

Agriculture supporting wild biodiversity: toward a new business model?

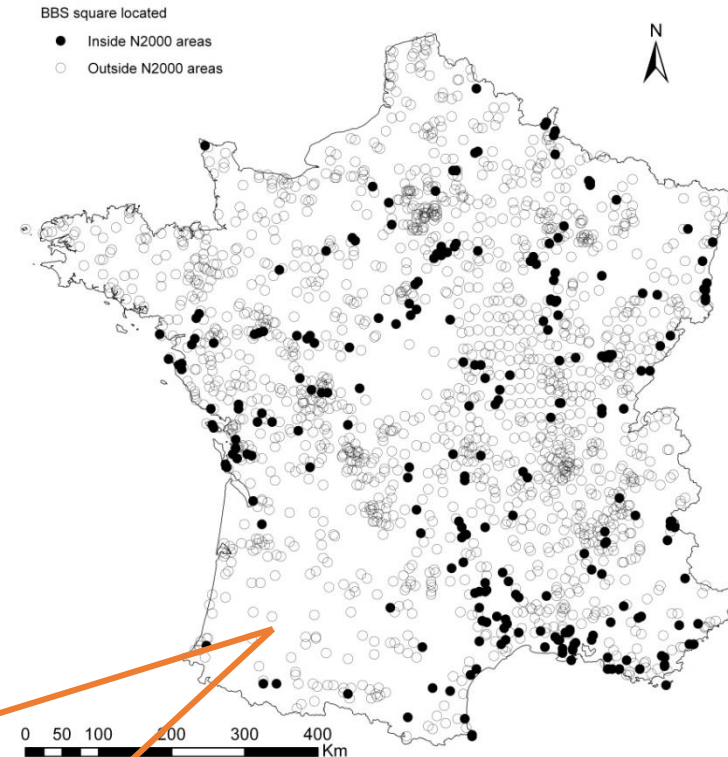
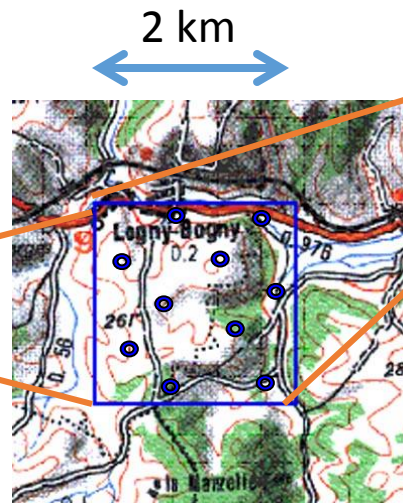
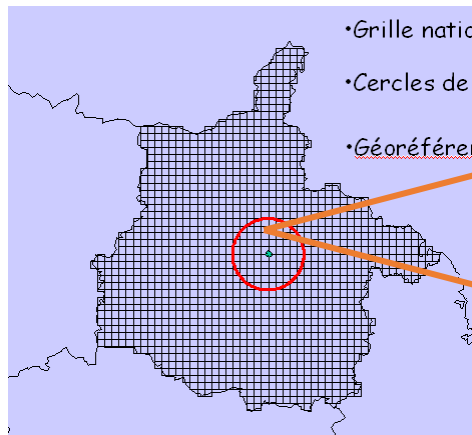
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The French Breeding Bird Survey:

Local coordination by NGO



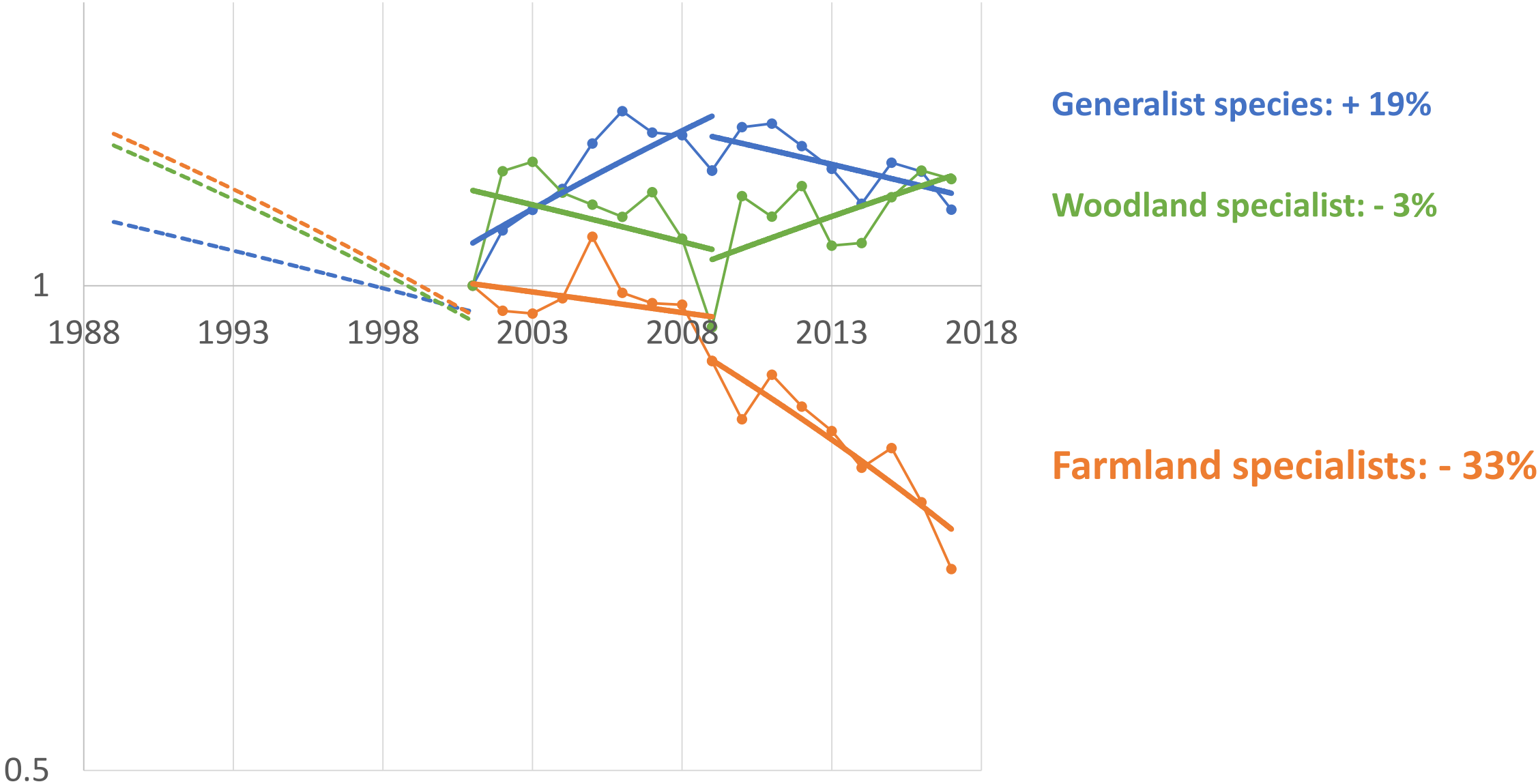
Sampling design



Black dots:
overlap with
Natura2000

- 2000 different squares (900/year)
- Since 1989

Common bird indicator (base 1 : 2001)



Continuous decline of farmland wild biodiversity

- Failure of agri-environment schemes at the larger scale
- Despites considerable evidences that farming practices has an effect on wild biodiversity
 - E.g., from our group:
 - Chiron et al. 2014
 - Jeliaskov et al. 2016

Among 200 conventional wheat farms, relative pesticide use ranged from 1 to 3, with a strong negative correlation with farmland bird abundance
 - Barré et al. 2017, 2018

Reduced tillage: seeding after chemical weeding vs. direct seeding into cover crop (wheat and rapeseed)

=> Strong effect on bird breeding abundance and foraging activity of bats 6 months later (!)

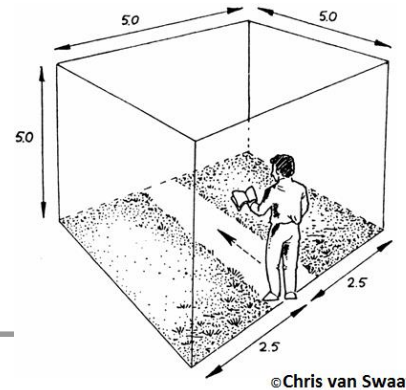
Agriculture produces wild biodiversity *as well as* food

- How to value this?
- Current biodiversity incentives and agriculture:
 - => obligation concerns the means, not the outcome
(e.g., almost all agri-environmental schemes)
- Needs direct and in situ measures of biodiversity
 - => citizen science ?

OAB - Observatoire agricole de la biodiversité

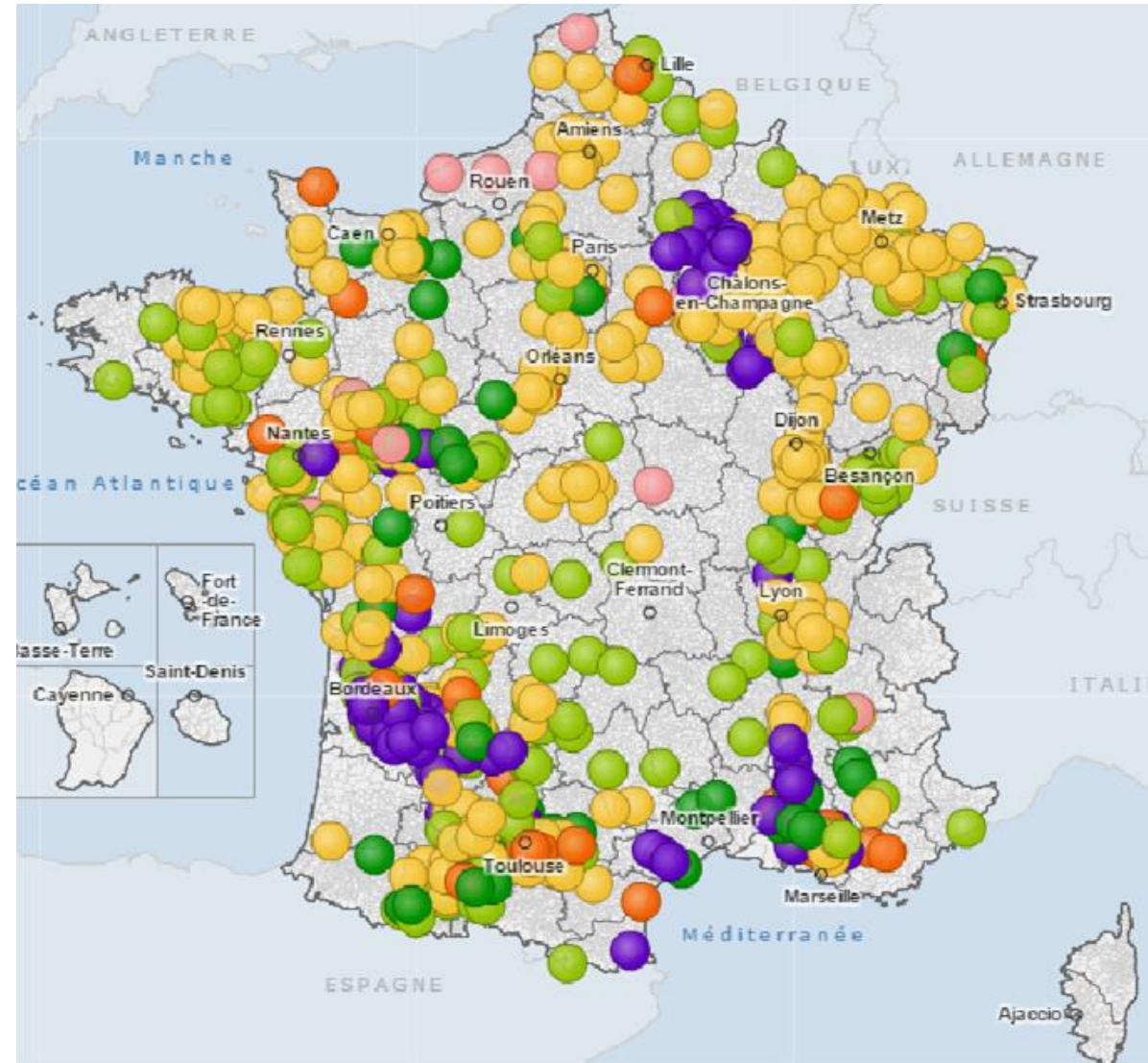
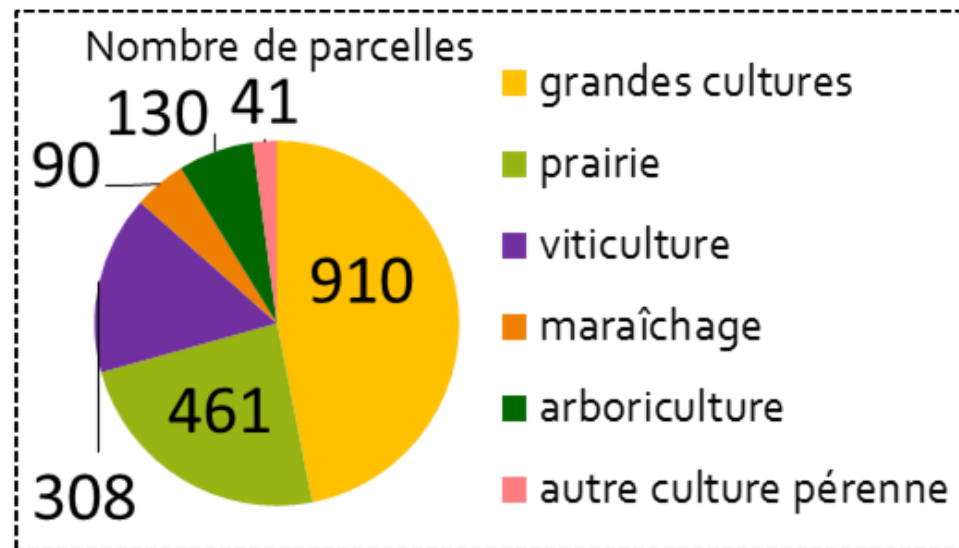


Four standardized **protocols** for volunteer farmers



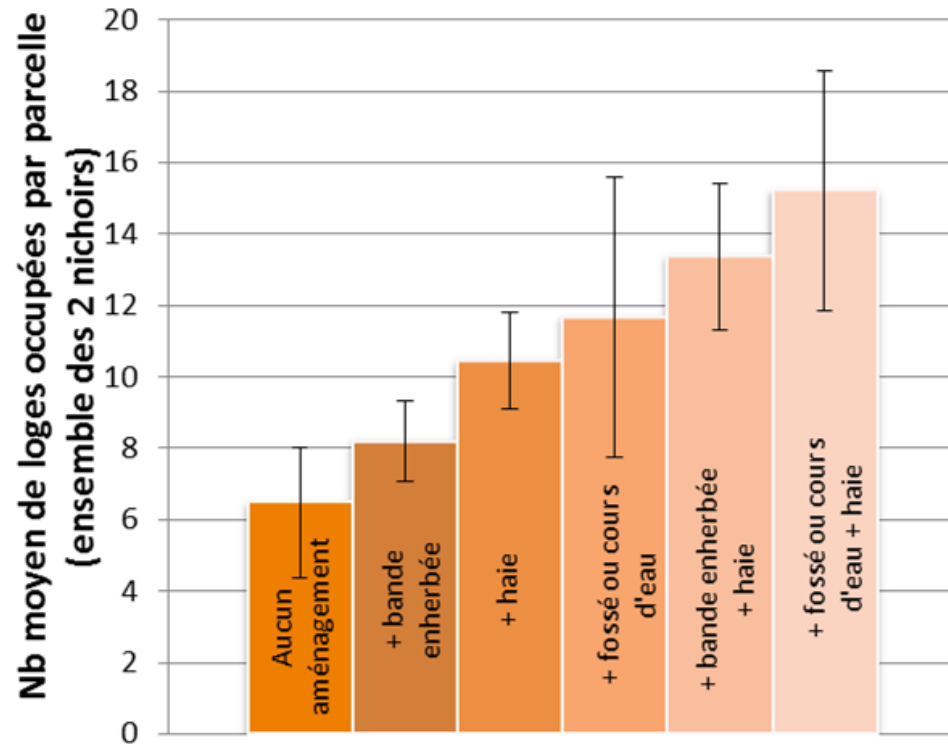
Since 2011, l'OAB c'est :

- 1,460 exploitations et 2,419 fields with data
- All over France
- All kinds of farming system

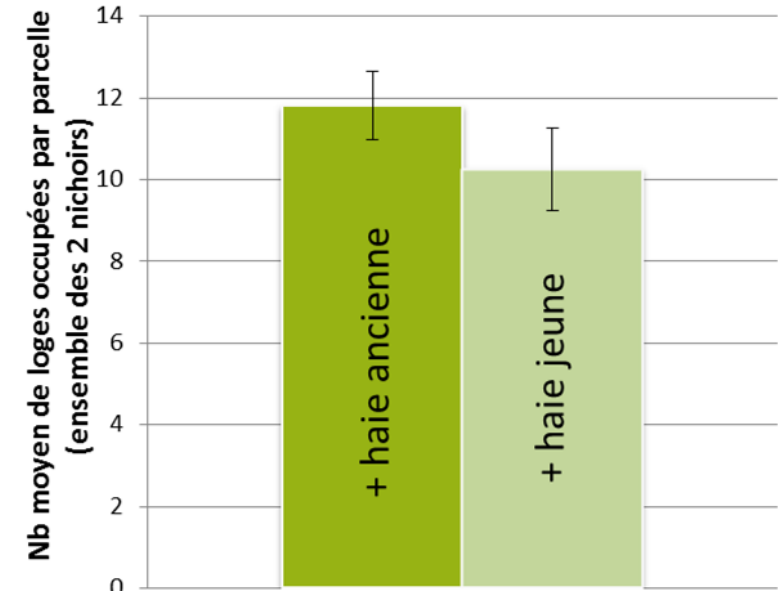


Meaningfull data

Field margin management on bee tubes' occupation rate



Increasing filed margin management: none; grass stripe; hedgerow; hedgerow + grass stripe; hedgerow + ditch



Effect of hedgerow's age



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- How to value this?
- 1) obligation of results
- 2) In situ measures of biodiversity
- Create an economic market

Solution (1) biodiversity offset

Building equipment, households, etc. destroy biodiversity

No net loss => biodiversity offsetting by paying farmers producing (more) wild biodiversity

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Solution (2) payment for environmental services of « producing wild biodiversity »

Who will pay? Local touristic economy?

Agriculture produces wild biodiversity *as well as food*

- How to value this?
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Solution (3) develop a label (or eq.) « product issued from farming practices favoring biodiversity »

Complementary to organic farming (common good rather than food quality)

No a priori and fixed specifications; rather continuous improvements

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- How to value this?
- 1) obligation of results 2) In situ measures of biodiversity

- Create an economic market

Solution (1) biodiversity offset

Solution (2) payment for environmental services of « producing wild biodiversity »

Solution (3) develop a label (or eq.) « product issued from farming practices favoring biodiversity »

=> This needs profound political, social and legal changes: considering that « wild biodiversity production » can be economically valued over and beyond food production