



# Biodiversity and land use

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# Sustainable Development Indicators



- UK: Quality of Life Counts

*Population of wild birds*

- Wales/Scotland:

*% of BAP species and habitats which are identified as stable or increasing*

- How should policy change to contribute to SD?



Llywodraeth Cymru  
Welsh Assembly Government

[www.assembly.wales](http://www.assembly.wales)

# Scale of approach

- 1990s:
- Site-based: targeted SSSI management
- Farm-based: agri-env schemes: part-farm to whole farm, discrete landscapes
- 2000+:
- Management of river catchments, large upland units, commons as single units

# Model of agri environment: 1990s



- SSSI: Targeted support, reactive, based on threat, part SSSI
- Agri-env: creating an alternative market paying for environmental goods



# Model of agri-environment: 2000+



- SSSI: targeted support, proactive, whole SSSI, based on opportunity to contribute at a landscape scale
- Agri-env: building farmers' capacity to deliver environmental standards demanded through the market



# Farmer incentives



- 1990s:
- SSSI: management agreements based on profit foregone
- Agri-env: payments based on costs plus income foregone plus incentives



# Farmer incentives



- 2000+
- Market based: through environmental accreditation of food and fibre
- SSSI: paying for specified environmental outcomes
- Agri-env: transactions costs of building capacity to shift farming systems to deliver environmental outcomes



# Agri-environment benefits: 1990s



- Environmental outputs
- Direct economic impact in local economies
- Indirect economic benefits (e.g. tourism)
- Welfare benefits (WTP studies)





# Agri-environment benefits:2000+



- Contribution to Integrated Rural Development
- Impact on community quality of life
- Health benefits (producers and consumers)
- Social justice (distributional impacts)



# Research issues: impacts



- Wellbeing: contribution of biodiversity to physical and mental health
- Social justice: how does biodiversity help quality of life of excluded groups and communities
- Socio-economic: how does biodiversity help farmers and local businesses
- Community: do jobs and incomes related to biodiversity help sustain local services



# Research issues: market mechanisms



- Delivery of biodiversity through the market - how 'wide' and 'deep'?
- Agri-env: contracting out on a landscape-scale, paying for specified environmental outcomes – how effective?



# Research issues: climate change



- Identifying benchmark levels of climate change risk for biodiversity & landscape change
- Informed by people's perceptions as well as by natural science
- Impact of climate change on social systems and impact on capacity to deliver biodiversity

