

JOINT

Nature News

CONSERVATION COMMITTEE

Leaving on an even keel

The Chairman of the JNCC, Katharine Bryan, has been appointed Chief Executive of the Water Service in Northern Ireland. Here she takes the opportunity to look back at her time with us.

It is with mixed feelings that I move on to a new opportunity, back within the water industry. However, I wanted to take this chance to thank everyone who has assisted in raising the importance of the role and function of JNCC on the conservation landscape during my tenure, both here in the UK and in many territories abroad. It has been tremendous to hear from so many quarters how much the experience and expertise of JNCC staff is valued, and indeed actively sought out.

A new strategy

A full programme of consultation with JNCC's staff and external stakeholders began after the September Committee meeting, and work has continued apace. Within the process, JNCC is keen to involve everyone with an interest in such work, as different ways of looking at the matters in hand can be very beneficial to the end result. I believe that the final outcome will fortify the remit of JNCC, and clarify the role of all the statutory conservation agencies in the UK. You can find out more background in this newsletter.

The Haskins Review and JNCC

Lord Haskins' report on rural delivery in England has now been published on the Defra website (<http://www.defra.gov.uk/rural/ruraldelivery>), together with a response by Secretary of State Margaret Beckett.

One of the main recommendations of the report is that Government should create a new integrated agency responsible for sustainable land use and the natural environment, bringing together English Nature, the Rural Development Service and part of the Countryside Agency. It is



Razorbill. ©Tim Dunn

proposed that this new agency would take on English Nature's role in delivering the 'special functions' through the JNCC.

At this stage we cannot judge whether the proposed changes will have any impact on the role and responsibilities of the JNCC, or the way in which it operates. There will now be an assessment of the potential implications and, over the next few weeks, discussions on the significant issues with Government and the country agencies.

Personal highlights

To the fore of my memories of my time with JNCC was engaging members of the Councils/Boards of the country agencies in debating JNCC's draft strategy. It was a wonderful opportunity to resolve misunderstandings about JNCC's role and intent, combined with first class discussions on nature conservation at a strategic level. It is a wish of mine for members from the country agencies to meet each other periodically to further strengthen relationships and promote nature conservation at the UK level.

JNCC's successes in the international arena are a very good reason for celebration. From species work including basking shark and guillemot, to our staff having a key involvement in the Bermuda conference on conservation in UK Overseas Territories, and work within the Ramsar Convention's Scientific and Technical

Review Panel, JNCC has been adding steadily to its credentials.

I am also very happy to see the growing interest and appreciation for JNCC's marine remit. This area of work has gained support both from sponsor agency Defra, and within the Brussels community, with acceptance and praise of our advice concerning the Darwin Mounds. The Committee also had a great deal of enthusiasm for the Irish Sea Pilot project, an area of work of which JNCC can be justifiably proud.

I hope you enjoy reading more about JNCC's recent work in this issue – from the latest title in the Geological Conservation Review publication series to the issues surrounding Genetically Modified Organisms, from the remit of the Biodiversity Research Action Group (BRAG) to a soils conservation seminar.

The JNCC has scientific expertise that is unique not only in the UK, but also worldwide. It was something I hadn't fully appreciated when I took up the role of Chairman, and it fills me with great pride to think that the UK is held in such esteem throughout the global nature conservation community. I wish the organisation, and all of its staff, the very best for the future.

K. Bryan
Katharine Bryan



Black-legged Kittiwake. ©Matt Parsons

8 million seabirds surveyed!

Major project's findings to be published in April

2004 will see the publication of *Seabird Populations of Britain and Ireland*, which summarises the results of *Seabird 2000*, a project led by JNCC to census all 25 species of seabird breeding in Britain and Ireland.

A partnership between JNCC, the statutory nature conservation agencies, RSPB, the Seabird Group, Shetland Oil Terminal Environmental Advisory Group (SOTEAG), BirdWatch Ireland, National Parks and Wildlife Service (Dept of Environment, Heritage and Local Government, Republic of Ireland), *Seabird 2000* was launched in April 1999 by Elliot Morley MP.

Fieldwork was completed in 2002, with over 1,000 surveyors taking part, who recorded over 8 million seabirds breeding at 3,200 colonies along 40,000 km of coastline, and at 900 inland sites.

Seabird 2000 follows on from two previous censuses, *Operation Seafarer* in 1969-70 and *The Seabird Colony Register* in 1985-88, thus allowing population trends over the last 15 to 30 years to be assessed. In the book, species experts focus on the main factors causing change in the population of each species, highlighting any major threats and topics requiring further study. *Seabird 2000* is a major contribution to Common Standards Monitoring in the UK and

the Republic of Ireland, with over 40% of SPAs designated because of seabird interest. The UK and Ireland hold internationally important assemblages of seabirds including 90% of the world's Manx Shearwaters, 68% of Northern Gannets and 60% of Great Skuas. The book provides an accurate baseline with which to compare future monitoring. For the first time, accurate baseline estimates were obtained for populations of nocturnal species (petrels and shearwaters) breeding on the remotest of the British Isles. The book is being published by T & A D Poyser, London.



Leach's Storm-petrel in burrow. ©JNCC

Contact File:

Dr Ian Mitchell, Seabird Colony Team Leader

Tel: +44 (0)1224 655717

email: ian.mitchell@jncc.gov.uk

Global Flyways

The JNCC is currently involved in preparing for a major international conference which will review the status of the world's waterbirds, their flyways and their threatened wetland habitats. This Global Flyways Conference is being jointly organised by the UK, The Netherlands and Wetlands International, and is being held in Edinburgh from 3 - 8 April 2004. It will also review activity during the 40 years that has passed since the first international meeting of waterbird conservation, which was held at St Andrews, in 1963. Along with addressing achievements of the last 40 years, the conference will identify the gaps and needs for initiatives to stimulate future conservation of the world's waterbirds, their migratory flyways and their important wetland habitats.

The conference is expected to attract around 500 participants from all over the world, including senior researchers, conservationists and government representatives. The UK Government and conservation agencies are providing financial support to allow participation at the conference by representatives from developing countries. This will ensure that there is a full global review of the measures needed. **Further information is available from** www.wetlands.org.

JNCC soil conservation seminar at Reading University



'Exclosed' areas (to left of fence) on the Pennines Moor House National Nature Reserve have been free from grazing for up to 30 years. These can provide important information on the physical and chemical differences between soils underlying grazed and ungrazed vegetation.
©English Nature

Soil formation takes a long time, operating at near-geological time scales, but soil structure and function can be lost overnight. Recognition of the need to protect soils has also taken a long time, with the nature conservation value of soils (for example, their function in supporting habitats) still not fully recognised.

However, policy on soil conservation, including nature conservation issues, is now moving with surprising speed. Driven by a developing EU soil strategy, Wales has been quick to respond with a soils strategy in development (led by the Welsh Assembly) and England with a soils action plan via Defra. Development of soil action plans and strategies has been recognised from the start as involving a range of cross-cutting issues and the conservation agencies have been swift to respond in their own right and through the Scottish Natural Heritage-led Soils Lead Co-ordination Network.

Contributing to this policy development is essential, but so is working to establish effective relationships with a wide range of interest groups involved in soils science. Traditionally, agricultural issues, along with erosion and contamination, have led the debate to the exclusion of the wider environmental role of soils, including that of habitat support and

ecosystem functions. As part of its strategy to change this perception, JNCC is co-hosting a conference at Reading University in December that will look at a range of cross-cutting soil issues that have nature conservation relevance.

Bringing together conservation officers and soil scientists, government advisors and academics, the Reading seminar is designed to raise awareness of the nature conservation significance of soils, advertise the conservation agency work in this area and establish links to other working scientists. With presentations covering such topics as 'Soilscapes and Ecoscapes', 'Ecological Restoration and Soil Systems', 'Soil monitoring in the context of nature conservation' and many others, the event will give a good overview of the practical application of soil science for nature conservation.

Following the conference, details will be available on the JNCC website at:

www.jncc.gov.uk/habitats/agency/soils.htm

Contact File:

Tony Weighell, Earth Science & Coastal Adviser.

Tel: +44 (0)1733 866902

Email: tony.weighell@jncc.gov.uk

Geological Conservation Review

goes coast to coast



Like sentinels guarding the north-eastern approaches to the British mainland, the spectacular Stacks of Duncansby in Caithness stand in stark testimony to the ceaseless interplay between a dynamic ocean and the relative stability of land. This stunning winter view looks due north towards Duncansby Head and South Ronaldsay, Orkney.

©Ken Crossan, Wick, Caithness.

Volume 28 of the JNCC's GCR Series was published in November 2003. The new book contains detailed descriptions of a particular group of GCR sites, all of which are protected as Earth science Sites of Special Scientific Interest for their contribution to the scientific study of coastal landscapes.

Coastal Geomorphology of Great Britain, by V J May and J D Hansom, places these coastal features into a wider context by detailing the factors that have shaped our coasts and determined their form. Many elements interplay to build the changing face of the coast that we see today, including geology, glaciation, sea-level change, sediment supply, wind, wave, tide and, increasingly, human activities.

Nearly a hundred of the most scientifically important sites have been selected for the GCR to represent the geomorphology of the coast of Great Britain. These include classic examples of typical coastal features cited the world over, such as Scolt Head Island, Lulworth Cove, Chesil Beach and St Ninian's Tombolo, and yet others such as the machair of the west coast of Scotland that are unique to the British Isles. Many of the sites have earned international renown both scientifically and aesthetically. Information from these sites contributes greatly to an understanding of the impact both of natural climate change, and of coastal management by mankind.

By registering a pre-publication order with JNCC's distributors, a saving of up to 20% can be made on forthcoming GCR titles – for details contact NHBS Ltd, telephone +44 (0)1803 865913, or visit their website at www.nhbs.com.

GCR looks to the future

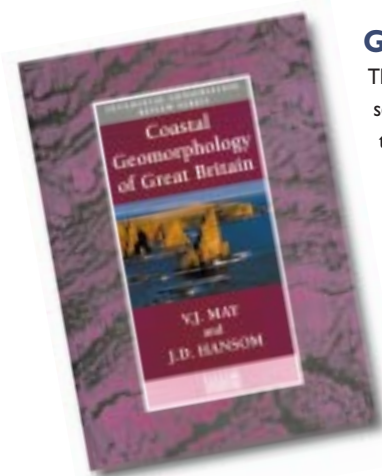
The aim of the GCR Publications project is to publish all of the 42 book series by the end of 2005. As the paper-based phase of the project draws to a conclusion, JNCC is considering ways in which the information can be made more widely available. The first step being taken is publishing the GCR Database on the JNCC website, where the outline information of all of the confirmed GCR sites will be made available in a searchable format. The ultimate goal is to make the entire series available in an electronic format.

Contact file:

Neil Ellis, GCR Publications Manager.

Tel: +44 (0)1733 866906

Email: neil.ellis@jncc.gov.uk



GMOs crop up again!

Research into genetic modification harvests mixed results

The way a crop is managed can significantly affect biodiversity. This was the clear message from the results of a four-year programme of experiments carried out on Genetically Modified Herbicide Tolerant (GMHT) crops.

The Farm Scale Evaluations (FSEs) were the first ever large-scale comparison of the impacts on biodiversity of two cropping systems. They compared weeds and invertebrates in GMHT and conventionally managed maize, spring oilseed rape, and sugar and fodder beet. Results showed that GMHT beet and oilseed rape had significantly lower biomass of weeds following herbicide applications, and this resulted in fewer weed seeds. There were also lower numbers of pollinators (bees and butterflies) in these two GMHT crops.

These results were in line with the expectations of English Nature, which acts as Lead Agency on GMOs on behalf of JNCC. The conservation agencies called for the experiments to be set up in 1997, when several GMHT crops were in the pipeline for commercial release despite concerns about their indirect impacts on biodiversity. The Head of English Nature's Biotechnology Advisory Unit, Dr Brian Johnson, was instrumental in setting up the experiments.

"Faced with continuing declines in farmland biodiversity, the last thing the UK needed was a set of new crop varieties that would further intensify farming", says Dr Johnson. "We had data from small plot trials showing the highly effective and reliable weed control achieved with GMHT crops, and growing evidence that linked weed and seed abundance to numbers of invertebrates and birds on farmland. This was our starting point, but these early experiments were not designed to assess biodiversity and did not adequately reflect real commercial management."

Despite the clear pointers from the early experiments, the results came as quite a surprise to ecologists, perhaps for two main reasons. The first was simply the magnitude of the impacts on biodiversity. Following application of the herbicide glyphosate, weed biomass in GMHT beet was 85% lower than that in conventional beet, and seed rain was 80% lower. Similar effects were seen in oilseed rape.



Sugar beet fields can be important refuges of once common arable plants such as Shepard's Needle Scandix pecten-veneris. GMHT crops could be bad news for these species. ©Chris Gibson, English Nature.

The second surprise was that GMHT maize held substantially more biodiversity than conventional maize. Although it was already recognised that the residual herbicides used on maize give good weed control and are toxic to many invertebrates, the beneficial effect of switching to a contact herbicide like glufosinate ammonium had not been fully appreciated.

The evaluations are a clear example of the precautionary principle put into practice. They are also a flag-bearer to the statutory conservation agencies' rigorous scientific approach to the protection of biodiversity. Most importantly, they have dramatically improved our understanding of agro-ecosystem ecology, giving us a workable protocol that can be used to compare other agricultural systems in the future.

Contact File:

Dr Brian Johnson, English Nature

Tel: +44 (0)1823 283211

Email: brian.johnson@english-nature.org.uk

JNCC plays its part in *international rescue*

Malaysia hosts the Convention on Biological Diversity

The next meeting of the Parties to the Convention on Biological Diversity takes place in February 2004 in Malaysia. The Convention's objectives are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources. JNCC Support Unit staff provide scientific advice to Defra on the Convention, and have this year been ably supported by specialists from the country agencies.

Of particular interest to the JNCC, and to be discussed in Malaysia, is the work currently underway on:

- developing work programmes on protected areas and mountain ecosystems; meeting the World Summit on Sustainable Development (WSSD) 2010 target and developing indicators to support this;
- developing guidelines on sustainable use (the first time the Convention has significantly addressed this, its middle pillar)
- elaboration of the ecosystem approach.

Paul Rose, the Head of JNCC's Biodiversity Information Service, and Steve Gibson, International Adviser, who lead the Support Unit input to the Convention were assisted by attendance at Convention technical group meetings by Vin Fleming, Head of International Unit, on sustainable use; John Holmes and Mike Harley of English Nature on protected areas and climate change respectively; and Des Thompson of Scottish Natural Heritage on mountain ecosystems. Many other Support Unit specialists contributed to other issues.

Contact File:

Steve Gibson, International Adviser.

Tel: +44 (0)1733 866815

Email: steve.gibson@jncc.gov.uk



Steve Gibson suggested adopting the recommendations on developing practical principles and operational guidance for sustainable use without amendment.

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Steady progress on a new strategy

Throughout the year the Joint Committee has been developing a strategy which will set out what it aims to achieve for biological and geological diversity in the future. This work is being done to enable the Committee, working with its Support unit and the country nature conservation agencies, to respond appropriately to a changing landscape of opportunities and challenges.

A collaborative venture with the community of organisations from which the JNCC is formed, this work will enable us to ensure that we all share a common understanding of the objectives, and consequent outcomes, we are seeking to achieve and that our respective work programmes are complementary.

JNCC intends to base the new strategy on the strengths that we derive from our work with an extensive network of partner bodies. Such networking enables us to:

- take a strategic overview of UK nature conservation, and set this within the relevant international context;

- provide advice based on a sound understanding of the science of nature conservation;
- optimise the collection, management and sharing of environmental information;
- facilitate partnership working between stakeholders in the environment; and
- help the UK to contribute to the conservation of the natural world at a European and global scale.

We shall aim to build on these strengths to provide strategic advice that better reflects the complex and dynamic nature of the natural world, and its inherent links with people. In this way JNCC will make a significant contribution to sustainable development.

We have embarked on a programme of consultation with UK Government and devolved administrations, and will begin consulting with our partner bodies shortly.



JNCC staff Paul Rose and Lawrence Way were amongst the delegates at the Governing Board of the Global Biodiversity Information facility (GBIF), which met in Tsukuba, Japan. ©Miura Photo Studio

47 million data points help assess global biodiversity

In October, JNCC led the UK delegation at the Governing Board of the Global Biodiversity Information Facility (GBIF), which met in Tsukuba, Japan. GBIF is an international initiative with country and international organisational participants, which aims to make the world's biodiversity data freely and openly available via an interconnected set of dispersed databases.

The main business of the governing board was to set up an independent review of GBIF, refresh the committees that set the direction for its work, and agree next year's work programme. One of the main objectives of the UK delegation has been to encourage GBIF to plan how it can be used to best effect, as well as planning how it can work technically.

The Tsukuba meeting made good progress, with a Finnish-led demonstration of GBIF use for regional forest planning in the Andes. GBIF also renewed its commitment to engage with the Convention on Biodiversity, which could include helping in the assessment of the World Summit

on Sustainable Development (WSSD), by providing data for the target of slowing the rate of biodiversity loss by 2010.

The Japan meeting also brought together the people responsible for providing data to GBIF, to assess whether the GBIF network was ready for integration, and to determine what data can be provided initially. The results were encouraging, with participants predicting 47 million data points (observations of species at a particular time and place) would be available over the next year. This includes up to 12 million data points from organisations contributing data to the UK's National Biodiversity Network, which will link its internet data access service, www.searchnbn.net, for searching by GBIF.

Contact File:

Paul Rose, Head of Biodiversity Information Service. Tel: +44 (0)1733 866859

Email: paul.rose@jncc.gov.uk

