



Research and Farmers' Challenges

Thierry de l'Escaille

Secretary-General, European Landowners'
Organization





Contents of the Presentation

Introduction
Higher Yields
Greater Resilience
Maintaining Biodiversity
Future Challenges



Who we Are

The ELO,

- ✿ Represents a network of national organisations, based in Brussels

- ✿ Anticipates potential changes in the political and legal climate in the EU with significance for its members.

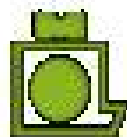
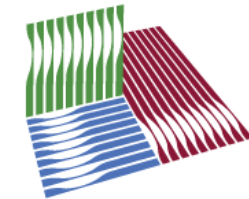
- ✿ Is the voice of landowners and managers in relation to EU authorities.

- ✿ Is active in more than 45 advisory committees and groups in the EU, and has high-level contacts throughout the EU authorities and the 28 Member States

A Selection of our 58 Members



COMITÉ DES PARCS ET
JARDINS DE FRANCE



Who we Are



Working together for a prosperous and sustainable countryside

A Selection of our Partners



Global Pressures on Food and Environmental Security



- Urbanisation
- Population Growth
- Poverty and Education
- Energy Demands
- Food Demands
- Water Demands
- Climate Change
- Biodiversity Loss
- Public Health

The Central Role of Research

* To overcome the food and environmental challenges in the 21st century, scientific advancement is **absolutely vital**:

* Higher Yields

* Greater Resilience

* Efficient Water Use

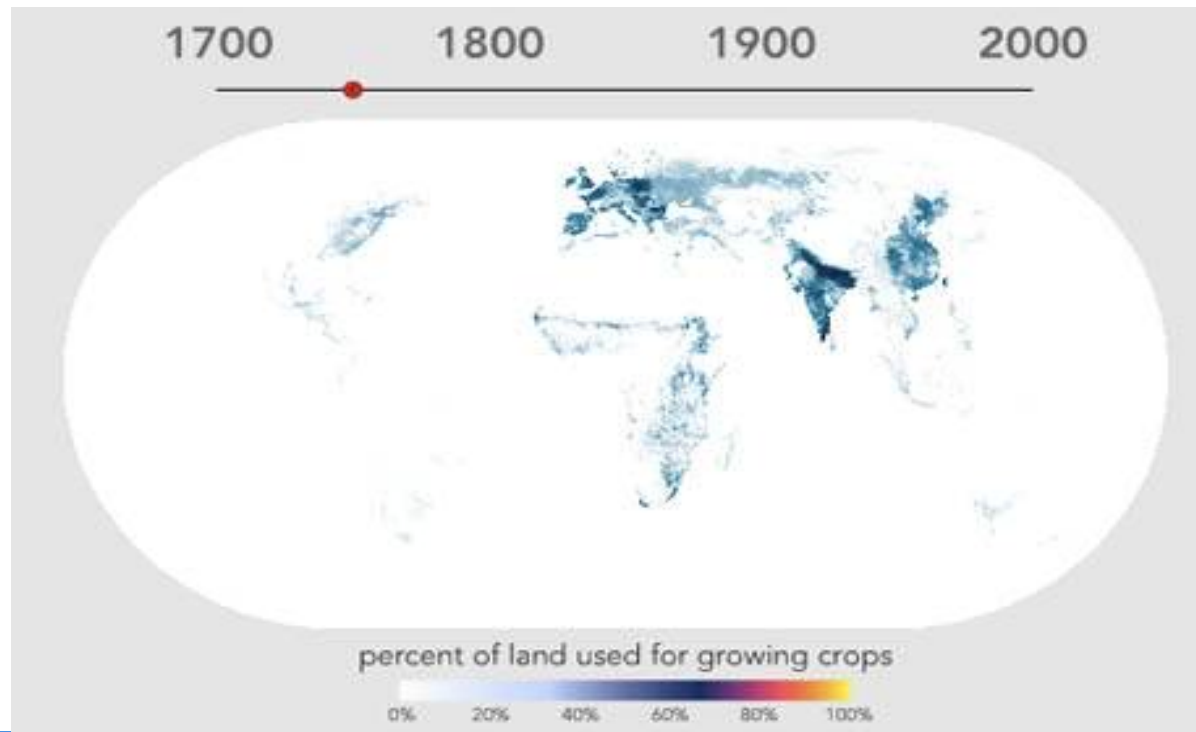
* Maintaining Biodiversity



Higher Yields and Sustainable Intensification



Higher Yields & Sustainable Intensification

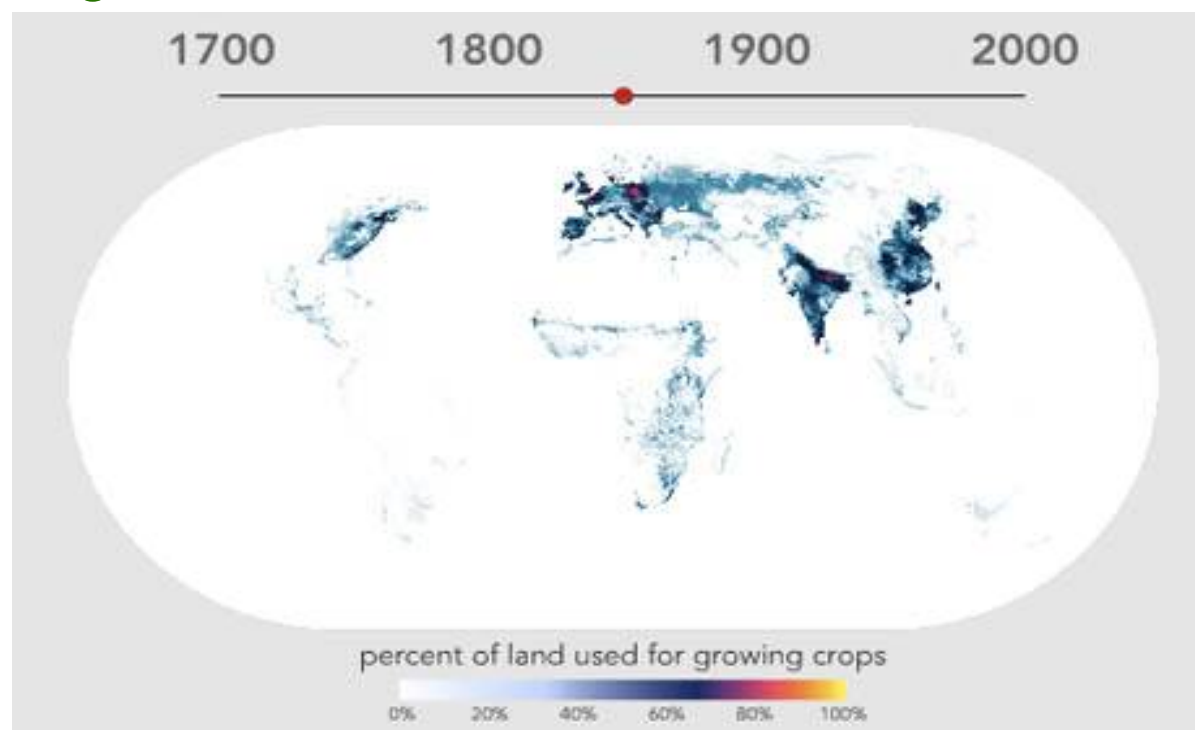


Land use for
growing crops in:

1750

Source: Rankin

Higher Yields & Sustainable Intensification

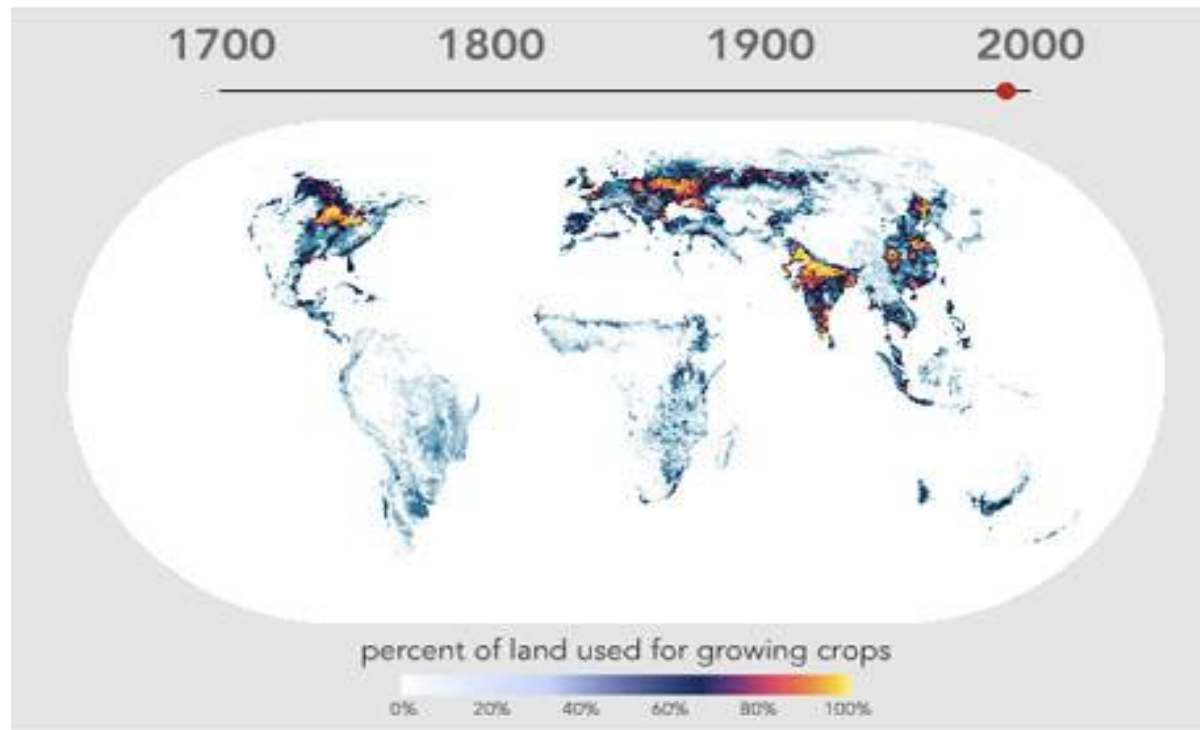


Land use for
growing crops in:

1850

Source: Rankin

Higher Yields & Sustainable Intensification



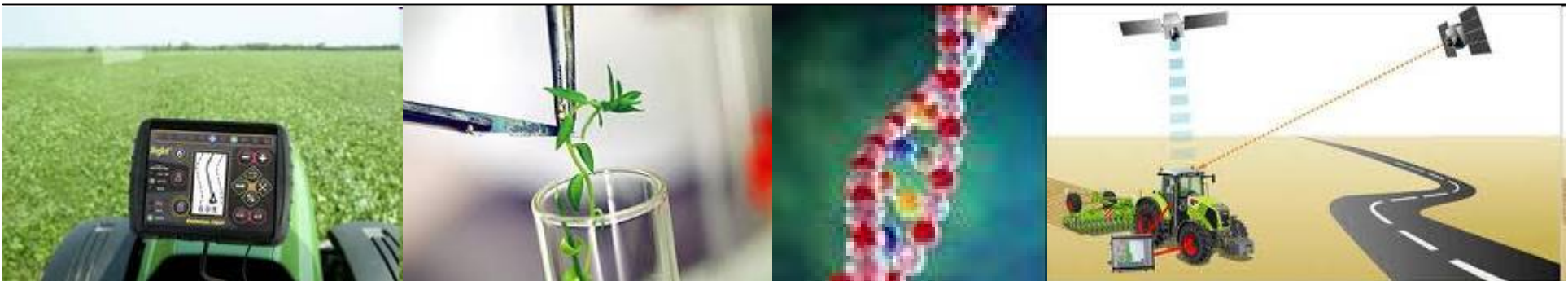
Land use for
growing crops in:

1999

Source: Rankin

Higher Yields & Sustainable Intensification

- * The ELO continues to advocate sustainable intensification
- * With greater technology we will be able to produce more while protecting more biodiversity. A part of this strategy is persuading Brussels to be proactive in agricultural research and technology



Higher Yields & Sustainable Intensification

- * The Rise Foundation & IEEP has launched the results of their study: 'The Sustainable Intensification of European Agriculture' on the 24th of June.
- * This study looks at the need to improve sustainability by raising environmental performance where it does not meet EU standards.
- * It tackles the task of evaluating which combinations of approaches/measures are able to increase biodiversity without decreasing (or actually increasing) agricultural yield within a given landscape.



Higher Yields & Sustainable Intensification

Available Research Areas for Sustainable Intensification:

- *Development of the Farm Accountancy Data Network, such as inclusion of farm-level environmental performance
- *Developing Social Sustainability Indicators
- *Evaluating the contributions of commercial sustainability and certification schemes
- *Reviewing the choices confronting the next CAP reform
- *And Many More ...





Greater Resilience



Greater Resilience: Soil

The Soil Challenge

- *The EC estimates the cost of soil degradation in the EU to be €7-38 billion
- *Soil Management is highly dynamic and subject to seasonal change
- *Great deal of research still to be done
- Nutrient Recycling
- Understanding Soil Biology
- Reducing Erosion and Soil Exhaustion while maintaining production



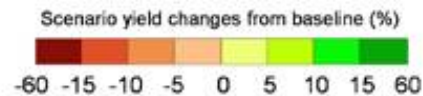
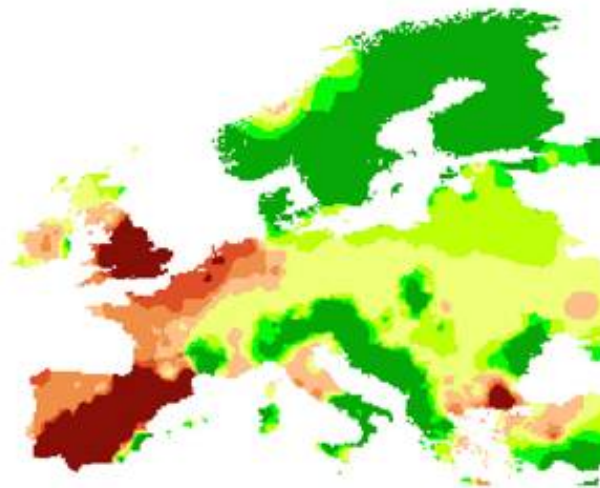
Greater Resilience: Climate Change

- ✿ The effects of Climate Change are already being felt by farmers
- ✿ Rapid changes in weather patterns
- ✿ EU estimated loss in current trends is 0.2-1% annual welfare loss due to climate change
- ✿ Research is needed on the reduction of Co2 emissions by global and European agriculture
- ✿ How can Europe's farmers adapt to and help prevent climate change?



Greater Resilience: Climate Change

Figure 5: Agriculture: crop yield changes of the 2.5°C scenario (2080s)



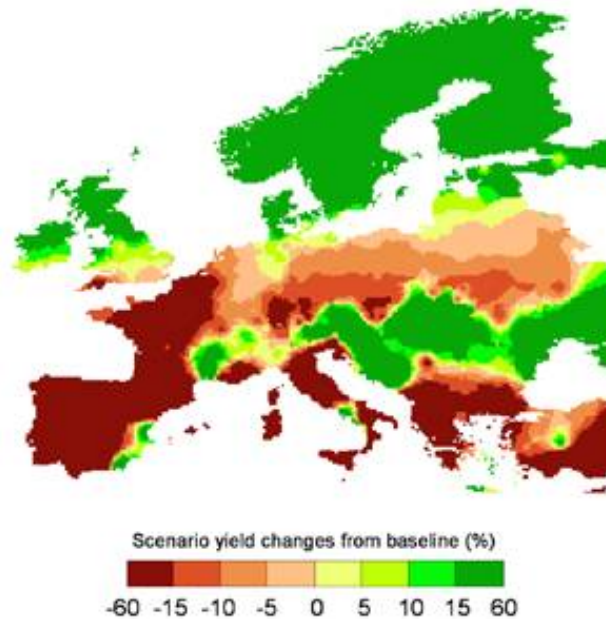
The Impact of Climate Change on agriculture by 2080 at a **2.5°C rise** – this is the current (conservative) scenario:

- Loss of western European agriculture
- Rise of Scandinavia
- Spanish and English countryside will be wiped out

Source: EU PESETA Research Project (2009)

Greater Resilience: Climate Change

Figure 8: Agriculture: crop yield changes of the 5.4°C scenario (2080s)



The Impact of Climate Change on agriculture by 2080 at a **5.4°C rise** – this is the high-end scenario:

- Complete loss of western European agriculture
- Rise of Scandinavia
- Spanish, French, Italian and Greek countryside will be wiped out

Source: EU PESETA Research Project (2009)



Water Use in Agriculture



Water Use in Agriculture



- * 44% of total water extraction in Europe is used for agriculture
- * Water pollution through agriculture has reduced in the last decades, but crop protection runoff and nitrate pollution remain an issue.
- * Research areas remain open:
 - Innovative products in fertilizers and crop protection that protect water sources
 - Drought-resistant breeding

Water Use in Agriculture

Current water footprint for common agricultural products:

- 13 litres of water of a tomato
- 70 litres of water for an apple
- 75 litres of water for a glass of beer
- 120 litres of water for a glass of wine
- 140 litres of water for a cup of coffee
- 184 litres of water for a bag of potato crisps
- 2400 litres of water for a hamburger

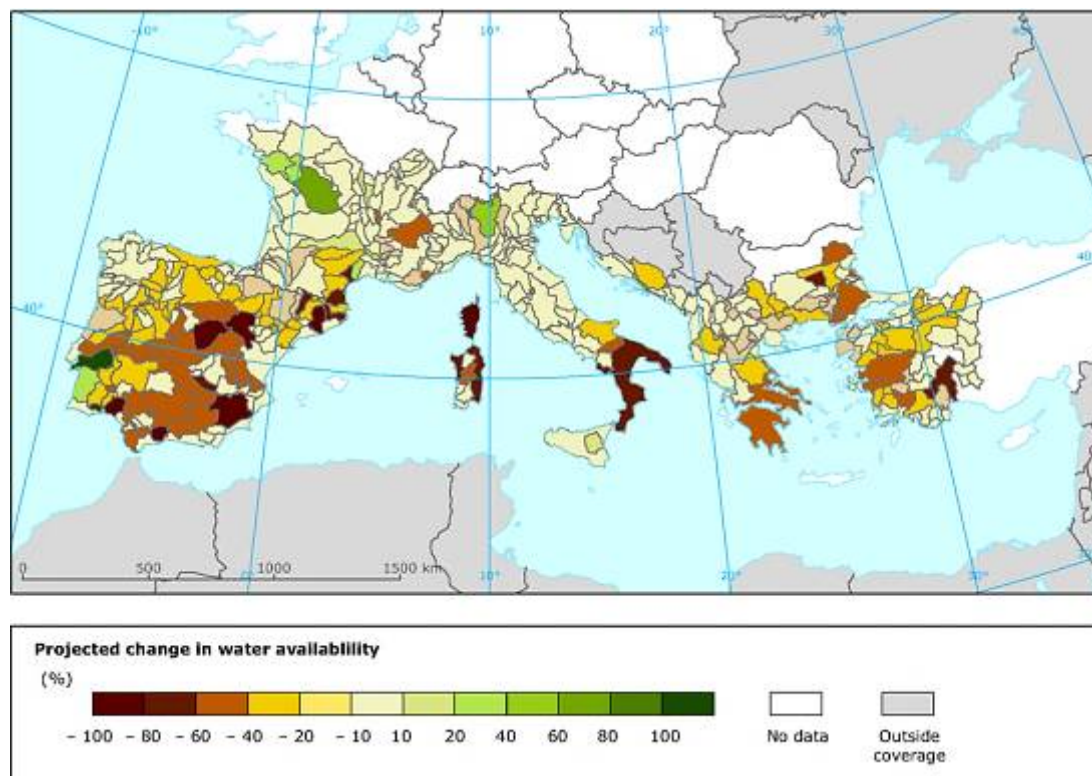


Source: IFAD "Water Facts and Figures" (Online)

Water Use in Agriculture

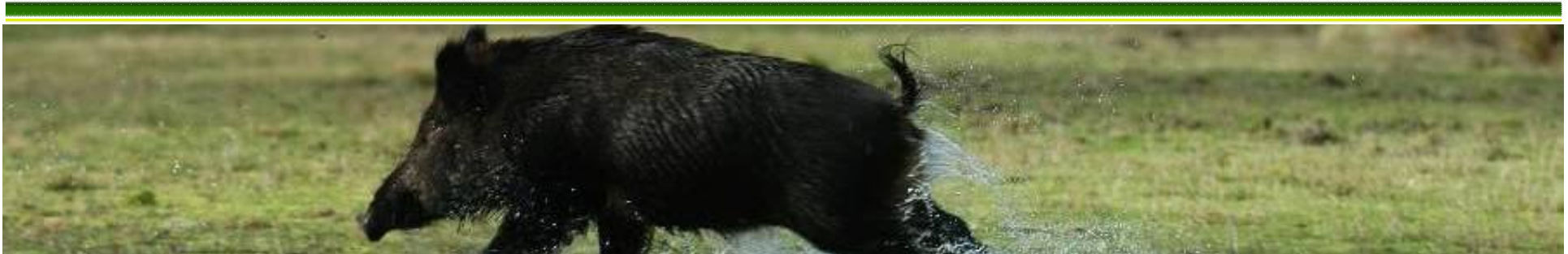
Projected changes in water availability for Southern Europe under current climate change trends

The model shows water available for irrigation by 2071-2100





Maintaining Biodiversity

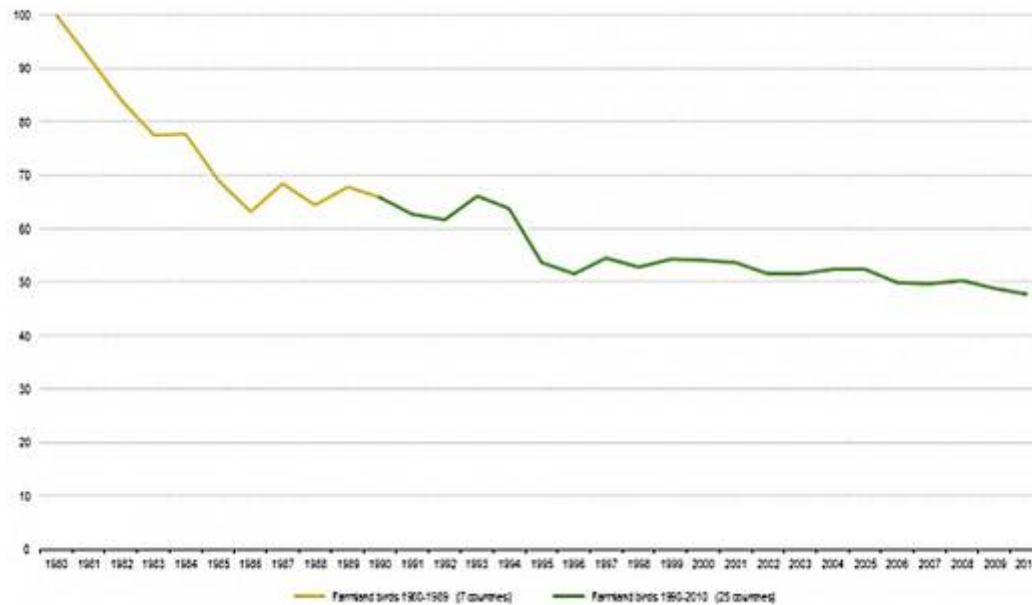


Maintaining Biodiversity

- ✿ **Threats to biodiversity in Europe remain substantial.**
- ✿ In the UK, 8 of 10 habitats and 50% of species given the highest level of European protection are in an "unfavourable" condition.
- ✿ The ELO is committed to maintaining ecology and economy together; our LIFE project and Wildlife Estates label show the possibilities of private participation for biodiversity
- ✿ Many research options are available:
 - Farm-level integration of biodiversity protection; designing simple measures with real effect
 - Developing Payment for Ecosystem Services models that allow for valuation of biodiversity



Maintaining Biodiversity



Farmland Bird Index
 from 1980 – 2010

While we have almost halted decline, there is still a **50% loss**

Given the right incentives, farmers are willing to help this reverse the situation

Source: Eurostat



LIFE + 3Water

- * Our LIFE + 3Water project in Belgian Limburg concluded at the end of April 2014. The final report was very recently submitted to the Commission
- * The project delivered huge benefits for the visibility of the role of landowners in Natura 2000 Areas and the 'Triple E' approach (Ecology, Economy, and Education)
- * 3Water recently won the highly prestigious Natura 2000 Award in the category 'reconciling interests and perceptions' – further promoting and validating the idea that private landowners can play an active role in nature conservation projects

LIFE+ 3water

- * First LIFE project with private landowners as full participants
- * 4.230 hectares
- * 7 Partners; landowners, cities, nature organisations, Flemish government
- * Winner of the European N2000 Award for 'Reconciling interests and perceptions!'





Wildlife Estates (WE)

* WE Label today:

- Over 1 million labelled Ha
- New Chief Operating Officer (COO), Konstantin Kostopoulos
- Have extended our network into Poland & Bulgaria

* Public-Private Partnerships:

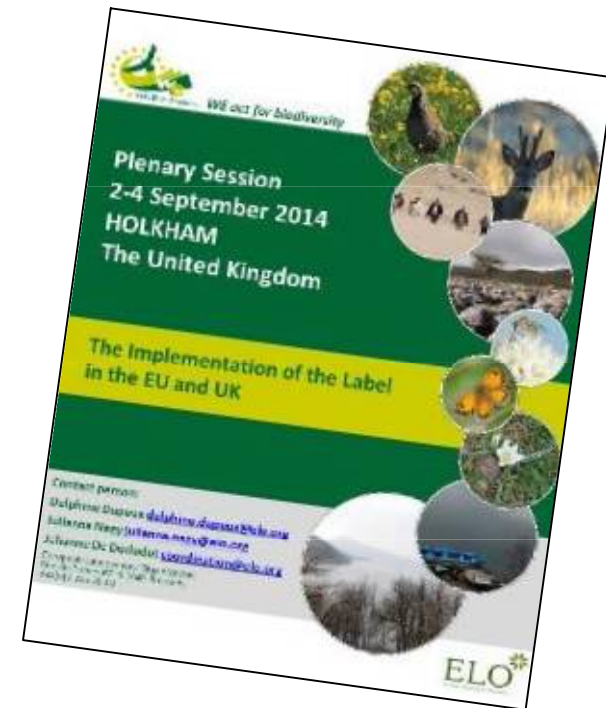
- Implementation in FRANCE:
 - Agreement between FNC/ONCFS/ELO
- Implementation in BELGIUM:
 - Agreement between SPW/ La Fondation wallonne pour la Conservation des Habitats/ InBev-Baillet Latour/ Landelijk Vlaanderen





Wildlife Estates (WE)

- * Wildlife Estates is a label that rewards landholdings which are exemplary in terms of wildlife management and biodiversity conservation
- * It is a **communication** tool that can raise awareness of the role of sustainable estate management to the general public and political authorities.
- * It is a tool for European land managers wishing to develop land management techniques which enhance biodiversity.
- * This project is also a **political** tool. It helps land managers implement and anticipate environmental legislation adopted within the EU.






Wildlife Estates (WE), Scientific Background

✿ Two levels of Commitment to the Wildlife Estates Label:

1. Signing the WE-Label's charter that commits the owner to 10 identifiable sustainable practices on the WE estates, such as managing game and wildlife balances and maintaining engagement with local communities.
2. For the Label to be awarded, an independent auditor checks the estate with an extensive questionnaire developed by the WE's Scientific Committee. There are 12 main criteria, including:
 - Level of disturbance
 - Sustainable balance of activities on the estate
 - Presence and conservation of valuable species, biodiversity and cultural heritage

Pollinator Network Initiative (PNI)

✿ Our Pollinator Network initiative demonstrates the importance of field margins as a key tool for restoring pollinator and wildlife habitats in Europe

| | Natural regeneration | Grass buffer strip | Multi-functional Field Margin |
|-------------------------|---|--|--|
| |  |  |  |
| Biodiversity | ★ | ★ | ★ ★ ★ |
| Soil & Water | ★ ★ | ★ ★ ★ | ★ ★ ★ |
| Farm Suitability | ★ | ★ ★ ★ | ★ ★ ★ |
| Cost Efficiency | ★ | ★ ★ | ★ ★ ★ |



Future Challenges



Future Challenges: The Circular Economy

- * Recycling and re-using materials is a challenge not only for agriculture, but for everyone in Europe:
 - 6 tons of waste per person in Europe
 - Only 40% of household waste is recycled
 - 100 million tons of food waste in Europe every year, not including agricultural waste



Source: Eurostat

Future Challenges: The Circular Economy

- ✿ The EC Communication “Towards a Circular Economy: a zero waste programme for Europe” outlines the following action plans:
 - Boosting Recycling and preventing loss of valuable materials
 - Creating Jobs and Growth
 - New Zero-Waste Business Models
 - Reducing Greenhouse Emissions



Future Challenges: The Bio-Based Economy

✿ As part of the Horizon 2020 package, the EU will focus its research in the bio-based economy for agriculture and forestry on:

1. Increasing production efficiency
2. Coping with climate change
3. Sustainable forestry
4. Empowerment of rural areas
5. Providing ecosystem services and public goods



The BIGGEST Challenge: Communication

- * Farmers and land managers NEED the support of the scientific community
- * The development of agricultural innovation has slowed drastically in Europe, not only due to regulation, but due to a lack of COMMUNICATION.
- * EU Citizens are now often afraid of agricultural innovation (GMOs especially), and we need to work together to talk about innovation
- * Research is too often top-down, and there is not enough communication with the end user; the farmer and land manager
- * Farmers are innovators too; they often develop best practice on their own farm!