

5

Sustainability advice

The provision of advice on nature conservation in the wider context of sustainable development is a growing area of work for JNCC

The rise of the sustainable development agenda has brought with it a growing recognition of the inter-dependence of the environment, society and the economy. Greater understanding of these connections has resulted in JNCC, and the nature conservation sector more widely, paying greater attention to economics. During the reporting year we worked to build capacity in environmental economics both within JNCC and with our partners. JNCC's work in this area has been developed within the context of the changing economic environment worldwide.

Economic valuation of natural features continued in the UK Overseas Territories, supported by JNCC's environmental economics toolkit. Significant progress has been made with valuation of the uplands of Montserrat, a study of the value of coral reefs to the people of Bermuda and a valuation of mangroves in the Cayman Islands. We also organised a workshop on the economic assessment of biodiversity and ecosystem services at 'The European Union and its Overseas Entities: strategies to counter climate change and biodiversity loss', a conference held on the Indian Ocean island of Réunion in July 2008 (see Chapter 2).

JNCC is also making a contribution, through Defra, to The Economics of Ecosystems and Biodiversity (TEEB), a major investigation of environmental economics (see Chapter 4).





San Bushman healer digging out a yellow scorpion
Kalahari, Botswana

What is 'idle land'? Worldwide demand for space to grow crops for food and energy has made land use a major issue for JNCC and has put the focus on decision-making around the future of land not currently used for crop production.

Should areas that are not being used for agriculture or forestry be labelled 'idle'? By definition, 'idle' means 'ineffective, worthless, having no specific purpose', but when applied to land the term is subjective and is normally associated with land not being used to provide a product that is valued by society.

This idea of land as idle fails to recognise the wide range of goods and services provided by the environment in the widest context: direct benefits like wild foods, fuel

and medicines and less obvious ones like water filtration and climate regulation.

A more useful way of thinking about the value of land would be one that avoids a view based on production of a commodity and takes a more holistic approach. A more complete valuation of land potential would take into account all the goods and services provided by an area of land, such as its carbon storage potential, biodiversity, fuel, food and even its cultural significance to local people.

The deserts of Botswana provide a full range of goods and services to the San Bushmen. For example medicines and poisons for hunting are extracted from plants, snakes and scorpions. Here a healer is digging for yellow scorpion.

© David Cardinal/ Cardinal Photo/photographersdirect.com



Conservation impacts of energy production
Cooling towers of coal fired Ratcliffe on Soar Power Station, Nottinghamshire, UK

All energy production options have some impact on the environment and this presents a challenge for policy-makers. The Institute for European Environmental Policy's report sets out to make science-based judgments about the technologies – both fossil fuel and renewable – that are available to the UK. The report says there is evidence to indicate that several habitats and species would be threatened if future developments do not avoid sensitive sites.

The study highlights the pros and cons of each of the options. For example, while a new coal power station takes up a relatively small area of land, its 'footprint' is large as it produces large amounts of carbon dioxide and polluting gases such as nitrogen and sulphur oxides.

By contrast, biofuel production involves large areas of land, both within the UK and in other parts of the world, and associated habitat transformation may lead to significant losses of biodiversity. Although biofuels have the potential to emit less greenhouse gas than fossil fuel alternatives, they are not necessarily carbon neutral as there is a carbon cost associated with their production and transport.

© Jeremy Walker/naturepl.com

Biofuels continue to be a priority for JNCC's Sustainability Advice team, and were the subject of intense discussion at the ninth Conference of the Parties to the Convention on Biological Diversity (CBD) in Bonn in May 2008 (see Chapter 1), where Diana Mortimer, JNCC Head of Sustainability Advice, led UK input to discussions. The conference recognised that the CBD has a role in biodiversity-related aspects of the sustainable production and use of biofuels, and reached an agreement that the CBD secretariat should compile information and evidence on the impacts of biofuels on biodiversity and convene regional workshops on the sustainable production and use of biofuels.

During 2008/09, JNCC responded to UK and European Union consultations on the future of biofuels, including the EU's draft Renewable Energy Directive. Over the coming year, JNCC will continue to work with Defra and the Department of Energy and Climate Change on the issue, particularly in the area of sustainability criteria.

JNCC contributed to a UK Government consultation on a draft Renewable Energy Strategy in 2008, and in parallel with this we commissioned a report from the Institute for European Environmental Policy on *Conservation impacts of energy production*, which looked at the potential influence of different energy options on UK biodiversity. The report concluded that the impacts of future developments of each energy technology will vary widely as a result of scale of use, location and the degree to which mitigation measures are identified and implemented. It points to the risks and rewards in the areas of biodiversity and geodiversity that should be factored into energy policy.

During the year, JNCC and the Inter-Agency Climate Change Forum provided both written and oral evidence to the Royal Commission on Environmental Pollution in relation to its current study on adaptation to climate change.



Giant hogweed *Heracleum mantegazzianum*
Invasive Non-native Species Framework Strategy launch

The spread of invasive non-native species is one of the biggest threats to global biodiversity and has a major impact in the UK. Giant hogweed is one of a number of highly invasive plants that were first introduced to Britain as ornamental garden species.

Giant hogweed can grow to five metres in height. It flourishes in wet areas such as riverbanks, marshes and damp woodland, and soon shades out other plants. It is also a human health issue as its sap contains a substance that causes skin blistering.

Giant hogweed is one of the plant and animal species that is targeted by a new Invasive Non-native Species Framework Strategy for Great Britain, which was launched in May 2008. The strategy is the first co-ordinated plan to address the threat to our biodiversity from invasive non-native species; an all-Ireland strategic approach is being developed by the Northern Ireland Assembly and the Republic of Ireland Government.

The GB approach involves prevention of new introductions, early detection and rapid response when new introductions occur, and longer-term control programmes for problem species based on sound science.



In England, the strategy was launched by Environment Minister Jeff Rooker, and in Scotland by Michael Russell, Minister for the Environment, Scottish Government. The GB Strategy was launched in Wales by Jane Davidson, Environment, Sustainability and Housing Minister for the Welsh Assembly Government, shown here spraying giant hogweed, an invasive non-native plant.

Giant hogweed © Duncan McEwan/naturepl.com
Group photo © Margaret Underwood



Montserrat oriole *Icterus oberi*

Adult male on Montserrat

A presentation of an economic valuation assessment of Montserrat's Centre Hills was a feature of a JNCC-led workshop at the Réunion conference in July 2008. The Centre Hills are important to nature conservation on the island as habitat to a wide range of species, including the Montserrat oriole. The oriole is the island's national bird and is listed as Critically Endangered by the International Union for the Conservation of Nature and Natural Resources (IUCN).

Funded by the Overseas Territories Environment Programme, the economic valuation study has investigated the market value of the hills to farming and tourism and their non-market values as suppliers of ecosystem services, for example maintaining water quality and controlling erosion. The study's outcomes will help decision-makers to appreciate the costs and benefits of different development scenarios and the influence they could have on the environment.

© Jurgen & Christine Sohns/FLPA