The contribution of biodiversity offsetting towards biodiversity and landscape ecology goals

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Offsets can deliver biodiversity

Potential contributions at a number of levels

- Site based through direct investment
- Landscape based
  - incremental qualitative improvement
  - Improved connectivity of habitats
  - Address future biodiversity and landscape concerns

Linked ecosystem services

Systematic and rigorous offset planning is required to achieve this

What needs to be addressed when planning offsets

1. Integration of offsets into existing policies and programmes
2. Appropriate geographical unit for offset delivery
3. Linkage between biodiversity of the impact and offset area
4. Understanding species requirements in the landscape
5. Linking to the wider landscape

Integration of offsets

- Offsets could be used to deliver existing biodiversity goals and targets, e.g. Species Action Plans and Habitat Action Plans
  - Greater achievement of targets would be possible
  - An economic necessity
  - Using quantifiable targets allow transparency in the offsetting process

Appropriate geography

Achieving maximum biodiversity value requires a re-think of geographical units

- Based on natural environmental factors, e.g. JCAs
- Reduced risk of isolated single site offsets
- Links individual offsets to wider landscape structure and functions
- Allows better integration of offsets with existing semi-natural habitats and protected areas

Biodiversity of impact and offset areas

Defining offsets to match impacts

- Like for like, or better
  - Suitable habitat types and tradeability
  - Ratios and extents
- Spatial targeting of sites within geographical units
  - Spatial analysis within GIS
  - Numerous site characteristics can be searched for

Biodiversity of impact and offset areas

Considerations in offset location

- Basic ecological parameters
  - Soil types and suitability
  - Altitude
  - Proximity to watercourse and water bodies
  - Current land uses
  - Vegetation / habitat types on site and adjacent to site

- Other factors
  - Disturbance – urban areas, main roads
  - Proximity and type of agricultural land

Incorporating species requirements

- Species requirements can be used to achieve finer scale spatial targeting
- Species characteristics
  - Breeding habitat type and area requirements
  - Dispersal ability in differing habitat types
  - Use of non-breeding habitat
- Ecological networks

Wider landscape contributions

- Clear understanding of natural environment and other landscape functions
- Benefits which could be achieved
  - Structural improvements through additional high quality habitat areas
  - Functional improvements by allowing species to utilise a larger part of the landscape – breeding and permeability
- What are our aims for future landscapes?
  - Better functioning ecological networks
  - A landscape that can adapt and respond to changes

Biodiversity offsets must be planned to ensure they deliver wider landscape benefits

To be considered…

- An appropriate operational scale
- A strong biodiversity link between impact site / type and offset
- A thorough understanding of the offset landscape structure and function
- Delineation of ecological networks and identification of gaps and opportunities
- Other ecosystem services which can be delivered whilst ensuring biodiversity remains the primary purpose of offsetting?