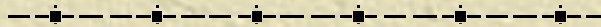# *Census Geography: Define Your Study Area*

Resource Note #1

2001 Census Consortium

July 2004

Preface

- The Resource Note is intended to increase our understanding of and broaden our knowledge base on key subject areas that are fundamental in building our capacity in numeric and geographic analysis.

- It is not an in-depth or comprehensive discussion of the subject matter.

- It highlights certain relevant and important areas that deserve our attention and consideration.

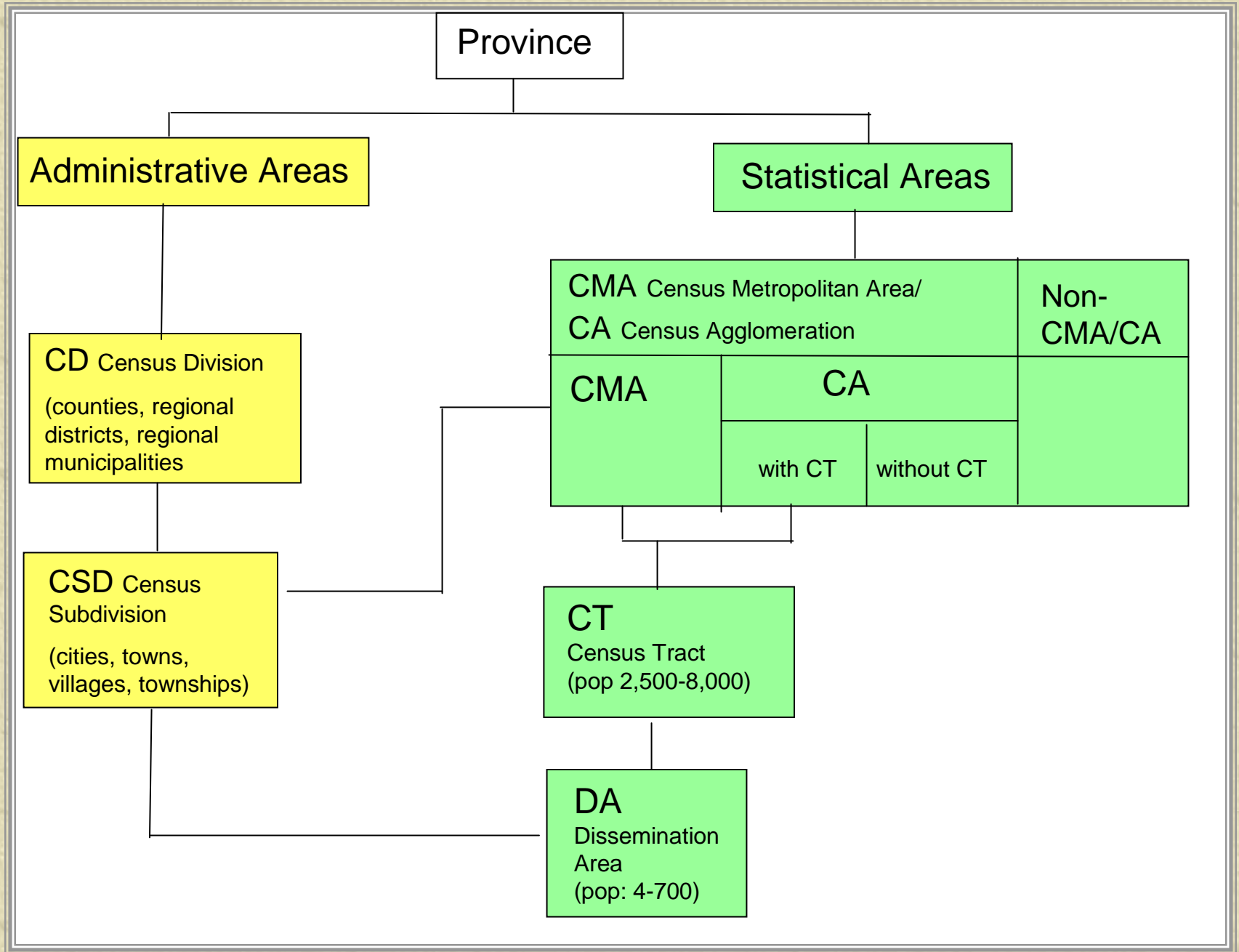- It is intended to be informal and informative.

Introduction

* This is the first Resource Note

* The focus is on the geographic units used by Statistics Canada to disseminate 2001 Census data and how to define our study area

* In order to use Census data, our study area has to conform to census geographic units such as Census Division (CD), Census Subdivision (CSD), Census Metropolitan Area (CMA), Census Agglomeration (CA), Census Tract (CT) or Dissemination Area (DA)
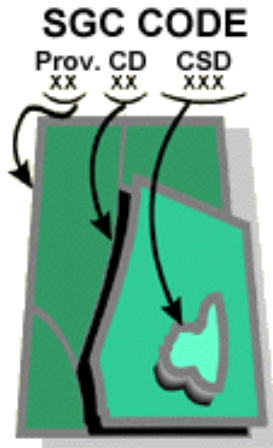
Introduction (2)

* Census Division (CD) and Census Subdivision (CSD) correspond to administrative areas such as counties, regional municipalities, towns and villages.

* Census Metropolitan Area (CMA)/Census Agglomeration (CA) are large urban areas together with adjacent urban and rural areas that have a high degree of social and economic integration with the large urban area.

* All Census Metropolitan Areas are divided into Census Tracts. All Census Agglomerations with urban core population of greater than 50,000 are also divided into Census Tracts.

Introduction (3)

✳ Census Tract (CT) is relatively permanent area resembling a small urban neighbourhood or rural community. CT boundaries generally follow permanent and easily recognizable physical features. The population of a CT should range between 2,500 to 8,000, with a preferred average of 4000 and greatest possible social and economic homogeneity.

✳ Dissemination Area (DA) is the smallest standard geographic unit for which all Census data are disseminated. DAs are uniform in terms of population size, which is targeted from 400 to 700 persons to avoid data suppression

✳ All Canada is divided into DAs

Province

Administrative Areas

Statistical Areas

CD Census Division
(counties, regional districts, regional municipalities)

CSD Census Subdivision
(cities, towns, villages, townships)

CMA Census Metropolitan Area/
CA Census Agglomeration

Non-CMA/CA

CMA

CA

with CT

without CT

CT
Census Tract
(pop 2,500-8,000)

DA
Dissemination Area
(pop: 4-700)

Standard Geographic Classification

SGC CODE
Prov. CD CSD
XX   XX   XXX

The Standard Geographical Classification (SGC) is Statistics Canada's official classification for three types of geographic areas: **provinces and territories, census divisions (CDs)** and **census subdivisions (CSDs)**. The SGC provides unique numeric identification (codes) for these hierarchically related geographic areas.
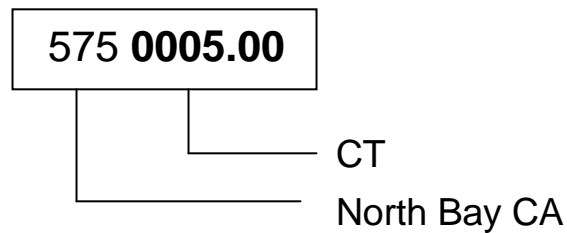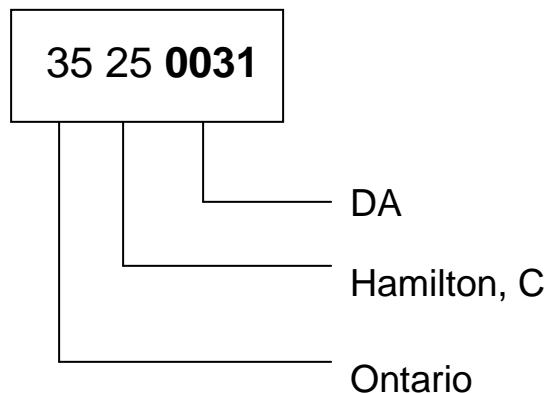
35 18 001

City of Pickering

Region of Durham

Ontario

CT/DA Numbering System

575 **0005.00**

CT

North Bay CA

✳ Each Census Tract (CT) is assigned a seven-character numeric "name" (including leading zeros, the decimal point and trailing zeros). To identify each CT uniquely, the three-digit CMA/CA code must precede the CT name

35 25 **0031**

DA

Hamilton, C

Ontario

✳ Each Dissemination Area (DA) is assigned a four-digit code that Is unique within a Census Division and a province. In order to identify each Census Agglomeration uniquely, the two-digit Province code and the two-digit Census Division code must precede the DA code

Census Metropolitan Area (CMA)/ Census Agglomeration (CA) in SPNO area

	CTs	DAs
522 Belleville CA	33	150
543 Brantford CA	19	155
580 Greater Sudbury CMA	42	241
537 Hamilton CMA	172	1110
521 Kingston CMA	40	239
541 Kitchener CMA	91	670
575 North Bay CA	21	115
532 Oshawa CMA	68	475
505 Ottawa-Hull CMA (ON)	180	1270
529 Peterborough CA	25	173
535 Toronto CMA	932	7047

How to define your study area?

* We do that using **PCensus Database Extractor**
* 2001 Census data is available by
  – Province
  – Census Metropolitan Area/Census Agglomeration (CMA/CA)
  – Census Subdivision (CSD)
  – Census Tract (CT)
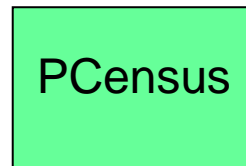 – Dissemination Area (DA)
* Limitations:
  – data not available by Census Division (CD), you have to group all the CSDs manually
  – data at CT level only available to individual CMA/CA

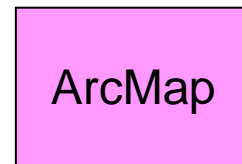# *How to define your study area? (2)*

1. Identify all Census Subdivisions (CSDs) that make up your study area
   - Use Census Subdivisions (CSDs) as the "building blocks"
   - Refer to Census Reference Map (South/North Ontario)
   - http://geodepot.statcan.ca/Diss/Maps/ReferenceMaps/prov_pdf_e.cfm
2. In PCensus Database Extractor
   - Set Database to Canada 2001 Census (Ontario)
   - Set Template to Canada 2001 Census
   - Click Study Area
   - Set Study Area Type to Census Subdivisions (CSDs)
   - Enter names of all CSDs
   - Use "Delete" to correct
   - Set Target Type to Dissemination Area
   - Click Pointfile
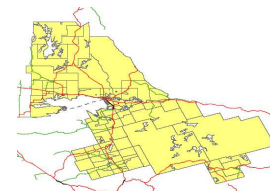3. Use ArcMap to produce map

How a map is produced?

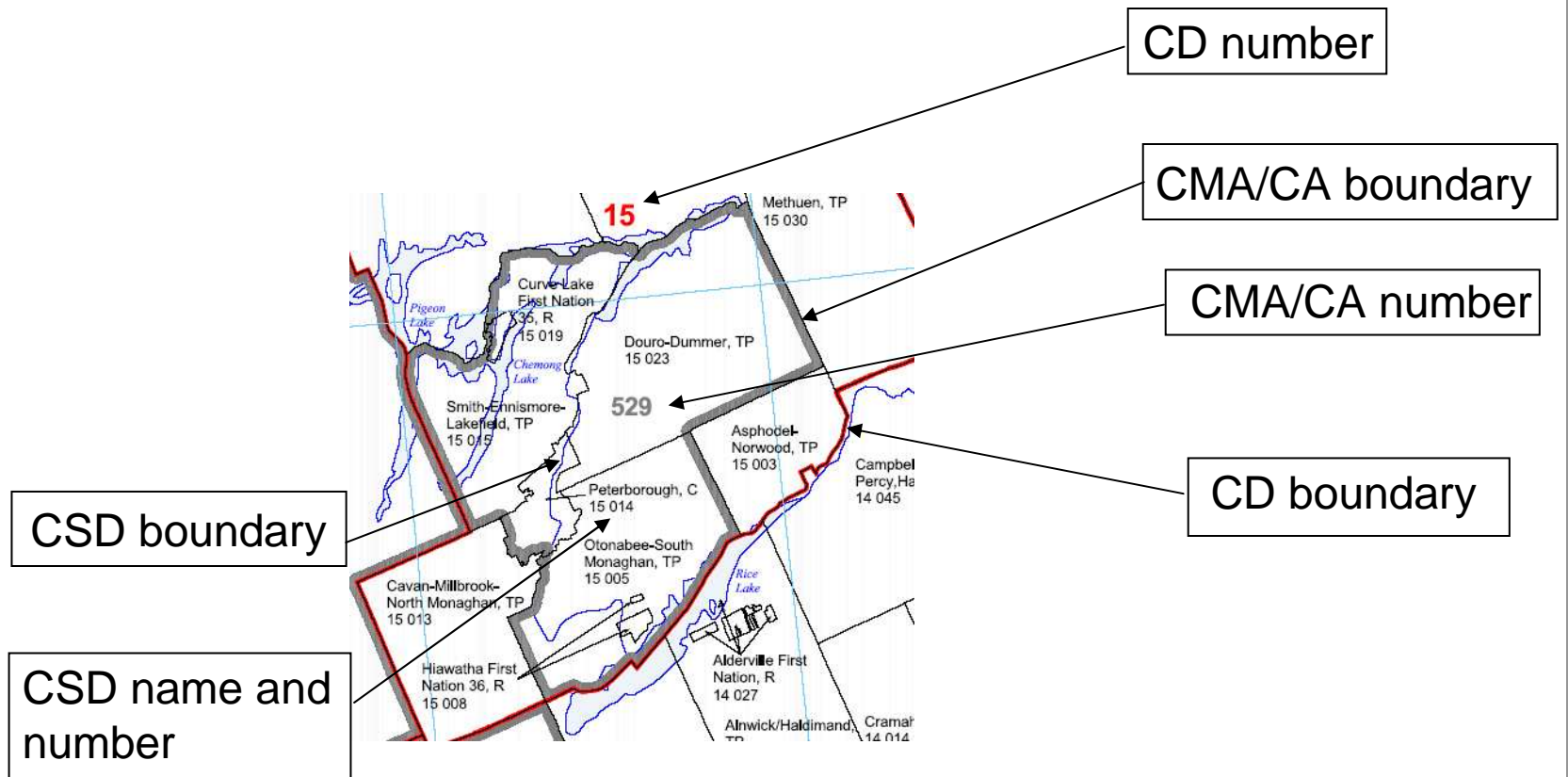Define
which census
geographic
units to be
included

PCensus

Shapefile

Contain geometry
of census geographic
units

ArcMap

Join the files
and display map

Census Reference Map

CD number

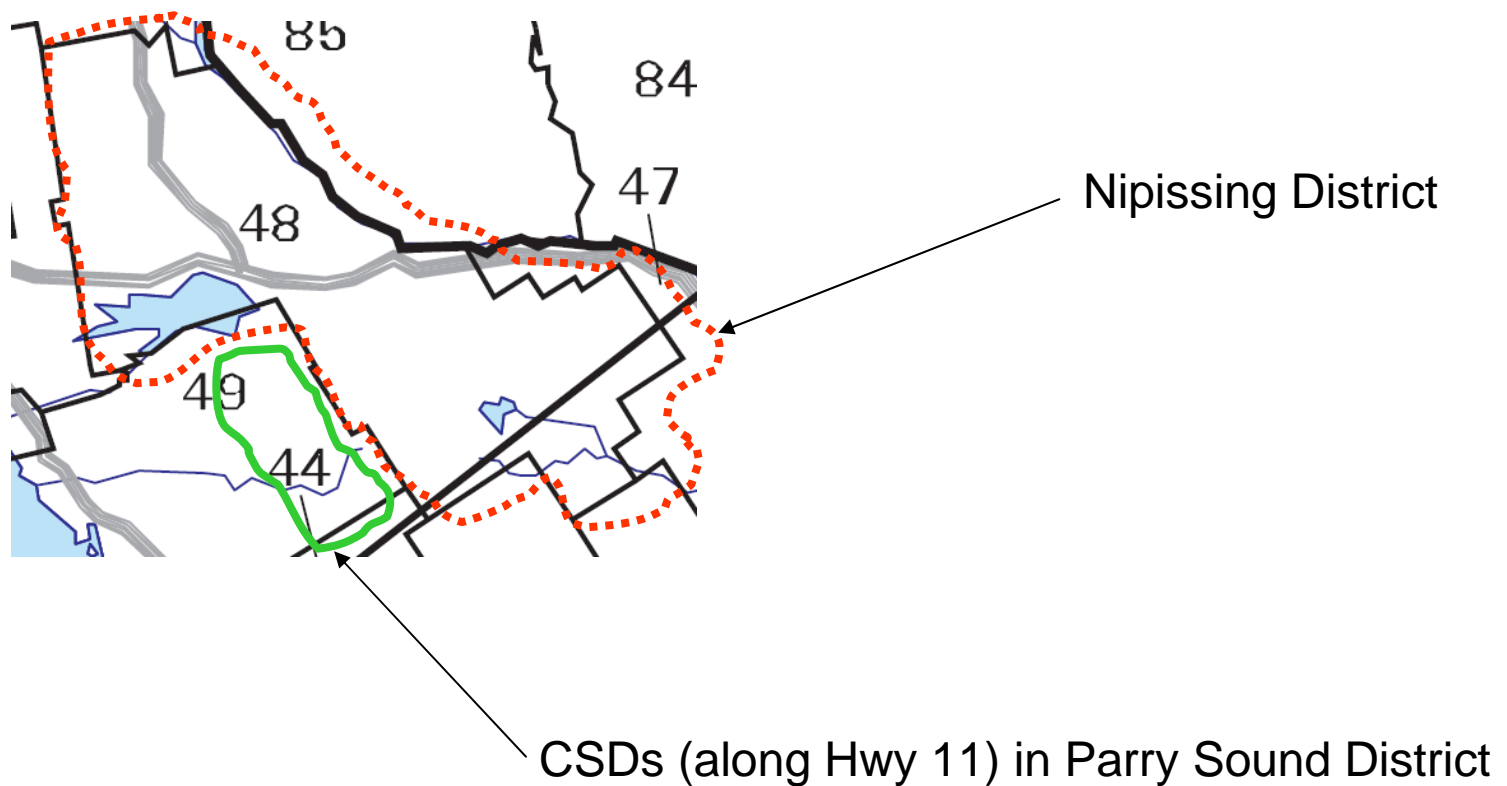CMA/CA boundary

CMA/CA number
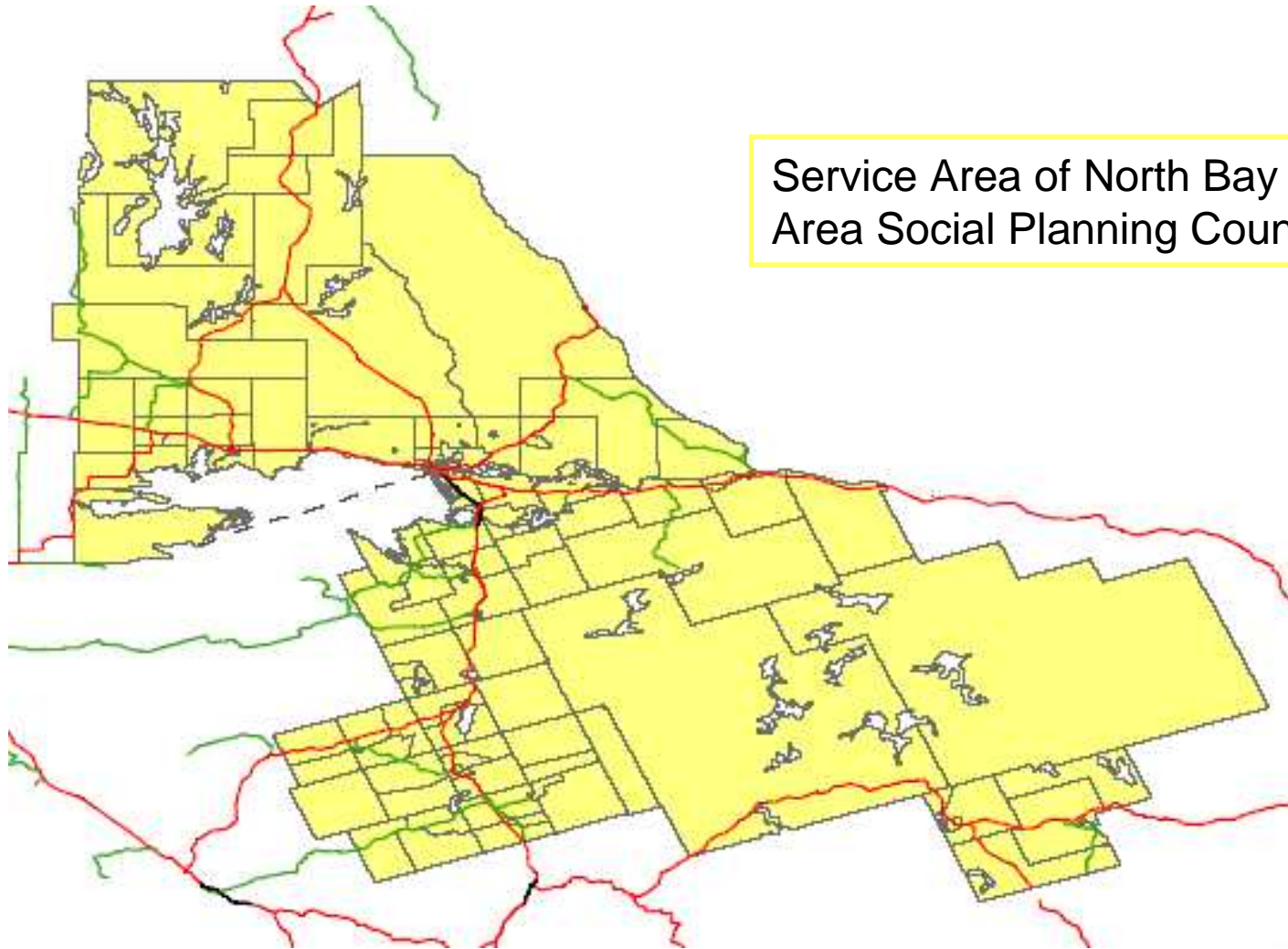
CD boundary

CSD boundary

CSD name and number

Example – Blue Sky Region

* The Service/Study Area of the North Bay and Area Social Planning Council covers:
  – The Blue Sky Region – a new "Economic" area including Nipissing District and parts of Parry Sound District
  – Nipissing District has 15 Census Subdivisions (CSDs) including City of North Bay
  – part of Parry Sound District (along Hwy 11 – south to Novar, west to Magnetewan) has 16 Census Subdivisions (CSDs)
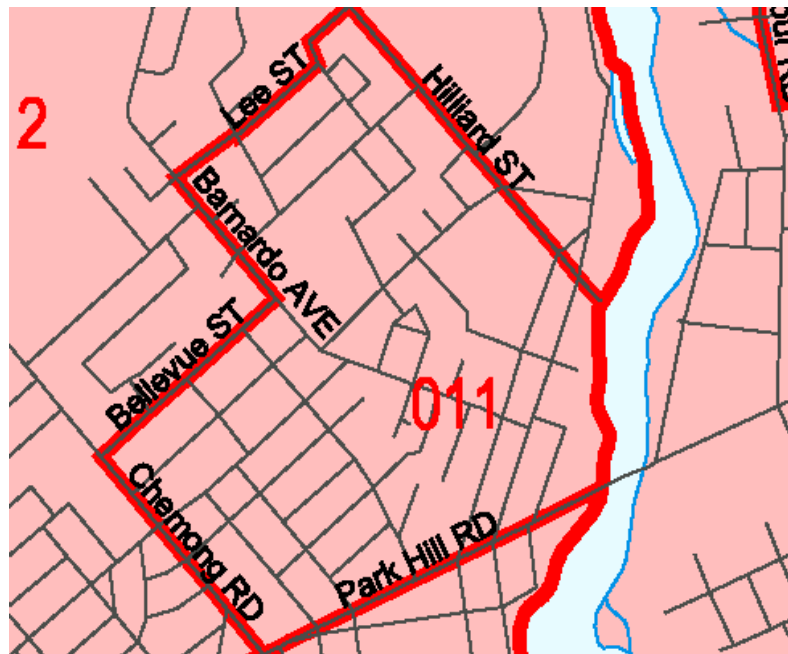
Example – Blue Sky Region (2)

Nipissing District

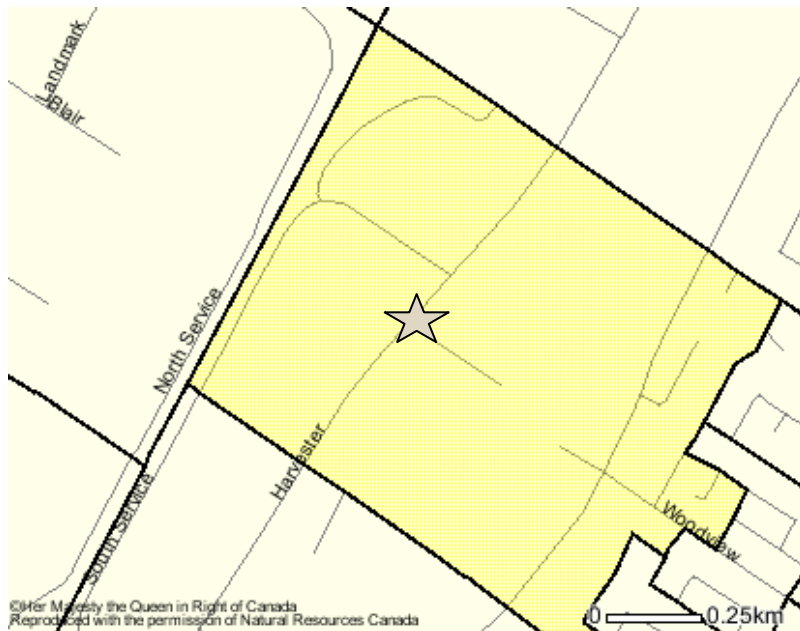CSDs (along Hwy 11) in Parry Sound District

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Example – Blue Sky Region (3)

Service Area of North Bay and
Area Social Planning Council

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How to identify CT/DA boundaries in your study area?

* Use Statistics Canada's on-line Census Reference Maps (http://geodepot.statcan.ca/Diss/Maps/ReferenceMaps/index_e.cfm)

* Select study area under Large, Medium or Small Urban Centres

* Select Ontario and locate study area

* Click on corresponding reference map(s)

* Locate the CT or DA by using the "Zoom In" or "Zoom Out" tools

How to find a location within a CT or DA?

Intersection: Harrington Crt and Harvester Rd, Burlington, Ontario
Target DA : 35240483

* Use the GeoSearch function (http://geodepot.statcan.ca/Diss/GeoSearch/index.cfm?lang=E)
* Enter "Street Intersection", "City" and "Province"
* Click to select boundary layer "CT" or "DA"
* Use "identify tool" to indicate target CT or DA

What Have We Learned?

* The various census geographic units where census data are disseminated

* The relationship between administrative areas and statistical areas

* Statistics Canada's Standard Geographic Classification (SGC) system and numbering system for Census Tract (CT) /Dissemination Area (DA)

* How to define your study area using PCensus DBx Pointfile Generator

* How to identify CT/DA boundaries

* How to find a location within a CT or DA

Any questions or comments?

Please contact me at:

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2001 Census Consortium Project

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Fax: 905-632-0778

Thank You