




> **Oil palm estate, with seedlings and mature trees, Malaysia**

Raw materials, or feedstocks, used in the production of biofuels, fall into two groups – first- and second-generation. In general, first-generation biofuels rely on food crops, such as wheat, rapeseed or palm oil, while second-generation technology uses a broader range of plant materials from agriculture and forestry.

The JNCC position statement calls for a pragmatic approach to prioritising support for particular sources of biofuels that would encourage more beneficial feedstock sources, such as used cooking oil and forestry waste.

Some biofuels have a very negative greenhouse gas balance when their full life-cycle is taken into account. One example is palm oil that is grown on drained peatlands in Indonesia. It has been calculated that oil from this source emits five times as much carbon as conventional diesel because so much is released through the destruction of the peat – drainage of peatlands in Indonesia is estimated to release 600 million tonnes of carbon each year.

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> The UK's global impacts on nature conservation

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The UK's ecological 'footprint' extends well beyond the UK, and JNCC is developing methods to measure and where necessary mitigate that impact

Our Global Impacts programme was established in 2005 and has developed rapidly since then. The programme's aim is to assess the impact of the UK on global biodiversity (through trade, overseas investment, aid and tourism), and identify ways to minimise or avoid negative impacts.

The programme currently has two main strands of work. Firstly, it is developing a web-based system that provides non-specialists within Government and elsewhere with policy-relevant information, and secondly it is complementing this system with evidence-based policy advice on priority issues.

During the reporting year significant progress was made on a database and website that gives access to statistics on trade and business investment and links them to ecosystem impacts.

Information is presented on individual countries, and we have focussed our efforts on a number of priority countries, in particular to support Defra's Sustainable Development Dialogues with China, India, South Africa, Mexico and Brazil. Our vision for the future of the database and website is an integrated system that can quantify UK trade and investment relationships with key partner countries. The information is already being used by the Export Credits Guarantee Department as a source of country-specific biodiversity information during its screening process for major projects.

Work on the database and website offers an opportunity to develop JNCC advice on a range of policy issues. Work currently underway will allow identification of priority geographical areas and critical impacts within these areas, such as fisheries, forestry and biomass, along with evidence of impacts, relevant international instruments and policy options.

Early in the process, we identified biofuels and their potential impact on biodiversity as an urgent priority. During the year, JNCC has carried out a significant amount of work on this issue and in November 2007 we issued a position statement on *Transport Biofuels and Biodiversity*.

This recognised the positive contribution biofuels could make to reducing greenhouse gas emissions, but added: "We are concerned that without appropriate safeguards, the rapidly growing biofuel industry and trade – incentivised by the European Union's biofuels target – will add another significant pressure to the environment with damaging consequences for biodiversity, both within the UK and globally."

Tony Weighell and Jessica Magnus of JNCC gave oral evidence to the House of Commons Environmental Audit Committee during its investigation into biofuels policy. The Committee's report, *Are Biofuels Sustainable?*, was published in January 2008, and concluded that the European Union should not pursue targets to increase the use of biofuels in the absence of robust sustainability standards and mechanisms to prevent damaging land use change.

Tony Weighell told the select committee that the biofuels industry is being driven by targets around the world. He added: "The key consumers in the northern hemisphere – China, India and the European Union – cannot be self-sufficient and they are going to put a large demand on biomass supplies, which inevitably will come from the Tropics."





Yew *Taxus baccata*,
Kingley Vale National Nature Reserve

The report on Habitats Directive implementation provides detailed updates on the fortunes of 167 UK species and habitats. For example, the report says that there is some 13 km square of yew *Taxus baccata* woodland in parts of England and Wales. Its conservation status is rated as 'Unfavourable – bad', but the situation is improving as appropriate conservation measures are put in place.



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Fen Orchid *Liparis loeselii*,
Ant Broad and Marshes SSSI

The fen orchid *Liparis loeselii* is rated as having an 'Unfavourable – bad' conservation status. The future prospects for the orchid, which is found at just five sites in East Anglia and south Wales, are judged to be poor unless conditions change.



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