Interim Report on Progress and Use

CANADA LAND INVENTORY

Department of Regional Economic Expansion

R. J. McCormack
Chief, Canada Land Inventory
Ottawa, Ontario
May, 1970

THE CANADA LAND INVENTORY

The Canada Land Inventory began in 1963 as a co-operative federal-provincial program administered under the Agriculture Rehabilitation and Development Act (ARDA) of June 1961, later amended to Agriculture and Rural Development Act, May 12, 1966. While the immediate objective was to provide a basis for land use adjustment projects, the need for a nation-wide land capability survey had been recognized by the Special Committee of the Senate on Land Use in Canada in 1958 and the Resources for Tomorrow Conference of 1961. The program has now progressed to the point where it is possible to take an interim look at the present and potential uses of the data available to date.

The Canada Land Inventory program is now more than half completed, thus it is perhaps too early to attempt a valid assessment of the program's progress towards achieving its ultimate objectives in the appraisal of land resources for planning and development. There are however indications that even those data now available are proving of value in a wide range of land use planning considerations at all levels of government and industry.

The purpose of this report is to consider the progress of the Canada Land Inventory and to review the comments received from government and private agencies concerning present and potential uses of the information as well as any shortcomings which are being revealed. The overall purpose of the program is to provide a planning base consisting of land capability maps for the alternative uses of the lands of the settled portion of Canada - approximately one million square miles (Figure 1).

While initially focussed on mapping capability for agriculture it became obvious that it was necessary to map capability for alternative land uses as well; these were forestry, recreation and wildlife (ungulates and waterfowl). To relate use to capability for planning purposes the mapping of present land use also became necessary.

From a number of alternatives it was decided that the provinces should accept responsibility for the work and that ARDA would finance the additional costs to the province. Co-ordination of each sector was arranged with the responsible federal departments or agencies and the necessary positions, as well as additional costs, were guaranteed. In addition, each federal department involved in the program seconded senior co-ordinators to ARDA for the duration of the Inventory*.

National classification systems for each sector were drawn up, discussed, tested and agreed to by all provinces. It was also agreed that presentation of the information in map form would be at the 1:50,000 scale for planning and generalized for publication at 1:250,000.

When completed the present program will result in about 20,000 maps at 1:50,000 scale and 1,000 at 1:250,000. In order to make this mass of data readily available and manageable for multiple comparisons it became necessary

---

* The exception to the outlined arrangement is Newfoundland where only Agriculture capability is financed under ARDA. The other sectors are being carried out in Newfoundland and Labrador under a special agreement on a cost-share basis administered by the Department of Fisheries and Forestry and directed by a Federal-Provincial Steering Committee.

AREAS COVERED BY THE CANADA LAND INVENTORY

Figure 1

C.L.I. CAPABILITY AND COMPUTER MAPS
MARCH 31, 1970

Capability Maps Scale 1:250,000	SECTOR: Agriculture 1969	Agriculture 1970	Forestry 1969	Forestry 1970	Recreation 1969	Recreation 1970
Manuscripts on hand	8	20	4	14	11	18
Map sheets in progress	31	36	11	17	33	52
Map sheets printed	51	60	1	5	1	5
Total	90	116	16	36	45	75

	Wildlife (Ungulates) 1969	Wildlife (Ungulates) 1970	Wildlife (Waterfowl) 1969	Wildlife (Waterfowl) 1970	Sports Fish 1969	Sports Fish 1970
Manuscripts on hand	11	22	42	30	18	18
Map sheets in progress	30	50	67	71	0	0
Map sheets printed	1	5	1	20	0	0
Total	42	77	110	121	18	18

Total Capability Maps	1969	1970
Manuscripts on hand	94	122
Map sheets in progress	172	226
Map sheets printed	55	95
	321	443

Computer Maps scale 1:50,000	Agriculture 1969	Agriculture 1970	Present Land Use 1969	Present Land Use 1970	Forestry 1969	Forestry 1970
Manuscripts on hand	189	292	0	183	27	253
Map sheets in progress	214	132	32	158	120	74
Map Sheets completed	289	521	1961*	1848*	139	167
Total	692	945	1993	2189	286	494

	Wildlife (Ungulates) 1969	Wildlife (Ungulates) 1970	Wildlife (Waterfowl) 1969	Wildlife (Waterfowl) 1970	Recreation 1969	Recreation 1970
Manuscripts on hand	59	336	242	185	19	207
Map sheets in progress	142	147	347	52	302	149
Map sheets completed	287	576	1071	1640	587	915
Total	488	1059	1660	1877	908	1271

Total ManuscriptMaps	1969	1970
Manuscripts on hand	536	1456
Map sheets in progress	1157	712
Map Sheets completed	4334	5667
	6027	7835

* A number of Land Use maps were redone.

Figure 2

to design a computerized system to convert map data into digitized form, store the information, carry out multiple comparisons, and provide output in tabular or map form. The Canada Geographic Information System was developed for the purpose and is now in early stages of operation.

As the CLI data became available it was desireable to have it tested in land use planning projects in order to assess its adequacy for the purpose for which it was designed. Thus each province was encouraged to undertake a land use planning pilot project. To date, British Columbia, Alberta, Nova Scotia, Prince Edward Island, New Brunswick and Ontario have initiated projects and in 1970 projects are expected in Manitoba and Saskatchewan.

In summary the program consists of:

1) Land Capability for Agriculture
2) Land Capability for Forestry
3) Land Capability for Recreation
4) Land Capability for Wildlife (Ungulates and Waterfowl)
5) Present Land Use
6) Sports Fish Capability
7) Agro-climatology
8) Geo-Information System
9) Land Use Planning
10) Economic studies to relate feasibility to capability

The first five sectors constitute the basic elements of the program and will be referred to in the balance of this report in depth. The remaining phases will take on greater importance as the program moves towards completion and as more and more of the information for sector programs becomes available.

The objectives of the CLI are to:

1. Provide an objective base for program formulation.
2. Provide a base for land use planning either in association with general resource programs, or in development plans for special areas.
3. Encourage the provinces to rationalize land use within their jurisdictions.

Status of CLI Mapping

The number of maps received, processed for computer input and printed as of March 31, 1970 are shown in Figure 2, along with similar statistics to the end of March, 1969. The production of CLI manuscript maps by the provinces should reach its peak in the fiscal years 1970-71 and 1971-72. During these two years the goal is an annual printing of two hundred capability maps which when added to the total number printed at the end of March 1970 should see the major part of the printing program completed in 1974.

A brief statement on the status of the mapping program for each sector follows. The accompanying index maps indicate manuscript maps received and in preparation. These also indicate the maps which have been printed and are available through the Queen's Printer.

The Sports Fish capability sector is not being carried on in all provinces. It has been completed in New Brunswick and Nova Scotia and is ongoing in Quebec, Ontario, Alberta and Manitoba. Completion is expected in 1971-72.

Agro-climatology studies are being conducted in British Columbia where topography warrants a special approach. A national study to delineate climatic regions for agriculture has been completed and published in Report Number 3, The Climates of Canada for Agriculture.

Soil Capability for Agriculture

The mapping program of Soil Capability for Agriculture is designed to indicate the potential of specific areas for Agricultural production. The classification is based on soil characteristics as determined by soil surveys and indicates the type and degree of limitation for mechanized agriculture.

Mapping has progressed well in all provinces except Newfoundland where work has been delayed due to absence of basic soil survey data and a shortage of skilled personnel. In the other three Maritime provinces the mapping (figure 3) is virtually complete. Maps have been printed for most of New Brunswick and for all of Nova Scotia and Prince Edward Island.

Field work is completed in the central provinces and all manuscript maps for Ontario will have been submitted for computer processing and printing in 1970. Work on outstanding manuscript maps for Quebec will be completed in 1971-72. Maps have been published for all of Southern Ontario and the adjacent portion of Quebec.

One or two years of field work remain to be carried out in the northern part of the Prairie provinces in order to compile the necessary data for the preparation of manuscript maps. Maps have been published for most of the southern portion of the Prairie provinces.

The first printing of British Columbia Land Capability for Agriculture maps should take place in 1970-71, at the scale of 1:126,720. This scale rather than 1:250,000 is used to provide greater detail for agricultural capability in the valley lands of the province. Some of these maps will show ratings for "irrigated" as well as for "dry" land. Completion of the field work in British Columbia is not anticipated before 1975-76.

Land Capability for Forestry

In the classification of land Capability for Forestry, land is rated according to its capability to grow commercial timber under conditions of optimum stocking to native tree species. The land is rated on its inherent capability without improvements such as fertilization or drainage. Classification is on the basis of all known or inferred information including sub-soil, soil profile, depth, moisture fertility, land form, climate and vegetation.

Completion rate in the Land Capability for Forestry mapping (figure 4) had been somewhat slow until the past fiscal year because of the relatively complex field work procedures required. The techniques have now been systematized and progress has been accelerated.

In Newfoundland the field work on the Island will be completed and most of the maps will be submitted in 1970-71. Field work will be commenced this summer in Labrador with 1973-74 as the target for completion. Nova Scotia will complete its program in 1970-71 will all maps to be submitted early in 1971. All maps will be completed by New Brunswick and submitted in 1970-71. The work in Prince Edward Island has been completed and published.

Quebec will complete its forest capability program in 1972-73; priority has been in the Gaspé and Ottawa-St. Lawrence valleys. Ontario, where mapping is being carried out at the 1:250,000 scale will be completed in 1970-71 with all manuscript maps submitted by early 1971-72.

The forest capability program is expected to be completed in 1971-72 in Manitoba, Saskatchewan and Alberta; in all three provinces arrangements have been made to inventory the southern portions at a scale of 1:250,000 except in selected areas where mapping will be carried out at 1:50,000.

In British Columbia the program is a part of a joint operation with agriculture and mapping is at a scale of 1:126,700. Publication is deferred until a land capability analysis for each area is carried out. Completion date for the forest capability program in British Columbia is 1975-76.

s

Land Capability for Wildlife: Waterfowl - Ungulates

Waterfowl Capability

Waterfowl require a sufficient quantity and quality of food, protective cover, and space to meet the needs for survival, growth and reproduction. Classification is based on the natural state of the land under good management practices. Classes are assigned to each land unit on the basis of known or inferred information of parent material, soil, fertility, moisture, land form, climatic factors and vegetation which in total will indicate the degree of limitation for waterfowl production.

Waterfowl capability mapping is complete in Nova Scotia, Prince Edward Island, Alberta and British Columbia; (figure 5) it will be completed in Quebec, Ontario, Manitoba and Saskatchewan in 1970-71. The Canadian Wildlife Service will prepare maps as well as a report of distribution for Newfoundland.

Ungulate Capability

Essentially ungulates have the same basic requirements as waterfowl. The land is grouped into homogenous units based on physical characteristics significant to ungulates, under good management practices.

Ungulate mapping is underway in Newfoundland and will be completed for the Island in 1971-72. Labrador will be completed in 1973-74, New Brunswick and Nova Scotia will be finished in 1970-71. As there are no ungulates in Prince Edward Island and no plans to introduce them, no ungulate mapping was carried out. Ontario, Quebec, Saskatchewan, British Columbia, Alberta and Manitoba will be completed in 1971-72.

Land Capability for Recreation

The increasing demand for parks and other outdoor recreation space made this land use alternative an important consideration in the Canada Land Inventory program. The primary objective of the Recreation Sector is to provide an estimate of the quantity, quality and location of outdoor recreational lands in the settled portion of Canada as basic information for planning recreational resource use. The basis of the Recreation capability classification is the quantity of recreational use which a land unit can attract and withstand without undue deterioration of the resource base.

The major part of the program of Land Capability for Recreation has been completed and while only a few maps have been published to date (figure 7) it is anticipated the number will increase considerably in 1970-71.

The field work has been completed and the manuscript maps for the eastern half of the Island of Newfoundland submitted; the balance will be available in 1970. A reconnaissance survey o f Labrador will be started in the summer of 1970 in preparation for mapping at a scale of 1:250,000, to be completed in 1973-74. Manuscript maps have been received for all of New Brunswick and Nova Scotia and the map of Prince Edward Island has been published.

Fieldwork is complete in Ontario and Quebec and nearly half of the manuscript maps submitted; the balance will be available in 1970-71.

Most of the program is scheduled for completion in Manitoba, Saskatchewan, Alberta and British Columbia in 1970-71 with a few manuscripts carrying over to 1971-72.

Present Land Use

Maps for this sector are being compiled at the 1:50,000 scale, they are intended for computer input only and will not be published. The program is complete except for small portions of British Columbia and Manitoba (figure 8).

The classification for present land use was designed to determine the location and extent of areas where shifts in the land use pattern are desirable. Two types of information are provided from the classification. Firstly, the location and extent of major land uses can be determined. This information was previously unavailable or scattered throughout a wide variety of sources. One example of the value of such information was provided when the land use survey for Prince Edward Island revealed that woodland acreage was almost double previously accepted estimates. A census estimate of 330,000 acres was generally quoted, based on the acreage of woodlots on occupied farms. Measurement of land-use maps which included the land not in farms, showed the actual area of woodland to be 600,000 acres.

The second major use is in the comparison between present use and the assessed capability of land. This is determined by matching the present land use maps against the capability maps produced in other sectors of the inventory. When this comparison is undertaken, it is possible to determine whether the present use of an area of land reflects its highest capability. Such information is of major importance in devising land use plans.

Uses of Canada Land Inventory Information

The purpose of this section is to deal briefly with the present use of CLI data; potential uses as knowledge and information increase and an appraisal of the shortcomings.

While the available information is perhaps not fully appreciated by potential users it has already begun to play a significant role in planning for federal and provincial agencies as well as for the private sector.

In Ontario a study of the natural resources of Manitoulin Island by D. R. Cressman is an example of the use of CLI information. This study provides background information to assist federal and provincial agencies in formulating resource development strategy for the Manitoulin area. Similarly in Manitoba CLI information was used to encourage local initiative in resource management and long range planning for the Turtle Mountain area and the development of land use plans for the Shellmouth Reservoir area.

In the current federal-provincial study of the Rideau-Trent canal system as a major recreational waterway and potential national park CLI information on land capability along with present land use provides a very essential source of planning data. Similar information has also been made available to the National Capital Commission for development planning and land use adjustment considerations in the Ottawa-Hull areas.

The private sector is also utilizing the data for single or multi-sector resource planning and economic studies on a consultant basis for governmental and industrial interests.

Reported Uses of Canada Land Inventory to date

The following are selected examples of current use, potential uses and appraisals of shortcomings which have been abstracted from correspondence received from the provinces. This correspondence is reproduced in full in the addendum.

General

(a) In preparation of a multi-land-use plan for the entire province of New Brunswick by Policy Development Secretariat.

Hoyt , New Brunswick.

(b) The availability of C.L.I. information leading to land capability analysis has resulted in a Cabinet Committee and a Deputy Minister's Committee on Land Use in British Columbia. These Committees have now declared that C.L.I. will be the basis for land use planning and management in British Columbia.

Benson, British Columbia.

(c) Data provided by C.L.I. plays a significant role in the formulation of the 1970-71 development program for Nova Scotia under the new Development Policy and Strategy recently approved by the Executive Council and in the preparation of a long-term program to commence in 1971.

Smith, Nova Scotia.

(d) C.L.I. has not only provided the data necessary for sophisticated land use planning but has also made know the concepts and has developed a general acceptance of these concepts. Along with the provision of basic inventory data it has provided the skilled manpower and methodology to refine the data in an expressed commitment to the principles of resource management and land use planning.

Smith, Nova Scotia.

(e) The skills and techniques of land use planning acquired through C.L.I. are currently being applied to land use planning problems of urban areas, notably in the Halifax - Dartmouth area.

Smith, Nova Scotia.

(f) Basically, we are particularly interested in C.L.I. in that it provides patterns of inherent best uses of the land for C.L.I. categories. By superimposing these, one over the other, whether cartographically or statistically, we can arrive at alternatives for optimum use of land in Ontario for specific target dates.

Thoman, Ontario.

(g) One of the most valuable uses of C.L.I. has been in the field of education - not just the education of university students but that of the public at large. C.L.I. has and can do much to provide people with the location, extent and potential of Canada's resources and has made them aware of the need for land use planning.

Hoffman, Ontario.

(h) C.L.I. information has been used in evaluating the implications of the Churchill River diversion to the resources of the region including fish, wildlife (upland and wetland), recreation, forestry and agricultural potential.

Goulden, Manitoba.

(i) C.L.I. information is used in specific ways in Alberta including the development of regulations for the administration of resources, assessment of agricultural lands for taxation purposes, disposition of Crown lands, acquisition of land by the Crown, and by the

Highways Planning Branch in road and transportation planning.

Scott, Alberta.

Agriculture

(a) In preparation of various land improvement and farm consolidation programs under ARDA. C.L.I. has been used to delineate the prime agricultural "blocks" in the province.

Smith, Nova Scotia.

(b) The Director of the Office of Planning and Development, Quebec, correlated drainage projects submitted under ARDA with agriculture land use capability from C.L.I. for the relevant areas.

Belzile, Quebec.

(c) Land capability analysis for the Prince George Special Sales area was used to arrive at a provincial policy for the area which:

(1) allows no new agricultural applicants

(2) limits agricultural applications to existing agricultural enterprises which require land for viability of present operation.

(3) changes percentage of available land required on a lot before it can be alienated for agricultural purposes.

(4) along with agricultural capability and re-application of climatological data is used to delineate areas for promotion of speciality crops for land areas.

Benson, British Columbia

(d) C.L.I. Soil Capability for Agriculture used in "Highlights - Economics Study, Agriculture, Eastern Ontario" an analysis of existing farm lands for economic classification based mainly on a "dairy" general type of farm operation.

Noble, Ontario.

(e) The development and testing of an economic classification of farms based in part on C.L.I. data as an important factor in the recognition of a viable farm unit.

Noble, Ontario.

(f) C.L.I. used as background information in making projections on supply and demand for Ontario dairy products.

Redelmeir, Ontario.

(g) In Manitoba C.L.I. Soil Capability for Agriculture used in:

(1) analysis of lands designated as drainage improvement districts, of areas flooded by proposed water control projects and of watershed studies.

(2) evaluation of agricultural lands proposed for purchase by Crown to facilitate land use adjustments.

(3) assessment of areas being considered for government subsidized land improvement programs such as bush clearing.

(4) analysis of the agricultural capability of selected areas for the purpose of correlating with income from various farming enterprises.

(5) for appraising grazing lands in determining capacity and practices for range improvement.

Goulden, Manitoba.

Forestry

(a) Very generalized capability maps at a scale of 1:250,000 have been prepared from C.L.I. data for a planning group of the New Brunswick government to be used in present land use and resource assessment.

Hoyt, New Brunswick.

(b) C.L.I. maps are being used as a guide in the location of areas for forest stand improvements such as scarification, fertilization, planting etc.....

Hoyt, New Brunswick.

(c) The generalized capability map is to be used as an aid in assessing areas that are most apt to respond to spray treatment in Spruce Budworm control program.

Hoyt, New Brunswick.

(d) C.L.I. information used in assessing the forest capability of the shoreline of Lake Winnipegosis.

Goulden, Manitoba.

(e) The Forest Capability C.L.I. information will be used as a basis for long term planning for the Province of Newfoundland; will be used as an aid to drafting a Forestry Act; in revising, updating and improving Newfoundland forestry legislation.

Munroe, Newfoundland.

(f) Generally speaking it is expected that forest capability information will become widely used in making land use decisions. Evaluation of land in feasibility studies for hydro-electric developments and other such projects can in future be based on information available from the capability and information surveys.

Munroe, Newfoundland.

(g) The land capability analysis of the Prince George Special Sales Area used to arrive at a policy which:

(1) together with forestry and recreation sector maps is the basic planning material for recreational planning in Provincial Forest Boundaries.

(2) together with Forestry sector maps is being used to re-calculate allowable cuts thus making forest operations more efficient.

Benson, British Columbia

Wildlife

(a) Use of C.L.I. Ungulate capability information essential for planning and management of big game in Manitoba - detailed studies of wildlife ungulates capability of FRED area in Manitoba's Interlake.

Goulden, Manitoba.

(b) Analysis of capability of lands in the Mantagao Lake area for elk production in order that the most suitable habitat could be used for elk transplants from Riding Mountain National Park.

Goulden, Manitoba.

(c) Use of C.L.I. data in the selection of potential wildlife management areas before disposition of lands to the private sector and in reviewing agricultural capability of land use where a conflict in land allocation might exist between waterfowl and agricultural use.

Goulden, Manitoba.

(d) C.L.I. has provided valuable information regarding ungulate brouse production - quality and utilization. This will be incorporated into the provincial management program as soon as it is made available.

Manuel, Newfoundland.

(e) In Alberta use of C.L.I. Waterfowl and Ungulate capability information used in wildlife management and conservation programs for the preservation of critical habitat, wetland easements, for identifying and appraising, and in determining capacity and practices for range improvement.

Scott, Alberta.

Recreation

(a) Land Capability for Recreation being used in the preparation of a master plan for recreation on Crown lands in New Brunswick - identification of major park areas.

Hoyt, New Brunswick

(b) We use the land capability and the practical limits it suggests for development to review private subdivision proposals circulated by the Department of Municipal Affairs - similarly assess all park and park reserve proposals with the aid of the inventory - site planning and master planning for individual parks takes account of land capability as presented by the inventory.

Addison, Ontario.

(c) Ontario is involved in making a recreation plan for the Rideau - Trent - Severn Waterway for which C.L.I. information is being used for initial planning.

Cressman, Ontario.

(d) The provincial parks service has already used recreation capability surveys from C.L.I. to aid them in selecting park sites. In some areas high recreation capability ratings are being noted so that features such as Class 1 beaches can be protected from being destroyed by use for gravel pits, mining etc. As it becomes available recreation capability information is also being used by provincial planning officers in the location of summer cottage areas.

Munroe, Newfoundland.

(e) Research and teaching use C.L.I. to demonstrate the use of resource inventory in planning in recreation - by the Park and Recreation Planning Branch.

Smith, Alberta.

(f) C.L.I. information provided basic information for the multi-discipline land use plan for the Shellmouth Reservoir located on the Assiniboine River in which recreation planning was a significant component.

Goulden, Manitoba.

Potential use of C.L.I. Information

General

(a) A proposed A.R.D.A. program in West and Central Kootenay area is meant to create employment and increase incomes by development in recreation and Agriculture. Canada Land Inventory maps will be used extensively in this study when approved.

Benson, British Columbia.

(b) Irrigation requirements, watershed parameters, run-off etc.... can be derived from same climatological data required by forestry, agriculture, ungulates and recreation for their capability ratings. Arrangements are being made to provide rough data to the Department of Transport to produce these refinements.

Benson, British Columbia.

(c) C.L.I. information will be used in provincial land use and development programs - in advising on private land use programs - in determining the effects of large land development programs e.g. hydro electric dams, power and other transmission lines - in the first instance of planning to permit concentration on high potential areas.

Hoyt, New Brunswick.

(d) There is some considerable interest in reform of the land tax system, particularly as it applies to the resource industries. The availability of the C.L.I. data makes possible a system based at least in part on the potential of the land.

Smith, Nova Scotia.

(e) As regards our potential uses of the C.L.I. these will, of course, from our point of view, depend upon the type and degree of application of this information which is to be applied by our resource departments. One very interesting possibility is the use of this material in mapping a complete Resource Inventory of both Labrador and Newfoundland such work to include not only the natural but also the human or social resource, the very important part which C.L.I. could play in such a project is of course obvious.

Evans, Newfoundland.

Agriculture

(a) The various land improvement and farm consolidation programs that have been operating under A.R.D.A. will be brought together into a co-ordinated program geared to farmers and land with genuine potential - basic criteria for evaluating land will be the agricultural capability ratings provided through C.L.I.

Smith, Nova Scotia.

(b) C.L.I. to be used in future studies on the Industrial Milk Industry - future locations of dairy areas and centres of population.

Noble, Ontario.

(c) Agricultural land capability information could be used by both federal and provincial agricultural credit granting agencies as well as agricultural land assessors. In addition it should be among the basic information upon which land based development programs of Agricultural extension services are formulated - formulation of priority program - economic surveys - rail line abandonment in western Canada.

Goulden, Manitoba.

(d) The Soil Capability for Agriculture survey would be invaluable to us in our agricultural development work. This type of data is essential for the planning of such proposed projects as the development of the sheep industry that has been presented to the Department of Regional and Economic Expansion this fall.

O'Reilly, Newfoundland.

(e) Areas for agricultural specialty crops (particularly root crops and orchards) can be derived from C.L.I. information though they appear as Class 4 and 5 in the National Classification. In areas where there is a market these acreages can greatly improve viability for farm families.

Benson, British Columbia.

Forestry

(a) As a possible base for the assessment of medium sized areas of forest land for taxation purposes. Also as a guide in determining areas in the accessible regions of the province that should have more intensive forest management carried out in them.

Hoyt, New Brunswick.

(b) The capability classifications will be used as a major input into an improved forest management program. Relating capability to economic potential will also allow for more sophisticated inputs into the land use planning function.

Smith, Nova Scotia.

(c) Forest capability information could be used in a number of different ways. Limitations to greater use of forest capability data are generally due to the scale of mapping and the inherent nature of the survey. However, forest capability information in its present form possibly could be used in forest management for long range prediction of annual cut based upon site capability, location of timber berths, adaptation of plantations to site capability.

Goulden, Manitoba.

(d) The information that will be provided through C.L.I. by the Forest Capability Survey will for the first time give the province an index (relative to other provinces) of the value of forest lands in terms of long range production potential and should enable the establishment of realistic estimates of land values. Thus the hope to be able to judge the value of an acre of forest land in Newfoundland compared to an acre in Ontario and British Columbia.

Munro, Newfoundland.

(e) By making proper use of Forest Capability information government should be in a position to:

(1) better judge the competitive position of forest industries in the province relative to other areas.

(2) establish realistic taxation rates and incentives for uses of forest lands.

(3) identify productive areas from poor growth areas so that efforts to increase productivity can be concentrated in areas which will yield maximum benefits.

Munro, Newfoundland.

Ungulates and Waterfowl

(a) The C.L.I. work will be a major input into acquisition and development programs in this sector

Smith, Nova Scotia.

(b) C.L.I. information will be used in preparing proposals for areas to be developed for wildlife in Northeast New Brunswick FRED Area - in determining areas of high priority for wildlife in recreational reserves for future development for public recreation - in preparation of management plans for game management areas.

Hoyt, New Brunswick.

(c) Very often requests for wildlife data are embodied in requests for Recreational or Agricultural Land Use Plans - agencies requesting such information:

(1) Manitoba Department of Mines and Natural Resources, Regional Offices to provide part of the framework upon which to base development and management programs.

(2) Manitoba Department of Agriculture Soils and Crops Branch to establish Wildlife - Ungulate capability of specific areas of southern Manitoba

Goulden, Manitoba.

(d) Application of C.L.I. data for establishing sites for big game habitat development.

Benson, British Columbia.

(e) Moose browse damage to the forest is related to forest sites. This being the case, capability maps will be used to predict areas of over-browsing and allow protective measure to be taken before the situation can become serious.

Manuel, Newfoundland.

Recreation

(a) Recreation systems planning is possible from recreation sector maps.

Benson, British Columbia.

(b) Potential uses will be by the Parks Branch for field investigations for the Provincial Planning Board recreation development.

Hoyt, New Brunswick.

(c) C.L.I. will have a major input into acquisition and development programs - particular and immediate relevance will be the classification of beach areas.

Smith, Nova Scotia.

(d) Plan to use the Inventory when looking for general areas that can support park development. It will also be used as one factor in building an "Attractive Index" for the supply model being developed for the Tourism and Outdoor Recreation Plan.

Addison, Ontario.

(e) C.L.I. information to be used in location of provincial parks, picnic areas and scenic drives for day trips from urban centres.

Munro, Newfoundland.

COMMENTS ON INADEQUACIES OF C.L.I.

(a) A major inadequacy is the scale and detail of the inventory for many uses. However this should not be considered a complaint because the overall coverage by the Inventory is more important and useful than the few instances where more detail is required or warranted.

Benson, British Columbia.

(b) There is a general lack of understanding about Canada Land Inventory and how it was meant to be used. An active public education program should be carried out. It should also be acknowledged that the maps as they are now are only as good as the data available at the time of preparation.

Carter, New Brunswick.

(c) The main inadequacies of the data and method stem from the relatively small field sample that has to be extrapolated using aerial photographs that were not at the optimum scale for determining the broad classes of land forms that were used as the base of the system (Forest Capability).

Wolstonhelme, New Brunswick.

(d) If the data were provided in sufficient detail the Canada Land Inventory could be used by individual farmers and agricultural extension people for farm planning. (Agriculture).

Noble, Ontario.

(e) A major problem in C.L.I. maps is the confusion regarding colours. It seems that each sector has its own scheme - a specific problem with the C.L.I. Recreation Land Capability is that water bodies are not evaluated.

Cressman, Ontario.

(f) Much of the criticism from certain ones who are making use of the data comes from the fact that they are looking at the "use" of C.L.I. information from their own stand-point. It is pretty obvious that no one will come up with a system of inventory mapping that will suit every user. I suggest it is our job in the Inventory to supply basic data for planners and managers which can be interpreted or supplemented or analyzed to suit their purposes.

Ward, Ontario,

(g) Criteria and techniques for determining the degree of effort needed to realize the full potential of the area for ungulates and waterfowl production should be incorporated in our classifications. This could make the information more meaningful to the user.

Goulden, Manitoba.

Comment

The foregoing representative comments on the inadequacies of the C.L.I. information along with others raised in the correspondence appearing in the appendix have some degree of validity. An active public education program is certainly warranted. This is being pursued through the preparation of an informative brochure, the use of film strips and the wide dissemination of C.L.I. publications to educational centres, user departments both federal and provincial, and to interested agencies or industries in the private sector when the opportunity arises. Distribution is also on an international scale where Canada's leadership in this particular field is recognized. As the program progresses and more and more information and maps become available measures will be taken to step up public awareness of C.L.I.

With regard to the lack of detail it can be said that in most instances the user or potential user is looking for information which is beyond the scope and the intent of the inventory. Essentially it was designed to provide basic land use capability information necessary for planning and was not intended as a basis for management. The inventory should however serve as a useful base to determine areas when more information is necessary.

Because of the national scope of the inventory and the time element involved in developing the sector classifications some factors that were not considered essential had to be omitted. These general factors could be superimposed on the basic classification systems for specific areas or problems.

The use of colour schemes for the classification ratings of land units in the sector maps, another suggested inadequacy, evolved from traditional use of colours for identifying high capability ratings in some sector maps. For instance traditionally yellow to cream colours indicate high quality agricultural lands while in forestry deep green generally imply quality forest stands.

In recreation because of the relatively small amount of high class capability lands deep red was used to facilitate map identification of such areas.

An inventory of the broad scale and magnitude of C.L.I. will have an inherent inadequacy for meeting certain specific problems which require greater detail but possibly these shortcomings can be accepted on the basis that "the overall coverage by the Inventory is more important and useful than the few instances where more detail is required or warranted". Such inadequacies should not be overlooked in the use of the data and should be pointed out.

Use by Private Agencies and Consultants

The following is a representative listing of consultants who have made use of CLI information in studies carried out for industry and governmental agencies;

Lockwood Survey Corp., Toronto;

Atlantic Development Board Studies for Newfoundland, Nova Scotia and New Brunswick.

Harold Verge, Private Consultant, Halifax, N.S.

Nova Scotia Comprehensive Development Plan

A.T. Early, Atlantic Resource Planners, Fredericton, N.B.

Provincial campground and park planning studies.

Potential development of "fiddlehead" industry by native population.

Norman L. Kessick, Forestry Consultant, University of New Brunswick, Fredericton, N.B.

Study of ownership and use of woodlots in the Province of New Brunswick.

Underwood, McLellan and Associates Limited, Consulting Engineers - Town Planners, Land Surveyors, Calgary, Alta.

Economic development plans for Morley Indian Reserve (recreation and land use studies)

Createplan Ltd., Outdoor Recreation, Resource Consultant, Winnipeg, Man.

Evaluation study of Patterson Dam area Manitoba for recreation and wildlife values.

Proctor, Redforn, Bousfield & Bacon, Consulting Engineers and Planners Toronto, Ontario.

Urban impact study on land use in St. Johns, N.B. area arising from major industrial development complex proposal.

Proctor, Redfern etc. cont'd.

Regional Development planning for Essex Country area Ontario.

West Man, Regional Development Inc. Brandon, Man.

Study of development of potential commercial peat deposits in western Manitoba.

A) Copies of correspondence received from:

B) List of CLI reports

Report No. 1 - Objectives, Scope and Organization

Report No. 2 - Soil Capability for Agriculture

Report No. 3 - Climates of Canada

Report No. 4 - Land Capability for Forestry

Guidelines for Forestry Mapping

Report No. 5 - The Economics of Plantation Forestry in Southern Ontario

Report No. - Land Capability for Recreation

Report No. - Land Capability for Wildlife

Land Use in Canada.

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

DEPARTMENT OF MINES, AGRICULTURE AND RESOURCES
Newfoundland Forest Service
Bldg. 810 - Alexander Place
Pleasantville

ST. JOHN'S

NO. .....
In reply please quote the above number and the date of this letter.

January 2, 1970.

R. E. E.
7108
JAN 29 1970
REC'D.

Mr. R.J. McCormack, Chief,
Canada Land Inventory,
Dept. of Regional Economic Expansion,
161 Laurier Avenue West,
Ottawa, Ontario.

Dear Mr. McCormack:

This will acknowledge your letter of November 24, in which you ask the Project Director to prepare a summary statement on the current and planned utilization to be made of CLI data.

As you are aware, a number of organizations outside our Resources Branch will be involved in the use of this information. I have checked with some of these, and enclosed are statements by the Dept. of Community and Social Development and the Division of Agriculture. I have also requested the Urban and Rural Planning Office of the Dept. of Municipal Affairs and Housing to prepare a brief statement, and when this is received it will be sent to you.

Other agencies are also making use of the CLI data, and no doubt greater use will be made in the future. However, time has not permitted us to survey all branches of government.

Following is a brief summary of current and expected use which will be made of CLI data by the Resources Branch of the Dept. of Mines, Agriculture and Resources. By CLI data we are assuming you mean all five land capability surveys which are:

...2

Capability for Forestry

Capability for Recreation

Capability for Wildlife

Capability for Wildlife Waterfowl

Capability for Agriculture

Forest Capability

The Forest Capability survey information will be used as the basis for long term forestry planning for the Province.

As you are aware, the Chief Forester is presently on leave at Yale University doing postgraduate work in Resource Management. Part of his contract with the government requires that he prepare a long term forestry policy statement for the province along with a draft forestry act which would revise, update and improve all our forestry legislation. In doing this, of course, reference will be made to information supplied by the Forest Capability survey and comparison may be necessary with capability information from various other parts of Canada.

Frankly, I think that the information that will be provided by the Forest Capability survey will, for the first time, give us an index (relative to other provinces) of the value of our forest lands in terms of long range production potential, and should enable the establishment of realistic estimates of land values. Thus we hope to be able to judge the value of an acre of forest land in Newfoundland compared to an acre in Ontario or British Columbia. This will have very significant implications for planning of government's role in the management of forest resources. By making proper use of Forest Capability information, government should be in a position to:

1) better judge the competitive position of forest industries in this province relative to other areas,

2) establish realistic taxation rates and incentives for users of forest land,

3) identify productive areas from poor growth areas so that efforts to increase productivity can be concentrated in areas which will yield maximum benefits.

...3

In Newfoundland we are building into the forest capability survey more detail and more ecological information than is usual under the minimum CLI specifications. We, therefore, expect that forest capability will be one of our major supports in forest land planning and to some extent in local management.

Current uses of the forest capability information are limited, because of our rather difficult staff situation at the present time and also because information is only now becoming available. However the following points might be of interest:

1) We now have a forester working full time on reforestation and forest capability information will form the basis for any reforestation projects undertaken by the province in the future.

2) The Canadian Forestry Service of the Federal Dept. of Fisheries and Forestry is undertaking a study on growth and yield for the Island of Newfoundland and we have recently made arrangements with the Regional Director to supply him with information he needs from the forest inventory and forest capability surveys.

Generally speaking, I expect that forest capability information will become widely used in making land use decisions. Valuation of land for feasibility studies for hydro electric developments and other such projects can in future be based on information available from the capability and inventory surveys.

Recreation Capability

The Provincial Parks Service has already used recreation capability surveys to aid them in selecting park sites. In some areas high recreation rates are being noted so that features such as class 1 beaches can be protected from being destroyed for gravel pits and mining. As it becomes available, recreation capability information is also being used by provincial planning officers in the location of summer cottage areas.

Generally speaking, I expect that recreation capability information will become of great importance in planning for expansion of the tourist industry in this Province.

...4

III

Wildlife Capability

Production of maps from the wildlife capability survey has been very limited to date. The Wildlife Service will be using all survey information as a basis for long term management planning. A statement by the Chief Biologist is attached.

Wildlife Capability for Waterfowl

I understand the plans of this survey is somewhat uncertain at this time and that the survey only concerns itself with inland areas. I am not too familiar with this survey, however I understand it is being carried out by the Canadian Wildlife Service and that funds may not be available for the continuation of this work next year. Perhaps possibilities should be explored of limiting this survey to areas of high production on inland portions of the Island of Newfoundland and in Labrador and extending the survey to include coastal waters.

Capability for Agriculture

Please see attached letter.

General

I understand that a request was made to Project Director, J.J. Lowe at a Co-ordinator's Meeting last winter in Quebec City for the Province to prepare a brief outlining the suggestions for extensions of CLI for this Province. Unfortunately, due to lack of staff and pressure of other work, we were unable to prepare this brief. This should not be taken to indicate that the Province is not interested in CLI and does not plan to make full use of the information which is becoming available through surveys presently underway and possible future surveys.

...5

We also realize that the various surveys should be evaluated, integrated and applied. As a matter of interest, a group has recently been set up within the Resources Branch to consider the use of CLI information and how this information can be integrated in the provincial resource planning field. Representatives are in this group from Forestry, Wildlife and Recreation. Recommendations will be made to the Deputy Minister.

It is important to bear in mind that information from the CLI is only now becoming available in quantity. Experience to date indicates that as people become aware of the existance of capability information, they display a great deal of interest in the work. We have already had a case of provincial planning officers requesting land capability and forest inventory maps in manuscript form ahead of production schedules for immediate use. We have also had indications from various planners that information is not becoming available fast enough.

The third question in your letter is not very easy to answer at the present time. I expect suggestions for additional data and coverage, etc., may be forthcoming from the Department in the future when planning groups have had a chance to study more completely what is presently being produced.

Sincerely yours,

John A. Munro,
Acting Chief Forester.

JAM:en

P.S. Mr. Allston's letter has since been received and a copy is enclosed.

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

Department of Community & Social Development

ST. JOHN'S

December 11, 1969.

Mr. J.A. Munro,
Department of Mines, Agriculture & Resources,
Newfoundland Forest Service,
Bldg. 810 - Alexander Place,
Pleasantville, St. John's.

Dear John:

The present uses of the CLI are of course confined strictly to the evaluation of Resource development projects and the practibility of implementing the same. To give an example I would have to use our most recent experience which was the selection of various areas for intensive study as possible sites for marina development. Mr. Apt, and his recreation work provided vary practical and useful material when consideration was given to the final selection of these areas.

Our immediate and present use is therefore dependant upon the type of Projects submitted by our Resource sectors of Government in the first instance and to a lesser degree upon the projects which may be submitted to us for consideration by local development committees. For both instances our primary use would be for evaluation of the practibility of such projects or programs.

As regards our potential uses of the CLI these will of course, from our point of view, depend upon the type and degree of Application of this information which is to be applied by our Resource departments. One very interesting possibility is the use of this material in mapping a complete Resource Inventory of both Labrador and Newfoundland such work to include not only the natural but also the Human or Social Resource, the very important part which CLI could play in such a project is of course obvious.

The above, is as you requested, a brief outline of our uses. I feel sure you appreciate the fact that much that I could say depends to a great degree upon the type of development which may take place under "DREE" and the type of planning which will be necessary for this. I trust that this will be sufficient for your purposes.

Yours truly,

F.J. Evans,
Director of
Rural Development.

C O P Y

VI

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

Department of Community & Social Development

ST. JOHN'S

December 11, 1969.

Mr. J.A. Munro,
Department of Mines, Agriculture & Resources,
Newfoundland Forest Service,
Bldg. 810 - Alexander Place,
Pleasantville, St. John's.

Dear John:

The present uses of the CLI are of course confined strictly to the evaluation of Resource development projects and the practibility of implementing the same. To give an example I would have to use our most recent experience which was the selection of various areas for intensive study as possible sites for marina development. Mr. Apt, and his recreation work provided vary practical and useful material when consideration was given to the final selection of these areas.

Our immediate and present use is therefore dependant upon the type of Projects submitted by our Resource sectors of Government in the first instance and to a lesser degree upon the projects which may be submitted to us for consideration by local development committees. For both instances our primary use would be for evaluation of the practibility of such projects or programs.

As regards our potential uses of the CLI these will of course, from our point of view, depend upon the type and degree of Application of this information which is to be applied by our Resource departments. One very interesting possibility is the use of this material in mapping a complete Resource Inventory of both Labrador and Newfoundland such work to include not only the natural but also the Human or Social Resource, the very important part which CLI could play in such a project is of course obvious.

The above, is as you requested, a brief outline of our uses. I feel sure you appreciate the fact that much that I could say depends to a great degree upon the type of development which may take place under "DREE" and the type of planning which will be necessary for this. I trust that this will be sufficient for your purposes.

Yours truly,

F.J. Evans,
Director of
Rural Development.

C O P Y

VI

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

DEPARTMENT OF MINES, AGRICULTURE AND RESOURCES

Newfoundland Wildlife Service
Bldg. 810 - Alexander Place
Pleasantville ST. JOHN'S

NO. .....
In reply please quote the above number and the date of this letter.

January 5, 1970.

Mr. J.A. Munro,
Acting Chief Forester.

Subject: Wildlife Capability for Ungulates

Production of maps from this sector is limited at present, however plans for their use when available are currently under study. Information gained from the program will form the basis for future management of moose and caribou on a unit basis and will determine priorities for resource input. Projects undertaken to provide data to put the study on a quantitative basis has provided valuable information regarding ungulate browse production, quality and utilization. This information will be incorporated into the provincial management program as soon as it is made available.

Moose browse damage to the forest is related to forest site. This being the case, capability maps will be used to predict areas of over-browsing and allow protective measures to be taken before the situation can become serious.

F. Manuel

F. Manuel,
Chief Biologist.

FM:en

VII

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

DEPARTMENT OF MINES, AGRICULTURE AND RESOURCES

NO. 861/47/18/1
In reply please quote the above number and the date of this letter.

DEC 1969 ST. JOHN'S

December 22, 1969.

Attention

Mr. J.A. Munro,
Acting Chief Forester,
Building 810,
Pleasantville.

Dear Mr. Munro:

The Soil Capability for Agriculture Survey will be a very useful and important tool in the development of our land resources for agriculture. In the past ten years we have had some major developments in agriculture including community pasture development, bogland development, blueberry development and farm lot development. Because of the lack of soil survey data for the whole Province, individual land use and soil surveys had to be done for each project. If a soil or soil capability survey for agriculture data were available, much of this duplication of field work would not be necessary. Soil Capability for Agriculture Survey data would be invaluable to us in our agricultural development work.

This type of data is essential for the planning of such proposed projects as the development of the sheep industry that has been presented to the Department of Regional and Economic Expansion this fall. It would also be valuable for our land use planning for all phases of agriculture.

I understand the Bonavista North area survey has been completed and the Avalon Peninsula survey is in the final preparation stages. I would appreciate it if we could have the reports on these areas as soon as they are released.

... 2

VIII

This Division has a full time Land Use Officer but the land use planning for agriculture has been greatly hampered by the lack of soil survey data. We think it is very important that a soil survey of all Newfoundland be completed as soon as possible. There are vast areas of mineral and peat soils suitable for agricultural development in Newfoundland, but these need to be mapped and classified before full development can be carried out.

Agricultural developments which depend on good soil survey data are:

1. Community pasture development - supported by ARDA
2. Bogland development - supported by ARDA
3. Blueberry development - supported by ARDA in the past.
4. Farm lot development for dairy and vegetable production.

A problem which we already have but which will assume more importance as our land resources are developed is the competition between forestry, wildlife and agriculture for land use. With the advent of reforestation and afforestation and the development of our barrens for pasture and blueberry production and our bogs for winter feed and vegetable production, there will be a real competition for our land resources. Only with proper soil and forest resource surveys can this conflict be resolved.

I should also note that all soil capability for agriculture maps should be published in 1:50,000 scale or larger. The 1:250,000 scale would not be of much use to us in our planning. I understand most of the mainland soil capability maps are published in the 1:250,000 scale.

Also all bogs should be classified as to their suitability for agriculture. I believe Mr. Peter Heringa of the C.D.A. Soil Surveys is now doing this.

.../3

IX

In conclusion, I would like to say we are anxiously awaiting the first soil capability report and maps to be published and hope the survey for the rest of the Island will be continued and if possible accelerated.

Yours very truly,

G.J. O'Reilly,
Deputy Minister of Agriculture
& Co-operatives.

X

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

DEPARTMENT OF MUNICIPAL AFFAIRS

Provincial Planning Office

6 January 1969

ST. JOHN'S

Mr. J. A. Munro,
Chief Forester,
Newfoundland Forest Service,
Bldg. 810,
Pleasantville, St. John's,
Newfoundland.

Dear Mr. Munro:-

This will refer to your letter of 10 December about the use made in this office of C.L.I. Data.

The main use which we have made of this data so far has been as a basis for recreational policies, in particular choosing areas for summer cottage developments. We are preparing summer cottage studies in Bay de Verde Peninsula, South-West Avalon and Southern Shore regions at present and the C.L.I. recreation potential maps are being used as a starting point. The studies will consider accessibility, watershed protection areas where demand for cottage development is high, and relate these factors to the physical capabilities of each area as marked in the C.L.I. maps. This analysis will be followed by detailed field studies to establish where summer cottages could be encouraged to develop, and at what densities.

Potential uses could include:-

(a) location of provincial parks, picnic areas and scenic drives, eg. for day trips from urban centres (using recreation potential maps).

(b) recreational, forestry and wildlife resource base maps could be used for preparing municipal and more particularly regional plans and so hopefully ensure that valuable resources are not sterilised.

(c) Bonne Bay National Park: defining potential boundary lines,

XI

assessing location of resettlement and tourist facilities.

Inadequacies cannot be assessed at this stage because the studies in which the C.L.I. maps are being used have only just started. As a result of our field work we may later on have some comments on the classification of areas in the recreational maps, and we may therefore have more comments to make at a later date.

Yours sincerely,

J. T. Allston, M.T.P.I.C.,
Director of Urban & Rural Planning.

DBH/lc

XII

DEPARTMENT OF NATURAL RESOURCES

MINISTÈRE DES RESSOURCES NATURELLES

NEW BRUNSWICK
CANADA

December 29, 1969

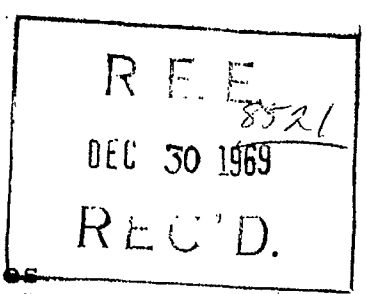
Mr. R. J. McCormack
Chief
Canada Land Inventory
Dept. of Regional Economic Expansion
Ottawa, Ontario

Dear Reg:

I regret the delay in forwarding to you our comments on the use of the Canada Land Inventory Data.

I am attaching copies of the views of the wildlife, forestry and recreation sectors. I have not attempted to summarize these as you will probably be summarizing the sectors.

Yours very truly,



H. H. Hoyt
Assistant Deputy Minister
(Lands and Forests)

-pes
Encl.

XIII

N.R.-290

PROVINCE OF NEW BRUNSWICK
DEPARTMENT OF NATURAL RESOURCES

N. B. Dept. of Natural Resources DEC 17 1969

MEMORANDUM

FROM	B. C. Carter	DATE	December 17, 19 69
TO	H. H. Hoyt	FILE	
COPIES TO		SUBJECT	ARDA Canada Land Inventory

In answer to Mr. McCormack's letter of November 24, 1969, I have made up the following summary.

Our ungulate and waterfowl Canada Land Inventory data are being used as follows:

1.) In preparation of a multi-land-use plan for the entire Province by Policy Development Secretariat

2.) In preparation of a multi-land-use plan for Mactaquac FRED area by C. I. C.

3.) In preparing proposals for areas to be developed for wildlife in Northeast N. B. FRED area

4.) In determining areas of high priority for wildlife in Recreational Reserves for future development for public recreation

5.) In preparation of management plans for our Game Management Areas

6.) In reviewing applications for land leases on Crown Lands e.g. peat bog leases may conflict with waterfowl areas

7.) In reviewing timber management plans on Crown land, e.g. deer yards in high capability areas may receive more attention than in low capability areas, also areas of high potential as deer yards are treated as deer yards

Page 2... XIV

N.R.-290

PROVINCE OF NEW BRUNSWICK
DEPARTMENT OF NATURAL RESOURCES

MEMORANDUM

FROM	B. C. Carter	DATE	December 17, 1969
TO	H. H. Hoyt	FILE	
COPIES TO		SUBJECT	ARDA Canada Land Inventory

...Page 2

The CLI data have the potential to be used in

1) Land Purchase and Development Programs

2) Advice on private land-use programs

3) determining the effects of large land development programs, e.g., hydro-electric dams

4) preparation of Game and Fish regulations

5) concentration of study in high potential areas

It is the general feeling here that sport fisheries and waterfowl capability maps cover too many species. What might be good for one species may not be good for another, and no indication is given as to any indicator species. This is particularly true of sport fish where the wide variety of requirements of the many cold and warm water fish species make the maps almost useless. We do not have the background data for the sport fish classifications, and therefore cannot make our own interpretation.

It is also felt that additional programs would be useful in planning efforts, e.g., CLI for furbearers and upland game.

Page 3... XV

N.R.-290

PROVINCE OF NEW BRUNSWICK
DEPARTMENT OF NATURAL RESOURCES

MEMORANDUM

FROM	B. C. Carter	DATE	December 17, 1969
TO	H. H. Hoyt	FILE	
COPIES TO		SUBJECT	ARDA Canada Land Inventory

There is a general lack of understanding about Canada Land Inventory and how it was meant to be used. An active public education program should be carried out. Simple, easily-understood explanations should be available. It should also be acknowledged that the maps as they are now are only as good as the data available at the time of preparation. In some cases (and in most of these cases thanks to the maps) we have increased our knowledge of a certain area only to find the new information conflicting with that on the printed maps. It should be made clear to the public that these maps can be and are being changed as new data becomes available.

This is brief but I hope it covers all the points.

N.R.-290

PROVINCE OF NEW BRUNSWICK
DEPARTMENT OF NATURAL RESOURCES

MEMORANDUM

FROM	D. A. Wolstenholme	DATE	December 19 19 69
TO	H. H. Hoyt	FILE	
COPIES TO		SUBJECT	Forest Land Capability

1. We are gradually developing uses for the C.L.I. forest capability data and maps. Some of these uses are as follows:

(a) Very generalized capability maps at a scale of 1:250,000 have been prepared for a planning group of the Provincial Government to be used in a present land use and resource assessment.

(b) The maps are being used as a guide in the location of areas for stand improvement such as scarification, fertilization, planting, etc.

(c) The forest capability has been assessed in relation to the recreation potential in some of the proposed Provincial park developments to attempt a balance between recreation potential and timber production.

(d) The generalized capability map is to be used as an aid in assessing areas that are most apt to respond to spray treatment in the Spruce Budworm control program.

2. Some of the potential uses being considered are:

(a) As a possible base for the assessment of medium sized areas of forest land for taxation purposes.

(b) As a guide in determining areas in the accessible regions of the province that should have more intensive forest management carried out on them.

(c) Some of the basic data should be useful in volume table and yield table studies that may be undertaken in the future.

3. The main inadequacies of the data and methods stem from the relatively small field sample that had to be extropolated using aerial photographs that were not at the optimium scale for determining the broad classes of land forms that were used as the base of the system.

There are large gaps in our knowledge of how the many different factors of soil and moisture effect the growth of trees. With more information on some of these relationships we might be able to make a better growth prediction based on soil characteristics.

N.R.-290

DEPARTMENT OF NATURAL RESOURCES

MEMORANDUM

FROM	R. S. MacLaggan	DATE	December 3, 1969
TO	H. H. Hoyt	FILE	A - 14
COPIES TO		SUBJECT	Canada Land Inventory

In answer to Mr. McCormack's letter, the following information is outlined:

1. Ways in which the Canada Land Inventory data are being utilized in New Brunswick.

   Data being utilized:

   (a) Preparation of master plan for recreation on Crown Lands of New Brunswick.

   (b) Identification of major park areas.

   (c) Assistance to private developers for recreation purposes--ski slopes, etc.

   (d) Valuation of land for purchase or expropriation.

2. Potential uses will be used by Parks Branch for field investigations for the Provincial Planning Board--recreation development.

3. Inadequacies or additional data--nil.

RSM/cn

XVIII

Office of the ARDA Director

NOVA SCOTIA
DEPARTMENT OF AGRICULTURE
AND MARKETING

Truro, N. S.
December 18, 1969

Mr. R. J. McCormack,
Chief, Canada Land Inventory,
Dept. of Regional Economic Expansion,
161 Laurier Avenue, West,
OTTAWA 4, ONT.

Dear Mr. McCormack:

Re: Canada Land Inventory,
Land Use Study

Each of the individuals who are responsible for the various sectors of Canada Land Inventory have now forwarded me formal reports, and I have also received the opinion of the Programme Development Agency, concerning the value of this work to the Province. You will find attached a copy of a report which I believe expresses the combined views of all these people, entitled "The Role of the Canada Land Inventory in Development Planning and Programming in Nova Scotia".

We have tried to lay heavy emphasis on the fact that a knowledge of land resource base is essential in order to formulate the most useful comprehensive development plans for the Province.

I would suggest that you lay heavy emphasis on the fact that, in order to carry out land use planning, it is essential to have the information from land capability studies, and to carry out land capability work, we must first of all have the information from Soil Surveys.

Soil Survey work in Nova Scotia commenced in 1935, and this cooperative work carried out by the Federal and Provincial Governments was not completed until 1965. The large amount of money which was committed to soil surveys was justified to quite an extent, because this information was essential for land use planning.

Yours very truly,

G. R. Smith,
Director of ARDA

XIX

GRS/j
Encls.

CONFIDENTIAL

The Role of the Canada Land Inventory in Development Planning & Programming in Nova Scotia

A new Development Policy and Strategy has recently been approved by the Executive Council to act as the basis for development programming in the Province. In line with the policy and strategy, a set of programs has been formulated for the fiscal year 1970-71, and work is continuing on preparation of a long-term program to commence in 1971.

In this work, the data provided from the Canada Land Inventory will have a significant role to play. Further, the skills and techniques have been developed to compile and use these data, and a considerable understanding of the crucial role of Land Use Planning has been arrived at.

The program of the Canada Land Inventory has, therefore, not only provided the data necessary for sophisticated Land Use Planning but has also made known the concepts and has developed a general acceptance of these concepts. In planning for development of the physical environment and for the more efficient use of land, the Province of Nova Scotia now has the basic Inventory data, along with the skilled manpower and equipment to use and refine that data, and an expressed commitment to the related principles of resource management and land use planning.

In terms of the Development Policy and Strategy, the data and techniques acquired through the C.L.I. Program will play a significant role in many areas. It is useful to consider these in some detail to demonstrate the usefulness of the work of C.L.I.

1. The Land Resource Board

A Land Resource Board is to be established to bring together those departments and agencies of the provincial government which are concerned with the use of land, to provide guidance in the use of land. In establishing the criteria for land use planning and in working on indicative micro and macro land use plans, the data and skills gained through C.L.I. will be invaluable. Of particular relevance will be the experience gained in micro planning in the Musquodoboit Valley and North Shore areas.

2. Agriculture

The various land improvement and farm consolidation programs that have been operating under ARDA will be brought together into a co-ordinated program, geared to farmers and land with genuine potential. The basic criterion for evaluating land will be the agricultural capability ratings provided through C.L.I. In preparation for this, the Inventory data has been used to delineate the prime agricultural "blocks" in the Province.

3. Forestry

The capability classifications will be used as a major input into an improved forest management program. Relating capability to economic potential will also allow for more sophisticated inputs into the land use planning function.

4. Recreation and Wildlife

The C.L.I. work will be a major input into acquisition and development programs in this sector. Of particular and immediate relevance will be the classification of beach areas.

5. Urban Development

The skills and techniques of land use planning acquired through the C.L.I. program are currently being applied to the land use planning problems of urban areas, notably in the Halifax - Dartmouth area.

6. Taxation

There is some considerable interest in reform of the land tax system, particularly as it applies to the resource industries. The availability of the C.L.I. data makes possible a system based at least in part on the potential of the land.

Conclusion

In terms of development planning and action, the C.L.I. program has been and continues to be a significant input. It has greatly increased the usefulness of the Soil Surveys and paved the way for greatly improved land use planning and resource management in the province. Basic work remains to be done in completing the mapping, in computerization of the Inventory data, and in developing new applications of the whole land use planning process. The C.L.I. program has made a significant contribution in the past. It can continue to do so in the future.

GOUVERNEMENT
DU QUÉBEC
CONSEIL EXÉCUTIF
OFFICE DE
PLANIFICATION ET
DE DÉVELOPPEMENT
DU QUÉBEC
HÔTEL DU GOUVERNEMENT
QUÉBEC

Québec, le 12 janvier 1970

Monsieur R.-J. McCormack, Chef,
Inventaire des terres du Canada
Ministère de l'Expansion Économique Régionale
161, Avenue Laurier Ouest
Ottawa - Ontario

Cher monsieur McCormack,

Faisant suite à votre lettre du 24 novembre dernier, relative aux utilisations de l'Inventaire, permettez-moi de vous fournir les informations suivantes:

1 - a) Au niveau territorial, les différentes cartes au 1:50,000 disponibles pour chaque secteur ont été fournies et sont fournies sur une base de disponibilité au personnel professionnel régional de l'Office de Développement de l'Est du Québec (Région du B.A.E.Q.).

A cet effet, plusieurs rencontres ont eu lieu avec les agronomes, les forestiers, les biologistes et les spécialistes en récréation pour leur montrer quelque-unes des utilisations des cartes au 1:50,000 de l'Inventaire des terres du Canada.

De plus, pour ce qui est du secteur agricole, l'administration de l'I.T.C. s'est vu confier la préparation et la surveillance de l'impression des cartes en couleur au 1:50,000 de l'agriculture pour ce territoire. Mentionnons aussi que dans cette région eut lieu au mois de mai un essai de cartes intégrées où les usagers des dites cartes étaient présents et se sont familiarisés avec elles.

To Mr. Combs

.../2

XXIII

1 - b) L'Inventaire a aussi fourni à la Mission du Saguenay-Lac St-Jean une série complète des cartes disponibles pour cette région. Mentionnons que celles de la forêt et de la faune n'ont pu être transmises n'étant pas disponibles.

1 - c) L'administration centrale a fourni aux professionnels des différents ministères, organismes et institutions, qui en ont fait la demande, des cartes sectorielles pour des travaux précis.

1 - d) A la demande du directeur de l'Office de Planification et de Développement du Québec, les projets de drainage soumis à l'ARDA sont confrontés par le coordonnateur agricole avec les cartes de potentiel agricole des régions étudiées.

2 - Nous sommes présentement à préparer une série ozalid complète de toutes les cartes agricoles pour chaque directeur de service du ministère de l'Agriculture et de la Colonisation et du ministère des Terres et Forêts. Sur leur demande, nous fournirons une autre série à leurs professionnels régionaux.

Il s'agit là de la politique officielle de l'Inventaire. Cependant, mentionnons qu'à l'intérieur d'un ministère produisant des cartes de l'Inventaire des terres du Canada, bien des fois les rapports et les besoins sont complétés en ligne directe sans passer par l'organisation central.

Tel que je vous l'ai déjà mentionné lors d'une de nos conversations téléphoniques, nous commençons à faire une certaine publicité et à distribuer d'une façon systématique un rapport sur l'état des travaux, les objectifs et les possibilités de l'Inventaire des terres du Canada (Québec).

Je présume qu'avec l'information ainsi distribuée les demandes ne feront que grandir et l'Inventaire sera plutôt submergé par des demandes de cartes.

.../3

3 - Pour ce qui est des critiques à apporter au système, méthode, et à la valeur de l'information que fournit l'Inventaire, disons que nous connaissons certaines faiblesses mais que nous laissons aux utilisateurs actuels et éventuels le soin de nous en informer officiellement. Il est, à mon avis, nécessaire que ces critiques nous parviennent d'une façon officielle et soient entérinées par des autorités. conformé

Espérant que le tout est à votre entière satisfaction, je vous prie de croire, cher monsieur McCormack, en l'expression de mes meilleurs sentiments.

Marcel Belzile

MJB/cd

Marcel-J. Belzile, B.Sc.Ag., D.A.Pub.
Coordonnateur et secrétaire exécutif
Comité provincial de l'Inventaire
des terres du Canada.

ALBERTA DEPARTMENT OF AGRICULTURE

PROGRAM DEVELOPMENT DIVISION
CONSERVATION AND UTILIZATION BRANCH
H. W. THIESSEN, CHAIRMAN

Agriculture Building
9718-107th Street
Edmonton, Alberta

February 2nd, 1970.

Mr. R.J. McCormack
Chief, Canada Land Inventory
Canada Department of Regional
Economic Expansion
OTTAWA, Ontario.

Dear Sir:

Re: Utilization of C.L.I. Data

I wish to acknowledge your letters of November 21, 1969 and January 27, 1970 requesting a description of uses of the inventory data. I apologize for the long preparation. The survey took longer than expected, and returns are still coming in. We are very pleased to have made this inquiry of users and we anticipate adjustments and improvements in presenting C.L.I.

I hope the information summarized is what you require.

Yours very truly,

S.M. Scott, Coordinator
Canada Land Inventory

SMS/lr

Re: Canada Land Inventory Uses and Potential Use

ALBERTA REPORT TO DEPARTMENT OF REGIONAL ECONOMIC EXPANSION

January, 1970

I Enumeration of Uses:

Questionnaires sent 60
Returns 46

Examples and description:	Sent	Returned
(a) Municipal Regional Planning Agencies	8 -	7
(b) Research Services to (a)	2 -	2
(c) Highways-Transport-Planning	1 -	1
(d) Provincial Natural Resource Planning Service to Administration	15 -	12
(e) Provincial Natural Resource Administration	16 -	11
(f) Canada Land Inventory Sectors	7 -	6
(g) University Teaching-Research	5 -	3
(h) Teaching	2 -	1
(i) Consultant Planning Service to Government	4 -	3

Canada Land Inventory utilized in ARDA-FRED programs

Yes 15; For Research 9; For Administration 8 (2 use data in both functions)
No 24 (39 of 46 answered - assume 7 others to be negative)

Examples of activities and agents using Canada Land Inventory:

A. Water Basin Studies (Water & adjacent land)

Lakes - Gull, Sylvan, Wabamun, Dapp, Dead Horse.
Water level stabilization, improvement of lake and/or water quality, recreation, drainage vs. flooding, dryland use vs. water and wetland use, public right vs. rights attached to private ownership.

Rivers - South Saskatchewan, Red Deer, Sturgeon and other small streams.
General plan for land use involving dryland and irrigation, water diversion, rejuvenation of streams, flow control, recreation.

B. General Planning

Large Regions - 7 commissions are committed to produce a preliminary plan by 1972

Smaller Regions - increased demand activity for land and other resources has caused a start on land use planning and zoning by regional commissions, and government agencies.
e.g. Grimshaw-20 yr. general plan
Cooking Lake - aim to alter use, conservation
Red Deer West - road plan to oil and recreation resources
Peers- Whitecourt - fringe settlement
Ft. Assiniboine conflict, aim to resolve with long term plan

C. Administration of Resources

Land - quantification of Canada Land Inventory data
Regulations re subdivision and development - Planning Commissions
Assessment for taxation (in testing stage - ranking agricultural productivity) Department of Municipal Affairs
Loans for land purchase/development - appraise value Farm Credit Corporation, Alberta Farm Purchase Board, Regional Resource Coordinators (ARDA-FRED programs)
Disposition of Crown land (common uses and special uses), and acquisition of land by Crown. Appraise value and relate capability to use. Alberta Lands Branch, Forest Service Branch, Parks Branch.
Wildlife management and conservation - preserve critical habitat, wetland easements, identify and appraise value. Alberta Wildlife Division, Canadian Wildlife Service.
Grazing, Lands & Forests, determine capacity and practises for range improvement.

D. Research and Consultation Service to Planning and Administration

Specify problem after identity in general terms.
Specify data needed to service measurement and analysis, and interpretation within stated policies.
Perform analysis and interpretation toward development of a plan or administrative decision.

Those involved are:

Land Use Assignment Section, Lands & Forests; Physical Resource Economists, Alberta Department of Agriculture; Resource Economists, Alberta Human Resources Development Authority; Water Resources Development Planning Branch; Parks & Recreation Planning Branch; other research consultants in various government agencies (teams or individuals possessing multi-discipline expertise).

Highways Planning Branch - road and transportation planning.

Regional Agriculturists, Alberta Department of Agriculture - agricultural input to regional planning.

Alberta Institute of Pedology - Soils classification (including Canada Land Inventory, Agriculture) interpretation for other users of soil and parent material data.

Eastern Rockies Conservation Board - special area planning and administration.

Consultants: Grimble - Red Deer West road plan to oil and recreation resources
Renewable Resources Inc. - surficial geology and water fowl damage
Farm & Ranch Management Ltd. - Sarcee Indian Reservation land use plan

E. Research & Teaching Using Canada Land Inventory to Demonstrate the Use of

Resource inventory in planning, e.g. Agricultural & Vocational Colleges, graduate thesis in geology and recreation geology, meteorology of prairies.

Those involved are:

Plant Science, University of Alberta, Knowles, Pluth; Geography, University of Alberta, Smith, Longley; Three Colleges and one grade school teacher.

II Potential Uses Known but not Realized

A. Compare capabilities and present land use
Sieve map technique
Overlay transparencies
Quantitative ranking of capabilities and ratings
Measure areas of each capability and compare relative supply

XXIX

B. As an input to-

Compare alternative uses to determine priorities for resource research, planning and development programs.
Determine use conflictions - compatibilities.
Define levels of management which are economically feasible for various areas and users.
Initiate tests for multiple use.
Provide stratification for follow-up studies in research, management and economics.
To test the merits of introducing new specialized crops.
Calculate the cost of use, and the cost of upgrading from one use to a different use which will yield more.
Planning detailed field surveys.
Research in studying prairie climate.
Education for grade school, for university study and thesis (geography, agriculture, forestry, wildlife)
Education for the public and the administration to the need for improved measurement of natural resource supply-demand.
Policy and administration, i.e. to establish policies and guidelines for research and administration of resources, to establish reservations of resources for future development.

C. New information for planning, zoning, sub-division of land, farm adjustment committees, management of fisheries at the regional level, and for some administrations.

D. It is an expanded view for regional resource coordinators administration.

E. Substitute Information

It is an improvement over Canada census data, old soil surveys, municipal data - for resource economists, research for appraisers and for farm land assessment based on soil capability to produce.

Note: Why potential uses have not been realized:

1. Canada Land Inventory incomplete.
2. Canada Land Inventory not available when required.
3. Unaware of Canada Land Inventory.
4. Not yet organized to employ it; other commitments prohibit it, inadequate time, staff, money, require authority to explore and implement its use.

XXX

5. Lack of coordination and cooperation between various agencies and disciplines.
6. Lack of understanding of Canada Land Inventory data, its values and limitations, in terms of the programs objectives.
7. Inability to relate the ratings to the environment on the basis of the Canada Land Inventory map alone.
8. Low priority policy for resource conservation principles and requirements.

III Inadequacies of Data or Methods which Limit Their Value (46 returns to survey)

Scale Inadequate	Yes	12	No	18	Blank	16
Map Detail Inadequate	Yes	13	No	17	Blank	16
Paper Map Quality Inadequate	Yes	10	No	21	Blank	15
Legend Detail Inadequate	Yes	11	No	20	Blank	15
Need a Users Manual to support legends	Yes	20	No	10	Blank	16
Need a more objective numeric system for describing capability	Yes	14	No	14	Blank	18
Need improved distribution system for paper maps	Yes	21	No	12	Blank	13

Comments of users taken from the survey:
(Several expressions hereunder are contradictory)

A. Scale (s)

Okay for general overview
Need larger scale, e.g. 1:10,000, especially near urban centres
Scales too large
Need small generalizations of each sector with acreages
Need Present Land Use at 1:250,000
Too many scales - need uniform scale.

XXXI

B. Map quality, drafting and map detail:

(It is difficult to apply these comments to published maps 1:250,000. Most, perhaps all, refer to paper copy 1:50,000/63:360.)

Paper copy is poor, hard to read, not identified by name.
Comment about "Wildlife" - pre 1968 maps poor, post 1968 okay.
Improved drafting required.
Require more detail and refined mapping.
Require more accuracy and correlation between sectors in mapping major feature lines, river breaks, etc.

C. Additional data to facilitate planning, program development or establishment of priorities:

Update present land use.
Record acreage measurements on the maps.
Sportfish maps require more detail for regional management.
Agriculture maps require texture, parent material.
Colored maps in scale 1:50,000/63:360.

D. Additional Coverage:

Extend to unsettled regions to map potential, to provide a tool for management in recreation and wildlife.

E. Work Schedule:

Speed up the mapping and the computer storage retrieval of these data.

F. Other Data Required:

Require socio-economic data to properly apply Canada Land Inventory ratings.
The system is too general - require more detail on local conditions and for specific land situations, e.g. National Systems are not applicable to mountains and foothills.
Climate - its influence has been under-rated in establishing the Agricultural Capability Classification.
Develop and test the relationship between capability classes, e.g. a Biophysical Pilot Project.

G. Comments respecting the need for a supplement to the legend, e.g. a manual and the need for explanations of the objectives and the classification systems and the limitations.

Arbitrary comparison of capability ratings is misleading.
Require an explanation of the system's accuracy and limitations.
The relationship between the classification systems and environmental factors requires explanation.
Describe on the maps an objective numeric system for assigning capability or describe a quantification of criteria used in assigning capability and record the acreages of the areas rated.
Area descriptions should be employed to the advantage of each Sector in explaining its application of its classification system.
Sector systems do not coincide with common ecologic geologic units. They have to be adjusted in application.
Explain the capability limitations on the map and indicate the capacity for improved yield.
The ratings are too broad, the systems indicate potential not actual capability.
Field staff (management) requires interdisciplinary education regarding Canada Land Inventory.
Clarify the objectives for users of Canada Land Inventory.
The general nature of Canada Land Inventory is an advantage, greater detail would detract from its main purpose. Do not alter the intent or execution of the program. Finish it and then review requirements for other relevant data.
A possible major obstacle to understanding the proper role of Canada Land Inventory is not lack of data needed for planning but inadequate use or even disregard of it.

ONTARIO

DEPARTMENT OF AGRICULTURE AND FOOD

AGRICULTURAL REHABILITATION
AND DEVELOPMENT BRANCH

TELEPHONE 365-2776
AREA CODE: 416

PARLIAMENT BUILDINGS
TORONTO 182, ONTARIO

December 19, 1969.

Mr. H. J. McCormack, Chief,
Canada Land Inventory, ARDA,
Canada Department of
Regional Economic Expansion,
161 Laurier Avenue W.,
Ottawa, Ontario.

Dear Mr. McCormack: Re: Use of Canada Land Inventory

Attached is information as follows:

1. Letter and reports from Dr. Thoman.
2. Letter and reports from Mr. Noble.
3. Letter from Parks Branch, Lands and Forests.
4. Letter from Professor Hoffman, University of Guelph.
5. Letter from Mark Cressman.
6. Letter from Professor Pearson.
7. Letter from Planning Co-ordinator, Lands and Forests.
8. Letter from Kleinfeldt & Associates.
9. List of persons, firms, etc. to whom C.L.I. material has been given.

Your particular attention is drawn to Dr. Thoman's letter and the attached reports, wherein is outlined a method of using the C.L.I. data for land use planning by Economic Regions in Ontario. As you know, we are co-operating with the Regional Development Branch of the Ontario Department of Treasury and Economics in a land use planning project.

May I also draw your attention to the publication mentioned in Mr. Noble's letter "Farm Assessment and Taxation - Ontario" being the report of a committee appointed by the Hon. W. Darcy McKeough, Minister of Municipal Affairs. In this publication Soil Capability for Agriculture is proposed as a basis for assessing farm land and is now being tried out.

The list (#8) covers many consulting firms in the process of making land use plans for municipalities, for government departments charged with managing natural resources, and to departments of government engaged in making land use plans or planning for some phase of land use.

XXXIV

Much of the criticism from certain ones who are making use of the data comes from the fact that they are looking at "use" of C.L.I. information from their own stand-point. It is pretty obvious that no one can come up with a system of inventory mapping that will suit every user. I suggest that it is our job in the Inventory to supply basic data for planners and managers which can be interpreted or supplemented or analyzed to suit their purposes. This may involve more detailed inventories which we as the experts in inventory practice can do or which may in fact be done by the planners or managers. In my humble opinion, I think this is one of the most important things to remember when assessing the usefulness of the Canada Land Inventory as such.

We trust that the above will suit your purposes.

Yours very truly,

Emerson L. Ward,
Ontario Co-ordinator,
Canada Land Inventory.

ELW/ns

Attach.

c.c.: Messrs. H. F. Crown
A. W. Blyth

XXXV

ONTARIO

DEPARTMENT OF TREASURY AND ECONOMICS

PARLIAMENT BUILDINGS
TORONTO

December 8, 1969

Mr. E.L. Ward,
Ontario Co-ordinator,
Canada Land Inventory,
Department of Agriculture and Food,
Parliament Buildings,
Toronto, Ontario.

Dear Mr. Ward:

In response to your letter of November 24, I am enclosing information as to how the Canada Land Inventory is being utilized in our regional development planning. I refer particularly to the first paragraph on page 4 of Mr. MacNaughton's statement in the House on November 4, 1969, and to the first paragraph on page 7, plus Steps 7 and 11 on the chart following page 22, of my "Regional Development in Ontario." Mr. Spender's detailed description, "Land Capability and Development Constraints Map - Midwestern Ontario Economic Region," indicates in some detail our approach as applied to a specific region. We expect to apply the same approach to all regions in Ontario.

Basically, we are particularly interested in the Canada Land Inventory in that it provides patterns of inherent best uses of the land for the C.L.I. categories. By superimposing these one over the other, whether cartographically or statistically, and then adding our recommended urban pattern, we can arrive at alternatives for optimum use of the land in Ontario for specified target dates.

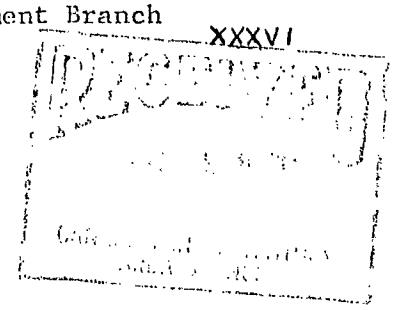
Please advise if I can be of further service.

Yours sincerely,

Richard S. Thoman,
Director,
Regional Development Branch

Encls.
RST:ba

XXXVI



ONTARIO

DEPARTMENT OF AGRICULTURE AND FOOD

Farm Economics, Co-operatives and Statistics Branch

MEMORANDUM

December 3, 1969

TO: Mr. E. L. Ward, Ontario Co-ordinator, Canada Land Inventory
A.R.D.A.

RE: Your Request December 1, 1969

In reply to your above request in connection with the use and possible uses of the Canada Land Inventory data, please be advised of the following uses within our Branch:

Land Use Research Section - Henry F. Noble, P. Ag.

1. Used in Highlights Economic Study, Agriculture, Eastern Ontario (see branch publications enclosed)

P. 10, green publication "An Economic Classification of Farms in Eastern Ontario". and

Pages 6,7 & 8, blue publication "Variation in Farm Income of Farms in Eastern Ontario by Farm Type and Farm Class".

Pages 6,7 & 26 "Socio-Economic Problems and Adjustment Needs of the Farm Family in Eastern Ontario".

2. Plan to make use of a farm class based on number of acres, adjusted crop soils and number acres adjusted pasture soils in "The Development of Standards for Assessing the Ontario ARDA Farm Enlargement Program".

3. Numerous telephone requests re current land use trends for specific areas re farm units.

Dairy Research Section - Robert Redelmeier, P. Ag.

4. Used as background information in making projections on supply and demand for Ontario dairy products, Page 9, "The Economics of Seasonal Industrial Milk Production in Ontario"

5. To be used in future studies on the Industrial Milk Industry - future locations of dairy areas and centres of production.

... 2

Marketing Research Section - Herb Blum, P. Ag.

6. MTARTS Study and Assessment by ODA&F; a confidential report to Dr. E. A. Haslett, approximately one year ago.

Production Research Section - R.G.F. Hill, P. Ag.

7. Lake Erie Task Force, International Great Lakes Level Board -

The Farm Economics, Co-operatives and Statistics Branch assisted in the research associated with a cost benefit study on controlling the levels of Lake Erie.

The Canada Land Inventory classification of soils was used as a basis for estimating the loss in agricultural production due to continued erosion by the waters of Lake Erie.

8. The Canada Land Inventory data was used to estimate the amount of land suitable for alfalfa production as a basis for determining the "Feasibility of Establishing an Alfalfa Dehydration Plant in the District of Algoma" (enclosed branch publication; see Acknowledgments and pages 3 & 4)

9. If the data was provided in sufficient detail, the Canada Land Inventory could be used by individual farmers and agricultural Extension people for farm planning.

10. The committee on Farm Assessment and Taxation for Ontario established a schedule of land assessments based on soil capability grades and market value.(copy enclosed - see pages 35-37 and 51-64)

Any further queries concerning the above data, could be directed to the Section Head.

Henry F. Noble.

Henry F. Noble, P. Ag.
Senior Economist
Land Use Section

cc: Dr. E. A. Haslett, P.Ag.
Director
Mr. Robert Redelmeier, P. Ag.
Mr. Herb Blum, P. Ag.
Mr. R.G.F. Hill, P. Ag.

Encls: five
HFN/nl

XXXVIII

TELEPHONE

WHEN REPLYING PLEASE QUOTE THIS FILE NUMBER

ONTARIO

365-5530

DEPARTMENT OF LANDS AND FORESTS

1-1-5-1 RK

Toronto 182
December 4, 1969

Mr. Emerson L. Ward,
Ontario Co-ordinator,
Canada Land Inventory,
Department of Agriculture and Food,
Agricultural Rehabilitation and
Development Branch,
Parliament Buildings,
Toronto 5, Ontario.

Dear Mr. Ward:

Our use of the Canada Land Inventory, while fairly limited at present, should expand both in scope and depth as the system becomes more familiar to our staff.

1: Areas of present use -

a) We use the land capability, and the practical limits it suggests for development, to review private subdivision proposals circulated by the Department of Municipal Affairs.

b) In a similar manner, we assess all park and park reserve proposals with the aid of the Inventory.

c) Our site planning and master planning for individual parks takes account of land capability as presented by the Inventory.

2: Additional areas of future use -

a) We plan to use the Inventory when looking for general areas that can support park development.

.....2

XXXIX

b) It will be used as one factor in building an "Attractivity Index" for the Supply Model being developed for the "Tourism and Outdoor Recreation Plan" (T.O.R.P.). The consultants are using the Ontario Land Inventory which has a finer breakdown of the same data.

3: Limiting factors -

a) For many of our uses, the Canada Land Inventory is not broken into small enough geographical units and lacks the amount of information contained in the Ontario Land Inventory (2b above).

b) The published map scale of 1:250,000 is too small to be of use for much of the planning work we do, 1:50,000 would be desirable.

I trust this information will be satisfactory.

Yours very truly,

R. Addison,
Chief, Parks Branch.

RK:MJ

XL

ONTARIO AGRICULTURAL COLLEGE
DEPARTMENT OF SOIL SCIENCE

UNIVERSITY OF GUELPH · GUELPH · ONTARIO · CANADA AREA CODE 519 · 824-4120

December 11, 1969

Mr. E. L. Ward,
A.R.D.A. Branch,
Department of Agriculture and Food,
1200 Bay Street,
Toronto, Ontario.

Dear Mr. Ward:

Here are some of the uses and possible uses of the Canada Land Inventory data with particular emphasis on the agricultural information. Some of the uses you will have heard about before but I will mention all I can think of to make sure none are overlooked.

From my point of view the most valuable use of Canada Land Inventory use has been in the field of education. Not just the education of university students but that of the public-at-large. The C.L.I. has done much to provide people with the location, extent and potential of Canada's resources and made them aware of the need of land use planning. I have talked to the following groups on several occasions.

1. Grades 6,7,8 King George School
2. " 4, 5 Laurine Avenue School
3. University Women's Club
4. Guelph C.V.I.
5. Universities of Waterloo, Toronto, etc.

The C.L.I. information is being used to solve problems of land use. Recently the Department of Municipal Affairs published a report on Taxation and Assessment of Farm Lands in which the soil capability classification for agriculture is used as the basis for evaluating land. Cressman in his report about Manitoulin Island used C.L.I. data to show the productive capacity of the island and suggest a land use plan. Land capability is being used by the Regional Development Branch, Department of Treasury and Economics to evaluate land capability and physical development constraints associated with the possible expansion requirements of selected urban centres. It is also being used for various studies concerning the planning of new municipalities. Land capability information of the C.L.I. is currently being used to assist with the planning of Erin Mills new town and Haldimand-Norfolk region. Such information has also been used by consultant engineering firms for planning. For example, Procter, Redfern, Bausfield and Bacon used land capability in their study of Medora-Wood Townships in Muskoka District and Gertler's

group used similar data in their study of the Midwestern Ontario Development Region. Various studies concerning land use and planning have been conducted in the Georgian Bay Region. These include Leeson's work on bogs and the work of Rodd and van Buren currently being undertaken.

The C.L.I. data can also be used to set or suggest land use policy. It is being used to develop zoning by-laws in some municipalities, and is suggested as the basis for developing a land use policy for Ontario (see November-December A.I.C. Review article "Does Agriculture have a Monopoly on Good Land?")

Perhaps a list of paper, articles etc. in which the uses of C.L.I. data appear would provide proof of use. A few follow.

1. Cressman, D.R. - "The Productive Capacity of the Natural Resources of Manitoulin Island. C.L.I. 1968.

2. Cressman, D.R., Hoffman, D.W. - "Classifying Land for Recreation, Jour. of Soil and Water Cons. May-June 1968.

3. Dorney, R.S. et al, 1969. Ecoplanning - the Contribution of Ecology to the Process of Urban Planning. University of Waterloo.

4. Hoffman, D.W. 1969, Does Agriculture Have a Monopoly on Good Land? A.I.C. Review, November/December.

5. Hoffman, D.W. 1968, Using Soil Surveys to Prevent Soil and Water Pollution. Can. Inst. Public Health Inspectors, Ontario Branch, Stratford.

6. Leeson, B.F. 1969, An Organic Soil Capability Classification for Agriculture. M.Sc. Thesis, Univ. of Guelph.

7. MacKay, A.N. et al, 1969, Report of the Committee on Farm Assessment and Taxation, Ont. Dept. Municipal Affairs.

I hope these materials will provide ammunition for you.

Yours very truly,

D. W. Hoffman
Associate Professor

DWH/fp

ONTARIO

DEPARTMENT OF LANDS AND FORESTS

97 Newkirk Road
Richmond Hill, Ontario
December 8th, 1969

Mr.E.L.Ward, Ontario Co-ordinator
Canada Land Inventory A.R.D.A.
Department of Agriculture & Food
1200 Bay Street
Toronto 5, Ontario

Dear Mr.Ward:

This is a reply to your letter of December 1st, 1969 concerning the use of the Canada Land Inventory.

I am not aware of any practical use of the C.L.I. in Ontario to date. There are two reasons for this lack of use, (1) the inventory maps are not readily available and (2) the would be planners do not understand the inventory meaning of capability.

For the North Georgian Bay Recreational Reserve plan I used the Ontario Land Inventory. The O.L.I. is especially well suited to the kind of work I was doing which consisted of a General Plan and a detailed local plan. If the C.L.I. had been available, I would have used it as another planning input. I regard the C.L.I. as a very meaningful supplement to the O.L.I.(Recreation.)

An attempt was made to use the C.L.I. data in the Algonquin Park Plan. However, the attempt failed I believe because the planning team was ignorant of the C.L.I. data implications and the meaning of capability (especially recreation capability).

.... 2

XLIII

Mr.E.L.Ward December 8th,1969

The Algonquin Task Force decided that the C.L.I. recreation inventory was useless because it told them very little about canoe routes in the Park. There are two answers to this problem: First, a canoe route is a present-use item, Second, the C.L.I. recreation inventory lists the highest three recreation features which are usually not canoe routes - even in the Park. In other words the C.L.I. disclosed that canoeing was not the dominant capability of the Park and the Task Force can't believe this because they are confused between present use, use designation, and capability.

I suggest that unless we have a well informed, articulate, spokesman for the inventory (besides yourself) the whole program could fail because people simply don't understand it.

I am now involved in making a plan for the Rideau-Trent-Severn Waterway. I am using C.L.I. information for the initial planning of this area because it suits me better than the O.L.I. and the O.L.I. is not completed here. For later detailed work I will use O.L.I. data (recreation) where it is completed.

A major problem in the C.L.I. maps is the confusion regarding colours. It seems that each sector has its own scheme.

A specific problem with the C.L.I. recreation land inventory is the fact that water bodies are not evaluated.

There may be other things wrong with the C.L.I. but nothing matters near so much as the fact that people generally fail to understand it. Suggestion - could we have more copies of the Recreation Manual?

Yours truly

E.M.Cressman

EMC:gam

XLIV

CENTRE FOR
RESOURCES DEVELOPMENT

UNIVERSITY OF GUELPH · GUELPH · ONTARIO · CANADA AREA CODE 519 · 824-4120

December 10th, 1969

Emerson L. Ward, Esq.
Ontario Co-ordinator
Canada Land Inventory - ARDA
Ontario Department of Agriculture and Food
1200 Bay Street
TORONTO, Ontario

Dear Emerson:

Your file: 4:14

It was a very great pleasure to see you again and to have the opportunity to talk about mutual interests.

Your letter of December 1st to Mr. J. G. Roberts is much appreciated. I am very much looking forward to seeing the mounted result in due course when we have been able to piece them together. Thank you for your trouble.

Thank you also for the publications, which I have placed in our Library.

Kindest personal regards.

Sincerely

Norman Pearson

Norman Pearson
Chairman
Centre for Resources Development

NP/b

XLV

FORM O. 161

DATE December 15th, 19 69.

MEMORANDUM TO

Mr. E. L. Ward,
Canada Land Inventory, ARDA,
Department of Agriculture & Food.

FROM

DEPARTMENT OF LANDS AND FORESTS

OFFICE OF THE DEPUTY MINISTER

RE Canada Land Inventory.

In answer to Mr. R. J. McCormack's letter we offer the following.

1. The Department of Lands and Forests considers the landscape units as used for evaluating the wildlife and forestry capability as a planning reference for land-use planning. Suitability and feasibility criteria are added by the planners and the recommended use determined. The lack of a comparable evaluation for recreation and agriculture at the same broad level is disturbing but is an obstacle which can be overcome. While the landscape unit and the evaluated capability as provided by the CLI are used as a planning reference it does not necessarily follow that the resulting planning unit will remain coincidental with the planning reference (landscape unit). The shape of the final planning land unit depends on the degree of suitability and feasibility influences incorporated by the planners.

   We do consider however that the inventory provides a scientific starting point for land-use planning and will use the data at the broad level of planning where it is available.

2. I feel certain you have a better knowledge of the potential uses such as in the Regional Development Program than I.

3. The inadequacies of the data no doubt have been harped about by Ontario planners almost continuously and I doubt that my repeating the statements here will bare fruit. They are however

   a) The inventory as now provided is for different land bases and at different levels of detail. For example, forestry and wildlife capability are evaluated by land units and landscape units while recreation is by shoreland and upland units, while agriculture is evaluated by some other land parcel. In effect then we are given an inventory, one half of which (forestry and wildlife) is provided at the broad level of detail, the other half of which is provided at a detailed level.

      This inconsistency in levels of detail facilitates neither a broad level of planning nor a detailed level of planning without a considerable amount of re-working of the data by the planners.

SIGNED

FILE NO. 3-2-2-2-4

For example, how does a planner determine a recreation and agriculture evaluation of a landscape unit comparable to that of forestry and wildlife if he wishes to plan at that broad general level of detail. The complexing or averaging of the many bits and pieces of shoreland units within a landscape unit to provide an overall evaluation for recreation is time consuming and somewhat misleading.

b) The physiographic data of the land parcel being evaluated is not transmitted by way of a map symbol to the planner using the capability ratings. For example in the case of forestry or wildlife a landscape unit is rated from 1 to 7 but the user of the data has no way of questioning the evaluators ability to interpret the land. Recognizing that most inventories are performed by inexperienced staff there is no opportunity for the user with more experience to question and correct if necessary the evaluated capability.

When planners cannot follow through the rational evaluation made by the inventory evaluator they are likely to distrust the capability ratings as given. Had the basic physiographic data been presented as well, the planner would then be in a position based on his greater knowledge to agree with the evaluated capability or alter it as his experience so dictated.

c) The fact that the agriculture, forestry and wildlife inventories incorporate a list of limitations at the subclass level, and the recreation inventory does not, limits the usefulness of the recreation inventory. When, for example, lodging is chosen by the evaluator as more significant than bathing in a particular shoreland unit, what criteria or limitations influenced this choice? The benchmark definition for this feature does not indicate the specific limitations affecting this particular shoreland unit.

The activities recognized in the recreation inventory are those which are established by present popular preferences. Under the present evaluation scheme, no re-evaluation of an area is possible for new recreation features, short of a complete re-application and re-classification of the area in question.

d) The lack of a uniform measure of production output that can be expected from an evaluated capability is very disturbing.

For example, the forestry capability ratings are accompanied by a species choice and a forecasted volume in cubic feet per acre per year. A similar estimate of the potential output under other selected uses such as agriculture wildlife and recreation would be very helpful to the planner.

E. F. Anderson,
Planning Co-ordinator.

EFA:nn

XLVII

G. V. KLEINFELDT & ASSOCIATES
(LONDON) LIMITED

CONSULTING ENGINEERS AND COMMUNITY PLANNERS

SUITE 501, 362 DUNDAS STREET, LONDON 14, ONTARIO 434-3911

YOUR REF:

November 25, 1969

OUR REF: 4-694

Mr. E. L. Ward, R. P. F.,
Provincial Co-ordinator,
Canada Land Inventory,
A.R.D.A. Branch,
Ontario Department of Agriculture & Food,
1200 Bay Street, 7th Floor,
TORONTO 5, Ontario.

Dear Mr. Ward:

Thank you very much for the time you spent with me during my visit in Toronto.

Your co-operation and assistance were very much appreciated and the mapping you were able to provide will be most helpful in preparing the County Plan.

I shall look forward to hearing from the Richmond Hill office in connection with the recreation and conservation maps.

Thank you again.

Yours very truly,

G. V. KLEINFELDT & ASSOCIATES
(LONDON) LIMITED

John Longworth, M.T.P.I.C.
Chief Planner

JFL/jan

PROVINCE OF ONTARIO

PROVINCIAL CO-ORDINATOR'S OFFICE

The attached list is made up of persons, firms, schools, government departments, etc. who have been sent Canada Land Inventory material in varying amounts.

Acres, H. G., Toronto

Acres Research and Planning Ltd.

Addison, Wm. S.,
Co. of York Planning Office,
Newmarket, Ont.

Agricultural Institute of Can.

Air Photo Analysis Assoc.
Consultants Ltd., Toronto

ARDA
Rural Development Officers
Rural Development Counsillors
Directorate

Beach, Robt. H.,
County Assessor, Halton Co.

Blicharz, A., Toronto

Brown Forest Industries Ltd.,
Espanola, Ont.

Canada Department of
Agriculture
Geographical Branch, Ottawa
Farm Adjustment Board, Fredericton
Health of Animals Branch, Weston

Forestry and Rural Development
Forest Research Laboratory, Victoria, B.C.

Indian Affairs and Northern Development
National and Historic Parks Branch, Ottawa

Transport
Meteorological Branch, Toronto

Campbell, N. C., Waterloo

Canada Institute of Forestry

Canadian International Paper Co., Thorold

Canadian Mitchell Assoc., Bramalea

Cannon, R. T., Espanola

Central Ontario Joint Planning Board, Oshawa

Central Ontario Regional Development Council, Richmond Hill

Chambers & Co. Ltd., Hamilton

Chandrasena, L. H., Kurunegala, Ceylon

Charbonneau, Michael E., Orangeville

Collins, Free Lance Writer

Company of Young Canadians

Conservation Council of Ontario

Coombs, Richard, Toronto

Crealock, A., Thessalon, Ont.

Crysler, Davis and Jorgenson, Toronto

Conservation Authorities
- Big Creek Region
- Cataraqui Region
- Central Lake Ontario
- Crowe Valley
- Ganaraski Region
- Grand River
- Halton Region
- Hamilton Region
- Holland Valley
- Kettle Creek
- Lower Thames Valley
- Metropolitan Toronto & Region
- Niagara Peninsula
- North Grey Region
- Otonabee Region
- Prince Edward Region
- Rideau Valley
- Saugeen Valley
- South Nation River
- Sydenham Valley

DeLeuw, Cather and Co. of Can., Don Mills, Ont.

Dowson, C. G., County of York Planning Office, Newmarket

Dwight, T. W., Toronto

Dyname Corp. Ltd., Dorchester, Montreal 2, P.Q.

Elance Products Div. Eli Lilly & Co. (Can.) Ltd., Scarborough, Ont.

Farm Credit Corporation, Chatham, Simcoe, Woodstock

Ficzere, L. A., Toronto 7

Forest Resources Consultants Ltd., Newmarket

Forestry Chronicle, Pointe Claire, P.Q.

Fund and Bank Review Finance & Development - Washington, D. C. 20431

Gallander, Gail - Toronto

Gibson Willoughby Ltd. - Peterborough

Graham, D. W. & Associates Ltd - Ottawa

Grange, E. R. - Toronto

Hachman, Ewald - Drayton

Hamilton, Sally A. - Edmonton, Alta.

Hamilton-Wentworth Planning Area Board - Hamilton

Hare, Phil - Kitchener

Hedlin Menzies & Associates Ltd - Toronto

Hepditch, G. D. - Whitby

Hetherington, J. C. - Victoria, B.C.

Hoey, Rosemarie - Ottawa

High Schools
Arnprior District High School - Arnprior
Beamsville District Secondary School - Beamsville
Napanee District Secondary School - Napanee
Newtonbrook Secondary School - Willowdale
Oakwood Collegiate Institute - Toronto 10
Peterboro Vocational School - Peterboro
Richmond Hill Highschool - Richmond Hill
South Huron District High School -
South Secondary School - London

Jennings, Tony - Napanee

Jones, Murray V. & Associates Ltd - Toronto

Jordan, Keith C. - Kitchener

Kates, Peat & Marmick - Toronto

Kitching, John - Moffat

Kleinfeldt, G. V. - London

Lake Ontario Regional Development Council

Lane, A. D. - Woodstock

Leveille, Gilles - Montreal 2, P.Q.

Lindsay, R. - Ont. Dept. of Lands and Forests

Lockwood Survey Corporation - Toronto

MacLaren, Jas. F. Ltd. - Toronto 5

MacMillan Bloedel Ltd. - Vancouver

Mai, Ulrich W. - Kingston

Maritime Forest Ranger School - Fredericton, N.B.

Marshall, Macklin & Monaghan - Don Mills

Matthews, D. C. - Toronto 7

McCarthy & McCarthy - Toronto 1

McClocklin, J. S. - Bradford

McKay, T. D. - Little Current

McPhee, Tom - Antigonish, N.S.

Metro Planning Board, City Hall - Toronto

Municipal Planning Consultants Co. Ltd - Toronto 7

Muskoka District Local Government Review - Scarborough

Noelkirton, W. - St. Anne de Bellevue, Quebec, P.Q.

Northeastern Ontario Regional Development Council - North Bay

Northland Real Estate Holding - Toronto

Nova Scotia Dept. of Agriculture and Marketing, ARDA - Truro, N. S.

Ontario Economic Council - Toronto

Ontario Federation of Agriculture - Toronto

Ontario Hydro - Toronto

Ontario Paper Co. Ltd. - Thorold

Ontario Professional Foresters Association - Richmond Hill

Ontario Department of
Agriculture and Food
Agricultural Representatives, Ext. Branch
Centralia College of Agricultural Technology - Centralia
Farm Economics, Statistics & Co-operatives Branch
Horticultural Experiment Stations - Simcoe
Kemptville Agricultural School - Kemptville

LIII

Ontario Department of
- Agriculture and Food
  - Information Branch
  - Soils & Crops Branch
- Economics and Development
  - Applied Economics Branch
  - Regional Development Branch.
  - Trade and Industry Branch
- Energy and Resources Management
  - Administrative Services Branch
  - Energy Branch
  - Library
- Highways
  - Design Branch
  - Functional Planning Division
  - Planning Branch
- Lands and Forests
  - Deputy Minister
  - District Foresters
  - Fish and Wildlife Branch
  - Land Inventory Unit - Richmond Hill
  - Lands and Surveys Branch
  - Parks Branch
  - Research Branch
  - Timber Branch
  - Ranger School -
- Municipal Affairs
  - Assessment Branch
  - Community Planning Branch
- Ontario Water Resources Commission
  - Water Quality Surveys Branch
- Tourism and Information
  - Travel Research Branch
- Treasury & Economics
  - Ontario Statistical Centre, Reg'l Dev. Branch

Parry Sound Area Industrial Dev. Committee - Parry Sound

Powell Foods Ltd. - St. Catharines

Powers, Th. W. - Oshawa

Proctor, Redfern - Toronto

Project Planning Assoc. Ltd. - Toronto

Provincial Inventory Committee

Reid, T. Patrick - Fort Frances

Regional Municipality of Ottawa, Carleton, Ottawa

Richards Strong Assoc. - Toronto

Rimon, E. - Newmarket

Robson, Bruce C. - Peterborough

Rogers, S. - Orillia

Sawchuk & Peach - Sudbury

Scott, Co-op., C.L.I., Alberta Dept. of Agric'l - Edmonton, Alta.

Sir Sandford College - Lindsay

Skillings, Mrs. Alice - Kingston

Skollnik, Steven - Waterloo

Spartan Air Services - Ottawa

Stacey, Miss E. Marion - Mitchell

Summit Film Productions Ltd - Hespeler

Syme, Paul D. - S.S. Marie

Tomlinson, J. M. & Assoc. Ltd. - Burlington

Triton Engineering - Orangeville

Truck Engineering Ltd - Woodstock

United Co-operatives of Ontario - Weston

Universities

British Columbia
Faculty of Forestry

Brock
Department of Geography

Carleton

Guelph
Biology Bldg.
Agricultural Economics, O.A.C.
Center for Resources Development
Crop Science Dept.
Soil Science Dept.
Wellington College, Dept. of Geography

LV

Universities
Lakehead

Laurentian
Dept. of Geologie and Geographie

Laval
Faculty of Forestry

Leeds - Leeds, Yorkshire, England
Dept. of Geography

McGill
Dept. of Woodlot Management

McMaster
Dept. of Geography

New Brunswick
Faculty of Forestry

Queen's
Dept. of Geography
Earl Hall

Toronto
Faculty of Forestry
Faculty of Law
Dept. of Geography
Dept. of Landscape Architecture

Waterloo
Dept. of Geo. and Planning
School of Urban and Regional Planning

Waterloo Lutheran
Dept. of Geography

Western Ontario
Faculty of Arts and Science
Dept. of Geography

York
Biology Dept.
Faculty of Arts and Science
Dept. of Geography
Government Documents
Libraries

Van Rassel, A. John - Sault Ste Marie

Vance, Dr. Jas. A. - Woodstock

Vautour, J. - Ottawa 3

Wood, W. Geo., Bus. of Farming Course - Smith Falls

LVI

USES OF
CANADA LAND INVENTORY INFORMATION
in
MANITOBA

Prepared for :

R.J. McCORMACK
Chief, Canada Land Inventory
Ottawa, Canada

Prepared by :

R.C. GOULDEN
Co-ordinator,
Canada Land Inventory Project for Manitoba
Winnipeg, Manitoba

Winnipeg, Manitoba

December 4, 1969

PART I

SOME CURRENT USES of CANADA LAND INVENTORY INFORMATION in MANITOBA

PART I

SOME CURRENT USES OF CANADA LAND INVENTORY INFORMATION IN MANITOBA

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
1.0 Manitoba Department of Mines & Natural Resources - Water Control Branch.	1.1 Agricultural capability of areas designated as drainage improvement districts.	- Capability maps at 1:50,000 scale	
	1.2 Agricultural capability of areas to be flooded by proposed water control projects.	- Capability maps at 1:50,000 scale	
	1.3 Agricultural capability of watersheds.	- Maps and verbal discussions	
	1.4 A multi-discipline land use plan for the Shellmouth Reservoir, located on the Assiniboine River, near Russell, Manitoba. This to include allocation and management plans based upon the physical capabilities of the area for agriculture, fish, recreation and wildlife. Implications of water management, current use and tenure were also included.	- Report: "Shellmouth Designated Reservoir Area - Proposed Land Use Plan" by M.C. McKay, Alex N. Fedoruk, Richard C. Goulden, Herbert D. Goulden, J.A. Hodgson, G.C. Jenkins and Ronald V. Peiluck. Published in May, 1969, as Report No. 7, Manitoba Department of Mines and Natural Resources, Canada Land Inventory Project, Winnipeg. 278pp.	Appendix 1
	1.5 Forestry capability of shoreline of Lake Winnipegosis.	- Verbal communication plus map sheets at 1:50,000 and 1:250,000 scales where available.	

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
2.0 Manitoba Department of Mines & Natural Resources - Wildlife Branch.	2.1 Wildlife-Ungulate capability information essential for planning and managing big game in Manitoba.	- 1:50,000 capability maps. - Brief written descriptions of each mapping unit. - Written explanation of wildlife classification complete with explanation of inputs, etc. - Location and description of reference areas. - Current condition of each mapping unit. - Current status of wildlife populations and wildlife habitat in each unit. - Wildlife management recommendations.	Appendix 2
	2.2 Detailed Wildlife-Ungulate capability of FRED area in Manitoba's Interlake.	- Report: complete with 1:50,000 and 1:250,000.	Appendix 3
	2.3 Detailed Wildlife-Ungulate capability of lands in the vicinity of proposed Antler River and Gainsborough Creek reservoirs. Present Land Use information was included in this request.	- Report: "White-tailed Deer Capability of the Antler River-Gainsborough Creek Area of Southwestern Manitoba" by Richard C. Goulden and Herbert D. Goulden. Published in May, 1969, as Report No. 5 by Manitoba Department of Mines and Natural Resources, Canada Land Inventory Project, Winnipeg. 50pp.	

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
2.0 (Cont'd.)	2.4 Capability of lands in Mantagao Lake area for elk production in order that the most suitable habitat could be used for elk transplants from Riding Mountain National Park.	- Maps at scale of 1:250,000.	
	2.5 Agricultural capability of proposed wildlife management areas and other areas where a conflict in land allocation might exist between wildlife and agricultural uses.	- Maps at 1:50,000 scale.	Appendix 4
	2.6 Wildlife-ungulate capability of Crown Lands in southwestern Manitoba in order to select potential wildlife management areas before disposition of these lands to the private sector.	- Memorandum with ungulate capability detailed on copies of field forms.	
3.0 Manitoba Department of Mines & Natural Resources - Lands Branch.	3.1 Agricultural capability of lands proposed for purchase by the Crown. Such purchases might be to facilitate land use adjustments, etc.	- Maps at 1:50,000 scale, often with verbal and memorandum type explanations.	
	3.2 Agricultural capability of lands owned by Crown but which are being considered for purchase by the private sector.	- Maps at 1:50,000 scale.	Appendix 5
	3.3 Recreation capability of lands being considered for disposition to private sector.	- Memoranda: Pleasant Valley Area Verbal: Shoreline on Whitefish Lake in Porcupine Mountains.	

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
3.0 (Cont'd.)	3.4 Wildlife-Ungulate capability of Pleasant Valley area where P.F.R.A. has proposed the construction of a dam and reservoir.	- Reply currently being formulated; a memorandum with 1:50,000 scale capability map will likely suffice.	
	3.5 Detailed Present Land Use information for the Interlake FRED area.	Report: In preparation; complete with maps at scales of 1:50,000 and 1:250,000.	Appendix 6
4.0 Manitoba Department of Mines and Natural Resources - Regional Offices.	4.1 Agricultural Forestry and Wildlife capability of individual regions. This information is needed to provide part of the framework upon which to base developmental and management programs.	- 1:50,000 scale and 1:250,000 scale capability maps with memorandums covering selected areas where more detail is desired. A good deal of personal communication is also usually provided.	
5.0 Manitoba Department of Mines and Natural Resources.	5.1 Implications of the Churchill River Diversion to the resources of the region including fish, wildlife (upland and wetland, recreation, forestry and agricultural potential).	- Report: "Resource implications of the Churchill River Diversion". An internal working document of the department - not for publication and general dissemination.	
6.0 Manitoba Department of Agriculture - Soils & Crops Branch.	6.1 Agricultural capability of specific areas such as those being considered for government subsidized improvement, i.e. bush clearing.	- Maps at scale of 1:50,000 with attached explanatory notes where needed.	

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
6.0 (Cont'd.)	6.2 Capability of lands adjacent to the south boundary of Riding Mountain National Park. This was to include capability for Agriculture, Recreation, Wildlife (Waterfoul and Ungulates) and Sport Fish. Present land use and land tenure were also components of the request.	- Reports: (a) "South Side of Riding Mtn. Land Use Study - ARDA Project No. 7038" by G.C. Jenkins. In preparation. Will be published as Report No.9, Manitoba Dopartment of Mines and Natural Resources, Canada Land Inventory Project. (b) "Water and Fish Capability Studies of ARDA area 7038, Manitoba" by A.N. Fedoruk. In preparation. Will be published as Report No. 8, Manitoba Department of Mines and Natural Resources, Canada Land Inventory Project.	
	6.3 Capability of lands in the area west of Lake Manitoba, east of Riding and Duck Mountains. This is to include capability for Agriculture, Recreation, Wildlife, Forestry and Sport Fish.	- Report: "West Lake Land Use Study - ARDA Project No. 7038" by G.C. Jenkins. In preparation.	
	6.4 Wildlife-Ungulate capability of specific areas of southern Manitoba.	- Memorandum.	Appendix 7

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
7.0 Manitoba Department of Agriculture - Extension Service.	7.1 Agricultural capability of Agricultural Representative Areas for use in program planning.	- Mainly maps at scale of 1:50,000.	
8.0 Manitoba Department of Agriculture - Economics and Publications Branch	8.1 Agricultural capability of selected areas for purpose of correlating with income from various farming enterprises.	- Verbal.	
9.0 Manitoba Department of Municipal Affairs - Municipal Planning Branch.	Frequent requests for capability information relative to Agriculture, Recreation, Wildlife and Sport Fish as well as Present Land Use data.		
	9.1 Capability and Present Use of land in vicinity of Rock and Pelican lakes.	- Capability maps at 1:50,000 scale; detailed field data; special field trips to the area with municipal planners.	
	9.2 Guidelines for development of Stephenfield Reservoir and surrounding area.	- Maps at 1:50,000 scale; shoreline data and other raw field information; special trips to the area with municipal planners, biologists, etc.; committee meetings to help guide proper allocation and management of the area.	Appendix 8
	9.3 Gull Lake - Resolution of overcrowding and access problems.	- Recreation capability and memorandum of water skiing, boating and public use standards as applicable to Gull Lake situation.	Appendix 9

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
9.0 (Cont'd.)	9.4 Critique of "Guidelines for Sub-division Development". A paper prepared for the Rural Municipality of Bifrost by J. Friesen.	- Verbal discussion of draft.	
	9.5 Present Land Use and Capability for Recreation, Agriculture, Wildlife and Fish for R.M. of Rosedale.	- Some maps at 1:50,000 scale have been sent. Generally each sector is attempting to fulfill the request via maps and report as time permits.	
	9.6 Shoreline information for south end of Lake Winnipeg.	- Maps at scale of 1:50,000; air photos with detailed physical data for shoreline.	
10.0 Manitoba Department of Municipal Affairs - Various Rural Municipalities.	Capability and Present Land Use Information for guiding municipal programs.		Appendix 10
	10.1 Agricultural capability of R.M. of St. Francois Xavier and Langruth.	- Map at scale of 1:50,000 complete with descriptive legend.	Appendix 11
	10.2 Detailed Present Land Use of R.M. of Turtle Mtn., Riverside and Strathcona.	- Maps at scale of 1:50,000 and verbal discussion.	
11.0 Manitoba Department of Tourism & Recreation - Parks Branch.	11.1 Numerous (15 to 20 per year) requests for Recreation capability and detailed shoreline inventory.	- Memos, 1:50,000 scale maps and loan of air photos with shoreline details, i.e. Rock Lake, Lily Bay, Lake Manitoba, Spruce Woods Provincial Park, Hecla Island, Clearwater Lake.	

AX7

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
11.0 (Cont'd.)	11.2 Critique of report on Proposed Elk Island Heritage Area.	- Memorandum and verbal discussion.	
	11.3 Supply information to consultants under contract to Parks Branch, e.g. Hilderman.	- Overlays of detailed shoreline information to be used in forming land and water zoning plans for shores of Crowduck Lake in Whiteshell Provincial Park.	Appendix 12
	11.4 Visit areas with Director of Parks Branch or his staff, i.e. Black Island, Hecla Island, Duck Mtn. Judgment of recreation potential of these areas is requested.	- Verbal discussions.	
	11.5 Outline for Boating and Harbour Study on Lake Winnipeg and Red River.	- Memorandum	
	11.6 Recreation capability in Local Government District of Park and in the Birnie Creek Area.	- Memorandum	Appendix 13
	11.7 Aid studies being carried out for Parks Branch by Graduate Students e.g. zoning for boat use in Whiteshell, facility inventory in southwestern Manitoba.	- Verbal	
	11.8 Wildlife-Ungulate capability of Whiteshell Provincial Park and several blocks of land north of park.	- Maps and memorandum in preparation.	

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
12.0 Federal Government - Manitoba Soil Survey	12.1 Field information gathered by Agriculture and Forestry sectors of C.L.I., especially profile descriptions and vegetation analyses.	- Copies of field sheets plus interpreted aerial photographs.	
	12.2 Interpreted Forest Capability photographs for reconnaissance survey of Wekusko 63J map sheet.	- Forestry Sector will assist the Pedologist in interpreting the capability classification and will assist interpreting photos for reconnaissance-type soil survey.	
13.0 Federal Government - C.L.I. Western Regional Co-ordinator for Recreation.	13.1 Agricultural Land Capability on periphery of Riding Mountain National Park to aid in determining need for adjustment in park boundary.	- Maps at various scales.	
	13.2 Loan of detailed physical shoreline data and 1:50,000 preliminary classification of Lake Athapapuskow for report being prepared under contract by A. Hool.	- Submission of materials as requested.	
14.0 Federal Government - Canadian Wildlife Service.	14.1 Capability of land for waterfowl and agriculture.	- Maps at 1:50,000 scale.	
15.0 Federal Government - Forestry Research Branch.	15.1 Forest capability map of south-eastern Manitoba as part of information required for a review of economic potential of sawmill at Sprague, Manitoba.	- No information available now. Data will be supplied as it becomes available.	

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
16.0 Turtle Mountain Resource Conservation Council Incorporated.	16.1 Capability information from various sectors of the C.L.I. in Manitoba in order to obtain their Objective of bringing local initiative to bear on problems of resource management and long range planning to improve the quality of the rural environment and to ensure sustained production from the land.	- Reports:(a) "Wild Ungulate Capability of the Turtle Mountain Resource Conservation Council Inc. Project area" by R.C. Goulden, H.D. Goulden, A.W. Todd and I.J. Milliken. Published in May, 1968, as Report No. 2, Manitoba Dept. of Mines and Natural Resources, Canada Land Inventory Project, Winnipeg. 39pp. (b) "Agricultural Land Capability Classification of the Turtle Mountain Resource Conservation Council Inc. Project Area" by G.C. Jenkins. Published in April, 1968, as Report No. 3, Manitoba Dept. of Mines & Natural Resources, Canada Land Inventory Project, Winnipeg. 35pp. (c) "Outdoor Recreation Capability of the Turtle Mtn. Resource Conservation Council Inc. Project Area" by Ronald V. Peiluck. Published in June, 1968, as Report No. 4 by Man. Dept. of Mines & Natural Resources, Canada Land Inventory Project, Winnipeg. 74pp. plus a book of maps.	Appendix 14

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
16.0 (Cont'd.)		- Letters with maps attached for: (a) Present Land Use (b) Fish Capability - Personal Communications, field trips and continuing studies of agricultural capability.	
17.0 Private Resource Consultants - Hedlin-Menzies and Associates Ltd.	17.1 Basic agricultural land capability information for various economic studies.	- Maps at scale 1:250,000.	
13.0 Private Resource Consultants-Createplan Ltd.	18.1 Basic agricultural land capability for use in recreation planning.	- Maps at 1:50,000 scale and personal discussions.	
	18.2 Numerous requests for comments and ideas from Recreation Sector relative to studies underway by consultant, i.e. (1) Lake Winnipeg harbour study being prepared for Manitoba Department of Mines and Natural Resources and Tourism and Recreation, (2) aid in preparing report by Createplan and A.N. Fedoruk on Resource Potential of Gainsborough Creek-Antler River area.	- Largely verbal discussions.	

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
18.0 (Cont'd.)	18.3 Upland Wildlife capability for the Hecla (62P) and Selkirk (62I) N.T.S. map areas. This information was needed to complete the recreation capability classification of these areas.	- Maps at scale of 1:250,000, letters and discussions.	Appendix 15
19.0 Private Resource Consultants - Consulting Wildlife Biologist A. Brian Ransom.	19.1 Wildlife -ungulate capability for Spruce Woods Provincial Park.	- Discussions and joint field trips.	
20.0 Private Resource Consultants - Crippen & Associates Consulting Engineers under contract to Man. Dept. of Mines & Natural Resources.	20.1 Location of beaches (Class 1 to 3) and cottage lands (Class 3 to 4), comments on erosion and effects of rise or drop in level of Lake Winnipeg as pertaining to storage reservoir for Nelson River Power Project.	- Report: including 8 miles=1 inch location map of beaches, potential cottage sites, potential provincial parks, private cottage land and Crown cottage sub-divisions on Lakes Winnipeg and Manitoba.	
21.0 Private Resource Consultants - Man, Taylor & Muret.	21.1 Shoreline classification including development proposals for proposed Hecla Island Provincial Park.	- 1:250,000 and 1:50,000 scale capability maps showing development potential and written explanation of capability and development factors.	Appendix 16
22.0 Regional Development Agencies - (a) West-Man (b) Central Plains	22.1 Detailed land use and agricultural capability maps for specific areas i.e. Miniota.	- Maps and reports where available - Some requests deferred until information is available.	Appendix 17

XX7

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
23.0 University of Manitoba Soils Department.	23.1 Maps outlining the cause and severity of soil erosion in Manitoba.	- Maps being prepared. - Two reports prepared and presented at Manitoba Soil Science Conference 1968 and 1969.	
24.0 University of Manitoba Faculty of Agriculture Faculty of Geography	24.1 Information which would assist students in selecting course projects for minor theses.	- 1:50,000 scale capability maps and personal communication.	
25.0 Special Interest Groups - Manitoba Crop Insurance Corporation.	25.1 Agricultural capability information to correlate with and cross-check productivity ratings used by Crop Insurance.	- Field trips with Crop Insurance personnel and 1:50,000 scale capability maps.	
26.0 Special Interest Groups - Earl Johnson, Soil Specialist.	26.1 Location and acreage of Class 5 agricultural capability lands in Manitoba for use in preparing paper on livestock potential in western Canada.	- Not sufficient area covered in the detail required. Provided opinions about select areas. Paper presented at Forage Symposium, Edmonton, Alberta, in May, 1969.	
27.0 Special Interest Groups - Curator - Manitoba Museum.	27.1 Agricultural capability information to correlate with ethnic settlement pattern.	- 1:50,000 and 1:250,000 capability maps and discussions.	
28.0 Special Interest Groups - Ducks Unlimited of Canada.	28.1 Agricultural and Wildlife Waterfowl capability to guide Ducks Unlimited development projects.	- Map at 1:50,000 scale.	
29.0 Special Interest Groups - Fertilizer Companies.	29.1 Agricultural capability maps for use in delineating fertilizer requirements.	- Maps at 1:50,000 scale.	

AGENCY OR INDIVIDUAL REQUESTING INFORMATION	NATURE OF THE REQUEST	NATURE OF C.L.I. REPLY	EXAMPLES OF REQUESTS, REPLIES AND LETTERS OF ACKNOWLEDGEMENT
30.0 Special Interest Groups - Pilot Mound Kinsmen Club.	30.1 Recreation potential of local reservoir.	- Preliminary plan and speech to group by C.L.I. Recreation Specialist.	Appendix 18
31.0 Special Interest Groups - R.C. McLeod Operations Forester Churchill Forest Prod.	31.1 Forest capability as related to Churchill Forest Products timber berth.	- Maps will be delivered as soon as available. Personal communication will be arranged to clarify maps and system.	
32.0 Special Interest Groups - High School Student Requests.	32.1 Numerous requests for Present Land Use and capability data for various areas of the province.	- 1:50,000 and 1:250,000 maps, memorandums where required, reports, where available are also sent to these people.	Appendix 19
33.0 Special Interest Groups - Fisheries Workers in Manitoba.	33.1 Key to freshwater fishes for Manitoba.	- Report: "Checklist of and Key to the Freshwater Fishes of Manitoba" by A.N. Fedoruk. Published in February, 1969, as Report No. 6, Manitoba Department of Mines and Natural Resources, Canada Land Inventory Project, Winnipeg. 98pp.	

PART II

POTENTIAL USES of CANADA LAND INVENTORY INFORMATION in MANITOBA

PART II

POTENTIAL USES OF CANADA LAND INVENTORY INFORMATION IN MANITOBA

Recreation capability information was useful for most requests, however, greater site detail is generally required if future requests are going to be adequately handled. Requests for information which can be used to guide commercial recreation developments will undoubtedly increase. Physical shoreline data is in constant demand. This will increase as its existence becomes public knowledge. No doubt our recreation staff could spend full time answering current requests alone, consequently, at the moment we are not actively soliciting additional uses of C.L.I. recreation information.

Very often requests for wildlife data are embodied in requests for Recreational or Agricultural Land Use Plans. Requests for detailed capability information rarely embrace one discipline. This of course is gratifying but replies must be correspondingly multi-disciplinary. The added complexity of such reports demands considerably more skill and time of the authors. This must be taken into account by those who request the information and by those who agree to supply it.

Agricultural land capability information could be used by both federal and provincial agricultural credit granting agencies as well as agricultural land assessors. In addition, it should be among the basic information upon which land-based developmental programs of agricultural extension services are formulated. The Manitoba Department of Agriculture could use this information to formulate priority programs, e.g. where forage is required or where livestock enterprise should be encouraged. Economic surveys will undoubtedly rely more and more upon agricultural land capability information, e.g. surveys relating to possible rail line abandonment in Western Canada. Groups such as the Soil Conservation Society of America (Manitoba Chapter) that are interested in promoting better land management could base many of their programs and activities on land capability information. Institutions such as banks, credit unions and mortgage companies that loan money to farmers should know the capability of the client's land base.

Regional planners are beginning to use present land use information. This will undoubtedly increase, but the usefulness of this kind of information depends largely upon its detail and vintage. Outdated "present" land use information is as exciting and useful as last week's newspaper. Consequently, we should be continually striving to base land-use mapping upon the latest aerial photography and adopt whatever methodology is needed to provide the desired information. A fast systematic and periodic mapping of current use would be invaluable as tool to guide land allocation and management specialists and politicians in deciding the location and nature of economic incentive and development programs.

Forest capability information could be used in a number of different ways. Limitations to greater use of forest capability data are generally due to the scale of mapping and the inherent nature of the survey. However, forest capability information (in its current form) possibly could be used in forest management for (1) long range prediction of annual cut, based upon site capability, (2) location of timber berths, (3) adaptation of plantations to site capability.

PART III

SUGGESTED CHANGES IN DATA GATHERING SYSTEMS
or
METHODS TO SATISFY CURRENT AND POTENTIAL DEMANDS FOR INFORMATION

PART III

SUGGESTED CHANGES IN CAPABILITY DATA GATHERING SYSTEMS OR METHODS TO SATISFY CURRENT AND POTENTIAL DEMANDS FOR INFORMATION

The physical inventory of shorelines carried out by Manitoba is an integral and essential part of the recreation capability inventory. This should be maintained and enlarged upon where possible. Some indication of value for sport fish is a necessary input in recreation capability mapping. This input must be maintained if recreation capability is to be meaningful, especially in the northern Laurentian Shield area. One of the major problems in supplying recreation capability information is the need to furnish a rather lengthy explanation of the mapping system and an interpretation of the results.

Criteria and techniques for determining the degree of effort needed to realize the full potential of the area for ungulate or waterfowl production should be incorporated in our classifications. This would make the information much more meaningful to potential users.

Some method or technique should be developed for applying confidence ratings to the ungulate wildlife map sheets. (This could apply to other classifications as well, if deemed desirable). It has been the experience of Manitoba ungulate biologists that a greater degree of confidence is held for some completed map sheets than for others. The availability of background information relative to soils, surficial geology, forest cover, climate, or the scale or vintage of aerial photographs often varies markedly between map sheets. All this being equal, this generally means that the accuracy of the classification also varies. This should be indicated somewhere in the final product.

The Agricultural Land Capability Classification should be expanded to include forage, special crops and vegetables.

The classification could be improved by including the identification of large features such as four-lane highways and the Winnipeg Floodway. The area occupied by such uses is considerable. Without their proper identification land use maps are less meaningful. Consideration should be given to modifying the Present Land Use Classification to allow more accurate and more detailed mapping. This is a critical part of the Canada Land Inventory. I believe the usefulness of Present Land Use data can be greatly hampered if it is based on outdated photography or if it is too generalized.

Thus far we have not received many requests for Forestry Capability information. As its existence becomes known and after it is tested in practical forest management, no doubt, more detailed site evaluations will be requested. This is a natural course of events, but we should recognize it and begin developing the data gathering system needed to meet these demands.

APPENDICES

Province of Saskatchewan

DEPARTMENT OF NATURAL RESOURCES
Government Administration Building
REGINA, Saskatchewan.

REFER TO FILE

March 3, 1970.

R. E. E.
MAR 12 1970
RECEIVED.

Mr. R. J. McCormack,
Chief, Canada Land Inventory,
Department of Regional Economic
Expansion,
OTTAWA, Ontario.

Dear Mr. McCormack:

At long last, and likely last among the Provinces, I enclose my review on the Canada Land Inventory - its uses present and future.

I am also forwarding under separate cover a few copies of the minutes of the meeting in Prince Albert.

Yours very truly,

G. G. Rathwell, Director,
Resource Lands & ARDA
Programs.

GGR/aep.

Ack 12.3.70

LXXIX

ASSESSMENT OF CANADA LAND INVENTORY

The five years of progress in the Canada Land Inventory in Saskatchewan has given rise to a good deal of thought at the present time as to what use will be made of the Inventory. As in other provinces, Saskatchewan is now considering what the potential uses of Canada Land Inventory information are. It will be important that the potential use of the Inventory be preceded by an orientation on how the Canada Land Inventory capability rating was established and the subsequent information that can be realized by the Canada Land Inventory rating. In Saskatchewan this process was fairly easy on a sector to sector basis. However, considerable difficulty exists to try to bring about a comprehensive appreciation of the various Canada Land Inventory Ratings. In Saskatchewan participation in Canada Land Inventory is carried on in three different locations; namely, Prince Albert, Regina and Saskatoon. It is this factor in the main that has given rise to a rather disjointed approach to Canada Land Inventory as a comprehensive basic resource information. In such a situation there is a tendency to assess Canada Land Inventory information on a single sector basis. Onecannot guarrel with it entirely, but the wider approach in considering comprehensive resource information is the key to whether Canada Land Information will be worth the approximate million dollar investment of tax payers money in its preparation.

CANADA LAND INVENTORY USE TO DATE:

Due to the fact that the mapping in final form is less than half complete, the use made of Canada Land Inventory information to date falls far short of its potential. Requests have been received from such organizations as:

1) P.F.R.A. - basic map information for water shed studies.

2) Saskatchewan Water Resources Commission - again, for lakeshore assessment as well as water shed information as well as topographical and land classification adjoining water bodies.

3) Private consulting firms such as:

   i) Pool & Associates;

   ii) J. D. Mollard & Associates;

   iii) Stock Keith & Associates;

   iv) University departments - Plant Ecology, Biology Department, Geography Department at Regina and Saskatoon. Geology Department in Saskatoon.

   v) Other government agencies: To date requests have not been what was was expected. However, completion of the Inventory should increase the requests for Canada Land Inventory information.

   vi) Private individuals: Very few requests other than in the Agriculture Sector.

Unfortunately better than half of the above requests went unsatisfied because of the lack of complete map and narrative information.

FUTURE USE OF CANADA LAND INVENTORY:

1. Land use planning in my opinion will represent at least 75% of the total use of Canada Land Inventory information. This will involve land use planning on a sector basis and comprehensive land use planning involving several administrative levels in government and University departments. I am presently putting together a submission which, if approved, will be the forerunner of future land use plans. The area being put forward as a study area is map sheets 73 N and 73 K. Other areas in the province should be considered for comprehensive land use plans. I refer to the Qu'Appelle Basin, 72 I and 62 L, Hudson Bay, Prince Albert, 63 D and 63 E, 73 H and 73 G.

Land use the world over is changing and it will be ever thus as long as people reside thereon. It is of paramount importance that the relatively permanent land capability information be compiled, available and properly assessed.

Canada Land Inventory information in itself, or however combined, is not planning, but rather an interpretation of facts. At this stage in Saskatchewan, sound interpretation would be next to impossible. To effectively use the Canada Land Inventory, there is a learning process on how to assess and evaluate single classification, assess and evaluate one classification in relation to another, and in addition combine social and economic factors with Canada Land Inventory information to produce a meaningful and useful plan for land use.

From the foregoing, one can say that the Canada Land Inventory information is a useful planning tool. In its proper perspective, one can say that for the first time plans for the use of land could evolve from sound basic resource information. As a comparison, in the construction of a building the foundation is all-important, and without a sound foundation all else fails. No different is a land use plan that needs as a foundation accurate and ample resource information if the whole plan is to be a useful plan.

2. It is anticipated that single sectors will make considerable use of Canada Land Inventory information. For example, the request for the hydrology information was in relation to the Churchill River Study. Here again we lacked Inventory information such as Bio-Physical information, which I hope will one day be part of the Inventory.

I believe it to be of the utmost importance that complete Canada Land Inventory information be made

available to University departments upon request. Here in Saskatchewan there is considerable interest in the distribution of information from the Canada Land Inventory data bank and map repository. I would suggest that there is room for a professional communication here to explore the possibility of audio-visual aids in the form of short recorded explanations of maps and actual slides of areas that are involved in portions of the map. Example - CL 2 shoreline or CL 3 ungulates, CL 4 forest, etc. I have long felt that one of the ways to put across the idea of planning for land use in its broad aspects is to have the subject offered as a University course. In this way Canada Land Inventory information could get to the students that will one day be the resource land administrators.

To date the University of Saskatchewan at Saskatoon and Regina has made inquiries and, when possible, have received map information for their department's use. I anticipate that these requests will continue to increase.

PRIVATE INDIVIDUALS:

This is possibly the most controversial aspect of the future use of Canada Land Inventory information. There is the opinion of many that Canada Land Inventory information could be and will be misinterpreted by individuals. This is particularly true in recreation and wildlife lands. However, Canada Land Inventory is also provided and paid for by the public and, therefore, individuals have a right to the information. To offset misinterpretation, there is an onus to impart as much explanation of the use of Canada Land Inventory to get across to individuals the place of Canada Land Inventory in relation to resource land planning.

To date there has not been too many requests from individuals other than the agricultural publication. If a publicity program is undertaken when the Inventory is complete, more requests are anticipated.

The above attempts to explain the Canada Land Inventory in Saskatchewan in terms of present and future. There is no doubt in my mind that Canada Land Inventory has a valuable function in the realm of land planning. However, the important thing is to realize its value and its limitations and to proceed from there as one of the "basic tools" from which planning in broad and narrow aspects can be undertaken.

DEPARTMENT OF AGRICULTURE

PROVINCE OF BRITISH COLUMBIA

VICTORIA

January 12th, 1970.

Mr. R. J. McCormack, Chief,
Canada Land Inventory,
Department of Regional Economic
Expansion,
Ottawa, Ontario.

Dear Mr. McCormack:

Attached is an indicative outline of uses of Canada Land Inventory information. Having written the outline I can already remember uses I have not covered. For example, it is being used to acquaint interdisciplinary groups about the problems each discipline has and how they can co-operate and help each other. This process is formally begun by us in some instances but is happening informally in various agencies in both public and private sectors. It appears that asking how Canada Land Inventory information will be used is parallel to asking the originator of the wheel, the screw and the inclined plane what effects their invention would have.

I will be glad to give further assistance or different perspectives as you wish them.

Sincerely,

W. A. Benson,
Co-ordinating Chairman,
Canada Land Inventory.

WAB:sam
Attached

USE OF CANADA LAND INVENTORY DATA IN BRITISH COLUMBIA

A. PRESENTLY REALIZED USES

1. Land Capability Analysis for the Prince George Special Sales Area was used to delineate administrative boundaries within which lands were the responsibility of a) the British Columbia Forest Service or b) the British Columbia Lands Service. These services are the major land agencies in British Columbia.
2. The land Capability Analysis for the Prince George Special Sales Area was also used to arrive at a policy which
   a) allows no new agricultural applicants
   b) limits agricultural applications to existing agricultural enterprises which require land for viability of present operation
   c) changes the percentage of arable land required on a lot before it can be alienated for agricultural purposes
   d) together with forestry and recreation sector maps is the basic planning material for recreational planning in Provincial Forest Boundaries.
   e) together with Forestry sector maps is being used to re-calculate allowable cuts thus making forest operations more efficient
   f) together with agriculture sector maps and re-application of climatology sector data is being used to delineate areas for promotion of specialty crops for local markets
   g) together with agriculture sector maps and re-application of climatology sector data has been used to discontinue studies on irrigation possibilities in the greatest portion of the area.
3. Has resulted in a Cabinet Committee, a Deputy Ministers' Committee on Land Use in British Columbia. These Committees have now declared that the Canada Land Inventory will be the basis for land

use planning and management in British Columbia.

4. All sectors and Capability Analysis for the East Kootenays Region will be used as the main base for mitigation in the Libby Reservoir area and for subsequent relocation and planning studies.
5. Land applications are being received in the light of Canada Land Inventory's information.

B. POTENTIAL USES

1. A proposed A.R.D.A. program in the West and Central Kootenay area is meant to create employment and increase incomes by developments in Recreation and Agriculture. Canada Land Inventory maps will be used extensively in this study when approved.
2. Innumerable applications of C.L.I. data to specific problems are known and will be pursued from time to time. Following are a few indications of this sort:
   a) certain abandoned (or otherwise available) cleared lands have a high capability for forestry and a low capability for agriculture. They are in prime condition for mechanical reforestation
   b) landforms prone to erosion require a special management practice while logging. Canada Land Inventory maps are based on a biophysical classification and these erosion-prone areas can be recognized. This is also true for certain pest-prone areas
   c) areas for agricultural specialty crops (particularly root crops and orchards) can be derived from Canada Land Inventory information though they appear as Class 4 and 5 in the National Classification. In areas where there is a market these acreages can greatly improve viability for farm families.
   d) land assessment can be greatly assisted by C.L.I. maps in a general way and in a very specific way when capabilities are applied to an area which was previously soil-surveyed. Specifically to site applications varies with the intensity of soil survey available before the Inventory.

In non-surveyed areas the Inventory provides a reconnaissance and can be used for general planning only.

e) recreation systems planning is possible from recreation sector maps. Similar uses are available for other sectors.

f) sites for big game habitat development

g) irrigation requirements, watershed parameters, runoff, etc., can be derived from the same climatological data required by forestry, agriculture, ungulates and recreation for their capability ratings. Arrangements are being made to provide rough data to D.O.T. to produce these refinements.

h) climatological data from the C.L.I. program is being used by D.O.T. to plan a Resource Climatology Network to be initiated gradually over the next ten years.

i) regional district plans are being based or reviewed on C.L.I. data as they become available.

C. INADEQUACIES

A major inadequacy is the scale and detail of the Inventory for many uses. However this should not be considered a complaint because the overall coverage by the Inventory is more important and useful than the few instances where more detail is required or warranted. It is a much simpler matter to obtain this detail when the Inventory is available.

An inadequacy will develop in this province if the C.L.I. boundary is not extended to cover the entire province. The remainder of the province is opening up rapidly and indications are that this trend will accelerate. Under these conditions it is very likely that costly mistakes in social and economic terms will occur if base information as supplied by the Canada Land Inventory is not available. Economic studies for regions would be helpful also. These must consider national implications as well as various scales of regionalism.

D. GENERAL

The foregoing can only be the briefest of indications of

use because now that use of the data has begun proliferation has begun. We now and more frequently become aware of some new application of the data in agencies working on their own in federal or provincial offices. Private agencies have also begun making use of the data and we occasionally hear of these too.

LXXXIX

FIGURE 3

INDEX DES CARTES DES POSSIBILITÉS DES SOLS POUR L'AGRICULTURE

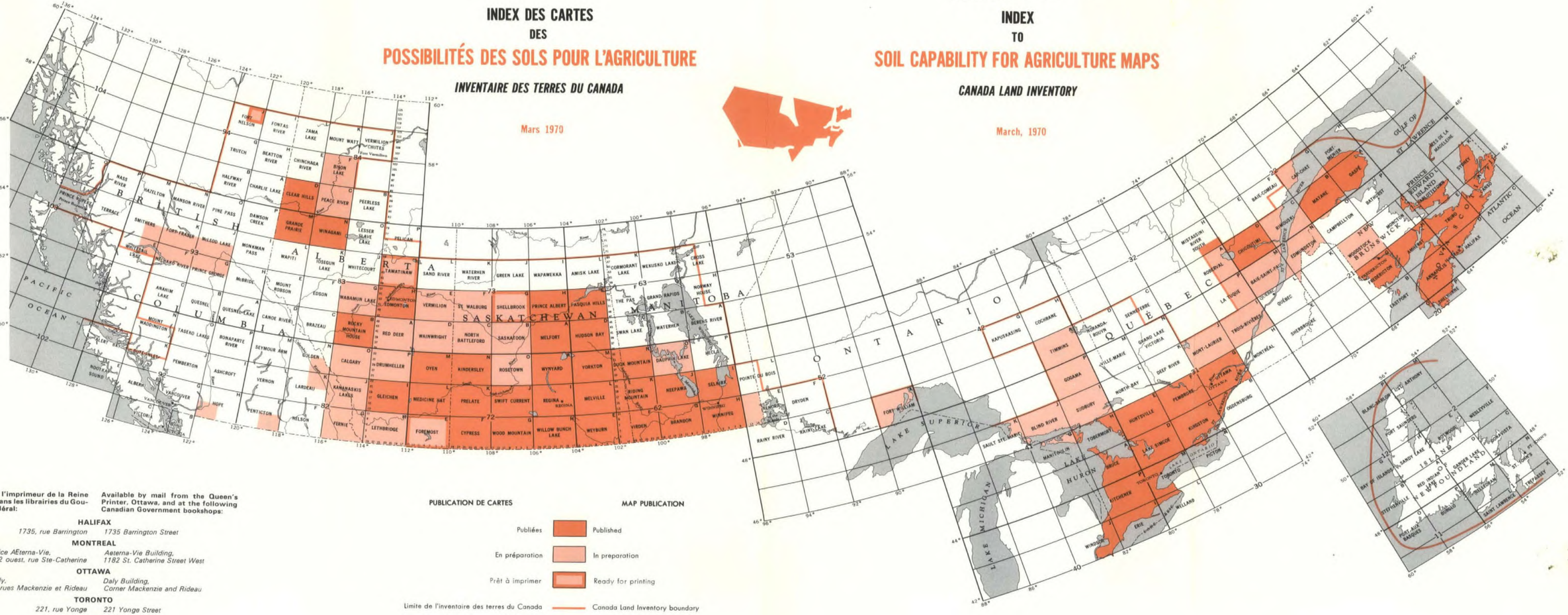
INVENTAIRE DES TERRES DU CANADA

Mars 1970

INDEX TO SOIL CAPABILITY FOR AGRICULTURE MAPS

CANADA LAND INVENTORY

March, 1970



En vente chez l'imprimeur de la Reine à Ottawa, et dans les librairies du Gouvernement fédéral:

HALIFAX
1735, rue Barrington

MONTREAL
Édifice AEterna-Vie, 1182 ouest, rue Ste-Catherine

OTTAWA
Édifice Daly, angle des rues Mackenzie et Rideau

TORONTO
221, rue Yonge

WINNIPEG
Édifice Mall Centre, 499, ave Portage

VANCOUVER
657, rue Granville

ou chez votre libraire

Prix $0.35
N° de catalogue RE64/2
Prix sumet à changement sans avis préalable

Available by mail from the Queen's Printer, Ottawa, and at the following Canadian Government bookshops:

HALIFAX
1735 Barrington Street

MONTREAL
Aeterna-Vie Building, 1182 St. Catherine Street West

OTTAWA
Daly Building, Corner Mackenzie and Rideau

TORONTO
221 Yonge Street

WINNIPEG
Mall Center Building, 499 Portage Ave.

VANCOUVER
657 Granville Street

or through your bookseller

Price $0.35
Catalogue No. RE64/2
Price subject to change without notice

Cartographie réalisée par l'Institut de recherche sur les sols, Direction de la recherche, ministère de l'Agriculture du Canada.

Cartography by the Soil Research Institute, Research Branch, Canada Department of Agriculture.

FIGURE 4

INDEX DES CARTES DES POSSIBILITÉS DES TERRES POUR LA FORÊT

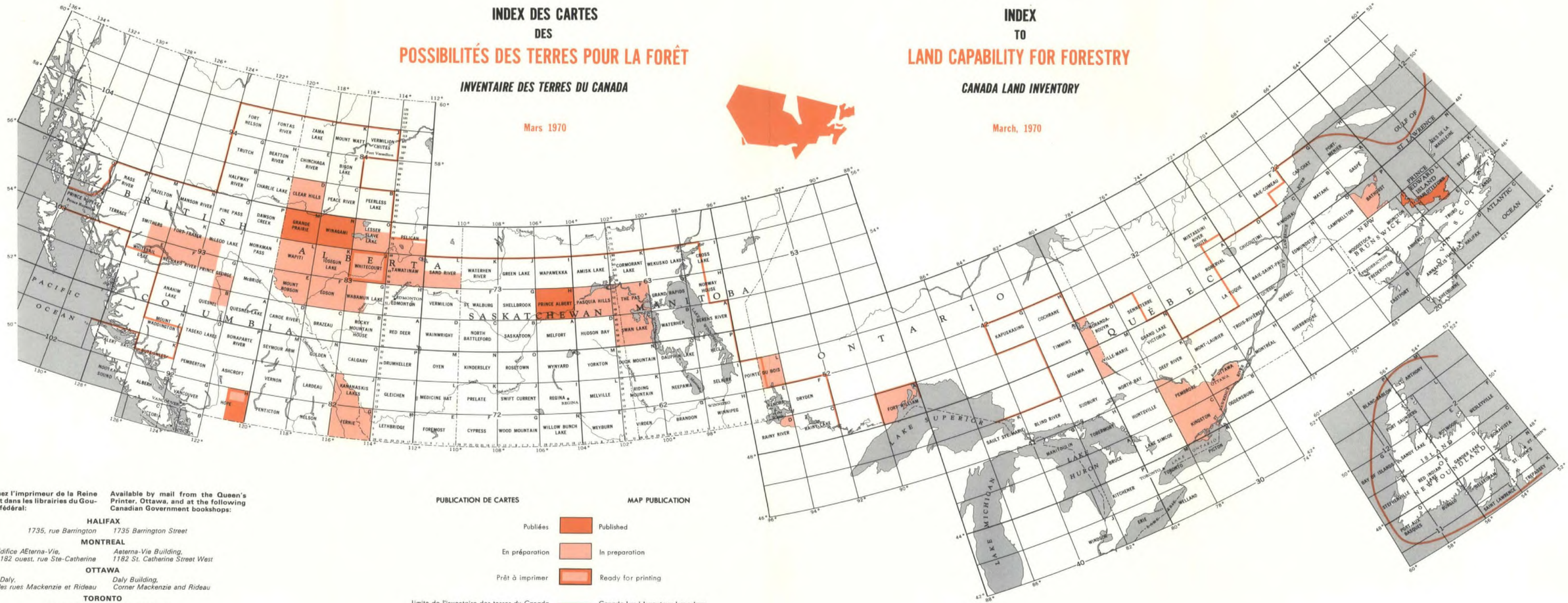
INVENTAIRE DES TERRES DU CANADA

Mars 1970

INDEX TO LAND CAPABILITY FOR FORESTRY

CANADA LAND INVENTORY

March, 1970



En vente chez l'imprimeur de la Reine à Ottawa, et dans les librairies du Gouvernement fédéral:

HALIFAX
1735, rue Barrington

MONTREAL
Édifice AEterna-Vie, 1182 ouest, rue Ste-Catherine

OTTAWA
Édifice Daly, angle des rues Mackenzie et Rideau

TORONTO
221, rue Yonge

WINNIPEG
Édifice Mail Centre, 499, ave Portage

VANCOUVER
657, rue Granville

ou chez votre libraire

Prix $0.35
N° de catalogue RE64/3
Prix sumet à changement sans avis préalable

Available by mail from the Queen's Printer, Ottawa, and at the following Canadian Government bookshops:

HALIFAX
1735 Barrington Street

MONTREAL
Aeterna-Vie Building, 1182 St. Catherine Street West

OTTAWA
Daly Building, Corner Mackenzie and Rideau

TORONTO
221 Yonge Street

WINNIPEG
Mall Center Building, 499 Portage Ave.

VANCOUVER
657 Granville Street

or through your bookseller

Price $0.35
Catalogue No. RE64/3
Price subject to change without notice

PUBLICATION DE CARTES / **MAP PUBLICATION**

Publiées	Published
En préparation	In preparation
Prêt à imprimer	Ready for printing
Limite de l'inventaire des terres du Canada	Canada Land Inventory boundary

Cartographie réalisée par l'Institut de recherche sur les sols, Direction de la recherche, ministère de l'Agriculture du Canada.

Cartography by the Soil Research Institute, Research Branch, Canada Department of Agriculture.

FIGURE 5

INDEX DES CARTES DES POSSIBILITÉS DES TERRES POUR LA FAUNE – SAUVAGINE

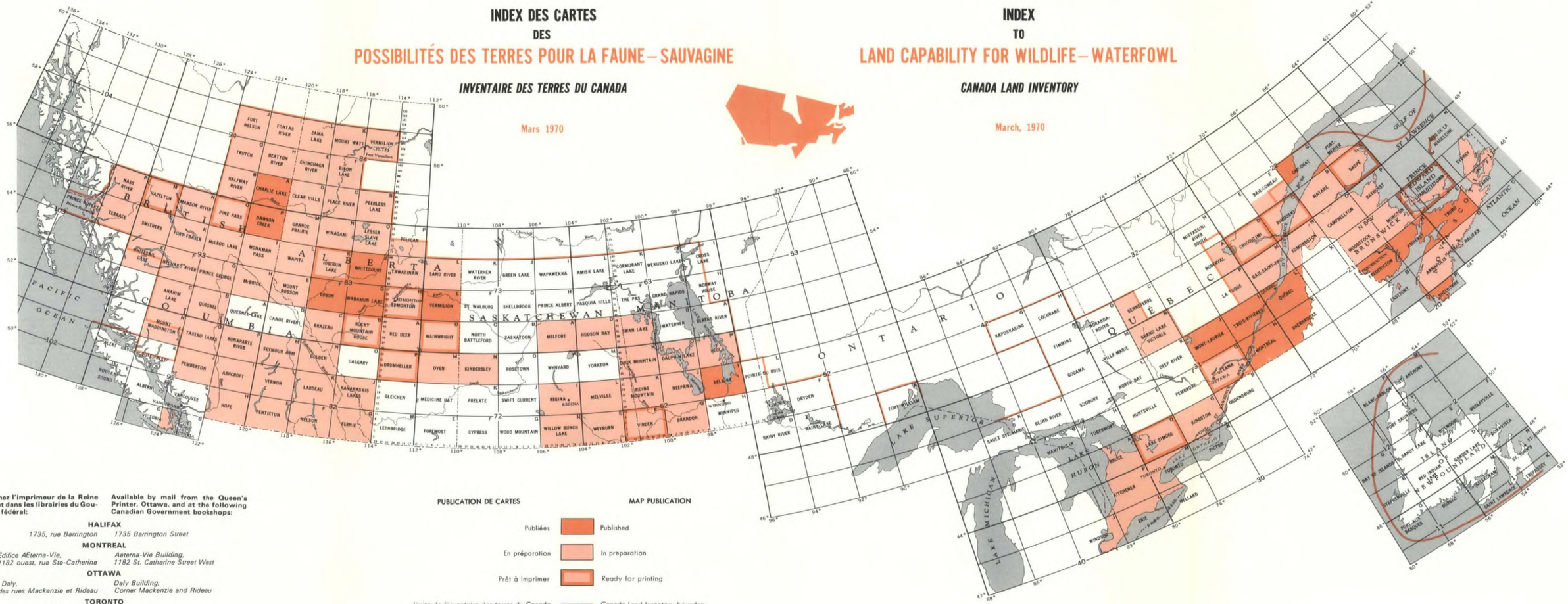
INVENTAIRE DES TERRES DU CANADA

Mars 1970

INDEX TO LAND CAPABILITY FOR WILDLIFE – WATERFOWL

CANADA LAND INVENTORY

March, 1970



PUBLICATION DE CARTES / **MAP PUBLICATION**

Publiées	Published
En préparation	In preparation
Prêt à imprimer	Ready for printing
Limite de l'inventaire des terres du Canada	Canada Land Inventory boundary

En vente chez l'imprimeur de la Reine à Ottawa, et dans les librairies du Gouvernement fédéral:

HALIFAX
1735, rue Barrington

MONTREAL
Édifice AEterna-Vie, 1182 ouest, rue Ste-Catherine

OTTAWA
Édifice Daly, angle des rues Mackenzie et Rideau

TORONTO
221, rue Yonge

WINNIPEG
Édifice Mall Centre, 499, ave Portage

VANCOUVER
657, rue Granville

ou chez votre libraire

Prix $0.35
N° de catalogue RE64/4vv
Prix sumet à changement sans avis préalable

Available by mail from the Queen's Printer, Ottawa, and at the following Canadian Government bookshops:

HALIFAX
1735 Barrington Street

MONTREAL
Aeterna-Vie Building, 1182 St. Catherine Street West

OTTAWA
Daly Building, Corner Mackenzie and Rideau

TORONTO
221 Yonge Street

WINNIPEG
Mall Center Building, 499 Portage Ave.

VANCOUVER
657 Granville Street

or through your bookseller

Price $0.35
Catalogue No. RE64/4vv
Price subject to change without notice

Cartographie réalisée par l'Institut de recherche sur les sols, Direction de la recherche, ministère de l'Agriculture du Canada.

Cartography by the Soil Research Institute, Research Branch, Canada Department of Agriculture.

FIGURE 6

INDEX DES CARTES DES POSSIBILITÉS DES TERRES POUR LA FAUNE – ONGULÉS

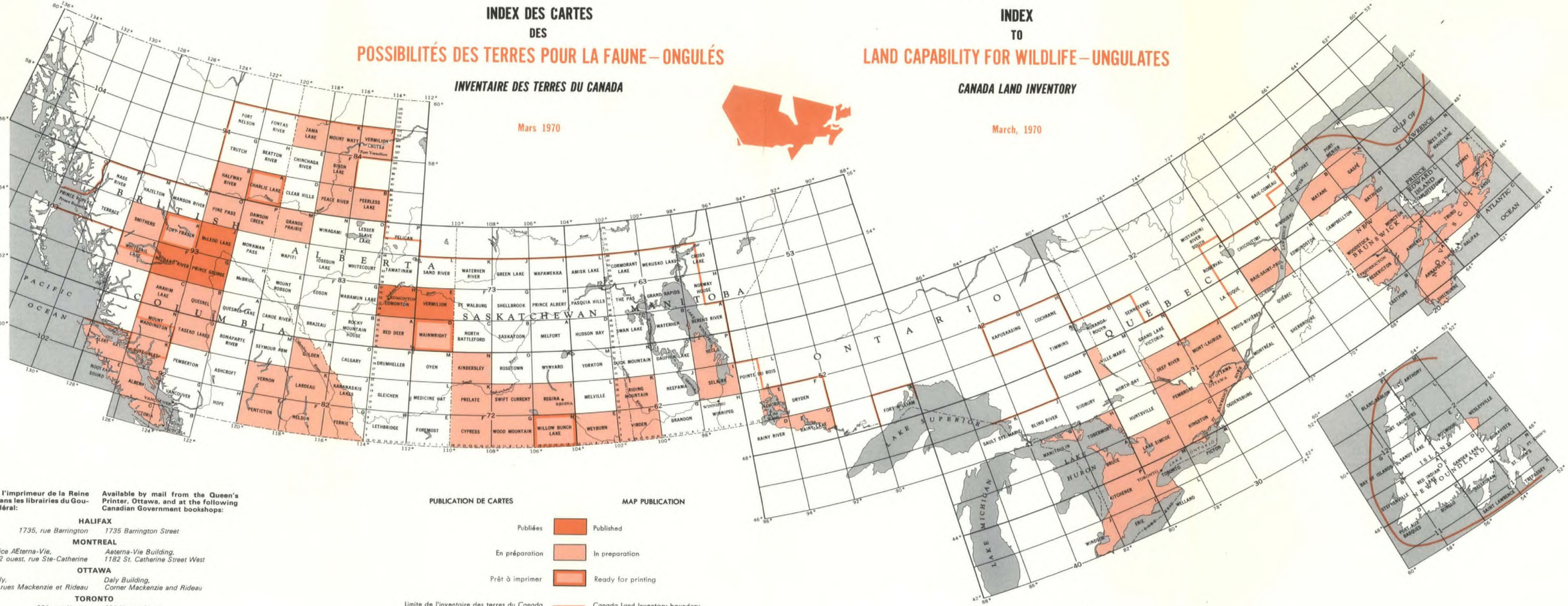
INVENTAIRE DES TERRES DU CANADA

Mars 1970

INDEX TO LAND CAPABILITY FOR WILDLIFE – UNGULATES

CANADA LAND INVENTORY

March, 1970



PUBLICATION DE CARTES / **MAP PUBLICATION**

Publiées	Published
En préparation	In preparation
Prêt à imprimer	Ready for printing
Limite de l'inventaire des terres du Canada	Canada Land Inventory boundary

En vente chez l'imprimeur de la Reine à Ottawa, et dans les librairies du Gouvernement fédéral:

HALIFAX
1735, rue Barrington

MONTREAL
Édifice AEterna-Vie, 1182 ouest, rue Ste-Catherine

OTTAWA
Édifice Daly, angle des rues Mackenzie et Rideau

TORONTO
221, rue Yonge

WINNIPEG
Édifice Mall Centre, 499, ave Portage

VANCOUVER
657, rue Granville

ou chez votre libraire

Prix $0.35
N° de catalogue RE64/4u
Prix sumet à changement sans avis préalable

Available by mail from the Queen's Printer, Ottawa, and at the following Canadian Government bookshops:

HALIFAX
1735 Barrington Street

MONTREAL
Aeterna-Vie Building, 1182 St. Catherine Street West

OTTAWA
Daly Building, Corner Mackenzie and Rideau

TORONTO
221 Yonge Street

WINNIPEG
Mall Center Building, 499 Portage Ave.

VANCOUVER
657 Granville Street

or through your bookseller

Price $0.35
Catalogue No. RE64/4u
Price subject to change without notice

Cartographie réalisée par l'Institut de recherche sur les sols, Direction de la recherche, ministère de l'Agriculture du Canada.

Cartography by the Soil Research Institute, Research Branch, Canada Department of Agriculture.

FIGURE 7

INDEX DES CARTES DES POSSIBILITÉS DES TERRES POUR LA RÉCRÉATION

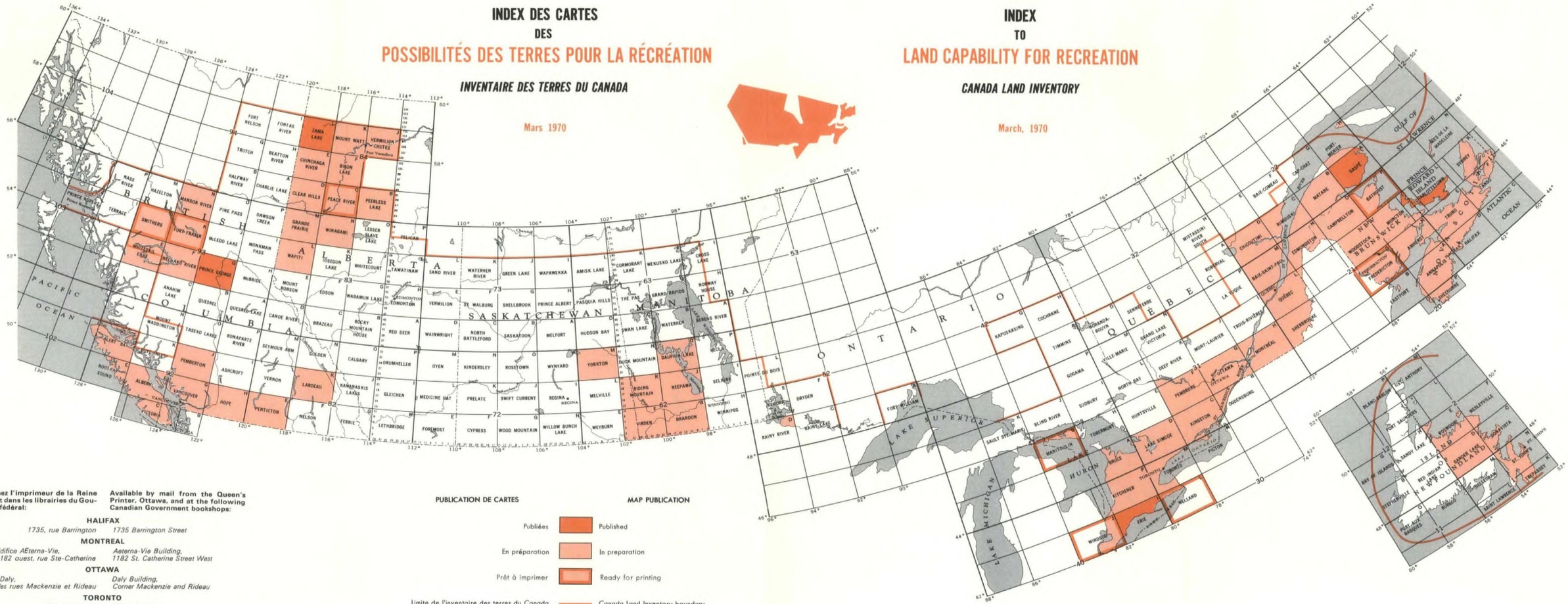
INVENTAIRE DES TERRES DU CANADA

Mars 1970

INDEX TO LAND CAPABILITY FOR RECREATION

CANADA LAND INVENTORY

March, 1970



En vente chez l'imprimeur de la Reine à Ottawa, et dans les librairies du Gouvernement fédéral:

Available by mail from the Queen's Printer, Ottawa, and at the following Canadian Government bookshops:

HALIFAX
1735, rue Barrington — *1735 Barrington Street*

MONTREAL
Édifice AEterna-Vie, 1182 ouest, rue Ste-Catherine — *Aeterna-Vie Building, 1182 St. Catherine Street West*

OTTAWA
Édifice Daly, angle des rues Mackenzie et Rideau — *Daly Building, Corner Mackenzie and Rideau*

TORONTO
221, rue Yonge — *221 Yonge Street*

WINNIPEG
Édifice Mall Centre, 499, ave Portage — *Mall Center Building, 499 Portage Ave.*

VANCOUVER
657, rue Granville — *657 Granville Street*

ou chez votre libraire — or through your bookseller

Prix $0.35
N° de catalogue RE64/5
Prix sujet à changement sans avis préalable

Price $0.35
Catalogue No. RE64/5
Price subject to change without notice

PUBLICATION DE CARTES — **MAP PUBLICATION**

Publiées	Published
En préparation	In preparation
Prêt à imprimer	Ready for printing
Limite de l'inventaire des terres du Canada	Canada Land Inventory boundary

Cartographie réalisée par l'Institut de recherche sur les sols, Direction de la recherche, ministère de l'Agriculture du Canada.

Cartography by the Soil Research Institute, Research Branch, Canada Department of Agriculture.