

## Summary - Biologisk mångfald och bioenergi i odlingslandskapet - en kunskapsmanställning

This report presents current knowledge and ideas about whether bioenergy production can contribute with habitats and conditions that promote biodiversity in the cultivated landscape. It sums up existing literature in this field. Based on this literature, as well as the author's own experiences and studies, ideas and suggestions are presented as regards how modern biomass production could be designed to promote biodiversity. In this perspective, the following habitats seem important to us:

- wet grassland
- cultivated grassland
- arable fields with wet, organic soils
- short-rotation coppice
- meadows with deciduous trees
- pollard woodlands
- areas partially covered by trees or bushes

This report may be used as a basis for continued research and building of knowledge about how to design and manage bioenergy production in the agricultural landscape in order to help achieving the objectives on biodiversity in those areas.

The conclusions of the report may be summarized as follows:

- Biomass for energy production may be produced in a way that promotes biodiversity of the agricultural landscape, as well as its aesthetic and recreational values.
- There is great potential to promote biodiversity by using wet grasslands and arable lands, short-rotation coppice/short-rotation forests, pollarding trees in dense or scattered stands, and harvesting methods that create variability both in time and in structures.
- Details of cultivation- and harvest methods are important to many species, and may be adjusted in order to promote biodiversity.
- The following components of cultivation are important for biodiversity: species composition, continuity, structural variation, fertilization, and post-harvest grazing.
- The following components of harvesting are important for biodiversity: time of year, any breaks, speed of harvesting, and handling of materials after harvest.
- Bioenergy production in occasionally flooded areas may be designed to promote many species dependent on the agricultural landscape.
- Harvesting shoots on stumps (coppice or short-rotation forestry) or trunks (pollards) create favorable conditions for many rare species: valuable wood substrates, structural variation, exposure to sunlight, and long-term substrate continuity.
- However, there are large gaps in our knowledge as regards species that depend on or are promoted by pollard or short-rotation coppice.
- More studies are also needed as regards the potential areas of traditional habitats that may be used for bioenergy production.
- It is probably necessary to study financial instruments and the development of machine and facility techniques in order to find efficient production systems that promote biodiversity.