Review: *Our Ecological Footprint: reducing human impact on the Earth.*

By Mathis Wackernagel and William Rees

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Wackernagel, Mathis and William Rees. *Our Ecological Footprint: reducing human impact on the Earth.* Philadelphia, PA: New Society Publishers, 1996. 160 pp. US $14.94 paper ISBN: 0-86571-312-X. Partially recycled, acid-free paper using soy-based ink.

If the earth's inhabitants were to live at the standard of the U.S., we would require three planet Earths to support us. Many of us have heard or read something like this before. *Our Ecological Footprint* provides a graphically compelling and quantitatively rigorous way for us to engage in the worldwide sustainability debate: Ecological Footprint analysis. Through this analysis we can determine the consequences of our behavior, and proposed solutions, at any level: individual, household, community, nation, or world.

Ecological Footprint analysis measures the aggregate land area required for a given population to exist in a sustainable manner. Wackernagel and Rees note that at 11 acres per person, the U.S. has the highest per capita footprint and suggest that this number should be closer to 6 acres per person. Further, the U.S. faces an 80% "ecological deficit," which means we are borrowing from our grandchildren's legacy, and expropriating land from elsewhere in the world. By contrast, each European requires around 5 acres; however, Europeans face higher ecological deficits because they have smaller land areas.

Unlike other approaches, which focus on the depletion of non-renewables such as fossil fuel and minerals, Ecological Footprint analysis asserts that the road to sustainability must be paved with sustainable practices. Thus, our use of fossil fuel must have as a compensatory sink the acres of woodlot required to sequester the carbon from our combustion of fossil fuel (in our cars, home heating, etc.) or, alternatively, the acres of fields required to grow biofuel.

For example, in comparing our daily commute by car, bus or bicycle, and considering all land requirements (e.g., manufacturing land to produce

cars, buses and bicycles; road area; production of oil for roads and fuels, land for gas stations and car service centers), the authors find that cars require 16,000 sq. ft. per passenger, buses 3,200 sq.ft. per passenger, and bicycles 1,300 sq. ft. per rider (pp. 106-107).

Our Ecological Footprint carries important insights for all individuals interested in sustainable practices, from public planners and municipal staff to local activists and average citizens. The authors present much information, which will serve to stimulate discussion of what can be done at the local level. The material is accessible: the authors use catchy graphics, easy-to-understand tables and figures, and examples for the technically sophisticated. Sources of data are noted, and the authors invite the reader to contact them for help and to share local applications.

The concept of Ecological Footprint analysis offers a powerful way for us as residents of our communities, and citizens of our nation to engage in a conversation using the same language. Members of the business community are also speaking this language (see the article "Beyond Greening," by Stuart L. Hart in the January-February 1997 issue of the *Harvard Business Review*).

Wackernagel and Rees, on the faculty of the University of British Columbia, have done pathbreaking work and continue to apply the concept to their "home region" in and around the Fraser River Basin in the province of British Columbia, Canada. Both are to be commended for their work.

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