Verbinden als levenswerk

biodiversiteit & industrie

Prof. Dr. **Hans Van Dyck**

Earth & Life Institute
Louvain-la-Neuve

« The times they are a-changin »

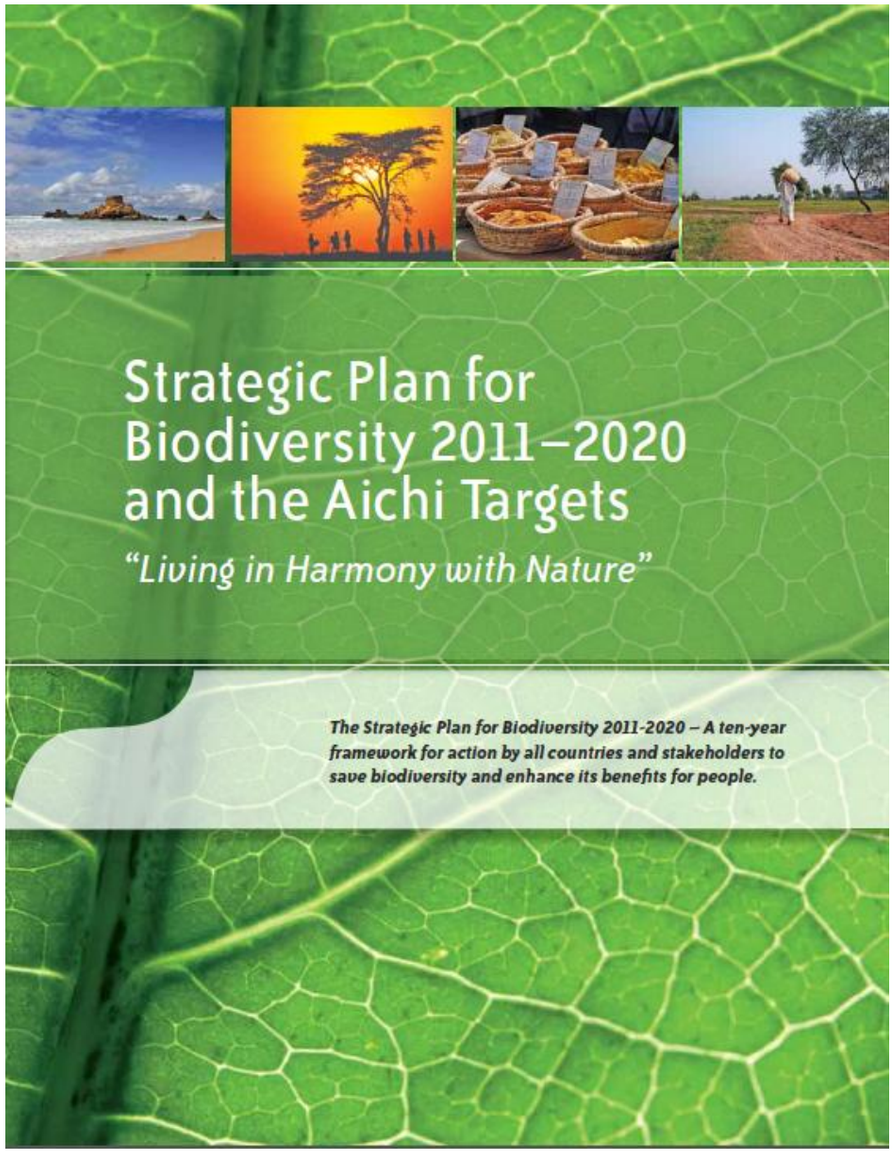
COUNTDOWN 2010

Halt the loss of biodiversity

2010 Internationaal Jaar van de Biodiversiteit

2011-2020

United Nations Decade on Biodiversity



EUROPEAN COMMISSION

environment

Business as usual?

REVIEW

Defaunation in the Anthropocene

Rodolfo Dirzo,[1]* Hillary S. Young,[2] Mauro Galetti,[3] Gerardo Ceballos,[4]
Nick J. B. Isaac,[5] Ben Collen[6]

Science (2014) 345:401-406

WHERE HAVE ALL THE INSECTS GONE?

Surveys in German nature reserves point to a dramatic decline in insect biomass. Key members of ecosystems may be slipping away

By **Gretchen Vogel**, *in Krefeld, Germany*

Science (2017) 356:576-579

Published online 21 June 2001 | Nature | doi:10.1038/news010621-11

News

Butterflies fall in Flanders fields

Northern Belgium is the European hot spot for butterfly extinction.

Corie Lok

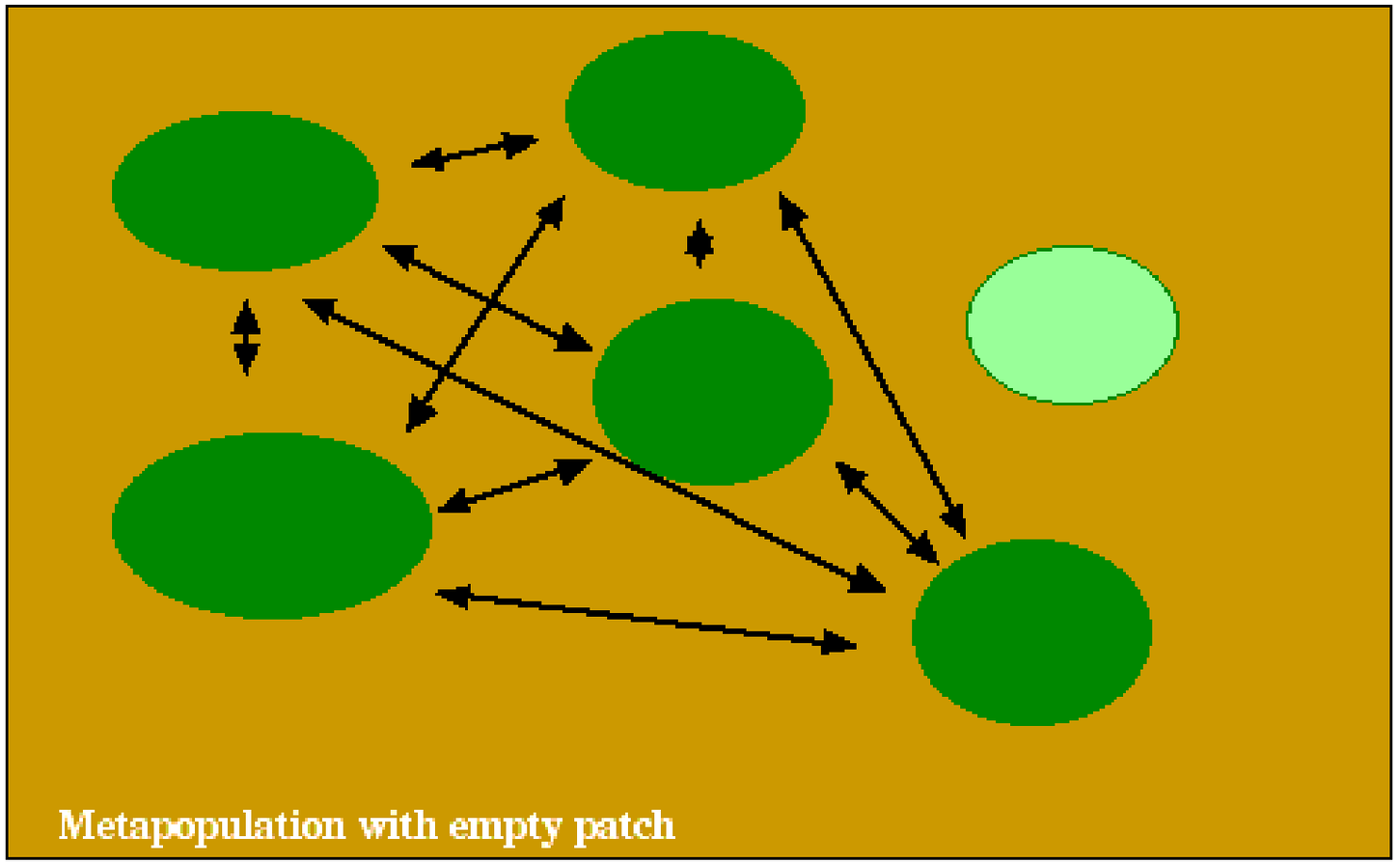
In a flap: agriculture and urbanisation is killing butterflies

More butterfly species are becoming extinct in northern Belgium than in any other part of Europe. Urbanization and intensive agriculture are probably to blame, new research suggests.[1]

Nearly a third of Flanders' 64 native butterfly species have become extinct in the past 100 years; half of those remaining are endangered, report Dirk Maes of the Institute of Nature Conservation in Brussels and Hans Van Dyck of the University of Antwerp, Belgium. At this rate, the endangered butterfly species could disappear in just 65 years, the researchers predict.

More sensitive to environmental changes than other organisms, butterflies are considered the 'canary in the coal mine' - an early

Structurele vs functionele leefgebieden behouden, scheppen & verbinden



→ Wanneer het geheel meer is dan de som van de onderdelen

Soorten & veel meer biodiversiteit

biosfeer

ecosysteem

landschap

biotoop

gemeenschap

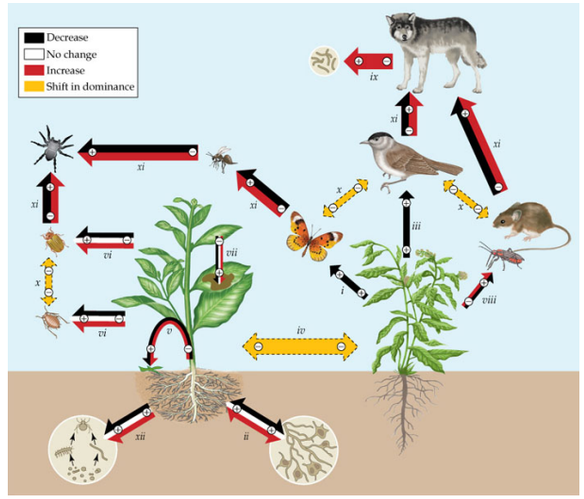
soort

populatie

individu

genen

Ecosysteem functies



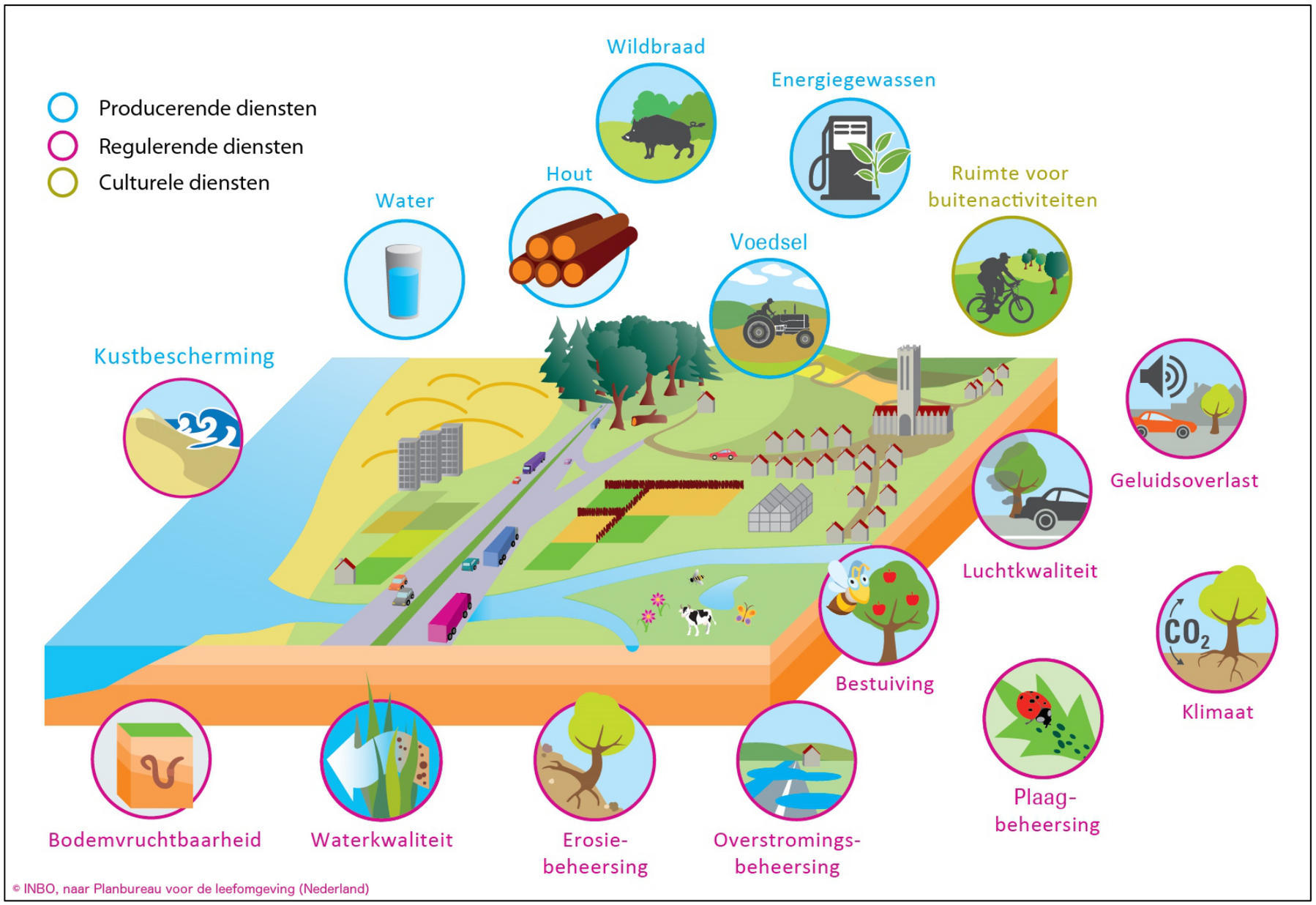
Wisselwerking

Als natuurcontact zeldzaam wordt…

[Soga M. & Gaston K.J. 2016. Extinction of experience: the loss of human-nature interactions.
Front. Ecol. Environm. 14: 94-101]

Biodiversiteit als dienstencentrum

[Ecosysteemdiensten]



Natuur, psychologie & gezondheid

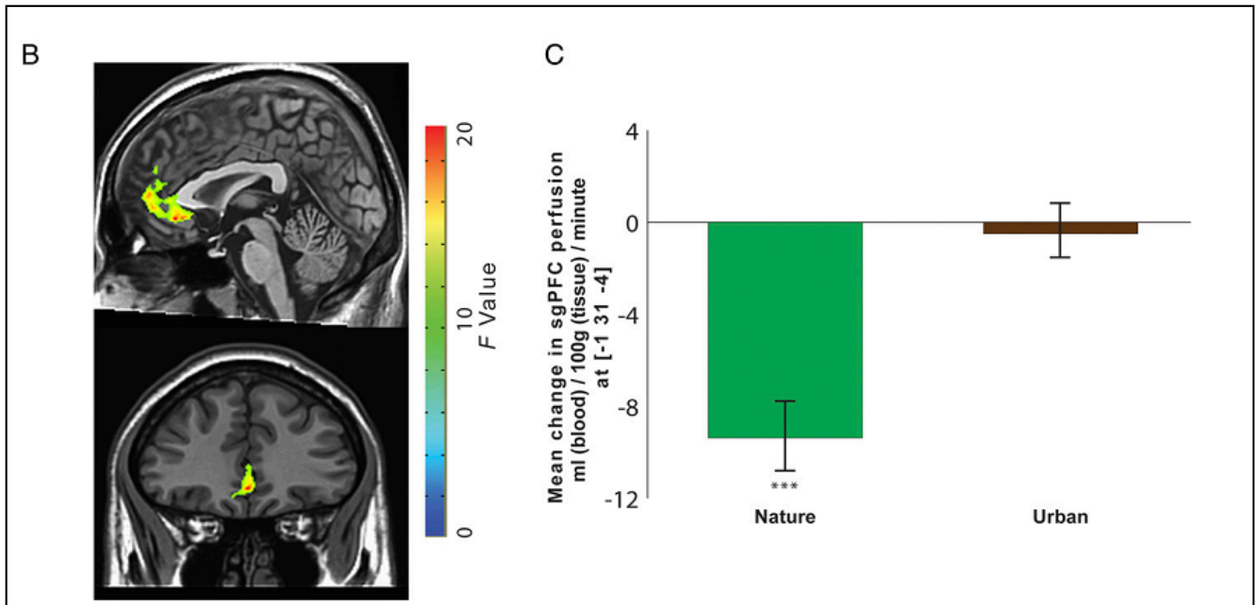


Fig. 1. The impact of nature experience on self-reported rumination and blood perfusion to the sgPFC. (*A*) Change in self-reported rumination (postwalk minus prewalk) for participants randomly assigned to take a 90-min walk either in a natural setting or in an urban setting. (*B*) A time-by-environment interaction in blood perfusion was evident in the sgPFC. *F* map of significant interactions at a threshold of $P < 0.05$, FWE corrected for multiple comparisons. (*C*) Change in blood perfusion (postwalk minus prewalk) for participants randomly assigned to take a 90-min walk either in a natural setting or in an urban setting. Error bars represent SE within subjects: $*P < 0.05$, $***P < 0.001$.

112 (**2015**): 8567-8572

CrossMark click for updates

Nature experience reduces rumination and subgenual prefrontal cortex activation

Gregory N. Bratman[a,1], J. Paul Hamilton[b], Kevin S. Hahn[c], Gretchen C. Daily[d,e,1], and James J. Gross[c]

[a]Emmett Interdisciplinary Program in Environment and Resources, Stanford University, Stanford, CA 94305; [b]Laureate Institute for Brain Research, School of Community Medicine, Tulsa, OK 74136; [c]Department of Psychology, Stanford University, Stanford, CA 94305; [d]Center for Conservation Biology, Department of Biology, and Woods Institute, Stanford University, Stanford, CA 94305; and [e]Global Economic Dynamics and the Biosphere, Royal Swedish Academy of Sciences, and Stockholm Resilience Centre, Stockholm 114 18, Sweden

PNAS

Allergy
EUROPEAN JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY

EAACI

Volume 64, Issue 12
December 2009
Pages 1799-1803

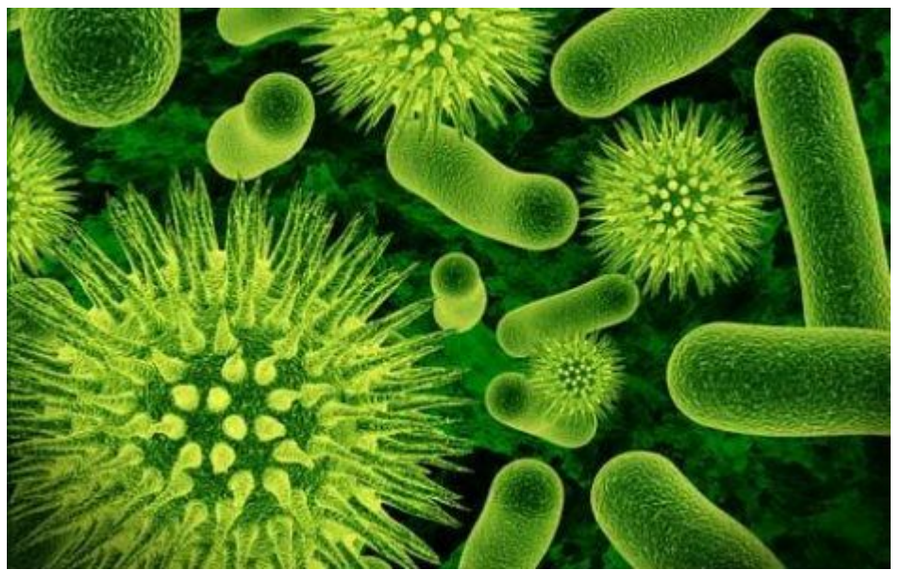
Allergy is rare where butterflies flourish in a biodiverse environment

T. Haahtela

First published: 05 November 2009 | https://doi.org/10.1111/j.1398-9995.2009.02246.x | Cited by: 6

Tari Haahtela
Skin and Allergy Hospital
Helsinki University Hospital
Helsinki
Finland

Biodiversiteit → Gezondheid



Ilkka Hanski

109 (2012): 8334-8339

Environmental biodiversity, human microbiota, and allergy are interrelated

Ilkka Hanski[a,1], Leena von Hertzen[b], Nanna Fyhrquist[c], Kaisa Koskinen[d], Kaisa Torppa[a], Tiina Laatikainen[e], Piia Karisola[c], Petri Auvinen[d], Lars Paulin[d], Mika J. Mäkelä[b], Erkki Vartiainen[e], Timo U. Kosunen[f], Harri Alenius[c], and Tari Haahtela[b,1]

[a]Department of Biosciences, University of Helsinki, FI-00014 Helsinki, Finland; [b]Skin and Allergy Hospital, Helsinki University Central Hospital, FI-00029 Helsinki, Finland; [c]Finnish Institute of Occupational Health, FI-00250 Helsinki, Finland; [d]Institute of Biotechnology, University of Helsinki, FI-00014 Helsinki, Finland; [e]National Institute for Health and Welfare, FI-00271 Helsinki, Finland; and [f]Department of Bacteriology and Immunology, Haartman Institute, University of Helsinki, FI-00014 Helsinki, Finland

Contributed by Ilkka Hanski, April 4, 2012 (sent for review March 14, 2012)

Nood aan « verrijking »

Werk maken van een nieuwe ecologische verrijking van onze ‘uitgeklede’ omgeving

Investeren in nieuwe partnerships voor ecologische « verrijking »

Natuurbehoud & industrie:

van ‘sleeping with the enemy’ en ‘greenwashing’ tot **innovatieve projecten** die meetbare kansen bieden voor biodiversiteit