

Assessing biodiversity impacts of large-scale biofuel crop production on farm land

European Environment Agency funded project (EEA/EAS/03/004)

Partners: Wageningen UR, Ecofys, Centre for Ecology & Hydrology, Danish Centre for Forest, Landscape & Planning, and Centre for Agriculture and Environment

Introduction

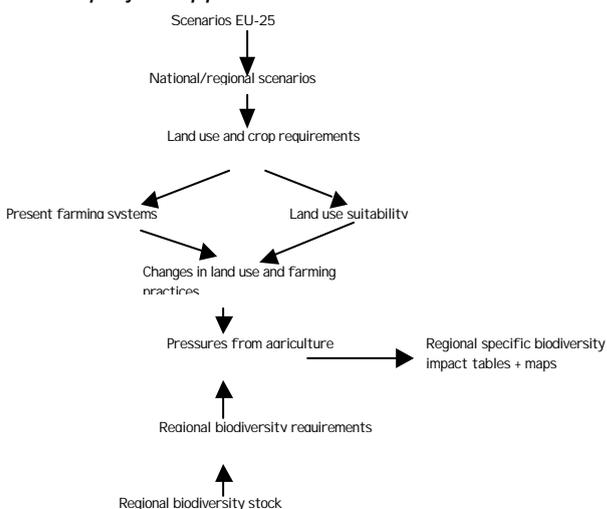
The overall aim of this project is to assess the potential impact of agricultural biofuel production on farmland habitats and biodiversity within the targets set in the Transport Biofuel Directive (2003/30/EC). The target for 2010 is set at a biofuel market share in the EU of 5,75% by 2010. This will require 19 Mtoe (million tonnes oil equivalent) in 2010. Assuming that rape seed would be the main agricultural biofuel source, one would require 15 million hectares of rape seed to realize this biofuel quantity (at this moment the total surface of rape is at around 3.4 million hectares in the EU15).

Given the state of technology it can be expected that until 2010 the main biomass types that can be converted into biofuels are the "primary" biomass sources like oil crops for biodiesel (rape, sunflower, etc) and starch and sugar crops (wheat, sugar beet, etc), the so-called ethanol crops. All these crops are rotational crops which are most commonly grown on traditional arable farms in the EU.

Project approach:

- Biofuel storylines at EU 25 and member state level for 2010 are designed
- From these storylines the future crop and land use requirements are deduced
- From these requirements in combination with the present mix of land use and farming systems and pedo-climatic suitability for different biofuel crops, future land use changes and changes in farming practices can be predicted
- From future changes in land use and farming practices pressures on biodiversity can be described
- Explicit (future) biodiversity requirements are then confronted with the pressures from agriculture in regional specific impact tables
- The potential effects of these agricultural pressures on biodiversity can then further be described using expert knowledge.

Overall project approach:



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