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# **Agriculture and the conservation of wildlife biodiversity – comparative analysis of policies in the USA and the EU**

**Heike Nitsch, Andrew Manale\*, Bernhard Osterburg**

**Andrew Manale, EPA, presented to USDA  
Economists Group, 7/7/09, Wash DC**

\* Views are those of the author and not necessarily those of the Environmental Protection Agency or the US Government

# Introduction

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- **Collaboration with Johann Heinrich von Thuenen Institute, one of four German federal research institutes under the auspices of the German Federal Ministry of Food, Agriculture and Consumer Protection.**
- **Cooperated with**
  - **Pete Heard, NRCS's Agricultural Wildlife Conservation Center**
  - **Skip Hyberg, Farm Service Agency**
  - **Tom Franklin, Wildlife Society and the Teddy Roosevelt Conservation Partnership**
  - **Ron Helinski, independent wildlife consultant**
  - **Charlie Rewa, NRCS**
- **Special thanks to Dave Walker of Fish and Wildlife Service and Doug Norton of EPA**

# Introduction

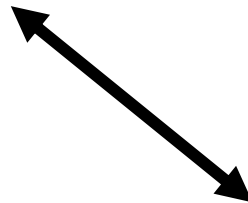
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# Biodiversity (on ag land): definitions and uses in policy

- Range of definitions

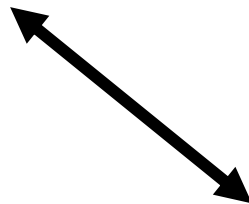
Diversity or totality of species relative to a pre-agricultural, pristine state of nature



Diversity of species at some point in a changed human environment

- Range of how the term is used in policy

Separate indicator or objective—species protection



Integrating indicator reflecting ecological linkages (degree of biological integrity)

# Farmland and biodiversity

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- **High importance of farmland for habitats and species**
  - Nearly half of land area used for agriculture in EU
  - US some 54% of the lower 48
  - EU: about 50% of species rely on agricultural habitats (extensively used grasslands or pasture as wildlife “hotspots”)
  - US: Over 2/3 of the nation’s wildlife habitat is distributed over private land in primarily agricultural use

# Farmland and biodiversity

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- **Threats to biodiversity:**
  - **Conversion of land to agricultural use (US)**
  - **Intensification of land management (US and EU)**
  - **As well abandonment of farming linked to extensive land management (EU, primarily)**

# Farmland and biodiversity

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- **Different paths toward protecting wildlife biodiversity**
  - US
    - Protecting lands from conversion
    - Restoring habitat
    - De-intensifying production systems
  - EU
    - Maintaining less intensive agricultural systems
    - Restoring habitat
    - De-intensifying production systems



## **EU: Baseline for nature conservation**

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- **CBD signed by EU and all single Member States; additional objective of „halting the loss of biodiversity“ till 2010**
- EU and national biodiversity strategies and action plans
  - **To be translated into concrete mandatory and voluntary measures**
- **Integration of environmental policies into the CAP**
- **Two central Directives for nature conservation at EU level:**
  - Directive on the protection of wild birds (79/409/EEC)
  - Directive on the conservation of natural habitats and wild fauna and flora (92/43/EC)
- **Basis for Natura 2000 network**

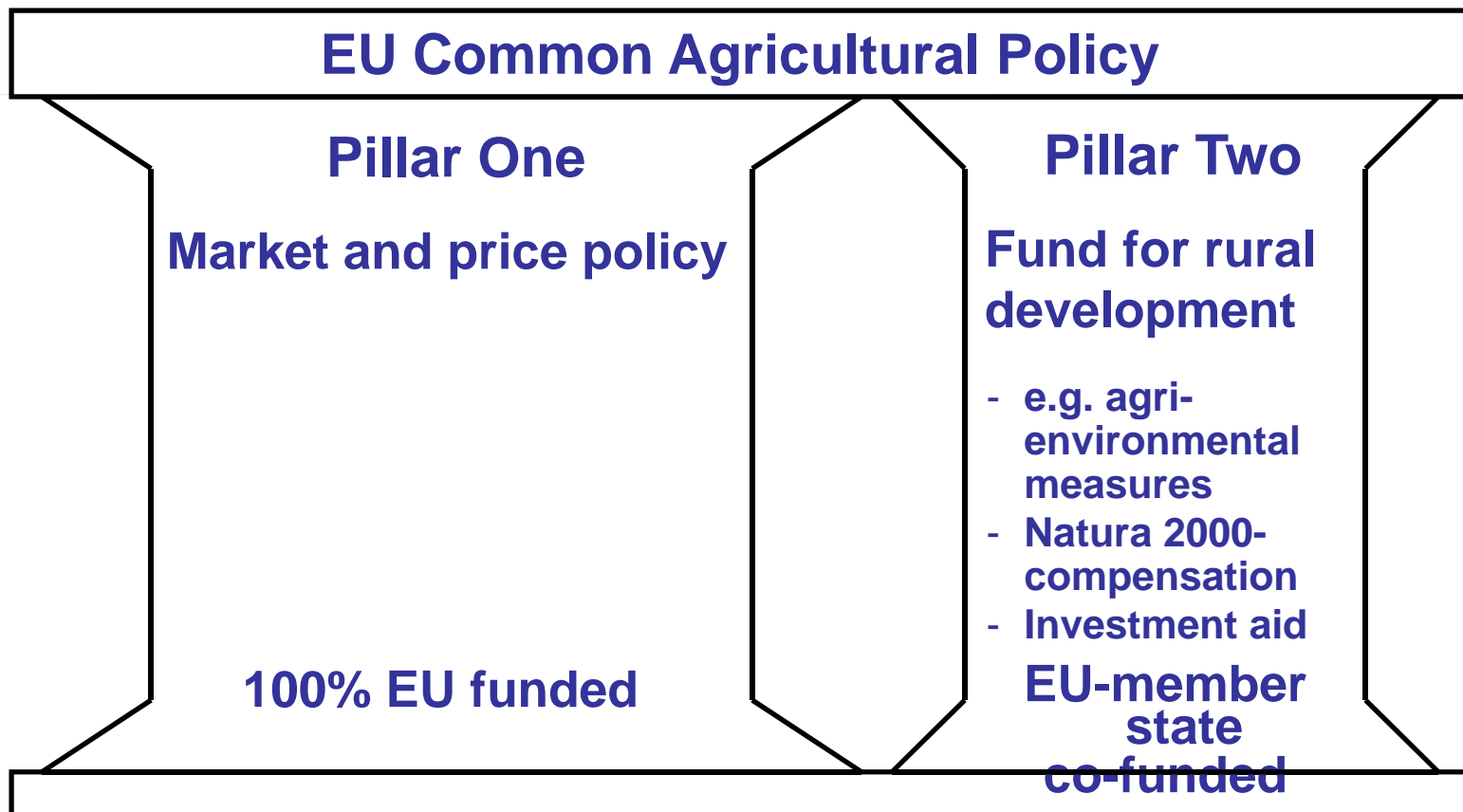
# Natura 2000 network

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- **EU:**
  - **Legislation lists relevant habitats and species**
  - **May initiate infringement procedures** in case of insufficient implementation
  - **Provides cofinancing** for compensatory payments or voluntary incentives for land management
- **Member states:**
  - **Obligated to designate areas and maintain or restore a „favorable conservation status“**
  - **Design detailed measures for each site**
  - **Report back to EU**

# The Common Agricultural Policy of the EU (CAP)

> 40% of EU budget; reaching most of agricultural land;

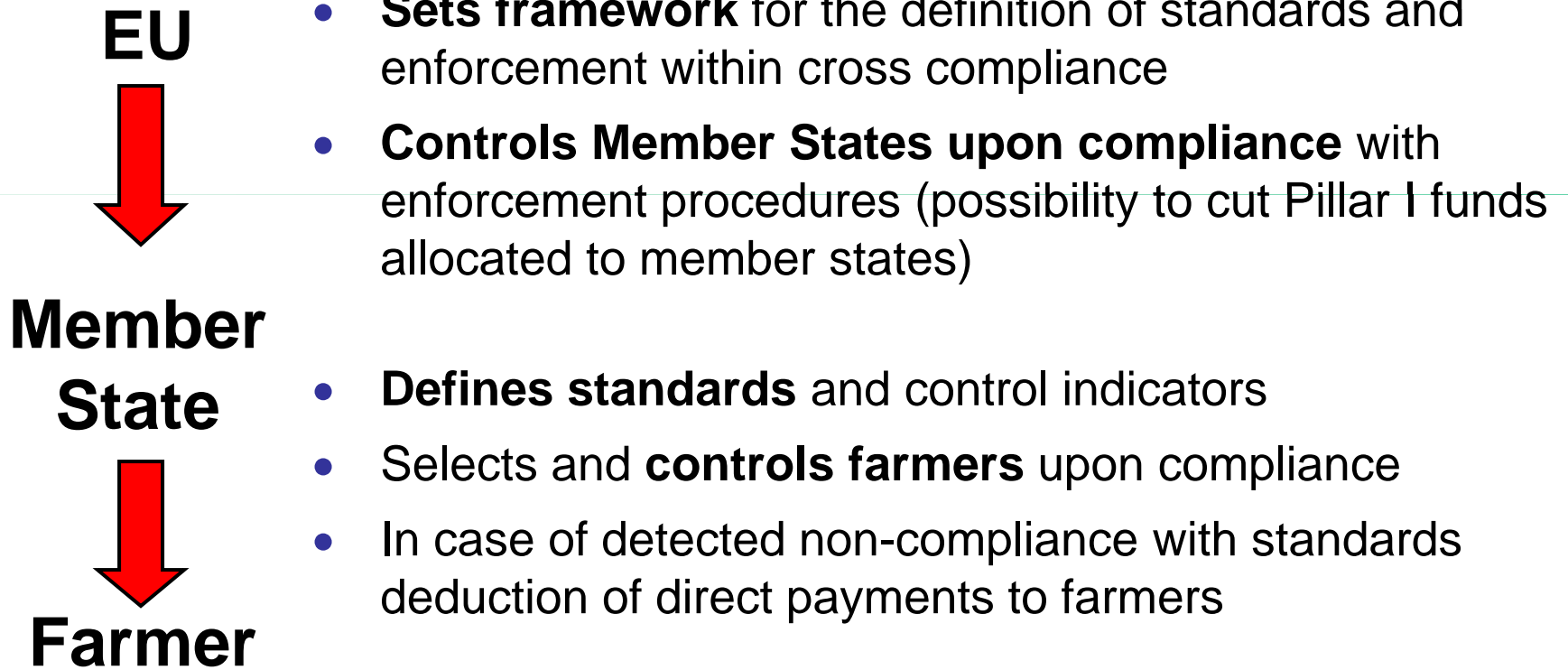


# Cross Compliance – Framework

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- **Links full receipt of direct support payments to minimum farming standards**
    - **Floor for soil conservation and water quality protection**
    - **Standards for maintenance of existing landscape elements and protection of permanent pasture**
- Possibility to set area-wide minimum standards for land management, but hardly for area-specific nature conservation**

# Cross compliance - Who controls whom?



**Direct payments as „carrots“, disallowances as „stick“**

**→ More harmonized enforcement of EU legislation**

# Agri-environmental measures (AEM)

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- **Part of the CAP's rural development policy**
- **Voluntary measures with annual payments covering land manager's additional cost and income foregone**
- **Mostly integrated in agricultural production systems**
- **Limitations:**
  - Voluntary participation  
(little take up on intensively used land → less competitive in high-price scenario or with high incentives for intensive energy crop production)
  - Budgetary constraints, partly high administrative cost  
→ limited offering

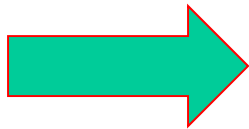
# Key characteristics of EU - approach

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- **Strategies and legislative framework at EU-level**
  - EU controls allocation of EU-funds
  - EU induces member states to raise standards or allocate EU-funds to measures linked to common objectives
- **Member states:**
  - Implement and enforce at national, regional and local level (adaptation of measures to regional/local conditions)
  - Monitoring of measures and reporting to EU

# Assumption

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**Paying for less intensive agricultural systems through voluntary enrollments produces**

**wildlife benefits  
greater biological diversity**



Introduction

EU policies

**US policies**

Conclusions

# Objectives and strategies at US national level

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- **No seamless, comprehensive policy related to the conservation of biodiversity**
- **Biodiversity conservation an indirect consequence of wildlife protection**

# Objectives and strategies at US national level

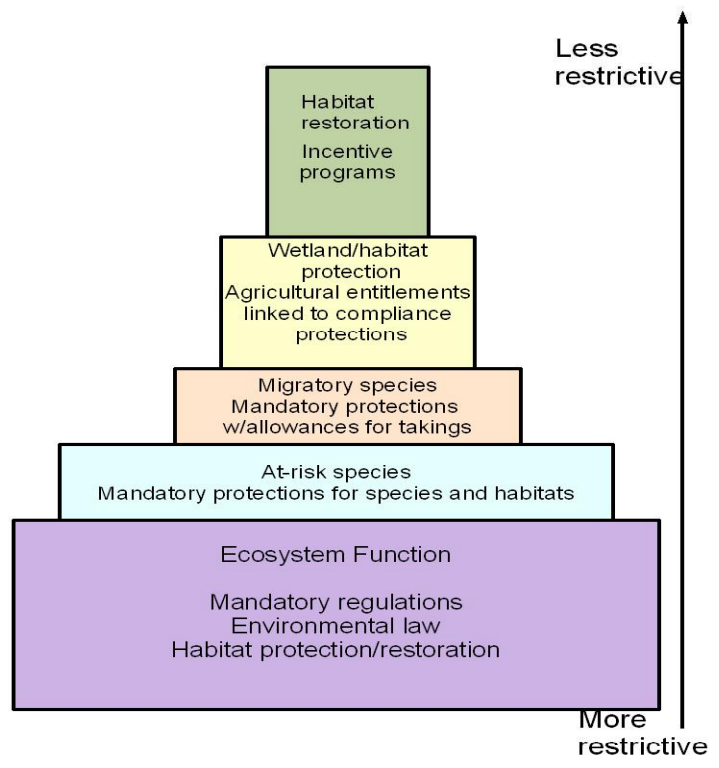
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- **A collage of piecemeal enacted laws on wildlife, wildlife habitat, and species protection**
  - **Different agencies interpreting different laws affecting wildlife (game and non-game) and species management and protection**
  - **Evolving system reflecting the state of the science of wildlife and biodiversity management**
  - **Differing political viewpoints on the role of federal, state, and private entities in the management of a public resource on private land**

# Objectives and strategies at US national level

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- **Protection of a wildlife as a public good for public benefit—Public Trust Doctrine**
  - **Protections accrue regardless of public or private lands**
  - **States have authority for resident wildlife**
  - **Federal authority for migratory species (compliance with international agreements)**
- **Mandatory protections for endangered species and habitats—floor on species loss**
- **Mandatory protections for wetlands and, at least some, critical environmental factors**



Introduction

EU policies

**US policies**

Conclusions

# Federal Agricultural Programs (Farm Bill)

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- **Wildlife habitat protection and restoration a coequal objective of agricultural conservation policy**
- **Agricultural incentive programs**
  - **Federally administered through landowner contracts**
  - **Permanent and temporary retirement from intensive agricultural use**
  - **Cost-share assistance to implement practices on working lands**
  - **Cost-share for habitat restoration**
  - **Reward program for stewardship**

# Farm Bill

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- **Cross-compliance programs for protecting wetland habitat and soil erosion (which affects aquatic environments)**
  - **Partnering programs with states and non-profit organizations (NGOs)**
    - **Federal match**
    - **Jointly determined objectives**
      - **State advisory committees**
      - **Cooperative multi-level goal-setting**
- No consistent method for assuring compliance at federal level**

# Verification

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- **Multiagency/multilevel scientific collaboration**
  - **Wildlife assessments**
  - **CEAP**
- **Initial efforts at assessment and evaluation consistent with evolving science**
  - **Ecosystem framework**
  - **Development of indicators for biodiversity and system resilience**
  - **Multiagency federal funding for monitoring efforts and assessment efforts**

Introduction

EU policies

**US policies**

Conclusions

# New Developments

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- **Habitat trading**
- **“Safe harbor”**
- **Ecosystem valuation**
- **Environmental markets**



Introduction

EU policies

US policies

**Conclusions**

# Comparison of EU and US

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- **Baseline for nature protection through legislation at EU-level and national level in the US → funding of protection measures**

# Comparison

- **Nature conservation increasingly integrated into agric. policy:**
  - 1) **Cross compliance**
    - EU: area-wide standards for land management, framework set at EU-level, but high variety of standards
    - US: restricting loss of wetlands and soil erosion; determined by federal level
  - 2) **Voluntary incentives as most prominent feature**
    - Targeted nature conservation; co-operative approach
    - US: initially higher focus on long-term retirement of land
    - EU: „multifunctional“ land use
    - Limitations (budget, voluntariness, limited or inconsistent monitoring and assessment, heavily weighted towards game species ....)
    - Success depends heavily upon cooperation with wildlife or environmental agencies and stakeholders

Introduction

EU policies

US policies

**Conclusions**

# Comparison

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- **Growing focus on monitoring and evaluation to verify results**

# Conclusions

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- **Agricultural policies are determined at high level, cover large areas and have a huge budget**
  - **key policy for land management** because of leverage over many farmers in farm programs
  - enables “top-down” approach (refocusing of member state (EU) and state (US) towards wildlife conservation) and minimum level of performance

Introduction

EU policies

US policies

**Conclusions**

# Conclusions

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- **However ...**
  - **Most funds applied with little targeting to nature conservation (in EU) or most at-risk (non-game) habitats and species (US)**
  - **depends upon voluntary enrollment and may not enroll the most useful or valuable lands for wildlife or the purpose of biodiversity**

Introduction

EU policies

US policies

**Conclusions**

# Conclusions

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- **However ...**

- **Effectiveness of measures difficult to establish**

Introduction

EU policies

US policies

**Conclusions**

# Conclusions

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- **However ...**
  - **Limited integration of biodiversity protection with other environmental goals**

# Conclusions

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**Moreover,**

- **Loss of leverage in light of high prices and increasing land use competition**
  - mandatory measures versus voluntary incentives
  - distribution of funds and conditions for their allocation
  - permanent retirement of agricultural land use versus nature conservation on “working lands”)



# Challenges

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## Justification for public funding (accountability)-- clearer public benefit

- Increasing importance of protecting the underlying ecological conditions—water quantity, water quality, invasives
- Coupling at least some agri-environmental measures to particular production or land use system (e.g. grazing)
  - compatibility with WTO-rules in the long term?
    - Necessity of clear environmental objectives and targeted intervention
    - Preference of least trade-distorting measures (e.g. better distribution of existing livestock)
    - Monitoring and evaluation to assess effectiveness of measures

# Mutual learning and cooperation

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- **Development of monitoring and evaluation tools**  
→ Mutual collaboration and exchange of data and knowledge
- **Indexes for measuring biodiversity on agricultural lands—how do we know we are making progress?**
- **Growing focus on multifunctional land use; ample experiences in EU**  
→ Exchange of scientific experiences and best practice (which measures and practices are effective, how to account for multiple objectives, suitable vertical levels for implementation)

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**Thank you**