



**User Manual**

**Canada Directory**

**really  
smart  
spatial  
solutions™**

[www.dmtispatial.com](http://www.dmtispatial.com)

## Table of Contents

---

<b>ABOUT DMTI SPATIAL™ .....</b>	<b>3</b>
REALLY SMART SPATIAL SOLUTIONS .....	4
DMTI SPATIAL PRODUCT & SERVICE PORTFOLIO.....	4
CONTACTING DMTI SPATIAL.....	5
<b>USING THE CANADA DIRECTORY .....</b>	<b>6</b>
WORKSPACES, PROJECT FILES & MAP WINDOW FILES .....	6
ARCVIEW LEGEND FILES.....	6
<b>FILE DIRECTORY .....</b>	<b>7</b>
CANADA .....	7
<b>SUGGESTED LAYERING FOR THE CANADA DIRECTORY .....</b>	<b>8</b>
<b>FILE PROPERTIES.....</b>	<b>9</b>
<i>Level of Accuracy</i> .....	9
<i>File Size</i> .....	9
<i>Projection</i> .....	9
<i>Datum</i> .....	9
<b>CANADA DIRECTORY FILES - STRUCTURE AND CONTENTS .....</b>	<b>10</b>
CANADIAN AREA CODES (ACB) .....	10
PROVINCIAL OUTLINE (PRV).....	11
REGIONAL MUNICIPALITY (RMN).....	12
TOPOGRAPHIC AREA (TOP).....	13
CANADIAN TIME ZONES (TZS, TZV).....	14
NATIONAL WATER (WAT) .....	15
<b>CENSUS SUBDIVISION BOUNDARIES AND DATA.....</b>	<b>16</b>
<b>APPENDIX A: CANMAP® DATA SET CONFIGURATION FOR MAPGUIDE:.....</b>	<b>17</b>
<b>APPENDIX B: SHORELINED VS. UNSHORELINED BOUNDARIES .....</b>	<b>19</b>
<b>APPENDIX C: NUNAVUT .....</b>	<b>22</b>
FEDERAL BOUNDARY .....	22
CENSUS DIVISIONS (CDs) .....	22
CENSUS SUBDIVISIONS (CSDs) .....	23

©2001 DMTI Spatial Inc. CanMap is a registered trademark of DMTI Spatial Inc. DMTI Spatial, Really Smart Spatial Solutions and GeoPinpoint are trademarks of DMTI Spatial Inc. All rights reserved.

DMTI Spatial is an Authorized User and Distributor of selected Statistics Canada Computer File(s) under Licensing Agreement 6230.

© Copyright, HER MAJESTY THE QUEEN IN RIGHT OF CANADA, as represented by the Minister of Industry, Statistics Canada 1996. Digital Topographic Data produced under License from Her Majesty the Queen in Right of Canada, with permission of Natural Resources Canada.

## About DMTI Spatial™

---

DMTI Spatial Inc. is Canada's leading spatial solutions provider that enables users to understand their customers, optimize resources, realize opportunities, maximize profitability and make more informed decisions through accurate products and innovative thinking.

DMTI Spatial publishes precision built street map data (CanMap®), and innovative geocoding software (GeoPinpoint™). In addition, DMTI Spatial publishes a full range of positionally accurate geo-spatial data products including; census data and boundaries, postal geography, topographic maps, marketing databases, and US maps & data. As part of a complete business geographic solution, DMTI Spatial offers a wide range of GIS services, consulting, and software training.

Established in 1994, DMTI Spatial is dedicated to serving its customer's specific Geographical Information System requirements. Committed to setting the standard within the GIS industry for precision built street map data, innovative geocoding technology and positionally accurate geo-spatial datasets, DMTI Spatial believes the key to its customer's success is quality, customer service and in providing a complete geographic solution.

At DMTI Spatial, we believe that our true strength comes from working closely with our customer base and providing innovative spatial solutions to meet their strategic business requirements. As Canada's premier solution spatial provider we pride ourselves with having worked with North America's leading organizations to help them achieve their business geographic requirements.

DMTI Spatial has worked strategically with large and small organizations represented from a wide range of industries:

Agriculture	Forestry	Mining
Banking/Finance	Government	Real Estate
Consulting	Health	Retail
Education	High Technology	Telecommunications
Emergency Services	Insurance	Transportation
Engineering	Manufacturing	Utilities
Environmental	Media	

In October 2000, the Markham Board of Trade selected DMTI Spatial as the co-winner of the board's prestigious Business Excellence Award for Entrepreneurship and Innovation.

DMTI Spatial a member of the ESRI Business Partner Program.



## Really Smart Spatial Solutions

Through the application of its products and services, DMTI Spatial has been involved with projects such as: logistic planning, emergency dispatch, facilities management, data management, customer care, land base development in support of network planning, and marketing/demographic analysis applications. DMTI Spatial can provide all of the components necessary for the acquisition, implementation, operation and maintenance of a successful GIS system within companies of all sizes. Through its product and service offering, DMTI Spatial can provide users with 5 key components for a successful GIS application:

- Accurate and compatible data products and base maps
- Comprehensive Maintenance Subscription program
- GIS software
- Consulting and services
- Software training

For more information on DMTI Spatial's Geographic Solutions for Business, please visit [www.dmtispatial.com](http://www.dmtispatial.com)

## DMTI Spatial Product & Service Portfolio

DMTI Spatial's product & service offering includes:

### **CanMap** - *Digital Street Maps for Canada*

- CanMap® Streetfiles
- CanMap® Major Roads and Highways
- CanMap® RouteLogistics

### **GeoPinpoint™** - *Canada's Geocoding Solution*

- Standalone Geocoder
- ActiveX Control (OCX)
- UNIX Version

### **Points of Interest Layers**

- Education
- Health Care
- Accommodation
- Car Rental Agencies
- Border Crossings & Customs Offices

### **Topographic Data and Base Maps**

- Canadian Atlas Map Bundle
- National Topographic Data Base
- Canadian Digital Elevation Model
- Clutter Data

### **Postal Geography & Data**

- Six-Digit Postal Code File
- Enhanced Postal Code File
- Forward Sortation Area (FSA) Boundary File

### **1996 Census Demographic Boundaries & Data**

- Enumeration Area (EA)
- Census Subdivision (CSD)
- Census Division (CD)
- Census Metropolitan Area/Census Agglomeration (CMA/CA)
- Census Tract (CT)
- Federal Electoral Districts (FED)

### **GIS Software**

- For the Desktop
- For the Developer

### **Consulting and Services**

- GIS Consulting
- Application Development
- Database Marketing
- Data Conversion and Creation
- Database Scrubbing
- Geocoding Services
- Technical Support
- Training

If there is a map, data set, software package or service that you need and it is not listed, please contact DMTI Spatial. For technical product or service inquiries, please email us at [support@dmτισpatial.com](mailto:support@dmτισpatial.com)

We are constantly looking for ideas on how to improve our products and for new tools you need to stay competitive. We welcome your input, and look forward to being your solution provider for value-added geo-spatial products and services. To submit your feedback, please email us at [wishlist@dmτισpatial.com](mailto:wishlist@dmτισpatial.com)

By using our data everyday in your mission critical application, you are our best product tester. Please let us know if you have found an error in any of our products so that we can make the correction as soon as possible. To report your finding, please email us at [fixme@dmτισpatial.com](mailto:fixme@dmτισpatial.com)



## Contacting DMTI Spatial

### Address:

625 Cochrane Drive, 3<sup>rd</sup> Floor  
Markham, Ontario  
L3R 9R9 Canada

Toll Free: 1-877-477-DMTI (3684)  
Telephone: 905-948-2000  
Fax: 905-948-9404

URL: [www.dmtισpatial.com](http://www.dmtισpatial.com)  
Email: [info@dmτισpatial.com](mailto:info@dmτισpatial.com)

## Using the Canada Directory

---

DMTI Spatial™ has provided you with custom workspaces for MapInfo, project files for ArcView and Map Window Files for MapGuide that have been created to maximize the ease of use of the CanMap® Streetfiles V5.0 files. In each of these formats the data files have been layered, and will turn on and off based on the optimum viewing scale for each layer. Other formats such as MidMif and E00 will not have any workspaces or projects provided. For MidMif and E00 formats, please refer to the section: Suggested CanMap® Streetfiles V5.0 Layering.

### Workspaces, Project Files & Map Window Files

File Name	Description
CANADA	Opens and zoom layers Topographic Area Boundaries, Regional Municipalities, Provincial Boundaries and National Water for all of Canada.

#### Attention MapGuide Users:

For more information on configuring MapGuide with CanMap® data, please refer to *Appendix A: CanMap® Data Set Configuration for MapGuide*.

### ArcView Legend Files

Included with each ArcView shape file (.shp) is an ArcView legend file (.avl) with the same name. The ArcView legend files supplied can be used to display the shape file themes with the official CanMap® colours, and line, region and symbol styles when they are opened individually or opened outside of the project files provided.

In ArcView 3.0x, the ArcView legend files must be applied manually. Upon adding a shape file to a view, double click on the shape file theme to access the Legend Editor. Click on 'Load' and locate the ArcView legend file of the same name (the .avls are located in the same folder as the .shp files they are meant to be applied to). If the Load Legend dialogue appears, simply click on 'OK'.

In ArcView 3.1, when adding a shape file to a view, the ArcView legend file with the same name will be automatically applied (assuming the .avl file remains in the same location as the .shp file).

## File Directory

All files are prefixed with *CAN*, suffixed by the short form of the file name.

For example: \CANADA\CANacb

File Directory	CanMap® Region Code	File Name
\CANADA\	CAN	acb

## CANADA

Locate these files under the \CANADA\ directory:

File Name & Directory	Description
rmn	Regional Municipality(ies)
wat	National Water
prv	Provincial Boundaries for Canada
top	DMTI Spatial Topographic boundaries for Canada
acb	Canadian Area Code Boundaries
tzs	Canadian Time Zones (Standard Time)
tzv	Canadian Time Zones (Savings Time)
Census\1996\Csd\Bdy \Data	Census Subdivision Boundary (CSD) files & Data

**Note:** Please refer to the document *Cen96CSD.pdf* that is included in your shipment, for a full description and detailed file structure of all the CSD boundaries and data included in the Canada directory.

## **Suggested Layering for the Canada Directory**

---

Workspaces and Project Files cannot be provided for formats such as MidMif and E00.

The MapInfo Interchange format (MidMif) is an ASCII representation of MapInfo files. The MIF file is an ASCII file listing the coordinates for each graphical object. The MID file is an ASCII file containing attribute data for each graphical object. Each object in the MIF file relates to a record in the MID file.

The ARC/INFO Interchange Format (.E00) files define complete ARC/INFO coverages to be used with ESRI's ARC/INFO GIS.

We suggest that you use the following layering system to properly view your Canada directory:

- wat - National Water
- top - DMTI Spatial Topographic boundaries for Canada
- rmn - Regional Municipality(ies)
- prv - Provincial Boundaries for Canada

Other files that are not displayed as part of a workspace/project file include:

- acb - Canadian Area Code Boundaries
- tzs - Canadian Time Zones (Standard Time)
- tzv - Canadian Time Zones (Savings Time)
- CSD boundaries & data



## **File Properties**

---

### **Level of Accuracy**

Ranges from National Topographic Data Base (NTDB) standard down to sub-meter

### **File Size**

Please contact DMTI Spatial if you require this information.

### **Projection**

All files are displayed as unprojected latitude, longitude.

### **Datum**

All files are in NAD83 datum.

## Canada Directory Files – Structure and Contents

### Note to MapGuide Users:

A unique ID has been added to all Canada directory files provided with MapGuide format for purposes of generating reports.

### Canadian Area Codes (acb)



#### Location

\\CANADA\ directory

#### Structure

Field Name	Field Type	Field Size	Description
AreaCode	Character	8	Area Code (character)
Prov	Character	8	Province Abbreviation(s). This field may list more than one province in cases of area codes shared between provinces.

### Contents

The following list contains the provinces and territories of Canada along with their Telephone Area Codes:

Province	Area Code	Province	Area Code
AB	403	ON	705
AB	780	ON	416
BC	604	ON	905
BC	250	ON	519
MB	204	QC	514
NB	506	QC	450
NF	709	QC	819
NS & PE	902	QC	418
ON	807	SK	306
ON	613	YT & NT	867

### Area Code Boundaries

The Area Code Boundaries are based on CanMap® municipalities. They are useful for call center applications. It is recommended that the National Water file be layered on top of the Area Code Boundaries to provide a cartographically pleasing map.

## Provincial Outline (prv)



### Location

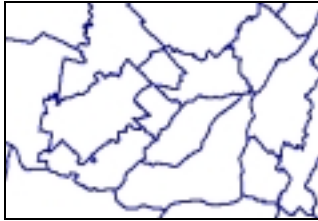
\\CANADA\ directory

### Structure

Field Name	Field Type	Field Size	Description
Name	Character	68	Name of Province
Prov	Character	2	Province Abbreviation
Pop96	Decimal	11,0	1996 Population
Pop_SqKm <sup>1</sup>	Decimal	11,1	Population Density (per square kilometer)
Dwell96	Decimal	11,0	1996 Dwelling Counts
Shore_Area	Decimal	20,5	Actual land area in sq km (not including any part of the Province covered by water). This field can be used during land area analysis <sup>1</sup>

<sup>1</sup> Based on the 1996 population and land area in square kilometers

## Regional Municipality (rmn)



### Location

\\CANADA\ directory

### Structure

Field Name	Field Type	Field Size	Description
Name	Character	68	Regional Municipal Name
Prov	Character	2	Province Abbreviation
Pop96	Decimal	11,0	1996 Population
Pop_SqKm <sup>1</sup>	Decimal	11,1	Population Density (per square kilometer)
Dwell96	Decimal	11,0	1996 Dwelling Counts
Shore_Area	Decimal	20,5	Actual land area in sq km (not including any part of the Regional Municipality covered by water). This field can be used during land area analysis <sup>2</sup>

<sup>1</sup> Based on the 1996 population and land area in square kilometers

<sup>2</sup> All Area fields were calculated within a Robinson projection

## Topographic Area (top)



### Location

\CANADA\ directory

### Structure

Field Name	Field Type	Field Size	Description
Full_Name	Character	68	Topographic Area Name
Prov	Character	2	Province
Name	Character	5	Topographic Area Name Abbreviation

**Note:** Boundaries outline urban areas where topographic layers are provided.

## Canadian Time Zones (tzs, tzv)



### Location

\\CANADA\ directory

### Structure

Field Name	Field Type	Field Size	Description
Time_Zone	Character	60	Name of Time Zone
DevFromGMT	Decimal	5,1	The difference in hours from Greenwich Mean Time

### Time Zone Boundaries

Time Zone Boundaries are useful in call center applications. These files represent time zone areas throughout Canada for both Standard Time and Daylight Savings Time. The boundaries match to the CanMap® regional municipalities. Due to uncertainty within the new territory of Nunavut, and a proposal to maintain a single time zone throughout the territory, the boundaries may require alteration when this change has been legislated. As new information becomes available DMTI Spatial will include any refinements in the time zone files.

## National Water (wat)



### Location

\\CANADA\ directory

### Structure

Field Name	Field Type	Field Size	Description
Name	Character	40	Lake/River Name

## Census Subdivision Boundaries and Data

---

**Note:** Please refer to the document *Cen96CSD.pdf* that is included in your shipment, for a full description and detailed file structure of all the CSD boundaries and data included in the Canada directory.

### Location

\\CANADA\ directory

Directories included: Census\1996\Csd\Bdy  
Census\1996\Csd\Data

### Description

Census Subdivision is the general term applied to municipalities (as determined by provincial legislation) or their equivalent (for example, Indian reserves, Indian settlements and unorganized territories).

### Structure & Contents

The census data is broken up into the releases listed below. For each release, the filename is provided along with a description and structure of its contents.

- Age, Sex and Marital Status - Age\_csd
- Families: Number, Type and Structure - Fam1\_csd
- Structural Type of Dwelling and Household Size - Dwel\_csd
- Immigration and Citizenship - Imm\_csd
- Mother Tongue, Home Language and Official/Non-Official Languages - Lan1\_csd, Lan2\_csd
- Aboriginal - Abor\_csd
- Ethnic Origin and Population Group - Eth1\_csd, Eth2\_csd
- Labour Market Activities - Lab1\_csd, Lab2\_csd
- Household Activities - Hous\_csd
- Place of Work and Mode of Transportation - Plac\_csd
- Education - Educ\_csd
- Mobility and Migration - Mob\_csd
- Sources of Income, Earnings, Total Income and Family and Household Income - Inc1\_csd, Inc2\_csd
- Families: Social and Economic Characteristics - Fam2\_csd
- Occupied Private Dwellings and Housing Costs - Dwl2\_csd



## Appendix A: CanMap® Data Set Configuration for MapGuide:

---

The areas that need to be setup or configured are:

- Installing the Files.
- Web directory pointing to Html and MapGuide Window File (MWF).
- MapGuide Server Setup.
- ODBC Data Source Name (DSN)
- MapGuide MWF File setup.

### 1. Installing the Files:

Once the files are on the local hard drive, it is recommended that you move the SDF and DBF files to another directory where they can be better protected from the Internet. Please refer to the MapGuide manual for permissions and security recommendations.

The following folders will be provided:

- dbms\Canada - databases for free Canada directory
- dbms\CanMap® Region Code - databases for desired geographic area
- docs - files for setup etc.
- images - wmf, bmp, tiff, jpeg, etc.
- maps - map window files
- mlf - map layer files, if available
- reports - Cold Fusion templates
- scripts - if available
- sdf\CanMap® Region Code - MapGuide spatial data files for desired geographic area
- sdf\Canada - MapGuide spatial data files for free Canada directory

### 2. Web Setup (if required)

If the files are moved to other directories, drives or machines than specified above, then you will have to create paths to these machines. MapGuide and Cold Fusion support UNC paths but they may require setup where they are installed to take advantage of this distributed environment. Please see the MapGuide documentation on the website [www.mapguide.com](http://www.mapguide.com)

You may also have to modify paths in the Map Window Files (.mwf) for reports.

### 3. MapGuide Setup:

In MapGuide Server Admin, there is a path setting for both Sdf directories. Leaving the default paths in place, and using your own directory structure you would use the following:

#### **SDF Search Path:**

After the default directory - C:\Program Files\Autodesk\MapGuideServer4\sdf, add your own paths to sdf directories using a semi-colon to separate each sub-directory listing.

**Note:** the path directories are NOT case sensitive.

#### 4. ODBC Setup:

The database setups are required so that any thematics for roads or land use etc. can be displayed and so that report queries can be generated.

**Note:** You will receive a set of dbf files for each project. It is highly recommended that you import the dbf files into an ODBC compliant database management program that is relational and allows the key fields to be indexed, e.g. Access, SQL Server, etc. Index the fields that define the unique database field and any field that has a theme generated from it, e.g. carto in the street layers.

You can set the DSN's up through the Control Panel > ODBC or you can use the Cold Fusion Administrator. Again, these settings are NOT case sensitive. Also note that if you are using Control Panel, each Data Source must be a System DSN not a User DSN.

If you are not using Cold Fusion, then you will have to convert the .cfm templates into your preferred reporting language.

#### 5. MapGuide Window File Setup:

Each mwf file will have to be modified to use your Intra/Internet server name. The files you will receive will point to DMTI\_MAPGUIDE.

**Step 1.** Open the mwf file and select all the layers in the left hand column. > Right click over these layers and select Properties... > replace dmti\_mapguide with your web server name (e.g. www.com)

**Step 2.** From the pull-down menus, select File > Properties... to bring up the mwf properties. Select the Reports Tab > Under the Properties URL, replace dmti\_mapguide with your web server name for each report. Reports that can be generated include; all Roads layers (rds,hwy,hrd), POI layers, the *lur* layer and the *mun* layer.

**Step 3.** Select the Zoom Goto Tab to replace dmti\_mapguide with your web server name. Zoom Goto's are provided for the Municipal Centroids (munc) layer.

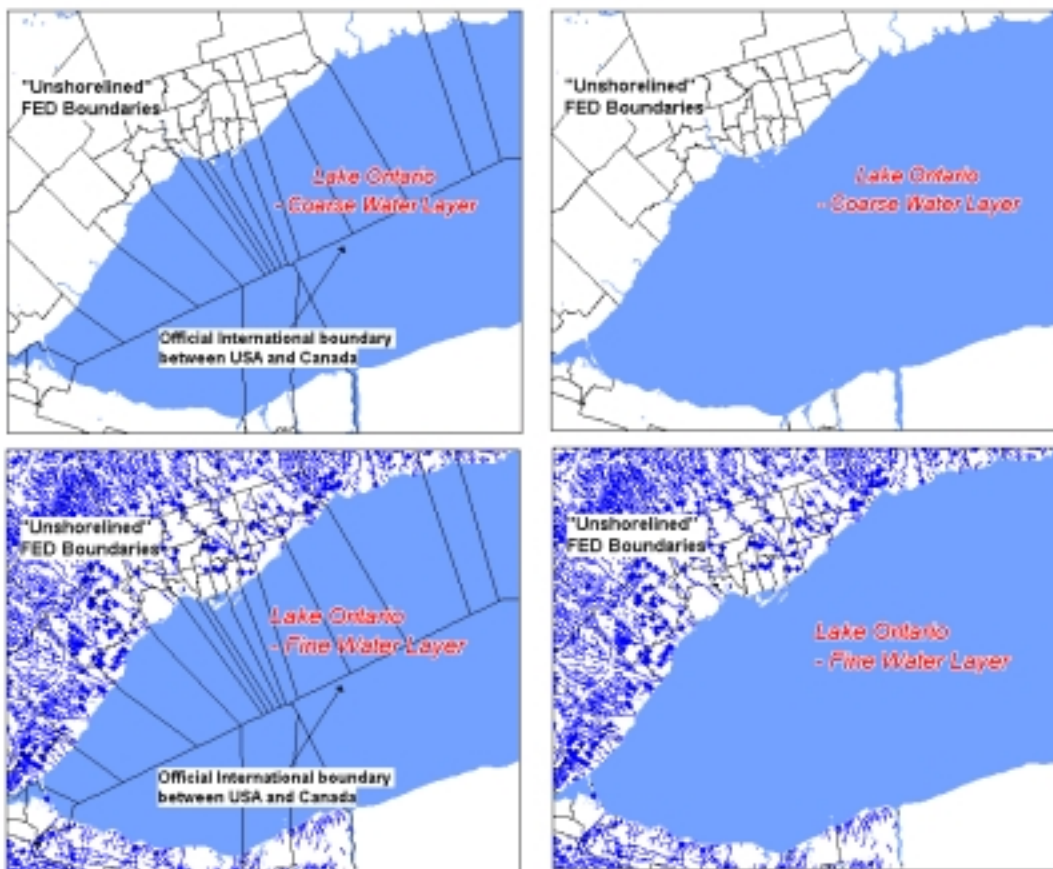
**Step 4.** Select OK for the Properties Dialogue box and Save the Map Window File.

## Appendix B: Shorelined Vs. Unshorelined Boundaries

DMTI Spatial's standard boundaries are all referred to as "Unshorelined". We make our boundaries in such a way that our users can overlay different scales of water coverages depending on the scale of their analysis. CanMap® is packaged with 2 water coverages: CANwat (which is a coarse water body layer) and AREAhY (which is a fine water body layer available in Urban Areas). By including "Unshorelined" boundaries in the CanMap® product, users have the option of overlaying either the coarse, or fine water depending on the scale applicable for their analysis.

### Unshorelined Boundaries

The following examples show the "Unshorelined" FED boundaries (from our Census product line) with the Coarse and Fine Water layers. The diagrams to the left show the boundaries layered on top of the water (with the official International boundary between USA and Canada). The diagrams to the right show the water layered on top of the boundaries.



### Subset of Coarse Water Layer

The DMTI Spatial "Shorelined" boundaries are made based on a subset of the Coarse water layer. All of the Major waterbodies are "punched out" from the boundaries, therefore creating a "Shorelined" effect. The following diagrams show the difference between the content of the entire Coarse water layer and the Subset used for the purpose of "Shorelining".



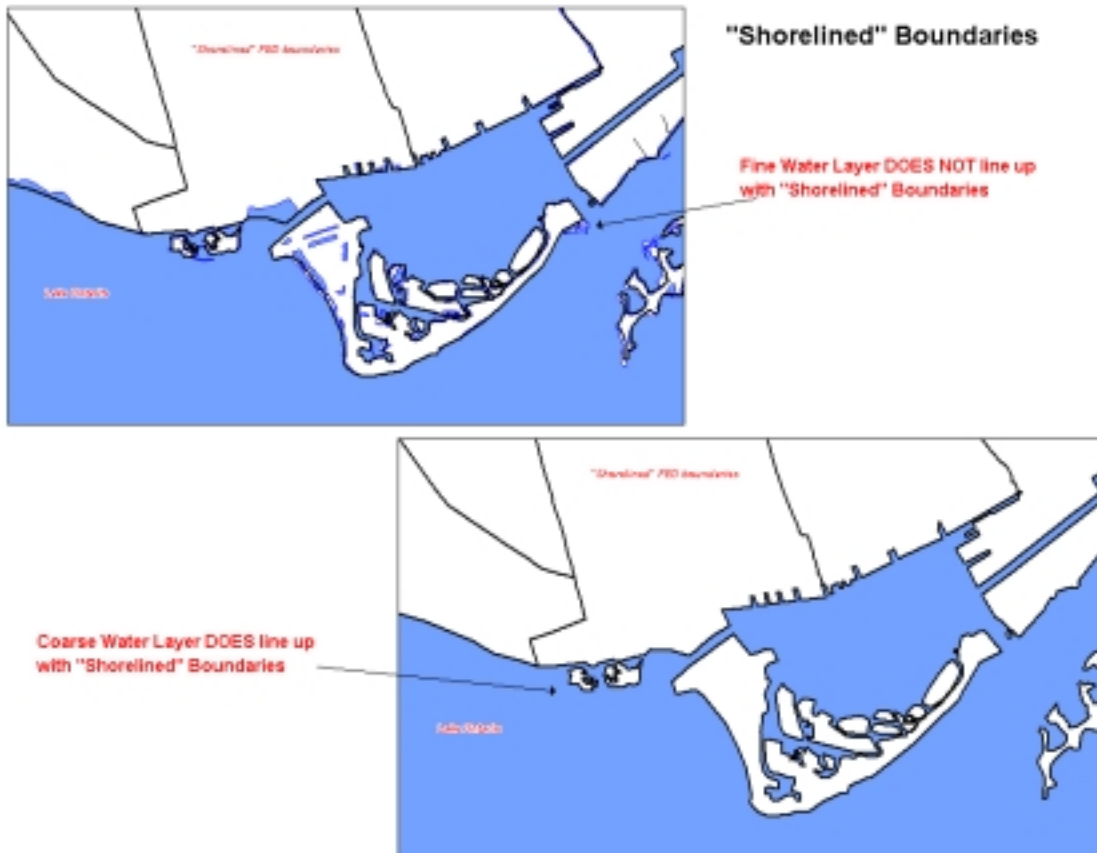
**Entire Coarse Water Layer  
(CanWAT)**

**Major Water used  
to "Shoreline" boundaries  
based on Coarse  
Water Layer (CanWAT)**



## Use of Shorelined Boundaries

The following diagrams show why "Shorelined" boundaries are not recommended for use with both the Coarse and Fine water layers.



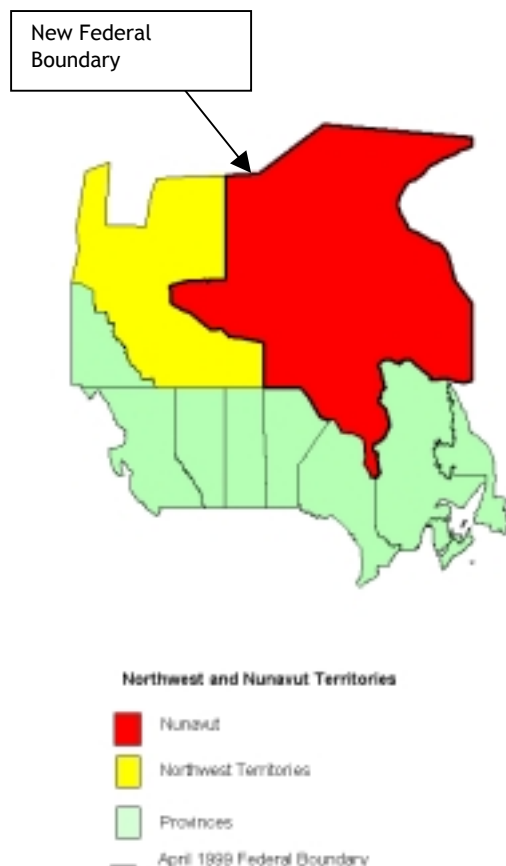
Note: To receive "Shorelined" boundaries please contact your DMTI Spatial Account Manager.

## Appendix C: Nunavut

### Federal Boundary

On April 1, 1999 the Northwest Territories was split into two Territories to create Nunavut Territory. The province/territory code for Nunavut is 62 and the territory symbol is NU as recognized by Canada Post Corporation. The code for the Northwest Territories remains 61. [Source: addendum to the 1996 Standard Geographical Classification (SGC) Statistics Canada]

**Diagram 1 - New Federal Boundary - April 1999**

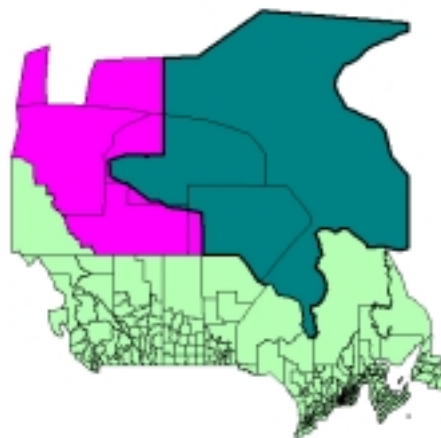


### Census Divisions (CDs)

The five census divisions (CDs) that make up the Northwest Territories listed in the SGC are divided into Northwest Territories and Nunavut.

Baffin Region (04), Keewatin Region (05) and Kitikmeot Region (08) (displayed below in green) are part of Nunavut. Fort Smith Region (06) and Inuvik Region (07) (displayed below in magenta) remain within the Northwest Territories. [Source: addendum to the 1996 Standard Geographical Classification (SGC) Statistics Canada]

The thick black line in *Diagram 2* shows the new Federal Boundary (April 1999). The thin black lines are the Census divisions referred to above. The two boundaries do not currently line up because the new Federal boundary came into effect in April 1999 and the new census boundaries will not be available until after the 2001 census is released. Once the new census data is available, the boundaries will be updated to line up with the Federal boundary.

**Diagram 2 - Census Divisions****Census Boundary Legend**

- Census Divisions (CDs) 1996
- Nunavut
- Northwest Territories
- Provinces
- April 1999 Federal Boundary

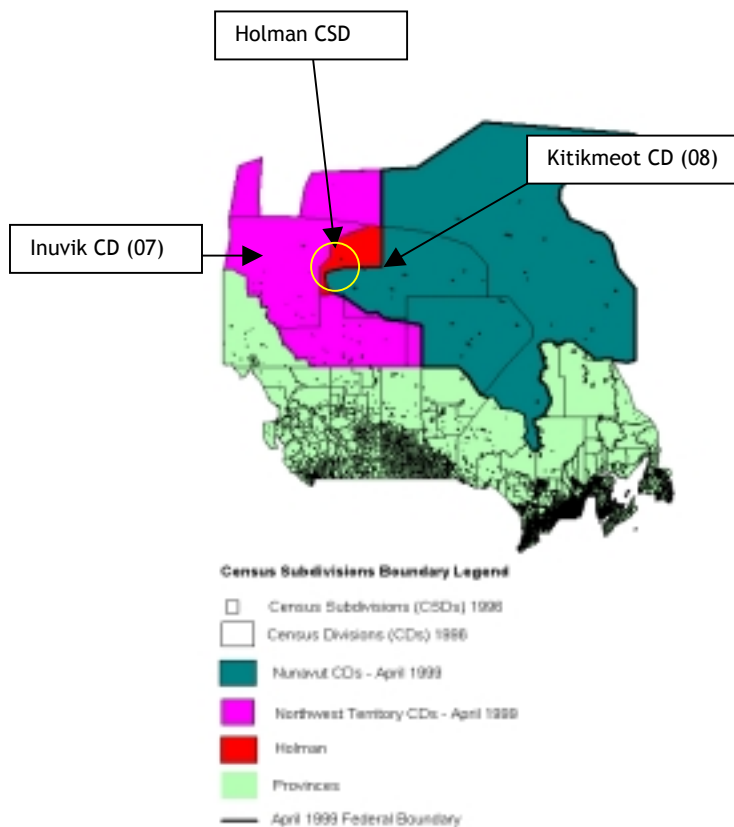
**Census Subdivisions (CSDs)**

There are now 37 CSDs in the Northwest Territories and 31 CSDs in Nunavut.

For the geographic units of Nunavut, the first two digits of the SGC code have been changed from 61 to 62 and the rest of the digits have been retained as in the 1996 CD and CSD codes. For example, Resolute Bay CSD code formerly 6104022 becomes 6204022 and Baffin Region formerly 6104 becomes 6204.

The area outlined in red, in *Diagram 3* below, shows a part of Kitikmeot Region, including the CSD of Holman that has remained within the Northwest Territories. Both Holman and this part of the original Kitikmeot Region have become part of the Inuvik Region. Consequently, the CD code changed from 08 to 07.

These changes will be reflected in DMTI's new CDs and CSDs when the new census data is available and the boundaries realigned. [Source: addendum to the 1996 Standard Geographical Classification (SGC) Statistics Canada]

**Diagram 3 - Census Subdivisions (CSDs)**

Finally, there are two CSD name changes since the release of the 1996 SGC manual:

6104010 Broughton Island, HAM becomes 6204010 Qikiqtarjuaq, HAM; and  
 6106052 Snare Lake, SET is now named 6106052 Wekweti, SET. [Source: addendum to the  
 1996 Standard Geographical Classification (SGC) Statistics Canada]

All of DMTI's CSD, CD and EA boundaries and data have been updated with the new attribute information outlined above. The boundaries will not line up with the current federal boundary until after the new census boundary and data information is released by Statistics Canada. For example, any EA boundaries and consequent data that fall within the new Federal boundary for Nunavut as shown in Diagram 1 above, will have PRFEDEA, PRCD CSD and PRCD codes beginning with the digits 62. Those boundaries and data that fall within the new Northwest Territories boundary will have codes beginning with the digits 62. Those boundaries and data that fall within the new Northwest Territories boundary will have codes beginning with the digits 61.