

Handout: Ecological Footprints From Around the World

(Adapted from: "How big is your footprint," *Energy for a Sustainable Future* — Education Project, www.esfep.org/)

Ecological Footprints From Around the World: Where Do You Fit In?

How Much Land Do You Need to Live?

If you had to provide everything you use from your own land — how much land area would you need? This land would have to provide you with all of your food, water, energy and everything else that you use. The amount of land you would need to support your lifestyle is called your *Ecological Footprint*. The ecological footprint is one way of measuring the impact a person has on the environment.



Is the World Big Enough for All of Our BIG Feet?

The size of a person's Ecological Footprint will depend on many factors. Do you grow your own food? Do you walk or drive? Do you use renewable or non-renewable energy sources? Everyone has an ecological footprint because we all need to use the earth's resources to survive. But we must make sure we don't take more resources than the earth can provide.

Different people in the same country will have different sized ecological footprints. Different countries also have different ecological footprints. For example, a person with the average Canadian lifestyle has an ecological footprint of 8.56 hectares. A person living in Ethiopia, Africa, has an average ecological footprint of 0.67 hectares.

Examine *Table 1* below to see Ecological Footprints for the average person from many different countries of the world.

Table 1: Global Ecological Footprints

Country	Ecological Footprint (hectares per person)
United States of America	9.57
Canada	8.56
France	5.74
United Kingdom	4.72
El Salvador	1.72
Ghana	1.23
Vietnam	0.76
Ethiopia	0.67

Source: *Ecological Footprint of Nations, 2004.*

Table 2 compares some information for four countries. How would factors such as population density, electricity use, and oil consumption affect the size of a person's ecological footprint?

Table 2: 2005 Country Comparison Statistics

	Canada	Ghana	Vietnam	Ethiopia
Country Size (km ²)	9,985,000	239,000	330,000	1,127,000
Population (million)	32	21	83	73
Population Density (people/ km ²)	3.2	87.9	251.5	64.8
Yearly Electricity Use (billion kilowatt-hours)	487.3	6.2	32.0	2.0
Oil Consumption (barrels/day)	2,200,000	38,000	185,000	23,000
Highways (km)	1,408,800	46,200	93,300	33,300
GDP* per capita	\$31,500	\$2,300	\$2,700	\$800

Source: *The World Factbook, 2005.* www.cia.gov for all figures except those marked.

**Gross Domestic Product:* The value of current production of goods and services coming from within a country (doesn't include all the goods and services being imported).



Student Worksheet

Calculating Your Ecological Footprint

One method of calculating your ecological footprint is the Ecological Footprint Calculator hosted by Earth Day Network. This calculator has some simple questions that are used to calculate your ecological footprint.

Go to www.earthday.org and click on **Your Ecological Footprint (online survey)**.

Complete the on-line survey for the ecological footprint calculations and then answer the questions below.

1. How does your footprint compare to the average Canadian?

2. List three things you do currently that help to minimize your footprint.

3. List three things you do that increase your ecological footprint.

4. What are three things that you could do differently now to reduce the size of your ecological footprint?

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5. How does the size of your footprint compare to the average person living in Ghana?

6. How many Ethiopians would use the same amount of resources as found in your Ecological Footprint?

7. What are some of the factors that may contribute to Canadians having larger Ecological Footprints than people in developing countries, such as Ghana or Vietnam? Explain how those factors would affect the size of the ecological footprint.

Teacher Answer Sheet

Calculating Your Ecological Footprint

One method of calculating your ecological footprint is the Ecological Footprint Calculator hosted by Earth Day Network. This calculator has some simple questions that are used to calculate your ecological footprint.

Go to www.earthday.org and click on **Your Ecological Footprint (online survey)**.

Complete the on-line survey for the ecological footprint calculations and then answer the questions below. *(Note: You may choose to check this link ahead of time, since websites do sometimes change over time.)*

Complete the on-line survey for the ecological footprint calculations and then answer the questions below.

1. How does your footprint compare to the average Canadian?

Answers will vary based on student's ecological footprint calculation. The average Canadian ecological footprint is 8.56 hectares per person.

2. List three things you do currently that help to minimize your footprint.

Sample answers include: walking to school; eat fewer animal products (meat, cheese, eggs); eat locally grown food; eat unprocessed/unpackaged food; don't travel on airplanes; use energy efficient products in the home such as energy efficient light bulbs; turn off lights, computers and electronics when not in the room; minimize wasted water (e.g., turn off the tap when brushing teeth, have short showers).

3. List three things you do that increase your ecological footprint.

Sample answers include: drive instead of walk to school; leave computers and electronics turned on when not in use; eat meat products with most meals; eat processed foods or food not locally grown (e.g. fruit from Chile rather than Canada).

4. What are three things that you could do differently now to reduce the size of your ecological footprint?

Sample answers include: walk or take public transit more instead of driving; eat more locally produced food; eat fewer animal products (e.g., meat, eggs, cheese); use energy saving products such as energy efficient light bulbs.

5. How does the size of your footprint compare to the average person living in Ghana?

The student's ecological footprint will be larger than the average person living in Ghana. The exact difference (in hectares) can be calculated by each student by taking his/her ecological footprint size and subtracting the average Ghanaian ecological footprint of 1.23 hectares per person.

6. How many Ethiopians would use the same amount of resources as found in your individual Ecological Footprint?

To find the answer, divide your ecological footprint by the average Ethiopian footprint size (0.67 hectares/person). For example, the average Canadian ecological footprint of 8.56 divided by 0.67 equals 12.77. Therefore, 12 people living in Ethiopia on an average lifestyle for that country could/would use the same amount of resources as one Canadian living an average Canadian lifestyle.

7. What are some of the factors that may contribute to Canadians having larger Ecological Footprints than people in developing countries, such as Ghana or Vietnam? Explain how those factors would affect the size of the ecological footprint.

- Resource consumption such as electricity, oil or water higher a person's ecological footprint. Therefore, *electricity consumption, oil consumption and water consumption* are all factors that contribute to ecological footprint size. The *amount of highways* in a country may be a factor that contributes to ecological footprint size. It is likely that a country with more highways will have more people driving or driving long distances in personal vehicles, rather than public transportation. Driving is one factor that contributes to a person's ecological footprint. Canada has more length of highway than Ghana or Vietnam. Likely, more people in Canada own cars, drive daily (e.g., commute to work) and drive on holidays, creating a demand for more highways and in the process creating relatively large ecological footprints.
- Population density can affect the size of the average ecological footprint of a person. A low population density means that there is a lot of land area per person in that country. More land area and resources may be available for a person to use in his/her lifestyle. However, if the land is very resource poor, a low population density may not increase ecological footprint size. Canada has a very low population density and most Canadians have relatively large ecological footprints.