

Combatting extinction of species through the transformation of our food and the food system

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Topic: Impacts of the dominant food production (and consumption) on biodiversity and its relevance for the continuity of life on Earth, as we know it.



- Largest nature conservation PARTNERSHIP – 121 partners
- We are the oldest conservation organisation (since 1922 – ICBP)
- Science based – authority on the red list of birds
- European and Central Asian Partnership of BirdLife International – cover 48 countries, including all of the EU's 28 Member States. Example: Spanish partner SEO BirdLife

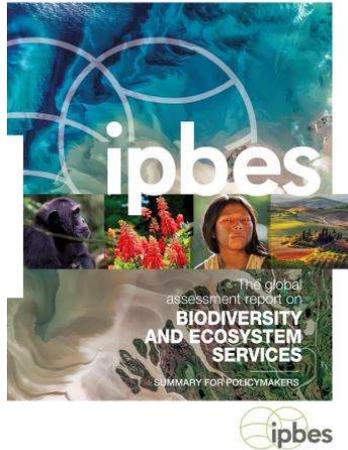
Outline

1. The global picture
2. The European picture
3. Solutions - practice
4. Policy
5. Summary



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1. The global picture

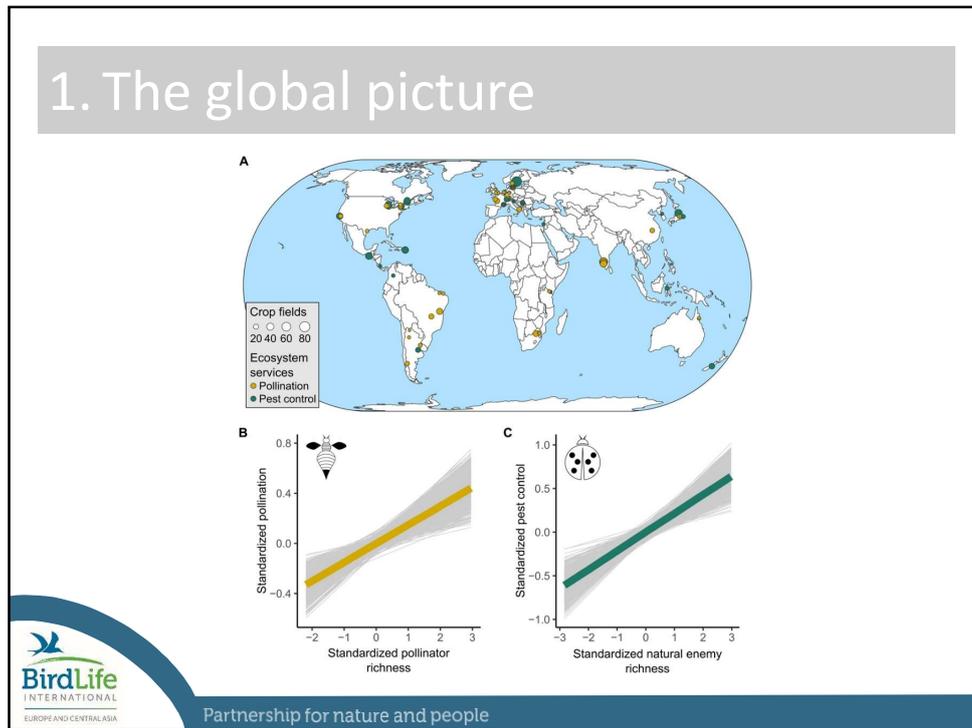


- 25% of animal and plant species threatened
- 1 million face extinction, many within decades
- Main negative impact on nature is from land use change due to agricultural expansion
- Loss of forests (mostly tropical), wetlands and grasslands
- Current trends will undermine 80% of the SDGs, including our ability to feed ourselves
- Transformative change required to 2030



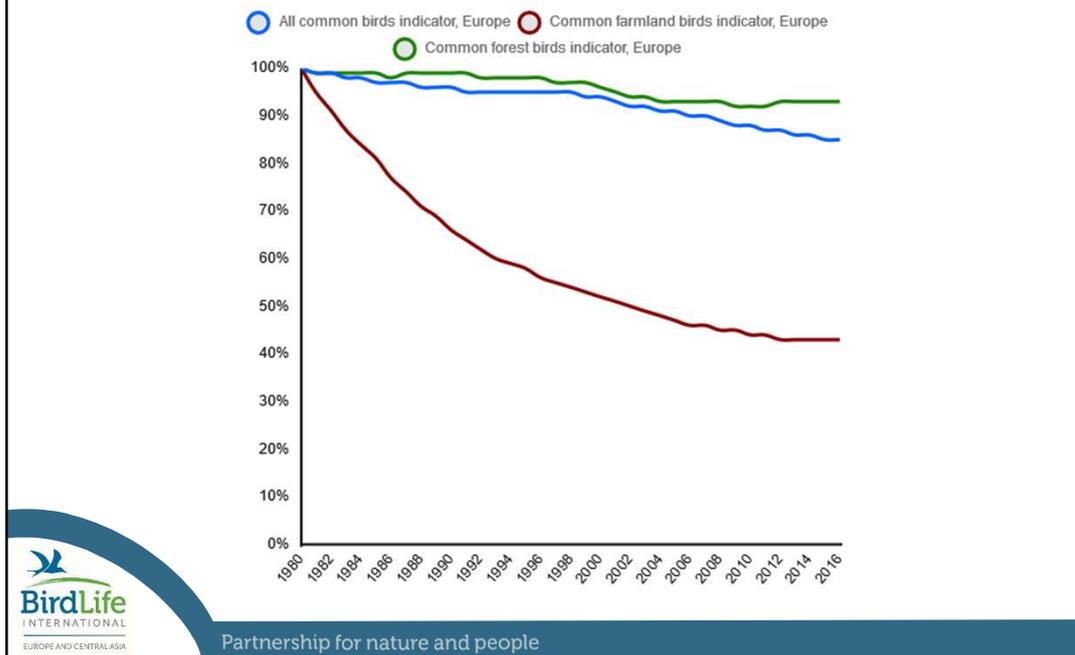
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1. The global picture



- Global crop yields are reducing because of the decline in pollinators and natural pest predators.
- Wild pollinators do most of the pollination of crops

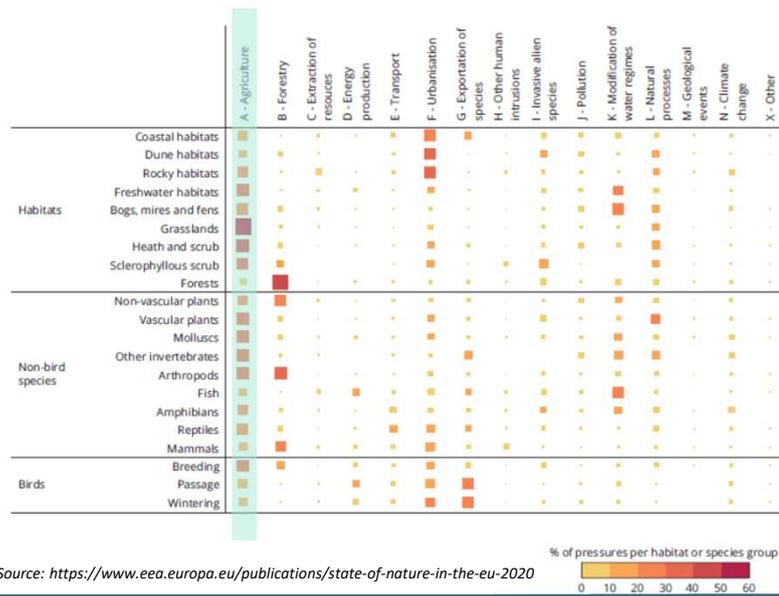
2. The European picture



- In Europe, we also have a severe biodiversity crisis
- 57% common farmland birds lost since 1980 (much worse declines than common forest bird species and all common birds)
- 80% of protected grasslands in nature protected areas are in unfavourable condition
- Loss of 67% of insects in grasslands in Germany 2008- 2017
- Species going extinct – must act now

2. The European picture

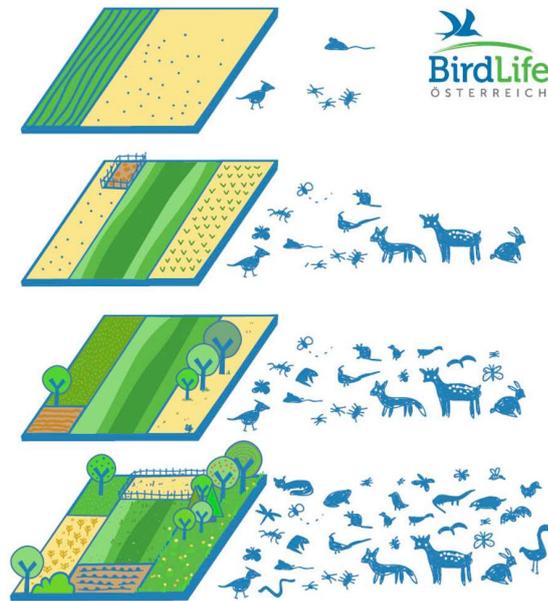
Figure 4.2 Distribution of level 1 pressure categories among habitats and species



- The EU State of Nature Report 2020 tells us what governments have identified as biggest threats to biodiversity.
- The number one reason for the decline of biodiversity in the EU is agriculture. Put simply, it is either intensification or abandonment of sustainable farming systems that leads to a lack of food and habitat for many birds.
- The second biggest threat is related to habitat changes due to modifications of the water regime or to a decreased connectivity among habitats, followed by forestry.

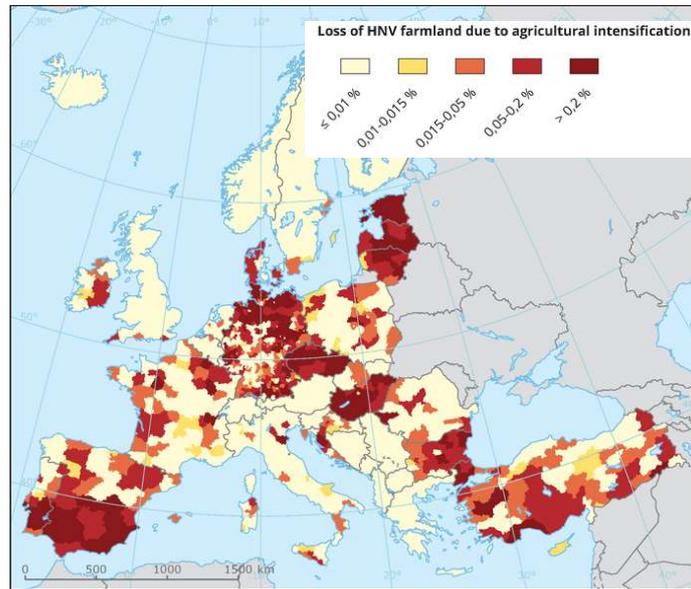
2. The European picture

- Removal of space for nature e.g. landscape features
- Conversion / ploughing of semi-natural habitats and grasslands
- Mechanisation
- Increase insecticides and herbicides



- Why is this happening?
- *Landscape simplification / agricultural intensification leads to loss of species* – Modern agriculture tends to simplify the landscape, with larger machinery and more specialised farming systems taking over from traditional mixed farming methods.
- Essentially the more simple the landscape the more simple the biodiversity – there is less nesting habitat, less feed available in the landscape, reduced shelter from predators as diversification elements are removed, and direct nest destruction from machinery or trampling by too many livestock.
- A lot of this happened in Europe post war to maximize production, e.g. in France, nearly 70 % of hedges were destroyed between 1945 and 1983

2. The European picture



Source: <https://www.eea.europa.eu/data-and-maps/figures/loss-of-hnv-farmland-due>

- Example: map shows the loss of HNV grasslands due to agricultural intensification

2. The European picture

- Water over abstraction
- Water pollution



- **Over use:** In Europe, agriculture has been estimated to account for around 24% of total water abstraction¹, although in parts of southern Europe, this figure can reach up to 80% ([EEA, 2009](#)). Irrigation of crops constitutes a considerable use of water, especially in southern Member States where irrigation accounts for almost all agricultural water use, and over-abstraction remains an issue.
- Example: illegal exploitation of groundwater aquifers under the Doñana National Park in Andalusia, Spain to irrigate out-of-season strawberries and blueberries is causing unsustainable water usage that threatens the marshes. Also, while grazing livestock is part of the park's sociocultural heritage, overgrazing of livestock threatens the park through trampling on nests and birds, as well as vegetation damage
- **Pollution:** Escape of nutrients from the farming system causing pollution of air and water – largest source of diffuse water pollution in Europe, promoting eutrophication that destroys animal and plant species

2. The European picture

Change in the number of farms and utilised agricultural area by size class, EU-28, 2005–2016 (%)



Note: Although the strongest decreases were recorded for the smallest size classes, the precise rates themselves may also reflect changes in survey thresholds. Furthermore, the EU-28 figure for 2005 includes 2007 data for Croatia. By definition, the size class of farms with 0 hectare of utilised agricultural area has no change in area. The change of 0.2 % in EU-28 total utilised agricultural area during the period 2005-2016 is not missing from this figure but due to its small size it is hardly visible.

Source: Eurostat (online data code: ef_m_farmleg)

eurostat 



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- Not just nature declining: huge losses in small and medium farms in Europe – 1/3 of farms in 10 years between 2005-2016
- Only the largest farms are increasing in number and area

3. Solutions - practice



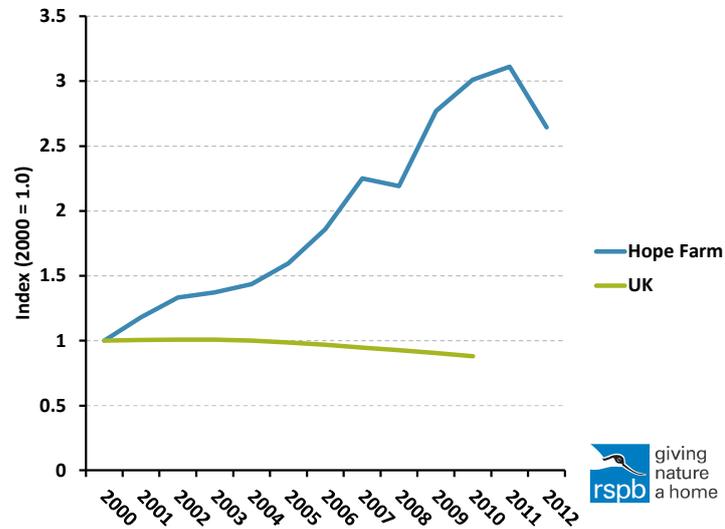
Farm-scale solutions



- We can farm productively while minimising these conflicts.
- **Make space for nature** within productive farming: margins, hedgerows, corners, skylark plots *[picture shows aerial view of skylark plots]*
- Manage some areas to create **high-quality wildlife habitats**;
- **Reduce impacts of pesticides.** By applying the principles of Integrated Pest Management, farmers can decrease their reliance on chemical pesticides. These principles include monitoring pest populations to enable informed decisions about when and where to control them; and using a variety of pest control methods, including crop rotation, choosing resistant crop varieties, and encouraging natural predators. Chemicals should be used only where other methods fail. When pesticides must be used, choosing the product most appropriate to the job with the fewest unwanted side-effects is important, as is best practice in application.
- **Minimise nutrient loss:** use fertilisers more efficiently (precision farming), close nutrient loops e.g. through good use of manure and wastes, create and maintain habitat features like buffer strips and wetland features to prevent nutrient run-off into waterways. *[picture shows pond features]*

3. Solutions - practice

The FBI at Hope Farm

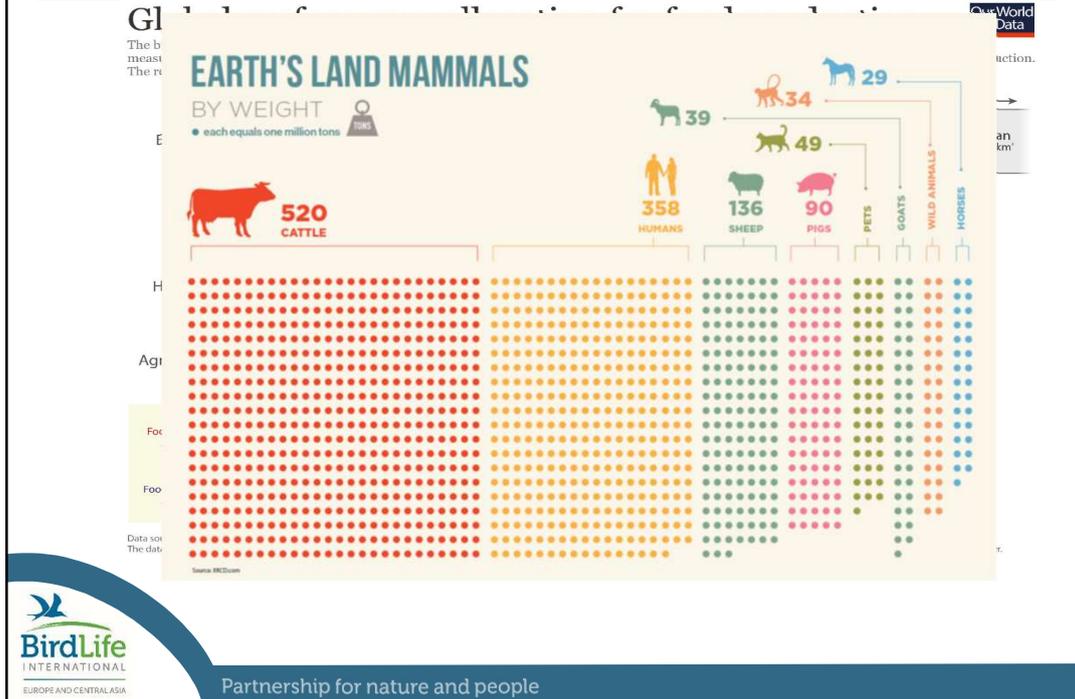


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- It works!
- Increase in the FBI of over 200%
- The FBI at Hope Farm increased by over 200% in the decade from 2000 to 2010. Set against ongoing decline in the regional and national indicator.
- So we know that farming profitably, productively and sustainably for farmland birds is possible, certainly in a conventional arable context.

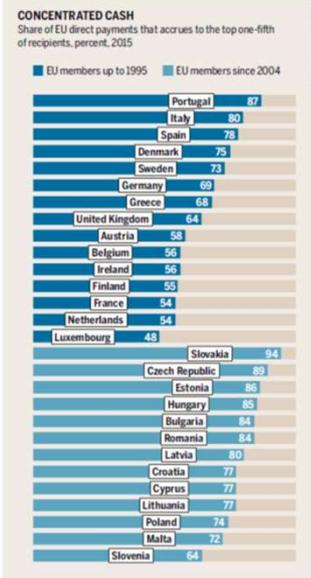
3. Solutions - consumption



- Cannot have sustainable production without sustainable consumption
- Half of the habitable land in the world today is used for agriculture
- 77% of agricultural land for livestock (including feed)
- Around 420 million hectares of forest have been lost to agriculture and other land uses since 1990. Agriculture is by far the biggest driver of deforestation (about 80%)
- Europe - in, 2018/2019, 62% of all cereal crops were used to feed animals and 12% used in industry and as biofuel, with only 23% going to feed people. A striking 88% of soy and 53% of protein-rich pulses were also used for animal feed.
- Key to feeding the world without harming biodiversity – if we halved meat and dairy consumption we would save 23% of cropland in the EU, and be able to feed Europe on organic production and make space for nature in the landscape.

4. Policy - CAP

- 387bn to 2027 (32% of the EU budget)
- Average 50% farmers' incomes
- 40-50% EU land → big impact on practices
- Most to business-as-usual income support, a.k.a. 'direct payments' – 80% go to 20%
- Scown et al. 2020: 24bn/year to richest farming regions with fewest jobs, and underfunding poorer regions
- 2021 – EU level agreement and national level planning of spending



Source: <https://www.boell.de/en/agriculture-atlas-2019>



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- CAP is Main policy tool for steering agriculture in EU
- A 2020 study looked at where CAP payments go:
- 24bn/year to richest farming regions with fewest jobs, whilst underfunding poorer regions
- CAP Subsidizes farming regions with the most pollution and least biodiversity-friendly farming habits: Farming regions with the highest greenhouse gas emissions from intensive livestock production are getting paid billions of euros each year without any obligation to reduce pollution.
- Spending exacerbates income inequality

4. Policy – Farm to Fork & Biodiversity Strategies

- Released May 2020
- Farm to Fork: 27 actions
- Biodiversity Strategy: 14 Key commitments
- 50% reduction use and risk of pesticides
- 10% of agriculture under landscape features
- 25% organic farming
- 20% reduction of fertilisers & 50% reduction in loss of nutrients from fertilisers



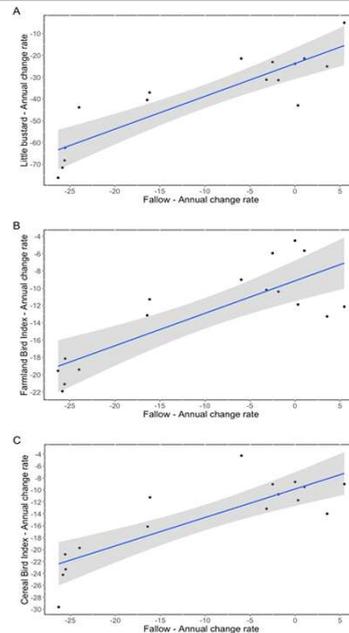
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4. Policy - BirdLife priorities

- Bring back **space for nature** on farms (EU Biodiversity Strategy 10%)
- Dedicated enough **money to nature** measures (15bn/year EU wide)
- Require the **transition** of production practices (following EU Green Deal strategies) and use CAP money to fund this, instead of per-hectare and production payments



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- Until 2008, it was compulsory for all farms to leave 10% of their land fallow. Not intended as a biodiversity measure, it indirectly had a significant positive impact for wildlife: **Traba, J. & Morales M.B. (2019) [The decline of farmland birds in Spain is strongly associated to the loss of fallowland](https://doi.org/10.1038/s41598-019-45854-0). *Scientific Reports* 9, 9473, <https://doi.org/10.1038/s41598-019-45854-0>.**

4. Policy – next steps for CAP



- Next steps - CAP
- We are nearing the final stages at the EU level: the Council and the Parliament voted last October
- Member states are drawing up their national CAP plans as we speak, which they will have to submit to the European Commission (currently expected end 2021), who will have a number of months to review them and approve them (expected to happen in 2022). This will be crucial to

Summary

- Urgent biodiversity crisis
- Major driver is current agriculture
- Need transformative change to food systems, not tweak current practices
- Current policy tools not fit for purpose
- Fundamental CAP reform is needed
- Farm to Fork and Biodiversity strategies blueprint for shift



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- Did not mention the other victims of global food system, which includes major contribution to GHGs, health impacts – obesity and undernutrition, workers' rights.

Resources

- Brunner, A. & Bradley, H., (2020), 'Agriculture & Biodiversity in Europe: The Future of Europe's Farms', in *EU environmental governance: current and future challenges*. Routledge. [Link](#)
- Website: <https://www.birdlife.org/europe-and-central-asia/programmes/nature-friendly-farming>
- BirdLife Europe conference on Green farming now: <https://www.youtube.com/user/BirdLifeEurope>



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Thank you!

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