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YORK REGION'S ECOLOGICAL FOOTPRINT

The Planning and Economic Development Committee recommends the adoption of the recommendations contained in the following report, February 7, 2005, from the Commissioner of Planning and Development Services:

1. RECOMMENDATIONS

It is recommended that:

1. This report and the attached *York Region Ecological Footprint bulletin* be received for information purposes.
2. The *York Region Ecological Footprint bulletin* be distributed.
3. Statistics Canada be requested to collect expenditure data for all large urban areas in the future.

2. PURPOSE

The purpose of this staff report is to introduce the *York Region Ecological Footprint bulletin* (Attachment 1) as a means of reporting on the corrected results of the report "Ecological Footprints of Canadian Municipalities and Regions." This Federation of Canadian Municipalities (FCM) study was released September 2004 and revised in February 2005 to correct information for York Region among others. (Regional Councillor Brenda Hogg from Richmond Hill is the Chair of the Quality of Life Reporting System for FCM).

York Region's ecological footprint (EF) as measured in the report for FCM highlights the need for Canadians to make lifestyle changes in order to preserve and improve the quality of life in the Region as well as track progress toward accomplishments related to the Kyoto Accord. The *York Region Ecological Footprint bulletin* will help to explain the EF concepts and outlines a number of environmental initiatives York Region has ongoing that help to address the Region's ecological footprint. The bulletin also contains suggestions on what individuals can do to reduce our EF.

3. BACKGROUND

Since the original release of the FCM report in September 2004, errors in the original Statistics Canada data for household incomes for the Regional Municipalities of Halton, Peel, Waterloo and York were identified. This necessitated recalculations of the ecological footprints of these respective communities and changed their ranking relative

to other Canadian municipalities assessed in the FCM study. York Region's correct ranking is 5th in the country.

The study looked at ecological footprints for 20 communities across Canada and revealed that the average Canadian consumes 7.25 hectares of land and sea to sustain their current life styles. This ranks Canada as the world's third-largest ecological footprint behind the United Arab Emirates (10.13 hectares per person) and the United States (9.7 hectares per person). Sweden has a 6.73 hectare ecological footprint and the United Kingdom has a 5.35 hectares footprint. The average global citizen has a footprint of only 2.8 hectares, much smaller than the average Canadian.

3.1 What is an ecological footprint?

The concept of the ecological footprint was conceived by researchers at the University of British Columbia in 1996 as an ecological accounting tool. It uses land area as a measurement unit of human consumption.

An ecological footprint measures the impact each person or group makes on the environment. The footprint is the land area needed to produce all the products a person or group consumes and to absorb all their waste.

3.2 How is it Measured?

An ecological footprint is measured by consumption. In the case of the study done for the FCM, Statistics Canada data on household spending, energy consumption, commuting distances, population density, and other metrics were used.

The EF of an individual or population considers all of the land and water that is used for crops, roads, grazing, fishing, buildings and for producing wood products. Various categories of human consumption were translated into areas of land as a measure of people's demand on nature. The sum of the six different components produces an ecological footprint measure that is comparable across the country and between countries worldwide.

Ecological Footprint Components

Energy Land	area of land required to absorb CO2 emissions resulting from energy consumption
Crop Land	area of land required to produce crops
Pasture Land	area of land required to produce animal products
Forest Land	area of land required to produce wood and paper
Sea Space	area of water required to produce fish and seafood
Built Area	area of land required to accommodate housing & infrastructure

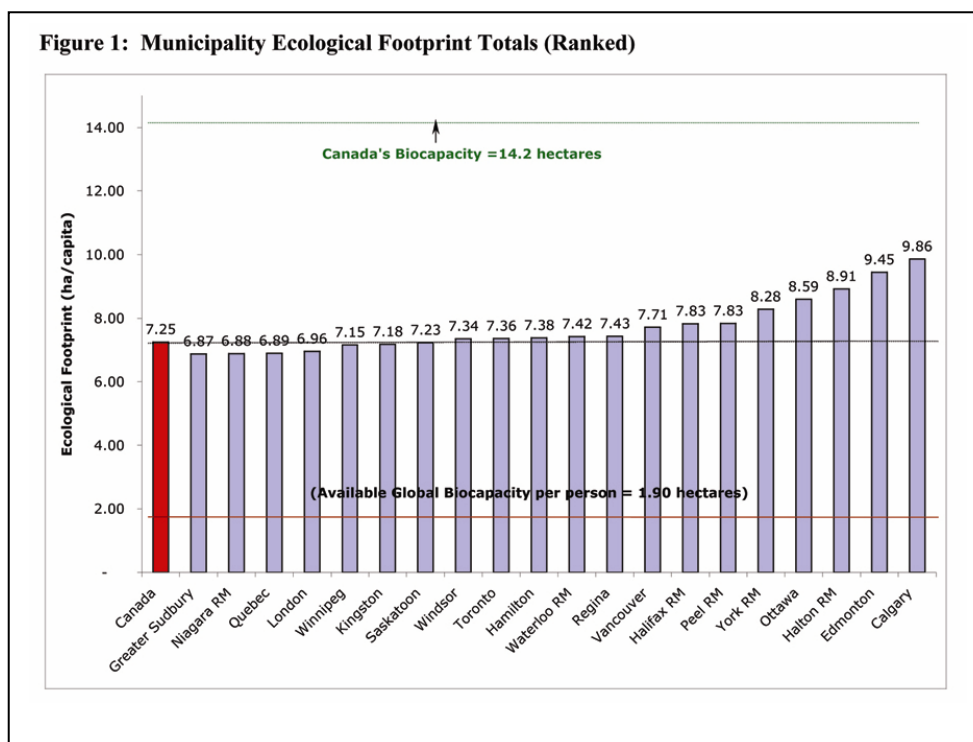
Many regional and individual factors can affect each component including household income and expenditures, population density, transportation, and sources of energy. Larger EF usually result from:

- high income/high level of consumption and expenditure

- high use of private automobiles
- coal powered electricity versus electricity produced by water (produces more pollution than hydroelectricity).

3.3 What was York Region's EF?

York Region was ranked as having the 5th highest EF, of those municipalities studied, in the country at 8.28 hectares per person (114% of the Canadian average). The lowest ranking municipality in the study was Greater Sudbury at 6.87 hectares per person (94.8% of the Canadian average) and the highest ranking municipality was Calgary at 9.86 hectares per person (136% of the Canadian average).



Source: Ecological footprints of Canadian Municipalities and Regions report prepared by Anielski Management Inc. for the Federation of Canadian Municipalities.

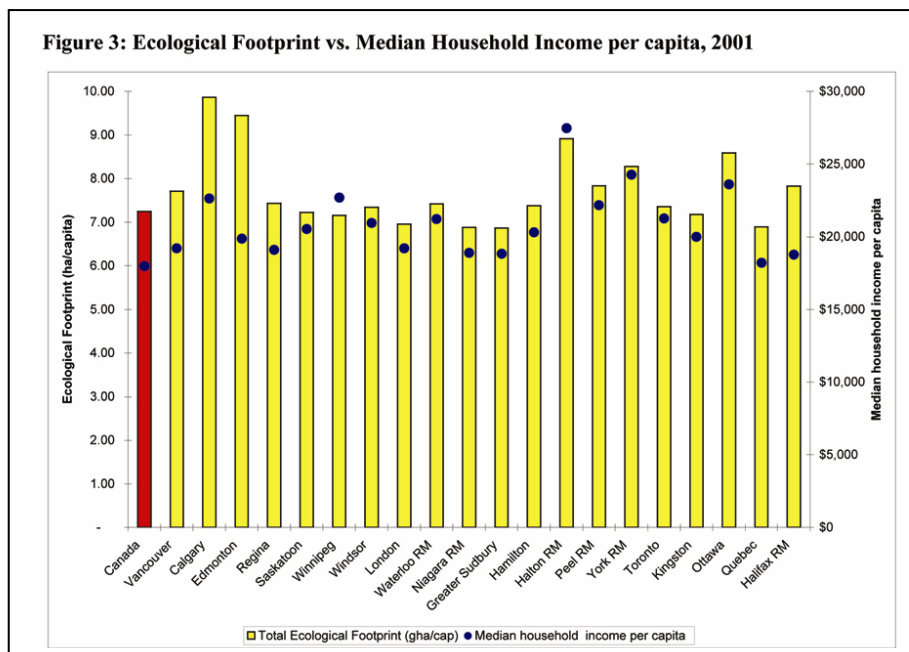
4. ANALYSIS AND OPTIONS

The ecological footprint is a tool for monitoring progress toward sustainability. It is one of the few measures that can easily communicate the comparison of human consumption directly to nature's limited productivity.

4.1 Income as a Primary Determinant of EF

In the FCM report the EF calculation was done nationally. To estimate local or community footprints, the national footprint was recalculated using relevant local indicators such as population, household income and expenditures, average house size,

etc. For most Canadian cities, personal consumption expenditure data was included from Statistics Canada CMA-reported household consumption expenditure data (2001 Census). This data was then translated into the equivalent physical material and energy demands or flows. For those municipalities who lack Statistics Canada household expenditure data (York Region was one) per capita income was used as it is the best available means to predict consumption.



Source: Ecological footprints of Canadian Municipalities and Regions report prepared by Anielski Management Inc. for the Federation of Canadian Municipalities.

The difference in footprints across Canada reflects both the correlation between higher incomes and higher expenditures and the source of energy for consumption for electricity, heating or transportation. Municipalities with smaller footprints (i.e. Greater Sudbury, Niagara RM and Quebec City) are characterized by lower household income per capita and smaller energy footprints due to reliance on hydroelectric power as the primary source of electricity.

The FCM study reports on the EF of York Region and other municipalities across Canada and thereby creates an opportunity to monitor progress of efforts to improve the situation. These numbers provide a benchmark against which to measure York Region's progress over the decades to come.

4.2 What Can York Region Residents Do to Change Our Ecological Footprint?

As outlined in the attached bulletin (*Attachment 1*) reduction of our EF can be effected by individual efforts:

- Reduce water & energy consumption / install water & energy efficient devices at home & work.

- Landscape in energy efficient ways: i.e. native species, rain barrels, mulching mowers.
- Better insulate your home.
- Take alternative forms of transportation (i.e. transit, bike, walk or car pool).
- Use more fuel efficient vehicles and keep car tuned-up and tires properly inflated.
- Buy more locally produced products, more vegetarian food, and buy products with less packaging.
- Compost
- **Reduce** consumption by doing more with less, **reuse** items where possible & **recycle**.

In York Region, individual actions and lifestyle choices will have a great impact on determining changes to our ecological footprint.

4.3 What is York Region Doing to Change Our Ecological Footprint?

As outlined in the Ecological Footprint Bulletin the Region is taking action in a number of different ways to support making our communities more sustainable, improve our quality of life and thereby reduce our ecological footprint. The success of these initiatives should help reduce our land, water and energy consumption. Briefly some of these initiatives include:

- York Rapid Transit Plan
- York Region's Greening Strategy
- York Region's Energy and Environmental Management System
- Water for Tomorrow Program
- Centres and Corridors Strategy
- The Smart Commute Initiative
- York Region's Corporate Clean Air Task Force
- Other Initiatives – wind feasibility study, implementation of energy saving measures in existing buildings

4.4 Relationship to Vision 2026

At York Region, preserving the natural areas and resources, and protecting human health are two important objectives. York Region is committed to protecting and enhancing the Region's environment. This commitment is entrenched in the Region's Strategic Plan, *Vision 2026*, which lists goals which include supporting the enhanced environment, heritage and culture and managed and balanced growth. Through the continued monitoring of the demands people place on nature, the Region can gauge the success of our efforts to reduce our ecological footprint.

5. FINANCIAL IMPLICATIONS

The FCM commissioned the report *The Ecological Footprint of Canadian Municipalities and Regions* to develop the first Canadian EF estimates. York Region, as a member municipality of FCM contributes annually to the development of such tools. Printing and distributing the *York Region Ecological Footprint bulletin* is provided for in the approved 2005 budget.

The reduction of the Region's ecological footprint may require different considerations in our decision making. Changes to some of these approaches will save money such as the switch to brighter LED traffic lights, using 90% less energy than traditional incandescent lights, and some will be more costly i.e. Regional transit.

In purely economic terms some of the actions to reduce the Region's EF may be costly but when measured against quality of life and environmental sustainability terms these costs may be necessary community expenditures.

6. LOCAL MUNICIPAL IMPACT

Local municipalities are important partners in all issues relative to sustainability across the Region. The Region's EF, as presented in the FCM study is an important benchmark for evaluating trends across the Region. The FCM study did not provide data for local municipalities. The study reports on the Region as a whole.

This report and the attached bulletin will be made available across the Region. The Region's EF provides a means of evaluating past decisions and can be used as a basis for making future decisions, devising strategies and determining actions by all levels of government which affects all of the Region as a place to live work and play.

7. CONCLUSION

The FCM study "Ecological Footprints of Canadian Municipalities and Regions" calculates the amount of land Canadian municipalities require to sustain their current lifestyle. Data in the FCM report was recently corrected. York Region's correct ecological footprint is 5th of the 20 municipalities identified in the study. In York Region, detailed expenditure data was not available therefore income data was used. It is not surprising therefore that York Region, which has a high median income, has a higher ecological footprint. Households with higher incomes tend to consume more but the footprint concept is a tool to make us more conscious of our relationship to land and nature.

York Region Council has taken a number of steps to improve the Region's sustainability including the Water for Tomorrow program, the Centres and Corridors Strategy and the establishment of the Corporate Clean Air Task Force. The attached bulletin outlines these and other ways to make our communities more sustainable and thereby reduce our ecological footprint.

The size of the ecological footprint in York Region and across Canada is a concern. The challenge is to balance consumption and nature's limited productivity in order to ensure that communities are sustainable locally, regionally and globally.

This bulletin will be circulated to key stakeholders in York Region to correct the ecological footprint data and York Region's standing in the country. The bulletin will also be made available on the Region's web site and upon request to area municipalities and other stakeholders.

In order to more consistently and realistically evaluate York Region's ecological footprint in the future, Statistics Canada should be encouraged to collect expenditure data for all large urban areas to ensure consistency in analysis of such an important program.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report.)