

**2012 BLUE PLANET PRIZE:
ANNOUNCEMENT OF PRIZE WINNERS**

Professor William E. Rees (Canada) and Dr. Mathis Wackernagel (Switzerland)

Developing and advancing the Ecological Footprint, a comprehensive accounting system for comparing human demand on ecosystems to ecosystems' capacity to self-renew. Their approach measures human carrying capacity and helps assess the risks of overconsumption to planetary stability.

Dr. Thomas E. Lovejoy (USA)

Becoming the first person to clarify human caused habitat fragmentation damaged biodiversity and gave rise to environmental crisis. Since then, he has been influencing the world for environmental conservation.

This year marks the 21st awarding of the Blue Planet Prize, the international environmental award sponsored by the Asahi Glass Foundation, chaired by Tetsuji Tanaka. Two Blue Planet Prizes are awarded to individuals or organizations each year that make outstanding achievements in scientific research and its application, and in so doing help to solve global environmental problems. The Board of Directors and Councillors selected the following recipients for this year. On 17th June (local date), the winners of this year were announced at United Nations Conference on Sustainable Development (Rio+20) in Rio de Janeiro, Brazil.

1. Professor William E. Rees (Canada)

**Professor, University of British Columbia,
FRSC (Royal Society of Canada)**

Dr. Mathis Wackernagel (Switzerland)

President, Global Footprint Network

Flying without a fuel gauge is dangerous. Yet most nations operate without knowing how much “nature” they have and how much they use. In developing Ecological Footprint accounting, William Rees and Mathis Wackernagel have provided a natural resource “fuel gauge” for nations and the world. Ecological Footprint calculations show that currently most countries are in ecological overshoot. It now takes our Blue Planet one year and 6 months to replenish what humanity uses each year. The Footprint is a unique metric that allows anyone to compare people's demand for biologically productive ecosystems with how much is available. The graphic power of the Footprint metaphor in many languages has helped make the Footprint the world's best-known and most-used sustainability metric. The Footprint is backed up by detailed accounts that vividly underscore today's life-threatening sustainability gap, and suggest what we must do to close it.

2. Dr. Thomas E. Lovejoy (USA)

Professor, Environmental Science and Policy, George Mason University

Through pioneering and creative fieldwork conducted in the tropical Amazon rainforest, a great achievement of Dr. Lovejoy was shedding light on the fact and a major mechanism of species decline when the biodiversity concept was still in its infancy. Through this fieldwork, this nominee became the first person to academically clarify how human caused habitat fragmentation and propelled biodiversity toward crisis. Based on profound insights into ecosystems obtained through the series of research, Dr. Lovejoy became the first to publish the “a projection of species extinctions.” From there, he has continued to indicate and propose measures for curbing the rising rate of endangered species, significantly influenced numerous academic institutes and societies and helped lay the foundation for protecting the natural environment based on biodiversity, which is now a mainstream concept.

Both recipients will be awarded a certificate of merit, a commemorative trophy and a supplementary award of 50 million yen.

The awards ceremony will be held on October 31, 2012 (Wednesday), at the Tokyo Kaikan (Chiyoda Ward, Tokyo). The commemorative lectures by the prize recipients will be held at the United Nations University (Shibuya Ward, Tokyo) on November 1 (Thursday).

The photos of the recipients are available from the web site of the Asahi Glass Foundation.

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Report on the Selection Process (21st Annual Prize, 2012)

A total of 700 nominators from Japan and 600 nominators from other countries recommended 98 candidates. The fields represented by the candidates, in order of number, were ecology (24), atmospheric and earth sciences (23), environmental economics and policy making (14) and compound area (12).

The candidates represented 24 countries; 8 persons, 10 percent of the total, were from developing countries.

After individual evaluation of the 98 candidates by each Selection Committee member, the committee was convened to narrow down the field. The results of their deliberation were examined by the Presentation Committee, which forwarded its recommendations to the Board of Directors and Councillors. The Board formally resolved to award the Prize to **Professor William E. Rees and Dr. Mathis Wackernagel and Dr. Thomas E. Lovejoy.**



Press conference with winners at Rio+20 in Rio de Janeiro, Brazil.



Chairman Tanaka with new laureates



Japan Pavilion (Conference Venue)

For more information, please contact: **Tetsuro Yasuda**

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Profile of the 2012 Blue Planet Prize Recipient

Professor William E. Rees (Canada) and Dr. Mathis Wackernagel (Switzerland)

William Rees and Mathis Wackernagel are the co-developers of Ecological Footprint analysis, a resource accounting framework for determining human demands for biophysical productivity (biocapacity) relative to the regenerative capacity of ecosystems. They produced the first extensive regional application of the method as part of their participation in the University of British Columbia's Task Force on Healthy and Sustainable Communities—of which Professor Rees was co-Chair—in the early 1990s. (This research program provided the case study for Wackernagel's doctoral dissertation.)

Rees has been continuously involved in refining and applying Ecological Footprint analysis to sustainability analysis throughout most his career at that university. Various graduate students under his tutelage have used integrated material flows analysis and Ecological Footprint analysis to assess the impacts of cities, countries, and numerous individual economic activities from greenhouse vegetable production, through net-pen salmon farming and air transportation to global trade, and have subsequently gone on to establish outstanding academic careers. His current students continue to apply and refine Ecological Footprint analysis in studies of both urban sustainability/vulnerability and the negative biophysical implications of globalization. Prof. Rees has authored or co-authored hundreds of scientific papers, book chapters, and popular articles on Ecological Footprint analysis, human carrying capacity, and related topics. He has lectured by invitation on areas of his expertise in 30 countries around the world. From 1994 to 1999 he served as Director of the School of Community and Regional Planning and led the reorientation of the School's mission statement and curriculum in support of 'planning for sustainability'. He is also a policy and science advisor to Global Footprint Network since its inception in 2003, and has actively supported Global Footprint Network in leading a worldwide effort to make the Footprint an ever-more robust measure of human demand on the biosphere.

Wackernagel completed his Ph.D. research, developing the Ecological Footprint, under Professor Rees in 1994. He then worked in Costa Rica with Maurice Strong's Earth Council and shortly after initiated a centre on sustainability studies at Anáhuac University in Xalapa (Mexico), where he furthered Footprint research. There, in 1997, he for the first time consistently calculated the Footprint and biocapacity for 52 countries using UN data sets. His research attracted a great deal of attention at the Rio+5 Conference in Rio. From 1999 to 2003, Wackernagel was the sustainability director of Redefining Progress, an economic think-tank in California. This experience encouraged him to co-found Global Footprint Network with Susan Burns in 2003 with the goal of raising the profile of Ecological Footprint analysis and making ecological limits central to decision-making. The Network has quickly grown into a major non-governmental organization with offices in Brussels (Belgium) and Geneva (Switzerland), in addition to its California headquarters. In 2012, it was identified as one of the top 100 NGOs in the world.

For the last 10 years, Wackernagel has contributed to WWF's bi-annual flagship publication "The Living Planet Report" which has become a key publication for Ecological Footprint results. The 2012 edition was released in May from the International Space Station, generating the largest media response of any Living Planet Report so far. The latest Global Footprint Network calculations show that humanity's demand for bio-resources exceeds the long-term regenerative capacity of Earth by over 50 percent.

Significance of impact

Ecological Footprint accounts enable, for the first time, systematic comparisons of human demand on nature to available supplies of nature's goods and services (i.e., biocapacity). The method can be applied to any population at regional, national or global scales.¹ Ecological Footprint analysts measure both demand and supply in terms of hectares of global average productivity. Hence, a population's Ecological Footprint is *the area of productive land and water ecosystems required, on a continuous basis, to produce the bio-resources that the population consumes and to assimilate its wastes, using prevailing technology*. One significant waste flow is the carbon dioxide from fossil fuel burning. Biocapacity is the productive ecosystem area that exists – in the world or in a region.

The Ecological Footprint is inversely related to carrying capacity: while traditional carrying capacity would ask “how many people could this area support at a specified material standard of living”, Ecological Footprint analysis asks “how much area (biocapacity) is required to support this population *wherever on earth the relevant land and water ecosystems may be located*.” This approach accounts for both trade flows and reflects technological sophistication for the time that is being analyzed. As noted, Ecological Footprint analysis enables scientific determination of whether prevailing levels of bio-resource consumption by the particular population (or the entire human enterprise) exceed the long-term productive capacity of supportive ecosystems. In other words, it can reveal whether the population exceeds the carrying capacity of its domestic territory and other ecosystems at its disposal.

Because Ecological Footprint analysis has such serious implications for global development, both the general concept and specific features of the method have long been the subject of discussion and controversy in various academic journals and meetings around the world. For example, *Ecological Economics*, the official journal of the International Society for Ecological Economics, frequently publishes articles and book reviews on Ecological Footprint analysis and has run at least two special fora dedicated to debating the concept. Also the Stiglitz-Sen-Fitoussi commission of French President Sarkozy dedicated 15 pages of its report discussing and evaluating the Footprint.

The influence of Ecological Footprint analysis has, of course, spread far beyond the academic ivory tower. Because Ecological Footprint analysis represents human environmental demands in terms of personal consumption and a corresponding two-dimensional area of land and water, it is easy for the general public to relate to and understand. This has facilitated the application of the method around the world in numerous projects at a variety of spatial scales. In particular, the conceptual simplicity of Ecological Footprint analysis contributes to an increasing appreciation of the impossibility of sustaining ever-increasing material consumption on a finite planet. The notion that there may be biophysical limits to material growth is finally beginning to resonate with governments, international agencies and development-oriented NGOs alike, as it has serious implications for everyone, from the lowest income communities to the highest net-worth individuals.

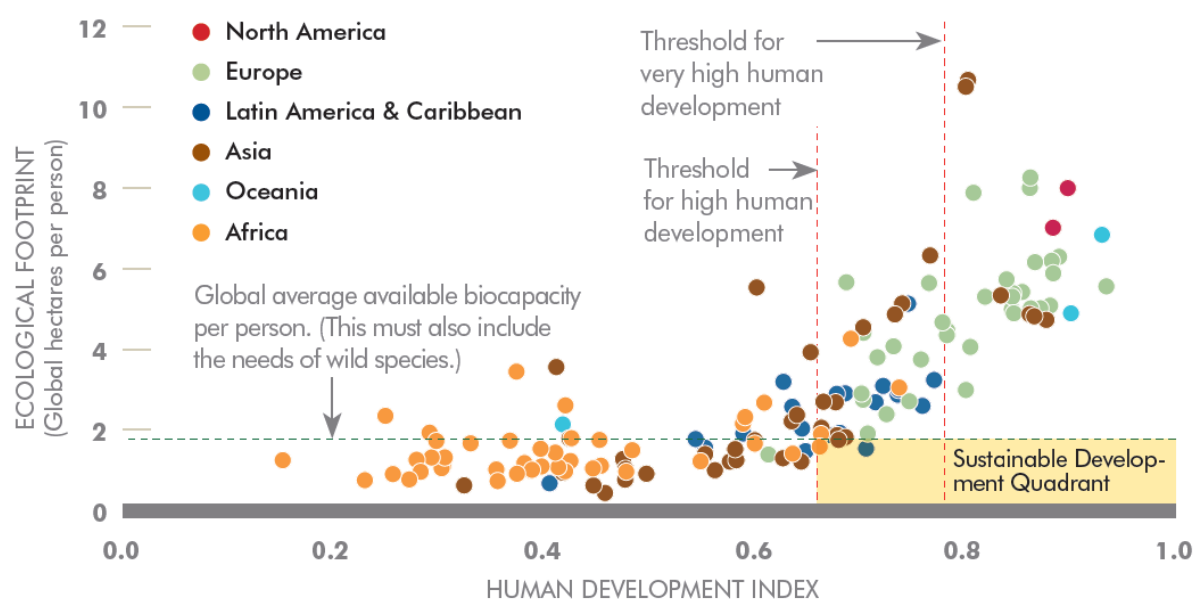
It follows that the Ecological Footprint enjoys a special role as a tool in environmental education. Many public and high-school text books feature chapters or illustrations of the method. Students and the general public can also make use of an on-line personal Footprint calculator, (originally produced for Earth Day Network), which is visited by over one million people per year.

¹ Ecological Footprint analysis can also be adapted to assess the ecological “load” imposed by specific economic activities, industries, or sectors.

Lagging behind the public, government agencies are now beginning to pay serious attention to Ecological Footprint analysis. As previously noted, numerous national governments have commissioned reviews to test the Footprint concept and at least seven, including the United Arab Emirates, Ecuador, Switzerland, Japan, Indonesia and Latvia, have incorporated the Footprint assessment into some of their policies.

SUSTAINABLE DEVELOPMENT: WHERE ARE WE TODAY?

Human Development Index and Ecological Footprint of Nations (2007)



Global sustainable development can be assessed by tracking development (or human wellbeing) and sustainability (does it fit within the means of one planet?). These two dimensions can be measured using UNDP's Human Development Index (HDI) as an indicator of human development, and the Ecological Footprint as a measure of human demand on the biosphere. An Ecological Footprint less than 1.8 global hectares per person makes those resource demands globally replicable. Despite growing adoption of sustainable development as an explicit policy goal, most countries do not meet both minimum requirements. Since every country contains different amounts of biocapacity, this analysis can also be adapted to each country. Also note that the world as a whole is outside the Sustainable Development quadrant.

Awareness of the Ecological Footprint is certainly spreading within the Japanese government. (Dr. Yoshihiko Wada, a colleague of Wackernagel and Ph.D. student of Rees, has been an active promoter of the concept in Japan and beyond). WWF Japan has published a prominent Ecological Footprint report. There is an Ecological Footprint Japan society. The Japanese Ministry of the Environment shows research results and policy agreements concerning Ecological Footprints in the 1996, 1999, 2001 and 2002 editions of its *Annual Report on the Environment (review)*; since September 2000, Ecological Footprint specialists have taken part in a meeting for discussing procedures for trade liberalization and environmental impact assessment, held within the Ministry of the Environment; Ecological Footprint analysis is also cited in the environmental white paper of the Tokyo metropolitan government.

The Ecological Footprint also played a prominent role in the "Beyond GDP" initiative of the European Commission. During the conference in 2007, the commissioners mentioned only three progress measures by name: GDP, Human Development Index, and the Ecological Footprint.

But the Footprint is cited many more international fora, including in the Environmental Commission's report on the North American Free Trade Agreement (NAFTA) and in various United Nations agencies' reports. For instance, UNDP's *Human Development Report* is listing the Footprint as an indicator – as well as The Economist's *Pocket World in Figures*. Also the Convention on Biological Diversity proposes the Footprint as a biodiversity indicator – with plenty of documents on their site pointing to the Footprint.

The Ecological Footprint concept, developed by Drs. William E. Rees and Mathis Wackernagel, continues to gain popularity, momentum and credibility with sustainability analysts everywhere. Of course there is also sometimes resistance on the path, that's part of the program and an indication that the approach challenges people's thinking. Empirical observations on everything from climate change to fisheries collapse confirm daily the reality of the resource limitations and overshoot that have long been highlighted by Ecological Footprint analysis. And a comprehensive approach as proposed by the Footprint help people to make sense out of the complexity and guide action that truly resolve problems, rather than shifting them from one issue to the next.

There is little question that the method has succeeded in helping to re-open the debate on human carrying capacity. The stage is set for a renewed effort by the Global Footprint Network to convince ever more countries to adopt the Ecological Footprint as a key measure of well-being and sustainability. Data for Ecological Footprint assessment may well become as central to nations' national accounting systems as economic data are for GDP calculations today.

Biographical Summary

Professor William E. Rees

- 1943: Born in Manitoba, Canada on December 18
- 1966: Graduated from the Department of Zoology, University of Toronto (Canada)
- 1969: Assistant professor, University of British Columbia (Canada)
- 1973: Received Ph.D. from the University of Toronto (Ecology and Ethology)
- 1976: Associate professor, University of British Columbia
- 1988-90: Founding Member, City of Vancouver Task Force on Atmospheric Change
- 1990: Professor, University of British Columbia
- 1994: Founding member, Canadian Society for Ecological Economics
- 1994-1999: Director, School of Community and Regional Planning (SCARP)
- 1997-1999: President, Canadian Society for Ecological Economics
- 2006 - : Founding member, One Earth Initiative (now a continuing Fellow and Member, Board of Directors)
Fellow, Post Carbon Institute
- 2007-2009: Director, Centre for Human Settlements

Awards

- 1997: Killam Research Prize
- 2005: City of Barcelona 2004 Award (Multimedia Category) for the exhibition *Inhabiting the World* (10 February 2005) as member of winning team
- 2006 -: Fellow of the Royal Society of Canada (FRSC)
- 2007-10: Pierre Elliott Trudeau Fellowship and Prize
- 2012: Honorary Doctorate, Laval University, Québec, Québec, (Canada)
- 2012: No 13 in the global (En)Rich List – top inspirational individuals whose contributions enrich paths to sustainable futures (www.enrichlist.org)

2012: Kenneth Boulding Memorial Award in Ecological economics (jointly with Dr Mathis Wackernagel)

Dr. Mathis Wackernagel

1962: Born in Basel, Switzerland on November 10

1987: Graduated from the Swiss Federal Institute of Technology in Mechanical Engineering

1994: Received Ph.D. from The University of British Columbia (Canada) in Community and Regional Planning

1995-2001: Coordinator, Centre for Sustainability Studies, Anáhuac University, Xalapa (Mexico)

1999-2003: Director, Indicators Program at Redefining Progress (San Francisco)

2003 onwards: Co-Founder and President, Global Footprint Network (with Susan Burns) (Oakland, USA; Brussels, Belgium; Geneva, Switzerland)

2011 onwards: Guest professor, Cornell University

Awards

2005: Herman Daly Award (Society for Ecological Economics)

2006: World Wide Fund for Nature Award for achievements in environmental conservation

2007: Skoll Award for Social Entrepreneurship (with Susan Burns); Honorary Doctorate, University of Bern

2008: Gulbenkian International Award (with Global Footprint Network)

2011: Zayed International Prize for the Environment

2012: No 19 in the global (En)Rich List – top inspirational individuals whose contributions enrich paths to sustainable futures (www.enrichlist.org)

2012: Kenneth Boulding Memorial Award in Ecological Economics (jointly with Dr William Rees)

Dr. Thomas E. Lovejoy (USA)

Dr. Lovejoy is responsible for a long list of creative and important contributions to research on the severe impact of land use on biodiversity and ecosystems. As early as 1965 he began researching ecosystems in Brazil's tropical Amazon rainforest. In 1967, he started the bird banding² in the tropical rainforest, and observed migrant birds inhabiting the Amazon in terms of biocenology³.

In 1987, Dr. Lovejoy began his fieldwork in the Amazon as a researcher with the Smithsonian Institution and an onsite researcher with the World Wildlife Fund (now World Wide Fund for Nature). Appointed as a leader of a collaborative project of the Smithsonian Institution and the Instituto Nacional de Pesquisas da Amazonia (INPA) in 1979, he led American and Brazilian researchers and performed a pioneering landscape experiment¹, the largest long-term such experiment in the history of landscape ecology. The experiment, known as the Biological Dynamics of Forest Fragments Project (BDFFP), were supported by the early work of Dr. Lovejoy about bird banding² started in 1967, Dr. Lovejoy's group based its research on the unique concept of minimum critical area⁴ of ecosystems. The research showed marked superiority of a well-organized protected zone over a compactly fragmented protected zone of the same acreage in terms of species survival. It also provided useful guidelines for the design and management of large natural parks and reserves. Apart from leading to 600+ academic papers, well over 100 theses and numerous books, the project has provided Latin American biologists with important venues for fieldwork training for many years. Disappearance and fragmentation of habitats, discovered in the project, are now considered to be one of the great threats to biodiversity along with climate change.

In the 1970s, Dr. Lovejoy was devoted to activities for educating the public on the impact of decreased tropical rainforest. In 1980, he published an estimated species extinction rate and became the world's first person to sound the alarm for species extinction at the policy level.

Dr. Lovejoy was also the first to clarify the unpredictable and profound characteristics of "habitat fragmentation" affecting biodiversity and carbon pool dynamics through, for example, the accelerated destruction of rainforest. Through his research, he put forth profound insight into environmental conservation science and its practice. One outstanding contribution was developing debt-for-nature swaps⁵, an important policy mechanism for addressing the impact of major change such as deforestation and climate change on tropical rainforests, and for the protection of natural landscape. Since 1989, debt-for-nature swaps have been implemented in upward of , definitely, more than 11 countries. An environmental foundation worth much more than \$1 billion has been established with an aim of conserving nature and a biological protection area of at least one million hectares. Debt-for-nature swaps are among the largest sources of financing to support international environmental projects.

The Brazilian government awarded Dr. Lovejoy the Order of Rio Blanco decoration for his commitments to numerous environmental conservation activities in Brazil, and he was the first environmental scientist to receive the award. In 1998, the Brazilian government also awarded him the Order in the Grade of Grand Cross in Science.

Other career highlights

Dr. Lovejoy was born on August 22, 1941 in New York. He became interested in biology at the age of 14 as a student at the Millbrook School (Millbrook, NY). He received a bachelor's degree (1964) and Ph.D. (1971) in biology from Yale University. In 1964-1965, he was the Yale

Carnegie Teaching Fellow. He also served as an assistant researcher of the Belem Project at the National Museum of Natural History of the Smithsonian Institution and the planning executive assistant at the Academy of Natural Sciences, Philadelphia. From the mid-1970s to mid-1980s, he assumed many important positions, including program director, science vice president and executive vice president at the World Wild Fund for Nature (WWF, United States). In 1987, he was transferred to the Smithsonian Institution as assistant secretary for environmental and external affairs. He was appointed as science adviser to the US Secretary of the Interior in 1993, counselor to the Secretary of biodiversity and environment at the Smithsonian Institution in 1994 and director of conservative biology there until 1998. Serving on the advisory council for science and the environment in the Reagan, Bush and Clinton administrations, Dr. Lovejoy exerted influence based on his unique analysis and understanding of ecosystems. He also trained environmental conservation specialists from Latin American and Caribbean nations in an effort to help improve the global environment. He worked for the World Bank as its chief biodiversity adviser and a leading specialist concerning environmental issues of Latin American and Caribbean countries.

Dr. Lovejoy was one of the chairs of the Society for Conservation Biology in its first years. He has been a member of numerous science/conservation boards and advisory groups, such as the New York Botanical Garden, Global Environment Facility (GEF), Committee for the National Institute for the Environment, Royal Botanic Gardens, Kew, World Wildlife Fund and Resources for the Future and World Resources Institute.

Dr. Lovejoy is a fellow at the American Academy of Arts and Sciences, American Association for the Advancement of Science, American Ornithologists' Union, American Philosophical Society and Linnean Society of London.

He received the Tyler Prize for Environmental Achievement in 2001, Ralph W. Schreiber Conservation Award in 2005 and BBVA Foundation Frontiers of Knowledge Award in Ecosystems and Conservation Biology in 2009. He was appointed as Conservation Fellow for *National Geographic* in 2009.

In 2002-2008, Dr. Lovejoy was President of the Heinz Center (Washington, D.C.), a research institute on science, economy and environment, and is currently its biodiversity chair. In 2010, he was appointed as University Professor of environmental science and policy at George Mason University (US).

Dr. Lovejoy made pioneering achievements in the field of biodiversity, which is regarded today as a serious topic of concern in the global environment. Notably, he warned the entire world of the fact that the tropical Amazon rainforest, the “lungs of the Earth,” is facing a crisis. In 1980, he coined the term “biological diversity,” which was abbreviated later as “biodiversity”, popularized worldwide and is already common knowledge for people connected with the environment. This fact alone speaks of the significance of influence he has exerted. Through publications and lectures, Dr. Lovejoy is committed to informing the general public on the possibility that population increase, depletion and extinction of habitat environments, climate change, environmental pollution, excessive deforestation and other forms of excess exploitation of plant and animal life could induce a rapid increase of species extinction worldwide. He has been proactively devoted to numerous efforts such as testifying before the US Congress and the broadcast of the television series “Nature,” which was well received by audiences and became a long-running hit.

Dr. Lovejoy has published numerous scientific papers and coauthored or coedited the following books.

Key Environments: Amazonia (coauthored with G. T. Prance); *Global Warming and Biological Diversity* (coauthored with R. L. Peters); *Ecology, Conservation and Management of Southeast Asian Rainforests* (coauthored with R. Primack) and *Lessons from Amazonia* (coauthored with R. O. Bierregaard Jr., C. Gascon and R. Mesquiuta)

Climate Change and Biodiversity (coauthored with Lee Hannah)

¹Landscape experimentation involves analysis of the extensive impact of “habitat fragmentation.” This is aimed at studying the impact on the entire tropical rainforest as the system accompanying changes in land use. As the original habitats of organisms are replaced by farmlands, urban areas and artificial forests, a decrease in the ratio of habitat to landscape is referred to as “loss of habitat.” Isolation of a habitat area resulting from a decrease in its acreage is referred to as habitat fragmentation.

²In bird banding, birds are released after a small band with a symbol or number is attached around their leg. Then they are collected and identified by the number written on the band in order to obtain accurate knowledge on their movement and longevity.

³Biocenology aims to clarify the relationship among organisms inhabiting the same area (interspecies relationship) or to obtain knowledge about their mechanisms (community structure).

⁴In a fragmented and small island-like patch, species decrease due to unsustainability of the biodiversity existent before fragmentation. The inflow of new species shrinks and, consequently, species extinction is triggered.

⁵This is a mechanism for requiring implementation of a nature reserve conservation program on the condition that the accumulating foreign debt borne by developing countries is shouldered.

Biographical Summary

1941	Born in New York on August 22
1955-1959	Millbrook School Becomes interested in biology while in the Millbrook School, a private boarding school providing secondary education
1964:	Receives bachelor’s degree in biology from Yale University
1964-1965	Yale University Carnegie Teaching Fellow
1965:	Conducts research in the Brazil’s Amazon region as a tropical biologist and conservation biologist. During that time, he acts as a go-between for science and local environmental policies
1971:	Receives Ph.D. in biology from Yale University; receives guidance from Dr. G. Evelyn Hutchinson
1970s:	Engages in activities for informing the general public about deforestation
1970s-1980s:	Member of World Wildlife Fund (program director, vice president of science)
1973-1987:	Leads an environmental conservation program at the World Wildlife Fund (now World Wide Fund for Nature) with Michael Soule and Bruce Wilcox
1978:	Organizes the world’s first international conference on conservation biology with B. A. Wilcox et al. (La Jolla) and plays a significant role in the establishment of conservation biology
1979:	Launches the Biological Dynamics of Forest Fragments Project
1980:	Introduces the term “biological diversity” in two publications Predicts that 20% of all species around the world will have died out by 2020. Becomes the world’s first person to publish the extinction rate of species around the world (in the “Global 2000 Report to the President”)
1980s:	Directs the world’s attention to tropical rainforests, mainly in Brazil’s Amazon region

- 1982: Becomes one of the creators of the television series “Nature” broadcast on PBS, Discovery Channel and many other channels, and largely influential on the general public
- 1987-1998: Assistant secretary for environmental and external affairs, Smithsonian Institution
- 1989: Introduces the debt-for-nature swap to the World Wide Fund for Nature
- 1989-2009: Science and environment adviser to Reagan, Bush and Clinton administrations
- 1992, 1997: Published *Global Warming and Biological Diversity* with Robert L. Peters
Article about Biological Dynamics of Forest Fragments Project (BDFF Project) is published (Bierregaard et al. and Laurence)
- 1993: Science adviser to the US Secretary of the Interior
- 1994: Counselor to the Secretary of biodiversity and environment, Smithsonian Institution
- 1998: Director of environmental conservative biology, Smithsonian Institution
- 1999: Chaired subcommittee of the OECD Megascience recommending establishment of a Global Biodiversity Information Facility (a global data base on biodiversity information). GBIF was created in March 2001.
- 2002-2008: President of the Heinz Center
- 2008: Biodiversity Chair at the Heinz Center
Advocated ecosystem restoration at a planetary scale as a means to reduce CO₂ concentrations in the atmosphere in an International Herald Tribune op-ed with Tim Flannery and Achim Steiner (October 28).
- 2009: BBVA Foundation Frontiers of Knowledge Award in the Ecology and Conservation Biology category
National Geographic Society Conservation Fellow and chair of the Scientific Technical Advisory Panel for the Global Environment Facility
- 2010: University Professor of Environmental Science and Policy
George Mason University
co-chair of the review of the Third Global Biodiversity Outlook (GBO3) and presented it to the United Nations General Assembly

Awards

- 1998: Order of Brazil in the Grade of Grand Cross (science)
- 2001: Tyler Prize for Environmental Achievement
- 2005: Ralph W. Schreiber Conservation Award
- 2009: Frontiers of Knowledge Award

Remarks from the Award Recipients upon Notification of their Selection

Professor William E. Rees

I am at a point in my career where I thought nothing could take me by surprise so it was with unreserved excitement, happiness and delight that I learned that my friend and colleague, Dr Mathis Wackernagel, and I had been selected to receive a Blue Planet prize. I am proud and humbled to accept this singular award from the Asahi Glass Foundation.

We have reached a critical stage in human evolution and, indeed, the evolution of life on Earth. We can justifiably celebrate humanity's remarkable evolutionary success but must now also acknowledge that the relentless expansion of the human enterprise marks us a rogue species. *Homo sapiens* has become the major geological force altering the face of the Blue Planet; humanity's dominance in ecosystems everywhere threatens the very existence of thousands of other species; we are beginning to undermine the biophysical basis of its own existence.

My life's work as a human ecologist has been dedicated to the proposition that the human family can learn to live more equitably within the ample biocapacity of the ecosphere. Indeed, the challenge of ecology and economics in the 21st Century is to facilitate the reintegration of *Homo sapiens* into the web of life as a cooperating partner and responsible citizen. We should all be grateful that the Asahi Glass foundation has, through its creation of the Blue Planet Prize, recognized both the importance and enormity of this task. And, of course, among the critical steps is an orderly reduction of humanity's collective Ecological Footprint in ways that recognize the right of the impoverished to a larger share of the pie.

Dr. Mathis Wackernagel

It is with enormous joy, gratitude and surprise to learn about Asahi Glass Foundation's generosity to extend a Blue Planet Prize to both my dear friend Bill Rees and me. Not only is this a humbling experience but I accept this magnificent honor also with a great sense of responsibility. Humanity's growing resource hunger has moved us into global overshoot. Yet so many people in the world are deprived of sufficient opportunities for a dignified life. This spectacular double challenge is confronting us – and there is little evidence that our past efforts have been effective in redirecting our destiny onto a sustainable path. Making this most daring challenge the focus of Asahi Glass Foundation and its Blue Planet Prize is both noble and courageous. And I am deeply thankful for it. I feel particularly touched by the opportunity to join forces with the amazing laureates who come before – and after – me, and to be part of a much wider community of dedicated individuals at Global Footprint Network and its partner organizations across the globe, the indispensable community of funders, supporters, teachers, enablers as well as all the others who have dedicated themselves to the most fundamental and so utterly necessary dream of flourishing lives for all on our great Blue Planet.

Dr. Thomas E. Lovejoy

I am both humbled and honored to become a Blue Planet Prize Laureate and thereby join so many distinguished Laureates since the inception of the prize. Much of what I am being honored for was achieved in collaboration with others, so I salute and thank them for their help and inspiration at this moment. In the end what we celebrate is life on Earth itself -- the magnificent exception to the Second Law of Thermodynamics, because of its ability to harness energy, principally but not exclusively, from the sun and use it to build the awesome order and complexity of life itself. I accept this on behalf of, and in deference to, the diversity of life in all its wondrous glory: every living thing – plant, animal, and microorganism. We are all related, and each the product of four billion years of evolution. Together we constitute the living part of the planet -- what science calls the biosphere. Collectively we are why the Earth functions as a living planet -- the one we call our home.

Message to the Japanese public

Professor William E. Rees

We live in interesting times. This is the anthropocene, a new epoch in which human activities have become the most significant geological force affecting the Blue Planet. People everywhere are confronting an uncertain economy and unprecedented social stress. The Japanese people should be proud that the Asahi Glass Foundation acknowledges the global scale of this problem just as I am proud to accept the Foundation's Blue Planet prize in recognition of my career-long search for solutions. It is time for the world community to follow Japan in stabilizing its population and in moving toward a steady-state economy in harmony with global carrying capacity.

Dr. Mathis Wackernagel

Japanese culture deeply embeds the recognition that people intimately depend on the ecological services of this Blue Planet. Nature is a source of joy and inspiration. And it provides us with all we need: energy for heat and mobility, wood for housing and paper products, quality food and clean water for healthy living, absorption of our waste products, and life-support services such as climate stability. We call people's use of nature our "Ecological Footprint." Even though we so profoundly depend on nature and its services, we have overused it. Our Footprint calculations show that it now takes our planet one and a half years to regenerate what humanity uses in one year. Like a business or bank client who needs clear account statements to succeed, we believe nations need such accounts as well – not only for finances, but for natural resources. They need to know: how much nature they have and how much they use. Without clear accounting, nations may easily run into ecological bankruptcy. This is more dangerous than financial bankruptcy, because money we can print, resources we cannot. I am deeply grateful to Asahi Glass Foundation for bringing this fundamental fact to the world's attention. Both the exposure and the financial support of the Blue Planet Prize will boost Global Footprint Network's ability to succeed with our mission. We want to help nations secure their future by living within the budget of nature, rather than liquidating it.

Dr. Thomas E. Lovejoy

Nothing is considered an environmental problem unless it affects living systems which of course includes human health. So in the end the biodiversity of a watershed or any ecosystem – terrestrial, freshwater or marine -- integrates all the stresses caused by humans. The state of biodiversity is the ultimate indicator of the habitability of a region or, for that matter, the planet as a whole. We ignore that to our peril. The alternative is to open our eyes not only to the central importance of biodiversity to human well being, but also to the sheer wonder, beauty and fascination of life on Earth. To embrace biodiversity is to embrace a better future