

PROGRAMME

09.30 – 10.00	REGISTRATION AND COFFEE
10.00 – 10.10	WELCOME AND INTRODUCTION BY CHAIR (Louise Vet, Netherlands Institute of Ecology, NIOO-KNAW)
10.10 – 10.50	TRANSITIONS: CAUSES AND SOCIO-ECOLOGICAL CONSEQUENCES, LAKE VICTORIA AS CASE STUDY (Wolf Mooij, Netherlands Institute of Ecology, NIOO-KNAW)
10.50 – 11.10	COFFEE / TEA
11.10 – 11.50	OPTIMISING ECOSYSTEM SERVICES IN A MULTIFUNCTIONAL LAND-USE SETTING (Pablo Tittone, Wageningen University)
11.50 – 12.30	ECOSYSTEM RESTORATION (John D. Liu, The Environmental Education Media Project)
12.30 – 13.30	LUNCH
13.30 – 14.10	ENDING THE ERA OF ECOCIDE (Polly Higgins, The Earth Community Trust)
14.10 – 14.50	NEW DEVELOPMENTS: PRIVATE SECTOR INVESTMENTS IN ECOSYSTEMS CONSERVATION AND PRO-BIODIVERSITY PROJECTS (Tineke Lambooy, Nyenrode Business University)
14.50 – 15.20	COFFEE / TEA
15.20 – 16.00	INNOVATIVE SERVICES FROM NATURE: SUSTAINABILITY BY DESIGN (Saskia van den Muijsenberg, Biomimicry NL)
16.00 – 16.40	THE BLUE ECONOMY (Gunter Pauli, Zero Emissions Research & Initiatives)
16.40 – 17.20	PLENARY DEBATE
17.20 – 18.00	DRINKS

The future of ecosystems, Ecosystems for the future

Wednesday 30 October, 2013

Trippenhuis
Royal Netherlands Academy of Arts and Sciences
(KNAW)

ORGANISERS:

Prof Dr Louise Vet (Netherlands Institute of Ecology, NIOO-KNAW)
Dr Claudius van de Vijver (NERN)
Lennart Suselbeek MSc (NERN)

SUPPORTED BY:

Royal Netherlands Academy of Arts and Sciences (KNAW)
Netherlands Ecological Research Network (NERN)
NWO Aard- en Levenswetenschappen (NWO-ALW)
Netherlands Institute of Ecology (NIOO-KNAW)
Graduate Schools PE&RC and SENSE

ABSTRACTS

10.10: TRANSITIONS: CAUSES AND SOCIO-ECOLOGICAL CONSEQUENCES, LAKE VICTORIA AS CASE STUDY

Wolf Mooij, Netherlands Institute of Ecology, NIOO-KNAW

Many of the earth ecosystems have shown radical changes due to anthropogenic stress. Simple models generate conceptual insight in these regime shifts. An important question that arises is whether the earth as a whole could undergo a regime shift with on-going anthropogenic stress. For lake ecosystems, much progress has been made with understanding and predicting regime shifts through feedback loop analysis and detailed mathematical models. What these models do not yet take into account is the adaptive capacity of life in the form of phenotypic plasticity, range shifts, species shifts, or natural selection. The ecosystem services provided by nature allowed societies to develop with tremendous scientific and technological progress during the past centuries. This development now threatens these ecosystem services. The challenge ahead of us is to define a safe operating space for humanity, taking into account that change may come suddenly and irreversibly and taking into account the adaptive capacity of life. Key to our success will be the closure of nutrient, water and energy cycles, and a well-chosen balance between intensive use of land for agricultural and industrial production and an extensive use to allow natural processes to complete their cycles and adapt to an ever changing world.

11.10: OPTIMISING ECOSYSTEM SERVICES IN A MULTIFUNCTIONAL LAND-USE SETTING

Pablo Tittonell, Wageningen University

Societies value agricultural landscapes in different ways, in accordance with their culture, needs and perceptions. Rural communities in the South and/or land use planners, mostly in the North, shape their landscapes responding to resource utilisation priorities, but also as a result of demographic changes throughout their history. The resulting landscape patterns and organisation have a strong influence on the functioning of the agro-ecosystem, particularly on the capacity of the remaining diversity of plants, animals and microorganisms to contribute to systems regulation. This calls for innovative approaches that regard the agricultural landscape as a support of functional biodiversity for (i) agricultural production and rural livelihoods; (ii) sustainable management of natural resources and wildlife; and (iii) provision of ecological services (e.g., regulation of water dynamics, of pest populations, soil carbon storage, etc.). Trade-offs between these three sets of objectives are not uncommon. Ecologically intensive farming makes use of ecological functions to sustain agro-ecosystem productivity. Biological diversity, but also cultural and management diversity play a major role through their impact on dynamic system properties such as stability, resilience and adaptation. This challenges the widespread notion that builds on the idea that to increase primary productivity it is necessary to 'simplify' the natural system (cf. Odum, 1985). My central working hypothesis is that increased reliance on biological diversity in agro-ecosystems – through informed design – can lead to synergies between agricultural production, livelihoods and ecosystem services of local and global relevance.

11.50: ECOSYSTEM RESTORATION

John D. Liu, The Environmental Education Media Project

John D. Liu's multimedia presentation reveals that to address climate change there is no more important task than removing excess carbon from the atmosphere. Poor people at the edges of large degraded ecosystems are rarely appreciated or valued highly by those in the developed world, but they are the people who have the greatest potential to sequester carbon in increased vegetation and organic matter in the soils. We must apply the philosophical understanding that all people are created equal and address our past mistakes. The people that have been exploited and then ignored are only poor because the world has yet to recognize how incredibly important they really are. Ecological Restoration, **THE GREAT WORK OF OUR TIME** can mitigate climate change and desertification, end food insecurity, protect biodiversity and simultaneously address the terrible inequality created by history, helping us to heal not only the Earth but also the human spirit.

13.30: ENDING THE ERA OF ECOCIDE

Polly Higgins, The Earth Community Trust

Polly Higgins is recognised as the world expert on the law of Ecocide. International barrister, she is this year's Arne Naess Professor at the Centre for Development and the Environment at Oslo University and an advocate for the Earth. She is the author of the award-winning book, *Eradicating Ecocide*, and *Earth is our Business*. Polly Higgins proposed to the United Nations in March 2010 that Ecocide be the 5th Crime Against Peace. She defines Ecocide as: 'the extensive damage to, destruction of or loss of ecosystem(s) of a given territory, whether by human agency or by other causes, to such an extent that peaceful enjoyment by the inhabitants of that territory has been or will be severely diminished.' Polly has advised Ministers of State, Ambassadors and government lawyers from 54 countries in the past year, after she was invited to submit a Concept Paper on implementation of the law of Ecocide by 2020. The Concept Paper has now been received by all governments. Polly has proposed that the law of Ecocide be given a 5 year transition to allow the global economy to radically transform into a global commons.

14.10: NEW DEVELOPMENTS: PRIVATE SECTOR INVESTMENTS IN ECOSYSTEMS CONSERVATION AND PRO-BIODIVERSITY PROJECTS

Tineke Lambooy, Nyenrode Business University

Tineke Lambooy will discuss new developments regarding business and biodiversity. There is a growing interest of the investment sector in biodiversity and ecosystems. Investors aim to get a return on investment. To safeguard their assets, they want to spread the risks. In order to manage risks, they try to acquire as much as possible information about the companies and other ventures in which they invest. One of the current themes is how investee-companies perform in relation to biodiversity and ecosystems. Are they dependent on certain ecosystem services such as water, fertile soil, pollination of crops, timber, fish? If so, how do these companies and ventures ensure that they will be able to continue their business? Investors are interested in comparable and reliable information. Preferably, the information should fit into a benchmark.

15.20: INNOVATIVE SERVICES FROM NATURE: SUSTAINABILITY BY DESIGN

Saskia van den Muijsenberg, Biomimicry NL

The core idea of biomimicry is that a sustainable world already exists. Nature has already solved many of the problems we are grappling with: energy, food production, climate control, benign chemistry, transportation, collaboration and more. Examples of biomimicry most often focus on mimicking form—the shape or morphology of an organism or part of an organism. Deeper biomimicry looks also at processes, or how something works. We also need to look at the whole system or ecosystem. Our manufacturing needs to work just like a living system, so the better we understand ecosystems and how the components function together, the better we will be able to mimic them in our industries and businesses. Saskia will specifically focus on biomimicry at a systems' level. For example: how can ecosystems inspire us to create continuous loops and move to a circular economy, or how can the temperate broadleaf forest biome, which houses many of the world's largest population centers, inform the design of the built environment.

16.00: THE BLUE ECONOMY

Gunter Pauli, Zero Emissions Research & Initiatives

The economic model prescribes that one has to reduce costs in production in order to keep up with global concurrence. Moreover we learn that social development evolves from agriculture to industry and finally to services. Basing on 200 concrete examples developed during the last 20 years, the Blue economy argues that it is possible to respond to human basic needs with local provisions. Even better, we can further develop our common property (instead of privatising) and aim at full employment instead of pushing costs just to conquer profit.