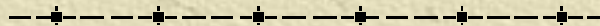




*PCensus DBX*  
*version 8.5*

Resource Note #9  
Community Social Profile Project  
September 2007



# *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 9<sup>th</sup> Resource Note, previous notes include:
  - # 1 – Census Geography
  - # 2 – Census Data
  - # 3 – PCensus Database
  - # 4 – Geocoding,
  - # 5 – Cartographic Principles
  - # 6 – Thematic Mapping
  - # 7 – 2006 Census
  - # 8 – Population Pyramid
- ✦ This is an update of Resource Note # 3 on using the PCensus Database Extractor (DBX) to build a datafile as input to ArcMap
- ✦ As part of our purchase agreement of the 2006 Census data from Tetrad Computer Applications Inc., a new version of PCensus Database Extractor (DBX) is provided. **We have to use this version to extract data from the 2006 Census.** It can also be used with our 2001 Census data package.

# *PCensus Database*

- ✦ PCensus Database groups census variables into different categories (e.g. population by age and sex, marital status, citizenship and place of birth...).
- ✦ Census variables with the exception of some income data are available at the Dissemination Area (DA), Census Tract (CT), Census Subdivision (CSD), Census Division (CD) and Census Metropolitan Area/Census Agglomeration (CMA/CA) levels.
- ✦ However, as mentioned in Resource Note 1 – Census Geography, the census variables are not readily available at the Census Division (CD) level, one has to manually group the component CSDs, CTs or DAs together.

# *PCensus DBX 8.5*

- ✦ The major steps involved in the development of a datafile for input to ArcMap are very similar with the earlier version
- ✦ It has a different template layout
- ✦ New features include comparison among selected areas and also benchmarking
- ✦ For more detailed description and instructions, please refer to *PCensus DBX Version 8.5 – User's Guide*

# *Seven Steps*

*(The City of Kingston is used as an example to illustrate the various steps)*

1. Select Database/Template
2. Specify the Type of Area
3. Select the Area
4. Export Pointfile (optional)
5. Create the Profile
6. Compare with other Areas (optional)
7. Export a Pointfile

# 1. *Select Database/Template*

**Study Area Wizard**

**Predefined Study Area**  
Select a database and the type of predefined study area that you want to create.

Abbeville County	SC
Acadia Parish	LA
Accomack County	VA
Ada County	ID
Adair County	IA
Adair County	KY
Adair County	MO
Adair County	OK
Adams County	CO
Adams County	ID
Adams County	IL
Adams County	IN
Adams County	SC
Aitkin County	MN
Alachua County	FL


1. Select a Demographic Database:  
2006 Census: Release 2 [Ontario]

2. Select a custom Data Template (if required):  
2006 Census: Release 2

3. Select a Predefined Area Type:  
Province  
Metro Area (CMA/CA)  
Census Subdivision (CSD)  
Designated Place (DPL)  
Census Tract (CT)  
Postal FSA  
Dissemination Area (DA)  
Dissemination Block (DB)

< Back   Next >   Finish   Cancel   Help

New Predefined Study Area

✦ Click  to initiate a new predefined study area

✦ Use the **Demographic Database** pull-down list to select 2006 Census Release 2 [Ontario]


✦ Use the **Data Template** (if required) pull-down list to select 2006 Census Release 2


## 2. Specify the Type of Area

**Study Area Wizard**

**Predefined Study Area**  
Select a database and the type of predefined study area that you want to create.

Abbeville County	SC
Acadia Parish	LA
Accomack County	VA
Ada County	ID
Adair County	IA
Adair County	KY
Adair County	MO
Adair County	OK
Adams County	CO
Adams County	ID
Adams County	IL
Adams County	IN
Aiken County	SC
Aitkin County	MN
Alachua County	FL

1. Select a Demographic Database:  
2006 Census: Release 2 [Ontario]  ▾

2. Select a custom Data Template (if required):  
2006 Census: Release 2  ▾

3. Select a Predefined Area Type:  
Province  
Metro Area (CMA/CA)  
**Census Subdivision (CSD)**  
Designated Place (DPL)  
Census Tract (CT)  
Postal FSA  
Dissemination Area (DA)  
Dissemination Block (DB)

< Back   Next >   Finish   Cancel   Help

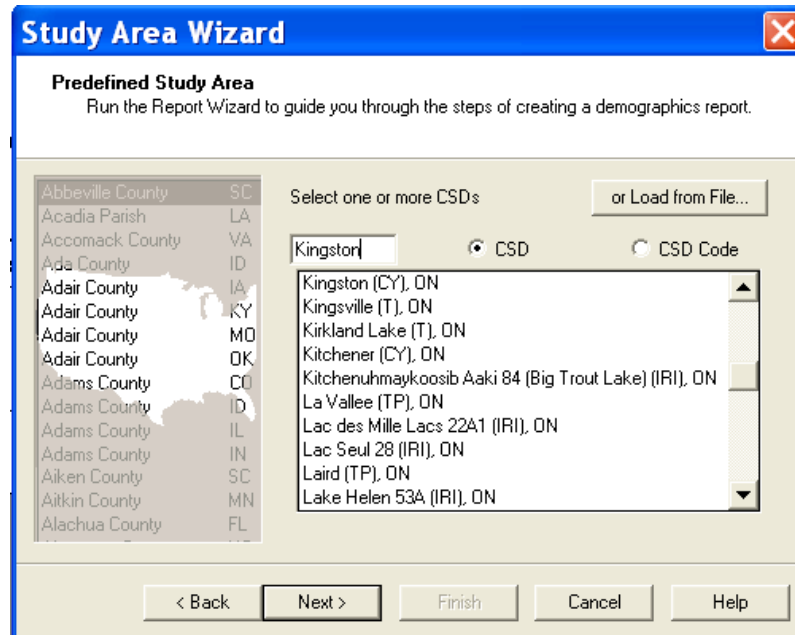
The Predefined Area Type list shows the types of standard area available in the selected database

✦ Highlight **Census Subdivision (CSD)** for the City of Kingston and click **Next**>

✦ Or double-click **Census Subdivision (CSD)**



# 3. Select the Area



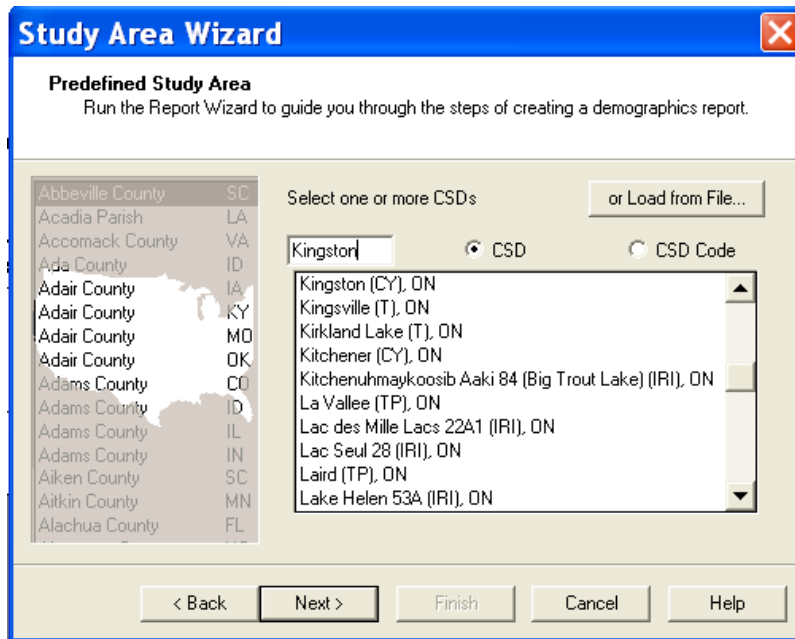
The Predefined Study Area dialog box is used for selecting geographic areas from a list – in this case a list of Census Subdivisions (or municipalities). The small text box above the list is used for locating names in a long list

- ✦ Start typing the name **Kin...** into this box, The list scrolls to display the first name matches the letters you have typed
- ✦ Highlight **Kingston** and click **Next>**
- ✦ Or, you can enter the CSD code **(3510010)** and click **Next>**
- ✦ To make change, backspace on name or code

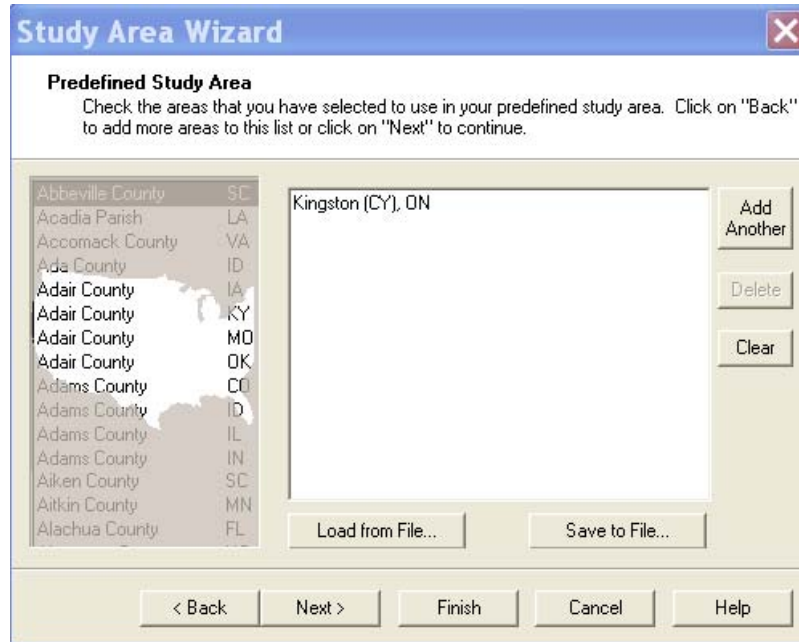
# 3. Select the Area (cont'd)

Or you might load a list of geographic areas previously saved from your file

✦ See next page for saving a list of geographic areas (CSDs, CTs and DAs)



### 3. Select the Area (Cont'd)



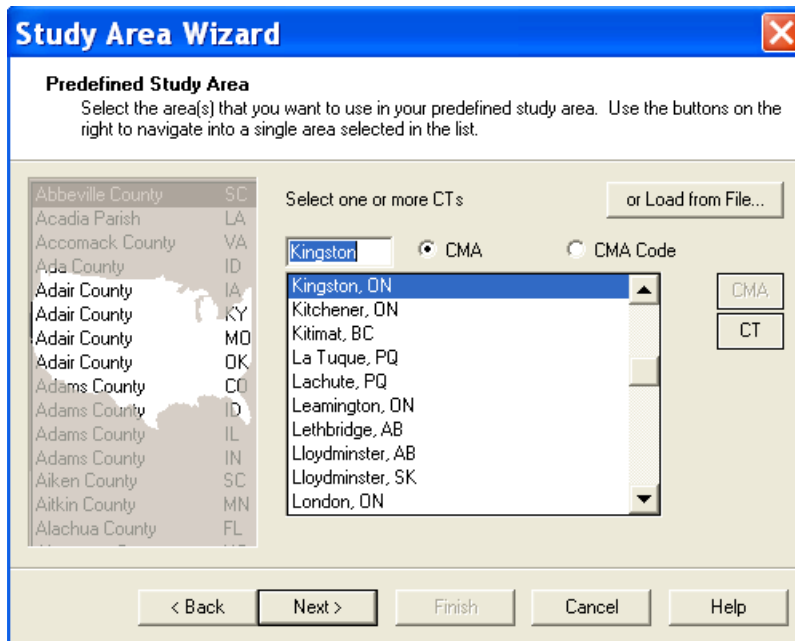
This dialog box summarizes the areas selected for our study

At this point we could click **Add Another** to return to the previous dialog box – for example, we might add the Township of South Frontenac to the list to create a profile for the total of two municipalities (CSDs)

✦ You could save a list of geographic areas to a file for future use (**Save to File**)

✦ Click **Next>**

# 3. Select the Area (cont'd)

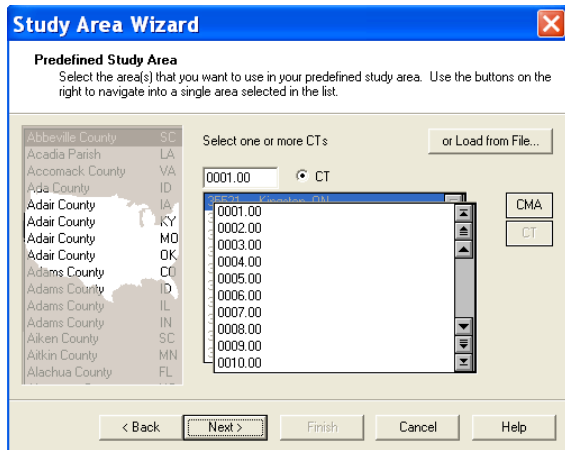


One can also define a study area by grouping CTs or DAs

For example, an area consists of four CTs in Kingston can be defined by:

- ✦ Return to Step 2 and highlight **CT** as Predefined Study Area
- ✦ Enter **Kingston**
- ✦ The CMA/CA code for Kingston (35521) will appear in the box
- ✦ Click the **CT** button and the list of all CTs in Kingston will appear

# 3. Select the Area (cont'd)

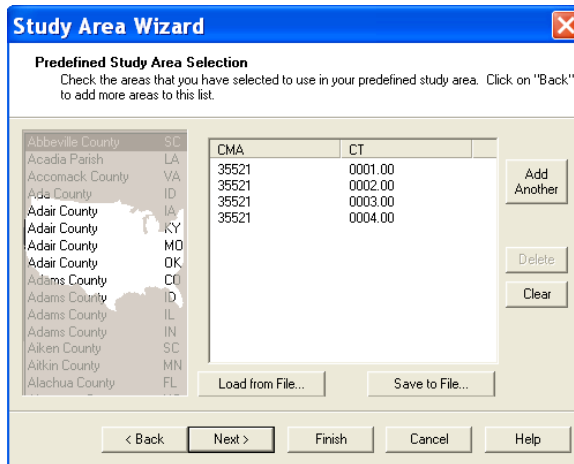


✦ Highlight the CTs to be included

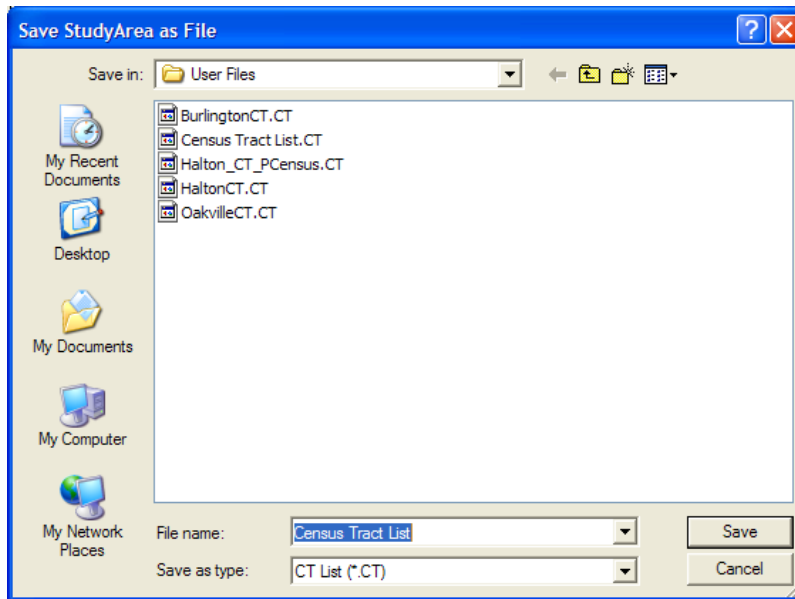
✦ Click the **Next>** button

✦ The four CT codes will appear in the box below

✦ Click the **Save to File** button and save the data to a Userfile

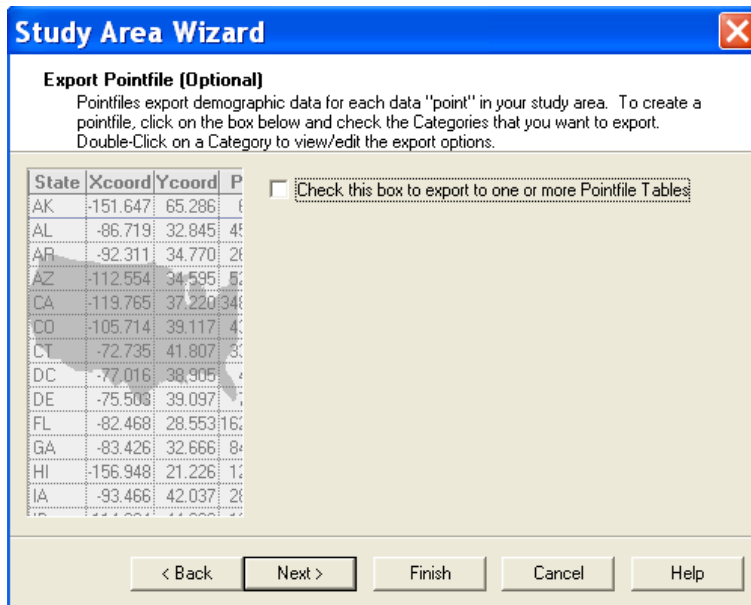


### 3. *Select the Area (cont'd)*



- ✦ Enter a file name in the **Save Study Area as File** box
- ✦ Once saved, one can retrieve the geographic area (i.e. four census tracts) by loading and opening the file

# 4. Export Pointfile (Optional)

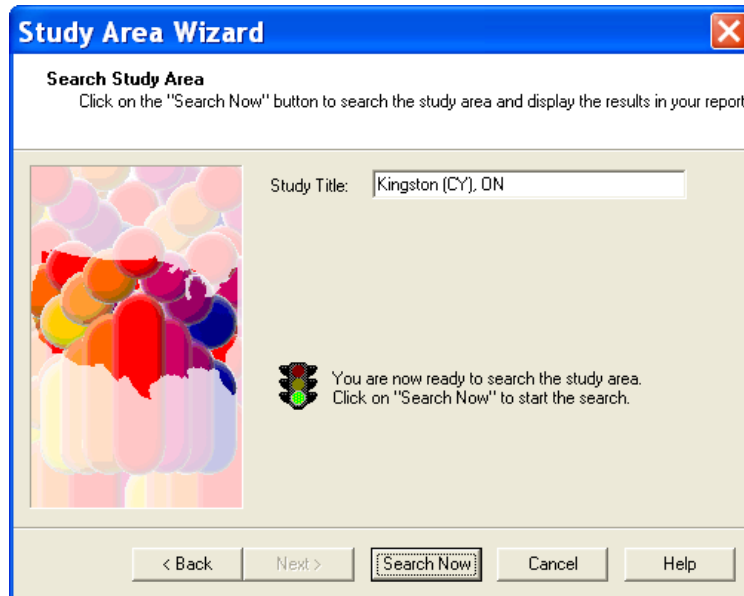


The Export Pointfile (Optional) dialog box controls the export data from PCensus for use in other applications

✦ For now, clear the check-box to bypass this step

✦ Click **Finish**

# 5. Create the Profile



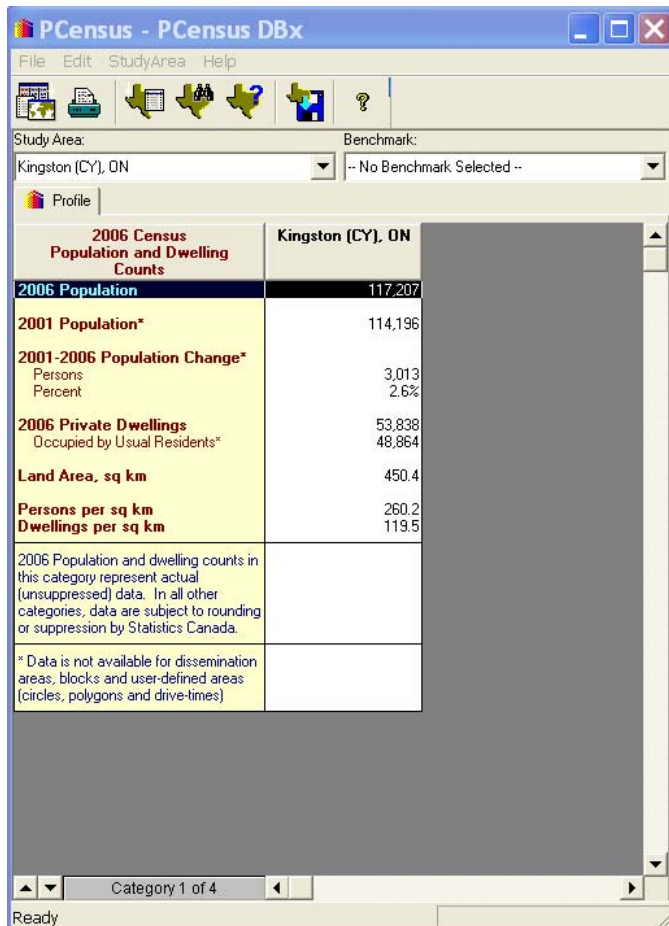
The Search Study Area dialog box is displayed when we are ready to create the profile

The **Study Title** box can be used to change the name associated with the profile (e.g. City of Kingston)

✦ Click **Search Now** to display the profile



# 5. Create the Profile



PCensus - PCensus DBx

File Edit StudyArea Help

Study Area: Kingston (CY), ON Benchmark: -- No Benchmark Selected --

Profile

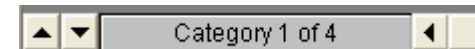
2006 Census Population and Dwelling Counts	Kingston (CY), ON
<b>2006 Population</b>	117,207
<b>2001 Population*</b>	114,196
<b>2001-2006 Population Change*</b>	
Persons	3,013
Percent	2.6%
<b>2006 Private Dwellings</b>	53,838
Occupied by Usual Residents*	48,864
<b>Land Area, sq km</b>	450.4
<b>Persons per sq km</b>	260.2
<b>Dwellings per sq km</b>	119.5
2006 Population and dwelling counts in this category represent actual [unsuppressed] data. In all other categories, data are subject to rounding or suppression by Statistics Canada.	
* Data is not available for dissemination areas, blocks and user-defined areas (circles, polygons and drive-times)	

Category 1 of 4

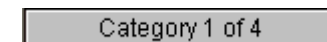
Ready

Once you have defined a study area, you can view all of the available profile reports for the area without conducting another search

☀ Select the various reports using the Category Selector

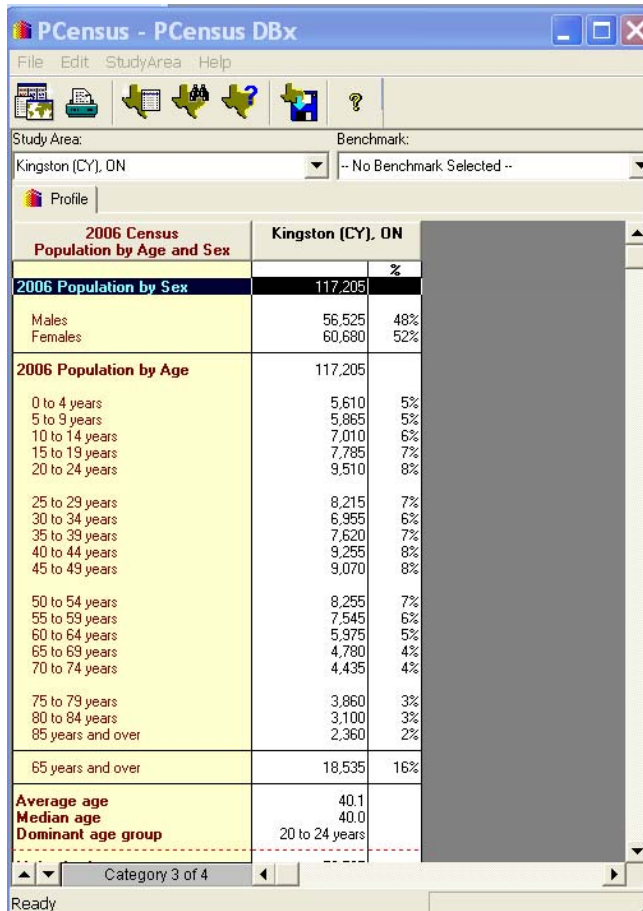


☀ Click the up or down arrow to cycle through the reports or click



to select from a list

# 5. Create the Profile



2006 Census Population by Age and Sex	Kingston (CY). ON	
		%
<b>2006 Population by Sex</b>	<b>117,205</b>	
Males	56,525	48%
Females	60,680	52%
<b>2006 Population by Age</b>	<b>117,205</b>	
0 to 4 years	5,610	5%
5 to 9 years	5,865	5%
10 to 14 years	7,010	6%
15 to 19 years	7,785	7%
20 to 24 years	9,510	8%
25 to 29 years	8,215	7%
30 to 34 years	6,955	6%
35 to 39 years	7,620	7%
40 to 44 years	9,255	8%
45 to 49 years	9,070	8%
50 to 54 years	8,255	7%
55 to 59 years	7,545	6%
60 to 64 years	5,975	5%
65 to 69 years	4,780	4%
70 to 74 years	4,435	4%
75 to 79 years	3,860	3%
80 to 84 years	3,100	3%
85 years and over	2,360	2%
65 years and over	18,535	16%
<b>Average age</b>	40.1	
<b>Median age</b>	40.0	
<b>Dominant age group</b>	20 to 24 years	

Category 3 shows a distribution of age groups for the City of Kingston

Next, we will add a column to compare the age distribution of Kingston with that of a specific Census Tract in Kingston

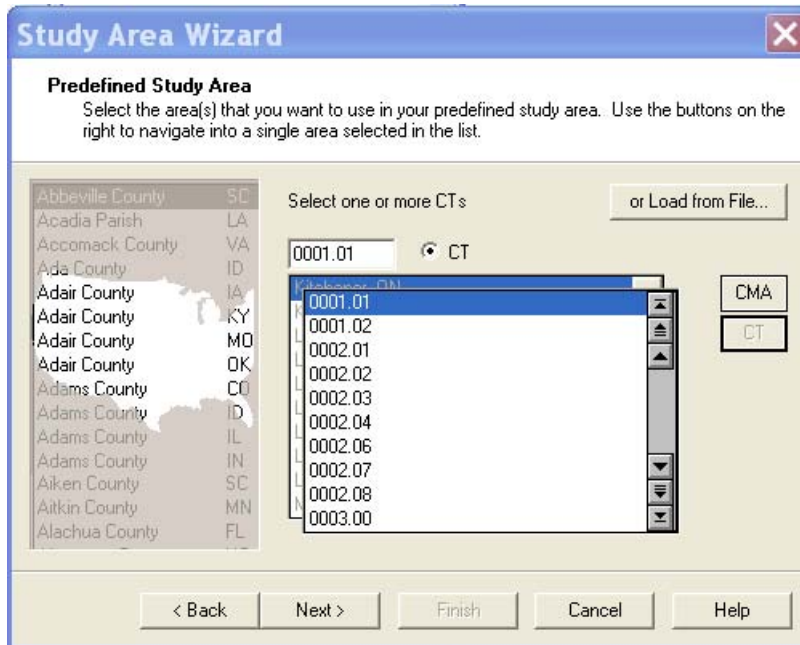


Click the **New Predefined Study Area**



To start defining another area

## 6. Compare with another area



- ✦ Follow Step 3 to select a Census Tract in Kingston for comparison
- ✦ Select CT 0001.00
- ✦ Click **Next**>
- ✦ Click **Finish**
- ✦ Click **Search Now** as before

## 6. Compare with another area (cont'd)

PCensus - PCensus DBx

File Edit StudyArea Help

Study Area: 35521 Benchmark: -- No Benchmark Selected --

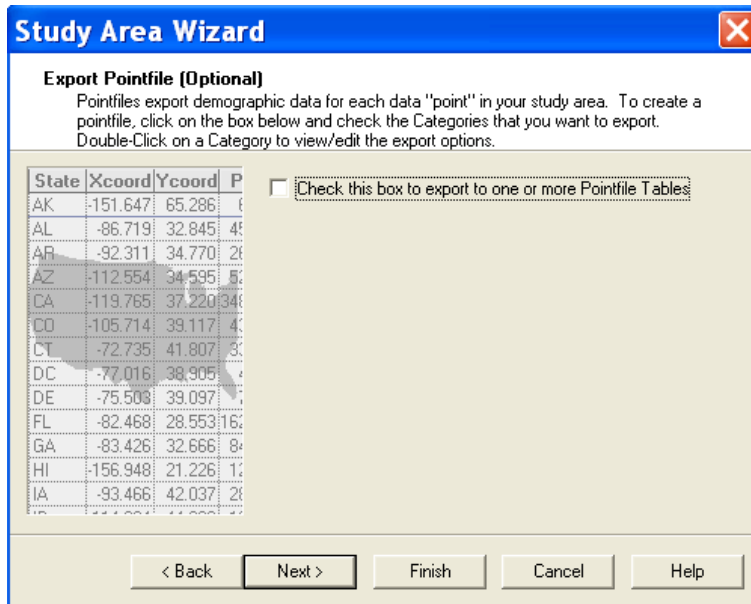
Profile

2006 Census Population by Age and Sex	Kingston (CY). ON		35521 0001.00	
		%		%
<b>2006 Population by Sex</b>	117,205		2,855	
Males	56,525	48%	1,260	44%
Females	60,680	52%	1,595	56%
<b>2006 Population by Age</b>	117,205		2,855	
0 to 4 years	5,610	5%	30	1%
5 to 9 years	5,865	5%	25	1%
10 to 14 years	7,010	6%	35	1%
15 to 19 years	7,785	7%	110	4%
20 to 24 years	9,510	8%	365	13%
25 to 29 years	8,215	7%	435	15%
30 to 34 years	6,955	6%	190	7%
35 to 39 years	7,620	7%	125	4%
40 to 44 years	9,255	8%	140	5%
45 to 49 years	9,070	8%	130	5%
50 to 54 years	8,255	7%	180	6%
55 to 59 years	7,545	6%	180	6%
60 to 64 years	5,975	5%	160	6%
65 to 69 years	4,780	4%	125	4%
70 to 74 years	4,435	4%	155	5%
75 to 79 years	3,860	3%	145	5%
80 to 84 years	3,100	3%	190	7%
85 years and over	2,360	2%	130	5%
65 years and over	18,535	16%	745	26%
<b>Average age</b>	40.1		46.7	
<b>Median age</b>	40.0		43.9	
<b>Dominant age group</b>	20 to 24 years		25 to 29 years	

Category 3 of 4

The **Profile** tab now contains two columns for our two study areas (City of Kingston and CT0001.00 in Kingston)

# 7. Export a Pointfile



✦ As shown in Step 4, check **Next>** to advance to the Export Pointfile (Optional) dialog box

# 7. Export a Pointfile (cont'd)

**Study Area Wizard**

**Export Pointfile (Optional)**

Pointfiles export demographic data for each data "point" in your study area. To create a pointfile, click on the box below and check the Categories that you want to export. Double-Click on a Category to view/edit the export options.

State	Xcoord	Ycoord	P
AK	-151.647	65.286	
AL	-86.719	32.845	4
AR	-92.311	34.770	2
AZ	-112.554	34.595	5
CA	-119.765	37.220	34
CO	-105.714	39.117	4
CT	-72.735	41.807	5
DC	-77.016	38.905	4
DE	-75.509	39.097	7
FL	-82.468	28.553	16
GA	-83.426	32.666	8
HI	-156.948	21.226	1
IA	-93.466	42.037	2

Check this box to export to one or more Pointfile Tables

Database Type: dBASE

Database Folder: ...\\Kingston CY DN <Dissemination Area ...

Export Categories

2006 Census: Population and Dwelling Counts

2006 Census: Population by Age and Sex Comparison

2006 Census: Population by Age and Sex

Data Quality

1 Table(s) will be created.

< Back   Next >   Finish   Cancel   Help

✦ Check the box to **create a Pointfile** to display the pointfile options

The pointfile will be created with a default name and location as shown, If you want to change these:

✦ Click **Database Folder** box to specify a filename and location for the exported data

# 7. Export a Pointfile (cont'd)

	Export	Description	Field Name	Type	Width	Dec.	▲
1	<input checked="" type="checkbox"/>	2006 Population	POP06	Numeric	12	0	
2	<input checked="" type="checkbox"/>	2001 Population*	POP01	Numeric	12	0	
3	<input checked="" type="checkbox"/>	Persons	PERSCHG	Numeric	12	0	
4	<input checked="" type="checkbox"/>	Percent	PCTCHG	Numeric	12	0	
5	<input checked="" type="checkbox"/>	2006 Private Dwellings	DWELL06	Numeric	12	0	
6	<input checked="" type="checkbox"/>	Occupied by Usual Resider	DWELL06UR	Numeric	12	0	
7	<input checked="" type="checkbox"/>	Land Area, sq km	AREA	Numeric	12	0	
8	<input checked="" type="checkbox"/>	Persons per sq km	PERSQKM	Numeric	12	0	
9	<input checked="" type="checkbox"/>	Dwellings per sq km	DWSQKM	Numeric	12	0	▼

Export None     Export All (9 fields)     Export Selected fields  
(9 of 9 fields are selected)

OK    Cancel    Help

☀ Double-click a category to display the Export File Structure dialog box

This dialog box allows us to modify the structure of the exported pointfile. For example, we could change the variable name. We can also clear selected check-boxes in the **Export** column to reduce the number of variables that are exported

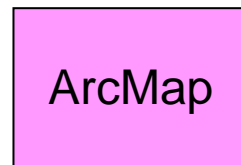
☀ Click **OK**

# *ArcMap joins the pointfile and shapefile together to produce a map*

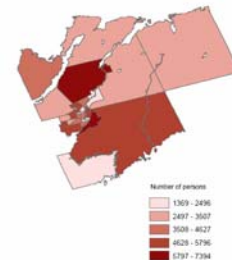
Contains the attributes (socio-demographic data) for the study area



Contains the geometry of the study area



Joins the two files and displays a map





# *What Have We Learned?*

✦ Steps to extract data from PCensus Database, including:

- Define study area – a census geographic area, grouping of Census Subdivisions and Census Tracts
- Select target type such as Census Tracts or Dissemination Areas
- Create a profile
- Compare with another area
- Export pointfile

# *Any questions or comments?*

Please contact me at:

Richard Lau

GIS Project Coordinator

Community Social Profile Project

Email: [richard.lau@spno.ca](mailto:richard.lau@spno.ca)

Phone: 905-632-1975, 878-0955

Fax: 905-632-0778

*Thank You*