WWF for a living planet®

Living Planet Report 2008

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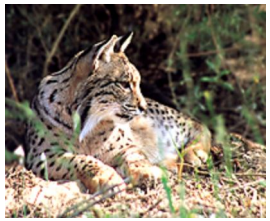
Direttore Scientifico e Direttore
Programma Sostenibilità WWF Italia

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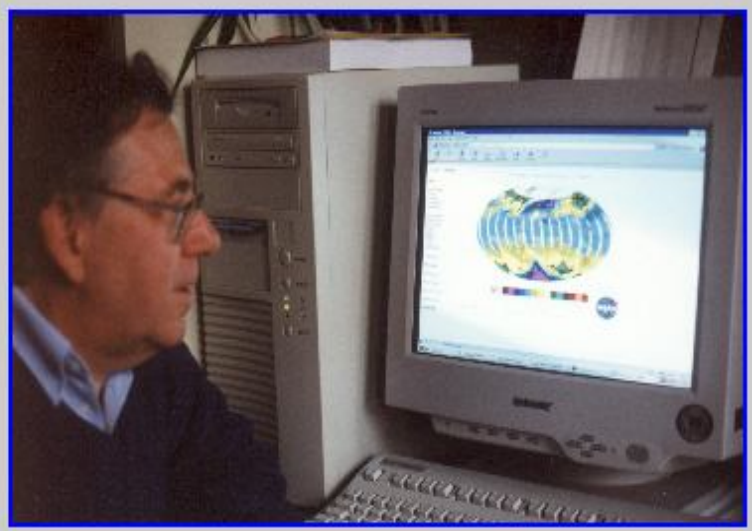
The Planet 2050 - Alternative paths to a desirable future in a changing world

Top Scientific Meeting in Lund/Malmö, Sweden. October 27-31

What could the world look like in the year 2050? Which are the options we have, if we want a hospitable Planet Earth? Humanity is facing many long-term challenges such as global warming, allocation of resources and the preservation of biological diversity. How will our complex social and economic systems interact with a likewise complex

The ANTHROPOCENE



The name Holocene ("Recent Whole') for the post-glacial geological epoch of the past ten to twelve thousand years seems to have been proposed for the first time by Sir Charles Lyell in 1833, and adopted by the International Geological Congress in Bologna in 1885 (1). During the Holocene mankind's activities gradually grew into a significant geological, morphological force, as recognised early on by a number of scientists. Thus, G.P. Marsh already in 1864 published a book with the title 'Man and Nature', more recently reprinted as 'The Earth as Modified by Human Action- (2). Stoppani in 1873 rated mankind's activities as a 'new telluric force which in power and universality may be compared to the greater forces of earth" [quoted from Clark (3)]. Stoppani already spoke of the anthropozoic era. Mankind has now inhabited or visited almost all places on Earth; he has even set foot on the moon.

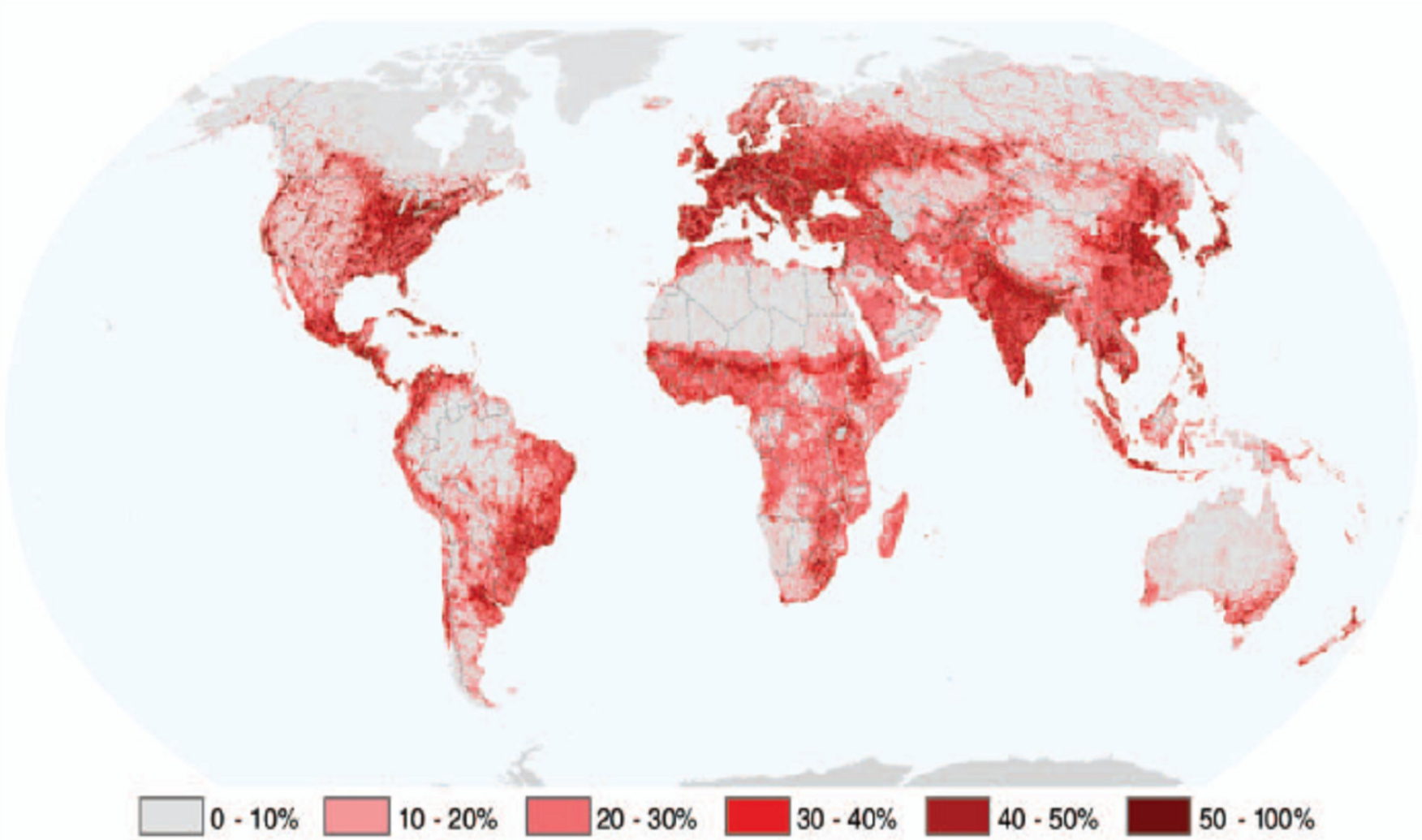
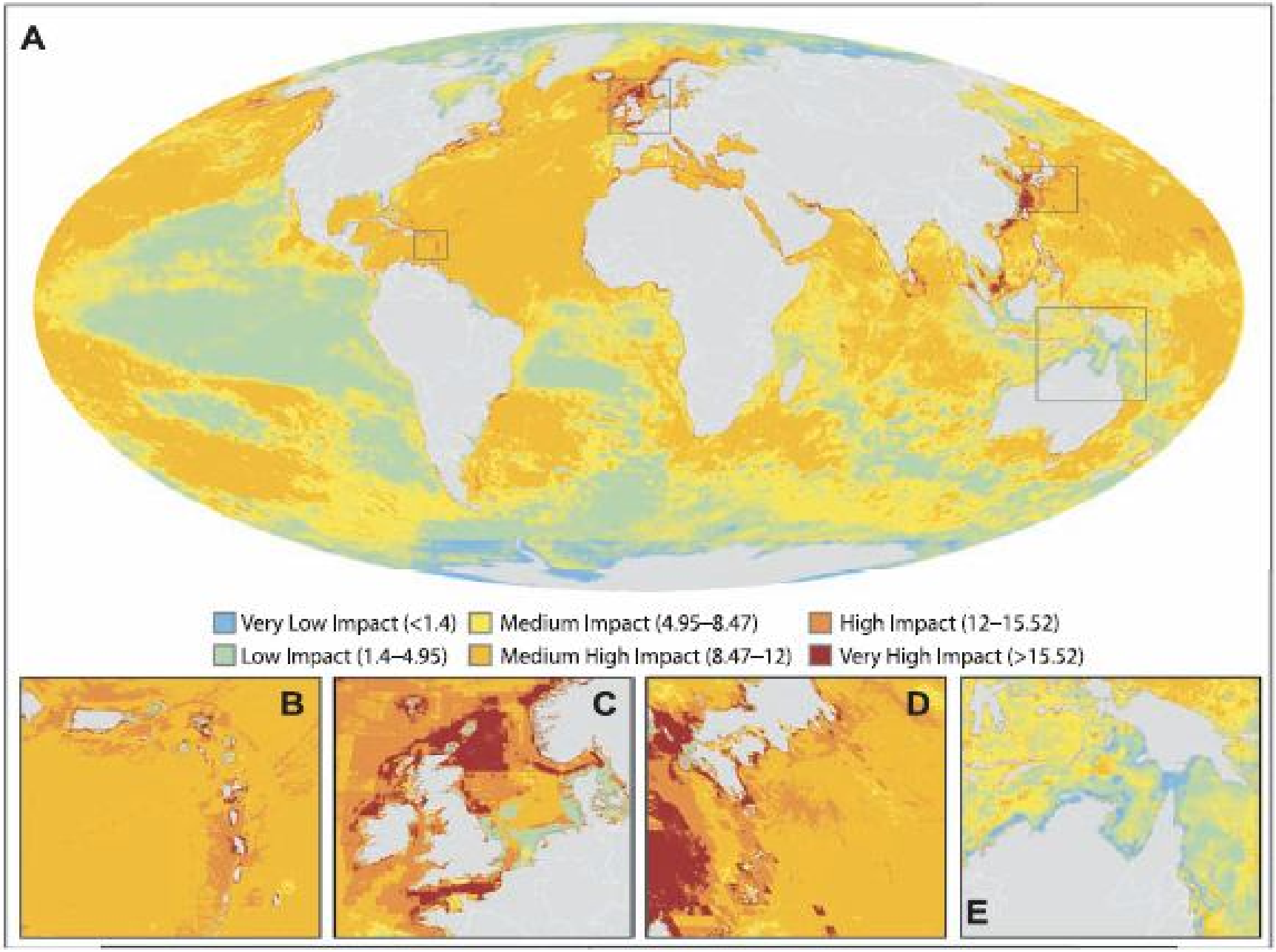


Fig. 1. The human footprint on Earth. Human impact is expressed as the percentage of human influence relative to the maximum influence recorded for each biome. Data include human population density, land transformation (including global landcover, roads, and cities), electrical power infrastructure (NOAA night-lights data), and access (via roads, navigable rivers, and coastline) to the land. Map created from data downloaded at www.ciesin.columbia.edu/wild_areas from the Human Footprint dataset generated by the Center for International Earth Science Information Network (CIESIN) at Columbia University and The Wildlife Conservation Society.


A
Very Low Impact (<1.4)
Low Impact (1.4–4.95)
Medium Impact (4.95–8.47)
Medium High Impact (8.47–12)
High Impact (12–15.52)
Very High Impact (>15.52)
B
C
D
E

Earth System Science Partnership (ESSP)

*The **ESSP** is a partnership for the integrated study of the Earth System, the ways that it is changing, and the implications for global and regional sustainability.*

The urgency of the challenge is great: In the present era, global environmental changes are both accelerating and moving the earth system into a state with no analogue in previous history.

Click here for ESSP Briefing Paper.

*The **Earth System** is the unified set of physical, chemical, biological and social components, processes and interactions that together determine the state and dynamics of Planet Earth, including its biota and its human occupants.*

***Earth System Science** is the study of the Earth System, with an emphasis on observing, understanding and predicting global environmental changes involving interactions between land, atmosphere, water, ice, biosphere, societies, technologies and economies.*

CGIAR Challenge Programme on Climate Change, Agriculture & Food Security

Alliance of the CGIAR Centers

The Consultative Group on International Agricultural Research (CGIAR) Challenge Programme "Climate Change, Agriculture and Food Security" (Climate Change Challenge Programme, CCCP) is a major collaborative endeavour between the CGIAR and their partners, and the ESSP. It is aimed at overcoming the additional threats posed by a

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LIVING PLANET REPORT 2008

Global Footprint Network

ZSL

Fig. 1: **LIVING PLANET INDEX,** 1970–2005

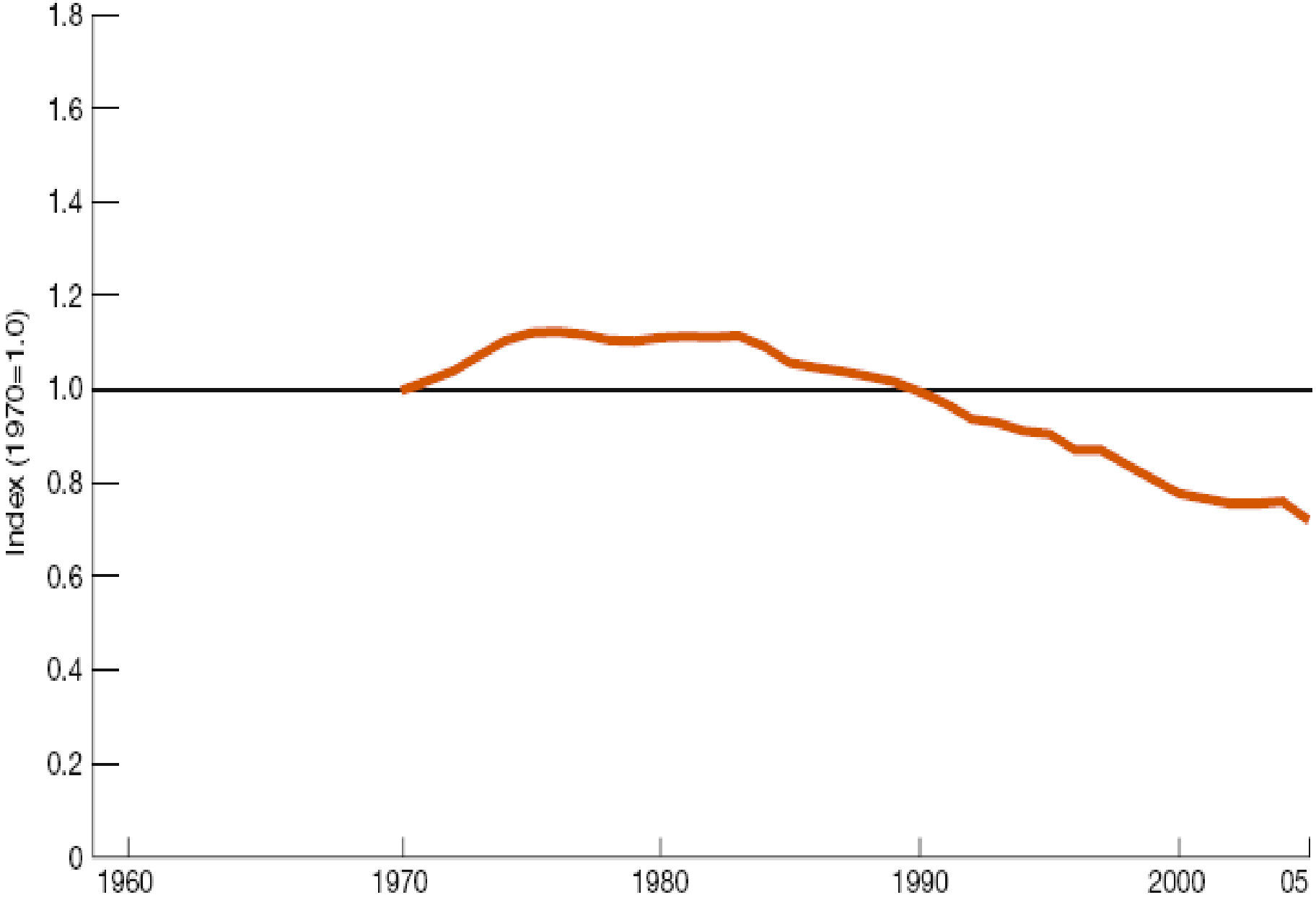


Fig. 2: **HUMANITY'S ECOLOGICAL FOOTPRINT,** 1961-2005

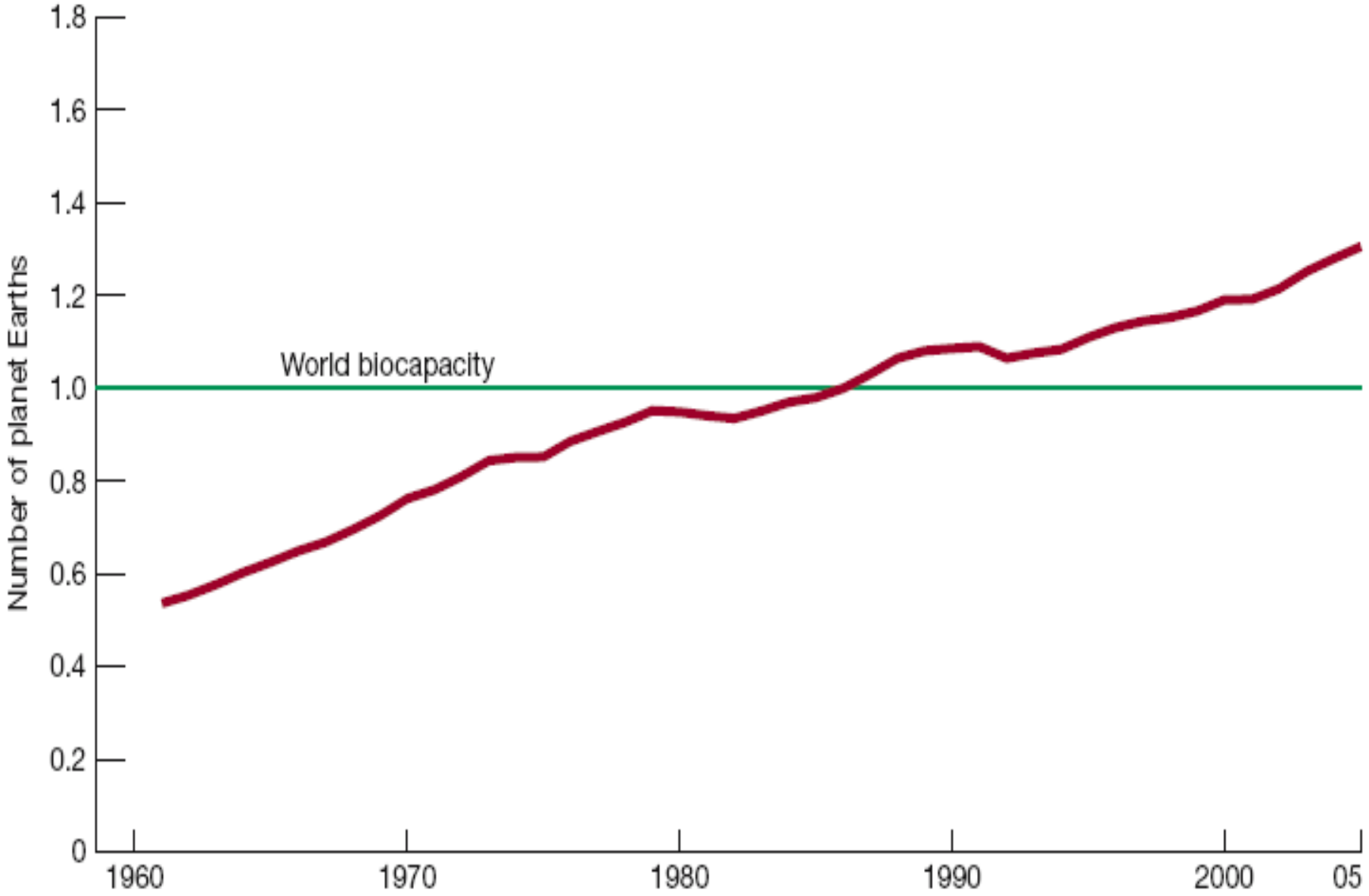


Fig. 33: **FOOTPRINT AND BIOCAPACITY FACTORS THAT DETERMINE OVERSHOOT**

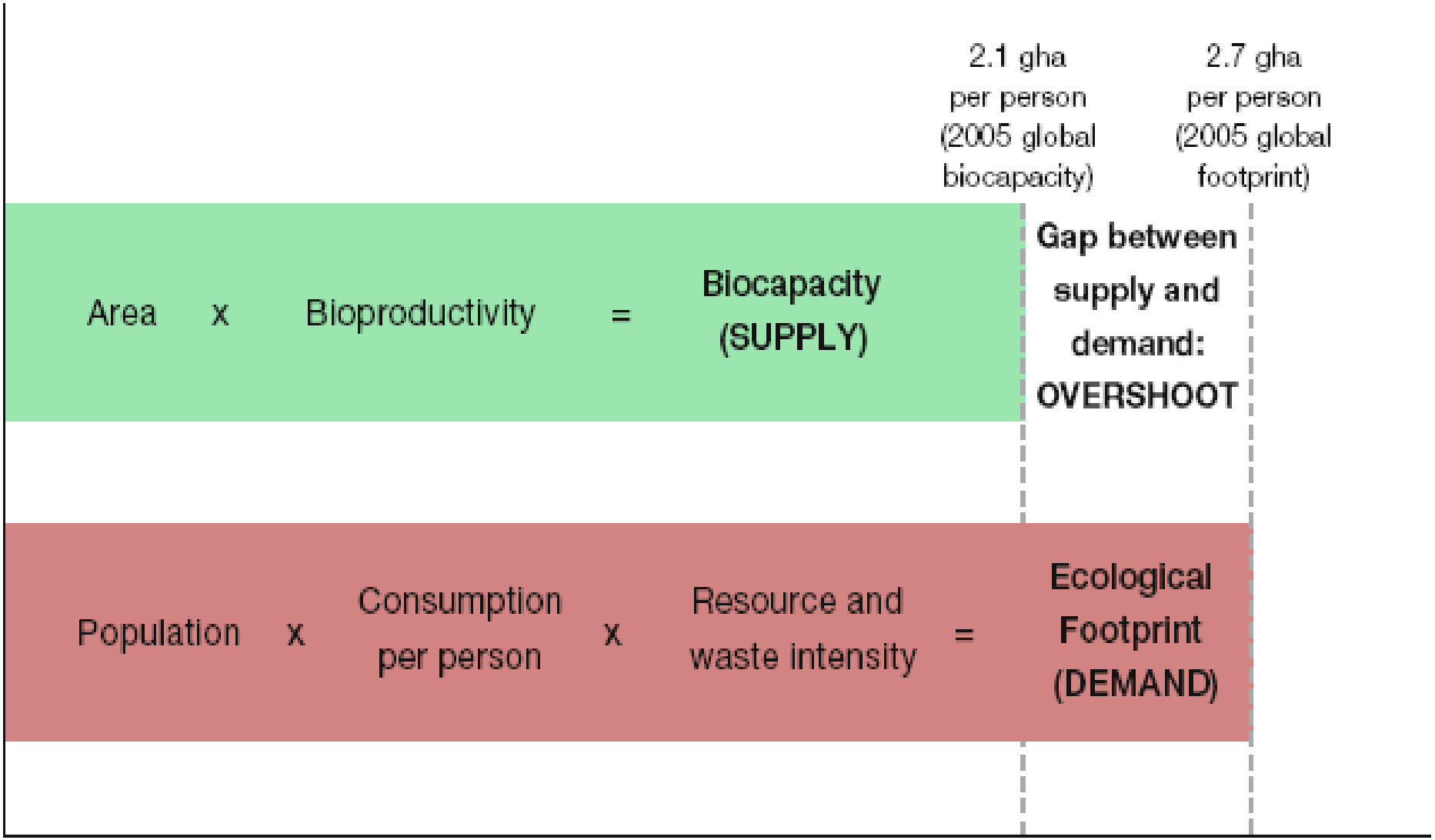


Fig. 39: **ECOLOGICAL FOOTPRINT AND POPULATION BY REGION,** 2005

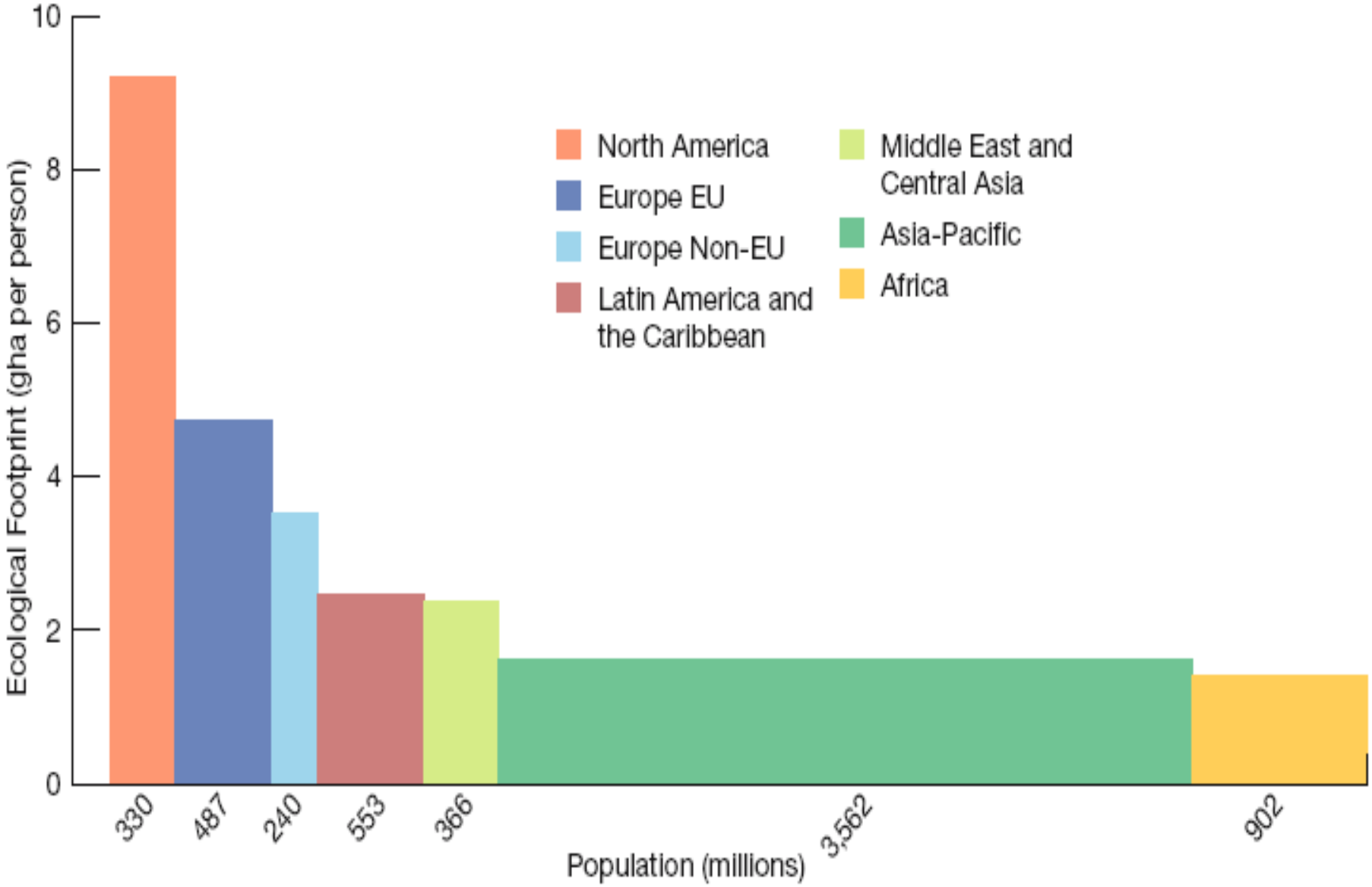


Fig. 38: **ECOLOGICAL FOOTPRINT AND POPULATION BY REGION,** 1961

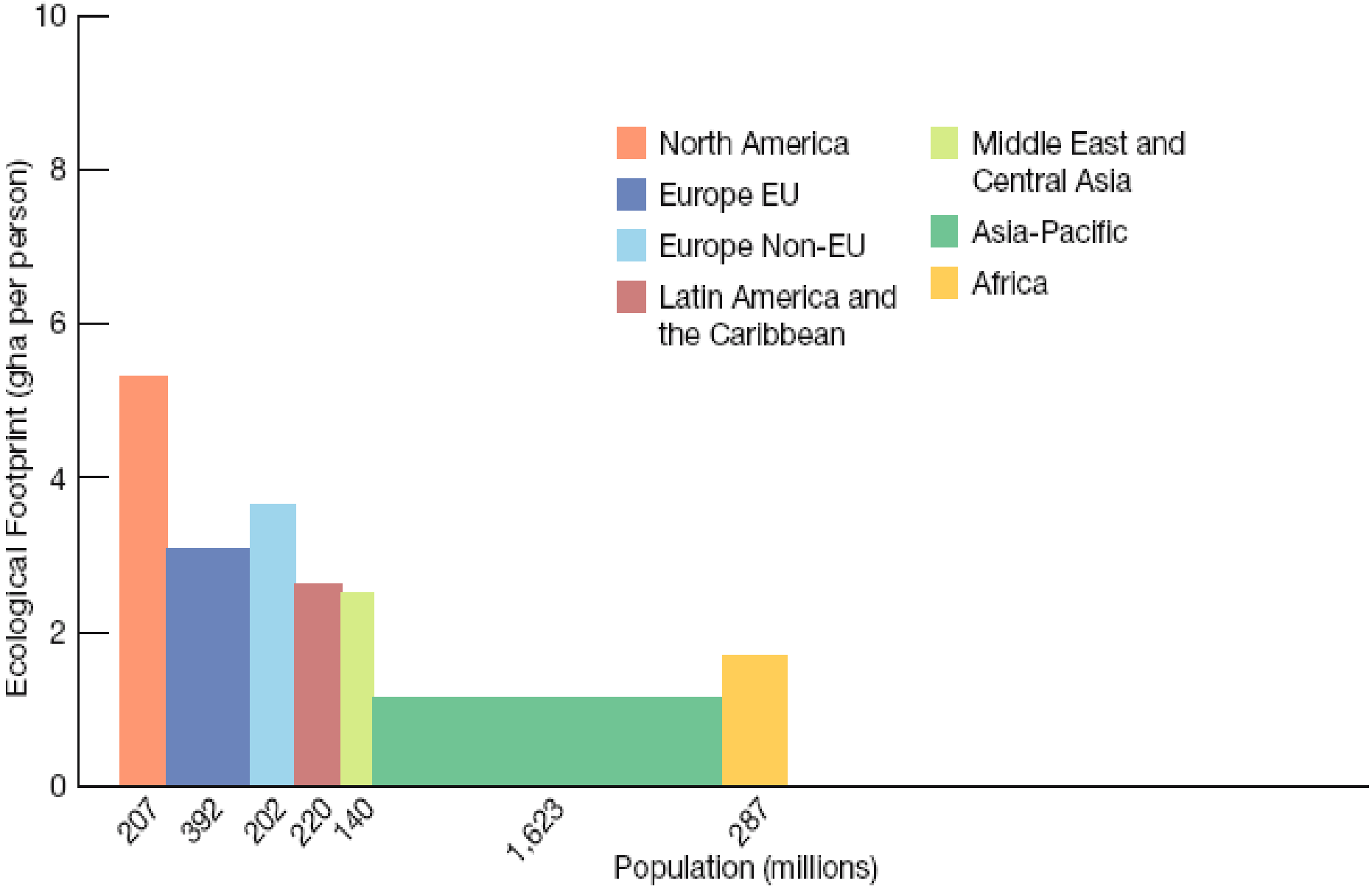
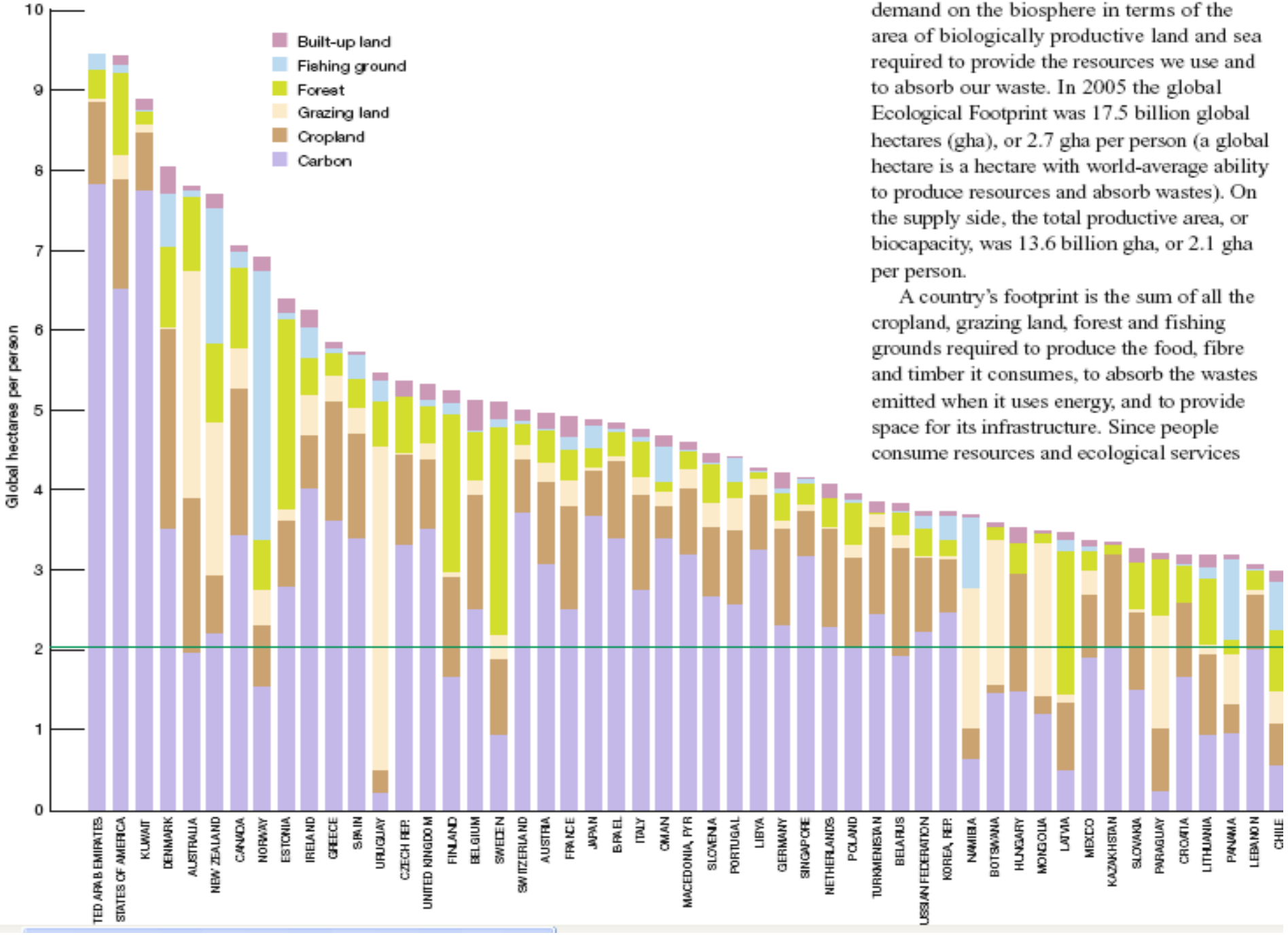


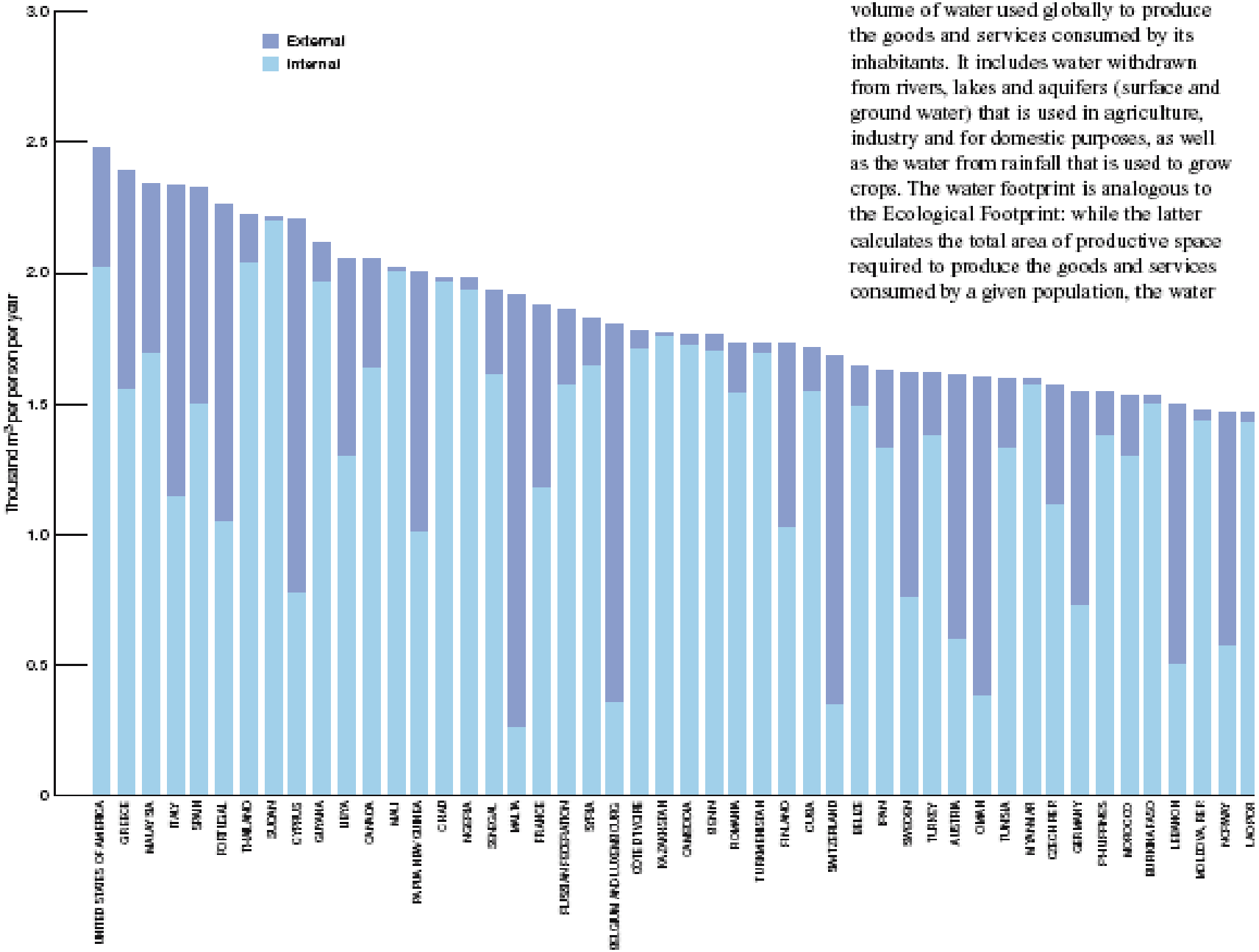
Fig. 22: **ECOLOGICAL FOOTPRINT PER PERSON, BY COUNTRY,** 2005



The Ecological Footprint measures humanity's demand on the biosphere in terms of the area of biologically productive land and sea required to provide the resources we use and to absorb our waste. In 2005 the global Ecological Footprint was 17.5 billion global hectares (gha), or 2.7 gha per person (a global hectare is a hectare with world-average ability to produce resources and absorb wastes). On the supply side, the total productive area, or biocapacity, was 13.6 billion gha, or 2.1 gha per person.

A country's footprint is the sum of all the cropland, grazing land, forest and fishing grounds required to produce the food, fibre and timber it consumes, to absorb the wastes emitted when it uses energy, and to provide space for its infrastructure. Since people consume resources and ecological services

Fig. 28: **WATER FOOTPRINT OF CONSUMPTION PER PERSON, BY COUNTRY,** 1997–2001



The water footprint of a country is the total volume of water used globally to produce the goods and services consumed by its inhabitants. It includes water withdrawn from rivers, lakes and aquifers (surface and ground water) that is used in agriculture, industry and for domestic purposes, as well as the water from rainfall that is used to grow crops. The water footprint is analogous to the Ecological Footprint: while the latter calculates the total area of productive space required to produce the goods and services consumed by a given population, the water

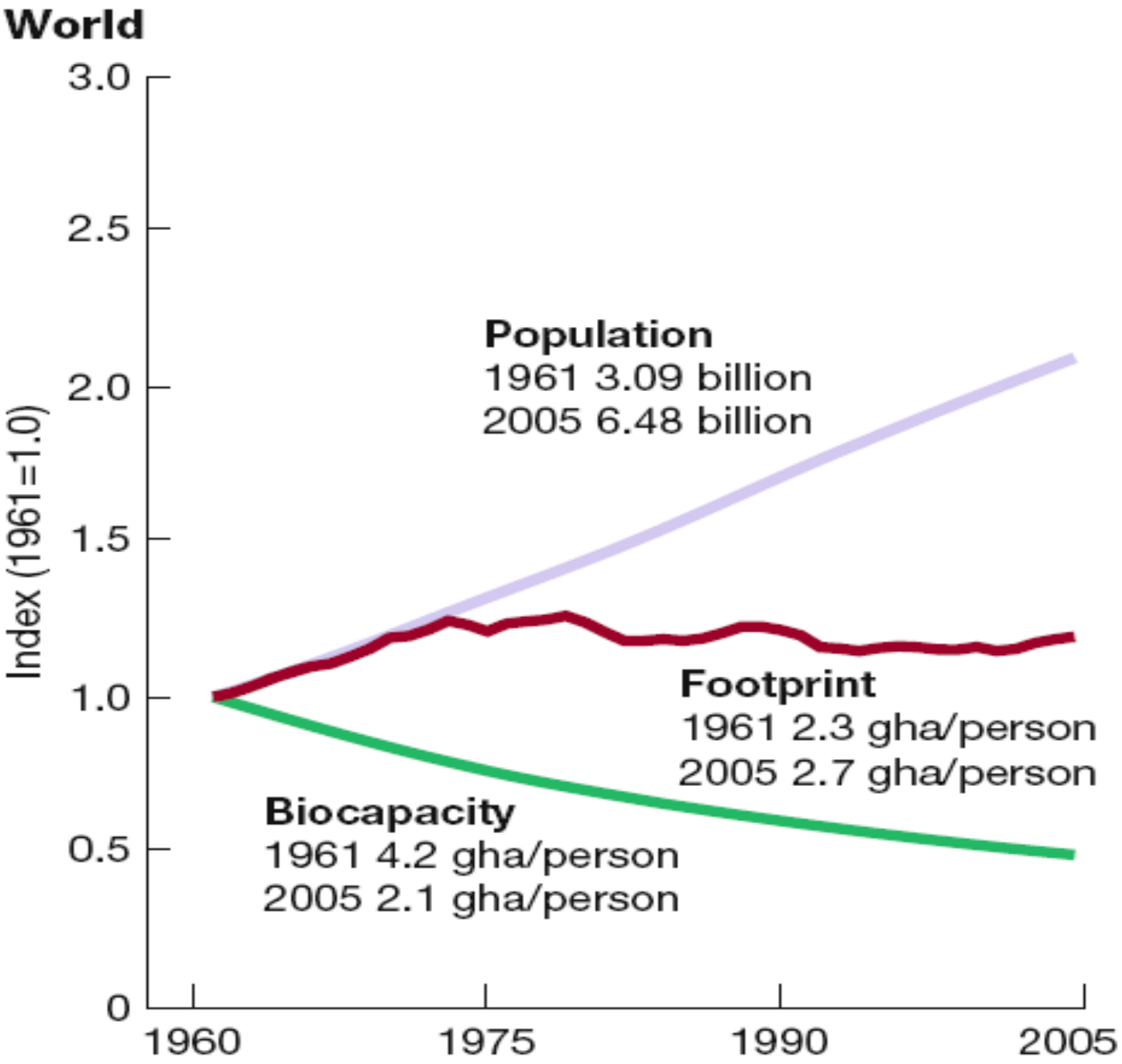

World
3.0
2.5
2.0
1.5
1.0
0.5
0
Index (1961=1.0)
Population
1961 3.09 billion
2005 6.48 billion
Footprint
1961 2.3 gha/person
2005 2.7 gha/person
Biocapacity
1961 4.2 gha/person
2005 2.1 gha/person
1960
1975
1990
2005

Fig. 31: **BUSINESS-AS-USUAL SCENARIO AND ECOLOGICAL DEBT**

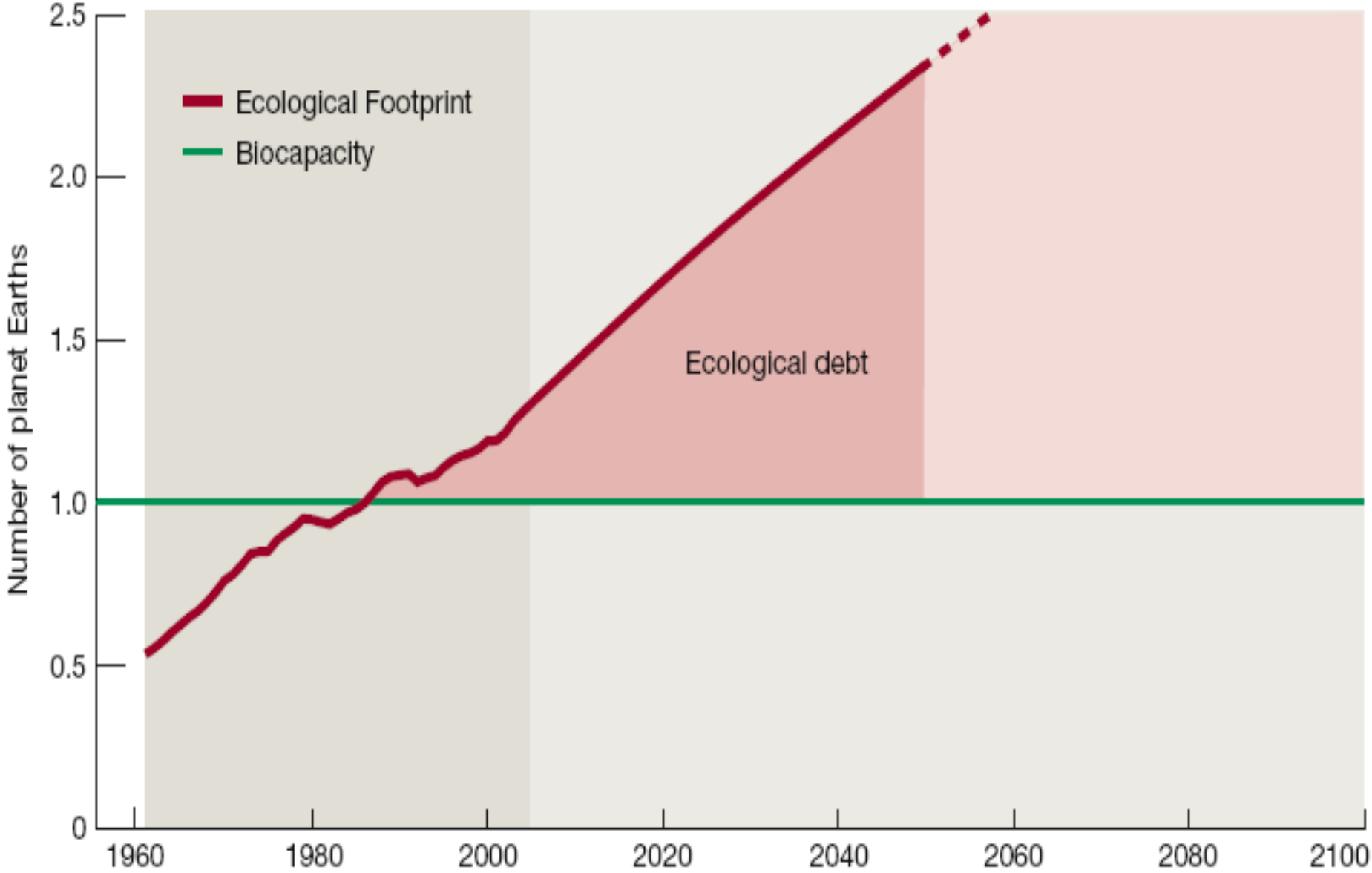


Fig. 32: **RETURN TO SUSTAINABILITY**

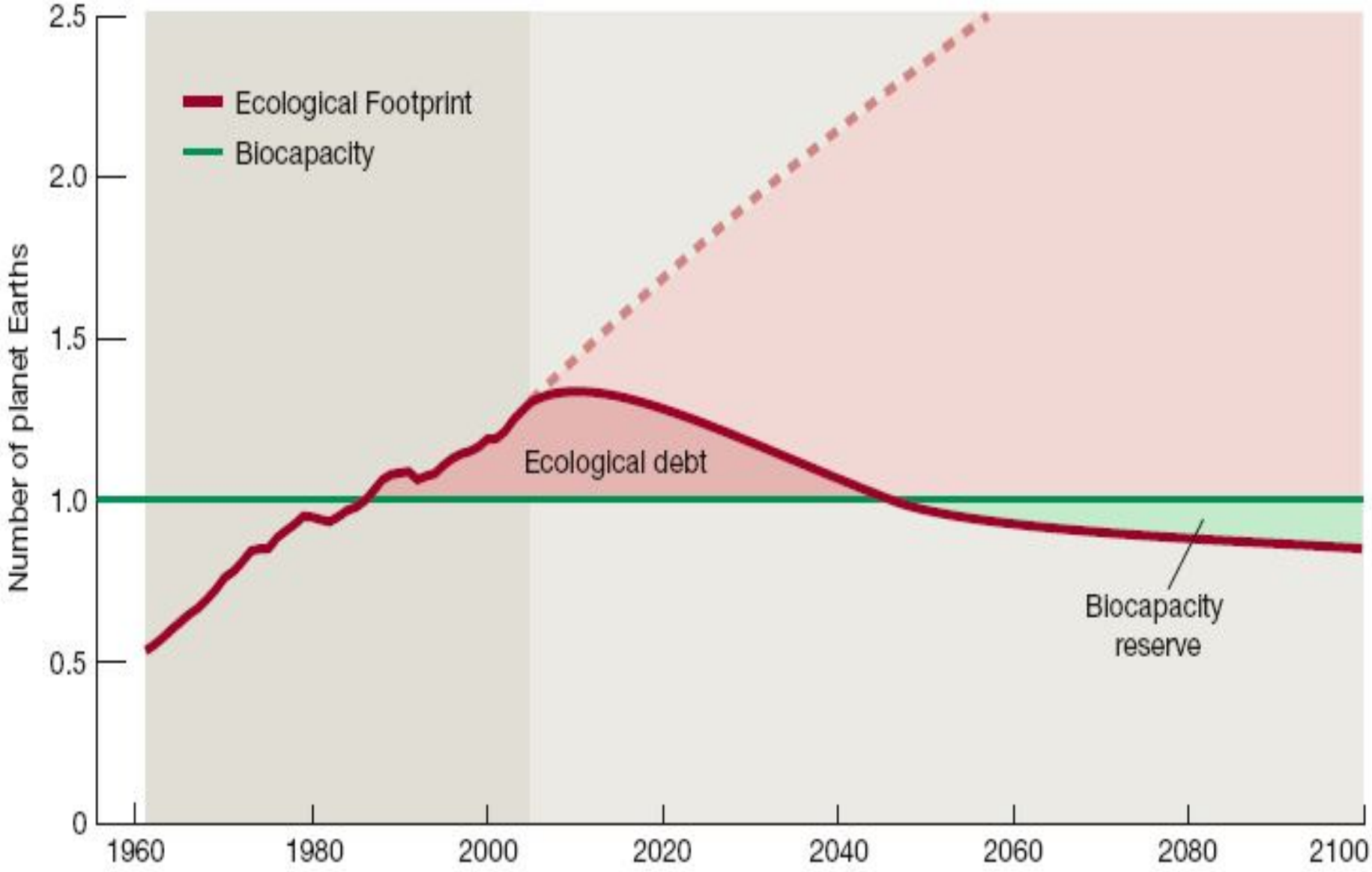
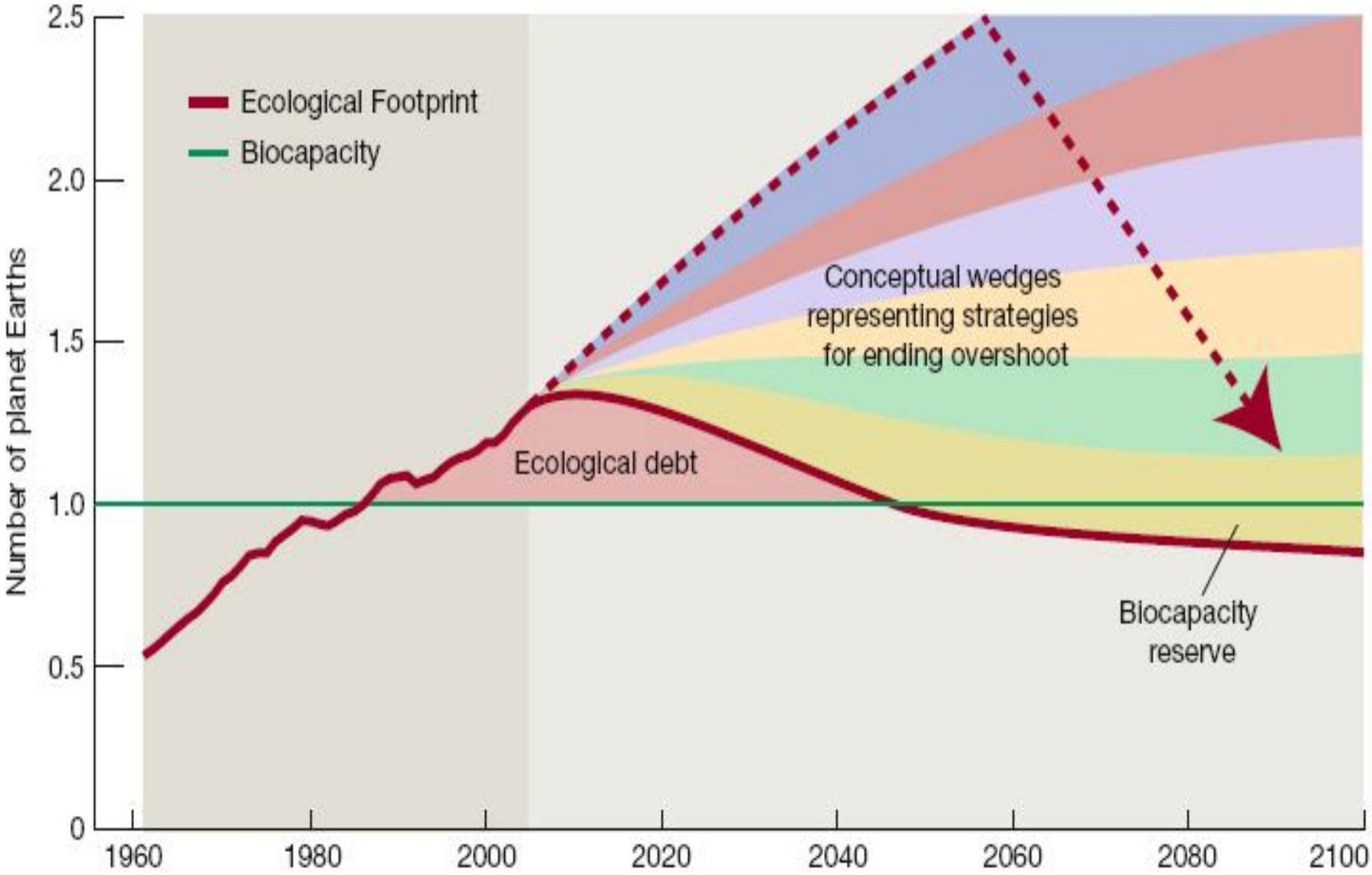


Fig. 34: **SUSTAINABILITY WEDGES AND AN END TO OVERSHOOT**



Wedges

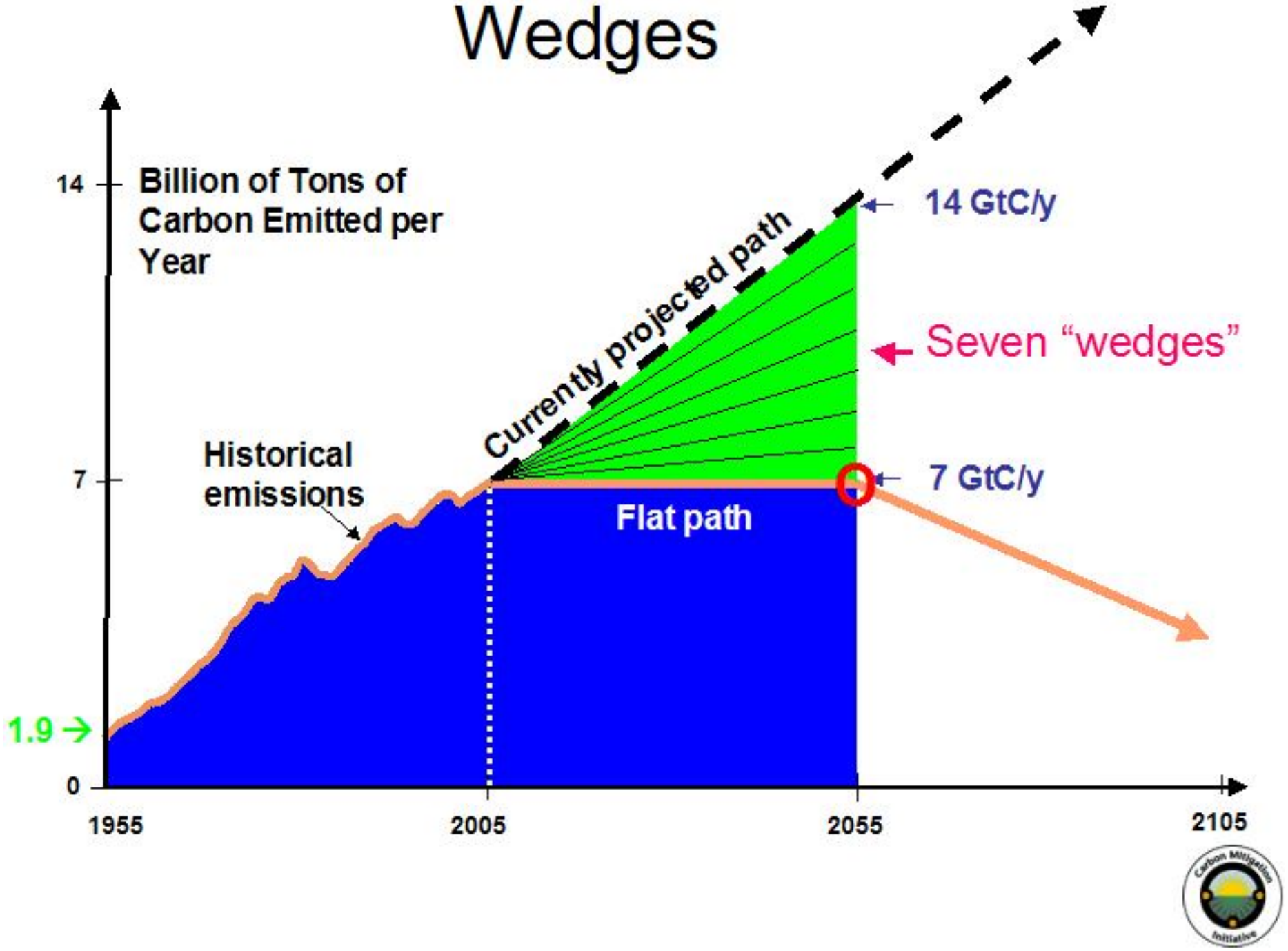
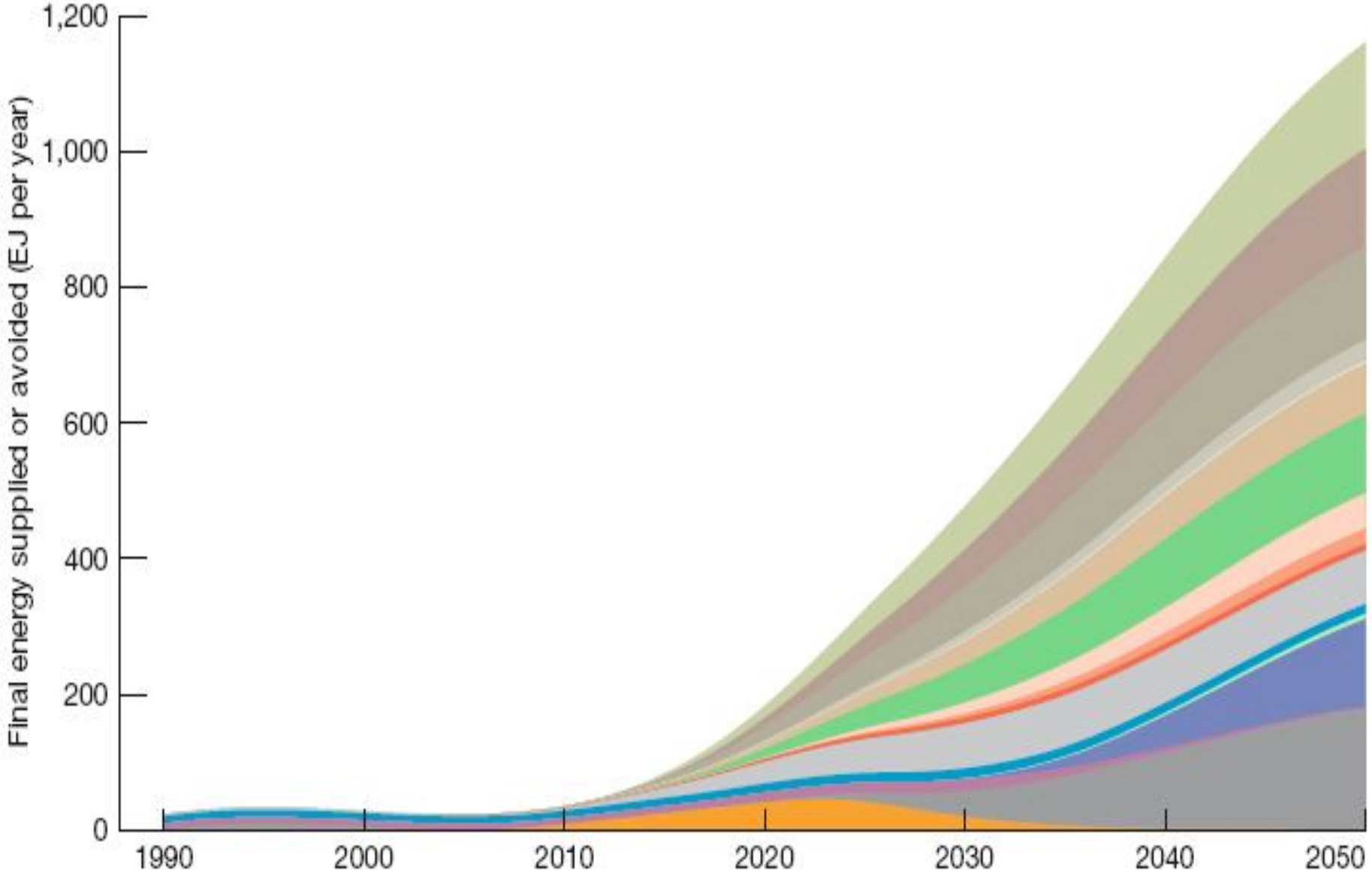

14
Billion of Tons of Carbon Emitted per Year
7
1.9
0
Historical emissions
Currently projected path
14 GtC/y
Seven "wedges"
7 GtC/y
Flat path
1955
2005
2055
2105

Fig. 35: REPRESENTATIVE SCENARIO OF THE CLIMATE SOLUTIONS MODEL



La rivoluzione della sostenibilità

- ***Walter Stahel (Product Life Institute)***
- ***Il valore della sostenibilità sta nella sua capacità di visione. Alla domanda cosa stessero facendo, tre tagliapietre rispondono così: uno dice che sta facendo passare le sue otto ore di lavoro, il secondo che sta tagliando la pietra calcarea in blocchi, il terzo che sta costruendo una cattedrale.***
- ***La sostenibilità è la cattedrale che tutti stiamo cercando di costruire.***