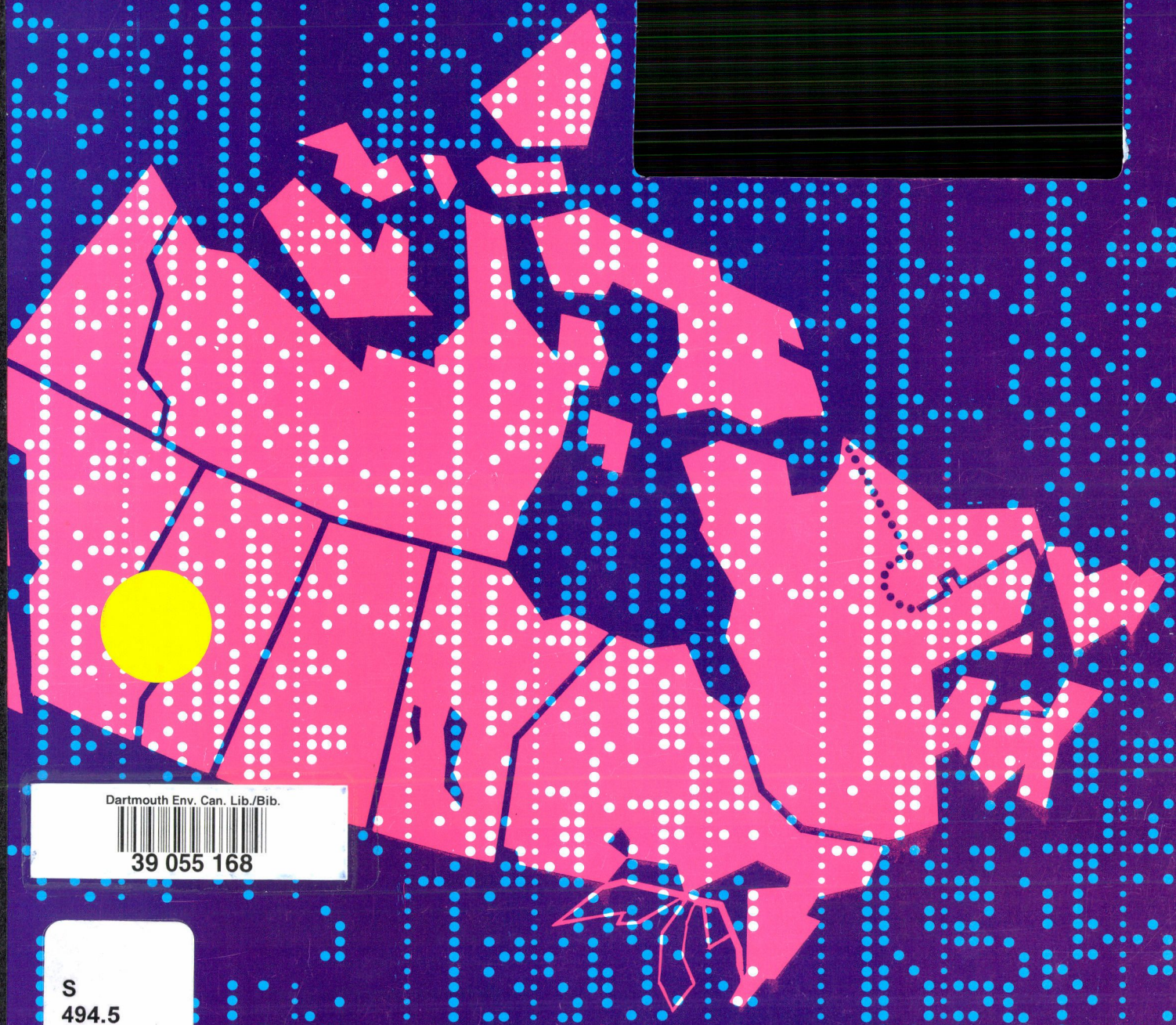
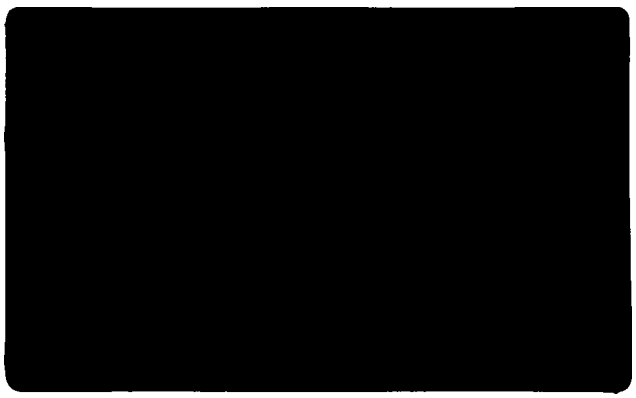
Environment Canada
Lands Directorate

Environnement Canada
Direction générale des terres

canada land data system



geographic information system



CLDS

Canada Land Data System

Canada Land Data System (CLDS) is a computer system which handles land resource information. CLDS can manipulate and produce land data in various forms to facilitate effective land use planning and management at all levels: national, provincial, regional, municipal.

CLDS, through its main component, the Canada Geographic Information System (CGIS):

• stores • manipulates • analyzes • provides access to physical, biological, social and economic information on Canada's land resources.

Types of information available

Canada Land Data System provides access to:

- more than 3 500 digitized maps. These maps include those of the Canada Land Inventory, which detail land capability for forestry, agriculture, recreation and wildlife — waterfowl and ungulates — for one-third of Canada
- unpublished Canada Land Inventory land use maps
- updated land use data for specific areas
- census and administrative boundaries
- watershed boundaries
- pollutant transfer maps
- information on federal land holdings
- ecological land data for various areas
- other land data.

An index of information available can be obtained from the Lands Directorate which administers the system.

Demonstrated uses

Clients such as provincial and federal government departments, crown corporations, universities and various land survey groups use this computerized land data system for:

- land use planning and monitoring
- measuring shorelines
- federal land management
- defining areas of conflict between competing resource uses
- national parks planning and management
- linking census data to other types of information
- environmental impact studies
- ecological land evaluation
- coastal zone studies
- country-wide summary of land capability and uses
- creating data for input into other geographic information systems.

CLDS services

Input:

CLDS converts land data for entry into a data base quickly, accurately and at low cost using a digitizing process. Data is digitized by:

- *map scanner*: main method used, automated, capable of handling large numbers of maps. CGIS was first operational system to use this method routinely for converting map data
- *IDESS (Interactive Digitizing and Editing Sub-System)*: data displayed on terminal screen for immediate verification, editing and update.

Output:

- provides information in tabular form on wide range of topics (e.g. areas of permafrost in northern Manitoba)
- provides data in map form on variety of topics, at any required scale. Maps produced in black and white or color
- prepares tabular and map information for direct input to other data systems such as Statistical Package for Social Sciences.

Standard Products

Information available in printed or digital form for CLI data by:

- province
- county or census division
- municipality
- enumeration area
- watershed
- National Topographic Series maps

Access

Map data are available from graphics terminals at Lands Directorate offices.

Tabular information can be retrieved from terminals anywhere in Canada via telephone links.

Cost

Processing costs depend on user requirements. Cost estimates are available on request.

ANNUAL REPORT

1980-1981

CANADA LAND
DATA SYSTEMS
DIVISION

MAY 1981

Introduction

CLDS
LANDS DIRECTORATE
ENVIRONMENT CANADA

ANNUAL REPORT

SECTION: CLDS ANNUAL REPORT 1980-81	DATE: JUNE 81	PAGE:
SUB-SECTION: INTRODUCTION	AUTHOR: WAS	REVISION:

INTRODUCTION

This is the second annual report of the Canada Landa Data Systems Division, Lands Directorate, Environment Canada. It gives me great pleasure to present this report, especially so since the credit must go to the staff members who, individually and collectively produced it under the coordination of Connie MacDonald.

I believe that even a cursory examination will reveal that CLDS has participated in a number of projects and developments and is closely linked to Lands Directorate's programs and acitivities. If there is any disappointment from my point of view, it is the lack of resources that I was able to devote to research and development. As outlined in the draft policy document, I have a goal of 25% of our resources devoted to research and development. Unfortunately in the past fiscal year, only 11% of our resources were expended on R&D.

This past year software staff movement left us with a number of vacancies. However at this time, all group leader and the Head of Software Systems positions were filled. Only two CS-2 positions remain open. We now have in CLDS as strong a software team as we have ever had. The strength of years of experience and loyalty to the job of the production group continues to bear fruit.

Last year marked a record in terms of cost recoverables with CLDS recovering something in excess of $160,000 - triple the estimated $50,000. There is no doubt that we have reached the saturation point and this year will likely see a decrease rather than an increase in cost recovery operations. Lands Directorate projects from both Headquarters and the Regions continue to occupy a more significant portion of the available resources and in all likelihood they will consume close to 100% of the resources this fiscal year.

With the research activities underway, and a client base already established, I see the coming years as very positive and successful for the CLDS Division. This success is in no short measure due to the devotion of the staff and their belief that we are doing the right things right.

W.A. Switzer
June 15, 1981.

Contents

CLDS
LANDS DIRECTORATE
ENVIRONMENT CANADA

ANNUAL REPORT

SECTION: CLDS ANNUAL REPORT 1980-81	DATE: MAY 81	PAGE:
SUB-SECTION: CONTENTS	AUTHOR: CLM	REVISION:

INTRODUCTION

CONTENTS

1. National Land Data Base

CLDS
LANDS DIRECTORATE
ENVIRONMENT CANADA

ANNUAL REPORT

SECTION: 1. NATIONAL LAND DATA BASE *	DATE: MAR 81	PAGE: 1-1
SUB-SECTION: 1.1 ADDITIONS FISCAL YEAR 80-81	AUTHOR: EEB	REVISION:

MAPS ADDED 80-81

Coverage Name	Coverage Code	Scale	Number of Maps
Census 1971	000	1:50,000	1
	040	1:50,000	24
Shoreline	100	1:50,000	1
	105	1:250,000	28
	107X	1:1,000,000	13
CLI - Agriculture	200	1:50,000	15
	202	1:125,000	11
CLI - Forestry	300	1:50,000	1
	302	1:125,000	12
CLI - Ungulates	400	1:50,000	2
CLI - Waterfowl	500	1:50,000	1
CLI - Recreation	600	1:50,000	1
James Bay Biophysical	9129	1:125,000	4
		TOTAL	114

* For purposes of this report, National Land Data Base represents those maps that have a general use and applicability for multiple clients or are in support of the CLI program. Client Data Bases include all other maps including those maps entered for Lands.

CLDS

LANDS DIRECTORATE
ENVIRONMENT CANADA

ANNUAL REPORT

SECTION: 1. NATIONAL LAND DATA BASE *	DATE: MAR 81	PAGE: 1-2
SUB-SECTION: 1.2 CONTENTS AS OF MARCH 31/80	AUTHOR: EEB	REVISION:

CONTENTS MARCH 31/80

Coverage Name	Coverage Code	Scale	Number of Maps
Census 1971	000	1:50,000	71
Census 1976	015	1:250,000	177
	035	1:250,000	286
	036	1:500,000	59
Watershed	025	1:250,000	198
Shoreline	100	1:50,000	102
	102	1:125,000	52
	105	1:250,000	299
Agriculture	200	1:50,000	75
	202	1:125,000	49
	205	1:250,000	159
Forestry	302	1:125,000	44
	305	1:250,000	146
Wildlife Ungulates	405	1:250,000	227
Wildlife Waterfowl	505	1:250,000	210
Recreation	600	1:50,000	101
	605	1:250,000	224
Sportfish	615	1:250,000	57
James Bay Biophysical	9129	1:125,000	75
		TOTAL	2611

* For purposes of this report, National Land Data Base represents those maps that have a general use and applicability for multiple clients or are in support of the CLI program. Client Data Bases include all other maps including those maps entered for Lands.

2. Client Data Bases

CLDS
LANDS DIRECTORATE
ENVIRONMENT CANADA

ANNUAL REPORT

SECTION: 2. CLIENT DATA BASES	DATE: MAR 81	PAGE: 2-1
SUB-SECTION: 2.1 ADDITIONS FISCAL YEAR 80-81	AUTHOR: EEB	REVISION:

MAPS ADDED 80-81

Coverage Name & Description	Coverage Code	Scale	Number of Maps
Hydro Québec	9149	1:250,000	16
Sask. Forest Inventory	9150	1:12,500	2
Coal Deposits	9151	1:250,000	4
Qu'Appelle Valley Study			
MTR and Zoning	9153	1:50,000	24
Vegetation Shoreline & Municipal Boundary	9154	1:50,000	24
Topography	9155	1:50,000	24
Agriculture, CLI & Soils	9156	1:50,000	24
Terrain	9165	1:50,000	20
Geology	9166	1:250,000	3
AFS Administration Units	9157	1:253,440	22
Alberta Public Lands	9158	1:253,440	14
Oshawa Soils	9159	1:50,000	1
Sask. Forest Inventory Update	9160	1:12,500	1
Oshawa Watershed	9161	1:50,000	1
LRTAP Bedrock Geology	9162	1:1,000,000	4
LRTAP Ecodistricts	9163	1:1,000,000	8
Trans Canada Pipeline Corridor	9164	1:50,000	1
Land Use	700	1:50,000	15
	720	1:250,000	14
Federal Lands - Polygon Data	955	1:250,000	110
- Point Data	8003	1:250,000	102
		TOTAL	434

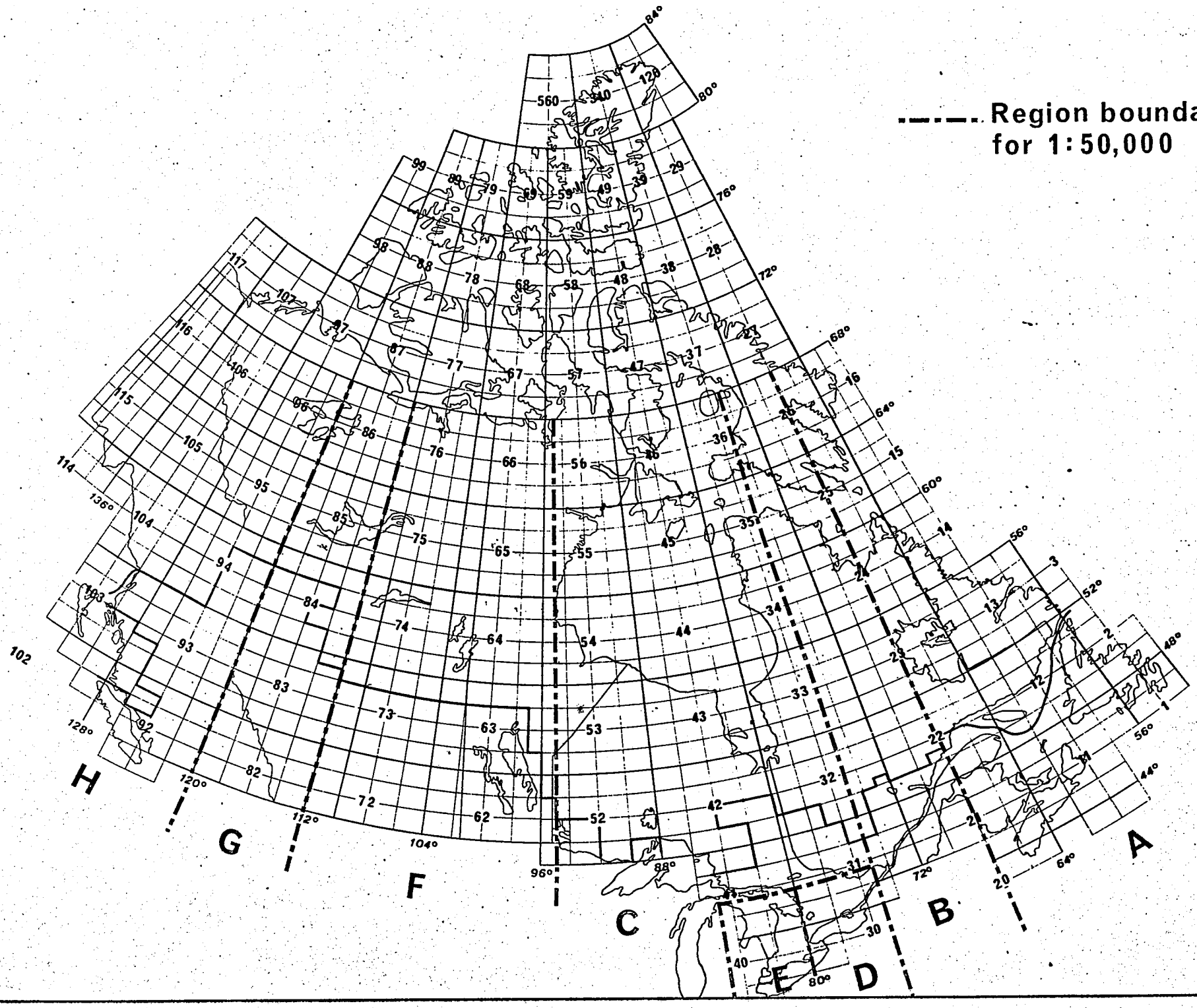
CONTENTS MARCH 31/80

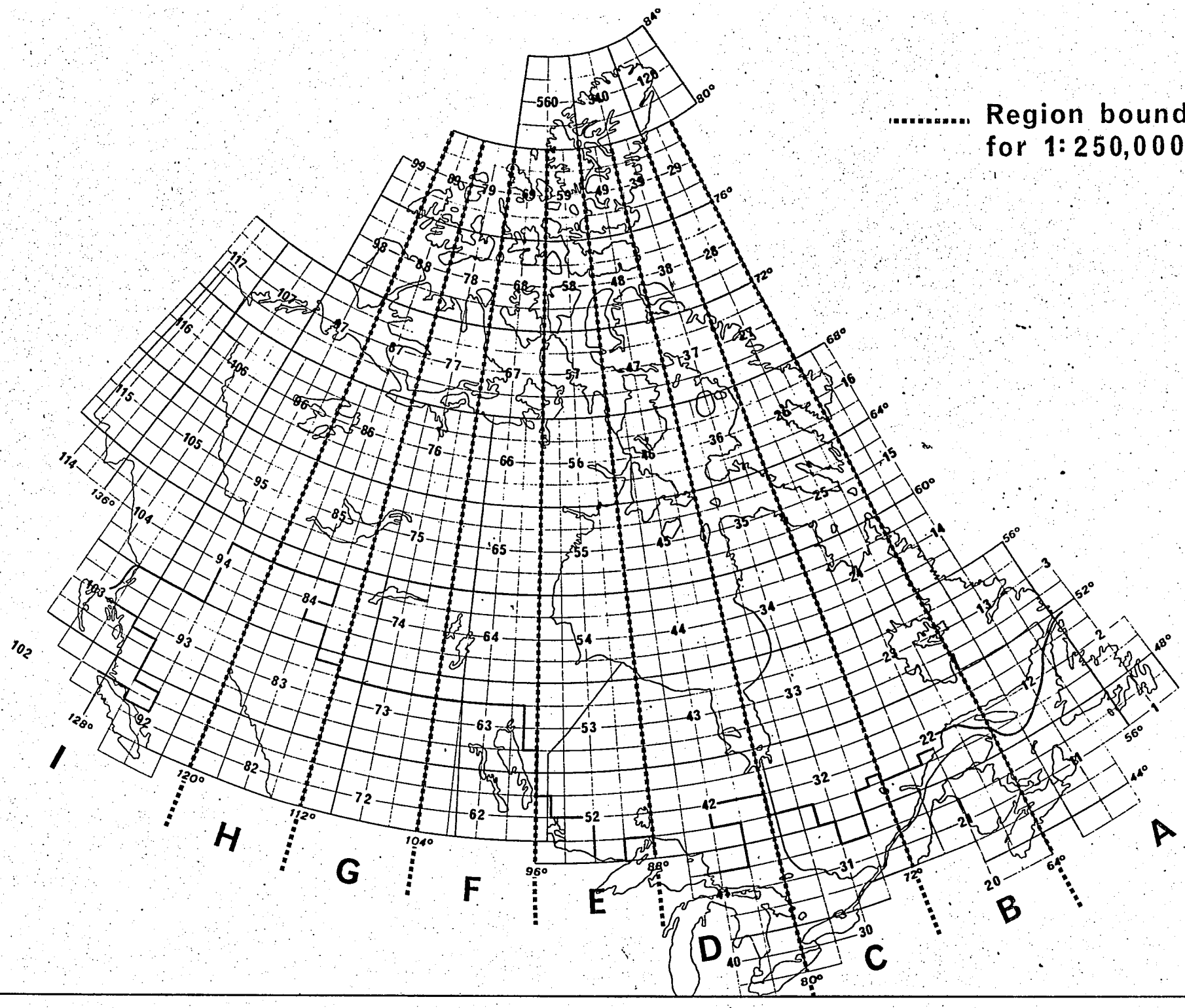
Coverage Name & Description	Coverage Code	Scale	Number of Maps
County boundaries and names for IJC study area around the Great Lakes	920	1:250,000	24
Agriculture & shoreline - Vancouver Regional district	923	1:50,000	4
Ottawa - CLI Recreation - 1964 Land Use - 1968 Land Use - 1973 Land Use - CLI Agriculture	924 925 926 927 928	1:50,000	5
Land Use for the Great Lakes Study	930	1:250,000	24
Watershed Boundaries - Great Lakes	935	1:250,000	24
Pollutant Transfer - Great Lakes	936	1:250,000	10
Satellite and airborne remote sensed data - Northern Manitoba	937 938 939 940	1:250,000	4
Ontario Timber Inventory	310	1:250,000	17
Circles with radius of 100 miles for the 23 CMA's	9015 9051-9071 9084	1:500,000	23
Pilot study of biophysical data - Manitoba	9019	1:125,000	2
Geological survey of Canada	9021	1:253,440	1
1976 Spruce Budworm areas - New Brunswick	9023	1:500,000	1

CONTENTS MARCH 31/80 (cont'd)

Coverage Name & Description	Coverage Code	Scale	Number of Maps
1977 Spruce Budworm defoliation - N.S.	9093	1:50,000	7
Range and Township - Saskatchewan	9095	1:500,000	1
Biophysical coverage - Terra Nova National Park	9096	1:31,680	4
Federal Lands - Point Data Pilot	8001	1:250,000	10
Federal Lands (Pilot Project)	9101	1:250,000	4
Northern Land Use (Pilot Project)	9102 9103 9104	1:250,000	3
North West Africa - (Promotion)	9105	1:50,000	1
North West Africa - FAO, Soil Degradation	9131 9132 9133	1:50,000	3
Firth River - Parks Canada	9106	1:250,000	2
Ontario Biophysical Districts	9107	1:250,000	4
P.E.I. Soils (Promotion)	9108	1:10,000	1
P.E.I. Land Ownership (Promotion)	9117	1:10,000	1
2 km grid (CLUMP)	9109	1:250,000	16
CMHC Windsor Pilot	9110	1:25,000	9

3.1 Derived Data Bases - Overlay


Region boundaries
for 1:50,000
A
B
C
D
E
F
G
H


Region boundaries
for 1:250,000
A
B
C
D
E
F
G
H
I

OVERLAYS COMPLETED APRIL 1, 1980 TO MARCH 31, 1981

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
1)	Watershed, 1976 Census, Shoreline, Agriculture, Forestry and 1968 Land Use	1AU1	1:250,000	P.E.I. and part of Nova Scotia (Region A)
2)	Watershed, 1976 Census, Shoreline, Agriculture, Forestry and 1968 Land Use	1BU1	1:250,000	New Brunswick and Part of Nova Scotia (Region B)
3)	Merge of overlay coverages 1AU1, 1BU1 and 1CU1. Watershed, 1976 Census, Forestry and and 1968 Land Use	1XU1	1:250,000	Québec, Nova Scotia, New Brunswick and P.E.I.
4)	Shoreline, 1971 Census, Agriculture, 1968 & 1972 Land Use	3XX1	1:50,000	Two map sheets in New Brunswick (21H05,21H12)
5)	Watershed, 1976 Census, Shoreline, Agriculture, Forestry and 1968 Land Use	3CU1	1:250,000	Western Québec and Eastern Ontario (Region C)
6)	Watershed, 1976 Census, Shoreline, Agriculture, Forestry and 1968 Land Use	4XUT	1:250,000	Five counties in Southern Ontario. Glengary, Prescott, Russell, Dundas and Stormont
7)	Watershed, 1976 Census, Shoreline, Agriculture, Forestry and 1968 Land Use	4XU1	1:250,000	Ontario

OVERLAYS COMPLETED APRIL 1, 1980 TO MARCH 31, 1981 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
8)	Watershed, 1976 Census, Shoreline, Agriculture, Forestry and 1968 Land Use	5DU1	1:250,000	Central Ontario (Region D)
9)	Watershed, 1976 Census, Shoreline, Agriculture, Forestry and 1968 Land Use	5EU1	1:250,000	Western Ontario (Region E)
10)	Merge of overlay coverages 5EU1, 6FU1 and 7GU1. Watershed, 1976 Census, Shoreline, Agriculture, Forestry and 1968 Land Use	5XU1	1:250,000	Manitoba and Saskatchewan
11)	Watershed, 1976 Census, Shoreline, Agriculture, Forestry and 1968 Land Use	6FU1	1:250,000	Western Manitoba (Region F)
12)	Coal Deposits, Agriculture, Shoreline, 1971 Census and 1968 Land Use	7CDS	1:250,000	Four map sheets in Saskatchewan
13)	Watershed, 1976 Census, Shoreline, Agriculture, Forestry and 1968 Land Use	7GU1	1:250,000	Western Saskatchewan (Region G)
14)	Watershed, 1976 Census, Shoreline, Agriculture, Forestry and 1968 Land Use	8HU1	1:250,000	Western Alberta (Region H)

OVERLAYS COMPLETED APRIL 1, 1980 TO MARCH 31, 1981 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
15)	Merge of overlay coverages 7GU1 and 8HU1. Watershed, 1976 Census, Shoreline, Agriculture, Forestry and 1968 Land Use	8XU1	1:250,000	Alberta
16)	Shoreline, Map Grid, Beaver and Muskrat and Red Squirrel Capability	AFLI	1:250,000	Three map sheets in Alberta (73L, 74D and 83L)
17)	Ten ecoregion coverages and acid rain coverage	ERGN	1:50,000	All Canada (areas recalculated to 1:15,000,000)
18)	Forest inventory map and updated forest cover map (Pilot)	SASK	1:12,500	One map in Saskatchewan 73H14
19)	1976 Census, Shoreline, Agriculture, Recreation, 1967, 1972 and 1977 Land Use	WIND	1:50,000	Windsor (map sheets 40J02, 40J03E, 40J06E, 40J07)
20)	Parcel and ownership information, Agriculture, Recreation, 1972 and 1977 Land Use	WNSR	1:250,000	One map in Ontario Windsor (40J)
21)	Township, Shoreline, Agriculture, 1952, 1967 and 1976 Land Use	SLU2	1:50,000	Saugeen Area (Southern Ontario)
22)	Federal Lands (polygons only), 1976 Census, Shoreline, Agriculture, Waterfowl and 1968 Land Use	FED1	1:250,000	Winnipeg (map sheet 62H)

OVERLAYS COMPLETED APRIL 1, 1980 TO MARCH 31, 1981 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
23)	Shoreline, 1971 Census, Agriculture, Recreation, 1968, 1972 and 1977 Land Use	CHTM	1:50,000	Chicoutimi - Jonquière
24)	Shoreline, Agriculture, Recreation, 1968, 1972 and 1977 Land Use	CALG	1:50,000	Calgary
25)	Shoreline, 1971 Census, Agriculture, Recreation, 1968, 1972 and 1977 Land Use	MTRL	1:50,000	Montréal
26)	Shoreline, 1971 Census, Agriculture, Recreation, 1968, 1972 and 1977 Land Use	MTR2	1:50,000	Montréal (2 map sheets)
27)	Merge of MTRL and MTR2 Shoreline, 1971 Census, Agriculture, Recreation, 1968, 1972 and 1977 Land Use	MTR3	1:50,000	Montréal
28)	Agriculture, Shoreline, Recreation, 1971 Census, 1968, 1972 and 1977 Land Use	OSHW	1:50,000	Oshawa
29)	Shoreline, Agriculture, Recreation, 1968, 1972 and 1977 Land Use	EDMT	1:50,000	Edmonton
30)	Shoreline, 1971 Census, Agriculture, Recreation, 1968, 1972 and 1977 Land Use	QUE2	1:50,000	Québec

OVERLAYS COMPLETED APRIL 1, 1980 TO MARCH 31, 1981 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
31)	Shoreline, 1971 Census, Agriculture, Recreation, 1968, 1972 and 1977 Land Use	QUE3	1:50,000	Québec
32)	1976 Census, Shoreline, Agriculture, Recreation, 1967, 1972 and 1977 Land Use and Urban Study Area Boundary for Windsor	WINS	1:50,000	Windsor (map sheets 40J02, 40J03E, 40J06E, 40J07)
33)	1976 Census, Shoreline, Agriculture, Public Lands, Forest Management Units and Forestry	ALTA	1:250,000	Province of Alberta

OVERLAYS COMPLETED AS OF MARCH 31, 1980

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
1)	Shoreline, Forestry, Ungulates, Recreation, 1968 Land Use, 1976 Census	0XF3	1:250,000	Province of Newfoundland
2)	Circle Coverage, Shoreline, Forestry, Ungulates, Recreation, 1968 Land Use	0XFC	1:250,000	St. John's Newfoundland
3)	Merge of 1976 Census	035C	1:250,000	Manitoba, Saskatchewan, Alberta
4)	Merge of 1976 Census	035Y	1:250,000	Newfoundland, P.E.I. and part of Nova Scotia
5)	Shoreline, Ungulates, Waterfowl, 1971 Census	1AQ1	1:250,000	Newfoundland, P.E.I. and part of Nova Scotia
6)	1976 Census, Watershed, Agriculture, Waterfowl	1AR1	1:250,000	Prince Edward Island and part of Nova Scotia
7)	1976 Census, Watershed, Shoreline, Agriculture, Waterfowl	1BR1	1:250,000	New Brunswick and part of Québec
8)	1976 Census, Watershed, Shoreline, Agriculture, Waterfowl	1XR2	1:250,000	Maritimes and Québec
9)	Administrative Boundaries, Shoreline, Recreaton, 1968 Land Use Agriculture, Forestry	2AE1	1:250,000	Nova Scotia (Part 1)

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
10)	Administrative Boundaries, Shoreline, Recreation, 1968 Land Use, Agriculture, Forestry	2AB1	1:250,000	Nova Scotia (Part 2)
11)	1971 Census, Shoreline, Ungulates, Waterfowl	2BQ1	1:250,000	New Brunswick and part of Québec
12)	Administrative Boundaries, Shoreline Recreation, 1968 Land Use, Agriculture Forestry	2XE1	1:250,000	Nova Scotia
13)	1971 Census, Shoreline Agriculture, 1968 Land Use	3AD1	1:250,000	Nova Scotia
14)	Administrative Boundaries, Shoreline, Recreation, 1968 Land Use, Agriculture, Forestry	3AE1	1:250,000	New Brunswick (Part 1)
15)	1971 Census, Shoreline, Agriculture, 1968 Land Use	3BD1	1:250,000	New Brunswick
16)	Administrative Boundaries, Shoreline, Recreation, 1968 Land Use, Agriculture, Forestry	3BE1	1:250,000	New Brunswick (Part 2)
17)	1971 Census, Shoreline, Ungulates, Waterfowl	3CQ1	1:250,000	Québec

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
18)	1971 Census, Shoreline, Agriculture, 1968 Land Use	3XD1	1:250,000	New Brunswick
19)	Circle coverages, Shoreline, Agriculture, 1968 Land Use	3XDC	1:250,000	Halifax and St. John, N.B. Circles
20)	1971 Census, Shoreline Agriculture, Forestry, Recreation, 1968 Land Use, Watershed	3EJ1	1:250,000	New Brunswick
21)	1971 Census, Shoreline, Agriculture, 1968 Land Use	4AD1	1:250,000	Magdelen Islands
22)	1971 Census, Shoreline, Recreation	4AL1	1:250,000	Magdelen Islands
23)	1971 Census, Agriculture, 1968 Land Use	4BD1	1:250,000	Québec
24)	1971 Census, Shoreline, Recreation	4BL1	1:250,000	Québec
25)	1976 Census, Watershed, Shoreline, Agriculture, Waterfowl	4CR3	1:250,000	Québec
26)	1971 Census, Shoreline, Ungulates, Waterfowl	4DQ1	1:250,000	Ontario
27)	1971 Census, Shoreline, Agriculture, 1968 Land Use	4XD1	1:250,000	Québec and Maritimes
28)	1971 Census, Shoreline, Agriculture, 1968 Land Use	4XDC	1:250,000	City Circles for Montréal, Ottawa, Québec and Chicoutimi

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
29)	1971 Census, Shoreline, Recreation	4XL1	1:250,000	Québec
30)	1971 Census, Shoreline, Recreation	4XLC	1:250,000	Québec City Circles
31)	1976 Census, Shoreline Watershed, Agriculture, Waterfowl	4XR1	1:250,000	Québec and Ontario
32)	1976 Census, Shoreline, Watershed, Ungulates, Waterfowl	4XT1	1:250,000	Québec and Ontario
33)	1971 Census, Shoreline, Agriculture, 1968 Land Use	5CD1	1:250,000	Québec
34)	Watershed, Shoreline, Land Use, Land Use Update, Census by County	5CHA	1:250,000	Great Lakes Watershed for Québec (Region C)
35)	1971 Census, Shoreline, Recreation	5CL1	1:250,000	Ontario
36)	1976 Census, Shoreline, Agriculture	5DD1	1:250,000	Ontario (Region D)
37)	Watershed, Shoreline, Land Use, Land Use Update, Census by County	5DHA	1:250,000	Great Lakes Watershed for Ontario (Region D)
38)	1971 Census, Shoreline, Recreation	5DL1	1:250,000	Ontario (region D)
39)	1971 Census, Watershed, Shoreline, Agriculture, 1968 Land Use	5DQ1	1:250,000	Upper Grand River Watershed

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
40)	1976 Census, Watershed, Shoreline, Agriculture, Waterfowl	5DR1	1:250,000	Ontario (Region D)
41)	1971 Census, Shoreline, Agriculture, 1968 Land Use	5ED1	1:250,000	Ontario (Region D)
42)	1971 Census, Shoreline Agriculture, 1968 Land Use	5ED2	1:250,000	One map sheet in Ontario (Region D)
43)	1971 Census, Shoreline, Agriculture, 1968 Land Use	5EDC	1:250,000	City Circle for Thunder Bay
44)	Watershed, Shoreline, Land Use, Land Use Update, Census by County	5EHA	1:250,000	Great Lakes Watershed for Ontario (Region E)
45)	1971 Census, Shoreline, Recreation	5EL1	1:250,000	Ontario (Region E)
46)	1971 Census, Shoreline, Ungulates, Waterfowl	5EQ1	1:250,000	Ontario (Region E)
47)	1976 Census, Shoreline, Watershed, Agriculture, Waterfowl	5ER1	1:250,000	Ontario (Region E)
48)	Circle Coverage, 1971 Census, Shoreline, Agriculture, 1968 Land Use	5PD1	1:250,000	Toronto Circle Test
49)	1971 Census, Shoreline, Agriculture, 1968 Land Use	5XD1	1:250,000	All Ontario

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
50)	Circle Coverages, 1971 Census, Shoreline, Agriculture, 1968 Land Use	5XD8	1:250,000	City Circles for Ottawa and Oshawa
51)	Circle Coverages, 1971 Census, Shoreline, Agriculture, 1968 Land Use	5XD9	1:250,000	City Circles for Oshawa and Windsor
52)	Circle Coverages, 1971 Census, Shoreline, Agriculture, 1968 Land Use	5XDC	1:250,000	City Circles for Toronto, Hamilton, St. Catherines, London, Windsor and Kitchener
53)	Circle Coverage, 1971 Census, Shoreline, Agriculture, 1968 Land Use	5XDS	1:250,000	City Circle for Sudbury
54)	Watershed, Shoreline, Land Use, Land Use Update, Census by County	5XH1	1:250,000	Complete Great Lakes Watershed Study Area
55)	1971 Census, Shoreline, Recreation	5XL1	1:250,000	Complete Province of Ontario
56)	Circle Coverages, 1971 Census, Shoreline, Recreation	5XLC	1:250,000	City Circles for Ontario
57)	Circle Coverages, 1971 Census, Shoreline, Recreation	5XLS	1:250,000	City Circle for Sudbury

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
58)	Circle Coverages, 1971 Census, Shoreline, Recreation	5XLT	1:250,000	City Circle for Thunder Bay
59)	1976 Census, Shoreline, Watershed, Agriculture Waterfowl	5XR1	1:250,000	Complete provinces, Manitoba and Saskatchewan (Regions E,F,G)
60)	1976 Census, Shoreline Watershed, Agriculture, Waterfowl	5XR2	1:250,000	Complete provinces, Manitoba and Saskatchewan, with map sheet 73K (Watershed) added (Regions E,F,G)
61)	Special Watershed Coverage (936), 1971 Census, 1968 Land Use, Watershed, Shoreline	5XX1	1:250,000	Grand River Basin in Southern Ontario
62)	Special Watershed Coverage (936), Special Watershed (9078), 1971 Census, 1968 Land Use, Watershed, Shoreline	5XX2	1:250,000	Grand River Basin in Southern Ontario
63)	Special Watershed Coverage (936), Special Watershed (9078), 1971 Census, 1976 Census 1968 Land Use, Watershed Shoreline	5XX4	1:250,000	Grand River Basin in Southern Ontario

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
64)	1971 Census, Shoreline, Agriculture, 1968 Land Use	6FD1	1:250,000	Eastern Manitoba (Region F)
65)	1971 Census, Shoreline, Recreation	6FL1	1:250,000	Manitoba (Region F)
66)	1971 Census, Shoreline, Ungulates, Waterfowl	6FQ1	1:250,000	Manitoba (Region F)
67)	1976 Census, Watershed, Shoreline, Agriculture Waterfowl	6FR1	1:250,000	Manitoba (Region F)
68)	1971 Census, Shoreline Agriculture, 1968 Land Use	6XD1	1:250,000	Complete provinces of Manitoba
69)	Circle Coverage, 1971 Census, Shoreline, Agriculture, 1968 Land Use	6XDC	1:250,000	City Circle for Winnipeg
70)	1971 Census, Shoreline Recreation	6XL1	1:250,000	Complete province of Manitoba
71)	Circle Coverage, 1971 Census, Shoreline, Recreation	6XLC	1:250,000	City Circle for Winnipeg
72)	1971 Census, Shoreline, Agriculture, 1968 Land Use	7FD1	1:250,000	Western Manitoba and Eastern Saskatchewan
73)	1971 Census, Shoreline, Agriculture, 1968 Land Use	7GD1	1:250,000	Saskatchewan (Region G)

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
74)	1971 Census, Shoreline, Recreation	7GL1	1:250,000	Saskatchewan (Region G)
75)	1971 Census, Shoreline, Ungulates, Waterfowl	7GQ1	1:250,000	Saskatchewan (Region G)
76)	1976 Census, Watershed, Shoreline, Agriculture, Waterfowl	7GR1	1:250,000	Saskatchewan (Region G)
77)	1976 Census, Watershed, Shoreline, Agriculture, Waterfowl	7GR2	1:250,000	Waterhen map sheet (73K) in Saskatchewan
78)	1976 Census, Watershed, Shoreline, Agriculture, Waterfowl	7GR3	1:250,000	Waterhen map sheet (73K) in Saskatchewan
79)	1976 Census, Watershed, Census, Shoreline, Agriculture, 1968 Land Use	7XD1	1:250,000	Complete province of Saskatchewan
80)	Circle Coverages, 1976 Census, Shoreline, Agriculture, 1968 Land Use	7XDC	1:250,000	City Circle for Regina and Saskatoon
81)	1971 Census, Shoreline, Recreation	7XL1	1:250,000	Complete prov. of Saskatchewan and part of Manitoba (Region F)
82)	Circle Coverages, 1971 Census, Shoreline, Recreation	7XLC	1:250,000	City Circles for Regina and Saskatoon

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
83)	1976 Census, Shoreline, Watershed, Agriculture, Waterfowl	7XR1	1:250,000	Complete province of Alberta and Part of Saskatchewan (region G)
84)	1971 Census, Shoreline, Recreation, 1968 Land Use	8GD1	1:250,000	Eastern Alberta (Region G)
85)	Watershed, Shoreline, Agriculture, Recreation	8GR1	1:250,000	Region G portion of Battle River Basin
86)	1971 Census, Shoreline, Agriculture, 1968 Land Use	8HD1	1:250,000	Alberta (Part 1)
87)	1971 Census, Shoreline, Agriculture, 1968 Land Use	8HD2	1:250,000	Alberta (Part 2)
88)	1971 Census, Shoreline, Agriculture, 1968 Land Use	8HD3	1:250,000	Alberta (Part 3)
89)	1971 Census, Shoreline, Agriculture, 1968 Land Use	8HD4	1:250,000	Alberta (Part 4)
90)	1971 Census, Shoreline, Recreation	8DL1	1:250,000	Alberta (Region H)
91)	1971 Census, Shoreline, Ungulate, Waterfowl	8HQ1	1:250,000	Alberta (Region H)
92)	1976 Census, Watershed, Shoreline, Agriculture, Waterfowl	8HR1	1:250,000	Alberta (Region H)

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
93)	Circle Coverages, 1976 Census, Shoreline, Agriculture, 1968 Land Use	8XDC	1:250,000	City Circles for Calgary and Edmonton
94)	1976 Census, Shoreline, Agriculture, 1968 Land Use	8XL1	1:250,000	Complete province of Alberta and part of Saskatchewan
95)	Circle Coverages, 1971 Census, Shoreline, Recreation	8XLC	1:250,000	City Circles for Calgary and Edmonton
96)	Circle Coverages for Edmonton and Calagary	9072	1:250,000	City Circles for Edmonton and Calgary
97)	Circle Coverage for Regina and Saskatoon	9073	1:250,000	City Circles for Regina and Saskatoon
98)	Circle Coverage for Toronto, Hamilton, St. Catherines, London Windsor, Kitchener	9074	1:250,000	City Circles for Toronto, Hamilton, St. Catherines, London, Windsor and Kitchener
99)	Circle Coverage for Montréal, Ottawa, Québec, Chicoutimi	9075	1:250,000	City Circles for Montréal, Ottawa Québec and Chicoutimi
100)	Circle Coverage for Halifax and St. John, New Brunswick	9076	1:250,000	City Circles for Halifax and St. John, N.B.

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
101) Circle Coverage for Vancouver and Victoria	9077	1:250,000	City Circles for Vancouver and Victoria
102) Circle Coverage for Oshawa, Toronto, Hamilton, St. Catherines, Kitchener, London, Windsor	9085	1:250,000	City Circles for Oshawa, Toronto, Hamilton, St. Catherines, Kitchener, London and Windsor
103) Shoreline, Recreation	9HL1	1:250,000	Five maps in British Columbia
104) Shoreline, Ungulates, Waterfowl	9HQ1	1:250,000	Five maps in British Columbia
105) 1976 Census, Watershed, Shoreline, Waterfowl	9HS1	1:250,000	British Columbia (Region H)
106) Shoreline, Recreation	9IL1	1:250,000	British Columbia
107) Shoreline, Ungulates, Waterfowl	9IQ1	1:250,000	British Columbia (Region I)
108) 1976 Census, Shoreline, Watershed, Waterfowl	9IS1	1:250,000	British Columbia (region I)
109) Circle Coverage, Shoreline, Recreation	9XLC	1:250,000	City Circles for Vancouver and Victoria
110) Shoreline, Ungulates, Waterfowl	9XQ1	1:250,000	British Columbia (not complete)
111) 1976 Census, Shoreline, Waterfowl	9XS1	1:250,000	Complete province of British Columbia

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
112) 1971 Census, Shoreline, Recreation	AAL1	1:250,000	Nova Scotia and Prince Edward Island (Region A)
113) 1971 Census, Shoreline, Recreation	ABL1	1:250,000	New Brunswick and part of Québec (Region B)
114) 1976 Census, Shoreline, Agriculture, Forestry, Recreation, Algonquin Park Study Coverage	ALGN	1:250,000	Algonquin Park
115) 1976 Census, Shoreline, Agriculture, Ungulates, Waterfowl, Recreation, Land Use, Lac Ste. Anne Coverage	ALT3	1:250,000	Lac Ste Anne County, Alberta
116) 1971 Census, Shoreline, Recreation	AXL1	1:250,000	Maritime provinces except Newfoundland
117) Circle Coverage, 1971 Census, Shoreline, Recreation	AXLC	1:250,000	City Circles for Halifax and St. John, N.B.
118) 1971 Census, Watershed, Shoreline, Agriculture, Recreation, 1968 Land Use	BG06	1:250,000	Bruce and Grey Counties
119) Biophysical Classification and Shoreline	BIOP	1:250,000	East side of map sheets 52G and 52J, Manitoba

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
120) Watershed, Agriculture, Forestry, Ungulates, Recreation, 1968 Land Use, Land Use Systems, Soils Coverage	BLUS	1:250,000	Brandon area, Map sheet 52G and 52J
121) Five Circle Coverages	CIRO	1:250,000	Five circles with 15 miles radius(map 31D)
122) 1976 Census, Shoreline, Agriculture, Ungulates, Waterfowl, 1968 Land Use	DRT4	1:250,000	Two map sheets in Manitoba (52E, 52L)
123) 1976 Census, Shoreline, Agriculture, Ungulates, Waterfowl, 1968 Land Use	DTR5	1:250,000	North Manitoba
124) 1976 Census, Shoreline, Agriculture, Ungulates, Waterfowl, 1968 Land Use	DRTX	1:250,000	Complete province of Manitoba
125) Shoreline, Agriculture, Ungulates, Waterfowl, Recreation, Land Use, boundaries & subdivisions of the Edmonton Regional Planning District	ERPC	1:250,000	Four map sheets around Edmonton 83G, 83H, 83I and 83J)
126) 1971 Census, Shoreline Ungulates, Waterfowl	EXQ1	1:250,000	Maritimes, Québec and Ontario complete
127) Shoreline, 1968 Land Use, 1972 Land Use, 2 km UTM grid	GCA1	1:50,000	Map sheet 31D04 in Ontario

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
128) Shoreline, 1968 and 1972 Land Use, 2 km UTM grid	GCA2	1:50,000	Map sheet 72I09 in Saskatchewan
129) Shoreline, 1968 Land Use and Grid	IW07	1:250,000	Study area in Region C (unknown)
130) Watershed, Census, Shoreline, Agriculture, Forestry, Waterfowl, Ungulates, Recreation.	LRIS	1:250,000	Green River Valley in New Brunswick
131) Shoreline, 1968 Land Use, 1972 Land Use	LUCA	1:50,000	Four map sheets around Calgary
132) Shoreline, 1968 Land Use, 1972 Land Use	LUOT	1:50,000	Eight map sheets around Ottawa
133) Shoreline, 1968 Land Use, 1972 Land Use	LURE	1:50,000	Four map sheets around Regina
134) 1970 Land Use, 1976 Land Use	LUSI	1:50,000	Neepawa area in Manitoba
135) Special Watershed, Land Use Update, Watershed, Land Use, Shoreline for Great Lakes Study Area	M41A	1:250,000	Map sheet 41A in Ontario (Niagara Escarpment)
136) 1976 Census and Generalized Shoreline Statistics Canada Project	M71A	1:250,000 1:500,000	Maritimes, (Region A)
137) 1976 Census	M71B	1:250,000 1:500,000	New Brunswick Part of Québec (Region B)
138) 1976 Census	M71C	1:250,000 1:500,000	Part of Québec (Region C)

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
139) 1976 Census	M71D	1:250,000 1:500,000	Part of Ontario (Region D)
140) 1976 Census	M71E	1:250,000 1:500,000	Part of Ontario (Region E)
141) 1976 Census	M71F	1:250,000 1:500,000	Part of Manitoba (Region F)
142) 1971 Census, Shoreline, Agriculture, Ungulates, Waterfowl, Recreation, 1968 Land Use, Surficial Geology	M83A	1:250,000	Red Deer Area (map 83A)
143) 1976 Census and Generalized Shoreline - Statistics Canada Project	MABC	1:250,000 1:500,000	Québec and Maritimes
144) 1976 Census	MABX	1:250,000	Part of British Columbia (Region I)
145) 1976 Census, and Generalized Shoreline - Statistics Canada Project	MCDE	1:250,000 1:500,000	Complete province of Ontario
146) 1976 Census	MFGH	1:250,000 1:500,000	Complete provinces of Saskatchewan and Alberta
147) Ungulates	MFGU	1:250,000	Complete province of Saskatchewan
148) 1976 Census	MHHI	1:250,000 1:500,000	Provinces of British Columbia and Alberta (Part only)

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
149) 1976 Census and Generalized Shoreline - Statistics Canada Project	MSFE	1:250,000 1:500,000	Complete province of Manitoba
150) 1976 Census and Generalized Shoreline - Statistics Canada Project	NBCI	1:250,000 1:500,000	Complete province of British Columbia
151) 1971 Census, Watershed, Agriculture, 1968 Land Use	NCDS	1:250,000	Niagara Peninsula
152) 1976 Census and Generalized Shoreline - Statistics Canada Project	NEWB	1:250,000 1:500,000	New Brunswick Québec (Region B)
153) Forest Land Ownership (Holdings), Forestry	NPCS	1:250,000	Truro (map 11E)
154) Administration Boundaries, Shoreline Recreation, 1968 Land Use, 1971 Census, Agriculture, Forestry, Waterfowl, Sport Fish, School District Boundaries	PEIA	1:250,000	Complete province of Prince Edward Island
155) Shoreline, Watershed 1976 Census, Agriculture Ungulates, Waterfowl	REC2	1:250,000	Region A of Nova Scotia
156) Shoreline, 1971 Census, Recreation, 1968 Land Use	REGB	1:250,000	Region B

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
157) Dissolved Water Bodies - SHC3	SHRC	1:250,000	Region C
158) Dissolved Water Bodies - SHE2	SHRE	1:250,000	Region E
159) Dissolved Water Bodies - SHI2	SHRI	1:250,000	Region I
160) Five 15-mile radius circles, Shoreline, Recreation	SIMU	1:250,000	Five 15-mile radius circles for map 31D
161) Shoreline, Agriculture, Ungulates, Waterfowl, Recreation, Coastal E.A.'s along St. Lawrence	SLS2	1:250,000	Coastal E.A.'s along St. Lawrence Seaway in Region B. Includes parts of map sheets 21L, 21M, 21N, 22B, 22C, 22D, 22F and 22G
162) 1976 Census at 1:250,000, 1976 Census, at 1:500,000, Generalized Shoreline	STBO	1:250,000	Region B
163) 1976 Census, Statistics Canada Agricultural Ecumene Data, Generalized Shoreline	STOA	1:250,000	Region A
164) 1976 Census at 1:250,000 and 1:500,000, Generalized Shoreline	STOC	1:250,000 1:500,000	Region C
165) 1976 Census at 1:250,000 and 1:5000,000, Generalized Shoreline	STOD	1:250,000 1:500,000	Region D

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
166) As above, for Region E	STOE	1:250,000 1:500,000	Region E
167) As above, for Region F	STOF	1:250,000 1:500,000	Region F
168) 1976 Census, Generalized Shoreline	STOI	1:250,000	Region I
169) Agriculture, Recreation, 1973 Land Use	URI1	1:50,000	URISA test overlay for graphics reduction of Ottawa area
170) Agriculture, Recreation, 1964, 1968 and 1973 Land Use	URIS	1:50,000	Final URISA overlay, used in graphics demonstrations of Ottawa area
171) Agriculture, Recreation, 1968 Land Use	UTE4	1:50,000	URISA demonstration in Montréal-Ottawa area
172) 1971 Census, Shoreline, Ungulates and Waterfowl	WXQ1	1:250,000	Regions E, F, G and H within CLI
173) 1971 Census, Shoreline, Agriculture, Ungulates, Waterfowl, 1968 Land Use	W62H	1:250,000	Map Sheet 62H
174) Watershed, 1976 Census, Shoreline, Ungulates, Recreation	1AT1	1:250,000	Newfoundland, P.E.I. and part of Nova Scotia
175) Watershed, 1976 Census, Shoreline, Ungulates, Recreation	1BT1	1:250,000	New Brunswick and part of Québec

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
176) 1976 Census, Shoreline, Ungulates, Watershed, Recreation	1XT1	1:250,000	Maritimes and Québec
177) 1976 Census, Watershed, Shoreline, Ungulates, Recreation	4CT1	1:250,000	Québec
178) 1976 Census, Watershed, Shoreline, Ungulates, Recreation	5DT1	1:250,000	Ontario (Region D)
179) 1976 Census, Watershed, Shoreline, Ungulates, Recreation	5ET1	1:250,000	Ontario (Region E)
180) 1976 Census, Watershed, Shoreline, Ungulates, Recreation	5XT1	1:250,000	Complete provinces of Manitoba and Saskatchewan (Regions E,F,G)
181) 1976 Census, Watershed, Shoreline, Ungulates, Recreation	6FT1	1:250,000	Manitoba (Region F)
182) 1976 Census, Watershed, Shoreline, Ungulates, Recreation	7GT1	1:250,000	Saskatchewan (region G)
183) 1976 Census, Watershed, Shoreline, Ungulates, Recreation	7XT1	1:250,000	Complete province of Saskatchewan and part of Manitoba (Region F)
184) 1976 Census, Watershed, Shoreline, Ungulates, Recreation	8HT1	1:250,000	Alberta (Region H)

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

	Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
185)	1976 Census, Watershed, Shoreline, Ungulates, Recreation	9IT1	1:250,000	British Columbia (Region I)
186)	1976 Census, Watershed, Shoreline, Ungulates, Recreation	9XT1	1:250,000	Complete province of British Columbia
187)	1971 Census, Shoreline, Agriculture, Recreation, 1967, 1972 and 1977 Land Use	CHTM	1:50,000	Chicoutimi area
188)	Shoreline, 1968 Land Use, 2 km Grid	CLD1	1:250,000	Four maps in Alberta (82E, 82F, 82L and 82M
189)	CMHC land map of Windsor, Agriculture, Recreation, 1972 Land Use	CMHC	1:25,000	Nine maps around Windsor
190)	Park zones and subzones, Shoreline, Archeological sites and mineral rights, Roadways, Topography, Soils, Slope, Orientation	CYPR	1:24,000	Cypress Hills Provincial Park
191)	Geology, Perma Frost, Soils, Vegetation, Air Temperature, Precipitation, Physiography, Shoreline	ECOR	1:15,000,000	Eight Canada-wide Ecoregion coverages
192)	Geology, Perma Frost, Soils, Vegetation, Air Temperature, Precipitation, Physiography, Acid rain, Sensitive water bodies, Shoreline	EREG	1:15,000,000	Ten Canada-wide Ecoregion coverages

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
193) 1971 Census, Shoreline, Agriculture, Recreation, 1967 and 1972 Land Use	HLFX	1:50,000	One map sheet of the Halifax area (11D12)
194) 1971 Census, Shoreline, Agriculture, Recreation, 1967 and 1972 Land Use	KITC	1:250,000	Four map sheets around the Kitchener area
195) 1976 Census, Watershed, Agriculture, Waterfowl, Forestry, Ungulates, Recreation, 1968 Land Use	M21X	1:250,000	Seven enumeration areas selected from electoral district 14, in map sheet 21E
196) Grid Division, Terrain Mapping, Agriculture, Municipality, Vegetation, Wetland, Shoreline, Topography, Geology	M71I	1:50,000	Flying Creek area (map 72I)
197) 1971, Census, Shoreline, Agriculture, Recreation, 1967, 1972 and 1977 Land Use	MTRL	1:50,000	Montréal Area (6 maps)
198) 1971 Census, Shoreline, Agriculture, Recreation, 1967, 1972 and 1976 Land Use	MTR2	1:50,000	Montréal Area (2 maps)
199) 1971 Census, Shoreline, Agriculture, Recreation, 1967, 1972 and 1976 Land Use	MTR3	1:50,000	Montréal Area (8 maps)
200) Land Ownership, Soils	PEIL	1:10,000	Kings County in Prince Edward Island

OVERLAYS COMPLETED AS OF MARCH 31, 1980 (cont'd)

Overlay Data Base & Description	Coverage Code	Scale of Input	Area of Country
201) 1971 Census, Shoreline, Recreation, 1968, 1972 and 1977 Land Use	QUE1	1:50,000	Québec City Area
202) 1971 Census, Shoreline, Recreation, Agriculture, 1968, 1972 and 1977 Land Use	QUE2	1:50,000	Québec City Area
203) 1971 Census, Shoreline, Recreation, Agriculture, 1968, 1972 and 1977 Land Use, Municipalities, Urban Communities, Watershed, Agriculture	QUE3	1:50,000	Québec City Area
204) Shoreline	105X	1:250,000	Regions A and B
205) Merge of coverages 9XS1 and RBS2, Shoreline, 1976 Census, Watershed and Waterfowl	9XS2	1:250,000	British Columbia

3.2 Derived Data Bases- Interactive Graphics

GRAPHICS DATA BASES COMPLETED APRIL 1, 1980 TO MARCH 31, 1981

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
ALBERT	5	N	81	250,000	LAM	Province of Alberta. Shoreline, Agriculture class, Province, Electoral District, Enumeration Area, Administrative boundaries, Forest class, Public Lands, Forest Management Units.
ALBFURV5	5	N	80	250,000	LAM	Alberta. Furbearing Inventory for red squirrels, beavers, muskrats. 3 map sheets: 73L, 74D, 83L.
BCBASE	5	N	81	250,000	LAM	British Columbia. Shoreline.
BCFOR	5	N	81	125,000	LAM	British Columbia. Forestry classes.
CLDSMAPS	5	N	80	50,000	UTM	Canada. Index of current maps in production status or in CLDS data base.
CLITCPC	5	Y	81	250,000	UTM	Map sheet 31C Corridor Analysis for Trans Canada Pipelines. Shoreline, Agriculture, Forestry, Ungulates, Waterfowl, Recreation 1968 Land Use, User Defined Corridors.
COALSTDY	5	Y	80	250,000	LAM	Saskatchewan - map sheets 62E, 72E, 72F, 72G. Shoreline, 1971 Census, Agriculture, 1968 Land Use and Coal Deposit information.

V = Version of Graphics program
REF = Presence (Y) or absence (N) of a descriptive reference file
YR = Year of creation
PROJ = Map projection used for plotting
LAM = Lambert Conic Conformal
UTM = 6° Universal Transverse Mercator

GRAPHICS DATA BASES COMPLETED APRIL 1, 1980 TO MARCH 31, 1981 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
ECRGN	5	Y	80	50,000	UTM	Canada. Effect of Acid Rain on land covering Canada. Ecological data, Shoreline and Acid Rain distribution.
FORFIS	5	Y	80	12,500	UTM	Saskatchewan. Shoreline, Forest capabilities, Fire hazard, Crown closure, Drainage, Texture.
NBLU	5	Y	80	50,000	UTM	New Brunswick. Map sheets 21H05, 21H12. Shoreline, 1971 Census, Agriculture, 1968 and 1972 Land Use.
NCHALI	5	Y	80	50,000	UTM	Halifax. Map sheet: 11D. Shoreline, 1976 Census, Recreation, Agriculture, 1968, 1972 and 1977 Land Use.
NEWBRUN	5	Y	80	250,000	LAM	New Brunswick. Shoreline, 1971 Census, Watershed, Administrative boundaries, Recreation, Agriculture, Forestry and 1968 Land Use.
RMCFOR	5	Y	80	250,000	UTM	Ontario. 5 counties. Shoreline, Agriculture, Forestry and County boundaries.
SASKATC	5	Y	81	250,000	LAM	Saskatchewan. Agriculture, Shoreline, Forestry, Province, Electoral District, Enumeration Area, Watershed and 1968 Land Use.
SASKFIS	5	Y	81	12,500	UTM	Saskatchewan. Map sheet 73C. Forest Inventory, Stand Stock, Fire hazards, Forest update data.

GRAPHICS DATA BASES COMPLETED APRIL 1, 1980 TO MARCH 31, 1981 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
SMARSH	5	Y	81	50,000	UTM	Oshawa. Shoreline, Electoral District, Recreation, Agriculture, 1968, 1972 and 1977 Land Use, Soil data, Watershed.
VANCOUV	5	Y	81	50,000	UTM	Vancouver. Agriculture, Shoreline, Province, Recreation, 1968, 1972 and 1977 Land Use.
VANCV5	5	Y	80	50,000	UTM	Vancouver. Shoreline, 1968, 1972 and 1977 Land Use, Agriculture, Electoral district.
WINDSOR	5	Y	80	50,000	UTM	Windsor. Shoreline, Agriculture, Recreation, 1968, 1972 and 1977 Land Use, 1971 Electoral District.
WINSTU	5	Y	80	50,000	UTM	Windsor. Shoreline, Agriculture, Recreation, 1968, 1972 and 1977 Land Use, Study boundary.
WNSRV5	5	Y	80	50,000	UTM	Windsor. Recreation, Agriculture, 1972 and 1977 Land Use, Shoreline and Land Ownership.
WOODBUFF	5	N	80	250,000	LAM	Wood Buffalo National Park. Vegetation, Soils, Geology, Land Biophysical information.

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
AFRICA	3	N	79	50,000	UTM	North West Africa Present State, Rate of Degradation, and Present State of Soil and Country boundaries.
AFRICA1	3	Y	79	50,000	UTM	North West Africa. Present State, Rate of Degradation and Present State of Soil, Erosion Patterns, Risk Factors, and Country boundaries.
BIONPC	3	N	78	125,000	UTM	Manitoba. East half of map 54D. Biophysical classification.
BJAMES	5	Y	80	125,000	UTM	James Bay. Map sheets 32M (NE, SE, NO, SO) 32LNE. Biophysical classification.
BLUS	2	N	77	250,000	UTM	Manitoba. Map sheets 62G and 62J. Land System, Soils, Watersheds, Agriculture, Forestry, Ungulates, Recreation and 1968 Land Use.
BUDWORM3	3	Y	79	50,000	UTM	Cape Breton Island. 7 map sheets. Forest Stand delineations, Spruce Budworm damage.
CALG	3	N	78	250,000	UTM	Calgary. 100 mile radius circle. Agriculture, 1968 Land Use, 1971 Census, Shoreline.

V = Version of Graphics program
REF = Presence (Y) or absence (N) of a descriptive reference file
YR = Year of creation
PROJ = Map projection used for plotting
LAM = Lambert Conic Conformal
UTM = 6° Universal Transverse Mercator

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
CALGARY	5	Y	80	50,000	LAM	Calgary. Map sheets 82I, 82J, 82O, 82P. Shoreline, Agriculture, Recreation, 1968, 1972, and 1977 Land Use.
CASTOR	5	Y	80	125,000	LAM	James Bay. Map sheet 32LNE. Biophysical classification, Hunting and Trapping areas.
CENMAN1	4	N	78	250,000	LAM	Manitoba (Southwest). Census 1976, Agricultural data (Elementary Census Unit of Municipality) and Thematic data.
CENMAN1B	4	N	79	250,000	LAM	Manitoba (Southwest). Census 1976, Agricultural data (Elementary Census Unit of Municipality) and Thematic data.
CHIC	3	N	78	250,000	LAM	Chicoutimi. 100 mile radius circle. Agriculture, 1968 Land Use, 1971 Census and Shoreline.
CHICTMI	5	Y	80	50,000	UTM	Chicoutimi. Shoreline, Agriculture, Recreation, 1968, 1972 and 1977 Land Use.
CLMNU1	3	Y	79	250,000	UTM	Yellowknife. Map sheet 85J. Shoreline, Wildlife, Hunting and Trapping information.
CLMNU4	3	N	79	250,000	UTM	Manitoba. Corridor boundary. Map sheets 62H, 62I, 62J, 62J, 62O, 63B, 63C. Shoreline, Agriculture, Wildlife, Ungulates and Waterfowl.
CLMNU5	3	N	79	250,000	UTM	Yellowknife. Map sheet 85J. Shoreline, Wildlife, Hunting and Trapping, Contour.

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
CLMQUE	3	Y	79	50,000	UTM	Québec. Recreation, 1976 Census, Electoral District/Enumeration Area, 1968, 1972 and 1977 Land Use.
CMHC	2	N	77	250,000	UTM	Windsor. Shoreline, Agriculture, Berries, Peaches and Grapes.
CMHCV5	5	N	79	25,000	UTM	Windsor. CMHC Pilot Study. Agriculture, Recreation, 1968 Land Use and Land Development Infrastructure.
CMHCWIN	3	Y	79	25,000	UTM	Windsor. CMHC Pilot Study. Agriculture, Recreation, 1968 Land Use and Land Development Infrastructure.
COADC	3	N	79	250,000	LAM	St-John's, Newfoundland. 100 mile radius circle. 1968 Land Use, Agriculture and Shoreline.
CYPFIVE	5	Y	79	24,000	UTM	Alberta. Cypress Hills Provincial Park. Park features.
C5DQ1	2	N	77	250,000	UTM	Ontario. Grand River Basin. 1968 Land Use, Agriculture, Shoreline and Watershed.
C5DQ2	2	N	77	250,000	UTM	Ontario. Upper Grand River Basin. 1971 Census, Electoral district, Enumeration areas, Agriculture, 1968 Land Use and Watershed data.

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
C5EDC	3	N	78	250,000	LAM	Thunder Bay, Ontario. 100 mile radius circle. Agriculture, 1968 Land Use, Shoreline.
C5XDS	3	N	78	250,000	LAM	Sudbury, Ontario. 100 mile radius circle. Agriculture, 1968 Land Use, Shoreline.
C6XDC	3	N	78	250,000	LAM	Winnipeg, Manitoba. 100 miles radius circle. Agriculture, 1968 Land Use, Shoreline.
ECOREGN	3	N	79	50,000	UTM	Canada. Ecological information. Province, Shoreline.
EDMON2	3	N	78	250,000	UTM	Edmonton. 100 mile radius circle. Agriculture, 1968 Land Use, 1971 Census, Shoreline.
EDMTON	5	Y	80	50,000	LAM	Edmonton. Shoreline, Agriculture, Recreation, 1968, 1972 and 1977 Land Use.
EMR1000	3	N	79	1,000,000	LAM	Region C 1968 Land Use. Minimum land and water area of 1,000 acres.
EMR1000A	3	N	79	1,000,000	LAM	Region A 1968 Land Use. Minimum land and water area of 1,000 acres.
EMR1000B	3	N	79	1,000,000	UTM	Region B 1968 Land Use. Minimum land and water area of 1,000 acres.
EMR1000D	3	N	79	1,000,000	LAM	Region D 1968 Land Use. Minimum land and water area of 1,000 acres.

Joe - For Comment

CLDS
LANDS DIRECTORATE
ENVIRONMENT CANADA

STANDARDS
VOLUME 1

SECTION: 9. INFORMATION SHEETS	DATE: JULY 81	PAGE: 9.1.1
SUB-SECTION 9.1 SAMPLE PROCESSING COSTS *	AUTHOR: WAS	REVISION:

* NOTE: These costs are indicative only and based on long term averages. For any given project, they can be used to arrive at a gross estimate but cannot be used to establish a cost for services. Such costs will have to be determined from a careful examination of each individual project.

1. DATA INPUT (Building a Data Base)

AVERAGE DIRECT COST:	$500 / map or $ 1 / polygon
RANGE (Over 4,000 maps from 20 - 5,000 polygons)	$50-$2,500 / map

BREAKDOWN: 35% labour; 65% computer time.

2. DATA MANIPULATION

A. Summary tabulations, table printouts:

With standard software:	$ 10 / report
With special custom software:	Dependent on user requirements

B. Graphics Use
Circle overlay of 4 map coverages (CLI Agriculture; Land Use, Shoreline and Census) (100-mile radius used as example):

Graphics reduction (set up for Graphics Subsystem):	$150 to $300
Terminal use (depending on skill of operator) per hour:	$50 to $150

C. Overlay operations:

a) Low density data set on high density data set (approximately 1,000 polygons)	$150 to $200 #
b) Medium density data set on medium density data set (approximately 2,000 polygons)	$175 to $225 #
c) High density data set on High density data set (approximately 3,000 polygons)	$200 to $250 #
d) Average cost / resultant polygon for very large overlays	$0.02 / polygon

(# These costs reflect the overhead costs for smaller runs.)

D. Shoreline measurement (depending on length of shoreline)
In range of: $ 20 to $ 50

E. Polygon to grid conversion (2000x2000 grid of a 1:250,000 map) from a graphics data base $ 40

3. DATA OUTPUT

A. Quick look plots, per plot (graphics): $ 2 to $ 3

B. Gerber plots, per hour, including labour $ 40
(plotter pen moves at 42"/sec.): $ 22 (gov't)

C. Colour proof (costs for 20"x30" map sheet at 1:250,000 scale):

a) Production of colour proof print: $600
b) Materials used: $450
Total: $1,050

D. DICOMED (Film Images)

Preparation of tape to be sent to DICOMED: $ 40
(additional costs for production not yet available; presently provided free of charge to CGIS)

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
EMR1000E	3	N	79	1,000,000	LAM	Region E 1968 Land Use. Minimum land and water area of 1,000 acres.
EMR1000F	3	N	79	1,000,000	LAM	Region F 1968 Land Use. Minimum land and water area of 1,000 acres.
EMR1000G	3	N	79	1,000,000	LAM	Region G 1968 Land Use. Minimum land and water area of 1,000 acres.
EMR1000H	3	N	79	1,000,000	LAM	Region H 1968 Land Use. Minimum land and water area of 1,000 acres.
EMR1000I	3	N	79	1,000,000	LAM	Region I 1968 Land Use. Minimum land and water area of 1,000 acres.
EMR4000A	3	N	79	1,000,000	LAM	Region A 1968 Land Use. Minimum land and water area of 4,000 acres.
EMR4000B	3	N	79	1,000,000	LAM	Region B 1968 Land Use. Minimum land and water area of 4,000 acres.
EMR4000D	3	N	79	1,000,000	LAM	Region D 1968 Land Use. Minimum land and water area of 4,000 acres.
EMR4000E	3	N	79	1,000,000	LAM	Region E 1968 Land Use. Minimum land and water area of 4,000 acres.
EMR4000F	3	N	79	1,000,000	LAM	Region F 1968 Land Use. Minimum land and water area of 4,000 acres.

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
EMR4000G	3	N	79	1,000,000	LAM	Region G 1968 Land Use. Minimum land and water area of 4,000 acres.
EMR4000H	3	N	79	1,000,000	LAM	Region H 1968 Land Use. Minimum land and water area of 4,000 acres.
EMR4000I	3	N	79	1,000,000	LAM	Region I 1968 Land Use. Minimum land and water area of 4,000 acres.
EREGION	5	N	79	50,000	UTM	Ecological information, Province, Shoreline and Acid Rain distribution.
ERPCWS	3	N	78	250,000	LAM	Edmonton. Shoreline, Ungulates, Waterfowl, and Edmonton Regional Planning Commission Information.
ERPCYS	3	N	78	250,000	LAM	Edmonton. Shoreline, 1968 Land Use, Agriculture, Recreation and Edmonton Regional Planning Commission data information.
FIRTH	3	Y	79	250,000	LAM	Northern Yukon. Firth River area. Map sheets 117A, 117D, Ecological information.
FLYCREEK	3	Y	79	50,000	UTM	Saskatchewan. Flying Creek map 72I in Regina. Shoreline, Municipality information, Zoning, Soil types, Agriculture, Vegetation, Topography, Landforms.

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
FLYCREEK	5	Y	79	50,000	UTM	Saskatchewan. Flying Creek map 72I in Regina. Shoreline, Municipality information, Zoning, Soil Types, Agriculture, Vegetation, Topography, Landforms.
GRIDKIT	5	N	79	50,000	UTM	Kitchener, Ontario. Map sheets 40P07, 08, 09, 10. Shoreline, Province Code, Agriculture, Recreation, 1968 and 1972 Land Use, and Grid Relocation data.
GROSMORN	3	N	79	50,000	UTM	Newfoundland. Gros Morne National Park. 7 map sheets. Biophysical information.
HALIFV5	5	Y	80	50,000	UTM	Halifax. Shoreline, Province, 1971 Electoral District, Agriculture, Recreation, 1968 and 1972 Land Use.
HAMT	3	N	78	250,000	UTM	Hamilton, Ontario. 100 mile of radius circle. Agriculture, 1968 Land Use, Shoreline.
HLFX	3	N	78	250,000	UTM	Halifax, Nova Scotia. 100 mile radius circle. Agriculture, 1968 Land Use, Shoreline.
HUDSON	3	N	79	100,000	UTM	Ontario, Hudson Bay Lowlands lying on the western side of Hudson Bay; map sheets 32M04, 42P01, 42P08 and 42P09. Biophysical classification.
INDX	3	N	79	50,000	UTM	Canada. Maps available in the CGIS system.

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
KITCH	3	N	79	50,000	UTM	Kitchener, Ontario. Map sheets 40P07-10. Shoreline, Province, Agriculture, Recreation, 1968 and 1972 Land Use.
KITH	3	N	78	250,000	LAM	Kitchener, Ontario. 100 mile radius circle. Agriculture, 1968 Land Use, Shoreline.
LODN	3	N	78	250,000	LAM	London, Ontario. 100 mile radius circle. Agriculture, 1968 Land Use, Shoreline.
MACDRT2	2	N	78	250,000	UTM	Manitoba (south). 10 map sheets. Map number, high capability Waterfowl or Ungulates classes with low capability Agriculture and selected 1968 Land Use data.
MACGCA1	2	N	78	50,000	UTM	Ontario. Map sheet 31D04. Shoreline, 2 km UTM Grid cell, 1968 and 1971 Land Use.
MACGCA2	2	N	78	50,000	UTM	Saskatchewan. Map sheet 72I09. Shoreline, 1968 and 1971 Land Use, 2 km Grid cell.
MACLUS1	2	N	78	50,000	UTM	Manitoba. Map sheet 62J03 west. 1970 and 1976 Land Use.
MAN1	3	N	78	250,000	LAM	Manitoba. South-east. 1976 Census divisions 4, 5, 6, 7, 8, 15, Electoral districts, Enumeration areas, Agriculture, Waterfowl, Ungulates, 1968 Land Use.

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
MAN2	3	N	78	250,000	LAM	Manitoba. South-west. 1976 Census divisions 1, 2, 3, 9, 10, 11, 12, 13, 14, Electoral Districts, Enumeration areas, Agriculture, Waterfowl, Ungulates, 1968 Land Use.
MAN3	3	N	78	250,000	LAM	Manitoba. South-central portion. 1976 Census division 16, 17 and 18, Electoral districts, Enumeration areas, Agriculture, Waterfowl, Ungulates, 1968 Land Use.
MAN4	3	N	78	250,000	LAM	Manitoba. North-central portion. 1976 Census divisions 19 and 20, Electoral districts, Enumeration areas, Agriculture, Waterfowl, Ungulates, 1968 Land Use.
MAN5	3	N	78	250,000	LAM	Manitoba North. 1976 Census divisions 21 and 22, Electoral districts, Enumeration areas, Agriculture, Waterfowl, Ungulates, 1968 Land Use.
MEGANTIC	5	Y	79	250,000	UTM	Québec. Map sheet 21E (7 municipalities). Shoreline, Agriculture, 1968 Land Use, Watershed, Forestry, Ungulates, Waterfowl, 1976 Enumeration areas, Recreation.
MTRL	3	N	78	250,000	LAM	Montréal, Québec. 100 mile radius circle. Shoreline, Agriculture, 1968 Land Use.

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
M83AS	3	N	78	250,000	UTM	Alberta. Map sheet 83A. 1968 Land Use, Recreation, Ungulates, Agriculture, 1971 Electoral districts, Enumeration areas, and Surficial Geology.
NFLDV3	3	N	78	250,000	LAM	Newfoundland and Labrador. Shoreline, Forestry, Recreation and 1968 Land Use.
NORTHYU	5	Y	79	250,000	LAM	Northern Yukon. Firth National Park. Potential pipeline corridor routes and Biophysical information.
NOVASCO	3	N	79	250,000	LAM	Nova Scotia. Shoreline, Province code, Agriculture, Forestry, Recreation and 1968 Land Use.
NOVASCO	5	Y	80	250,000	LAM	Nova Scotia. Shoreline, Province code, Agriculture, Forestry, Recreation and 1968 Land Use.
NPCQUE	3	Y	79	50,000	UTM	Québec. Agriculture, Recreation, 1976 Electoral districts, and 1968, 1972 and 1977 Land Use.
NSBUDW	2	N	78	50,000	UTM	Cape Breton Spruce Budworm defoliation 1976-1977.
OSHA	3	N	78	250,000	LAM	Oshawa, Ontario. 100 mile radius circle. Agriculture, 1968 Land Use, Shoreline.
OSHAW	5	Y	80	50,000	UTM	Oshawa, Ontario. Shoreline, Recreation, Agriculture, 1968, 1972 and 1977 Land Uses.

GRAPHICS DATA COMPLETED APRIL 1, 1980 TO MARCH 31, 1981 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
OTWA	3	N	78	250,000	LAM	Ontario, Ottawa. 100 mile radius circle. Agriculture, 1968 Land Use, Shoreline.
OTWA	2	N	78	250,000	UTM	Ontario, Ottawa. 15 mile radius circle. Shoreline, Province code, Agriculture, 1968 Land Use.
PECO	3	N	78	250,000	UTM	Ontario, Prince Edward County. Shoreline, Watershed, Enumeration areas, Agriculture, Waterfowl.
PEILAND	3	Y	79	10,000	UTM	Prince Edward Island. Federal lands and Ownership information.
QUEB	3	N	78	250,000	LAM	Québec city, Québec. 100 mile radius circle. Agriculture, 1968 Land Use, Shoreline.
QUEBEC2	5	Y	79	50,000	UTM	Québec city, Québec. Map sheets 21L11, 14. Shoreline, Recreation, Agriculture, 1968, 1971 and 1977 Land Uses.
REGINA	3	N	78	250,000	LAM	Regina, Saskatchewan. 50 mile radius circle. Shoreline, Agriculture, Ungulates, Waterfowl and Concentric circles.
REGN	3	N	78	250,000	LAM	Regina, Saskatchewan. 100 mile radius circle. Agriculture, 1968 Land Use, Shoreline.

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
SEAWAY	3	N	78	250,000	LAM	Ontario. Seaway area. Shoreline, Electoral districts, Enumeration areas, Agriculture, Ungulates, Waterfowl, Recreation.
SJNB	3	N	78	250,000	LAM	St. John, New Brunswick. 100 mile radius circle. Agriculture, 1968 Land Use, Shoreline.
SKTN	3	N	78	250,000	LAM	Saskatoon, Saskatchewan. 100 mile radius circle. Agriculture, 1968 Land Use, Shoreline.
SRRCRPI	3	N	79	250,000	UTM	Prince Edward Island. Agriculture, Forestry, Waterfowl, Recreation, Sportfish, 1976 Land Use and a special CRPI point file.
SRRSWM2	2	N	77	250,000	UTM	Manitoba. South-west. Shoreline, Agriculture and 1968 Land Use.
STCMABC	2	N	77	1,000,000	LAM SPEC	Québec and Maritimes 1976 Electoral districts and Enumeration areas, Province code, Agricultural ecumene, and Shoreline.
STCMCDE	2	N	77	1,000,000	LAM SPEC	Ontario. 1976 Province code, Electoral districts and Enumeration areas, Agricultural ecumene and Shoreline.
STCMSFE	2	N	77	1,000,000	LAM SPEC	Manitoba. Province code, Electoral districts and Enumeration areas, Agricultural ecumene and Shoreline.

SPEC = Special version of the Lambert transformation routine.

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
STCNBCI	2	N	77	1,000,000	LAM SPEC	British Columbia. 1976 Province code, Electoral districts and Enumeration areas, Agricultural ecumene and Shoreline.
STCNFGH	2	N	77	1,000,000	LAM SPEC	Saskatchewan and Alberta. 1976 Province code, Electoral districts, Agricultural ecumene and Shoreline.
STCT	3	N	78	250,000	LAM SPEC	St. Catherines, Ontario. 100 mile radius circle. Agriculture, 1968 Land Use and Shoreline.
STEANNE	3	Y	79	250,000	UTM	Lac Ste Anne Country, Alberta. Enumeration areas, Shoreline, Agriculture, Ungulates, Waterfowl, Recreation, 1968 Land Use and Municipality data.
TAFEMR	3	N	79	1,000,000	LAM	Region C. 1968 Land use. Minimum land and water area of 4,000 acres.
TERRALS	3	Y	79	31,680	LAM	Newfoundland, Terra Nova National Park. Biophysical classification (Land System level).
TERRALS	3	Y	79	31,680	LAM	Newfoundland, Terra Nova National Park. Biophysical classification (Land Type level).
TERRASS	3	Y	79	31,680	LAM	Newfoundland, Terra Nova National Park. Biophysical classification (Shoreline System).

SPEC = Special version of the Lambert transformation routine.

GRAPHICS DATA BASES COMPLETED AS OF MARCH 31, 1980 (cont'd)

DATABASE	V	REF	YR	SCALE	PROJ	DESCRIPTION
TERRASSG	3	Y	79	31,680	LAM	Newfoundland, Terra Nova National Park. Biophysical classification (Shoreline Segments).
TRTO	3	N	78	250,000	UTM	Toronto, Ontario. 100 mile radius circle. Agriculture, 1968 Land Use, Shoreline.
URISA	3	Y	78	50,000	UTM	Ottawa, Ontario. Agriculture, Recreation, 1964, 1968 and 1973 Land Use.
V5ECORGN	5	Y	79	50,000	UTM	Canada. Ecological information. Province, Shoreline.
V5GRSMRN	5	Y	80	50,000	UTM	Newfoundland, Gros Morne National Park. Biophysical information.
WASCM	2	N	77	250,000	UTM	Alberta. Map sheet 83A, 1968 Land Use, Recreation, Ungulates, Agriculture and 1971 Electoral districts.
WDSR	3	N	78	250,000	LAM	Windsor, Ontario. 100 mile radius circle. Agriculture, 1968 Land Use and Shoreline.

4.1 Projects - Research and Development

RESEARCH AND DEVELOPMENT - INPUT

New Scanner Acquisition Study 100-0310

This project was launched at the beginning of the calendar year in preparation for a possible scanner purchase. The aim was to determine requirements and identify possible candidates for replacement. Four systems were examined in detail; SCI-TEK, Konsberg, Broomall, and Optronics.

Technical Reports 100-0708

A new internal series was initiated to describe technical aspects of the CGIS. Three reports are available and two more are in the research and compilation stages.

Standard Data Interchange 100-5004

Software has been written and is currently being tested to accept data in the SDTF format and process through the CGIS.

Direct Scanning 100-5006

The line thinning software was implemented on the HP mini computer. Several maps have been processed with this new software. Tests to examine the feasibility of scanning contour maps for DND were performed. Procedures are presently being designed to use the system for direct input (i.e. no scribing) of selected map documents.

Background Files 100-5803

Digitizing procedures were established and a software interface was developed to take background files, digitized using IDESS, and reformat the data for use with the Interactive Graphics Subsystem (IGSS).

IDESS - CGIS Interface 100-5901

Further enhancements and modifications were made during the production testing phase.

RESEARCH AND DEVELOPMENT - MANIPULATION

Areas by Map Sheet 100-5007

Software was implemented to recalculate areas by map sheet or by a smaller internal unit called a frame. This will be used to generate tabulations which have often been requested.

SECTION: 4. PROJECTS	DATE: MAY 81	PAGE: 4-3
SUB-SECTION: 4.1.3 R & D - OUTPUT	AUTHOR: CLM	REVISION:

RESEARCH AND DEVELOPMENT - OUTPUT

Applicon Color Jet Plotter 100-5002

Several test maps have been produced using EMR's color jet plotter to investigate the feasibility of using this device for color output. The results so far have not been completely favorable - the device appears to have significant hardware problems.

Development of Grid Algorithms 100-5003

Software was implemented to convert IGSS files into a grid format. This format has so far been used to produce Applicon color jet plots, Dicomed prints and color plots on the Gerber plotter. It also will give CLDS an interface to grid-oriented systems.

Standard Data Interchange 100-5004

Software to convert CGIS data to the SDTF format has been written and is being tested.

Automatic Generation of Color Separations 100-5010

Software to create shaded plots on the Gerber plotter has been implemented. This software will be used to generate the color separations required for the production of a color proof map. This process will eliminate the considerable amount of manpower time spent creating these separations manually. As well, the software can be used to create shaded color plots directly on the Gerber plotter.

Color Proof Maps

Several color proof maps were produced in the last year by CLDS staff. The techniques are continually being refined and a high quality product can now be produced.

RESEARCH AND DEVELOPMENT - GRAPHICS

Interactive Graphics System (IGSS) Version 5 — 100-5801

Several user requested enhancements have been made in the past year including user subset selection and background file plotting. As well, the user can now generate a computer run which will print large tabulation reports on the CLDS printer. The Saskatchewan Department of Municipal Affairs have a copy of the IGSS software operational on their own computer.

Color Graphics — 100-5802

A color graphics package is currently in the research stage. A version of the IGSS is operational in a testing mode. A package to produce color pie or bar graphs has been implemented. In order to provide color hard copy of graphics to users, CLDS has purchased a color camera attachment for the color terminal. This unit will produce poloroid SX-70 prints or 35 mm slides or prints.

IGSS Version 6 — 100-5804

Discussions were held with users and interested lands staff to determine the capabilities required in the next version of the graphics package.

4.2 Projects - Data Processing Services

Ecoregions of Canada 201-2101

A data base containing several themes of country-wide data was prepared. One phase of the project was a study of acid rain.

LRTAP 201-2102

The shoreline, ecodistrict and bedrock geology maps are being input. Data bases for analysis will be created as data becomes available to CLDS.

CLI Reports 201-4001

Several of the CLI agriculture by county tabulations have been re-formatted for publishing.

Land Use Mapping - Urban Centers 202-2101

IGSS data bases have been created for several centers: Calgary, Edmonton, Oshawa, Windsor, Vancouver, Chicoutimi, Québec and Montreal. Tabulations and plots were created as well. Many of the centers are being redone due to study area boundary changes. A new technique of drafting land use update maps is being tested.

CMHC Windsor 203-2101

The IGSS data base containg land use, land capability and CMHC data was used for analysis and a report was published by Lands' staff. A demonstration of the data will take place in Windsor in June 1981.

Saugeen Land Use 203-2102

Several years of land use and CLI data were input. An IGSS data base was used for analysis. A color proof map was created. Statistical information from the census summary data was integrated with the land use data. This, along with tabulations comparing the land use and the CLI capability, will be the basis for further analysis.

Coal Study 201-2103

A small data base of coal related data and CLI agriculture data was used for analysis. Future plans include the integration of census summary statistics.

Year-to-Year Census Correlation 203-2104

An inventory of the CLDS collection of census summary tapes was made. Tables correlating 1961, 1966, 1971 and 1976 CSD's and CD's were created. Software is currently being tested. The end result will be the collection of various statistics on the newly defined boundaries. A standard piece of software will simplify this correlation in the future.

Federal Lands 204-2101

Input of the maps continues. A series of tabulations were produced to aid in the identification of the holdings to be mapped. A demo data base was created along with several special purpose software packages. A report is being compiled by CLDS and Federal Land Services Division staff.

Atlantic Region 210-0000

IGSS data bases for New Brunswick and Nova Scotia were created. These province-wide data bases contain several CLI themes. Extensive queries have been performed in Halifax for provincial users.

Québec Region 224-0000

The Québec region has been making extensive use of the data bases created for the Québec centers in the CLUMP program.

Ontario Region 235-0000

Data collection was performed to add soils classification to the 1:50,000 CLI Agriculture classification. A match was made by CLDS for several sheets. This match identified many errors which will be corrected in the regional office and forwarded back to CLDS.

An IGSS data base was created for the Oshawa Second Marsh area.

Data input for the Stratford/Avon area is nearing completion.

CWS 301-4701

A series of point locations and associated information on Sand Hill Crane breeding areas was combined with various CLI themes. The objective was to determine if the CLI data could be used to forecast and determine waterfowl nesting and breeding areas. An IGSS data base for one map sheet was created. Several large scale plots and a series of tabulations were generated.

EPS 303-4001

To assist in their investigations of acid rain, EPS required a series of statistics on a grid basis to feed modelling programs. The grid was defined by EPS and a series of statistics were collected from Statistics Canada summary files. These statistics were presented in both a tabular and digital format. A series of point locations, representing sites which generate significant amounts of pollutants were also matched to the grid. A map of the grid overlayed on county boundaries was created to assist in location of the cells.

Forest Insect and Disease Survey (FIDS) 305-4001

Advice and assistance in creating software for the gerber plotter was given to FIDS. Subsequently, a plot tape showing important insect study sites was generated by FIDS. This was plotted by CLDS staff along with a base map from the CLDS data bank. In February, a similar plot, containing more data was generated for an annual report.

PARKS 306-0000

Wood Buffalo

Biophysical data for the park was input and an IGSS data base was created. Parks made extensive retrievals from the data base using a terminal in Winnipeg (on loan from CLDS). Several tabulations and plots were generated in Ottawa as well. In the next year, they plan to generate several more plots and possibly color maps.

PARKS (cont'd) 306-0000

Nahanni

Data input was begun. An IGSS data base will be created and accessed from Winnipeg during the next year.

Gros Morne, Terra Nova

Miscellaneous tabulations and plots were generated by both Parks and CLDS staff.

EMR 471-0000

A series of plots, depicting the CLI forestry classes for British Columbia were generated. This data will be used as part of an EMR report.

DND 472-0000

DND continue to use the IDESS digitizing stations. Several software modifications were made to assist them in their data capture. Investigations and development in the direct scanning of maps are being carried out. This feature, when operational, should save significant amounts of manpower.

CCRS - CANSIS 473-0001

Standard Data Transfer software is being developed, with testing expected to begin in the next year.

NCC - Gatineau Park 475-2101

The map data was investigated and estimates were made. The data input will be initiated in fiscal year 81-82.

OPDQ 524-2101

Several of the Québec 1976 land use maps were input as part of the CLUMP program: OPDQ accessed the IGSS data bases created for the Québec centers. Ten more 1976 land use maps are being input for OPDQ.

Hydro Quebec Ecological 524-2102

All 16 maps received were processed and the required digital data given to Hydro Québec. More maps are expected in fiscal year 81-82.

James Bay Development Corporation 524-4001

As part of the National Land Data Base input, all of the James Bay ecological maps were input. Digital data was supplied to the development corporation.

Ontario Ministry of Natural Resources 535-0000

To assist in their planning, the Ontario Ministry of Natural Resources requested a map showing CLI agriculture and forestry classes for 5 eastern Ontario counties. A color proof was produced along with tabulations. Touché Ross, a private firm, was interested in obtaining similar maps for the entire province. Cost estimates were given and there is a possibilty that the maps may be requested in fiscal year 81-82.

Qu'Appelle River Valley 547-2102

Saskatchewan Urban Affairs is building a large data base containing many themes of data for the Qu'Appelle River Planning area. The majority of the maps have been processed. As well several modifications were made to the IGSS for the user. One feature allows background files such as roads to be included.

Saskatchewan Forest Inventory 547-2103

The first phase of a pilot has been completed. Two forest inventory sheets and an update sheet were input and an IGSS data base created. The data base is being studied in Prince Albert using a terminal loaned by CLDS. A color proof map and several plots (line and shaded) were generated.

Cypress Hills Provincial Park 548-2101

An IGSS data base for the park was created in March 1980. Queries were made from a terminal in Edmonton. A dicomed color print was requested. This was created with the cooperation of the forestry service in Petawawa.

Alberta Furbearing Animals 548-2102

Several of the ALI maps were input and an IGSS data base was prepared. It was also queried from the terminal in Edmonton at the Alberta Center for Remote Sensing.

Alberta Forest Management Units 548-4001

Maps depicting management units and planning zones were input for Alberta Energy and Natural Resources. This data was then overlayed with CLI data and an IGSS data base created. The data base is extensive, covering most of the province. This data will be accessed using the terminal in Edmonton.

Yukon ELS 560-2101

Cost estimates and project initiation were completed. The first map was received in March 1981. A data base displaying a large number of ecological characteristics will be created over the next year for the Yukon Department of Renewable Resources.

University of Ottawa 735-4001

Digital data from the FAO data base was generated by CLDS. Using their own software, the University of Ottawa created a derivative map. CLDS produced a color proof.

New Brunswick 802-0000

Dr. Wieger (W. Germany) requested several plots and tabulations of land uses in New Brunswick. Dr. Wieger is currently collecting vast amounts of data relating to land use change in New Brunswick. He will be collating this data and producing a book on the subject.

FAO - West Africa 901-4001

Dr. Tomlinson, in conjunction with the IGU, supplied maps for West Africa depicting soil degradation and soil erosion due to such factors as wind and water. Maps containing the present state of the soil and erosion risk were overlayed with the most up to date country boundaries. Using the extremely complex IGSS data base the user selected 9 combinations of the data. For these 9 selections, CLDS produced color proof maps, black and white proof maps and a series of tabular reports. These were presented to the FAO in Rome.

4.3 Projects - System Maintenance

SECTION: 4. PROJECTS	DATE: MAY 81	PAGE: 4-14
SUB-SECTION: 4.3 SYSTEM MAINTENANCE	AUTHOR: CLM	REVISION:

Many internal projects fall into this category. They serve to maintain the current system operation, improve system operation or modify system operation to keep pace with the increasing and changing demands. For example, the software which collects map and project statistics is being enhanced to improve and simplify estimates and cost recovery. Mr. Robert Denis has been hired under contract to produce a large part of the system.

A complete list and description are not included, however, a cost breakdown is included in Section 9, Cost of Operations.

5. Advice and Assistance

SECTION: 5. ADVICE AND ASSISTANCE	DATE: MAY 81	PAGE: 5-1
SUB-SECTION:	AUTHOR: CLM	REVISION:

DND

Advice was provided to Mapping and Charting in the areas of digitizing and scanner acquisition. Day to day assistance was provided to DND personnel using IDESS.

Forestry

Advice and assistance in the area of geo-processing was provided to Mr. Peter Kourtz, Petawawa Forest Research Station.

6. Promotion

APRIL	ORGANIZATION
David Mutoro	Statistics Bureau, Nairobi, Kenya
Barry Brickman	Statistics Canada, Ottawa, Ontario
Brian Duffield	Tourism & Recreation Research Unit, Edinburgh, Scotland
Kent Meisner	Land-Related Information Systems, Edmonton, Alberta
Ron Erickson	Reid, Crowther & Partners Ltd, Vancouver, British Columbia
Dr. Robert C. Scace	Reid, Crowther & Partners Ltd, Calgary, Alberta
Tour by Geography Students	University of Ottawa
Tour by Cartography Students	Algonquin College
G. Hunter	G. Hunter Associates Ltd., Toronto, Ontario
MAY	
Robert G. Henderson	Ministry of Transportation and Communications, Downsview, Ontario
Douglas Mead	Lakehead University, Thunder Bay, Ontario
Geoff Molroyd	Canadian Wildlife Service, Banff, Alberta
Peter Achuff	Alberta Institute of Pedology, Edmonton, Alberta
Duane Martin	Parks Canada, Jasper, Alberta
Ritchie Clarke	Indian and Northern Affairs Ottawa, Ontario

MAY	ORGANIZATION
Peter Whyte	Parks Canada, Banff, Alberta
Pat A. Benson	Parks Canada, Calgary, Alberta
J.D. Boissonneault	Parks Canada, Calgary, Alberta
Ian G.W. Corns	Canadian Forestry Service, Edmonton, Alberta
John R. Baker	Natural Environment Research Council, Oxfordshire, England
Dr. Colin Stove	MacAulay Institute for Soil Research, Aberdeen, Scotland
Ian Sneddon	Indian and Northern Affairs, Ottawa, Ontario
JUNE	
Salem Masry	University of New Brunswick, Fredericton, New Brunswick
John R. Harrower	Energy & Natural Resources, Edmonton, Alberta
Les Cooke	Energy & Natural Resources, Edmonton, Alberta
Jose Ignacio Frueba Trainaga	Ciudad Universitaria, Madrid
Sun Hsi-lin Chau Shou-si Chen Chang-ju Hsu Shi-duo	The Chinese Academy of Forestry, Beijing, China
Ron Hamilton	Parks Canada, Marathon, Ontario

JUNE	ORGANIZATION
Luce Charron	Parks Canada, Marathon, Ontario
Dianne Carlson	University of Saskatchewan, Saskatoon, Saskatchewan
Helene Reeves	National Capital Commission, Ottawa, Ontario
Chin Wong	National Capital Commission, Ottawa, Ontario
Michel Bourgon	Gatineau Park
Louise Kingsley	Gatineau Park
Rene Gelinas	Gatineau Park
Bruce Kloosterman	Agriculture Canada, Ottawa, Ontario
David Regan	Agriculture Canada, Ottawa, Ontario
Salem Masry	University of New Brunswick
Tom Waugh	Edinborough, Scotland
JULY	
Dr. Axel Wieger	Geographisches Institut der Rheinisch, Westfalischen, West Germany
Gail Eagen	Computing & Applied Statistics Directorate, Ottawa, Ontario
Barry L. Olsen	Parks Canada, Hull, Québec
Brent Coates	Parks Canada, Ottawa, Ontario

JULY	ORGANIZATION
Roger Beardmore	Parks Canada, Ottawa, Ontario
Richard Bill	Parks Canada, Ottawa, Ontario
Claude Mondor	National Parks Branch, Ottawa, Ontario
Paul Kelly	University of Buffalo, Buffalo, New York
Brian McCue	Ontario Ministry of Natural Resources, Cornwall, Ontario
Stan Mathewson	Conservation Authorities, Toronto, Ontario
Ron Welch	University of Windsor, Windsor, Ontario
James A. Dobbin	James Dobbin Associates Ltd, Toronto, Ontario
Denis Major	National Capital Commission, Ottawa, Ontario
Paul Hamelin	National Capital Commission, Ottawa, Ontario
Dennis A. Durrant	National Capital Commission, Ottawa, Ontario
Douglas R. Peterson	National Capital Commission, Ottawa, Ontario
Jaap Schouten	N.C.C. Planning Branch, Ottawa, Ontario
Nalini Perera	National Capital Commission, Ottawa, Ontario

JULY	ORGANIZATION
David H. Mead	British Columbia Systems Corp., Vancouver, British Columbia
AUGUST	
Dan Blower	Ministry of Environment, British Columbia
Ian Thompson	Wirral Borough Council Planning Division, Merseyside, England
Bengt Rystedt	C.F.D., Sweden
Laurie Bean	Statistics Canada, Ottawa, Ontario
Mike MacDonald	Statistics Canada, Ottawa, Ontario
Catherine Gourlet	Statistics Canada, Ottawa, Ontario
Owe Salomonsson	Nord Plan, Sweden
Frederick R. Broome	U.S. Bureau of the Census, Suitland, Maryland
Marcos Rodrigues	Instituto de Pesquisas Technologicas, Brazil
André C. Van Kampen	National Physical Planning Agency, The Netherlands
Alf Nilsson	K-Konsult, Stockholm, Sweden
Udo Maack	Bureau of the Census, Berlin, West Germany

AUGUST	ORGANIZATION
Suzanne Enright	Statistics Canada, Ottawa, Ontario
Barbara A.R. Bonnette	U.S. Census Bureau, Washington, D.C.
Whitmen Wright	Wright, Ottawa, Ontario
Robert Bennett	Capital Regional District, Victoria, Bristish Columbia
Marcel Frigon	Energy, Mines & Resources, Ottawa, Ontario
Denis Genest	Aéro Photo Inc., Québec, Québec
J.S. MacDonald	MacDonald Dettwiler & Ass. Ltd, Richmond, British Columbia
Colin May	Indian and Northern Affairs, Ottawa, Ontario
Don Johnston	Gibbs and Hill, New York, New York
SEPTEMBER	
Antonio Santes	Ministry of Housing & Public Works, Lisboa, Portugal
Christopher L. Brooks	Westinghouse Electric Corporation, East Pittsburg, Pennsylvania
Bill White	Maritime Resource Management Service, Amherst, Nova Scotia
John McDonald	Public Archives of Canada, Ottawa, Ontario

SEPTEMBER	ORGANIZATION
Greg Galanos	Hydro Québec, Québec, Québec
Serge Y. Piotte	SOMER, Montréal, Québec
Harmat Fritzsche	Technischen Universitat Miuchen, West Germany
Jose Louis Hernandez	CCN - Parc de la Gatineau, Chelsea, Québec
Michel Paradis	Ministère de l'énergie et des ressources, Ste-Foy, Québec
OCTOBER	
Mike Eckersley	Ministry of Natural Resources, Cornwall, Ontario
Max Finkelstein	Parks Canada, Hull, Québec
Jim Barlow	Parks Canada, Winnipeg, Manitoba
Ila Smith	Parks Canada, Hull, Québec
Barry Briscoe	Parks Canada, Hull, Québec
W.R. Green	Placer Development Ltd, Vancouver, B.C.
Barry Warwick	Ontario Min. of Natural Resources, Cornwall, Ontario
Frederick Broome	U.S. Bureau of Census, Washington, D.C.

SECTION: 6. PROMOTION	DATE: MAR 81	PAGE: 6-8
SUB-SECTION: 6.1 VISITORS 80-81	AUTHOR: HEB	REVISION:

OCTOBER	ORGANIZATION
Robert W. Marx	U.S. Department of Commerce, Washington, D.C.
Gerald F. Cranford	U.S. Census Bureau, Washington, D.C.
Seang Seah Kok	Survey Department, Malaysia
Bin Abdul Kadir Rosly	Survey Department, Malaysia
Robert Madill	Systemhouse Ltd, Ottawa, Ontario
Pereira Glauco	Foundation of Assistance of Municipilaties of the State of Panama, Brazil
Tereza Cristina Baratta	Brazilian Institute of Municipal Administration, Rio Janeiro, Brazil
Jose Aquiles Suzin	Prefeitura Municipal de Pelotas, Rio Grande Do Sul, Brazil
Maria Elisa Machado	Adminitrative/Plenn No Agency, Salvador-Bahia, Brazil
Dr. Axel Wieger	Geographisches Institut der Rheinisch, Westfalischen, West Germany
Riaz Ahmed	Saskatchewan Urban Affairs, Regina, Saskatchwan
Joel Yan	Statistics Canada, Ottawa, Ontario

NOVEMBER	ORGANIZATION
Andrew Galea	The Gerber Scientific Instrument Company, Mississauga, Ontario
Colin Sturton	Statistics Canada, Ottawa, Ontario
Françoise Singh	Statistique Canada, Ottawa, Ontario
George Haydu	Statistics Canada, Ottawa, Ontario
Bruce Mitchell	Statistics Canada, Ottawa, Ontario
Jocelyn LaPierre	Statistics Canada, Ottawa, Ontario
Heinz Breu	Bell-Northern Research, Ottawa, Ontario
Chris Mannhardt	Bell-Northern Research, Ottawa, Ontario
Olga Lapczak	Bell-Northern Research, Ottawa, Ontario
Paula Archer	Indian and Northern Affairs, Ottawa, Ontario
Hosez Hernandez	Gatineau Park
Dr. Jeffrey Goekel	Iowa State University
Alun Hughes	Brock University, St-Catharines, Ontario
DND Staff	DND Mapping and Charing, Ottawa, Ontario

DECEMBER	ORGANIZATION
Joel Harvey	B.C. Systems Corporation, Vancouver, British Columbia
J. Ryan	Université de Montréal, Montréal, Québec
Robert T. Coupland	University of Saskatchewan, Saskatoon, Saskatchewan
Gabrielle Bissonnette	IBM Canada Ltd, Ottawa, Ontario
Jacques Cinq-Mars	National Museum of Man, Ottawa, Ontario
Matthias Dorn	Geological Survey of Lower Saxony, West-Germany
Al Hodgson	Dept of Renewable Resources, Whitehorse, Yukon
Peter Strum	Toche Ross, Ottawa, Ontario
Frank Jones	Statistics Canada, Ottawa, Ontario
Joel Peters	James Dobbin Associates Ltd., Toronto, Ontario
JANUARY	
Mercedes J. Ritchie	AES Data Ltd, Ottawa, Ontario
David Lloyd	D.M. Duncan & Co. Ltd, Mission, British Columbia
Donald H. Duncan	D.H. Duncan & Co. Ltd, Mission, British Columbia
Peter Atkinson	Ontario Ministry of Consumer and Commercial Relations, Toronto, Ontario

JANUARY	ORGANIZATION
Tim Johnson	Winnipeg, Manitoba
Tour Geography Students	University of Syracuse, New York, New York
R.J. Madill	Systemhouse, Ltd. Ottawa, Ontario
C. Kirby	Northern Forest Research Center, CFS Edmonton, Alta
FEBRUARY	
Bill Robinson	Lands, Parks and Housing, British Columbia
Ruben F.W. Nelson	Square One Management Ltd, Ottawa, Ontario
Frank Stagnitti	University of Melbourne, Parkville, Victoria
Denyse Rousseau - Lafond	Service Canadien des Forêts, Ste-Foy, Québec
Ray Newkirk	University of Waterloo, Waterloo, Ontario
Bruce Tudin	University of Waterloo, Waterloo, Ontario
Ward Walker	Systemhouse, Ltd. Ottawa, Ontario
MARCH	
Rick Lawford	Corporate Planning, DOE, Ottawa, Ontario
Jane Richardson	Corporate Planning, DOE Ottawa, Ontario
Murray Jones	Prairie Provinces Water Board, Regina, Saskatchewan

MARCH	ORGANIZATION
Luc Gravel	Municipal Affairs, Québec, Québec
Micheal Richer	Municipal Affairs, Québec, Québec
Uve Domogala	Mark Hurd Aerial Survey, Minneapolis
Craig Taylor	Alberta Energy and National Resources, Edmonton
Cathy Moore	Ministry of Natural Resources, Ramsayville, Ontario
Alan G. Appleby	Dept of Northern Saskatchewan, Prince Albert, Saskatchewan
Dr. Winter	UBC - Agriculture
Tormod Midttun	Noyes Geografishe, Norway
Jan Byfuglien	Central Bureau of Statistics, Norway
J.E. Michael	Univ. Institute of Natural Resources, Republic of South Africa

Training (for Users) and/or Presentations (in Ottawa)

Laison Officers

Elizabeth Snell (Burlington) and David Belgue (Québec) the new officers were gien several briefings.

DND Mapping and Charting

A presentation describing R & D activities in the area of direct scanning was given by Mr. Comeau.

Parks Canada

Two parks officers from Winnipeg received IGSS training sessions.

Alberta Energy and Natural Resources

Two users from Edmonton received IGSS training sessions.

Yukon Department of Renewable Resources

One staff member spent a week in Ottawa for training in techniques for the preparation of maps for input.

SECTION: 6. PROMOTION	DATE: MAY 81	PAGE: 6-14
SUB-SECTION: 6.3 TRAVEL & PRESENTATIONS	AUTHOR: CLM	REVISION:

Travel and/or Presentations (Outside Ottawa)

April	W. Switzer attended one day of the CACRS in Arnprior
June 2	N. Chartrand at the University of Waterloo to interview co-op students.
June 6	C. MacDonald in Montréal to look at graphics equipment.
June	N. Chartrand in Québec to give a CLDS presentation.
June 16-18	W. Switzer in Whitehorse to get a service contract underway.
June	E. Beaudette attended a Lands Strategy Planning meeting in Toronto.
July 15-18	N. Chartrand in Seattle to attend the Siggraph Conference.
July 21-26	N. Chartrand in Victoria to give a presentation on CLDS.
July 28-31	C. MacDonald in Boston to attend the Harvard Computer Graphics Week. The CLDS poster display was a part of the conference displays.
Sept. 18-19	W. Switzer in Prince Albert as part of the SFI/DTRR pilot study.
Oct. 27-29	W. Switzer, M. Comeau, D. Richardson and E. Beaudette in Burlington to attend the Environment EDP Seminar. M. Comeau gave a presentation on CLDS R & D activities in the direct scanning area.
October	J. Scantland in Toronto to attend an HP course.
Nov. 12-15	W. Switzer in Victoria to present a paper at a workshop on handling of ecological data sponsored by B.C. Ministry of Environment.
Nov. 25	W. Switzer and C. MacDonald in Halifax to attend Lands Management meeting. The CLDS audio visual presentation and CLDS policy document were presented and discussed.
Dec. 1-4	W. Switzer in Prince Albert to set up a pilot study of the CLDS facilities by Forestry Branch, SFI, DTRR.

Travel and/or Presentations (Outside Ottawa)

February	M. Comeau in Toronto to attend the Interministerial Committee on Geo-referencing seminar.
February	M. Comeau in Minneapolis, Washington, Philadelphia and Boston to investigate and examine optical scanning equipment.
Mar. 4-6	C. MacDonald in Prince Albert and Regina to assist and train users.

Siggraph

N. Chartrand attended this conference which presented the state of the art in computer graphics hardware and software.

Computer Graphics Week

C. MacDonald represented CLDS at this seminar at Harvard University. A poster display was presented and a paper was included in the proceedings.

Environment EDP Seminar

Several staff members attended this seminar in Burlington. M. Comeau presented a paper on R & D activities related to direct scanning.

DPI

Several staff members attended the annual DPI (Data Processing Institute) meeting in Ottawa.

URISA

W. Switzer presented an overview of the CLDS at the annual conference in Toronto.

Interministerial Committee on Geo-Referencing

M. Comeau attended this important seminar in Toronto.

OICC

E. Beaudette attended the annual OICC (Ontario Institute of Chartered Cartographers) conference in Ottawa.

Canadian Institute of Forestry

W. Switzer made a presentation to one of the working groups at the annual meeting in Ottawa.

NCGIPG

S. Banerjee attended the 5th annual workshop of the National Capital Geographic Information Processing Group in Wakefield Québec. The CLDS display was presented.

SECTION: 6. PROMOTION	DATE: MAY 81	PAGE: 6-18
SUB-SECTION: 6.5 PUBLICATIONS AND REPORTS	AUTHOR: CLM	REVISION:

PUBLICATIONS

Brochure

The CLDS brochure was printed. Copies are available from CLDS and all Lands Directorate offices.

Data Interchange

The document "Standard Format for the Tranfer of Geocoded Polygon Data" was printed and many copies distributed. Copies are still available through CLDS.

REPORTS

CLDS/CGIS Catalogue of Data Holdings

A preliminary draft was prepared and distributed for commands. An updated version will be available early in 1981-82.

CLDS/CGIS Catalogue of Reports

A preliminary draft was prepared and distributed for comments. An updated version will be available early in 1981-82.

Data Reports

Hundreds of copies of the CLI raw data reports were generated. A complete set was sent to each Lands Regional Office and to Headquarters. The catalogue lists all available reports which can be obtained through CLDS or Lands Regional Offices.

CLDS Audio-Visual Presentation

Through the combined efforts of CLDS staff and liaison officers (coordinated by Connie MacDonald) an audio-visual presentation was prepared. The preliminary version was presented to management committee in November. The slides and narration were then professionally produced. English copies are available in Ottawa, Halifax, Burlington and Vancouver. French translation for the Quebec office is underway.

Trans-Canada Pipelines

An IGSS data base depicting a potential pipeline corridor was created. The CLI data was analysed to dermine the impact of the corridor.

CLDS Display

The CLDS display was at the Harvard Computer Graphics Week '80, the National Capital Geographic Information Processing Group annual workshop in Wakefield, Québec, the Canadian Institute of Forestry conference in Ottawa and the Lands office in Vancouver.

7. Program Management

SECTION: 7. PROGRAM MANAGEMENT	DATE: MAY 81	PAGE: 7-1
SUB-SECTION: 7.1 STAFFING AND CLASSIFICATION	AUTHOR: CLM	REVISION:

During this fiscal year a large number of staffing actions were required.

In June, two employees R. Smale CS-1 and T. Fisher CS-4 left CLDS for positions in Western Canada. R. Janakiraman CS-1, S. Banerjee CS-2 and C. Gordon CS-3 left in the following two months.

A series of staffing actions were initiated to fill the resulting vacancies. S. Hotte and J. Baril were hired before Christmas to fill the 2 CS-1 positions. C. MacDonald, a CLDS employee, qualified and accepted the CS-4 position as of January, leaving another vacant CS-3 position. M. Bednarczyk, of Statistics Canada, was hired to fill C. Gordon's CS-3 position in March.

As of March 31, 1981, one CS-2 and one CS-3 position remain vacant.

This staff shortage caused a definite disruption of CLDS activities. However, with some reorganization of duties, the services to lands and outside users were maintained. Several research and development activities were re-scheduled. A. Daigneault was hired in January as a CS-1 term employee to assist the software staff. Also, two CS-1 positions were re-classified to the CS-2 level to reflect the growing needs of the organization.

N. Dupré, PC-1 Term, was hired in late fall to assist W. Switzer in the writing of material describing the system.

Late in 1980-81, E. Snell (Burlington) and D. Belgue (Québec) became CLDS Liaison Officers, providing assistance in the regional offices. D. Belgue, however, accepted a position with the Québec provincial government in December 1981. His position will be staffed early in 1981-82.

PSC Courses Attended

- Time Management
- Design of Online Systems (2)
- Report Writing
- Functions of the Middle Manager
- Senior Management Development Programme (W. Switzer)
- Using and Interacting with Computer Based Systems (4)
- Introduction to Computers (5)
- Interpersonal Communications
- First Aid (2)

Non-PSC Courses Attended

- HP System Manager
- HP Hardware (2)
- PDI - Management Skills for Women

CLDS Policy

A draft version of the CLDS policy document was presented and discussed at the management committee meeting in November 80. It is being updated for further discussion in June 81. Work on the policy was delayed pending the evaluation team report (see 7.4).

EMS Evaluation

The review team finally completed the evaluation report in March 1981. The recommendations are under consideration.

8. Miscellaneous Items

Miscellaneous Items

The CLDS "roving" graphics terminal was loaned to Parks Winnipeg for several months to enable them to access locally their data base for Wood Buffalo National Park. Next, the terminal was shipped to Prince Albert as part of a pilot project for the Saskatchewan Forest Inventory.

Agriculture Canada continued to utilize the drum scanner to scan several field image prints.

W. Switzer is member of the project review team to monitor a contract by R. Tomlinson for DINA in the Yukon. So far one meeting has been held that conflicted with another committment and one meeting scheduled for Ottawa was cancelled.

CLDS tried to interest a local company, HITECH, in examining and possibly rebuilding the IBM Drum Scanner - but they declined to take on the project. IBM also declined to take on the project.

CLDS is incorporating the Lands TAS forms into the computerized manpower accounting package. The required monthly and yearly reports will be produced.

9. Cost of Operations

SUMMARY OF EXPENDITURES BY FINANCIAL CODE FISCAL YEAR 1980-1981

FINANCIAL CODE		COMPUTER	MANPOWER	TOTAL	PRORATED TOTAL
381-000-091*	Management Overhead	0.0%	2.4%	2.4%	
381-000-092*	Leave	0.0%	8.4%	8.4%	
381-005-0301	Training	0.0%	0.8%	0.8%	
381-005-0302	Conferences	0.0%	0.1%	0.1%	
	TOTAL	0.0%	11.7%	11.7%	
381-945-00**	National Land Data Bank, General	4.7%	0.2%	4.9%	6.3%
381-945-01**	Data Input	3.2%	2.6%	5.8%	7.4%
381-945-02**	System Maint. - Computel & Software Related	4.7%	6.5%	11.2%	14.4%
381-945-03**	System Maintenance - Non-Computel	1.5%	4.3%	5.8%	7.3%
381-945-04**	CLDS Policy Development	0.0%	0.2%	0.2%	0.3%
381-945-08**	Operational Overhead	0.1%	10.2%	10.3%	
	TOTAL	14.2%	24.0%	38.2%	35.7%
381-946-00**	Data Processing & User Services, General	2.4%	0.7%	3.1%	4.0%
381-946-01**	Services to Federal Clients	1.5%	1.0%	2.5%	3.1%
381-946-02**	Data Banks for Federal Clients	0.7%	1.0%	1.7%	2.2%
381-946-04**	Data Banks for Provincial Clients	6.8%	4.5%	11.3%	14.4%
381-946-05**	Services to 3rd Parties	0.4%	1.0%	1.4%	1.9%
381-946-07**	Promotion	1.5%	3.1%	4.6%	5.9%
381-946-08**	Advice and Assistance	0.0%	0.1%	0.1%	0.1%
	TOTAL	13.3%	11.4%	24.7%	31.7%
381-947-00**	Research and Development, General	0.0%	0.7%	0.7%	0.9%
381-947-01**	R & D Projects	4.1%	6.7%	10.8%	13.9%
	TOTAL	4.1%	7.4%	11.5%	14.8%
Other Lands Directorate Financial Codes		8.5%	5.4%	13.9%	17.8%
	GRAND TOTAL	40.1%	59.9%	100.0%	100.0%

HP1000 mini computer Usage Statistics - Fiscal Year 80-81

APPLICATION	TOTAL CONNECT TIME (%)	TOTAL CPU TIME (%)
Digimap	7.4	0.8
Encoding - Data Entry	9.0	1.2
Point Digitizing	4.1	0.8
IDESS	47.5	57.1
Tape Library	0.6	0.3
Program Development	12.5	15.2
Other Applications	6.4	5.8
System Support and Maintenance	12.5	18.8
	100.0	100.0

Conclusions

CLDS
LANDS DIRECTORATE
ENVIRONMENT CANADA

ANNUAL REPORT

SECTION: CLDS ANNUAL REPORT 1980-81	DATE: JUNE 81	PAGE:
SUB-SECTION: CONCLUSIONS	AUTHOR: WAS	REVISION:

CONCLUSIONS

This past year (80-81) an attempt was made to ascertain the needs for CLDS Services from other Lands units. This effort met with varying degrees of success from almost outright refusal to full cooperation. This coming year (81-82) more emphasis will be placed on such advanced planning and should be much more acceptable in view of the need for IMPAC Work Plans.

This coming year (81-82), more Lands programs will be dependent upon CLDS for services. The Ontario region has a significant number of its projects requiring CLDS services and for the first time, the Environmental Land Planning and Assistance Division has requested Services. These heavy demands will place a restriction on cost recovery work in view of the fixed people resource base. Again I expect that some projects will not as in the past materialize and we should be able to handle the load.

Unlike the previous year, we were not fully staffed. We had a total of 5 software staff leave - all for better positions, new opportunities on new careers. For example: Cathy Gordon left to be a full time mother and Terry Fisher to assist in the transfer of our technology to the Government of Saskatchewan.

The past year was a highly successful one and the year ahead promises to be even better. We may see our first time transfer of technology - to the province of Saskatchewan, Forestry Branch.

W.A. Switzer

SECTION: CLDS ANNUAL REPORT 1980-81	DATE: JUNE 81	PAGE:
SUB-SECTION: CONCLUSIONS	AUTHOR: WAS	REVISION:

SERVICES TO LANDS DIRECTORATE
Regions & Headquarters
PROJECT OBJECTIVES FOR FISCAL YEAR 1981-82

Region & Headquarters

Projects	Project Cost
HEADQUARTERS	
1) Federal Lands Mapping 233 maps for input a) $80.00 ea. retrieval and overlays	45,261.25
2) CLUMP 234 maps for input (23 centers) a) $200.00 ea overlays, graphics data bases, off line selections, gerber plots	115,685.25
3) LRTAP 60 maps for input a) $90.00 ea. including 70 maps of Shoreline. Overlays, graphics (Ont. region only)	41,771.75
4) Policy Analysis Division -No information received	10,642.70
5) Northern Land Use Mapping -6 weeks of Automap time 1:500,000 scale program 10-14 map sheets - Sept.-Dec.	2,117.55
6) CLI Published Reports -formatting of data for reports	2,248.05

SECTION: CLDS ANNUAL REPORT 1980-81	DATE: JUNE 81	PAGE:
SUB-SECTION: CONCLUSIONS	AUTHOR: WAS	REVISION:

SERVICES TO LANDS DIRECTORATE
Regions & Headquarters
PROJECT OBJECTIVES FOR FISCAL YEAR 1981-82

Region & Headquarters

Projects	Project Cost
ONTARIO REGION	
1) Thames 18 maps sheets - 1:50,000 scale a) 80.00 ea. 3 coverages for input, overlay, graphics data base, gerber plots to be received by Dec 1/81.	17,577.25
2) Hudson Bay Lowlands 8 ecological land classification maps a) 200.00 ea - add to existing data - create graphics data base to be received Feb. 1/82 analysis to be done by end of 82.	11,810.40
3) Long Point 2 maps sheets 1:100,000 scale for input a) 200.00 each 2 coverages by Mar. 1/81 1 coverage by April 1/81 overlay, graphics requested for Aug. 1/81	5,805.20
4) Wetlands 16 maps sheets 1:50,000 scale a) 200.00 ea. P.L.U., Agr. overlay, requested for Oct/81. 1 map at 1:25,000 scale P.L.U. & Agr. Input, overlay and graphics	15,512.05
5) Soils 30 - 1:50,000 Shoreline a)250.00 ea. 30 - 1:50,000 Soils maps 5 map sheets overlay with PLU and graphics. Regional TSO costs	23,735.25 3,000.00

SERVICES TO LANDS DIRECTORATE
Regions & Headquarters
PROJECT OBJECTIVES FOR FISCAL YEAR 1981-82

Region & Headquarters

Projects	Project Cost
MARITIMES	
1) Coastal Sensitivity Ecological land survey - 32 1:50,000 map sheets for input, a) 250.00 ea, 32 variables per polygon to be received May - June 81, graphics data base required	19,513.75
2) Atlantic Seaboard EA's of coastal areas (all within CLI) graphics data base Required for June-Aug./81	2,230.35
3) Labrador Ecological Land Survey 16 maps 1:125,000 for input (150 variables to be received on coding forms) a) 250.00 ea graphics data base required	11,687.55
4) Graphics data bases by Province County, Watershed, Agriculture Forestry, Recreation, Waterfowl, Land Use. Required for July/81.	10,456.28
Regional TSO costs	3,000.00
699 maps Total	339,054.63