

Strategies for optimising the nature conservation potential of the Dutch Ecological Network and the surrounding multifunctional farm landscape under predicted climate

Project manager	dr. Claire Vos		
Institute	Wageningen UR, Alterra		
Email	claire.vos@wur.nl		
Consortium	Wageningen UR, Alterra Wageningen UR, Plant Research International Wageningen UR, Environmental Sciences Department Leiden University Institute of Environmental Sciences SOVON Vogelonderzoek Dutch Butterfly Conservation		
Project website			
Starting date	26 November 2004	Completion date	31 December 2010

Context / Social problem

Given that climate is a driver of ecological processes, it is to be expected that climate change will have considerable impacts on biodiversity. A temperature rise will have a direct effect on the ranges of species, and more frequent and heavier extreme weather events will lead to greater fluctuations in population numbers.

What do we know/not know?

Indications of the effects of climate change have already been found in many species, spread over a broad range of taxa (Parmesan and Yohe, 2003, Thomas et al., 2004). There is concern that nature will not be capable of adapting to the changes (IPCC, 2001). Not only is the pace of climate change unprecedented, but the effects of climate change will also be aggravated by deterioration in habitat quality and fragmentation of habitats (Opdam and Wascher, 2004). There are indications that only mobile species and/or species with a broad habitat requirements (generalists) will be capable of reaching the Netherlands as the result of a temperature rise. (Warren et al., 2001).

What is being studied?

1. Is it possible to identify risk groups in response to climate change using species and ecosystem characteristics?
2. Where can we expect bottlenecks in the National Ecological Network because a suitable habitat is in danger of being lost or because the suitable habitat will become inaccessible?
3. Which (spatial) adaptation strategies offer the best opportunities of making nature in the Netherlands climate-proof?

What are the results, and who are they for?

The results from a number of subprojects will be used to determine which species and ecosystems are sensitive to climate change and what effects can be expected. How do these effects relate to national and European biodiversity objectives? Where are the weak spots in the NEN and where are the potential opportunities for nature? Spatial adaptation strategies are being developed, both within and outside the existing NEN. Examples within the NEN include the construction of robust ecological links, expanding nature conservation areas and increasing the internal heterogeneity of conservation areas. In addition, the multifunctional land uses around the NEN increase the permeability of the landscape (interlacing green/blue networks) and improve abiotic conditions (groundwater level, nitrogen deposition).

Stakeholders will be consulted regularly during the course of the project on the feasibility and desirability of certain adaptation strategies. The results will be of value to anyone involved in nature policy and its implementation at the national and regional levels. The multifunctional mantle around the NEN is the area where synergy is sought between climate adaptation strategies for nature and other landscape users, such as water boards, farmers and recreationists.

