Population Density

Population density: A measure of how crowded a place is.

Formula:

$$Population\ Density = \frac{Population}{Total\ Area\ (km^2)}$$

Overall Canada has a low population density of about 3 people per km^2

However this is misleading because most of Canada's population is located in Cities along the border

Some Geographers have referred to Canada's population distribution as an ***archipelago effect (islands of population)***
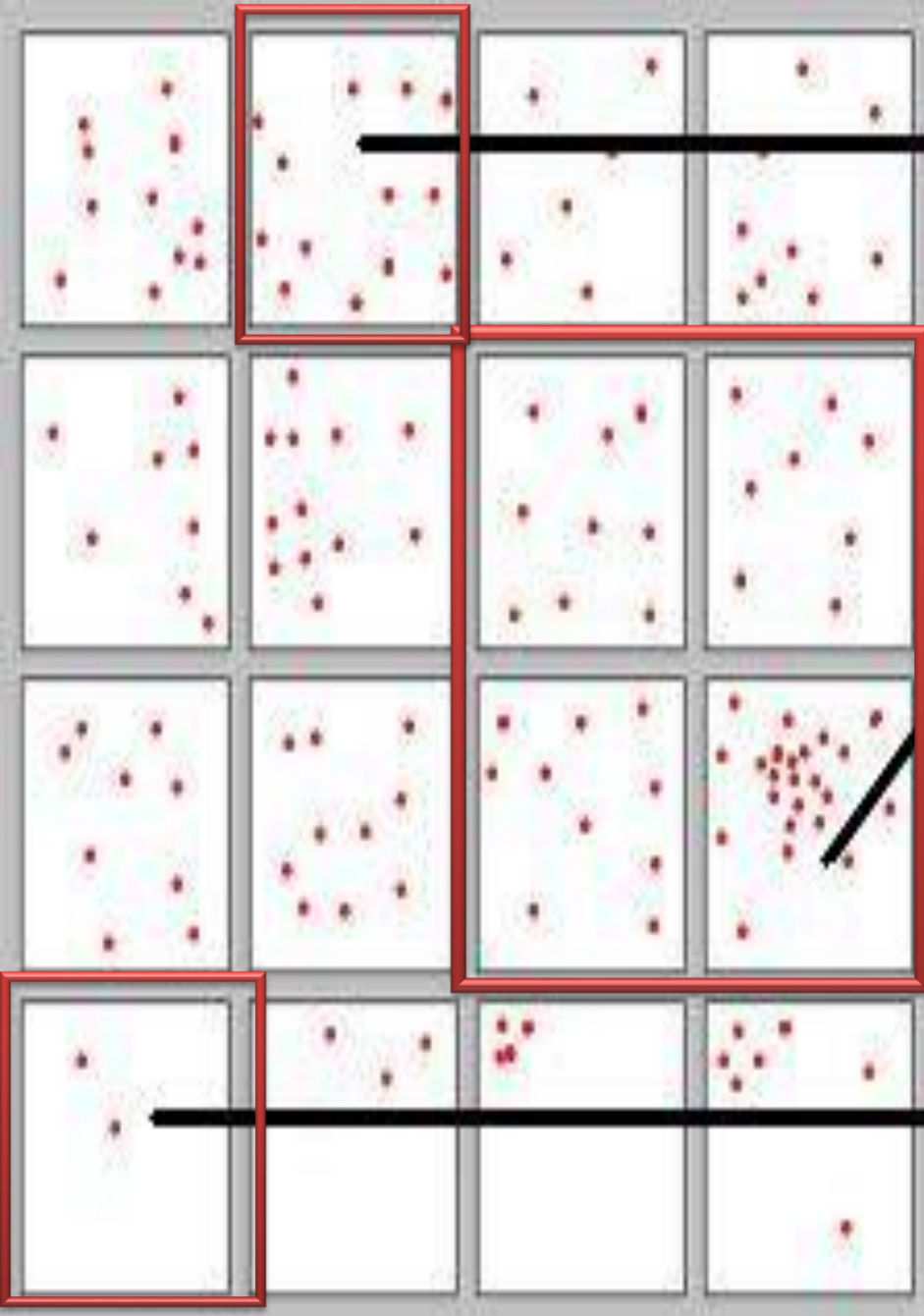
Talking about Density

Densely Populated: Large number of people per land mass (>100)

Moderately Populated: Medium number of people per land mass (10-100)

Sparsely Populated: low number of people per land mass (0-10)

$$Population\ Density = \frac{Population}{Total\ Area\ (km^2)}$$

$$Population\ Density = \frac{13\ people}{1km^2}$$

$$Population\ Density = 13\ person\ per\ km^2$$

$$Population\ Density = \frac{Population}{Total\ Area\ (km^2)}$$

$$Population\ Density = \frac{50\ People}{4km^2}$$

$$Population\ Density = 12.5\ person\ per\ km^2$$

$$Population\ Density = \frac{Population}{Total\ Area\ (km^2)}$$

$$Population\ Density = \frac{2\ People}{1km^2}$$

$$Population\ Density = 2\ person\ per\ km^2$$

PROVINCE/TERRITORY	POPULATION 2011	LAND AREA (square km)
NEWFOUNDLAND AND LABRADOR	514 500	373 872
PRINCE EDWARD ISLAND	140 200	5 660
NOVA SCOTIA	921 700	53 338
NEW BRUNSWICK	751 100	71 450
QUEBEC	7 903 000	1 365 128
ONTARIO	12 851 800	917 741
MANITOBA	1 208 200	553 556
SASKATCHEWAN	1 033 400	591 670
ALBERTA	3 645 200	642 317
BRITISH COLUMBIA	4 400 000	925 186
YUKON	33 900	474 391
NORTHWEST TERRITORIES	41 500	1 183 085
NUNAVUT	31 900	1 936 113

Every area of Canada does not have the same population density – it is an average.

Major cities like Toronto, Montreal, and Vancouver have a population density of 4000 per km².

Population Distribution in Canada

One red dot represents 1000 persons

One purple dot represents 100 persons north of latitude 60°N

▲ **FIGURE 4.5** Which areas of Canada are more densely populated?
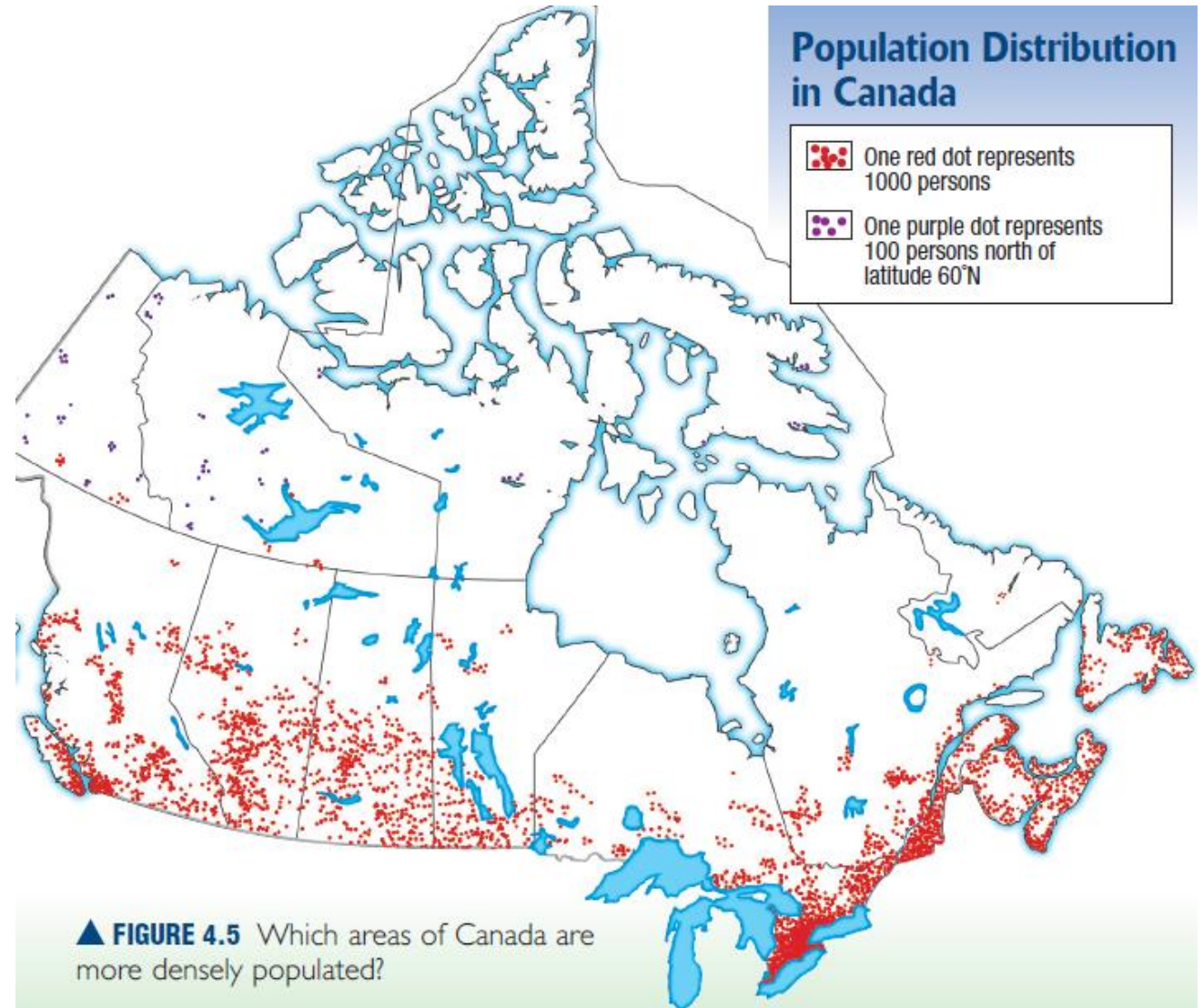
Map 15.1 Population Density, 2006

Population density (persons per km²)

- >= 256
- 64 to < 256
- 10 to < 64
- 0.4 to < 10
- Sparsely populated

1:58,000,000

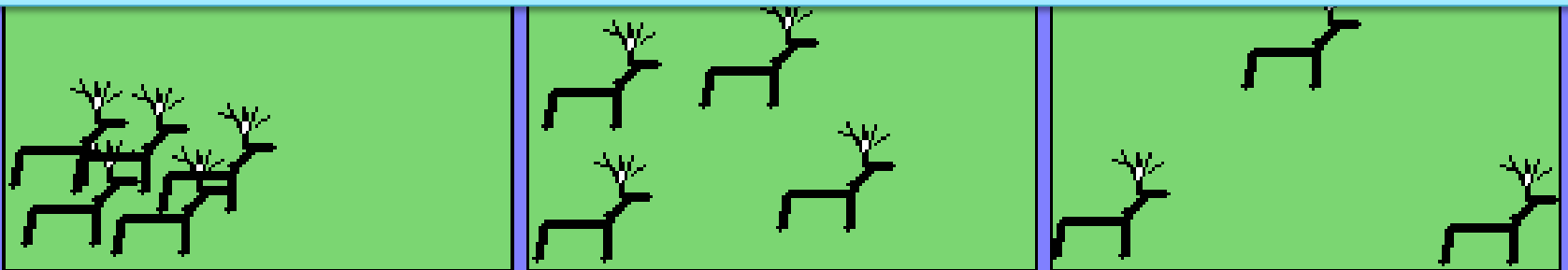0   250   500 kilometres
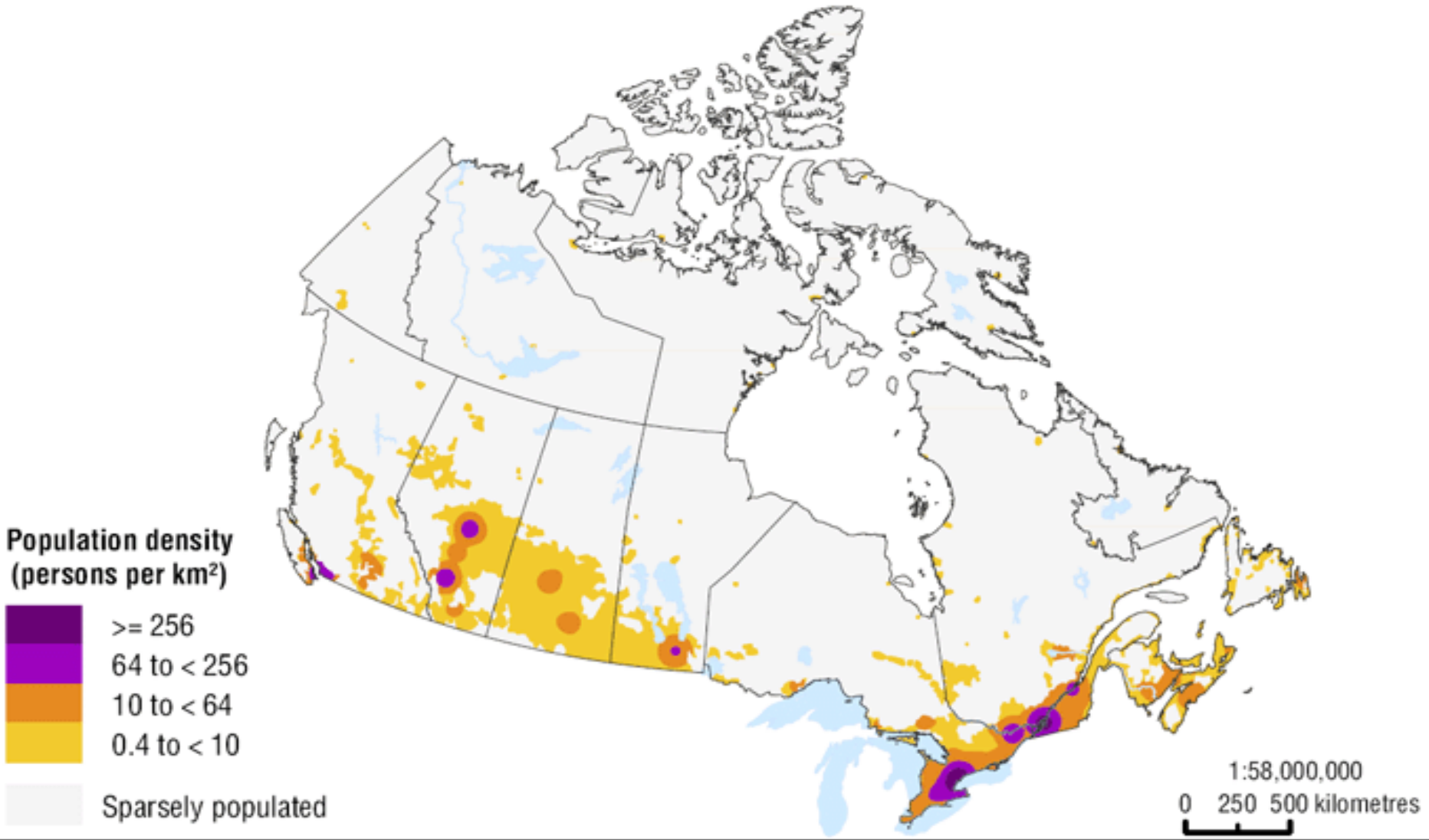
Problem!!!

Sometimes population density does not allow you to describe a population in useful ways

Look at these moose populations. They all have a density of five moose per square kilometer but they are arranged in very different ways.

How can we describe them???

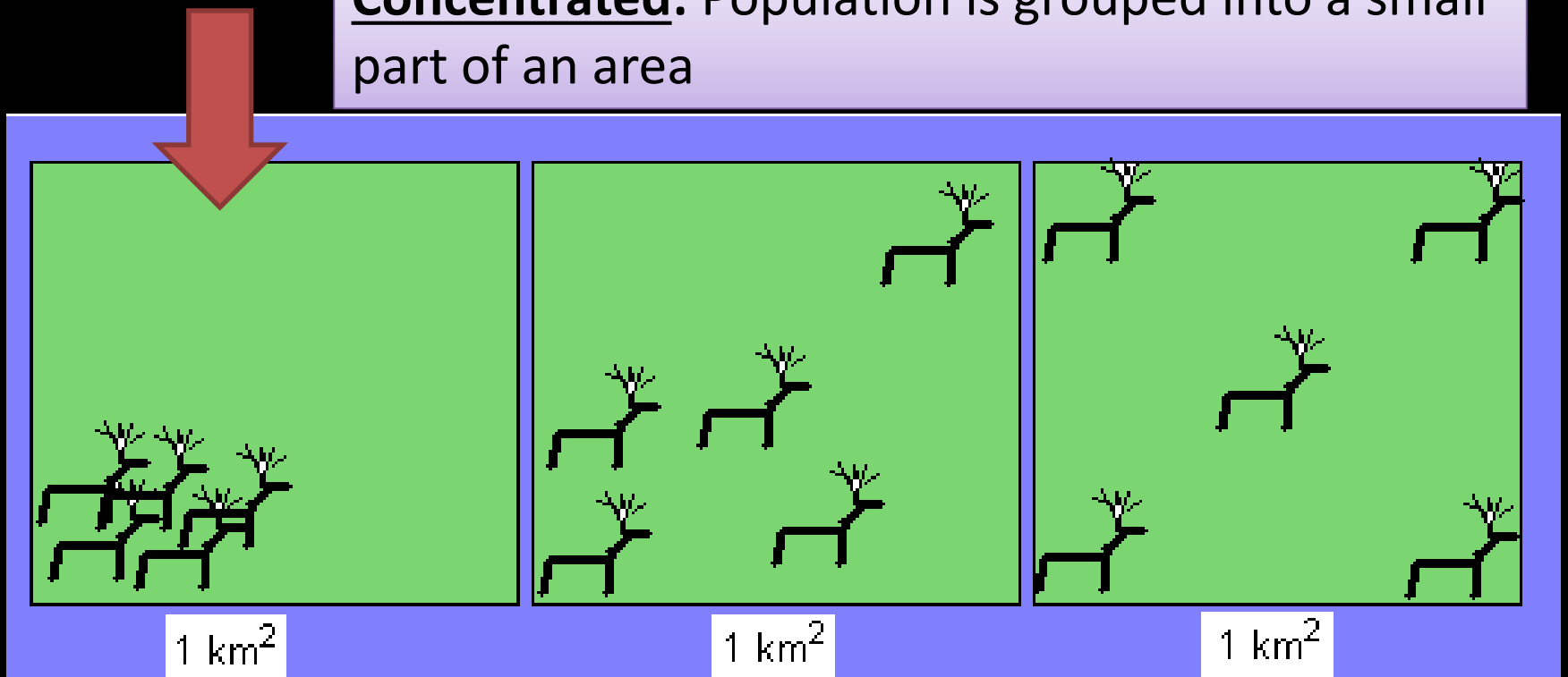**We will describe them by their distribution!**

1 km^2

1 km^2

1 km^2

Population Distribution

Lets look at this population first:

It is all grouped in the lower corner of the area. We can say it is concentrated

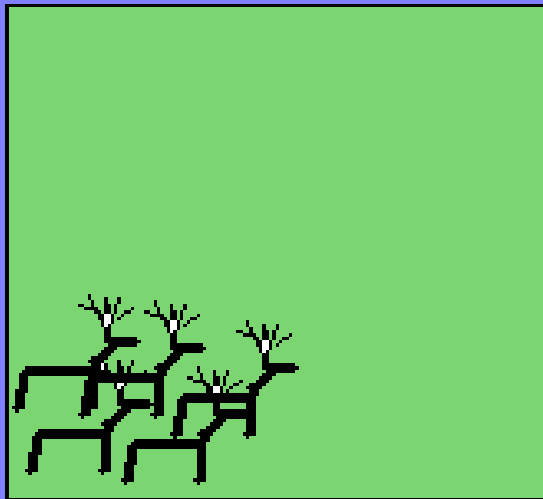**Concentrated:** Population is grouped into a small part of an area

1 km² 1 km² 1 km²
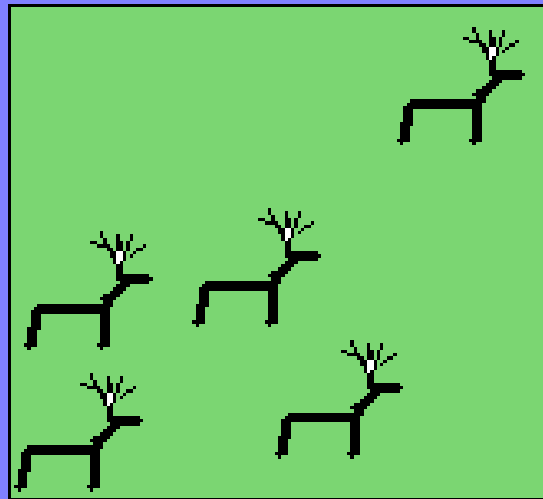
Population Distribution

Now lets look at this population

We can see that it is spread out evenly over the entire area.
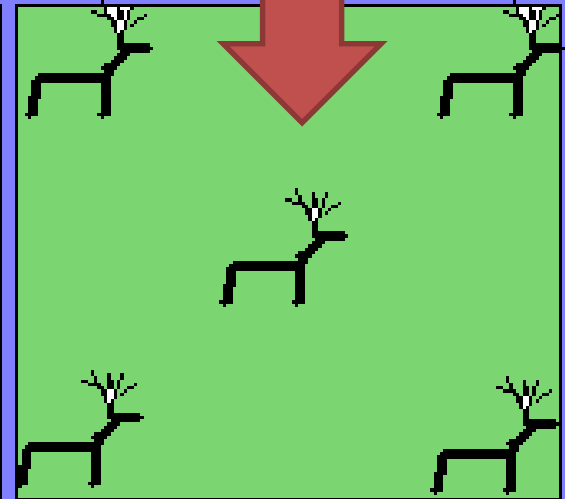We can say that is dispersed

Dispersed: Population is spread out over an area

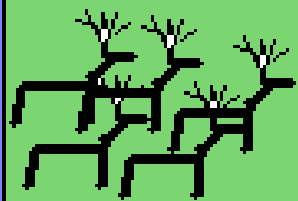1 km^2 1 km^2 1 km^2

Population Distribution

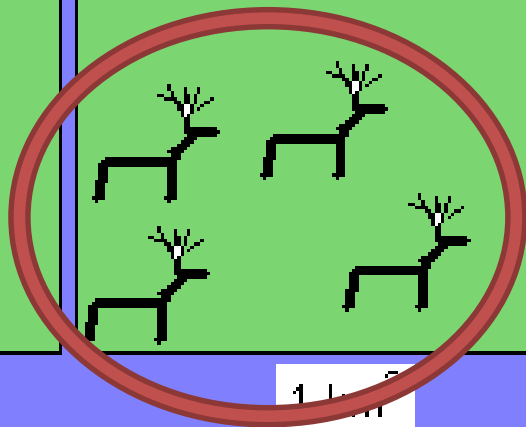Lastly we will talk about this one:

Well it is not concentrated…

and its not completely dispersed……

We would say that this moose population is somewhat concentrated

Concentrated?

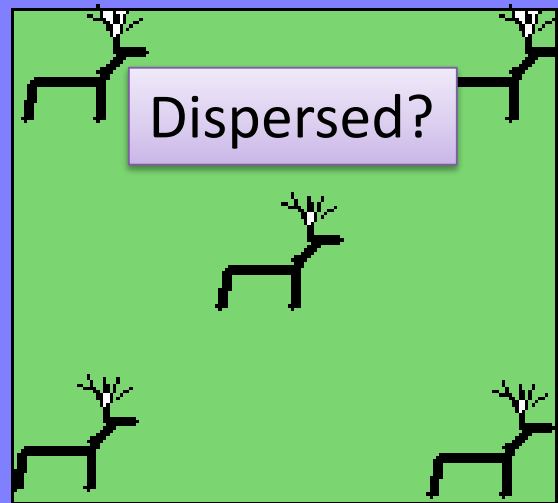Dispersed?

1 km^2

1 km^2

1 km^2

Population Density (per square kilometre of selected countries in the world)

Countries (left to right): Australia, Bangladesh, Canada, United Kingdom, France, Germany, Iceland, Japan, Pakistan, Philippines, Russia, Singapore, South Africa, Spain, Sweden, United States

Y-axis values: 0, 50, 100, 150, 200, 250, 300, 350, 1000, 6500
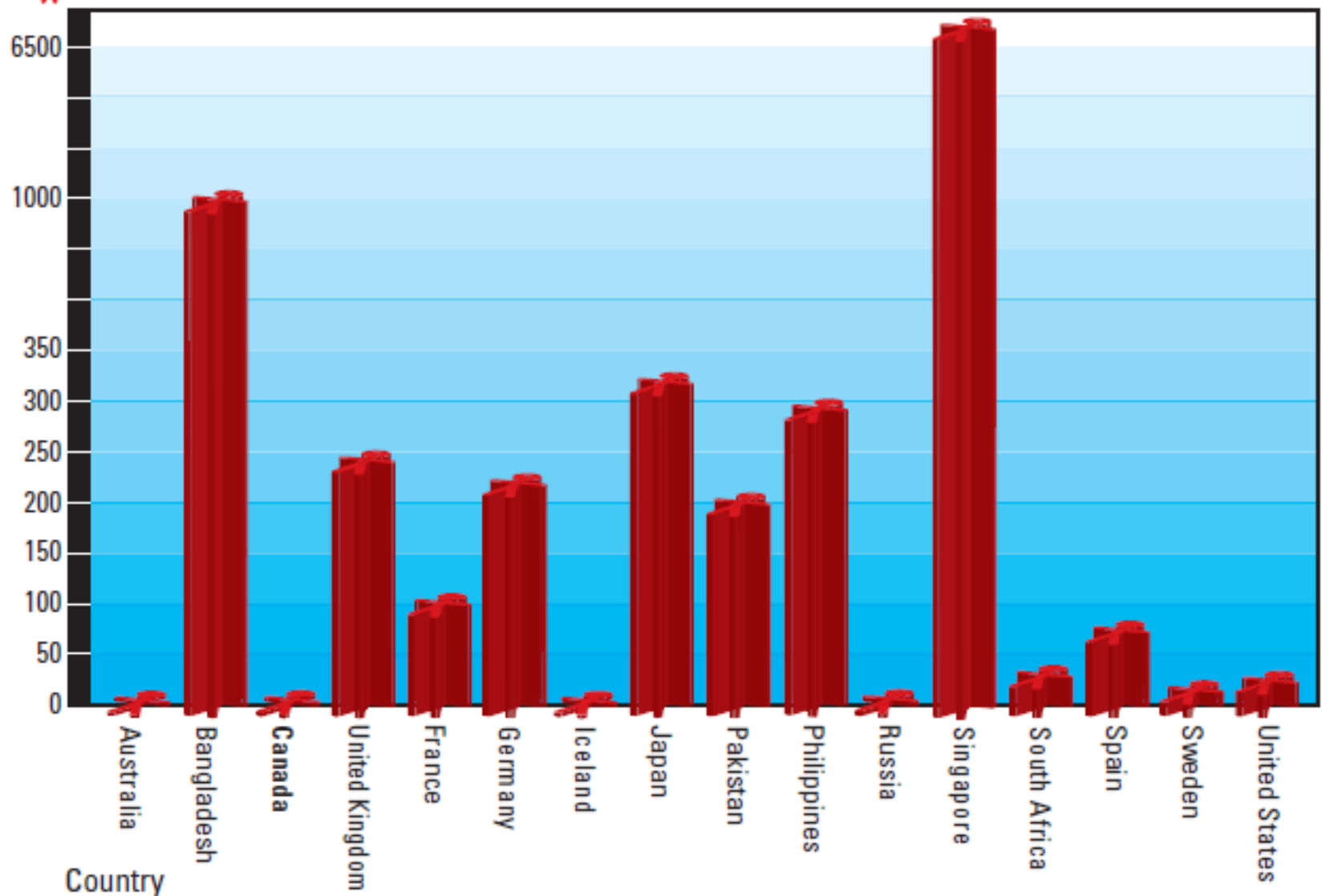
▲ FIGURE 4.4 Canada has a very low population density. It is one of the lowest in the world. Is this good news or bad news for Canadians?

Now lets look at Canada

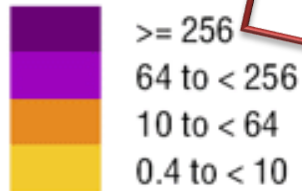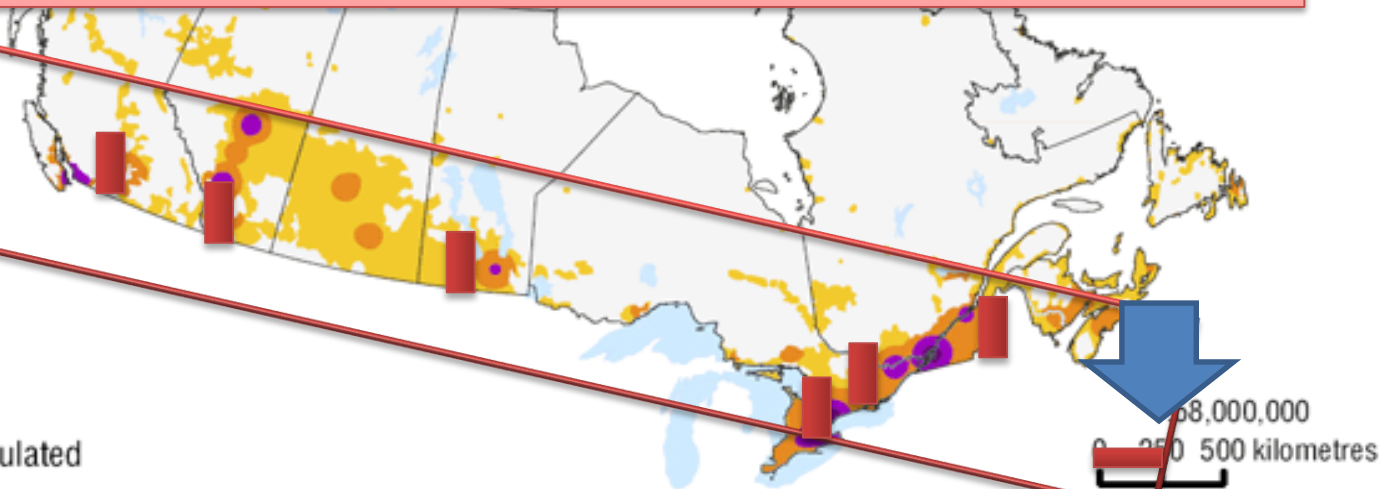How would you describe the population density?

Lets look at it like this:

How many of major cities in Canada are within 250 km of the U.S. boarder?

We could say that the Canadian population is mostly concentrated near the United States boarder.

Population density
(persons per km²)

>= 256
64 to < 256
10 to < 64
0.4 to < 10

Sparsely populated

8,000,000

0   250   500 kilometres

URBAN VS RURAL COMMUNITIES

- **Urban** -> an area where lots of people live at a high density

- **Rural** -> People are spread out at a low density

- Statistics Canada introduced the term **population centre** to more specifically define urban areas. While most people will continue to use everyday terms like village, town, and city, the official term **population centre is defined as an area with a population of at least 1000 and a density of 400 or more people per square kilometre.**

URBAN VS RURAL COMMUNITIES

Population Centres are divided into *THREE* categories

- Small Population Centre
    - Between 1,000 and 29,999 people
- [Medium Population Centre](#)
    - Between 30,000 and 99,999 people
- Large Population Centre
    - 100,000 people or more

URBAN VS RURAL COMMUNITIES

- A CMA is made up of one or more neighbouring municipalities located around the urban core

- Example...Toronto
  - Closely surrounded by which municipalities?
  - Markham, Oakville, and Mississauga

- A CMA must have at least 100,000 people total and at least 50,000 in its core

- Does St. John's and surrounding areas qualify as a CMA???

NL Population Centre Fast Fact

Paradise, NL, with a population of 17 695, had a 40.6% increase in population between 2006 and 2011.

St. John's, with a population of 196 966, had an 8.8% increase.
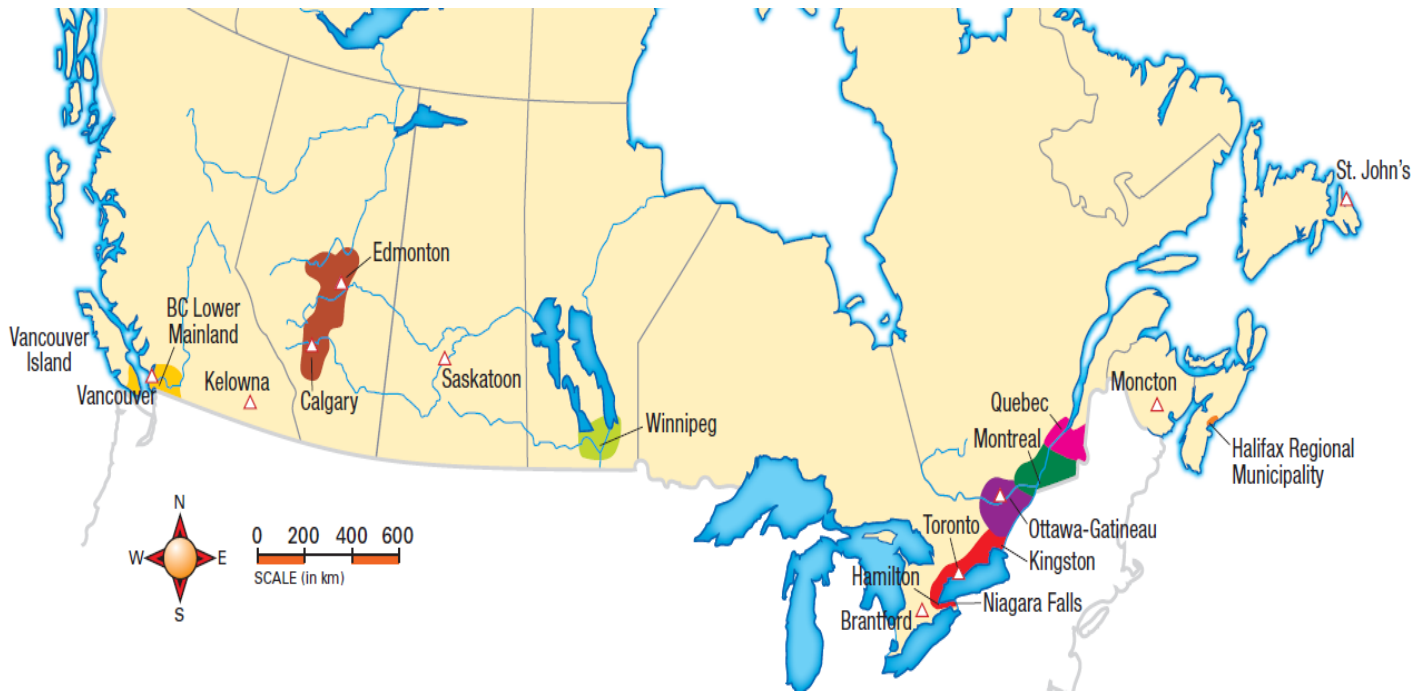
URBAN VS RURAL COMMUNITIES

ლ Canadians continue to move to CMAs

ლ 10 fastest growing CMAs in Canada

- o Calgary, Alberta
- o Edmonton, Alberta
- o Saskatoon, Saskatchewan
- o Kelowna, BC
- o Moncton, NB
- o Vancouver, BC
- o Toronto, ON
- o Ottawa-Gatineau, ON
- o St. John's NL
- o Brantford, ON

Fastest growing cities

Where Do Canadians live?

ᔥ The majority of Canadians live in cities

ᔥ WHY?

ᔥ Cities…

- o Provide services for people
- o Large enough to support universities, sports teams, and other major cultural activities
- o Source of most technological innovation
- o Engines of economic growth for their province/territory or even the country

City Wise

- 81% of Canadians live in large population centres

- The three largest are:
  - Toronto
  - Montreal
  - Vancouver

- 35% of all Canadians live in these three population centres!!!!

Urbanization

 Urbanization refers to the growing trend of increasing numbers of people choosing to live in cities.

COUNTRY	URBAN POPULATION (%) 2010
Australia	89
Brazil	87
CANADA	81
China*	47
Hong Kong, SAR	100
Japan	67
Mexico	78
Russia	73
United Kingdom	80
United States	82

 Although China has a significantly larger population than Canada, only 47% of its population lives in urban areas.

Canada's Population and growth

- Canada is one of the largest countries in terms of land area
- However, it has a small population for its size
- Why???
- **Difficult to build cities in many areas**
  - Northern Canada
  - Swamplands surrounding Hudson Bay
- **Some places are better suited for resource development than city building**

Urban Sprawl

- **Urban Sprawl** ->Outward expansion of urban centres to nearby bordering areas

- As **cities grow, many issues arise...**
  - Traffic congestion
  - Overburdened services
  - Air Pollution
  - Planning for efficient mass transit
  - Managing wastes
  - Containing urban sprawl

- As communities grow, many natural and human systems are at risk