

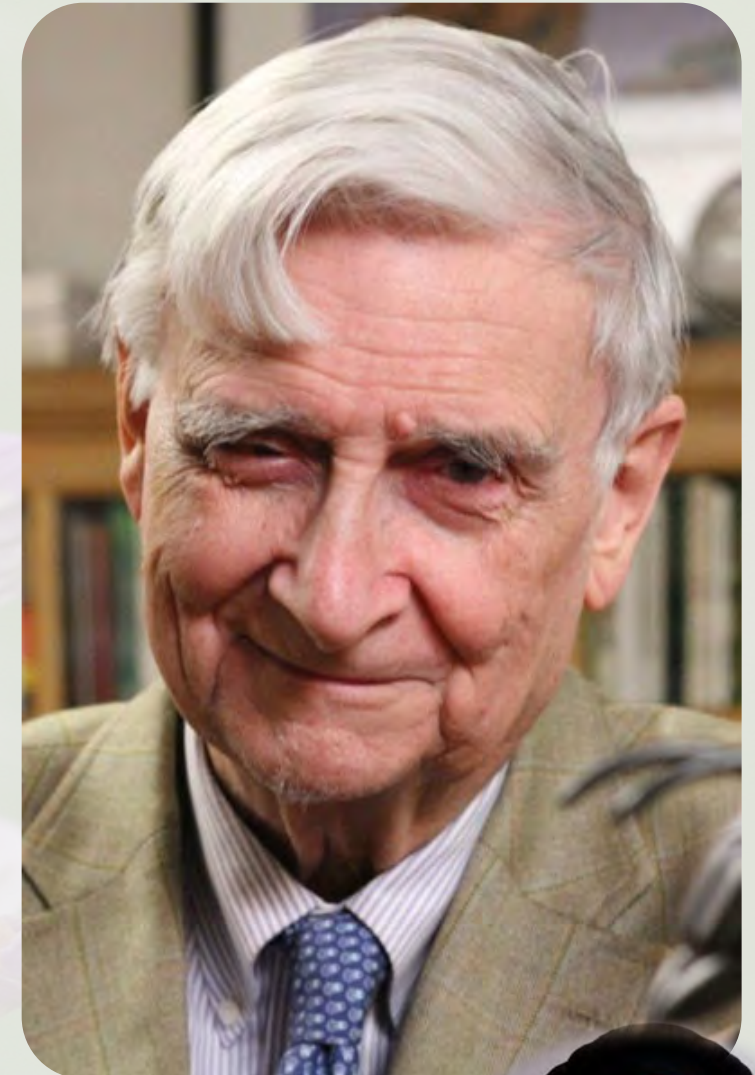
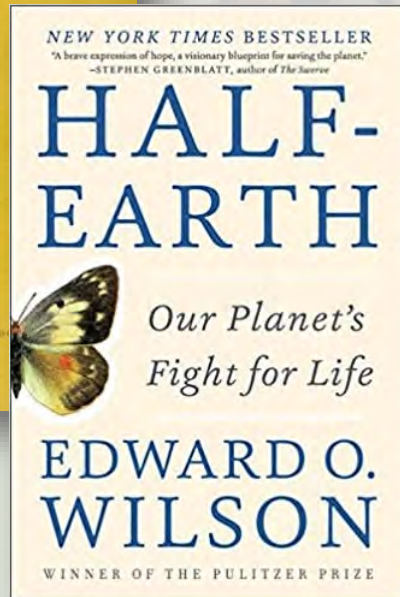
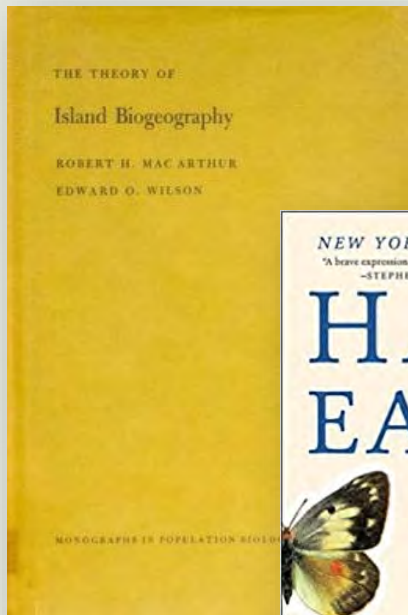
10 Jaar Vlinder-Hoogleraar: *wat weten we nu meer?*

Michiel Wallis de Vries



Edward Wilson (1929-2021)

- Entomoloog en Ecoloog



Achteruitgang van Insecten (?)



The New York Times

Opinion

EDITORIAL

Insect Armageddon

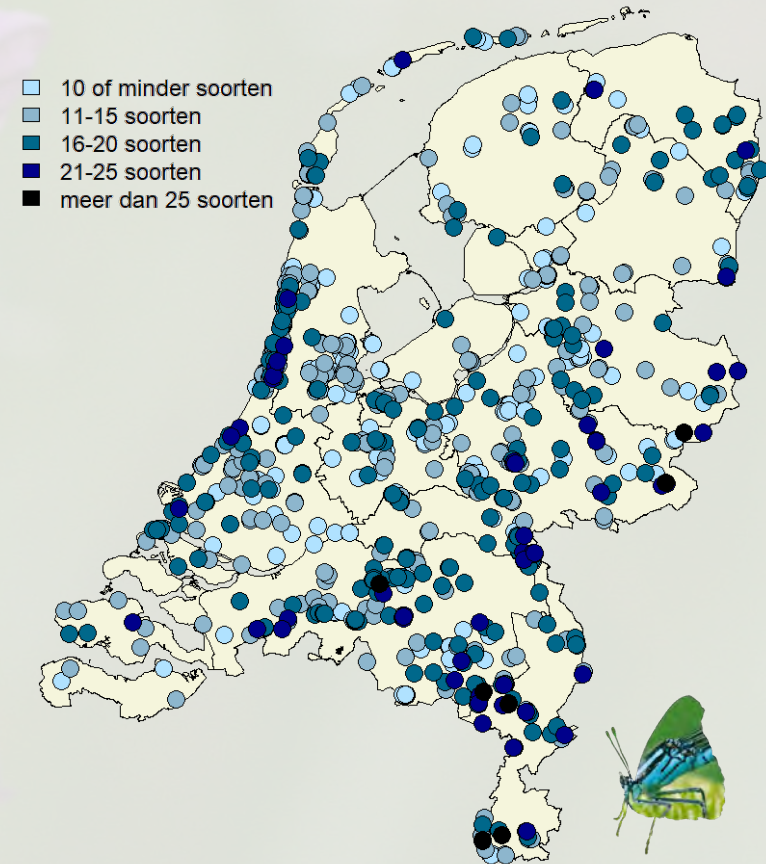
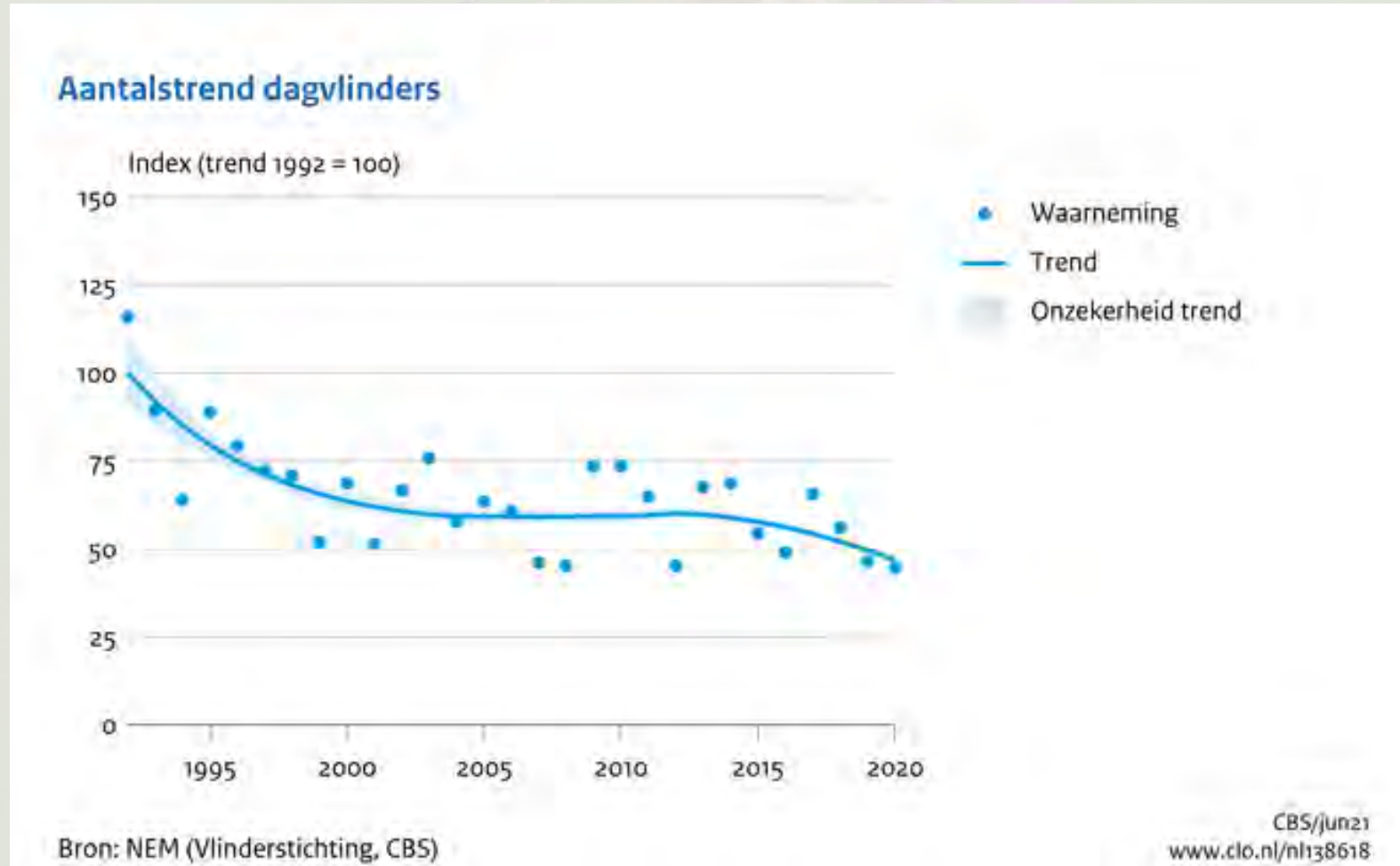
RESEARCH ARTICLE

More than 75 percent decline over 27 years in total flying insect biomass in protected areas

Caspar A. Hallmann¹*, Martin Sorg², Eelke Jongejans¹, Henk Siepel¹, Nick Hofland¹, Heinz Schwan², Werner Stenmans², Andreas Müller², Hubert Sumser², Thomas Hörren², Dave Goulson³, Hans de Kroon¹

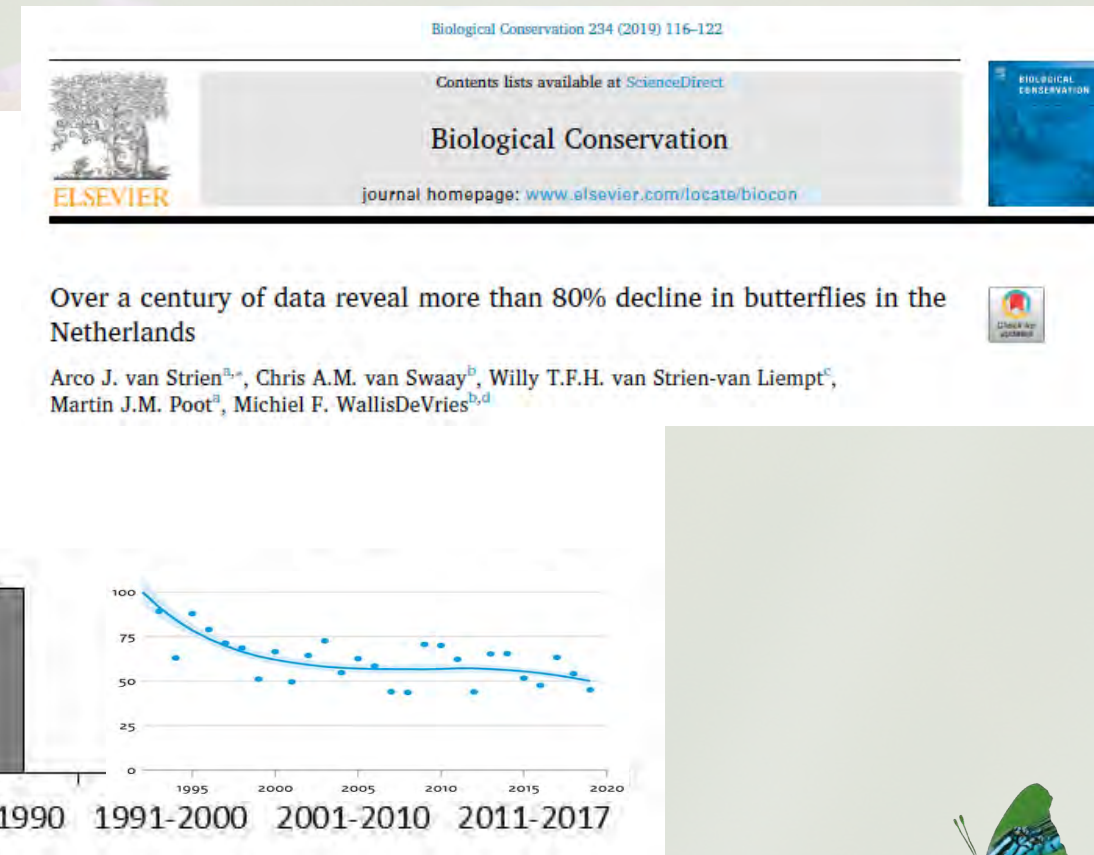
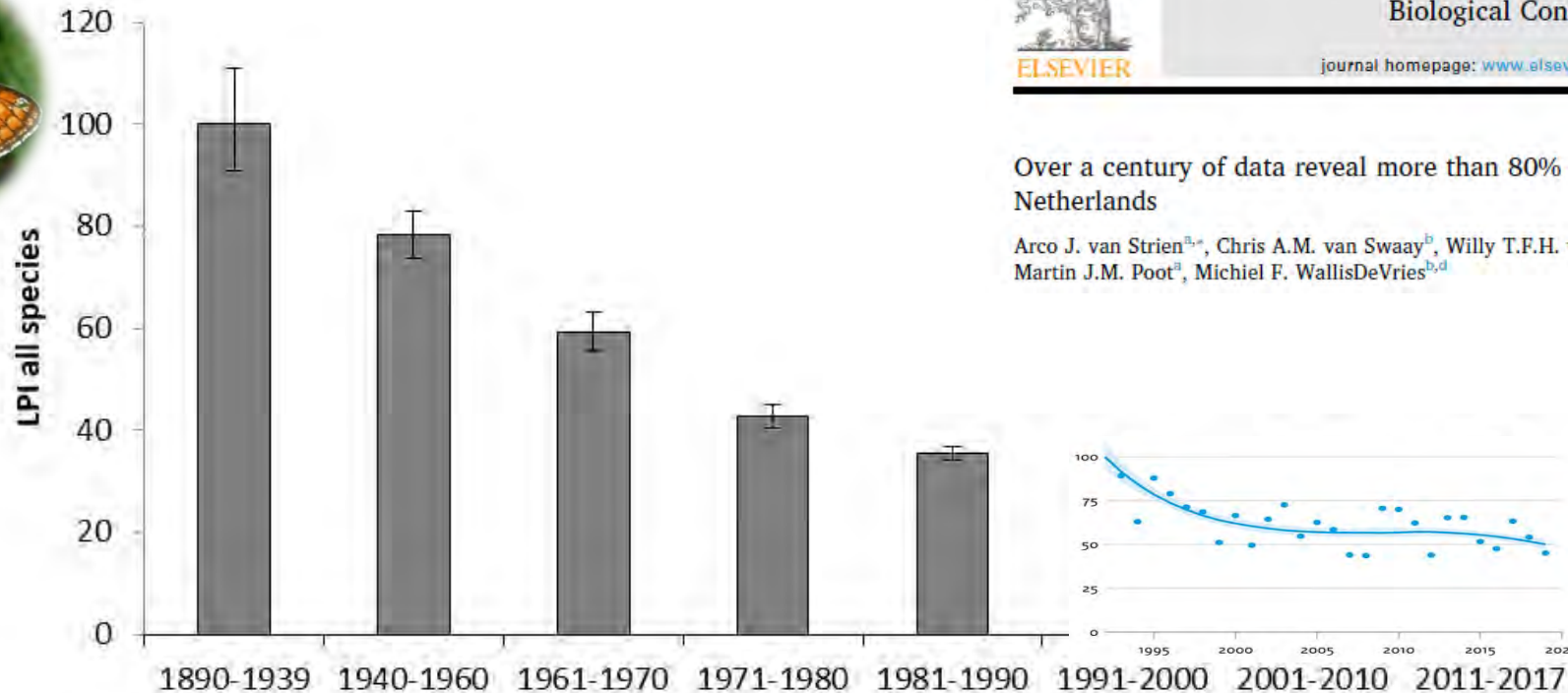


Achteruitgang van Insecten !!!



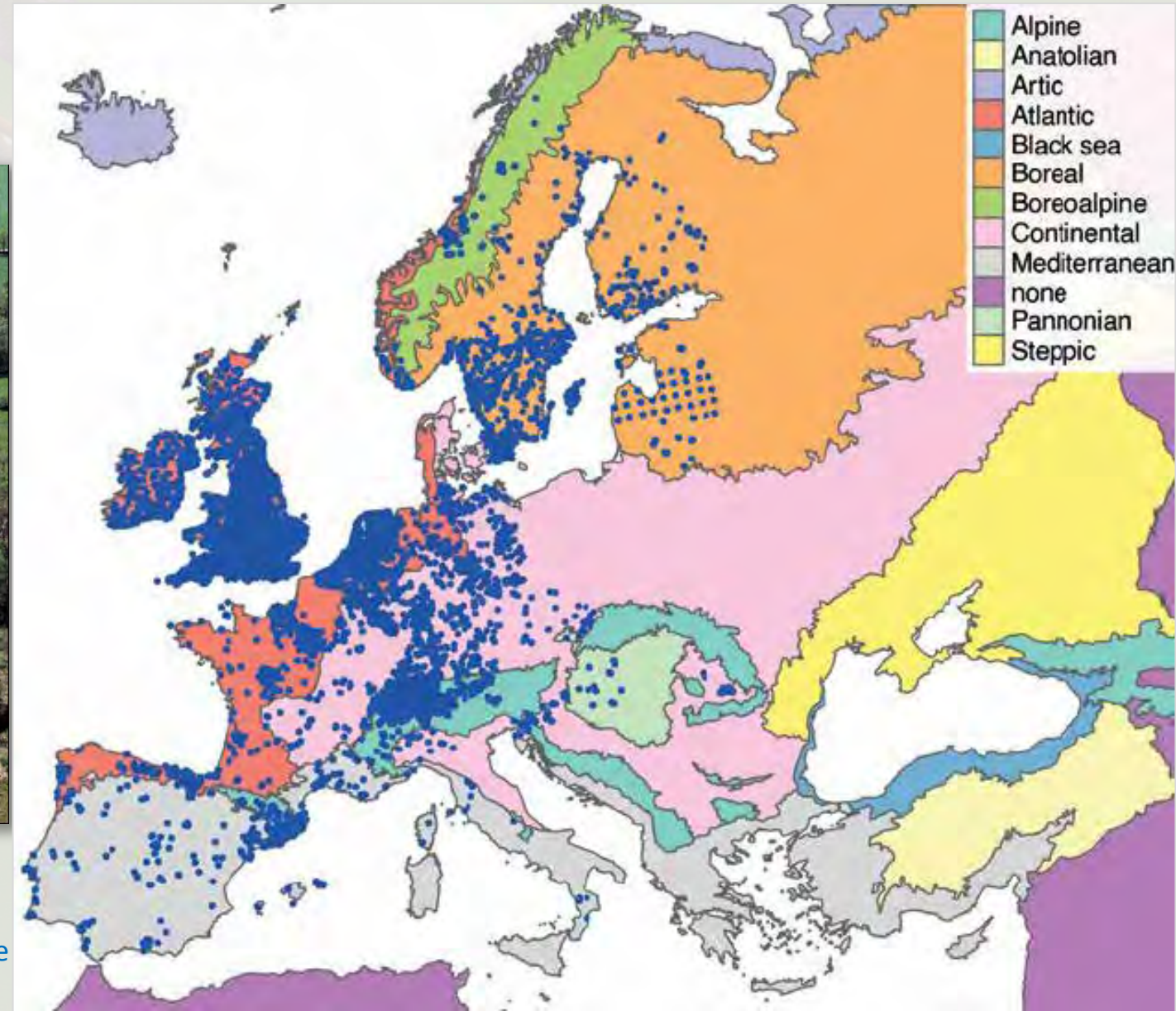
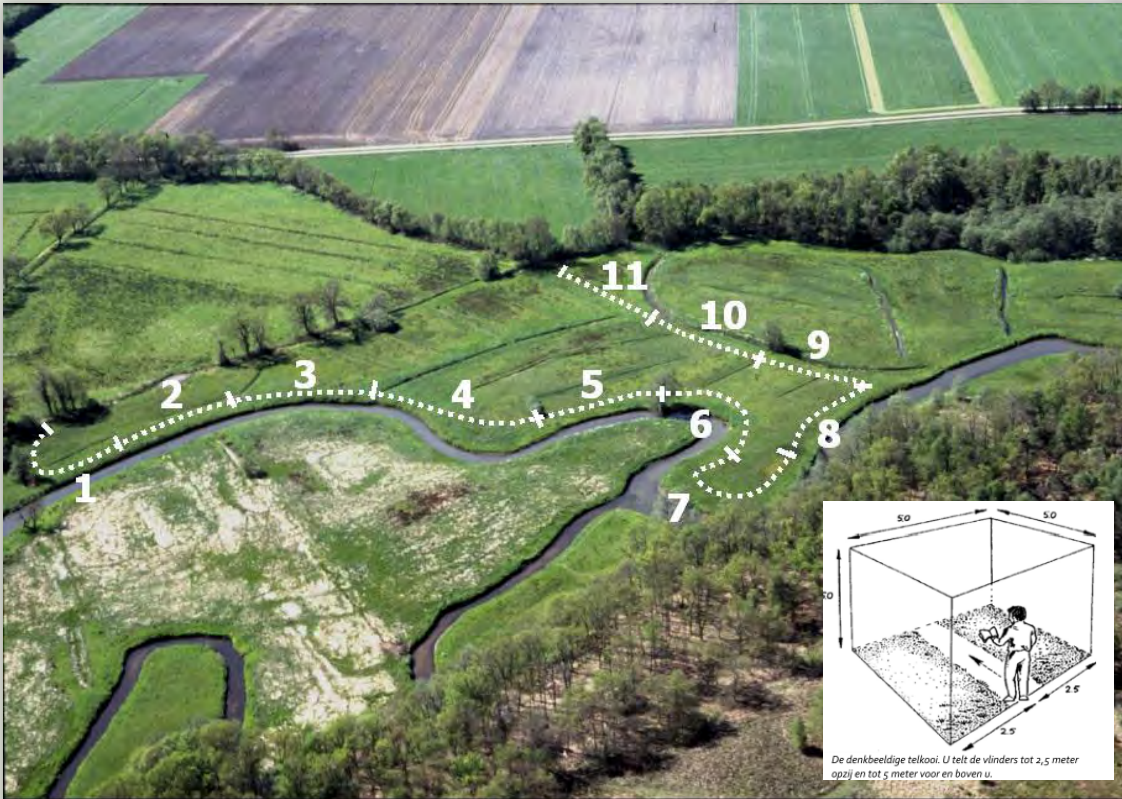
Achteruitgang van Insecten !!!

- Als 67% afname in verspreiding vóór 1990
 - dus nu 80-90% minder vlinders...



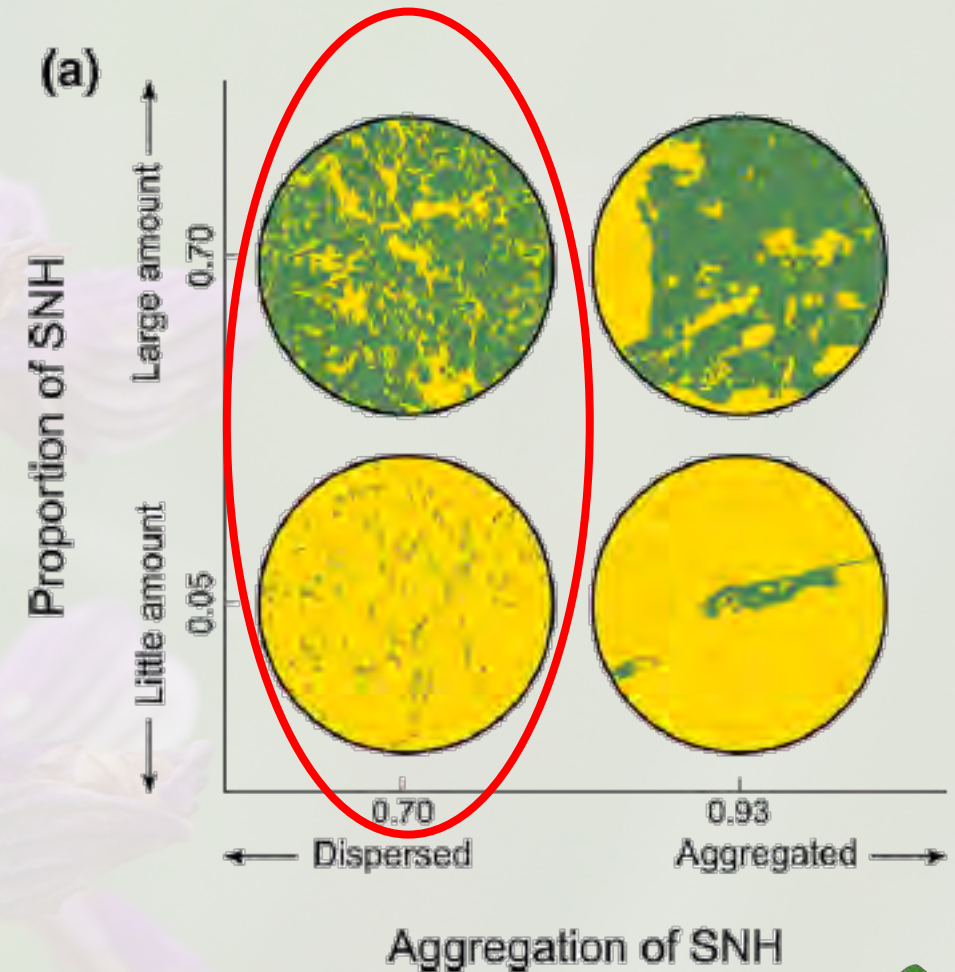
Vlinders tellen Internationaal!

- 5.000 transecten in Europa



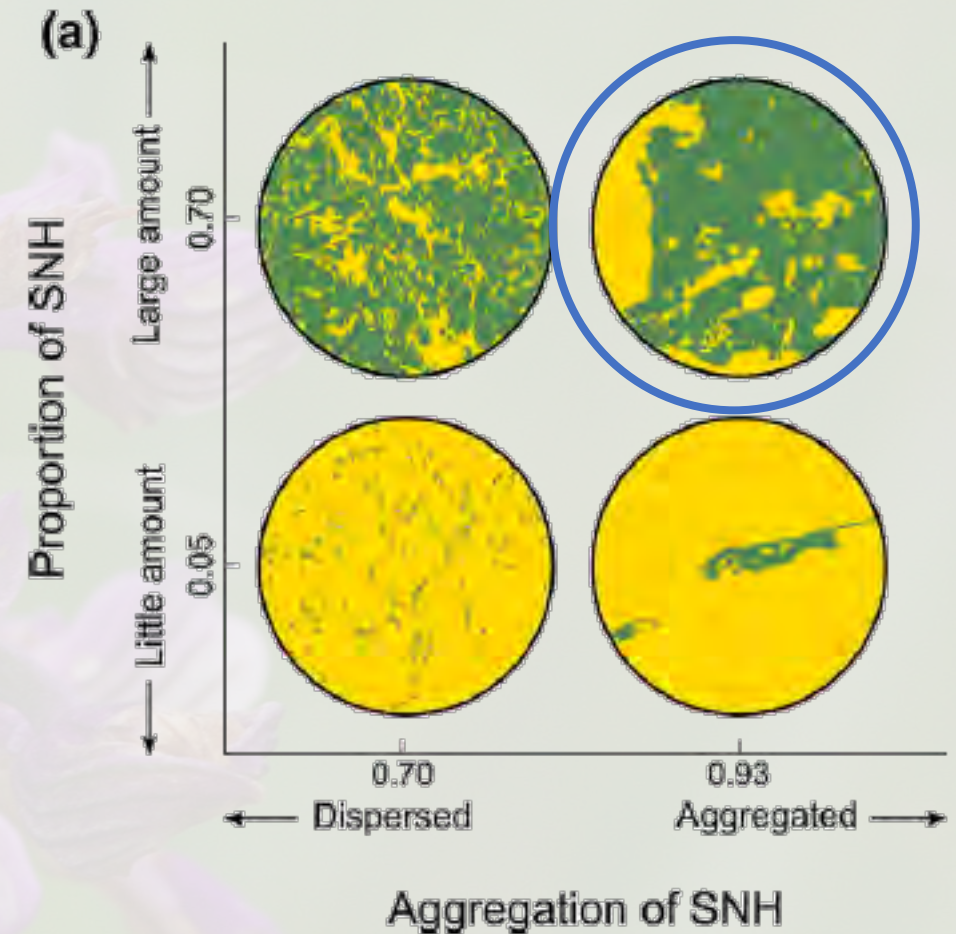
Mee bewegen met Klimaatverandering?

- Kolonisatie van 'warme' soorten
Beter bij verspreid leefgebied
- *Verbinding in het Landschap versterken*



Mee bewegen met Klimaatverandering?

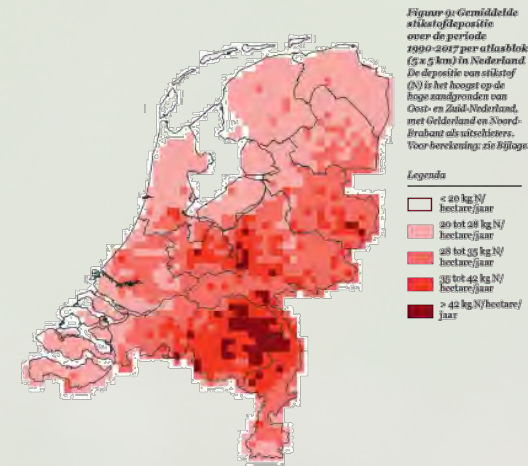
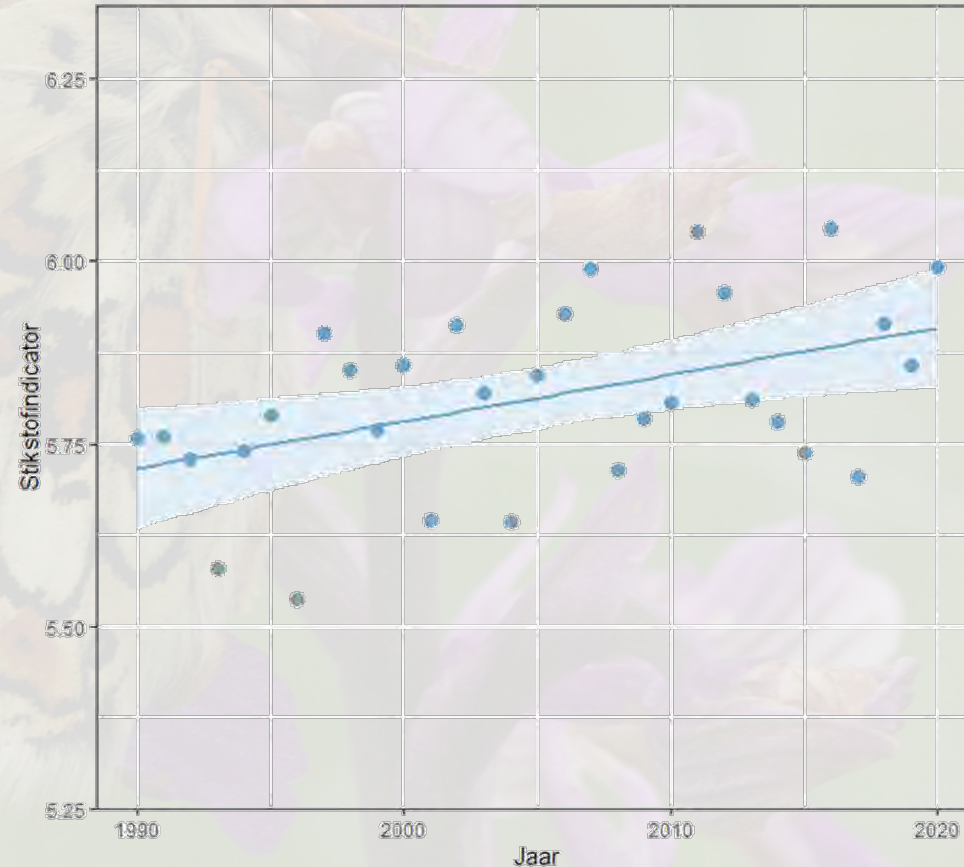
- Behoud van 'koele' soorten in grote clusters
- *Systeemherstel*



Stikstofprobleem moet worden opgelost

Stikstof-indicator Vlinders stijgt:

- Aandeel Stikstof-minnende soorten neemt toe
- Aandeel Stikstof-mijdende soorten daalt



Received: 20 May 2017 | Revised: 25 August 2017 | Accepted: 6 November 2017

DOI: 10.1111/gcb.14008

PRIMARY RESEARCH ARTICLE

WILEY **Global Change Biology**

Declines in moth populations stress the need for conserving dark nights

Frank van Langevelde¹  | Marijke Braamburg-Annegarn^{1,2} | Martinus E. Huigens² | Rob Groendijk² | Olivier Poitevin² | Jurriën R. van Deijk² | Willem N. Ellis³ | Roy H. A. van Grunsven^{2,4,5} | Rob de Vos⁶ | Rutger A. Vos⁶ | Markus Franzén^{7,8} | Michiel F. WallisDeVries^{2,5}



Pesticiden als Sluipmoordenaars

Conservation biology

Increasing neonicotinoid use and the declining butterfly fauna of lowland California

BIOLOGY
LETTERS

Matthew L. Forister¹, Bruce Cousens², Joshua G. Harrison¹, Kayce Anderson³, James H. Thorne⁴, Dave Waetjen⁴, Chris C. Nice⁵, Matthew De Parsia⁶, Michelle L. Hladik⁶, Robert Meese⁴, Heidi van Vliet⁷ and Arthur M. Shapiro⁸

OPEN ACCESS Freely available online

Macro-Invertebrate Decline in Surface Water Polluted with Imidacloprid

Tessa C. Van Dijk, Marja A. Van Staalduinen, Jeroen P. Van der Sluijs*

Environmental Sciences, Utrecht University, Utrecht, The Netherlands



Glyphosate perturbs the gut microbiota of honey bees

Erick V. S. Motta^{a,1}, Kasie Raymann^{a,2}, and Nancy A. Moran^{a,1}

Environ Sci Pollut Res
DOI 10.1007/s11356-014-3471-x

WORLDWIDE INTEGRATED ASSESSMENT OF THE IMPACT OF SYSTEMIC PESTICIDES ON BIODIVERSITY AND ECOSYSTEMS

Effects of neonicotinoids and fipronil on non-target invertebrates

L. W. Pisa • V. Amaral-Rogers • L. P. Belzunces • J. M. Bonmatin • C. A. Downs • D. Goulson • D. P. Kreutzweiser • C. Krupke • M. Liess • M. McField • C. A. Morrissey • D. A. Noome • J. Settele • N. Simon-Delso • J. D. Stark • J. P. Van der Sluijs • H. Van Dyck • M. Wiemers

Reprotoxic effects of the systemic insecticide fipronil on the butterfly *Pieris brassicae*

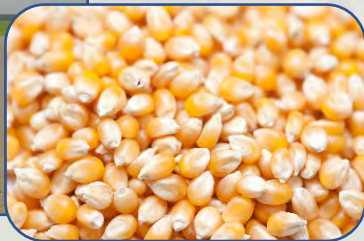
royalsocietypublishing.org/journal/rspb Proc. R. Soc. B 287: 20192665

Rieta Gols¹, Michiel F. WallisDeVries^{2,3} and Joop J. A. van Loon¹

Landelijke Vlinderdag – 5 maart 2022

Het geval van Fipronil...

- Biocide
- Gewasbescherming



Het geval van Fipronil...

- 2010: problemen in vlinderkweek



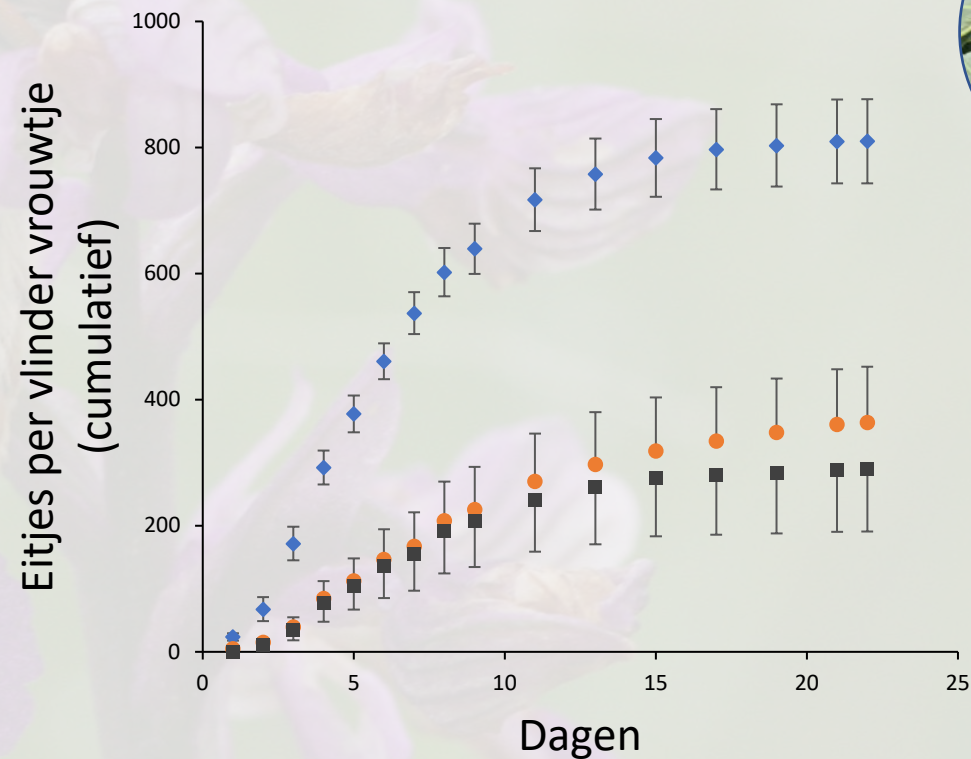
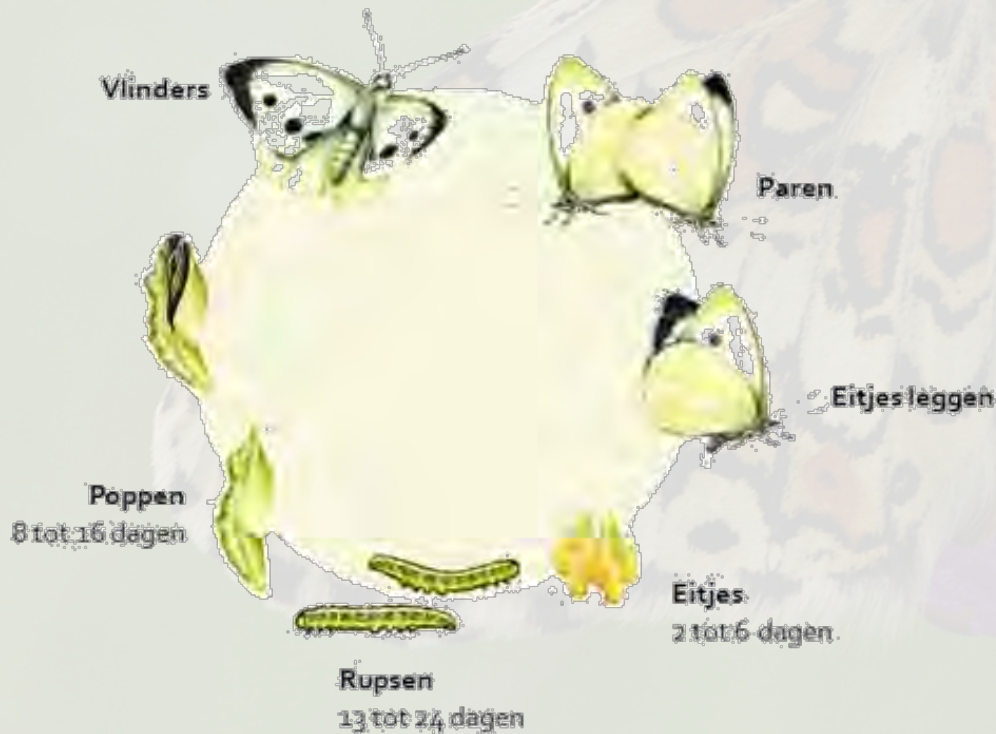
Uitgestelde Effecten van Fipronil

◆ Controle

● Fipronil

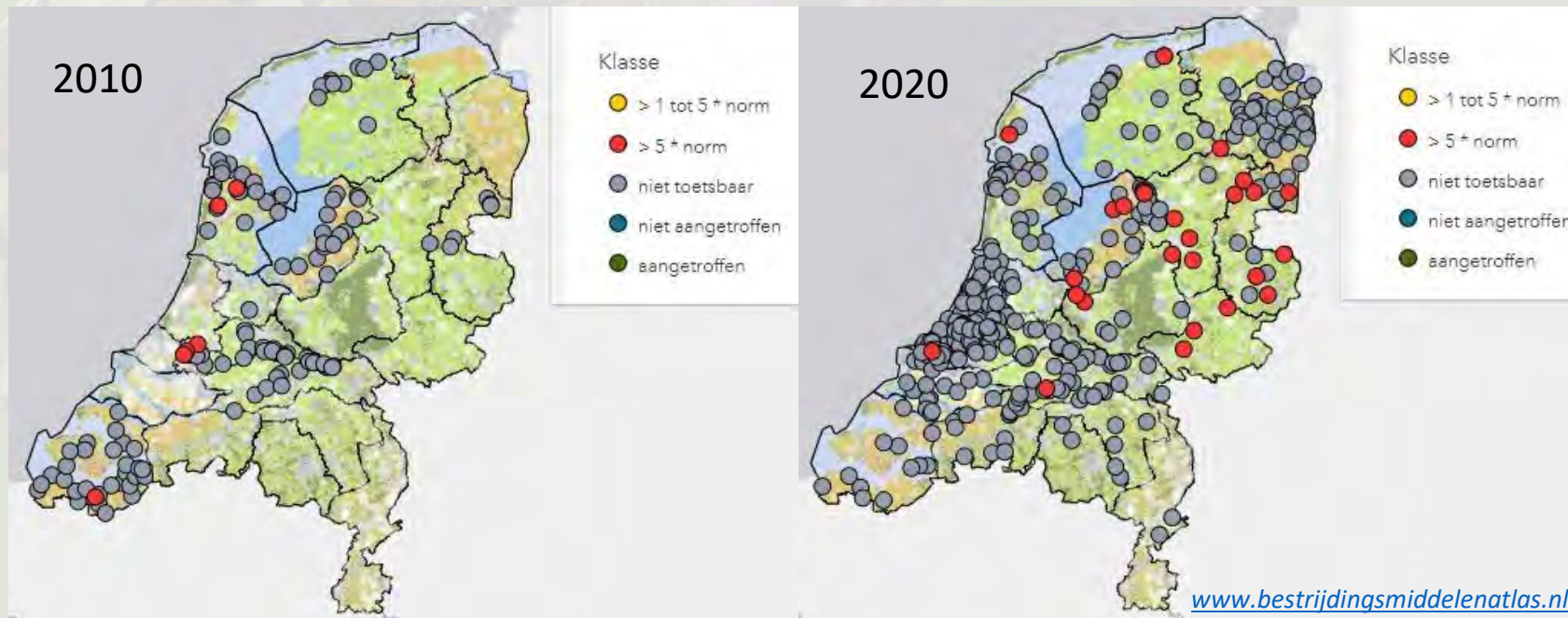
■ Fipronil (levensvatbaar)

- Pas bij de voortplanting: nauwelijks eileg

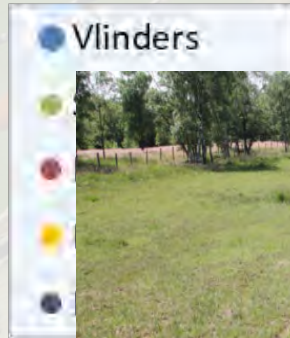
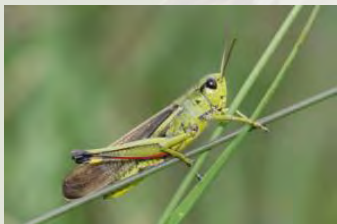


Uitgestelde Effecten van Fipronil

- Effect ook bij hele lage concentraties!
 - 'LD50' fipronil bij honingbijen 6000 x lager dan van DDT
- Ondanks verbod in de landbouw eerder meer dan minder aangetroffen
Of niet toetsbaar...



Beheren op Lokale Schaal



Sterk begraasd



Nat



Droog

Onbegraasd

Agriculture, Ecosystems and Environment 234 (2016) 72–80



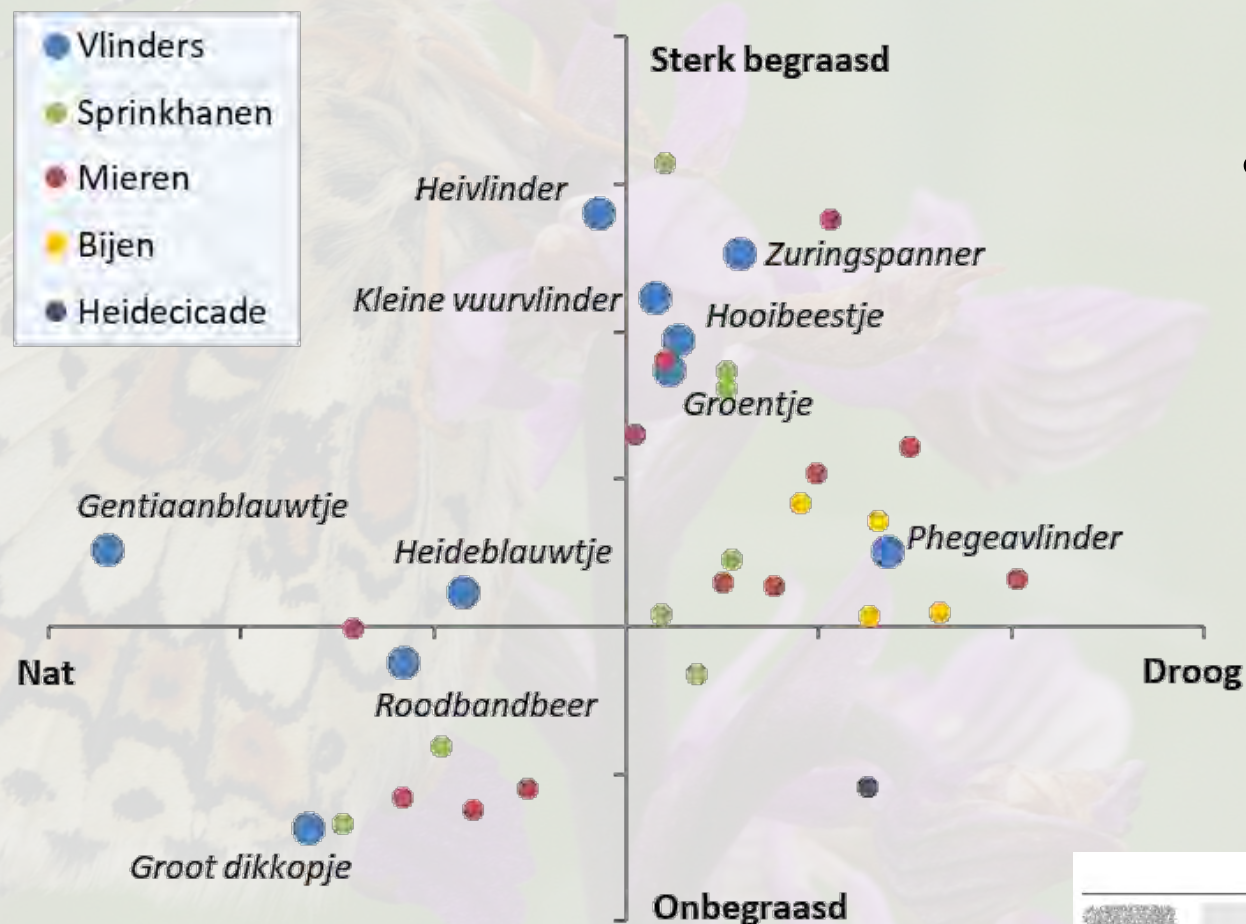
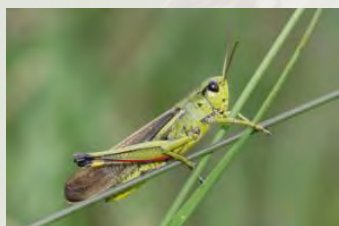
Contents lists available at ScienceDirect

Agriculture, Ecosystems and Environment

journal homepage: www.elsevier.com/locate/agee



Beheren op Lokale Schaal



- Variatie is nodig!
 - Gradiënten
 - Microhabitats

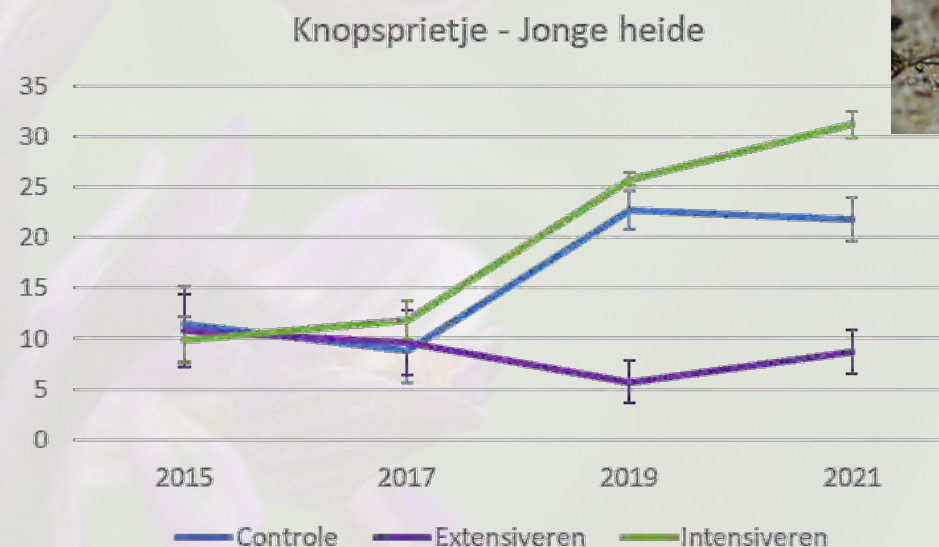
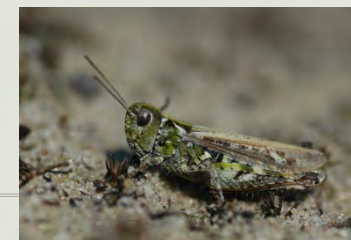
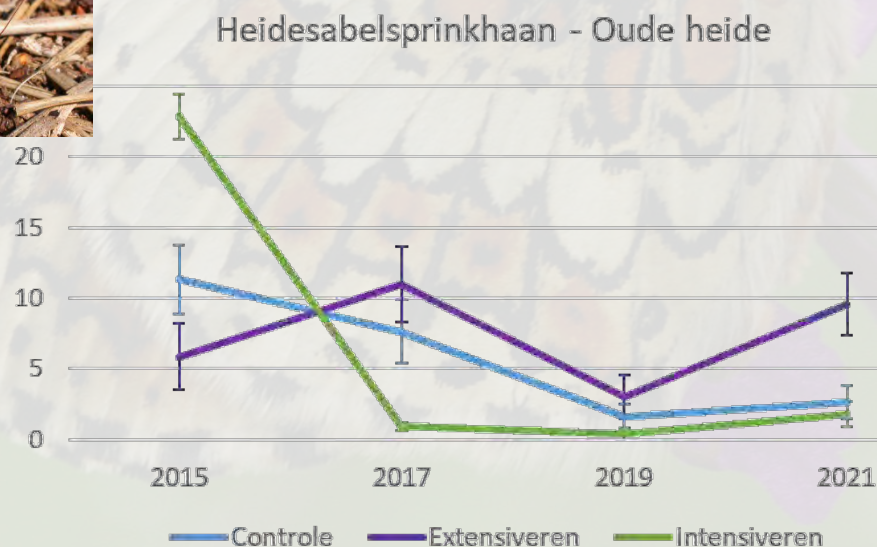
Sturing met Begrazing werkt...

- Extensiveren op zwaar begraasde heide
- Intensiveren op vergraste heide



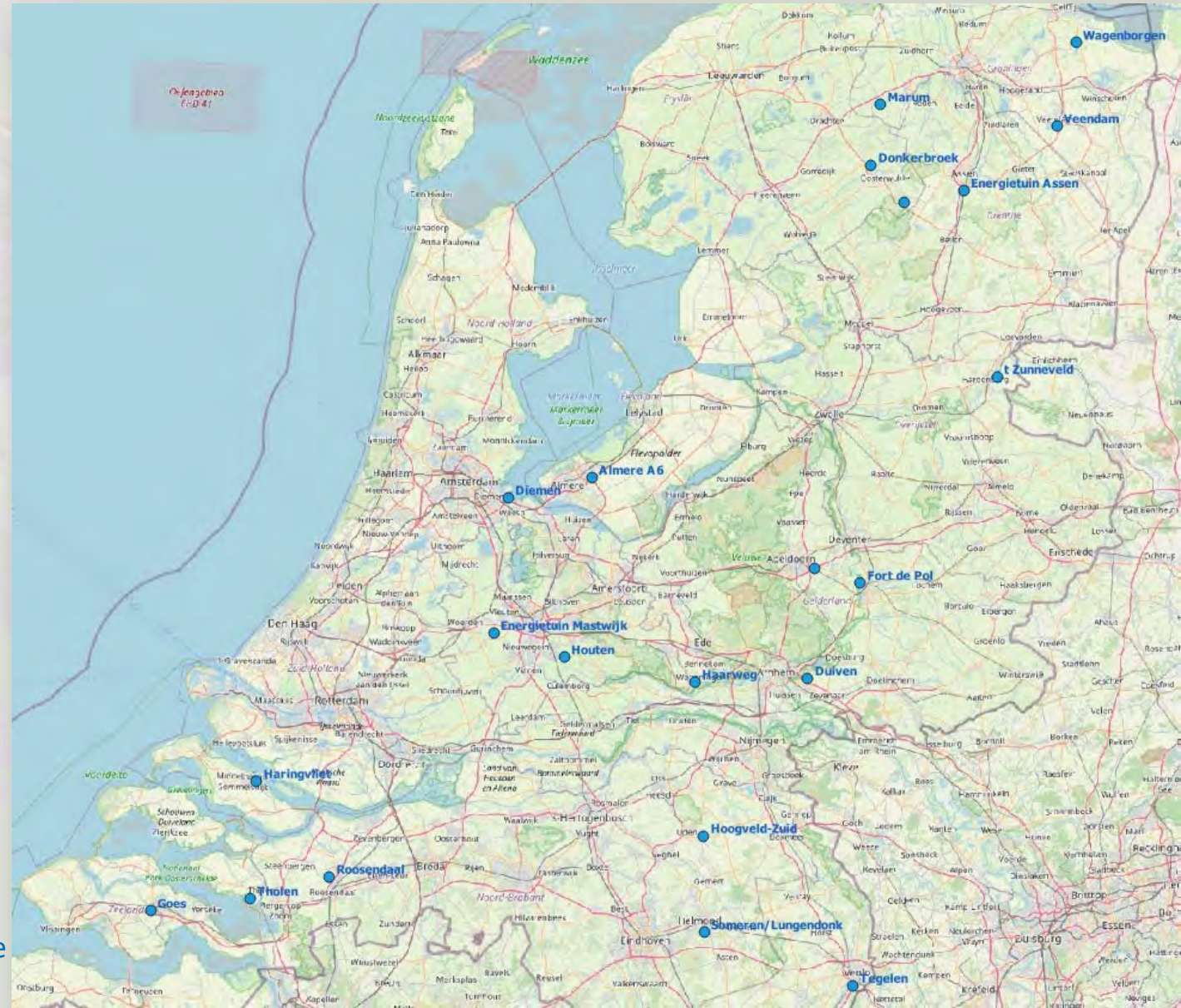
Sturing met Begrazing werkt...

- **Intensiveren** op vergraste heide: pioniersoorten profiteren
- **Extensiveren** op zwaar begraasde heide: soorten oude heide profiteren

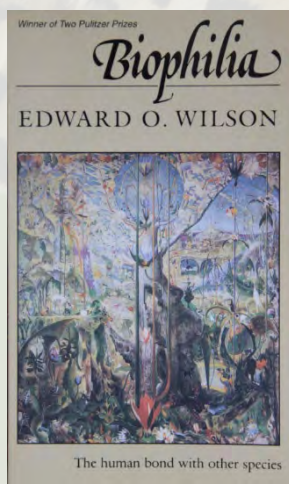
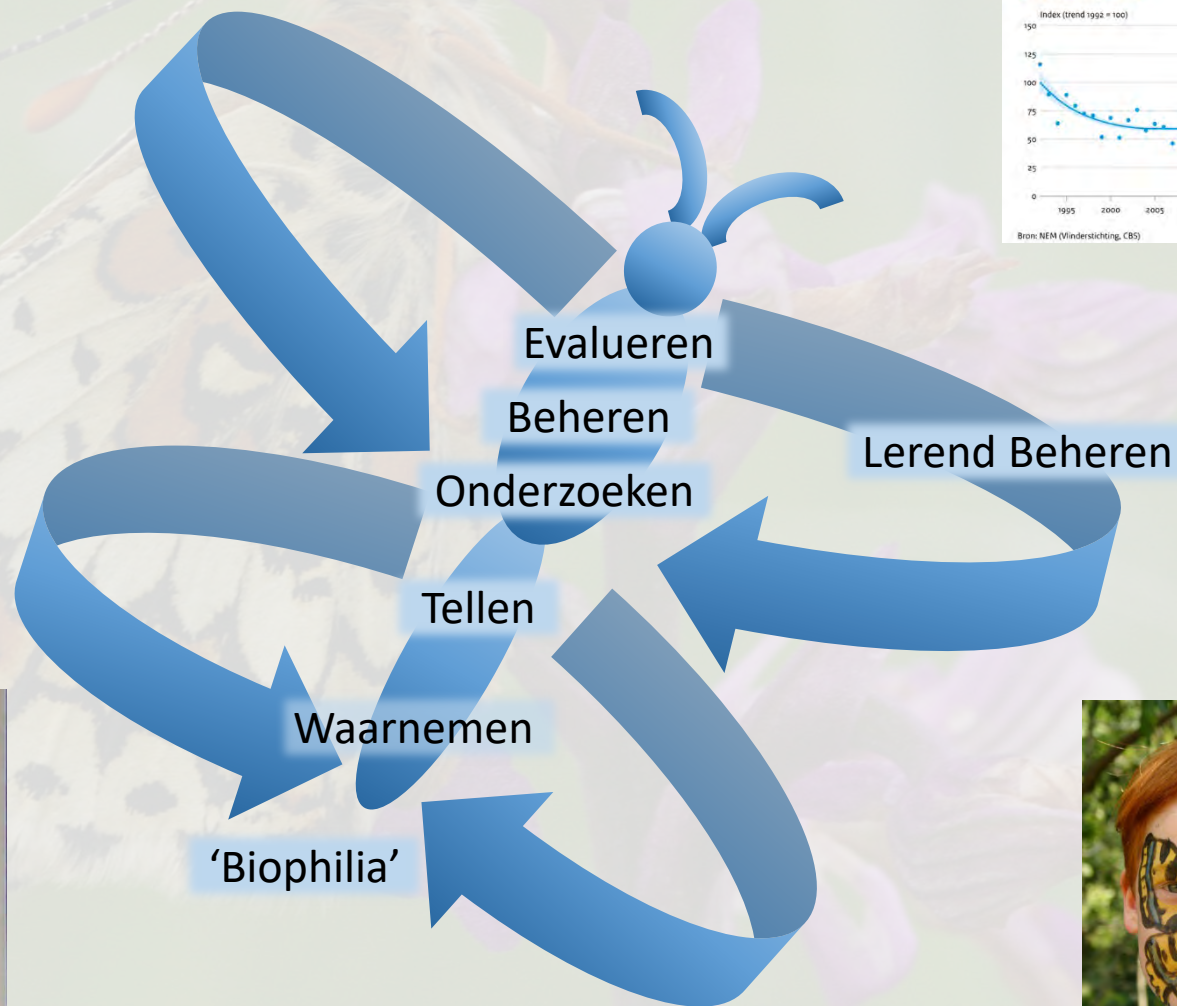
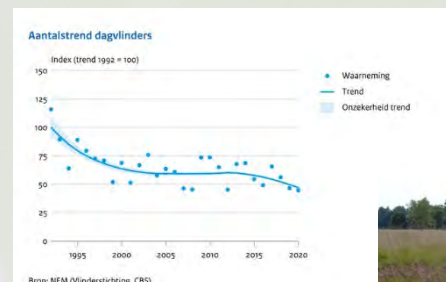
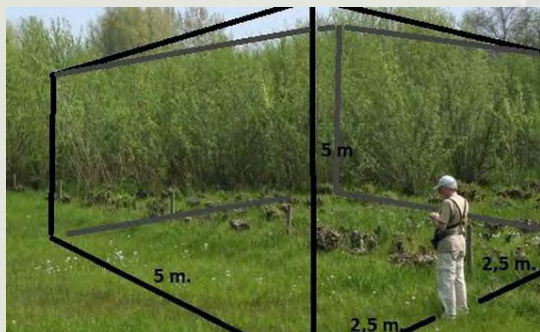


Monitoring op Zonneparken: *vrijwilligers gezocht!*

- Energie vs. Natuur...
- *Hebben vlinders wat aan zonneparken?*
 - Dagvlinders – routes
 - Nachtvlinders – LEDemmers



Leven met de Vlindermaat...





Dank voor uw aandacht!