Birds decline in French agricultural areas

Benoît Fontaine

UMR 7204 - National Museum of Natural History

Paris, France

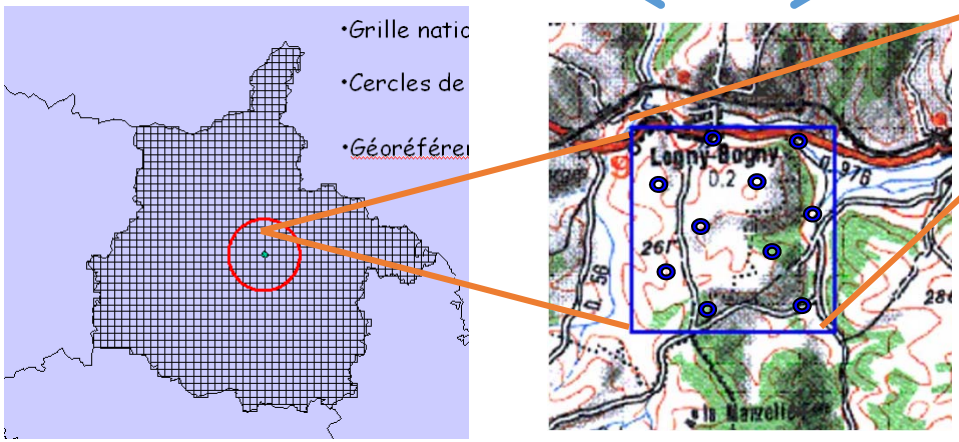
Common bird monitoring scheme: STOC-Points d'écoute

STOC
SUIVI TEMPOREL DES OISEAUX COMMUNS

Local coordination by NGO

LPO · Groupe Ornithologique Normand · CORA · G.O.N · Corif

Sampling design



2000 sites (900/year)

Blackcap *Sylvia atricapilla*

Generalist

House sparrow *Passer domesticus*

Urban specialist

Meadow pipit *Anthus pratensis*

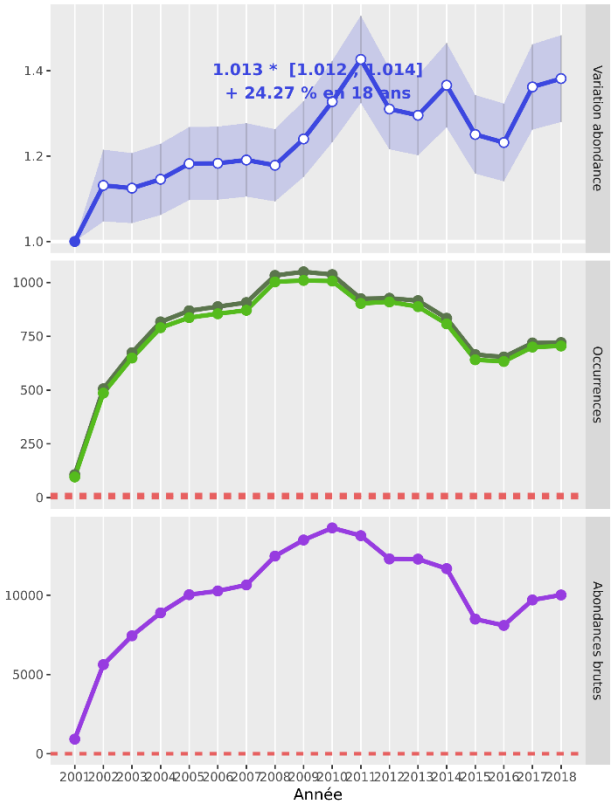
Farmland specialist

Blackcap *Sylvia atricapilla*

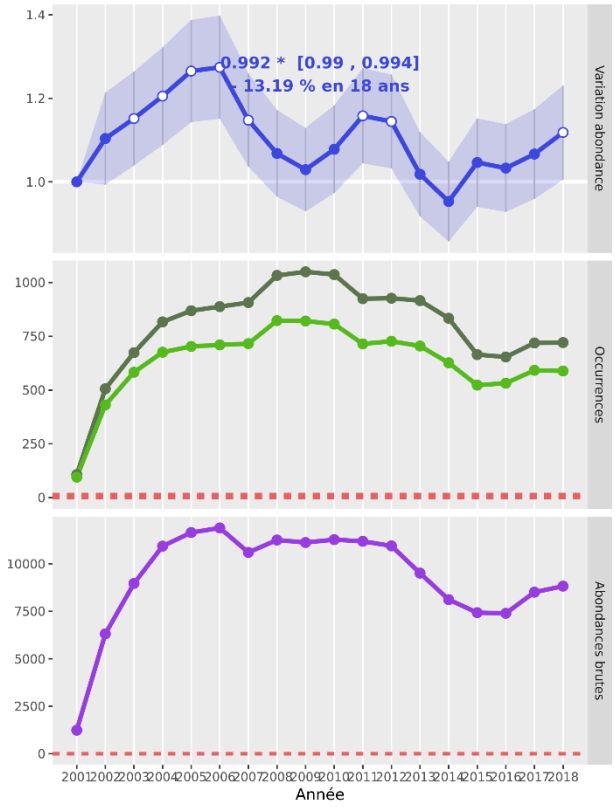
House sparrow *Passer domesticus*

Meadow pipit *Anthus pratensis*

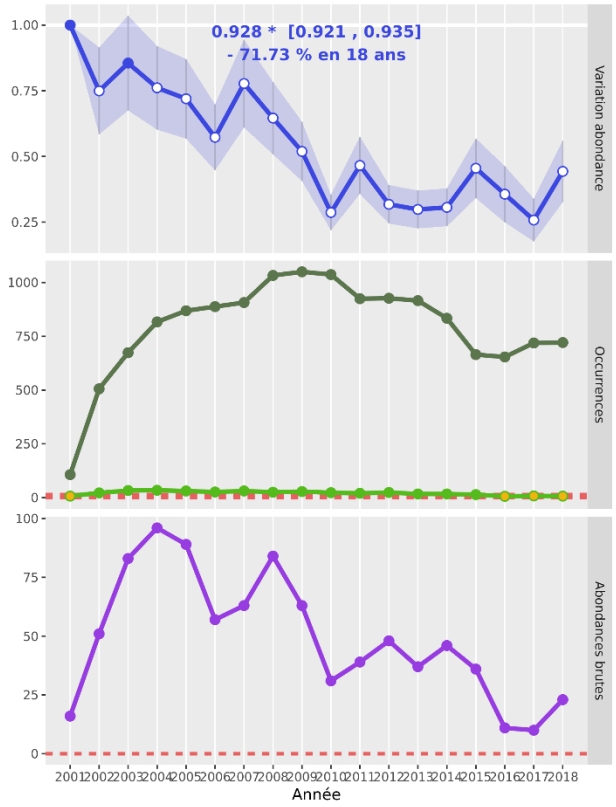
Generalist



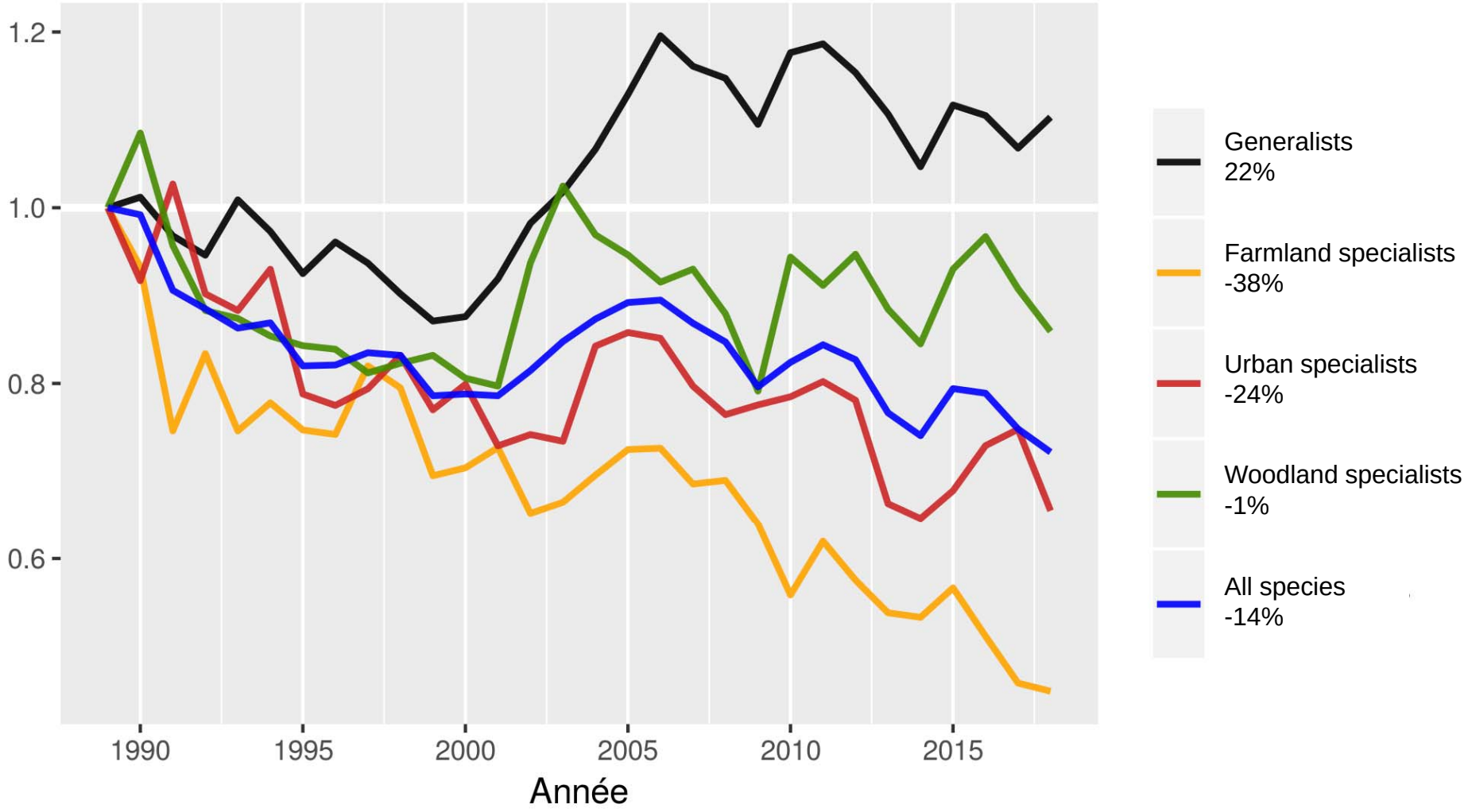
Urban specialist



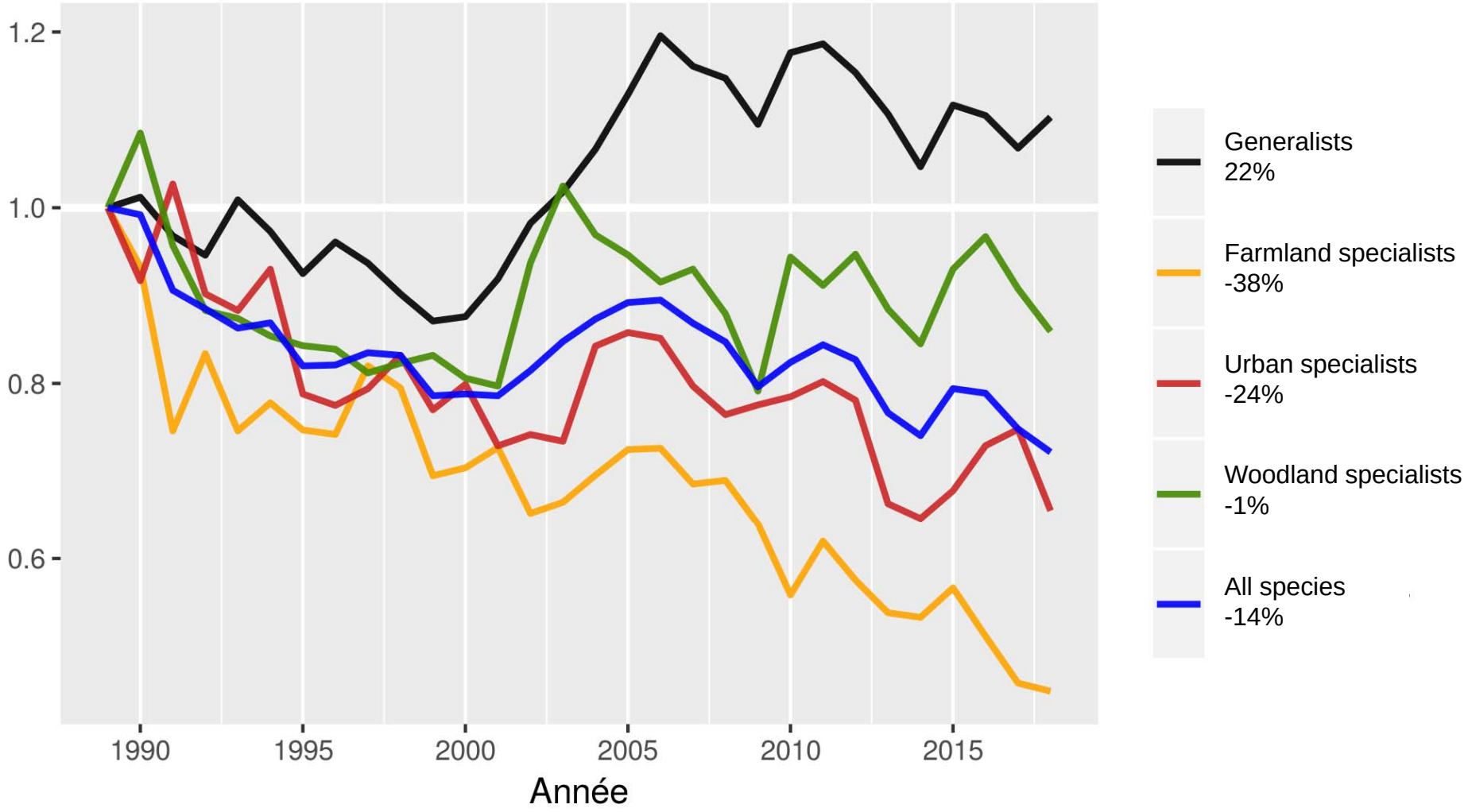
Farmland specialist



Specialist group long-term trends



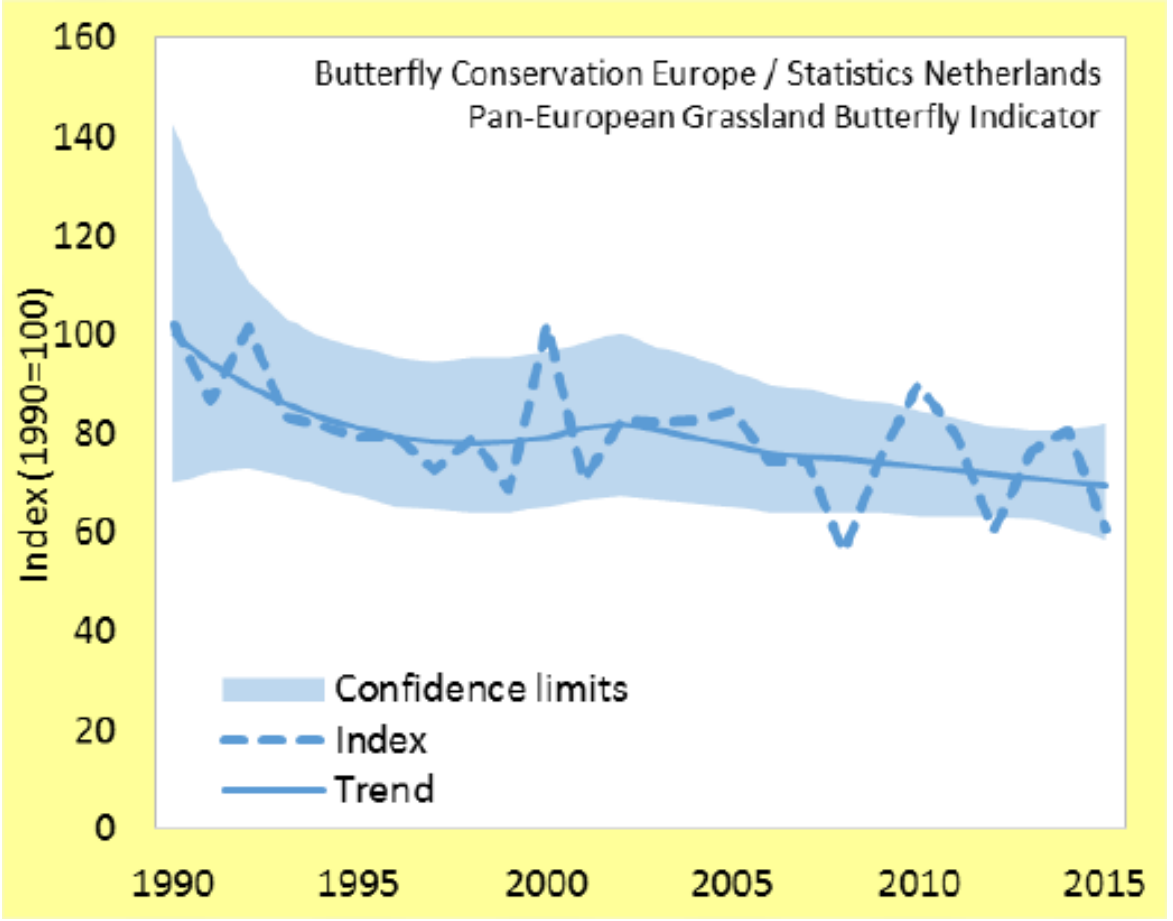
Specialist group long-term trends



Same result in a 100,00 ha study area in Chizé monitored with a different protocol.

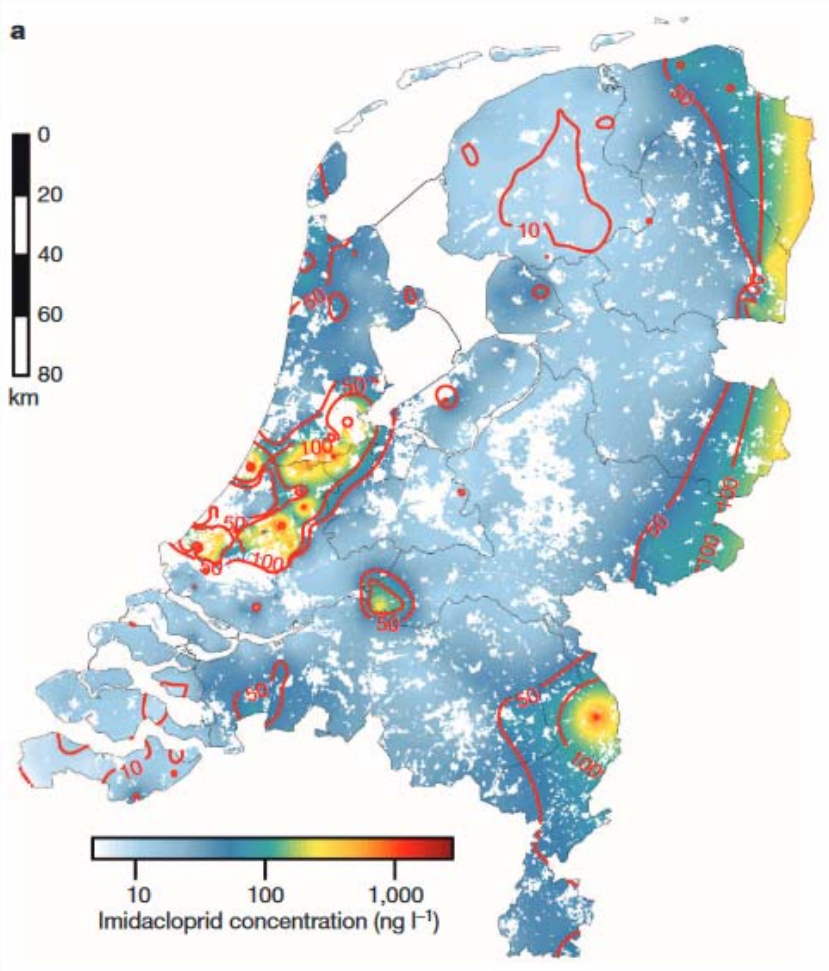
European Grassland Butterfly Indicator

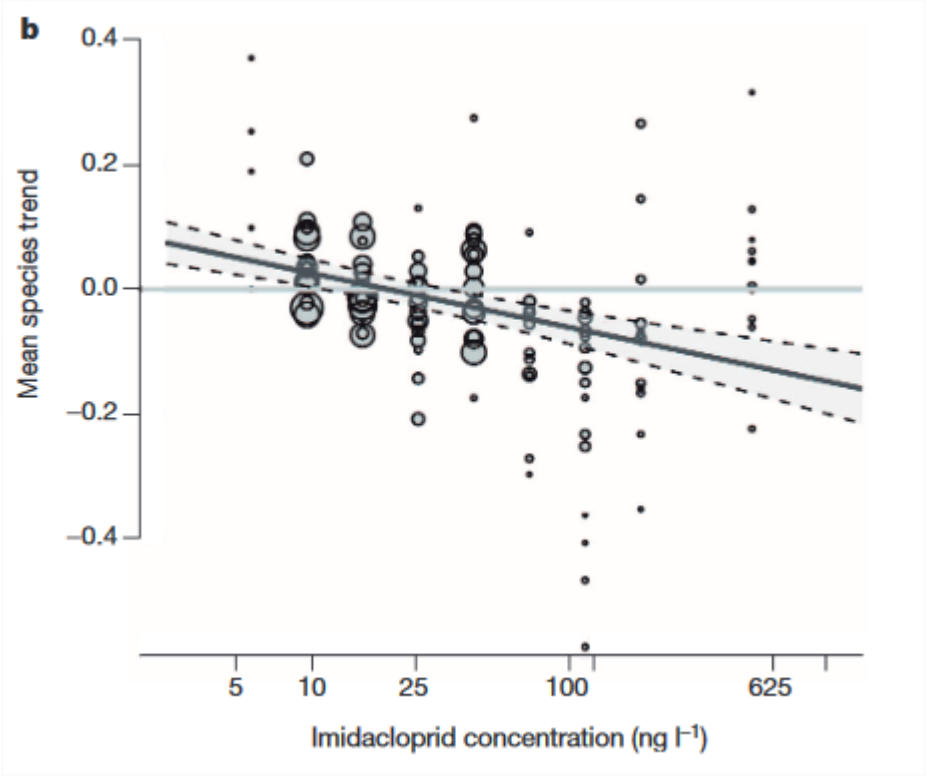
Monitoring schemes in 22 European countries:
30% decrease of grassland butterfly abundance in Europe since 1990



Van Swaay et al. 2016. De Vlinderstichting, Wageningen

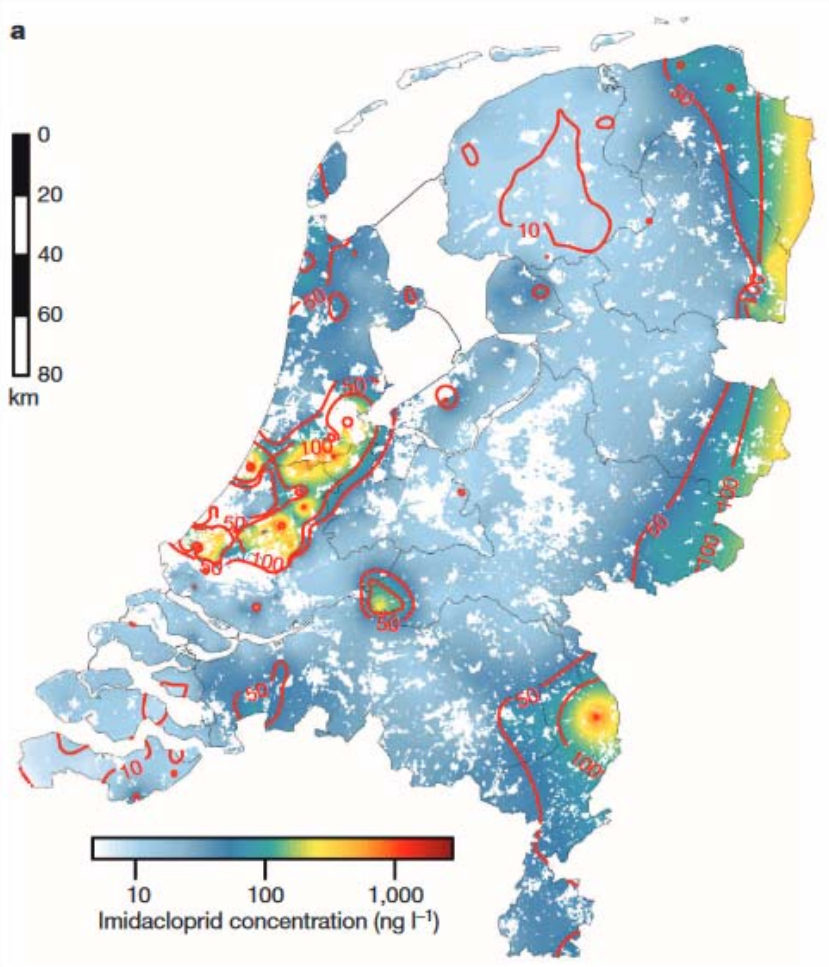
Impact of pesticides on birds

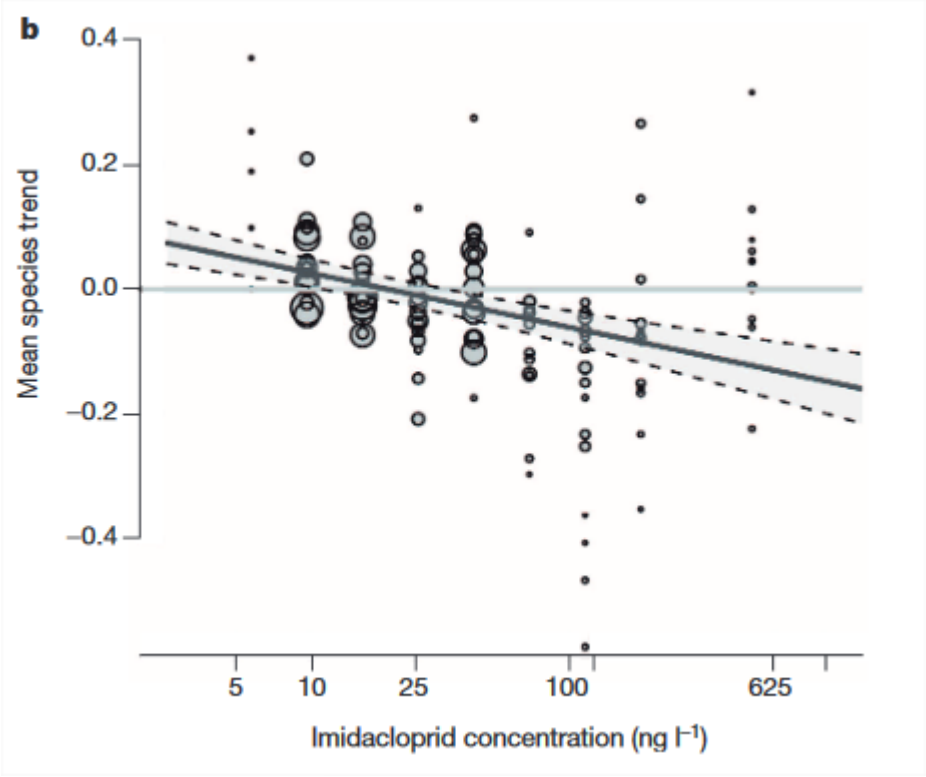




Hallmann et al., 2014. Nature

Impact of pesticides on birds

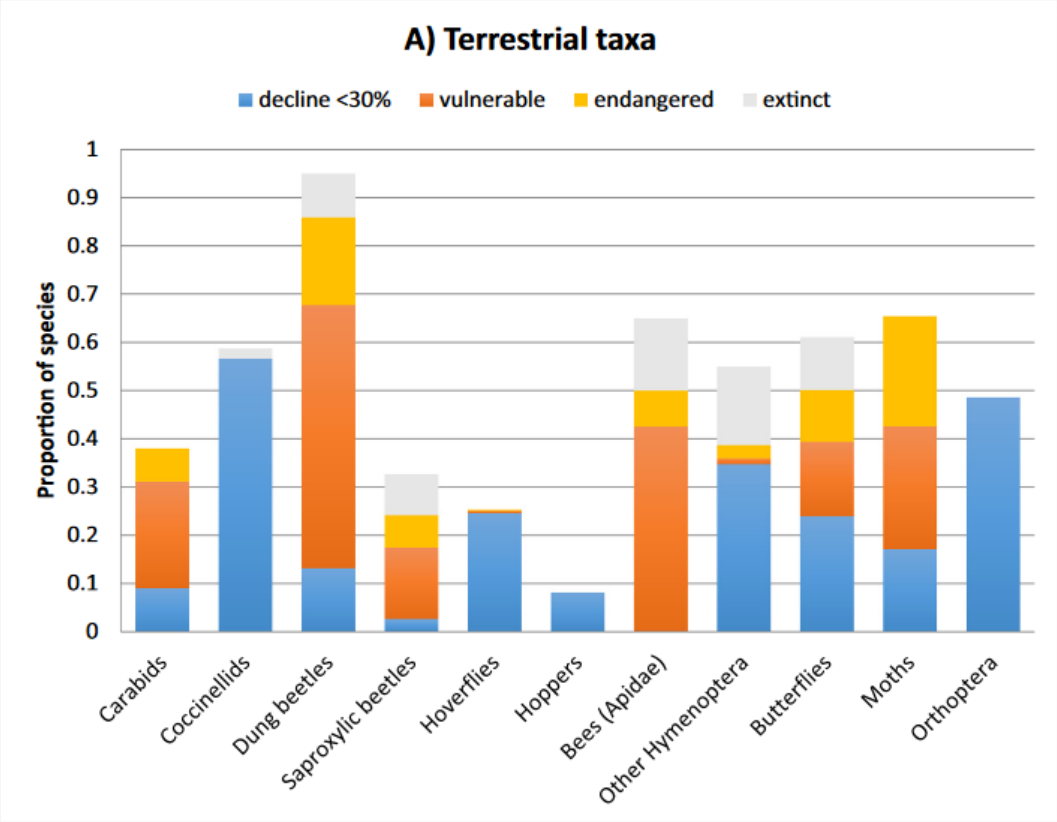


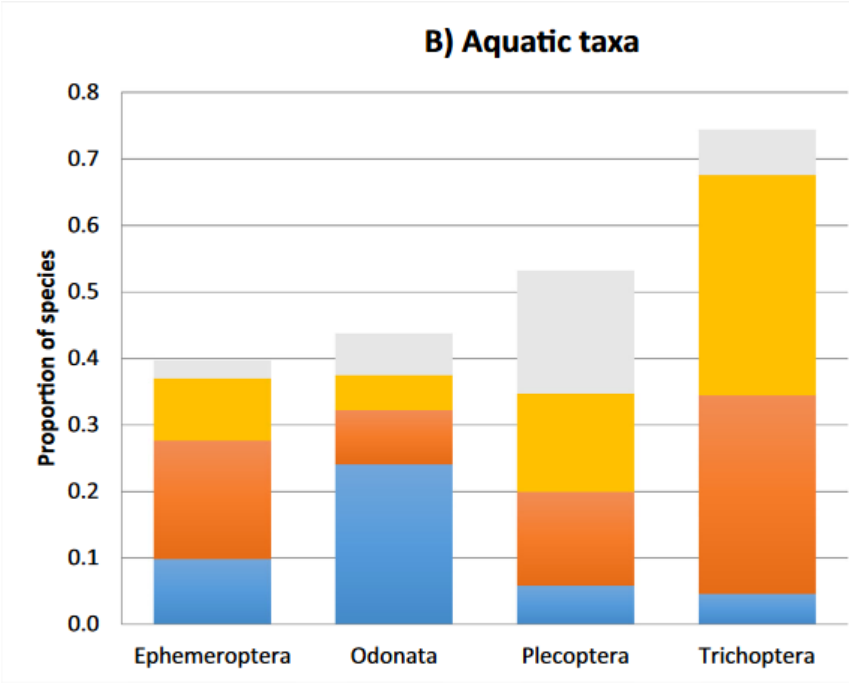


Among 200 conventional wheat farms in Ile-de-France, relative pesticide use ranged from 1 to 3, with a strong negative correlation with farmland bird abundance (Chiron et al. 2014, Jeliaskov et al. 2016)

Drastic insect decline worldwide

« Our work reveals dramatic rates of decline that may lead to the extinction of 40% of the world's insect species over the next few decades”





Sánchez-Bayoa & Wyckhuys, 2019. Biological Conservation

Drastic insect decline worldwide

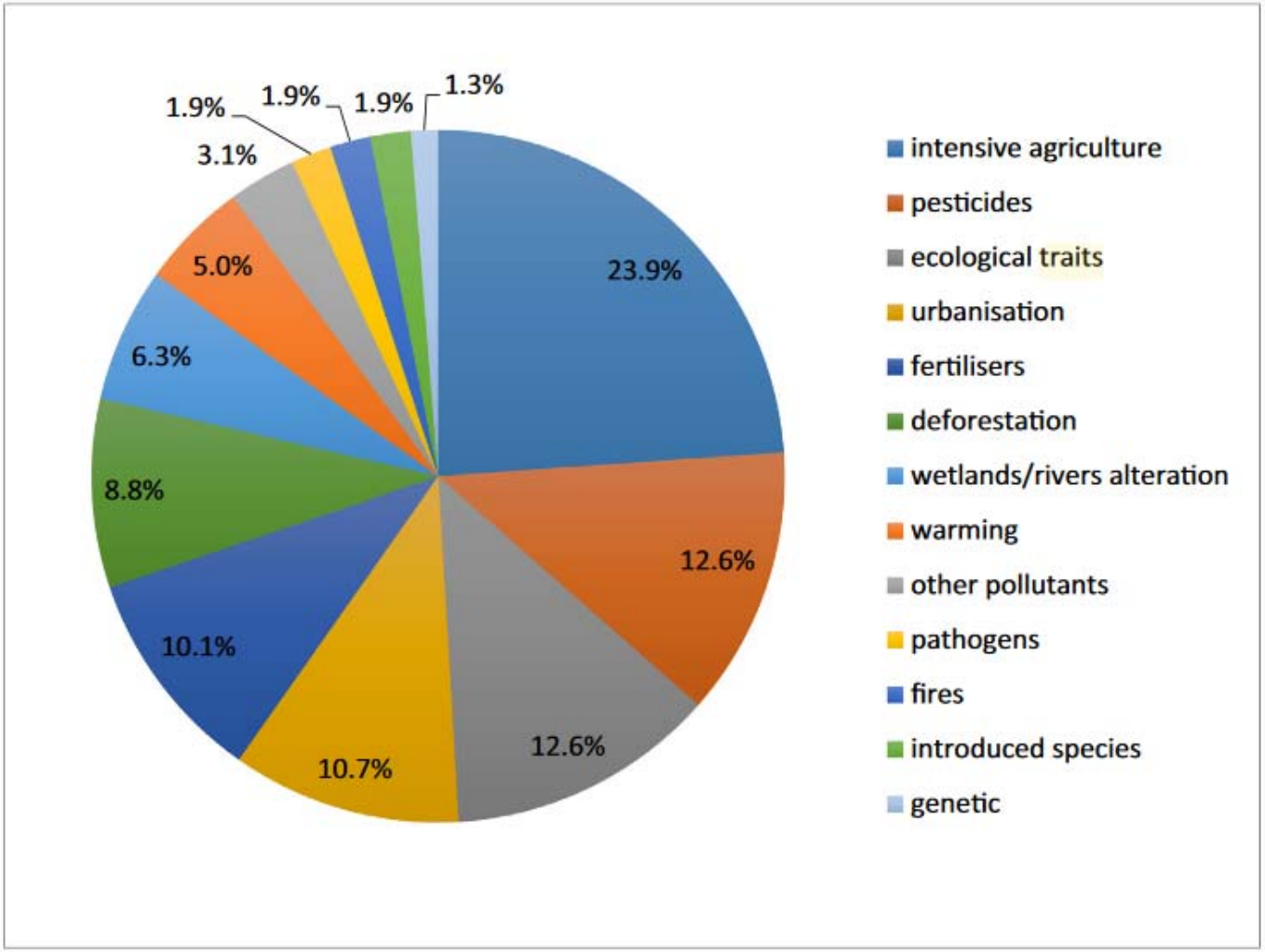


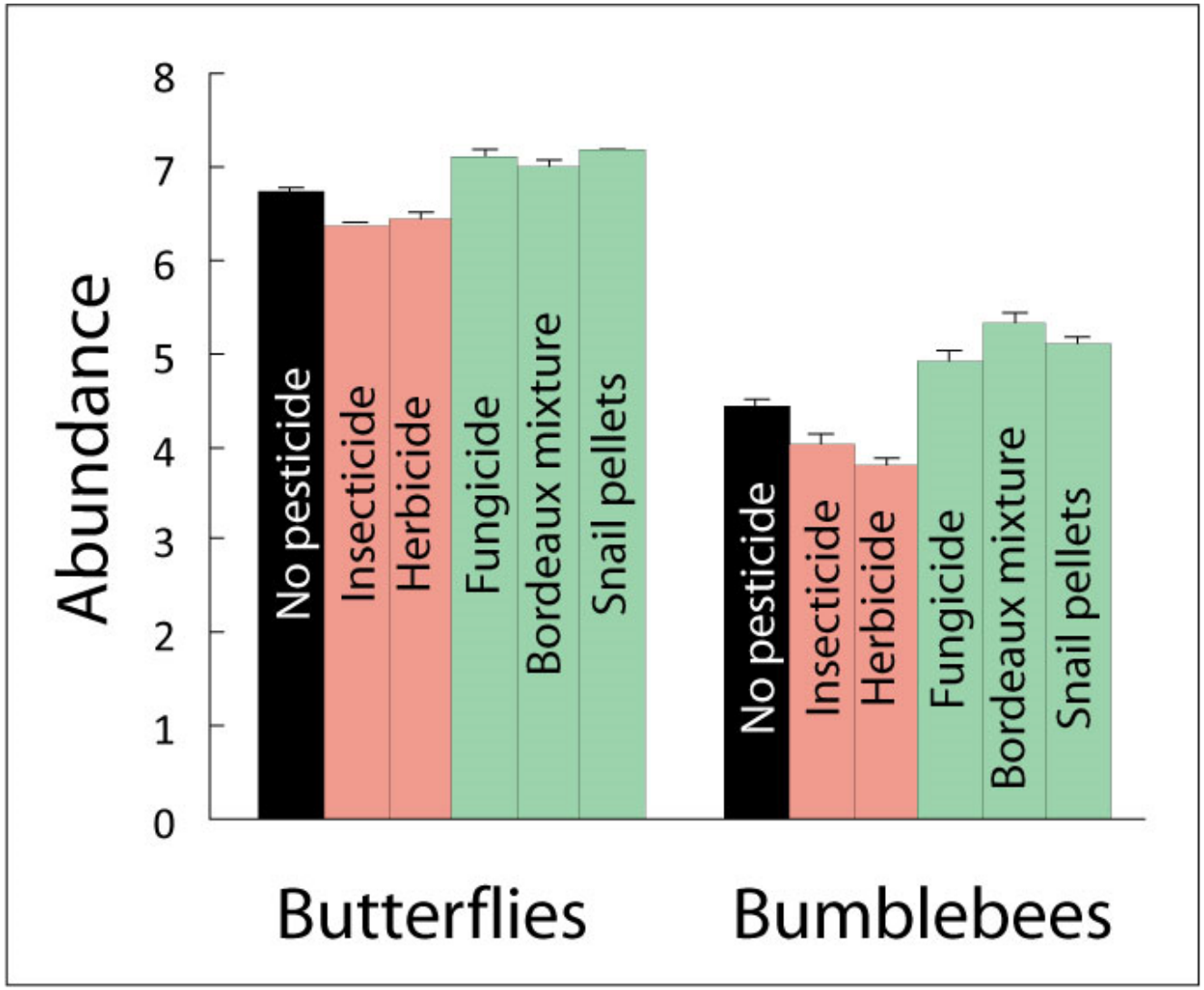
Fig. 6. Main factors associated with insect declines

Sánchez-Bayoa & Wyckhuys, 2019. Biological Conservation

Impact of domestic use of pesticides

Garden Butterfly Count

Opération Papillons



Muratet & Fontaine, 2014. Biological Conservation

Goals for conserving and sustainably using nature and achieving sustainability cannot be met by current trajectories, and goals for 2030 and beyond may only be achieved through transformative changes across economic, social, political and technological factors

« Transformative change » :

Scenarios and pathways that explore the effects of a low-to-moderate population growth, and transformative changes in production and consumption of energy, food, feed, fibre and water, sustainable use, equitable sharing of the benefits arising from use and nature-friendly climate adaptation and mitigation, will better support the achievement of future societal and environmental objectives.

Harmful economic incentives and policies associated with unsustainable practices of fisheries, aquaculture, agriculture (including fertilizer and pesticide use), livestock, forestry, mining and energy (including fossil fuels and biofuels) are often associated with land/sea-use change and overexploitation of natural resources, as well as inefficient production and waste management

Thank you