (E)	Planning (E) T.V. 35 miles from nearest trunk line		Voice - NH & W Improved public communications
Norway House	53 59 97 50	MTS 2500 NH&W 2300					MTS RCEC U.Ch. Lambair	MTS Toll		Radio (E)	Planning (E) T.V. Dial Service	Hospital, northern A/M Base Stn., new schools.	Voice HF 2-way NAV/AIDS NH & W, Lambair

PROVINCE OR TERRITORY: MANITOBA

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIEL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Oxford House	54 56 95 16	MTS 800 NH&W 651					MTS RCEC MGAS HBC U.Ch.			Radio (E)	Planning (E) T.V. 298 miles from nearest trunk line	Indian Communities	Voice - NH & W Improved public communications
Pauvingassi	52 10 95 22	160									No public communications. 120 miles from nearest trunk line.	Mennonite community.	Voice - NH & W Improved public communications
Pikwitonei	55 35 97 09	175				MTS		MTS			Magneto Service	On CNR	HF increase TV power output. MTS
Pine Dock	51 38 96 48	109					MTS			T.V. (E)	45 miles from nearest trunk line		Improved public communications
Poplar River	53 00 97 17	385					MTS HBC U.Ch.				135 miles from nearest trunk line	Indian community.	Voice HF. NH & W HF - MTS. Improved public communications
Pukatawagan	55 44 101 20	836					MTS RCEC			Radio (E)	Planning (E) T.V. 7 miles from nearest trunk line		Voice - NH & W - request power boost for Flin Flon TV outlet. Improved public communications

PROVINCE OR TERRITORY MANITOBA

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Red Deer Lake	N/A	62									6 miles from nearest trunk line - no public communications.		Public communications
Red Sucker Lake	54 11 93 34	218					HBC U.Ch. MTS				258 miles from nearest trunk line		HF - NH & W Improved public communications
Rutton Lake	N/A	N/A					SGM					Growth area (5.6m) mineral & lumber	5-10 lines and T.V.
Sandy Lake	N/A	N/A					U.Ch.					Indian community	
Sault Point	N/A	60					MTS				30 miles from nearest trunk line		Public communications
Shoal Lake	N/A	600					MTS				18 miles from nearest trunk line		Improved public communications
Shoal River	N/A	490					MTS						Voice - NH & W Improved public communications

PROVINCE OR TERRITORY MANITOBA

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Sherridan	55 08 101 05	200				MTS		MTS Toll				On CNR	Request power boost for Flin Flon T.V. outlet.
Snow Lake	54 53 100 02	1897	MTS				MGAS	MTS Toll		Radio (E) T.V. (E)		Growth area. Mineral & wood - Man. Govt	
South Indian Lake	56 46 98 57	477					MTS MGAS HBC U.Ch.				150 miles from nearest trunk line	Indian communities.	Voice - NH & W Improved public communications
Split Lake	56 15 96 06	400					MTS HBC				15 miles from nearest trunk line	On CNR	Increase power outlet at Thompson & Gillam for live T.V. Improved public communications
St. Theresa Pt.	53 49 94 51	880					RCEC HBC MTS				208 miles from nearest trunk line		Voice - NH & W Improved public communications
Shamattawa	55 51 92 05	344					MTS HBC				107 miles from nearest trunk line		Voice-lack of clear broadcast radio reception. NH & W Improved public communications

LOCATION	CO-ORDINATES LATITUDE	LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
				MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
The Pas	53	50	5031	MTS			CN	MGAS RCEC U.Ch. Lambair MTS	MTS Exch.	Telex (CN)	Radio (E) T.V. (E)		Area of growth. Man. Govt Military, oil, mining, gas, wood. Indian communities.	D.D.D. '72
	101	15												
Thicket Portage	55	19	300				MTS	MGAS	MTS Toll		Radio (E)			Increased power output from Thompson & Gillam T.V. Stn. Telephone service planned 1970 - MTS
	97	42												
Thompson	55	47	22000	MTS		CN		Man. Hydro RCMP MGAS U.Ch. Lambair MTS	Exch.	Telex (CN)	Radio (E) CN TV-CN(E)	Planning (Fr) Radio Planning (Fr) T.V.	Area of growth - same as The Pas.	D.D.D. ' 70
	97	52												
Umpherville	53	30	61				MTS		Exch.					
Wabowden	54	55	684	MTS				MGAS	MTS Exch	Telex (CN)	Radio (E)	Planning (E) T.V. Dial Service.	On CNR	Increased output requested from Thompson and Gillam for reception of live T.V.
	98	38												

PROVINCE OR TERRITORY MANITOBA

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Wanless	54 10 101 22	156						MTS Exch.					Data - manbridge 2,400 bgs, '71
Wassagamach	53 49 94 51	450					U.Ch. MTS				Magneto service 208 miles to nearest trunk line	Indian communities	Voice - NH & W MTS Improved public communications
Waterhen	51 48 99 32	677					MTS			Radio (E)	40 miles to nearest trunk line		Voice - NH & W Improved public communications
Wekusko	54 30 99 45	36				MTS		MTS Exch.					
York Landing	56 06 96 10	80					MTS				8 miles to nearest trunk line		Voice - NH & W increased power output required at Thompson & Gillam for reception of live T.V. Improved public communications

PROVINCE OR TERRITORY SASKATCHEWAN

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Albertville	53 24 105 33	78					DNR	Ex(ST)		Radio (E)	On trunk route		Improved public communications
Arborfield	53 06 103 39	494					DNR	Ex(ST)		Radio (E) T.V. (E)	Planning (Fr) T.V. On trunk route		Improved public communications
Armet	52 50 101 47	10					DNR	Toll (ST)		Radio (E)	On trunk route		
Aylsham	53 12 103 49	176								Radio (E)	On trunk route	SPC Base Stn.	Improved public communications
Bapaume	53 23 107 40	23						Toll (ST)		Radio (E)			
Barthel	53 55 109 03	36						Toll (ST)		Radio (E)			
Beauval	55 09 107 37	486					DNR			Radio (E)	Planning (E) T.V. 85 miles to nearest trunk line	Industry, fishing (ST)	Improved public communi-cations.

PROVINCE OR TERRITORY SASKATCHEWAN

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Belbutte	53 22 107 49	41						Toll (ST)		Radio ( )			
Bertwell	52 35 102 34	15						Toll (ST)		Radio (E)			
Big River	53 50 107 01	898					DNR	Ex(ST)		Radio (E)	On trunk route		Improved public communications
Birch Hills	52 59 105 25	723					DNR	Ex(ST)		Radio (E)	On trunk route		Improved public communications
Black Lake	59 08 105 36	415					HBC DNR				100 miles from trunk route	Industry - Mink ranching (ST)	Voice NH & W Improved public communications
Blue Bell	54 13 109 00	4						Toll (ST)		Radio (E)			
Brabant Lake	56 00 103 44	N/A					DNR					DNR - HF base stn.	DNR plans to convert to VHF by 1975. Improved public communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Buffalo Narrows	55 51	611			RCMP		DNR	Ex(ST)		Radio (E)	Planning (E) T.V. 130 miles from trunk route	Industry, fishing, trapping, DNR Base Stn.	Improved public communications.
Canoe Lake	55 06 108 20	320					DNR			Radio (E)	80 miles from trunk route	Industry, trapping, lumbering.	Voice - NH & W
Conwood	53 22 106 36	342					DNR	Ex(ST)		Radio (E)	On trunk route		
Carrot River	53 17 103 35	1092					SPC DNR	Ex(ST)		Radio (E)	Planning (E) T.V. On trunk route	SPC Base Stn.	Voice - NH & W Improved public communications
Chitik Lake	53 45 107 43	260								Radio (E)	Indian reserve	2 miles nearest trunk line	Public Communications
Choiceland	53 29 104 29	493						Ex(ST)		Radio (E)	On trunk route		Improved public communications
Christopher Lake	53 32 105 48	163					DNR	Toll (ST) Ex(ST)		Radio (E)	On trunk route		Improved public communications

PROVINCE OR TERRITORY: SASKATCHEWAN

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Clemenceau	52 40 102 32	60					DNR	Toll (ST)		Radio (E)	On trunk route		Improved public communications
Codet	53 16 104 06	187								Radio (E)	On trunk route		Improved public communications
Cookson	53 32 106 19	14								Radio (E)	Multi-party line. No public communications - 23 miles from trunk route		
Cree Lake	57 22 106 50	57					DNR				DNR plans to convert to VHF by 1975. 165 miles from trunk route.	DNR HF Base Stn Industry, fishing, trapping	Improved public communications
Creighton	54 45 101 54	1904					DNR			Radio (E)	On trunk route	Industry - mining	Improved public communications
Cumberland House	53 58 102 16	628					DNR			Radio (E)	Planning (E) T.V. 55 miles from trunk route		Improved public communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Debden	53 31 103 34	401						Ex(ST)		Radio (E)	Planning (Fr) Radio Planning (Fr) T.V. On trunk route		
Denare Beach	54 40 102 05	97								Radio (E)	On trunk route	Industry - tourism fishing	Improved public communications
Deschambault Lake	54 55 103 22	253					DNR			Radio (E)	29 miles from trunk route	Industry - trapping fishing	Improved public communications. Voice - NH & W
Dillon	55 56 108 56	90					DNR			Radio (E)	127 miles from trunk route		Voice - NH & W Improved public communications.
Domremy	52 47 105 44	235						Ex(ST)		Radio (E)	On trunk route		
Dore Lake	54 38 107 24	112					DNR			Radio (E)	72 miles from trunk route	Industry - fishing trapping	Improved public communications
Dorintosh	54 22 108 38	102					DNR	Toll (ST)		Radio (E)	On trunk route		Improved public communications

PROVINCE OR TERRITORY SASKATCHEWAN

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Duck Lake	52 49 106 14	704						Ex(ST)		Radio (E)	On trunk route		
Edem	53 11 108 46	310						Ex(ST)		Radio (E)	On trunk route		
Erwood	53 51 102 11	119					DNR			Radio (E)	On trunk route Multi-party line		
Fairholme	53 26 108 32	50								Radio (E)	On trunk route Multi-party line		
Flin Flon	N/A	527					DNR				On trunk route	DNR, HF Radio Base Stn	Voice - NH & W Improved public communications
Fond du Lac	59 19 107 12	398					DNR				55 miles from trunk route	Industry - trapping	Voice - NH & W Improved public communi-cations required.
Frenchman's Butte	53 35 109 38	111									On trunk route		Improved public communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Furness	53 07 109 58	11								Radio (E)			
Glaslyn	53 22 108 27	349					SPC	Ex(ST)		Radio (E)	On trunk route	SPC Base Stn	
Glenbush	53 15 108 00	55								Radio (E)	On trunk route		Improved public communications
Golden Ridge	54 20 109 06	11						Toll(ST)		Radio (E)			
Goodsoil	54 24 109 13	180						Ex(ST)		Radio (E)	Planning (E) T.V. On trunk route		
Green Lake	54 17 107 47	744					DNR	Ex(ST)		Radio (E)	Planning (E) T.V. On trunk route		Improved public communications
Greig Beach	54 27 108 41	N/A						Toll (ST)		Radio (E)			

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			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Gronlid	53 06 104 28	151								Radio (E)	On trunk route Multi-party line(ST)		Improved public communications
Holbien	53 14 106 12	53						Toll (ST)		Radio (E)	On trunk route		
Horse Head	53 54 108 52	N/A						Toll (ST)		Radio (E)			
Hudson Bay	52 51 102 23	1957					DNR	Ex(ST)		Radio (E)	Planning (E) T.V. On trunk route	DNR, HF Radio Base Stn Industry - sawmill	Improved public communications
Ile-a-Crosse	55 27	941			RCMP		RCMP DNR			Radio (E)	Planning (E) T.V. 104 miles from trunk route	Industry - fishing	Voice - NH & W Improved public communi-cations.
Island Falls	55 32 102 21	178								Radio (E)	60 miles from trunk route	Industry - power plant (ST)	Improved public communications
Kinistino	52 57 105 02	780						Ex(ST)		Radio (E)	On trunk route		

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
La Loche	56 29 109 26	1090					RCMP			Radio (E)	Planning (E) T.V. 200 miles from trunk route	Industry - trapping (ST)	Extend microwave system from Green Lake North to La Loche. Improved public communications
La Ronge	55 06 105 17	994	Gulf (ST)		RCMP		DNR RCMP	Ex(ST)		Radio (E) T.V. (E)	On trunk route	DNR Base Stn. Industry - mining, lumbering, tourism	Voice - NH & W Improved public communications
Lashburn	53 08 109 36	506						Ex(ST)		Radio	On trunk route		
Laventure								Toll (ST)					
Leask	53 01 106 45	497						Ex(ST)		Radio			
Leoville	53 38 107 33	367						Ex(ST)		Radio	On trunk route		
Lone Rock	53 03 109 53	138								Radio	Multi-party line On trunk route		

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			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Loon Lake	54 02 109 10	359					SPC	Ex(ST)		Radio (E)	On trunk route	SPC Base Stn.	
Loon River	54 7 109 02	4						Toll(ST)		Radio (E)			
MacDowell	53 01 106 01	188								Radio (E)	Multi-party line. On trunk route	SPC Base Stn.	
Maidstone	53 06 109 17	710					SPC	Ex(ST)		Radio (E)	On trunk route		
Makawa	54 00 108 55	118						Ex(ST)		Radio (E)	On trunk route		
Marshall	53 11 109 47	185					SPC	Ex(ST)		Radio (E)	On trunk route	SPC Base Stn.	
Mayfair	52 58 107 36	114					DNR			Radio (E)	Multi-party line. On trunk route		Improved public communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Meadow Lake	54 08 105 22	3317					SPC DNR	Ex(ST)		Radio (E) T.V. (E)	Power line carrier system to Meadow Lake On trunk route	DNR HF Base Stn.	DNR plans to convert to VHF within 2 yrs. Improved public communications
Meath Park	53 26 105 22	198					SPC DNR	Ex(ST)		Radio (E)	On trunk route	SPC Base Stn.	Improved public communications
Medstead	53 18 108 04	185						Ex(ST)		Radio (E)	Planning (E) T.V. On trunk route		
Meota	53 02 108 27	260						Ex(ST)		Radio (E)	On trunk route		
Midnight Lake	53 27 108 23	26						Toll (ST)		Radio (E)			
Mildred	53 21 107 20	68						Toll (ST)		Radio (E)	On trunk route		
Molonosa	54 30 105 33	214					DNR			Radio (E)	15 miles to nearest trunk route	Industry - lumber (ST)	Improved public communications

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			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Montreal Lake	54 03 105 46	90					HBC			Radio (E)		S.S.B. Simplex	Voice - NH & W Improved public communications
Montreal Lake	N/A	882					DNR				18 mi to nearest trunk route.	Indian Reservation.	
Mullingar	53 05 107 40	38								Radio (E)	Multi-party line		
Nipawin	53 22 104 00	4300					SPC DNR	Ex(ST)		Radio (E) T.V. (E)	On trunk route	SPC Base Stn.	Improved public communications
Onion Lake	53 43 110 00	28								Radio (E)	Multi-party line		
Paddockwood	53 31 105 34	210						Ex(ST)		Radio (E)	On trunk route		
Paradise Hill	53 32 109 28	317					SPC	Ex(ST)		Radio (E)	On trunk route	SPC Repeater & Base Stn.	
Patuanak	55 55 107 43	118					DNR			Radio (E)	105 mi. to nearest trunk route.		Voice - NH & W Improved public communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Paynton	53 01 108 56	173						Ex(ST)		Radio (E)	On trunk route		
Pelican Narrows	55 10 102 56	130					RCMP DNR			Radio (E)	Planning (E) T.V. 35 mi. to nearest trunk route	Industry - trapping fishing(ST)	Voice - NH & W Improved public communications
Penn	53 40 107 42	N/A								Radio (E)	Multi-party line		
Pierceland	54 20 109 49	N/A						Ex(ST)		Radio (E)			
Pinehouse Lake	55 31 106 36	336					DNR			Radio (E)	58 mi. to nearest trunk route	Industry - fishing trapping(ST)	Improved public communications
Prince Albert	53 12 105 46	26269					SPC DNR	Ex(ST)		Radio (E) T.V. (E)	Planning (Fr) Radio	SPC Base Stn. DNR's HF Base Stn. Industry - pulp mill	DNR plans to convert to VHF within 2 yrs. Improved public communications
Rabbit Lake	53 08 107 46	225					Gulf DNR	Ex(ST)		Radio (E)	On trunk route	Mining.	Improved public communications

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			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Rapid View	54 09 108 49	17						Toll (ST)		Radio (E)			
Red Cross	53 43 109 27	9								Radio (E)			
Red Earth	53 29 102 52	372					DNR			Radio (E)	50 mi. to nearest trunk route		Voice - NH & W Improved public communications
Red Field	52 57 107 45	10								Radio (E)	Multi-party line		
Red Wing Terrace	N/A	93								Radio (E)	Multi-party line On trunk route		
Reindeer Lake	N/A	N/A					HBC					Industry - fishing trapping(ST)	
Reserve	52 28 102 39	187					DNR	Ex(ST)		Radio (E)	On trunk route		Improved public communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Ridge Dale	53 04 104 09	157						Ex(ST)		Radio (E)	On trunk route		
Robin Hood	53 17 108 12	23						Toll (ST)		Radio (E)			
Sandwith	53 08 108 00	17						Toll (ST)		Radio (E)			
Sandy Bay	55 33 102 18	561					DNR			Radio (E)	65 mi. to nearest trunk route	Industry - power plant (ST)	Improved public communications
Shellbrook	53 13 106 24	1057					DNR	Ex(ST)		Radio (E)	On trunk route		Improved public communications
Shell Lake	53 18 107 04	251						Ex(ST)		Radio (E)	On trunk route		
Shipman	53 29 104 59	69					DNR			Radio (E)	On trunk route		Improved public communications
Shoal Lake	53 30 102 38	182								Radio (E)	55 mi. to nearest trunk route		Voice - NH & W Improved public communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Snowden	53 29 104 41	65					DNR	Ex(ST)		Radio (E)	On trunk route		Improved public communications
Southend	56 19 103 14	114					DNR			Radio (E)	116 mi. to nearest trunk route		Voice - NH & W Improved public communications
Spiritwood	53 23 107 31	665					SPC	Ex(ST)		Radio (E)	On trunk route	SPC Base Stn.	
Squaw Rapids	53 41 103 21	16					SPC			Radio (E)		SPC Base Stn. Power line carrier system to Squaw Rapids. Power plant.	
Stanley Mission	55 25 104 33	NH&W 715					DNR			Radio (E)	37 mi. to nearest trunk route	Trapping (ST) DNR HF Base Stn.	Voice - NH & W Improved public communications
Stoney Rapids	59 16 105 50	123					DNR RCMP HBC				Planning (E) T.V. 116 mi. to nearest trunk route.	Tourism (ST)	Voice - NH & W Improved public communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
St. Cyr Lake	54 13 108 04							Toll (ST)		Radio (E)			
Sturgeon Lake	54 14 101 56	615								Radio (E)	25 mi. to nearest trunk route		Voice - NH & W Improved public communications
Sturgeon Landing	54 16 101 49	22								Radio (E)	110 mi. to nearest trunk route		Voice - NH & W Improved public communications
St. Walburg	53 39 109 12	660						Ex(ST)		Radio (E)	On trunk route		
Turtleford	53 23 108 57	425					SPC	Ex(ST)		Radio (E)	On trunk route	SPC Base Stn.	
Uranium City	59 34 108 37	1665			RCMP		DNR-RCMP Northn. Transpt. Comm.	Excl(ST)		Radio (E) T.V. (E)	On trunk route	Mining (ST) DNR HF Base Stn.	Voice - NH & W DNR to VHF by 1975 Improved public communications
Veillardville	52 52 102 32	2						Toll (ST)		Radio (E)			

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Waskesiu Lake	53 55 106 05	207					SPC	Ex(ST)		Radio (E)	On trunk route	SPC Repeater Stn.	
Waterhen	54 28 108 20	N/A						Toll (ST)		Radio (E)			
Whelan	54 02 109 28	1						Toll (ST)		Radio (E)			
White Fox	53 27 104 05	389					DNR	Ex(ST)		Radio (E)	On trunk route		Improved public communications
Whitkow	52 56 107 52	36						Ex(ST)		Radio (E)			
Wollaston Lake	58 07 103 10	57					DNR				222 mi. to nearest trunk route	DNR HF Base Stn. Fishing, trapping (ST)	Voice - NH & W Improved public communications
Zenon Park	53 04 103 45	350						Ex(ST)		Radio (E)	Planning (Fr) Radio On trunk route		

PROVINCE OR TERRITORY: ONTARIO

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Albany (Fort)	52 14 81 36	220					HBC				Planning (E) Radio Planning (E) T.V. 80 miles from nearest trunk line.		Public communicati ons
Angling Lake	53 49 89 30	125									170 miles from trunk point at Pickle Crow		Voice - NH & W Public Communications
Attawapiskat	52 56 82 24	441					HBC Bell				140 miles from trunk point at Moosonee		Improved Public Communications
Bearskin Lake	53 55 90 58	270									170 miles from trunk point at Pickle Crow		Voice - NH & W Public Communications
Big Trout Lake	53 49 89 53	550					Bell HBC DOT	Toll			Planning (E) Radio Planning (E) T.V. 160 miles from trunk point at Pickle Crow	DOT Telecom base MF & HF radio trapping & commercial fishing. Nursing Stn.	Voice - NH & W Improved Public Communications
Cat Lake	51 44 91 48	157					HBC				75 miles from trunk point at Pickle Crow		Voice - NH & W Public Communications
Deer Lake	52 37 94 05	120					U.Ch.				115 miles from trunk point at Red Lake		Voice - NH & W Public Communications

PROVINCE OR TERRITORY ONTARIO

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Fort Hope	51 33 87 58	450					Bell HBC	Exch.			85 miles from trunk point at Pickle Crow		Voice - NH & W Improved Public Communications
Fort Severn	55 59 87 38	NH&W 211 Bell 144					Bell HBC				450 miles from trunk point at Moosonee	Trapping, hunting, Poor economic base for population.	Voice - NH & W Improved Public Communications
Grassy Narrows	50 30	485					HBC				36 miles from trunk point at Kenora		Public Communications
Gull Lake	N/A	N/A					HBC						
Kasebonica	53 35 88 35	100									167 miles from trunk point at Pickle Crow		Voice - NH & W Public Communications
Kashechewan	52 15 81 36	350					HBC				84 miles from trunk point at Moosonee		Voice - NH & W Public Communications
Kenora	49 47 94 29	11295					HBC			Radio (E) T.V. (E)	Planning (Fr) Radio Planning (Fr) T.V.	DOT - Dept of Education aircraft HBC all have large systems	Better voice communication. NH & W Dept of Education. Public Communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Kingfisher Lake	53 00 89 50	90									111 miles from trunk point at Pickle Crow	Poor & unreliable transmission due to Auroral Zone & HF interference.	Voice - NH & W Public Communications
Lansdowne House	52 14 87 53	350 approx.					Bell HBC	Toll Exch.			100 miles from trunk point at Pickle Crow		Voice - NH & W Improved Public Communications
Lac Le Croix	48 21 92 09	141									36 miles from trunk point at Fort Francis		Voice - NH & W Public Communications
La Seul	50 20 92 16	506					HBC			Radio (E) T.V. (E)	23 miles from trunk point at Sioux Lookout		Voice - NH & W Public Communications
Moose Factory	51 15 80 36	800					HBC			Radio (E)	Planning (E) T.V. Standard telephone trunk		Public Communications
New Osnaburgh	51 12 90 18	600									21 miles from trunk point at Pickle Crow.		Voice - NH & W Public Communications

PROVINCE OR TERRITORY: ONTARIO

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
North Spirit Lake	52 31 92 55	100									112 miles from trunk point at Red Lake		Voice - NH & W Public Communications
North West Angle	49 23 95 03	200								Radio (E)	37 miles from trunk point at Kenora		Voice - NH & W Public Communications
Ogoki	50 16 89 36	195					HBC				144 miles from trunk point at Geraldton		Voice - NH & W Improved Public Communications
Pikangikum	51 50 93 59	661					HBC Bell	Exch.			60 miles from trunk point at Red Lake		Voice - NH & W Improved Public Communications
Poplar Hill	52 05 94 18	150									80 miles from trunk point at Red Lake		Voice - NH & W Public Communications
Round Lake	52 57 93 59	424					HBC						Voice - NH & W Public Communications
Sandy Lake	53 03 93 15	850					Bell RCEC HBC	Exch.			Planning (E) Radio Planning (E) T.V. 140 miles from trunk point at Red Lake.		Voice - NH & W Improved Public Communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Sachigo	53 46 92 20	140									190 miles from trunk point at Pickle Crow		Voice - NH & W Public Communications
Sioux Lookout	50 05 91 58	2267								Radio (E) T.V. (E)	Standard telephone trunk		Voice - NH & W
Slate Falls	51 05 92 30	110									68 miles from trunk point at Slate Falls		Voice - NH & W Public Communications
Weagamow	52 53 91 22	144					Bell	Exch.			150 miles from trunk point at Pickle Crow		Voice - (24 hr service) - Bell Improved Public Communications
Webique	53 00 87 25	105					HBC				160 miles from trunk point at Pickle Crow		Voice - NH & W Public Communications
White Dog	N/A	495									35 miles from nearest trunk point		Voice - NH & W Public Communications
Winisk	55 16 85 12	134					HBC				330 miles from trunk point at Moosonee. Bell-PABX HF toll trunks provided by ONC.	Trapping, hunting	Voice - NH & W Public Communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Wunnummin Lake	N/A	209					Bell				120 miles from trunk point at Pickle Crow.		Improved Public Communications

PROVINCE OR TERRITORY: YUKON

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Beaver Creek	62 22 141 52	215	CN				RCMP	CN Exch.	CN	Radio (E)			
Calumet Canyon Creek	N/A	N/A				CN CN							
Carcross	60 10 134 42	260				CN	RCMP	CN Exch.	CN	Radio (E)	T.V. Planned when network (E) available		
Carmacks	62 05 136 18	495				CN	YTG	CN Exch.	CN	Radio (E)	T.V. Planned when network (E) available		
Clinton Creek	64 35 140 37	405				CN		CN Exch.	CN	Radio (E)	T.V. Planned when network (E) available		
Dawson	64 04 139 25	742			RCMP	CN	YTG RCMP DOT	CN Exch.	DOT	Radio (E)	T.V. Planned when network (E) available		
Destruction BA-1 Burwash Landing	61 15 138 48	205	CN			CN		CN Exch.	CN	Radio (E)	T.V. Planned when network (E) available		

PROVINCE OR TERRITORY: YUKON

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Elsa	63 55 135 28	484				CN		CN Exch.	Keno Hill Mines	Radio (E)	T.V. Planned when network (E) available	Keno Hill Mines	Live T.V. High speed data possibly in future Keno Hill Mines.
Faro	63 69 135 11	900			UHF CN		RCMP CN	CN Exch.		Radio (E)	T.V. planned when network (E) available		
Haines Junction	60 45 137 40	310	CN RCMP			CN	RCMP	CN Exch.		Radio (E)			
Keno	63 55 135 18	144				CN							
Mayo	63 35 135 54	500				CN	RCMP	CN Exch.	DOT	Radio (E)	T.V. planned when network (E) available		
Old Crow	67 35 139 45	250					YTG RCMP CN				Radio planned		Improved public communications YTG. NH & W.

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Pelly River	N/A	N/A					DOT						
Porter Creek	60 48 135 08	1022	CN					CN Exch.					
Ross River	61 59 132 27	170			CN		YGT RCMP	CN Exch.			Radio and TV planned when network available		More reliable system - YTG.
Swift River	N/A	170	CN							Radio (E)			
Teslin	60 09 132 45	324	CN RCMP			CNT	RCMP	CN Exch.	DOT CN	Radio (E)	TV planned when network (E) available		
Watson Lake	60 07 128 48	1115	CN RCMP		RCMP CN	CNT	RCMP	CN Exch.	RCMP DOT CN	Radio (E)	TV planned when network (E) available		
Whitehorse	60 40 135 03	7500	CN		CN RCMP	CN	YTG RCMP	CN Exch.	RCMP DOT CN	Radio (E)	TV planned when network (E) available		

PROVINCE OR TERRITORY: NEWFOUNDLAND / LABRADOR

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Batteau	53 25 55 47	75					Bell	Exch.		Radio (E)	55 mi. to nearest trunk line.		Improvements required in public services.
Battle Harbour	52 16 55 35	100			Bell			Toll		Radio (E)	Planned T.V. (E)	Fishing, sealing	
Black Tickle	53 28 55 45	N/A					Bell	Exch.				Fishing, summer	
Cape St. Charles	52 13 55 38	90			Bell			Toll		Radio (E)		Fishing - summer	
Cartwright	53 42 57 01	900					HFS Bell RCMP IGA	Exch.			Planned Radio (E) Planned T.V. (E) DOT Marine Station	Fishing, sealing hospital	Tropo planned. Improvements required in public services.
Capstan Island		70										Served by West St. Modesté	Improvements required in public services.

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Charlottetown	52 06 56 07	146			Bell			Toll		Radio (E)			
Churchill Falls	53 36 64 19	approx. 7,000	Bell microwave				NFS RCMP	Exch.	CN EPA	Radio (E)(F) T.V. (E)	Planned T.V. (F)	Large Hydro development	Private wire landline - EPA
Davis Inlet	55 52 60 52	175 95% Indian					Bell	Exch.			45 mi. to nearest trunk line.	Fishing, hunting	Improvements required in public services.
Domino		12					Bell	Toll				Fishing - summer	
Dumpling	53 51 66 59	83 (1965)									No communications	Fishing - summer	
Emily Hr.	54 33 56 59	30 (1965)									No communications	Fishing - summer	

PROVINCE OR TERRITORY: NEWFOUNDLAND / LABRADOR

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE	LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
				MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Five Islands	54 57	29 01	50 (1965)									No communications	Fishing - summer	
Fishing Ships Harbour	52 55	36 47				Bell			Toll		Radio (E)		Fishing - summer	
Forteau	51 56	28 58							Exch.		Radio (E) T.V. (F)	Includes English Point Buckles Point		
Fox Harbour	51 56	38 42	235			Bell			Exch.		Radio (E)		Fishing, fish depot, sawmill	
Frenchmans Island	53 55	13 44	50					Bell	Toll		Radio (E)		Fishing - summer	
Georges Cove	52	34	120			Bell			Toll		Radio (E)		Fishing - summer	

LOCATION	CO-ORDINATES LATITUDE	LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
				MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Goose Bay Happy Valley	53 60	20 25	approx 12000	Bell CN		RCMP DOT		NFS RCMP IGA DOT	Exch.	CN RCMP DOT	Radio (E)	Planned T.V. (E)(F) Planned (F) Radio	International Airport USAF Base Commercial Development	
Henley Hr.	51 55	59 51	80			Bell			Toll		Radio (E)		Fishing - summer	
Hopedale	55 60	28 23	390	Bell				NLSD IGA	Exch.			Planned Radio (LPRT) DOT ATC interphone	Fishing, hunting sawmill	
Indian Cove	49 54	36 40	60								Radio (E) T.V. (E)	No communications	Fishing summer	Improvements required in public services.
Indian Tickle	52 60	57 53	70					Bell	Toll			50 mi. to nearest trunk line.	Fishing - summer	Improvements required in public services.
Labrador City	52 60	37 53		Bell				NFS	Exch.		Radio (F) Radio (E) T.V. (E)	Planned T.V. (F)	Mining.	

PROVINCE OR TERRITORY: NEWFOUNDLAND / LABRADOR

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
L'anse au Clair	51 25 57 05	290						Exch.		Radio (E)			
L'anse au Loup	51 31 56 50	400						Exch.		Radio (E)	Includes L'Anse Amour Pointe Amour		
Lodge Bay	52 14 55 40	100			Bell			Exch.		Radio (E)			
Mary's Harbour	52 19 55 50	500			Bell			Exch.		Radio (E)		Fishing, IGA nursing station RCMP, retailing	
Makkovik	55 05 59 11	400					Bell NFS NLSD IGA	Bell			52 mi. to nearest trunk line.	Fishing mining exploration	Improvements required in public services.
Matthews Cove	52 17 55 36	66 (1965)										Fishing - summer	
Mud Lake	53 19 60 10	115 (1965)			Bell							Two sawmills-labour at Goose, 7 miles distant	Served from Goose Bay by VHF.

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LOCATION	CO-ORDINATES LATITUDE	LONGITUDE	POP	EXISTING SYSTEMS: MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV	COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
Nain	56	32	650 70% Eskimo					Bell RCMP NLSD IGA	Exch.			Planned Radio (E) Planned T.V. (E) 95 mi. to nearest trunk line.	Fishing, hunting, woodcutting. IGA nursing station. Moravian Mission	Improvements required in public services.
Northwest River	53 60	32 08	900 40% Indian			Bell		Bell NLSD IGA			Radio (E)	Planned T.V. (E)	Hqrs. of IGA Northern Labrador Hospital.	Served from Goose by VHF.
North River	53 57	49 06	25									No communications	Fishing	
Norman's Bay	51 57	37 06	19									No communications	Winter settlement	
Packs Harbour	53 56	51 59	125					Bell	Toll			12 mi. to nearest trunk line.	Fishing - summer	Improvements required in public services.
Paradise River	53 57	27 17	150					Bell	Toll				Winter settlement	Improvements required in public services.

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Partridge Bay	53 12 55 50	43 (1965)									No communications	Winter settlement	
Pinsents Arm	52 41 55 53				Bell			Toll		Radio (E)			
Prinware	51 37 56 42	156								Radio (E)			Served from West St. Modesté. Improvements required in public services.
Pitts Hr.	52 01 55 54	60			Bell			Exch.		Radio (E)		Winter settlement	Improved public communications
Port Hope Simpson	52 33 56 18	480			Bell			Exch.				Fishing, logging.	
Porcupine	N/A	35					Bell	Toll					
Postville	54 54 59 47	125					Bell	Exch.			47 mi. to nearest trunk line.	Fishing. Mining exploration	Improvements required in public services.
Red Bay	51 44 56 25	298			Bell			Exch.				Fishing, labouring	

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Rigolet	54 11 58 26	150					Bell	Exch.			70 mi. to nearest trunk line.	Fishing	Improvements required in public services.
Seal Islands	53 13 55 44	52 (1965)								Radio (E)	No communications	Summer fishing	
Spotted Islands		150					Bell	Toll		Radio (E)	60 mi. to nearest trunk line.	Fishing	Improvements required in public services.
Smokey	54 28 53 14	40					Bell	Toll				Fishing	
Snug Harbour	52 53 55 52	35			Bell			Toll		Radio (E)		Fishing	
Square Islands	52 44 55 50	200			Bell	NLSD		Toll		Radio (E)			
Triangle	52 50 55 51	50					Bell	Toll		Radio (E)		Summer fishing	

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Tub Harbour	52 50 55 51	15					Bell			Radio (E)		Summer fishing	
West St. Modesté	51 36 56 42	232						Exch.					Improvements required in public services.
Williams Hr.	52 33 55 47	60			Bell			Toll		Radio (E)		Fishing	
Wabush (Labrador City)			Bell Quebec Tel.					Exch.		Radio (E) Radio (F)	Planned T.V. (E)	Mining	

PROVINCE OR TERRITORY: ALBERTA

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Anzac	56 27 111 02	224			Forestry			AGT Toll		Radio (E)	Radio Toll Office - 24 miles to trunk route.	Under study for community. Dial office (CDO).	Improved public communications
Assumption	58 40 118 36	930	AGT					AGT Toll			Mobile coverage.	C.D.O. (Nov. 21/71).	
Athabaska	54 43	1551	AGT							Radio (E) T.V. (E)			
Atikmeg	55 56 115 39	420						AGT Toll		Radio T.V. (both E)	Radio Toll Office 20 miles to trunk route.	Under study for C.D.O.	Improved public communications
Battle River	52 14 111 56				Forestry Twr.					Radio T.V. (both E)	Now Hawk Hills.		
Bear Canyon	56 15 119 50	523						AGT Toll		T.V. (E)	Multi-party service.	C.D.O. June 1970.	
Beaver Lodge	55 13 119 26	1083						AGT Ex.		Radio T.V. (both E)			

PROVINCE OR TERRITORY ALBERTA

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Beaver Ranch	N/A	51									No communications No services planned 11 miles to trunk route		Public Communications
Bonanza	55 55 119 49	N/A						AGT Ex.		T.V. (E)			
Boyer River	58 27	N/A	AGT								Telephone 3 miles		Improved Communications. N.H.&W.
Boyle	54 35	437	AGT							Radio T.V. (both	E)		
Brownvale	56 08 117 03	206	AGT					AGT Ex.		T.V. (E)			
Cadotte Lake	N/A	85									No communications 39 miles to trunk route	RTO planned 1971	Public Communications
Calling Lake	55 15 115 05	443						AGT Toll		Radio (E)	Radio Toll Office	C.D.O. Dec. 12/72	
Canyon Creek	54 22 115 05	250	AGT							Radio T.V. (both	E)		

PROVINCE OR TERRITORY ALBERTA

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Casalan	N/A	60								Radio (E)	No access to switched telephone network or public telephone service.	M.P.S. 1973	Public Communications
Chinook Valley	56 29 117 39							AGT Ex.		T.V. (E)			
Chipewyan Lake		150			Forestry Twr						Emergency Service (Private system) 67 miles to trunk route.	Radio toll office to be installed Sept. 1971.	**Improved public communications**
Chipewyan	N/A	236									Private system 10 miles to trunk route. Close to conventional services at Fort Chipewyan	Indian Reserve	Public Communications
Clairmont	55 16 118 47	247						AGT Ex.		Radio T.V. (both	E)		
Conklin	55 38 111 05	150			Forestry					Radio (E)	Northern Alberta Railway Emergency Service.	Under study for service improvement by AGT.	
											No access to switched telephone network or public service telephone.		Improved Public Communications
											42 miles to trunk route.		

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Crow Lake	55 50 112 01	69	AGT							T.V. (E)			
Debolt	55 13 118 01	66	AGT					AGT Ex.		Radio T.V. (both E)			
Dixonville	56 32 117 40	86			Forestry			AGT Ex.		Radio (E)			
Donnelly	55 44 117 06	249						AGT Ex.		Radio (E)			
Driftpile River	N/A	502									No telephones.	Indian Settlement	Public Communications
Faglesham	55 47 117 43	192						AGT Ex.		Radio T.V. (both E)			
Fairview	56 04 118 23	1184			RCMP			AGT Ex.		Radio T.V. (both E)			
Falher	55 44 117 12	843	AGT					AGT Ex.		Radio (E&F) T.V. (E)	Planning (Fr.) T.V.		

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LOCATION	CO-ORDINATES LATITUDE	LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
				MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Faust	55	19	535	AGT					AGT Ex.		Radio T.V. (both	E)		
	115	38												
Fort Chippewyan	58	43	1026	AGT		Forestry Twr RCMP	CNT	RCMP	AGT		Radio (E)	Planning (E) T.V. Radio toll office 13 miles to trunk route	Under study for service improvements.	
	111	08												
Fort Mackay	57	11	230			Forestry Twr			AGT Toll			13 miles to trunk route	Under study for improvement.	Improved public communications
	111	37												
Fort McMurray	56	44	2614	AGT		Forestry Twr RCMP	CNT	RCMP	AGT	CN/CP	T.V. (E) Radio (E)	Mobile coverage.		
Fort Smith	60	00	2120	AGT			CNT				Radio (E)			
	111	51												
Fort Vermillion	58	24	971	AGT		Forestry Twr RCMP			AGT Ex.			Planning (E) Radio		
	116	00												
Fox Lake	58	26	475						AGT			61 miles to trunk route	Indian Settlement	Improved public communications
	114	24												

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TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Gambler	N/A	183									No telephones	Indian Settlement	Public Communications
Garden Creek	58 42 113 55	120										R Toll office by Sept. 1971	
Garden River	N/A	125									72 miles to Trunk Route	RTO planned 1971	Public communications
Gift Lake	55 55 115 50	370			Forestry Twr			AGT Toll		Radio T.V. (both E)	26 miles to trunk route	Under study for C.D.O. - Metis colony	Improved public communications

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TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE	LONGITUDE	POP	EXISTING SYSTEMS: MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV	COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
Girouxville	55 117	45 20	305	AGT					AGT Ex.		Radio T.V. (both E)			
Goodwin	55 118	13 11	N/A								Radio T.V. (both E)			
Gordon Lake	56 110	30 25	18	AGT							Radio (E) Radio (E)			
Grand Prairie	55 118	10 48	11417	AGT		Forestry Twr RCMP	CNT		AGT Ex.	CN	Radio (E) T.V. (E)	Mobile coverage.		
Grimshaw	56 117	11 36	1376			RCMP			AGT Ex.		Radio T.V. (both E)			
[illegible]	55 116	33 09	322						AGT Manual Office		Radio T.V. (both E)			

PROVINCE OR TERRITORY ALBERTA

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Heart Lake	N/A	70									No communications 39 miles from trunk route	Indian Reserve	Public Communications
High Level	58 31 117 08	708	AGT		Forestry Twr RCMP			AGT Ex.			Planning (E) T.V. 2-way VHF/FM radio owned by Millman Comm. and run by Schlumberger.		
High Prairie	55 26	2241	AGT		RCMP					Radio (E) T.V. (E)			
Hines Creek	56 15 118 36	418			Forestry Twr			AGT Ex.		Radio T.V. (both	E)		
Hotchkiss	57 04 117 33	13	AGT		Forestry Twr								
Hythe	55 20 119 33	445						AGT Ex.		Radio T.V. (both E)			
Indian Cabins	59 53 117 02	63	AGT					AGT Toll			1 mile to trunk route. Mobile coverage.		Improved public communications

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TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Janvier	N/A	191									Private Radio telephone 45 miles from Trunk Route	Under study for possible CDO Indian reservation	Public Communications.
Joussard	55 22 115 56	189	AGT					AGT Manual		Radio T.V. (both E)			
Kim Lake	55 50 117 05		AGT							Radio T.V. (both E)	Transmitter site.		
Kinuso	55 20 115 25	376						AGT Ex.		Radio T.V. (both E)			
Labutte	59 25 111 26		AGT								Microwave site		
La Crete	58 11 116 24		AGT					AGT Ex.					
Little Buffalo Lake	N/A	105									No communication. 42 miles to trunk route.	RTO planned 1971	Public Communications
Little Smokey	54 45 117 11	56	AGT					AGT Toll		Radio T.V. (both E)	R.T.O.	M.P.S. (Feb. 1971)	
Lone tar	56 40 117 40		AGT							Radio (E)	Mobile coverage.		
Jean D'Or	N/A	424									32 miles nearest trunk route		Improved public communications

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Loon Lake	N/A	150									Emergency Forestry Service 18 miles to nearest route	RTO planned 1971	Public communications
Manning	56 55 117 37	1450			Forestry Twr. RCMP			AGT Exch.		Radio (E) T.V. (E)	C.D.O. Standard dial service. Mobile coverage.		
Marten Mtn.	55 28 114 23		AGT							Radio (E) T.V. (E)	Transmitter site only.		
May	55 30 112 25		AGT		Forestry Twr.					Radio (E)	AGT private point-to-point.		
McLennan	N/A	1104			RCMP			AGT Ex.		Radio (E)	C.D.O. Standard dial service.		
Meander River	59 02 117 42	301						AGT Toll			1 mile to trunk route. Indian Reserve.		Improved public communications
Moose Prairie	57 40 118 10	N/A	AGT										

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TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIEL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
North Harby	59 10 118 45	N/A	AGT					AGT Toll			Private pt - pt Hudson Bay Oil & Gas and Imperial Oil.		
Notikewin	56 59 117 38	70			Forestry Twr			AGT Ex.		T.V. (E)	Standard Dial Svcs.		
O'Chiese	N/A	262									No phones.	Indian Reserve	Public Communications
Paddle Prairie	57 57 117 29	391	AGT					AGT Ex.					
Peace River	56 14 117 17	4080	AGT		Forestry Twr RCMP	CNT	RCMP	AGT Ex.	CN	Radio (E) T.V. (E)	Mobile coverage.		
Pelican	55 48 112 37		AGT		Forestry Twr					Radio (E) T.V. (E)	AGT Transmitter Site		
Peerless Lake	85									Radio (E)	Emergency Forestry Service (Private) 18 miles to trunk route.	R.T.O. by Sept 1971.	Public Communications

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TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIEL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Rainbow Lake	58 17 119 16		AGT		RCMP		RCMP	AGT Ex.			Planning (E) Radio Planning (E) T.V. 2-way VHF/FM radio owned by Millman Comm & run by Schlumberger. Mobile coverage. Private pt-pt. Mobile oil.		
Round Hill	53 10 112 38	122			Forestry Twr AGT					Radio (E) T.V. (E)		Airstrip.	
Rycroft	55 45 118 73	539	AGT					AGT Ex.		Radio (E) T.V. (E)			
Sandy Lake	N/A	110									Emergency Forestry Service - Private System - 19 miles to trunk route.	RTO planned 1971	Public Communications
Sexsmith	55 21 118 47	491						AGT Ex.		Radio (E) T.V. (E)			

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Smith	55 10 114 02	133	AGT					AGT Ex.		Radio (E) T.V. (E)			
Spirit River	55 47	1034			Forestry Twr RCMP			AGT Ex.		Radio (E) T.V. (E)			
Steen River	59 38 117 50	29	AGT					AGT Toll					
Sturgeon Lake	55 06 117 32	735								Radio (E) T.V. (E)			Voice - NH & W Improved public communications
Sucker Creek		475									710 Phones	Indian settlement	
Sweet Grass Landing	58 51 111 55	143									29 miles to trunk route. No access to telephone network.		Voice - NH & W Public communications
Tar Island	56 59 111 27	119	AGT							Radio (E)			

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIEL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Triangle	55 26 116 43	N/A						Pay Stn.		Radio (E)			
Upper Hay	58 59 117 56	N/A						Toll Stn					
Valley View	55 04 117 17	1827	AGT		RCMP			AGT Ex.		Radio (E)	Planning (E) T.V.		
Sulkoomak Lake	N/A	155									No phones.	Indian Settlement	Public Communications
Wabasca	56 00 113 53	587	AGT		Forestry Twr			AGT Manual Office		Radio (E)			
Waldin	57 40 115 30	N/A			Forestry Twr								
Wanham	55 44 118 24	N/A						AGT Ex.		Radio (E) T.V. (E)			
Warrensville	56 18 117 40		AGT					Pay Stn		Radio (E)			

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIEL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
West Meander River	59 20 118 40	N/A	AGT										
Whitefish	56 10 115 30	402			Forestry Twr					Radio (E)	AGT Transmitter.		
Whitelaw	56 07 118 04	204						AGT Ex.		Radio (E)			
Worsley	56 31 119 04	135			Forestry Twr			AGT Ex.		Radio (E) T.V. (E)	Mobile coverage.		
Zama Lake	N/A	N/A									Telecopier transmitter (S), 2-way VHF/FM radio owned by Millman Comm & run by Schlumberger.		

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Aiyansh	55 129	583			BCT						Connected to public telephone network. Adequate.	Indian Community	
Alice Arm	55 128	under 300						BCT (Exch)		Radio (E) LPRT	Connected to public telephone network.		
Atlin	59 34 133 42	under 250	BCT		RCMP BCT		RCMP HBC				Connected to public telephone network. Adequate.		
Babiné	55 126	481	BCT		BCT		HBC					Indian Community	
Baldy Hughes	53 122										Connected to public telephone network. Adequate.	B.C. microwave site only.	
Bear	56 127		BCT					BCT Toll			Mobile radio terminal.		
Boer Mountain	54 125		BCT					BCT Toll			Connected to public telephone network. Adequate.	B.C. Telephone microwave site only.	
Blueberry River	56 120	70									148 mi. to Fort Nelson. No record of communications.		Voice - NH & W Public Communications
Boulder	21							BCT Toll					

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Brown Bear	N/A	N/A						Toll			Connected to public telephone network. Adequate.	B.C. Telephone micro-wave site only.	
Buick Creek	N/A	N/A						BCT Toll			Line to Dawson Creek.		
Bull Head Mtn	56 122	N/A						BCT Toll		T.V.	Radio site.		
Burns Lake) Canyon City) Cassiar)	59 17 129 50	1,500				C.N. RCMP	RCMP	C.N. (Exch)		Radio (E) T.V. (E)	Connected to public telephone network. Adequate.	Indian Community	
Cedarvale	55 128	86								Radio (E) T.V. (E)	Land line homing on Terrace. Adequate.		
Cheslatta	N/A	71									No record of communications	Indian Community	Public Communications
Chetwynd	55 42 121 37	1,100			RCMP					Radio (E)	BCT Control Office connected to public telephone network. Adequate. Planning T.V. (E)		
Churchill Mines	N/A	226						C.N. (Exch)					

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Cluculz	53 123	50						Toll			Connected to public telephone network. Adequate. B.C. Telephone microwave site only.		
Coal River	N/A	67						C.N. (Exch)					
Copper Mtn.	N/A	N/A						Toll			Connected to public telephone network. Adequate. B.C. Telephone microwave site.		
Dawson Creek	55 47 120 13	10500	BCT		RCMP	BCT			RCMP C.N.	Radio (E) T.V. (E)	Connected to public telephone network. Adequate. Planning (F) T.V. Planning (F) Radio		
Dease Lake	N/A	100					BCT	C.N. (Exch)			Connected to public telephone network. Inadequate. Radio Base Station 267 mi. to Fort Nelson.		Improved Public Communications
Doig River	56 120	70									No record of communications		Voice - NH & W Improved Public Communications

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Dragon Mtn.	52 122	50						BCT			Connected to public telephone network. Adequate.		
East Pine	55 121	365				BCT		BCT Toll		Radio (E) T.V. (E)	Homing on Dawson Creek.		
Eddontenajon	57 121	174					BCT				Connected to public telephone network. Inadequate. 250 mi. V.H.F. to Prince Rupert		Improved Public Communications
Enadako	54 125	160						BCT Toll			Connected to public telephone network. Adequate.		
Finlay Forks) Finlay River)		142									No Record of communications	Indian Community.	Improved Public Communications
Flatrock											BCT Central Office.		
Fort Nelson	58 50 122 33	1,600			RCMP C.N.		RCMP	C.N. (Exch)	RCMP BCT C.N.	Radio (E) T.V. (E)	Connected to public telephone network. Adequate. T.V. phone to mine at Churchill.		Bramlea resources.

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Fort St. John	50 126	118								Radio (E) T.V. (E)			
Gilford Island	50 126	118								Radio (E)	No record of communications		Voice - NH & W Improved Public Communications.
Granisle		under 250						Toll		Radio (E)	BCT microwave site connected to public telephone network. Adequate.	Mining	
Graybay	53 131	N/A						Toll			BCT radio site. Connected to public telephone network. Adequate.		
Greenville		439									Connected to public telephone network. Adequate.	Indian Community.	
Groundbirch	55 120	21				BCT		Toll			Homing on Dawson Creek.		
Hagwilet		123									Connected to public telephone network. Adequate.	Indian Community	

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Halfway River	56 121	100									Public Access, 25 mi. to Fort St. John	Indian Community.	Voice - NH & W Improved Public Communications
Hartley Bay	N/A	189									No record of communications	Indian Community.	Public Communications
Hazelton	55 16 127 40	488			RCMP	BCT	RCMP	BCT (Exch)		Radio	Mobile radio terminal connected to public telephone network. Adequate. Planning (E) T.V.	Indian Community.	
Hixon	53 122	454						BCT Toll			BCT radio site connected to public telephone network. Adequate.		
Holmaco	50 58 124 52	221									No record of communications		Voice - NH & W Public Communications
Houston	54 126	700						Toll		Radio (E) T.V. (E)	Mobile radio terminal connected to public telephone network. Adequate.		
Hudson Hope	56 01 121 54	under 1,000			RCMP					Radio (E) T.V. (E)	Mobile radio terminal connected to public telephone network. Adequate.		

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LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Juskatla	53 132	205			BCT						Connected to public telephone network. Adequate.		
Kincolith	54 129	412					BCT			Radio (E) T.V. (E)	Connected to public telephone network. Inadequate. 50 mi. to Prince Rupert	Indian Community.	Improved Public Communications
Kixpaiox		454									Connected to public telephone network.	Indian Community.	
Kitimat	54 128	8,000						BCT Toll		Radio (E) T.V. (E)	Mobile radio terminal connected to public telephone network. Adequate.		
Kitsault	55 129							BCT Toll			Radio site. Connected to public telephone network. Adequate.		
Kitkatla		470									40 mi. to Prince Rupert.	Indian Community.	Improved Public Communications
Kitsum Kalum	54 128	60						BCT Toll		Radio (E) T.V. (E)	Radio site.	Indian Community.	

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY(IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Kitwancool	N/A	198									No communications. Exchange Service in 1971. 15 mi. to nearest trunk route.		Public Communications
Kitwanga	55 128	224								T.V. (E)	BCT Central Office connected to public telephone network. Adequate. Planning (E) Radio.	Indian Community.	
Kitsequkla	N/A	327									Connected to public telephone network. Adequate.	Indian Community.	
Leduc	56 130	N/A						PABX			Connected to public telephone network. Adequate.	Mining	
Loose	52 126	40						BCT Toll			Radio site.		
Lower Post		300						C.N. (Exch)			Planning (E) T.V.		
MacKenzie		500								Radio (E)	Connected to public telephone network. Adequate. BCT microwave site.		

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			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Masset	54 132	under 1,000						Toll		Radio (E)	Connected to public telephone network. Adequate. Planning (E) T.V.		
Masset Village		716								Radio (E)	Connected to public telephone network. Adequate.	Indian Community.	
McBride	53 120	650						Toll		Radio (E)	Connected to public telephone network. Adequate. Mobile radio terminal		
McLeod Lake	54 133	under 250						BCT Toll			Mobile radio terminal connected to public telephone network. Adequate.		
Metlakatla		70									Connected to public telephone network. Adequate.	Indian Community.	
Meziadin	56 129	under 250									Connected to public telephone network. Adequate.		
Moricetown		401									Connected to public telephone network. Adequate.	Indian Community.	

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Morfee	55 123	34						BCT Toll			Mobile terminal. Radio site. Connected to public telephone network.		
Mnt. Hays	N/A	N/A						BCT Toll			BCT microwave site connected to public telephone network. Adequate.		
Muncho Lake		66						C.N. (Exch)					
Murray Ridge	54 124	56						BCT Toll			Microwave site connected to public telephone network. Adequate.		
Muskwa		270						C.N. (Exch)					
Nation Lakes	55 124	139					BCT				Connected to public telephone network. Inadequate. 130 mi. to Prince George.		Improved Public Communications
Nemiah Valley	51 25 124 06	126									No record of communication		Voice - NH & W Improved Public Communications

PROVINCE OR TERRITORY: BRITISH COLUMBIA

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Nitinat	48 124	149									No record of communications		Voice - NH & W Improved Public Communications
North Pine	56 120	N/A								Radio (E) T.V. (E)	BCT mobile radio terminal		
Omineca		96									170 mi. to Prince George. No public service.	Indian Community.	Public Communications
Ootsa Lake	53 126	40									BCT mobile radio terminal.		
Portage	55 122	67									BCT Central Office		
Port Simpson	54 130	773			BCT					Radio (E) T.V. (E)	Connected to public telephone network. Adequate.	Indian Community.	
Pouce Coupe	55 120	602									BCT Central Office Connected to public telephone network. Adequate.		

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Prince George	53 122	24,475					BCT	BCT (Exch)		Radio (E) T.V. (E)	Connected to public telephone network. Adequate. Planning (F) T.V. & Radio.		
Prince Rupert	54 130	14,675					BCT	BCT (Exch)		Radio (E) T.V. (E)	Ship/shore. Mobile radio terminal connected to public telephone network.		
Queen Charlotte City	53 132	450						BCT (Exch)		Radio (E) T.V. (E)	Radio site. Connected to public telephone network. Adequate.		
Quesnel	52 122	4,700						BCT Toll		Radio (E) T.V. (E)	Radio site. Connected to public telephone network. Adequate.		
Rose Prairie	56 120	27				BCT					Homing on Dawson Creek.		
Sandspit	53 131	450						BCT Toll			Radio site. Connected to public telephone network. Adequate.		

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Skeena Crossing	55 127	under 250				BCT				T.V. (F)	Homing on Terrace. Connected to public telephone network. Adequate.	Indian Community.	
Smithers	54 127	2,437								Radio (E) T.V. (E)	Connected to public telephone network. Adequate. Mobile radio terminal.		
Stewart	55 56 129 59		BCT		RCMP		RCMP	Bell Exch		Radio (E)	Connected to public telephone network. Adequate.		
Stony Creek	N/A	327										Indian Community.	Public communications
Stuart Flats		26				BCT					Homing on Dawson Creek.		
Stuart Trembleur	N/A	439									105 mi. to nearest trunk route.	Indian Community.	Public communications
Tabor	53 122	85						BCT Toll			Mobile radio terminal. BCT microwave site.		
Takla Lake		144					BCT				170 mi. to Prince George. No record of communications.	Indian community.	Improved Public Communications

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES- GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Takla Landing		Under 250									170 mi. to Prince George. No record of communications.	Indian Community.	Improved Public Communications
Tahltan		144									320 mi. to Ft. Nelson No record of communications.	Indian Community.	Public Communications
Tasu Queen Charlotte Islands								Toll	Telex.		Radio site. T.V. data 2,000 - 4,000 BPS Connected to public telephone network. Adequate. Planning (E) T.V.	Mining.	Wesfrob Mines
Taylor	56 120	1,500						BCT (Exch)					
Telegraph Creek	57 131 54 09	150					BCT RCMP				Radio phone to Prince Rupert. Connected to public telephone network. Inadequate. 250 mi. to Prince Rupert.		Improved Public Communications
Telkna	54 127	668						BCT Toll			Radio site. Connected to public telephone network. Adequate.		

PROVINCE OR TERRITORY: BRITISH COLUMBIA

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Terrace	54 128	7,500	BCT							Radio (E)	Mobile terminal. Connected to public telephone network. Adequate. Planning (F)T.V. & Radio		
Tete Jaune	52 119	under 250						BCT Toll			Radio site. Connected to public telephone network. Adequate.		
Tide Lake		under 250									Connected to public telephone network. Adequate.		Mining Co.
Upper Fraser	54 121	369											Public Communications
Usk	54 128	87				BCT					Homing on Terrace. Connected to public telephone network. Adequate.		
Valemount	52 119	656						BCT Toll		Radio (E)	Mobile terminal. Connected to public telephone network. Adequate. Planning (E) T.V.		
Ware											No record.		

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Willow Flats		under 250									Connected to public telephone network. Adequate.		
Willow Valley	55 120	N/A				BCT					Homing on Dawson Creek.		
Wonowon		175						C.N. (Exch)					

PROVINCE OR TERRITORY NWT MACKENZIE

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Aklavik	68 14 135 00	640			CN					Radio (E)	TV planned when network (E) available		
Arctic Red River		120			CN					Radio (E)	TV planned when network is available		Voice NH & W.
Cambridge Bay	69 07 105 02		CN				DOT CN RCMP	CN Exch.			Radio & TV planned when network (E) - available		
Coleville Lake		67											Voice NH & W Public Communications
Coppermine	67 49 115 10	540	CN		CN		RCMP DOT	CN Exch.	CN		Radio & TV planned when network (E) available.		
Enterprise	N/A	500				CN		CN Exch.	CN				
Fort Franklin		249			CN			CN Exch.					

PROVINCE OR TERRITORY NWT MACKENZIE

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Fort Good Hope	66 15 128 63	350				CN	RCMP DOT	CN Exch.	CN	Radio (E)	TV planned when network (E) available		
Fort Liard		160					CN				300 mi. to nearest trunk line.		Improved public communications.
Fort McPherson	67 27 134 52	670			CN								
Fort Norman	64 54 125 35	230				CN	RCMP	CN Exch.	CN DOT	Radio (E)			
Fort Providence	61 21 117 39	400	CN		CN		RCMP	CN Exch.	CN RCMP	Radio (E)	TV planned when network available.		
Fort Resolution	N/A	678			CN			CN Exch.		Radio (E)			
Fort Simpson	61 61 121 20	720				CN	RCMP		CN RCMP DOT	Radio (E)	TV planned when network (E) available.		

PROVINCE OR TERRITORY: NWT MACKENZIE

TELECOMMUNICATIONS STATUS REPORTS

LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Fort Smith	60 00 111 52	2300			RCMP	CN	RCMP DOT		CN RCMP DOT	Radio (E)	AGT interconnection TV planned when network (E) available.		
Hay River	60 48 115 47	3000			RCMP		RCMP DOT	CN Exch.	CN RCMP	Radio (2)	TV planned when network (E) available.	Fishing AGT DPW Toll center	
Inuvik	68 22 133 43	2400			CN RCMP	CN	RCMP DOT CN	Exchange	CN RCMP	Radio (E)	TV planned when network (E) available.	Toll center	
LacLa Martre	N/A	168					CN				140 mi. to nearest trunk line.		Improved public communications.
Nahanni Butté	N/A	85					CN				300 mi. to nearest trunk line.		Improved public communications.

PROVINCE OR TERRITORY NW MACKENZIE

TELECOMMUNICATIONS STATUS REPORTS

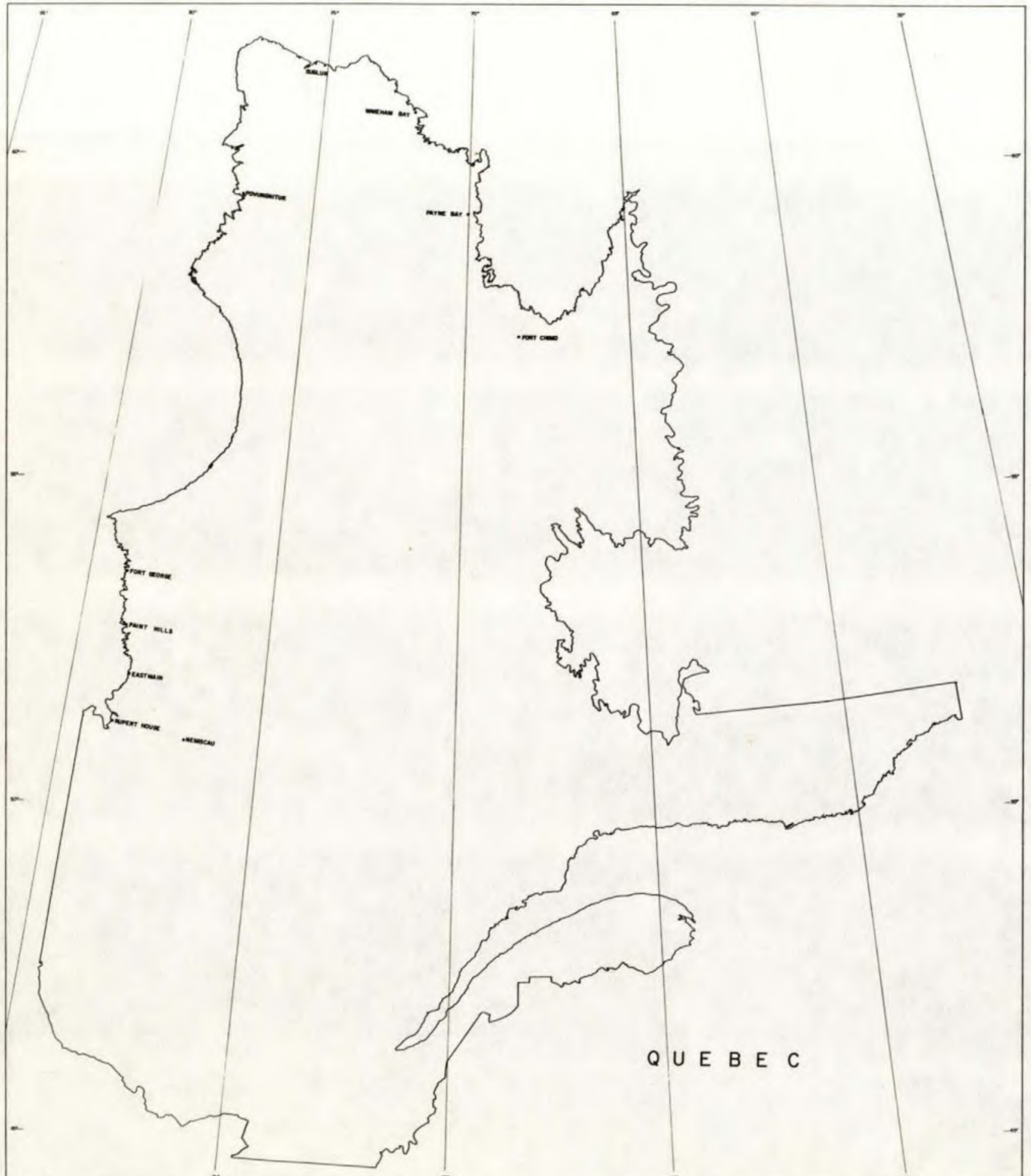
LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Norman Wells	65 17 126 51	210				CN	RCMP DOT	CN Exch.	CN RCMP	Radio (E)	TV planned when network (E) available.	Imperial Oil Hospital.	
Port Radium	N/A	100	CN					CN Exch.	CN				
Pine Point	60 50 114 26	610			CN RCMP		RCMP	CN Exch.		Radio (E)			
Ree	62 49 116 03	1170	CN			CN	RCMP	CN Exch.	CN RCMP	Radio (E)	TV planned when network (E) available.	NH & W Nurse	
Rocher River	N/A	150					CN				100 mi. to nearest trunk line.		Improved public communications.
Snowdrift	N/A	209					CN				125 mi. to nearest trunk line.		Improved public communications.
Tuktoyaktuk	N/A	512				CN		CN Exch.					

PROVINCE OR TERRITORY NW MACKENZIE

TELECOMMUNICATIONS STATUS REPORTS

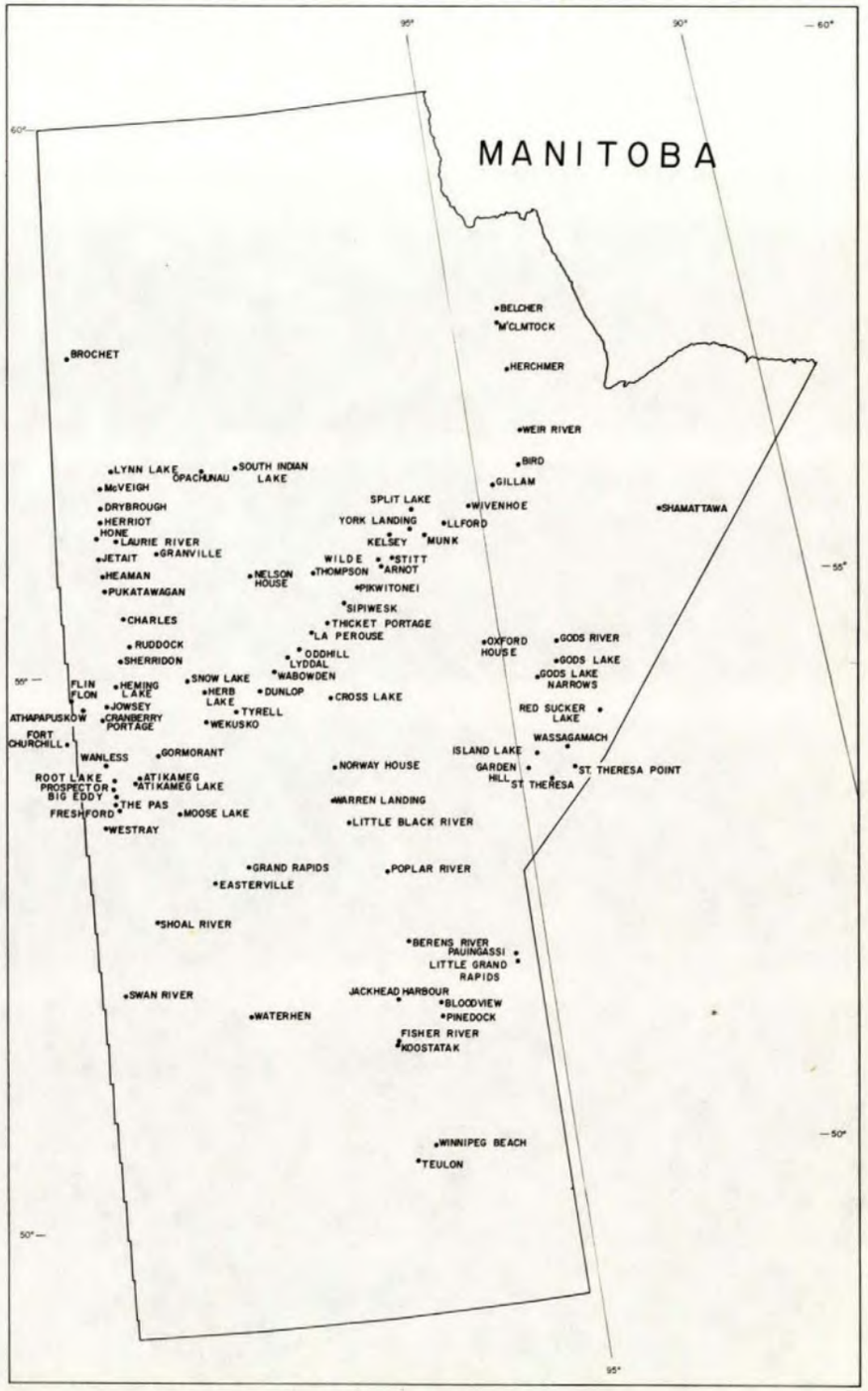
LOCATION	CO-ORDINATES LATITUDE LONGITUDE	POP	EXISTING SYSTEMS								COMMENTS ON THE STATUS OF EXISTING SERVICES	ACTIVITIES GOVERNMENT INDUSTRIAL SOCIAL	REQUIREMENT AGENCY (IES)
			MICRO TROPO	SAT	VHF	LINE	HF	EXCHANGE OR TOLL	DATA	RADIO TV			
Wrigley	N/A	N/A				CN					CBC Feed		
Yellowknife			CN		RCMP	CN	RCMP DOT		CN RCMP	Radio (E)	TV planned when network (E) available.		Study for more lines and data. Giant Yellowknife Mines.

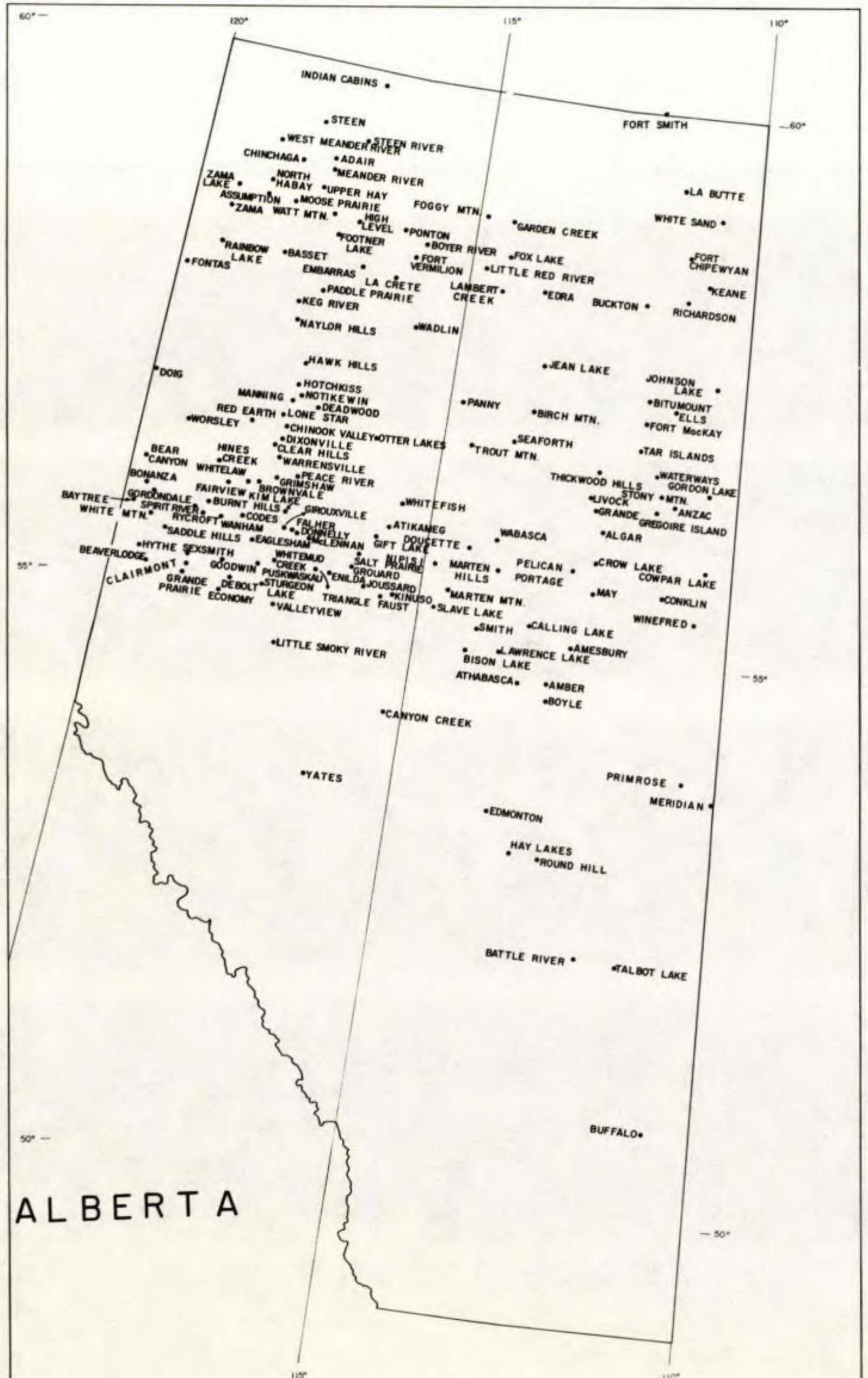
ANNEX I MAPS FOR TELECOMMUNICATIONS STATUS REPORTS

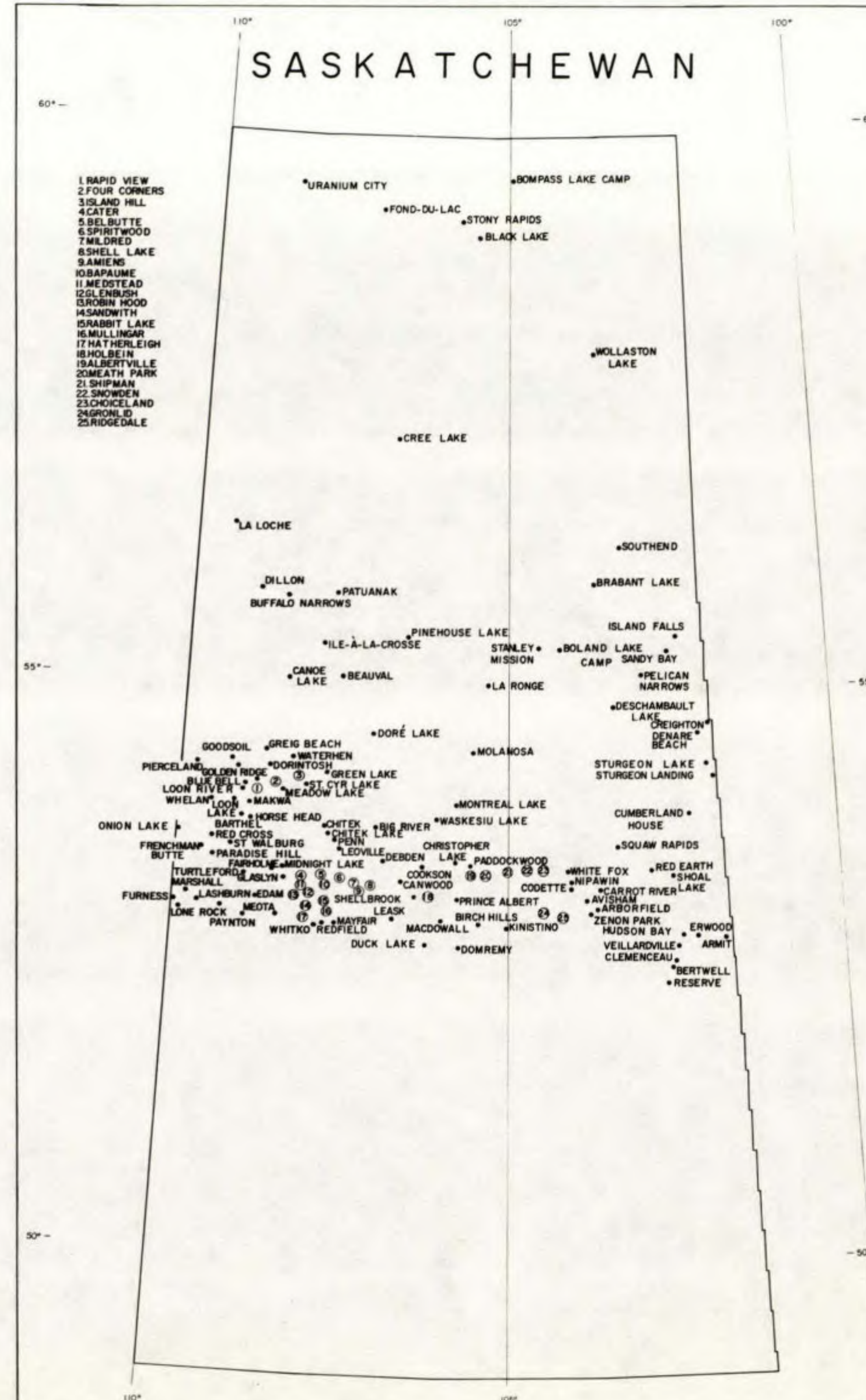

QUEBEC
WAKEHAM BAY
POVUNGNITUK
PAYNE BAY
FORT CHIMO
FORT GEORGE
PAINT HILLS
EASTMAIN
RUPERT HOUSE
NEMISCAU


LABRADOR
NEWFOUNDLAND
NAIN
DAVIS INLET
HOPEDALE
MAKKOVIK
POSTVILLE
SMOKEY
FIVE ISLANDS
EMILY HARBOUR
RIGOLET
TUB HARBOUR
PACKS HARBOUR
DUMPLING
SEPARATION POINT
CARTWRIGHT
NORTH RIVER
SPOTTED ISLAND
INDIAN
BATTEAU
PARADISE TICKLE
BLACK TICKLE
RIVER PARTRIDGE BAY
SEAL ISLANDS HARBOUR
FRENCHMEN'S ISLANDS
CHURCHILL FALLS
NORTH WEST RIVER
GOOSE BAY
HAPPY VALLEY
MUD LAKE
LABRADOR CITY
SNUG HARBOUR
TRIANGLE
DEAD ISLANDS
PINSENTS ARM
SQUARE ISLANDS
GEORGES COVE
FISHING SHIPS HARBOUR
PORT HOPE SIMPSON
WILLIAMS HARBOUR
LODGE
FOX HARBOUR
MARYS HARBOUR
BATTLE HARBOUR
MATTHEWS COVE
CAPE CHARLES
CHARLOTTETOWN
PITTS HARBOUR
HENLEY HARBOUR
ENGLISH POINT
RED BAY
L'ANSE-AU-LOUP
L'ANSE-AMOUR
FORTEAU
L'ANSE-AU-CLAIR
FLOWERS COVE
BAY
ANTHONY
1. FOX COVE
2. WEST ST MODESTE
3. COOKS HARBOUR
4. RALEIGH


ONTARIO
FORT SEVERN
WINISK
SACHIGO
BEARSKIN LAKE
BIG TROUT LAKE
ANGLING LAKE
KASABONICA
SANDY LAKE
ROUND LAKE
KINGFISHER LAKE
DEER LAKE
WEAGAMOW
WEBIQUE
NORTH SPIRIT LAKE
POPLAR HILL
PIKANGIKUM
CAT LAKE
LANSDOWNE HOUSE
ATTAWAPISKAT
FORT ALBANY
KASHECHEWAN
FORT HOPE
RED LAKE
SLATE FALLS
NEW OSNABURGH
MOOSE FACTORY
GRASSY NARROWS
LAC SEUL
SIOUX LOOKOUT
OGOKI
KENORA
NORTH WEST ANGLE
LAC LA CROIX
OTTAWA

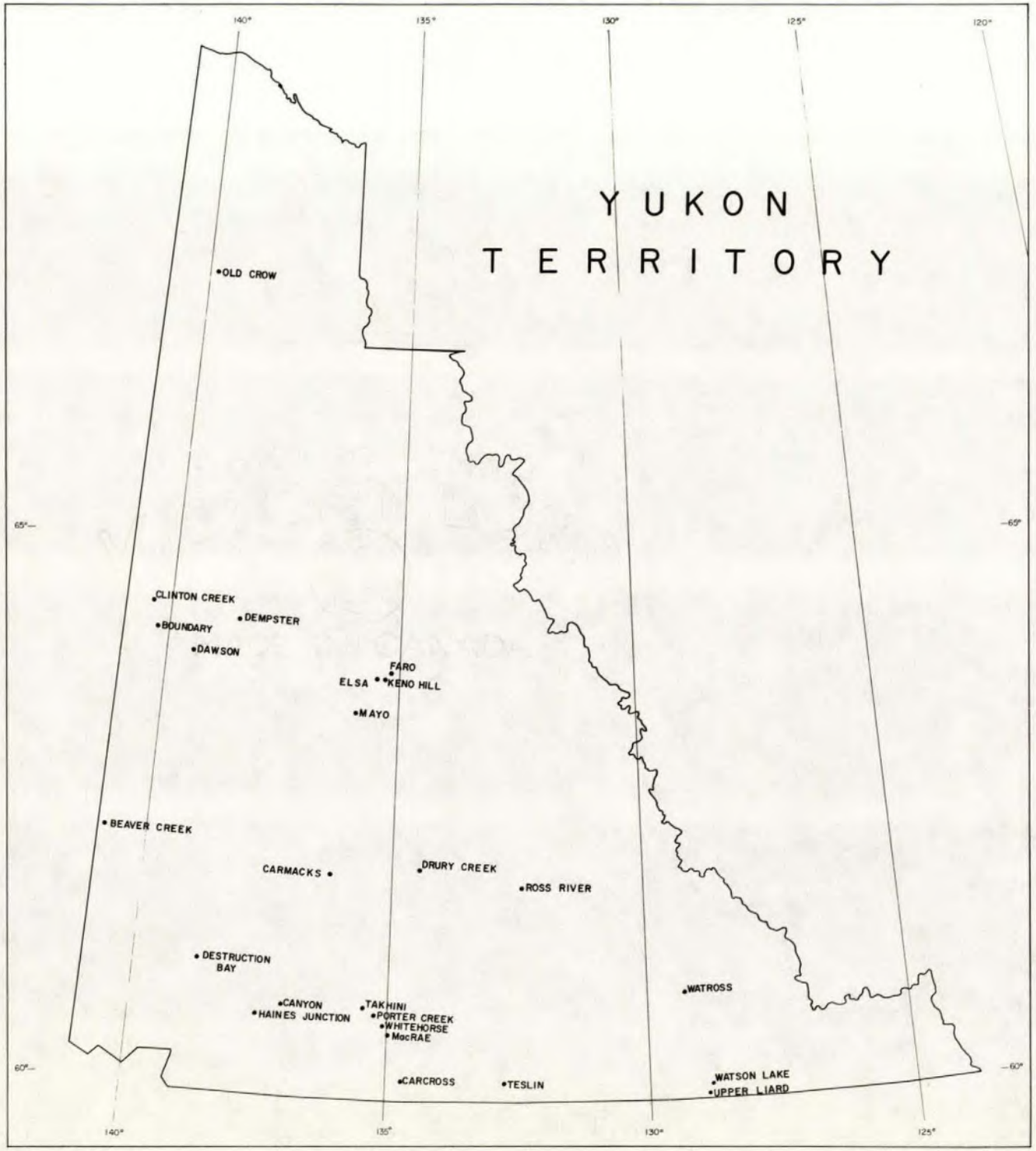

MANITOBA
BELCHER
M'CLINTOCK
BROCHET
HERCHMER
WEIR RIVER
BIRD
LYNN LAKE
OPACHUNAU
SOUTH INDIAN LAKE
GILLAM
McVEIGH
SPLIT LAKE
WIVENHOE
SHAMATTAWA
DRYBROUGH
HERRIOT
YORK LANDING
LLFORD
HONE
LAURIE RIVER
KELSEY
MUNK
JETAIT
GRANVILLE
WILDE
STITT
ARNOT
HEAMAN
NELSON HOUSE
THOMPSON
PUKATAWAGAN
PIKWITONEI
SIPIWESK
CHARLES
THICKET PORTAGE
LA PEROUSE
OXFORD HOUSE
GODS RIVER
RUDDOCK
ODDHILL
SHERRIDON
LYDDAL
GODS LAKE
GODS LAKE NARROWS
FLIN FLON
HEMING LAKE
SNOW LAKE
WABOWDEN
HERB LAKE
DUNLOP
CROSS LAKE
JOWSEY
TYRELL
RED SUCKER LAKE
ATHAPAPUSKOW
CRANBERRY PORTAGE
WEKUSKO
FORT CHURCHILL
WASSAGAMACH
ISLAND LAKE
WANLESS
GORMORANT
NORWAY HOUSE
GARDEN HILL
ST THERESA POINT
ROOT LAKE
ATIKAMEG
ATIKAMEG LAKE
PROSPECTOR
ST THERESA
BIG EDDY
WARREN LANDING
THE PAS
FRESHFORD
MOOSE LAKE
LITTLE BLACK RIVER
WESTRAY
GRAND RAPIDS
POPLAR RIVER
EASTERVILLE
SHOAL RIVER
BERENS RIVER
PAUINGASSI
LITTLE GRAND RAPIDS
SWAN RIVER
JACKHEAD HARBOUR
BLOODVIEW
WATERHEN
PINEDOCK
FISHER RIVER
KOOSTATAK
WINNIPEG BEACH
TEULON


ALBERTA
INDIAN CABINS
STEEN
WEST MEANDER RIVER
STEEN RIVER
FORT SMITH
CHINCHAGA
ADAIR
ZAMA LAKE
NORTH
HABAY
MEANDER RIVER
UPPER HAY
ASSUMPTION
MOOSE PRAIRIE
ZAMA
WATT MTN.
HIGH LEVEL
FOGGY MTN.
GARDEN CREEK
LA BUTTE
WHITE SAND
FOOTNER LAKE
PONTON
BOYER RIVER
RAINBOW LAKE
BASSET
FOX LAKE
FORT CHIPEWYAN
FONTAS
EMBARRAS
FORT VERMILION
LITTLE RED RIVER
LA CRETE
PADDLE PRAIRIE
LAMBERT CREEK
EDRA
BUCKTON
KEANE
RICHARDSON
KEG RIVER
NAYLOR HILLS
WADLIN
HAWK HILLS
JEAN LAKE
DOIG
HOTCHKISS
JOHNSON LAKE
MANNING
NOTIKEWIN
DEADWOOD
PANNY
BITUMOUNT
ELLS
RED EARTH
LONE STAR
BIRCH MTN.
WORSLEY
FORT McKAY
CHINOOK VALLEY
OTTER LAKES
SEAFORTH
DIXONVILLE
TROUT MTN.
TAR ISLANDS
BEAR CANYON
HINES CREEK
CLEAR HILLS
WARRENSVILLE
WHITELAW
PEACE RIVER
THICKWOOD HILLS
WATERWAYS
GORDON LAKE
BONANZA
GRIMSHAW
FAIRVIEW
BROWNVALE
STONY MTN.
BAYTREE
GORDONDALE
KIM LAKE
BURNT HILLS
WHITEFISH
LIVOCK
WHITE MTN.
SPIRIT RIVER
CODES
GROUXVILLE
GRANDE
ANZAC
RYCROFT
WANHAM
GREGOIRE ISLAND
FALHER
ATIKAMEG
SADDLE HILLS
DONNELLY
WABASCA
ALGAR
EAGLESHAM
McLENNAN
GIFT LAKE
DOUCETTE
HYTHE
SEXSMITH
BEAVERLODGE
WHITEMUD CREEK
NIPISI
SALT PRAIRIE
MARTEN HILLS
PELICAN PORTAGE
CROW LAKE
COWPAR LAKE
CLAIRMONT
GOODWIN
PUSKWASKAU
ENILDA
GROUARD
GRANDE PRAIRIE
DEBOLT
STURGEON LAKE
JOUSSARD
ECONOMY
KINUSO
MARTEN MTN.
MAY
CONKLIN
TRIANGLE
FAUST
SLAVE LAKE
VALLEYVIEW
WINEFRED
SMITH
CALLING LAKE
LITTLE SMOKY RIVER
LAWRENCE LAKE
AMESBURY
BISON LAKE
ATHABASCA
AMBER
BOYLE
CANYON CREEK
YATES
PRIMROSE
MERIDIAN
EDMONTON
HAY LAKES
ROUND HILL
BATTLE RIVER
TALBOT LAKE
BUFFALO


SASKATCHEWAN
1. RAPID VIEW
2. FOUR CORNERS
3. ISLAND HILL
4. CATER
5. BELBUTTE
6. SPIRITWOOD
7. MILDRED
8. SHELL LAKE
9. AMIENS
10. BAPAUME
11. MEDSTEAD
12. GLENBUSH
13. ROBIN HOOD
14. SANDWITH
15. RABBIT LAKE
16. MULLINGAR
17. HATHERLEIGH
18. HOLBEIN
19. ALBERTVILLE
20. MEATH PARK
21. SHIPMAN
22. SNOWDEN
23. CHOICELAND
24. GRONLID
25. RIDGEDALE
URANIUM CITY
BOMPASS LAKE CAMP
FOND-DU-LAC
STONY RAPIDS
BLACK LAKE
WOLLASTON LAKE
CREE LAKE
LA LOCHE
SOUTHEND
DILLON
PATUANAK
BRABANT LAKE
BUFFALO NARROWS
ISLAND FALLS
PINEHOUSE LAKE
ILE-À-LA-CROSSE
STANLEY MISSION
BOLAND LAKE CAMP
SANDY BAY
CANOE LAKE
BEAUVAL
LA RONGE
PELICAN NARROWS
DESCHAMBAULT LAKE
CREIGHTON
DENARE BEACH
DORÉ LAKE
GOODSOIL
GREIG BEACH
WATERHEN
MOLANOSA
PIERCELAND
DORINTOSH
GOLDEN RIDGE
GREEN LAKE
STURGEON LAKE
STURGEON LANDING
BLUE BELL
ST CYR LAKE
LOON RIVER
MEADOW LAKE
WHELAN
MAKWA
LOON LAKE
MONTREAL LAKE
HORSE HEAD
CUMBERLAND HOUSE
ONION LAKE
BARTHEL
CHITEK
CHITEK LAKE
BIG RIVER
WASKESIU LAKE
RED CROSS
PENN
FRENCHMAN BUTTE
ST WALBURG
PARADISE HILL
LEOVILLE
CHRISTOPHER LAKE
SQUAW RAPIDS
DEBDEN
PADDOCKWOOD
FAIRHOLME
MIDNIGHT LAKE
RED EARTH
TURTLEFORD
GLASLYN
COOKSON
WHITE FOX
SHOAL LAKE
NIPAWIN
MARSHALL
CANWOOD
CODETTE
CARROT RIVER
FURNESS
LASHBURN
EDAM
SHELLBROOK
AVISHAM
PRINCE ALBERT
ARBORFIELD
LONE ROCK
MEOTA
LEASK
ZENON PARK
PAYNTON
MAYFAIR
BIRCH HILLS
HUDSON BAY
ERWOOD
WHITKO
REDFIELD
MACDOWALL
KINISTINO
ARMIT
VEILLARDVILLE
CLEMENCEAU
DUCK LAKE
DOMREMY
BERTWELL
RESERVE


ATLIN
CASSIAR
FORT NELSON
DEASE LAKE
TELEGRAPH CREEK
EDDONTENAJON
WARE
HUDSON'S HOPE
BLUEBERRY RIVER
ROSE PRAIRIE
NORTH PINE
CLAYHURST
BULLHEAD
BEAR FLAT
HALFWAY RIVER
TAYLOR
FORT ST. JOHN
DOIG RIVER
LEDUC
MEZIADIN
STEWART
KITSAULT
FINLAY FORKS
CHETWYND
PORTAGE
EAST PINE
DAWSON CREEK
POUCE COUPÉ
WILLOW VALLEY
GROUNDBIRCH
LITTLE PRAIRIE
GERMANSEN LAKE
ALICE ARM
TAKLA LANDING
PINE PASS
AIYANSH
WOODCOCK
BABINE
NATION LAKES
HAZELTON
MORFEE
KINCOLITH
KITWANGA
CEDARVALE
SKEENA CROSSING
McLEOD LAKE
KITSUMKALUM
ZYMOETZ
SMITHERS
MURRAY RIDGE
PORT SIMPSON
USK
TELKWA
TERRACE
DIGBY
HOUSTON
FORT ST JAMES
BEAR MOUNTAIN
McEWAN
BURNS LAKE
ENDAKO
UPPER FRASER
FRASER LAKE
KITIMAT MILL
PRINCE GEORGE
MASSET
JUSKATLA
OOTSA LAKE
CLUCULZ
BALDY HUGHES
PURDEN
TABOR
HIXON
McBRIDE
SKIDEGATE
SANDSPIT
GRAY BAY
TASU
TÊTE JAUNE
NAZKO
QUESNET
VALEMOUNT
DRAGON
NEMIAH VALLEY
BOWLDER
LOOSE
HOMALCO
COPPER CREEK
GILFORD ISLAND
MANSON CREEK
NITINAHT
BRITISH COLUMBIA
135°
130°
125°
120°
115°
60°
55°
50°


NORTHWEST
TERRITORIES
RESOLUTE
GRISE FIORD
ARCTIC BAY
FIRTH INLET
CLYDE
BAFFIN ISLAND
PANGNIRTUNG
IQALUIT
HALL BEACH
FROBISHER BAY
CAPE DORSET
LAKE HARBOUR
RESOLUTION ISLAND
CRAIG HARBOUR
TUKTOYAKTUK
AKLAVIK
INUVIK
ARCTIC RED RIVER
FORT MCPHERSON
FORT GOOD HOPE
COLVILLE LAKE
NORMAN WELLS
FORT NORMAN
COPPERMINE
HOLMAN ISLAND
CAMBRIDGE BAY
SPENCE BAY
GJOA HAVEN
PELLY BAY
NOVA SAMBO
REPULSE BAY
CORAL HARBOUR
BAKER LAKE
CHESTERFIELD INLET
CHURCHILL
RANKIN INLET
WHALE COVE
ESKIMO POINT
RAE
YELLOWKNIFE
FORT SIMPSON
NAHANNI BUTTE
TROUT LAKE
FORT LIARD
FORT PROVIDENCE
HAY RIVER
PINE POINT
FORT SMITH


YUKON
TERRITORY
140°
135°
130°
125°
120°
65°
60°
OLD CROW
CLINTON CREEK
DEMPSTER
BOUNDARY
DAWSON
FARO
ELSA
KENO HILL
MAYO
BEAVER CREEK
CARMACKS
DRURY CREEK
ROSS RIVER
DESTRUCTION BAY
WATROSS
CANYON
TAKHINI
HAINES JUNCTION
PORTER CREEK
WHITEHORSE
MacRAE
CARCROSS
TESLIN
WATSON LAKE
UPPER LIARD

ANNEX II

COMMUNICATIONS SURVEY FORM

CANADIAN NORTH

ANNEX II

COMMUNICATIONS SURVEY FORM

CANADIAN NORTH

A comprehensive survey of Communications Services in the North is being undertaken jointly by the Federal Government and the Communications Industry. The survey is an integral part of the Telecommission Studies and will be made on a Canada-wide basis to determine telecommunication user requirements of all organizations and agencies active in the North.

This information is extremely vital, as it will be used to determine what future communications services will be needed in the North. At the same time, the information obtained from the many users and operating systems will be evaluated with a view towards improving existing services.

Although we are primarily concerned with communications in remote areas of our country, for the purposes of this survey, the North is defined generally as that area above the 55th parallel. For your own particular circumstances you may wish to consider areas below this arbitrary definition and provide the associated information.

The survey questionnaire is divided into four parts namely,

- Communications User Problems
- Present and Future Communications Requirements
- Future Trends
- Existing Communications Systems

Under each of these topics, we ask that you submit as much comprehensive material as is possible, using your own words, maps, charts, - all material which, in your own judgment, is considered relevant. The various points we have listed under each topic are intended to be a guide only. Please feel free to add more if you so desire.

Should you wish to discuss any item in this survey, we ask that you feel free to call, collect, either Mr. W. Bracuk, Bell Canada Ottawa, at (613) 239-2980 or Mr. D. Loftus, Dept. of Communications, Ottawa (613) 992-1487.

We would appreciate your having the survey information completed by April 30, 1970. A survey representative will be calling you, prior to that date, to arrange a mutually convenient time for the survey to be picked up.

We thank you for your interest and participation in the Telecommission Studies. Its success is possible only by your whole-hearted support.

COMMUNICATIONS USER PROBLEMS

We would be interested in your comments or communications problems you may have encountered in the North with either your own private system or any other you are using. Also, please identify service features or options that are lacking.

A few topics are submitted for your consideration in the attachment; please add any other items that you may consider to be relevant.

ATTACHMENT

A. Hours of Operation
- Scheduling
- Availability
- Other

B. Quality of Transmission
- for voice
- for teletype
- other

C. Lack of certain communications services
- dial operation
- two-way voice
- facsimile
- data
- other

D. Privacy
- Confidential nature of information
- Requirement for privacy

E. Reliability, Availability

F. Other

PRESENT AND FUTURE COMMUNICATIONS REQUIREMENTS

As we are concerned with providing the right type of communications, in the right place at the right time, we ask you to submit your immediate and future communications requirements. A system description or equivalent would be appropriate. To assist you, a guide is attached to identify particular topics or areas of interest for each location within your existing or proposed sphere of operations. Please add any other information you may have at this time.

ATTACHMENT

Location(s) (Name of town, community or geographical co-ordinates)

A. Type

- Teletype
- voice
- radio
- data
- telemetry
- air navigation
- marine navigation
- other

B. Application

- Gov't.
- military
- private
- navigational aids
- mining
- oil
- gas

C. Date Required (month, year)

D. Intended Use

- year round (if so, what are the peak months?)
- seasonal
- hours of use, by day
- days used (eg. 5 days per week)

E. Speeds (if for Teletype or Data, specify)

F. Distributions

- where will the calls be going?
- where will the calls be coming from?

G. Do you have any plans on the Drawing Boards now?

H. Accuracy Required (if for Data or Teletype specific expected performance or error tolerance)

I. Volume of Traffic

- number of calls per hour, per day, per month, both incoming and outgoing
- seasonal peaks

J. Any other items you may wish to add

FUTURE TRENDS AND DEVELOPMENTS

With the surging interest and activities in the North today by Governments, Mining, Gas, Oil Companies, and Communications Carriers, systems planning and implementation must become more accurate and timely in order that the needs of the Communications Users be best met and served.

We would appreciate any information you wish to project, on any or all of the attached items, beyond 1970 and preferably, up to 1990.

Copies of reports or studies available now or in the near future would be extremely valuable.

The items in the attachment are intended as a guide only - add to or answer any item(s) you wish.

ATTACHMENT

1. Present Communities and their populations

2. Migration Patterns and Trends

3. Resource Developments in each area or region

4. Establishment or re-location of Administrative Centres in Districts, Area, Regions

5. Training & Education of the Indigenous Population

6. New business or industry planned or foreseen for the North.

7. New or additional communications services that will be required.

YOUR EXISTING COMMUNICATIONS SYSTEMS

We would like to have a description of the Communications System(s), you now use, whether owned or leased, and the usage thereof. To assist you in doing this we have attached a list of suggested points which you may wish to use. Please add any other information such as charts, maps, configurations, etc., which you consider relevant.

ATTACHMENT

A. Basic System Description

1. Name of System and/or Application (e.g., voice, teletype, data, telemetry, etc.)

2. Locations (a map or circuit layout showing locations and routes would be helpful)

3. The System is a) owned by (specify)
   b) operated by (specify)
   c) maintained by (specify)
   d) leased from (Specify Carrier)

4. Locations are served by a) Landlines
   b) Microwave
   c) H.F. radio
   d) V.H.F. radio
   e) V.F.C.T.
   f) Tropospheric Scatter
   g) Other

5. Date System first installed

6. Present Capacity of System

7. Ultimate Capacity of System

8. Mode of Operation, eg. SSB, A.M., Simplex, duplex, etc.

9. Antenna type(s)

10. Power output

B. Operating System Information

1. Speed in words per minute (W.P.M.) if Teletype, or bits per second (B.P.S.) if data.

2. Hours of use (e.g. 12 hrs/day, 7 days/week).

3. Volumes of traffic (provide estimates if no other information is available).
   a) number of calls/messages per hour per day
   b) seasonal peaks
   c) traffic patterns, ie., where are the calls/messages going, and/or where did they come from?
   d) average length of each call/message, in minutes or number of words.

4. Whose traffic is being carried on the system eg., yours, some other Dept. or Agency. Indicate the proportions if possible.

C. System Efficiency

Comment or provide information on such items as:

a) Delays encountered

b) System reliability

c) Quality or accuracy

d) Availability

D. Please add any additional comments on the system that you may feel helpful.

ANNEX III

REPORT: COMMUNICATIONS - LABRADOR COAST

DEPARTMENT OF COMMUNICATIONS

COMMUNICATIONS SURVEY

LABRADOR COAST

Introduction

A telecommunication survey trip was made by H. Hudson, G. Kenny, and D.S. Loftus between July 24 and August 7, 1970, to determine the status and adequacy of telecommunications services on the Labrador Coast. A large number of communities was visited using the CNR ship "Bonavista". Local residents were interviewed to obtain their views on the standard of commercial telephone facilities. Some attention was also given to the need for general information services to further the cultural life and social development of the Labrador Coast population.

Labrador Coast Settlements

The thirty-three communities visited for the purpose of the survey extend from Henley Harbour in southern Labrador to Nain in northern Labrador. These communities lie in coastal areas which can only be reached by ship or aircraft. They can be broadly classified into two categories - those settlements having a permanent population and those which are inhabited in the summer months as a base for fishermen catching salmon, cod and Arctic char. The summer season for these temporary settlements is from June to September and they are populated by fishermen from Labrador and the island of Newfoundland.

The income of the residents is largely determined by their ability to catch and sell sufficient fish to qualify for unemployment insurance in the winter months. A good fishing season of three months would realize about $1,000 to $3,000. If they fail to have a good season then they must apply for welfare assistance to carry them over the winter months.

The degree of isolation underlines the need for reliable and adequate telecommunication services. There are times when the transmission and reception of messages is vital for safety of life or health reasons.

An attempt is being made by the Provincial Government to reduce the number of small communities on the coast by concentrating people in growth centres such as Cartwright. Some resistance to the re-settlement program was voiced by residents on the grounds that (a) insufficient money is given for removal expenses, (b) there are few employment opportunities at the designated growth centres.

The Department of Labrador Affairs in St. John's supplied the survey team with an inventory of community statistics. The inventory statistics were checked at each location visited. The Annex contains composite information from the inventory and the on-the-spot investigation.

Economic Prospects

Presently fishing and sealing are the only activities of significance along the Labrador Coast. The Department of Labrador Affairs estimates a revenue of $1 million yearly from this source. It provides sustenance for a total of 6,000 coastal residents.

Three new possibilities exist for economic development along the coast:

(1) British Newfoundland Exploration Limited is exploring for Uranium deposits at Kitts Pond between Makkovic and Postville.

(2) Tenaco Drilling of Calgary is drilling for oil from platforms or ships offshore along the Labrador Coast. The drilling will intensify in 1971.

(3) The establishment of a third pulp and paper mill on the island of Newfoundland is presently under consideration. A large quantity of the raw materials for the mill would be supplied from Hamilton Inlet in Labrador and shipped to the mill for processing.

PART A - TELECOMMUNICATIONS MEDIA

Telecommunications Revenues and Costs

Bell Canada have been reluctant to invest capital in Labrador Coast facilities because of the low return on this capital. They state that these revenues and expenses are:

Revenue	$112,000
Expenses	$417,000 (28% on $14.6 m. capital investment)
Losses	$305,000

Public Telephone Services

Bell Canada is the common carrier responsible for telephone service on the Labrador Coast. It provides service by Very High Frequency (VHF), High Frequency (HF), or troposcatter radio systems. In general the quality of service provided by VHF or troposcatter radio is excellent but the service provided by HF radio varies from unsatisfactory to marginally satisfactory.

The communities having VHF or troposcatter radio are, from south to north, Red Bay, Henley Harbour, Pitts Harbour, Lodge Bay, Cape St. Charles, Battle Harbour, Fox Harbour, Williams Harbour, Fishing Ships Harbour, Port Hope Simpson, George's Cove, Square Island, Charlottetown, Snug Harbour and Hopedale.

The communities served by HF radio are, from south to north, Triangle, Tub Harbour, Frenchman's Island, Porcupine Harbour, Batteau, Black Trickle, Paradise River, Spotted Island, Indian Tickle, Cartwright, Packs Harbour, Smokey, Rigolet, Makkovic, Postville, Davis Inlet and Nain.

Assessment of Telephone Services

VHF or Scatter Service

Those communities having connections by VHF or scatter radio enjoy a reliable and high quality grade of service. The only difficulty is that subscribers must wait their turn on a party line system and this can result in delays. Some residents complained that they could not break into the system in an emergency but the Departmental representatives found that the waiting time was not unreasonable for the size of the community or the traffic generated.

All communities on southern Labrador are connected to the toll centre at L'Anse au Loup. The residents of the communities are very satisfied with the service. Their only concern is about a lack of back-up facilities in an emergency since previous experience with commercial telephone equipment has raised doubts in their minds that the new system will maintain its quality. Where Department of Transport equipment was installed there is strong reluctance to its removal notwithstanding the improved performance and reliability of the new commercial equipment.

It should be noted that the communities of Mary's Harbour, Fox Harbour, and Port Hope Simpson share two telephone channels. The availability of two channels affords protection against equipment malfunction. The communities of Henley Harbour, Pitts Harbour, Lodge Bay, Cape Charles, Battle Harbour, Williams Harbour, Fishing Ships Harbour, George's Cove, Square Island, Charlottetown and Snug Harbour share a single channel on a party line basis and no back-up exists if there is an equipment or power supply failure.

HF Radio Service

Where HF radio is installed the complaints of the Labrador residents of poor service are generally justified. The equipment at the various locations is not properly maintained and there are far too many communities sharing common channels.

Seventeen (17) communities work into the HF radio base station at Goose Bay. Four HF channels are available but only one channel is effectively in use because there is only one operator at Goose Bay handling traffic. A single channel to serve seventeen communities is insufficient for the traffic volume. On many occasions the Department of Communications' representatives were unable to test out the system because it was continuously busy with other calls. Many agencies on the Labrador Coast, such as the RCMP and the International Grenfell Association have found the commercial system unsatisfactory and have installed their own private HF systems. A further advantage of operating a private system is that calls have more privacy. When the commercial system is used the caller has to accept the fact that his transmission can be monitored along the coast from Tub Harbour to Nain.

The radio, exchange and subscriber equipment at most communities on the Labrador Coast is poorly maintained. The transmitting and receiving equipment is often not properly tuned or adjusted for optimum performance. Complaints that service is unsatisfactory are unheeded for long periods. The residents are often promised that repairs will be undertaken but these commitments are not followed through.

The maintenance of exchange equipment for local telephone service within communities is also unsatisfactory. The exchange equipment is housed in the basement of churches and schools where a proper standard of cleanliness cannot be maintained. As an example the exchange at Nain was dirty and neglected, one outside distribution terminal was openly exposed to the weather, and a cable had been cut, leaving a section of the community deprived of service. In Postville residents had been waiting since December, 1969 for telephones to be installed in their residences.

A feature of HF radio service is that there are outages of service due to ionospheric disturbances that can leave a community without outside connections for periods up to ten days.

Normally outages occur for hours at a time but there are one or two times a year when the complete HF service is inoperative. This is a natural phenomenon of HF radio and is not related to the design, operation, or maintenance of the system.

There is one operator at the switchboard at Goose Bay and she can handle only one HF working channel at a time. If two operators were available, during busy periods, two of the four available HF channels could be used simultaneously.

Department of Transport Telegram System

The Department of Transport has been operating a radio-telegram service along the Coast for a number of years. It was the withdrawal of the service that precipitated complaints about the quality of commercial telephone service along the coast.

As a result of this survey trip it was possible to obtain an appreciation of the value of the service to the Coast. The residents want the radio-telegram service maintained because

(a) the availability of Transport equipment is useful as an emergency back-up in the event that the commercial service fails,

(b) the residents are reluctant to pay the long distance telephone charge to Goose Bay in order to originate a telegram. Previously this could be done for 40 cents but now the cost might run from $1 to $1.95.

(c) some residents receive salaries and space rental allowances for operating the Transport equipment and they do not want to forego this income.

Telecommunications Recommendations

It is suggested that Bell Canada:

(a) Take immediate steps to repair faulty equipment in those locations served by HF radio. A maintenance survey team should visit each community in turn to ensure that both radio and exchange equipment are operating properly. Particular attention should be given to the communities of Triangle, Frenchman's Island, Batteau, Tub Harbour, Spotted Island, Cartwright, Northwest River, Rigolet, Makkovic,

Davis Inlet, Indian Tickle, Postville and Nain.

(b) Send a representative, other than a maintenance technician, to discuss with each operator the way that a new or improved system should be used, what to do if difficulties are experienced, and how to bill for calls, etc.

(c) Act promptly on reports of mal-functioning equipment and honour any commitments that are made for repairs or replacement of parts.

(d) Appoint a second switchboard operator at Goose Bay to double the capacity of the existing HF system.

(e) Remove Cartwright from the HF system and tie it in to the nearby Polevault system.

(f) Check that the frequencies in use on the HF system are optimum for the locations connected, the time of year and sunspot cycle, the antenna system, and the scheduled operating period.

(g) Consider seriously replacing the existing HF system in northern Labrador with VHF installations. Extensions could be made from Hopedale to Makkovic, Postville, Davis Inlet, and Nain. The size and isolation of these communities warrant reliable service without the outages associated with HF radio operation.

(h) Consider extending VHF radio service to all communities on the south Labrador Coast when the communities are permanent, stable or growing, and have a population in excess of 50. A reliable VHF service could be extended from the Polevault station at Cartwright. The communities of Batteau and Black Tickle would be candidates for this service. The remaining communities could remain on a less congested HF service if the northern Labrador conversion to VHF were implemented.

(i) Take steps to hire and train a technician at the larger communities so that repairs could be handled

locally and a preventative maintenance programme instituted. Alternatively a part time resident technician at selected places on the coast could be responsible, using skidoo or marine transportation, to service a number of contiguous communities.

(j) Install telephone equipment in small Bell Canada buildings so that they can be protected from the environment and away from areas where accidental interference could occur.

The estimated cost of the improved service would be

(a) VHF service to North Labrador

$150,000	
7,000	Polevault rental
$157,000	Yearly cost

(b) VHF service to Black Tickle and Batteau

$ 20,000	
3,500	Polevault rental
$ 23,500	Yearly cost

(c) VHF service from Black Tickle to all remaining points (not recommended).

$ 90,000	
0	Polevault (added above)
$ 90,000	Yearly cost

The cost of the above improvements could be:

(i) assumed by the common carrier because it has responsibility for serving the area with a reliable and adequate service

(ii) borne by the residents in the form of increased rates since the present monthly charges for telephone service run at only $3.50 monthly. When the service is brought up to southern Canadian standards there is no reason why cheaper rates should be in effect.

(iii) assumed partly by the Department of Communications on the premise that the provision of services to these isolated communities is a losing proposition for the carriers.

It is recommended that the Department of Transport

(a) remove as soon as possible their HF equipment from the communities of Cape St. Charles, Fishing Ships Harbour, Fox Harbour, Paradise River, Port Hope Simpson, and Snug Harbour. These communities now have satisfactory service.

(b) leave the HF equipment installed at Cartwright until connections are made to the Polevault system by Bell Canada

(c) take one of the following courses of action for the equipment at Batteau, Black Tickle, Spotted Island and Smokey

either (1) remove the equipment immediately on the understanding that commercial service is available and is progressively improving

or (2) turn the equipment over to the Provincial Department of Labrador Affairs for use in the event of emergency or breakdown on the commercial HF service

or (3) turn the equipment over to the communities for use in emergencies only. The equipment is old, has negligible scrap value, and it would save Transport removal and recovery costs to leave the equipment in situ.

Conclusions - Telecommunications Media

The Department of Communications should not alter its earlier recommendation to the Minister of Transport that his equipment be removed from the Labrador Coast as soon as possible. The essential need is to improve the adequacy and reliability of commercial services and this can be achieved by consultation with Bell Canada.

Care should be exercised in not requesting improved

commercial services to those communities which are declining in size due to poor fishing prospects or Provincial Government decree.

Requests are being received from fishermen to serve their temporary fishing grounds with commercial services, e.g. Holton Island near Smokey. Service to these areas should not be provided by the common carrier in the same way that permanent settlements are connected to the telephone network. The best solution would be for the fishermen to purchase their own HF equipment to work into Bell Canada base stations or Department of Transport marine stations.

PART B: GENERAL COMMUNICATIONS MEDIA

Assessment of Services

Radio AM radio is the source of outside news for all and entertainment for many.

Newfoundland stations are generally received clearly; at night many American and some European stations can be received. Reception is generally better in the winter.

North of Goose Bay reception is more difficult. Some residents claimed reception was poor; others said it was satisfactory on a good transistor radio. Radio reception in Davis Inlet, Postville, and Hopedale was reported poor. Nain reports being able to receive programs in Eskimo from Frobisher Bay from time to time. Generally, however, Frobisher Bay and the CBC Northern Service (short wave) are not picked up.

Although it provides general news and entertainment, the radio does not provide local features or information targetted specifically at coastal audiences.

Hockey is popular entertainment in some areas. In Snug Harbour the people learned the rules through watching films of old games imported by a local retailer. They complain that hockey is offered only once a week (Sunday nights on the CBC). There is little interest in other broadcast sports apparently because the games are unfamiliar.

Newspapers: Some residents subscribe to the St. John's Telegram and/or the weekly Goose Bay Northern Reporter. A few mentioned the Newfoundland Bulletin,a monthly government publication. These papers are received by mail (every 12 days by Canadian National steamer

in summer, every week by plane in winter).

Only one local newspaper was found, the monthly Cartwright Courier, which contained local news, entertainment, and information of interest in Cartwright and nearby coastal communities. The editors claim the paper was well received, but they had no advertising revenue, and were forced to charge 25¢ per copy. This factor coupled with the use of voluntary labour and an eventual loss of interest caused the paper to fold.

Film: Most communities do not have access to films. The following reported having regular movies: Port Hope Simpson, George's Cove, Cartwright, Black Tickle, Makkovic, Hopedale, Davis Inlet, and Nain. Films are usually old westerns, comedies, and adventures, with a charge of 50¢ per adult and 25¢ per child. Old westerns are very popular.

In some communities films used in the school are also shown to adults. In Black Tickle and Nain specific reference was made to National Film Board films on the North which were shown.

In vitually all cases the people appeared to have no influence in the selection of films. Common sources were the school, a small businessman, a minister or priest. Some residents expressed a desire for films about the North to learn about the activities in other areas. Many also desired light entertainment.

Books: In most communities the only source of books is the school library which is inadequate for the interests of adults. It was sometimes necessary to ask several people about the existence of a library. Thus for many villagers there is no known way of obtaining books.

Occasional reference was made to a method of borrowing books from Newfoundland libraries, but no one seemed to be clear on how to go about it. In larger centres where there are retail

outlets it is possible to order books (e.g. from the Hudson's Bay Company).

Some adults are illiterate and a larger number are barely literate. Reading does not seem to be a popular pursuit in any age group. It is difficult to determine to what extent this is due to lack of education, interest, or books.

Recommendations:

Radio: The most evident lack is that of programming of specific interest to the Labrador Coast. This programming could supplement the type of news and entertainment now received.

The educational capacities of radio for people who have no other available media have so far not been exploited. Many villages have no recreational facilities; most activities take place in the home. Many fisherman have little or no work during the winter, when radio reception is better.

For these people a series of special programmes and correspondence courses could be instituted. Some topics such as home-making hints and child care could be offered on short programmes of 15 or 30 minutes at regular intervals. Academic courses could be offered by the Newfoundland Department of Education in conjunction with the CBC. Prepared lessons for a course could also be mailed out and assignments, explanations, and corrections could be made over the radio. Perhaps the school teacher could act as coordinator for the village in ordering material and providing help where needed. Such a series of correspondence courses using prepared work sheets and radio lessons has been employed successfully in other countries with students living in remote areas.

Also some communities appear to be able to support their own local radio stations. Cartwright is a growing town (population about 900) which has been chosen as a resettlement centre by the Newfoundland government. Although health and educational facilities are an improvement over those in isolated communities, there were frequent complaints about lack of work and lack of things to do. A local radio station might be set up at Cartwright for the town and

the nearby coastal communities. Some help in establishing and maintaining the station would be required. Much of the programming, maintenance, and management could be undertaken by Cartwright high school students.

Residents of Mary's Harbour expressed a similar desire for a radio station to be established there to serve the southern Labrador Coast.

At Nain a request was made for a local radio station to broadcast in the Eskimo language. Such a station should serve a 300 mile radius to reach Queen's Lake, September Island, and Okak Bay. The station would carry local news and messages for remote villagers and announcements about meetings and work. Local fare could be supplemented with CBC tapes,perhaps from the Frobisher Bay Eskimo Language service. Again, expert guidance would be needed, but much of the responsibility could be undertaken by local residents.

Newspapers: Because of the isolation, daily newspapers are not an important informational medium. However, local periodical newspapers could serve other functions: a source of local news, relevant background information, and a chronicle of events, an outlet for writing talent, a forum for the exchange of ideas.

Several of the larger winter and permanent communities could support a monthly paper or newsletter. However, lessons should be learned from the Cartwright experience. First, a newspaper must have a source of revenue besides copy sales. Also the enthusiasm of volunteer workers is bound to be limited, especially where incomes are very low. Staff and contributors should be paid. Finally, editors must be careful not to alienate the established residents in their enthusiasm. An outspoken newspaper may be seen as an intruding vehicle for radical social change.

Small monthly papers could serve areas not reached by local radio, and might supplement the more immediate news and message

function of a local station. In the north they might provide one means of preserving the Eskimo language which is apparently not now being stressed in the schools.

Films: An expanded firm service is warranted. Films of any kind receive enthusiastic response. Requests about films on the North and other parts of the country could be met by setting up a National Film Board film distribution service. It is important that the community rather than simply a teacher or entrepreneur decide the types of film ordered. This selection could be done through a committee, or one capable person could be delegated to choose based on comments received on subject matter desired.

To meet the demand for film, film projectors could be supplied by the Board of Education to all communities with more than twenty-five registered pupils, with the understanding that the equipment will serve a much larger segment of the community.

Video-Tape: For smaller communities, and perhaps for those now having film as well, the experiment in video-tape recording and presentation now being undertaken by the Extension Service of Memorial University may provide a more appropriate solution for visual media needs.

As stated previously, the radio as a medium available now to virtually all coastal villages is not fulfilling the functions of providing relevant information, entertainment, and education. However, radio, even if improved, has the limitations of providing audio-only one-way communications, and of being a mass medium, ie. broadcasting for all.

There is a need for a visual medium as well, and one that has flexibility to vary programmes and times of presentations, to allow for selected audience, and to permit input from the viewers. Considering the choices of film, television, and video-tape, the latter appears to be the optimum solution. These communities are not likely to receive television for a long while even with the

availability of a communication satellite because of the cost of earth stations for such a small scattered population and because of existing transmission-reception difficulties. Film has the disadvantage of being shown in one place only, e.g. school or community centre. Also the people cannot make and show their own films because of the complications of shooting with sound, the need for laboratory processing, and the need for sophisticated filming and editing equipment.

Video-tape recording and playing equipment is, on the contrary, portable, versatile, and relatively inexpensive. As well as being used with larger numbers, a player can be set up in a home for a small interest group, thus eliminating the distractions of small children and curiosity seekers. Tapes can be made easily and played back for comment. Residents can in this way get a more objective outlook on their ideas and their problems.

The exchange of tapes among communities could help overcome the sense of isolation and make villagers aware of common problems and aspirations. Such awareness is one prerequisite for united group effort to bring about social change.

Packaged programs could also be made available on video-tape. Television entertainment could thus be provided without the prohibitive cost of live transmission. Education is another possibility for video-tape. Pre-packaged lessons and informational programs could be made available and exchanged between communities. These programs could be supplemented with printed lessons or follow-up material as suggested for radio. This medium might prove to be an improvement over radio because of the possibilities of visual presentation and repetition of the material.

With a grant from the Department of Communications and Bell Canada the Extension Service of Memorial University is providing three video-tape recorders and players for coastal communities. These are being used to record opinions on the state of communications along the coast and suggestions for improvements.

Memorial University is also providing dubbed tapes of CBC programs of interest to Labrador residents which are played on

equipment used by the University's Coastal Labrador Representative. This service is bringing television to the coast for the first time. Some communities will also be provided with vidicon cameras to record matters of interest to themselves and to other coastal areas, and the tapes will be exchanged.

Based on the University's report on the usefulness of video-tape for facilitating the exchange of ideas and recording opinions and on the outcome of the experiment with packaged television programmes, it will be possible to make a policy decision as to whether to increase the number of sets of equipment and services. If the report is favourable, video-tape equipment should be provided to all permanent settlements and at minimum to all winter settlements with stable or growing populations. It is also recommended that the Extension Service and/or the Newfoundland Department of Education investigate the instructional potential of this medium.

Books: Books on a wide variety of subjects, and with a broad range of reading difficulty should be accessible to all winter and permanent communities. The school libraries do not provide enough books of interest to adults.

The best service would probably be a ship similar to a book mobile which would travel up and down the coast to collect and distribute books. This ship might provide other services as well such as preventative health care and dental care. The disadvantage of a ship is that it cannot serve the coast for the five winter months when the people would have the most time to read. A flying book service would probably be prohibitively expensive, however.

If such services are not feasible, an improved loan-by-mail service should be instituted. The villages could have a list of books available which could be ordered from Newfoundland Libraries, perhaps by radio-telephone. Books could then be sent and returned by mail. Another possibility would be boxed collections of books which would be shuttled among coastal communities.

Miscellaneous Findings and Recommendations

Mail Service: Mail is delivered to most settlements every two weeks by Canadian National steamer in summer and weekly by Eastern Provincial Airlines in winter. Most residents interviewed considered this service satisfactory. However, there were some complaints that mail for nearby communities could not be delivered by the CN ship en route. Formerly, the CN ships carried a mail officer who sorted the mail en route, thus making it possible for mail to be delivered from one community to another along the way. Now there is no one on board who is authorized to open the mail bags.

The reasons for the discontinuance of mail officer service on the CN steamers should be checked. This governmental decision is apparently another example of a change in government policy made without consulting or informing the residents affected.

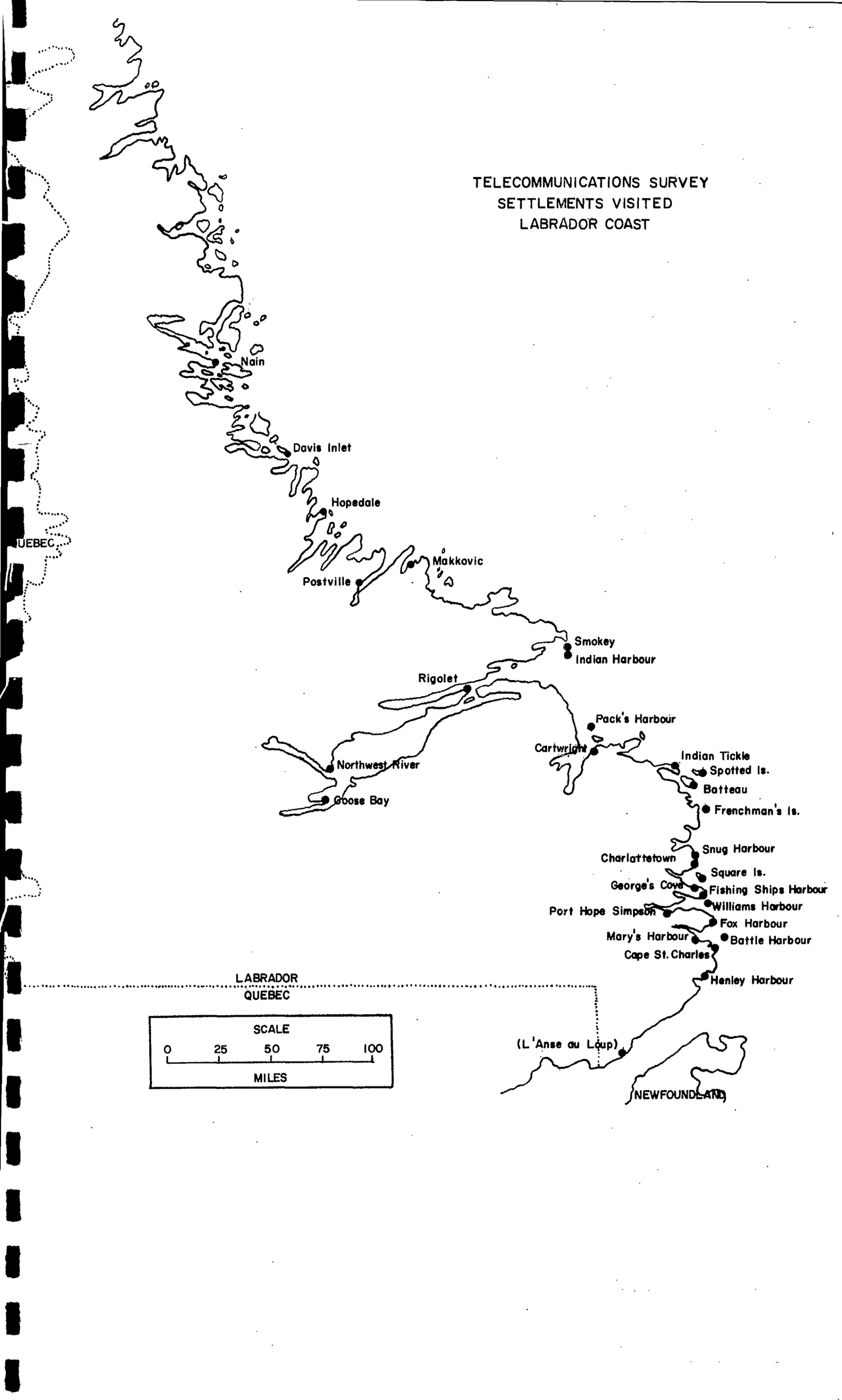
Preventative Medicine: In a region with small isolated settlements provision of medical care is of necessity a communication and transportation problem. The coast is adequately served by the Grenfell Missions which provide hospitals, nursing stations, and emergency aircraft services. However, there is a need for preventative medicine services. Most people do not have regular physical or dental checkups. Equally lacking is the educative function of preventative medicine.

The interviewers were told that the children receive health education in school, but it seems apparent that there is a need for a visiting service by nurses or trained personnel to go into the homes and meet informally with the people to talk over health needs.

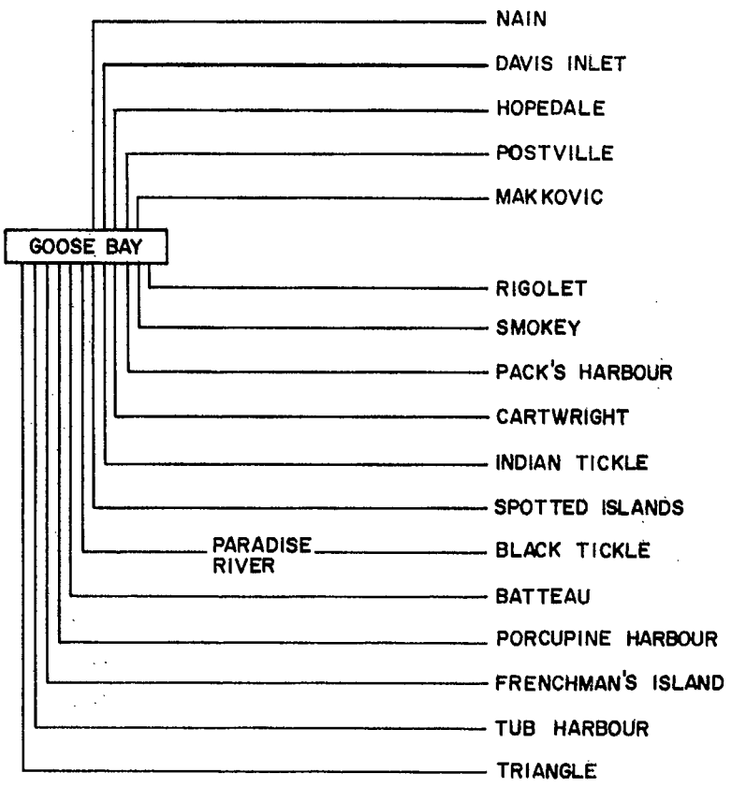
Again, what is recommended is a boat or plane service which would visit each community at least twice a year to provide medical and dental checkups, basic treatment, and advice on child care, first aid, care of the sick and aged, nutrition, and other domestic needs.

H. Hudson
General Communications

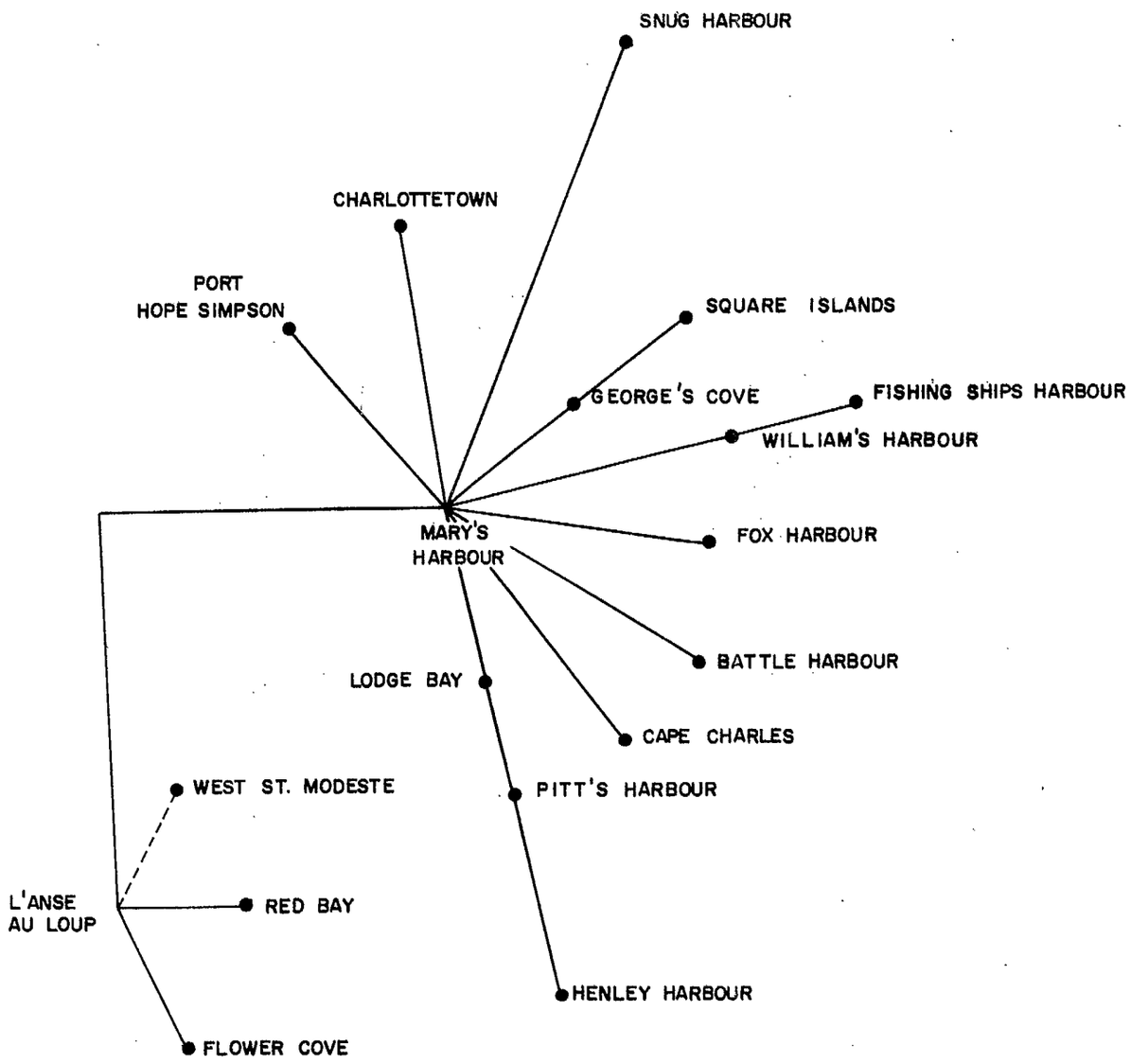
D.S. Loftus
Telecommunications


TELECOMMUNICATIONS SURVEY
SETTLEMENTS VISITED
LABRADOR COAST
Nain
Davis Inlet
Hopedale
Makkovic
Postville
Smokey
Indian Harbour
Rigolet
Pack's Harbour
Cartwright
Northwest River
Goose Bay
Indian Tickle
Spotted Is.
Batteau
Frenchman's Is.
Snug Harbour
Charlattetown
Square Is.
George's Cove
Fishing Ships Harbour
Williams Harbour
Port Hope Simpson
Fox Harbour
Mary's Harbour
Battle Harbour
Cape St. Charles
Henley Harbour
(L'Anse au Loup)
NEWFOUNDLAND
LABRADOR
QUEBEC
SCALE
0 25 50 75 100
MILES

TELECOMMUNICATIONS SURVEY
LABRADOR COAST
HF SYSTEMS



TELECOMMUNICATIONS SURVEY
LABRADOR COAST
VHF SYSTEMS



ANNEX 1

STATISTICS AND TELECOMMUNICATION COMMENTS ON VISITED

LABRADOR COAST COMMUNITIES

SETTLEMENT	SUMMER OR PERMANENT	POP.	GROWTH POTENTIAL	ACTIVITIES	SCHOOL(S) (HIGHEST GRADE)	CHURCH(ES)	HOSPITAL (NEAREST)	RT SYSTEM	QUALITY	CENTRE OF INTEREST	AM RADIO RECEPTION
Henley	S	80	declining	fishing	Gr.9	--	(MH)	VHF	good	St.Anthony's	good
Cape St.Charles	S	90	declining	fishing sawmill	Gr.8	Ang.	(MH)	VHF	fair	St. Anthony's	good
Battle Harbour	P	60(w) 100(s)	declining	fishing freight	Gr.6	Ang.	(MH)	VHF	good	Mary's Harbour	good
Mary's Harbour	P	500	growing	fishing	Gr.11	Ang.	yes	VHF	good	Nfld.	good
Fox Harbour	P	235(w) 200(s)	growing	fishing sawmills fish depot	Gr.9	Ang.	(MH)	VHF	good	Mary's Harbour	good
Port Hope Simpson	P	480	declining	fishing logging	(2) Gr.9	Pent.	(MH)	VHF exchange	good	Mary's Harbour	good
Williams Harbour	S	60	declining	fishing	Gr.9	Ang.	(MH)	VHF	good	Mary's H. Goose Bay	good
Fishing Ships Harbour	S	25	declining	fishing	--	--	(MH)	VHF	good	Mary's Harbour	good
George's Cove	S	120	stable	fishing	Gr.8	Pent. Ang.	(MH)	VHF	good	Mary's Harbour	good

Pent.- Pentecostal
Ang. - Anglican
R.C.- Roman Catholic
Mor. - Moravian
U.C.-United Church

(MH) Mary's Harbour
NWR - Northwest River
Mak. - Makkovic

SETTLEMENT	SUMMER OR PERMANENT	POP.	GROWTH POTENTIAL	ACTIVITIES	SCHOOL(S) (HIGHEST GRADE)	CHURCH(ES)	HOSPITAL (NEAREST)	RT SYSTEM	QUALITY	CENTRE OF INTEREST	AM RADIO RECEPTION
Square Islands	S	200	growing	fishing hauling wood	(2) Gr.8	Pent.	(MH)	VHF	good	Mary's Harbour	good
Snug Harbour	S	35	stable	fishing	Gr.7	--	(MH)	VHF	good	Nfld.	good
Tub Harbour	S	15	declining	fishing	--	--	(MH)	HF	poor	Mary's Harbour	good
Triangle	S	80	growing	fishing	Gr.7	--	(MH)	HF	poor	Mary's Harbour	good
Frenchman's Island	S	50	stable	fishing	--	--	(Cart.)	HF	poor	Goose Bay	good
Batteau	S	75	stable	fishing	--	--	(Cart.)	HF	fair	Cartwright	good
Black Tickle	P	150	stable	fishing hunting	Gr.11	R.C.	clinic (NWR)	HF	good	Goose Bay	good
Spotted Islands	S	150	stable	fishing	Gr.9	Ang.	(Cart.)	HF	fair	Goose Bay Cartwright	good
Indian Tickle	S	70	stable	fishing	--	--	Cart.)	HF	poor	Cartwright	good
Cartwright	P	900	growing	fishing sealing wood-cutting	Gr.11	Ang. Pent. U.C.	yes nurse 20 beds	HF	poor	Goose Bay	good
Northwest River	P	900 (40% Indian)	growing	IGA HQ. retailing hunting	Gr.11	R.C. Mor. Ang.U.C.	YES 2 doctors 1 dentist	HF	poor	Goose Bay	fair
Rigolet	P	170	declining	fishing	Gr.8	Ang.	NWR.	HF	poor	Goose Bay	fair

SETTLEMENT	SUMMER OR PERMANENT	POP.	GROWTH POTENTIAL	ACTIVITIES	SCHOOL(S) (HIGHEST (GRADE)	CHURCH(ES)	HOSPITAL (NEAREST)	RT SYSTEM	QUALITY	CENTRE OF INTEREST	AM RADIO RECEPTION
Smokey	S	30	declining	fishing	--	--	(NWR)	HF	fair	Nfld.	good
Makkovic	P	350 (50% Eskimo)	growing	fishing	Gr.8	Mor.	yes nurse 8 beds	HF exchange	poor	Goose Bay	fair
Postville	P	120	growing	fishing	Gr.8	Pent.	(Mak)	HF exchange	poor	Goose Bay	poor
Hopedale	P	390	growing	fishing hunting sawmill	Gr.7	Mor.	nurse (NWR)	scatter	very good	Goose Bay	poor
Davis Inlet	P	200 (95% Indian)	growing	fishing construction hunting	Gr.5	R.C.	Clinic (NWR)	HF	poor	Goose Bay	poor
Nain	P	700 (70% Eskimo)	growing	fishing hunting wood-cutting	Gr.8	Mor.	yes nurse 10 beds	HF exchange	poor	Goose Bay	fair