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BRISC

BIOLOGICAL RECORDING IN SCOTLAND

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CONFERENCE 2005 Proceedings and pictures

This year's annual conference, which took place in the Bute Medical Building, University of St Andrews, provided an excellent opportunity for members to get together and enjoy some very interesting presentations on the theme of 'Recording and monitoring the marine and coastal environment'. Not only did we have six excellent speakers, but the day finished with a couple of excursions to encounter some real live biodiversity. One outing took delegates along Kinkell Braes, which form the rocky coast line east of St Andrews, the other went to Tentsmuir NNR, which is one of the most mobile coastlines in Scotland. Three of the talks and the excursion to Tentsmuir are covered in this issue. It

is hoped to publish the rest of the talks in the October issue of Recorder News.

An idea to run a raffle on the day turned out to be very successful. A number of books of special interest to the delegates had been donated as prizes for this and a total of £110 was raised. Many thanks to the donors and everyone else for helping us raise this most welcome sum for BRISC.

The Annual General Meeting took place at lunch time with a good turnout of members. Patrick Milne Home was elected chairman replacing Anne-Marie Smout and Allan Brown was elected treasurer, replacing Mark Simmons. The rest of the committee was re-elected. The meeting also enthusiastically agreed to increase the annual membership subscription by £5. All this is covered in the letter included with this mailing. Please ensure that your annual subs are paid forthwith. (ed)



BRISC's new Chairman, Patrick Milne Home

BRISC badly needs a new Membership Secretary. If any member feels he or she could help out with this important task, please contact Patrick Milne Home on 01577 863758 or email Patrick@milnehome.org

Conference Photo call:



Calum Duncan and Anne-Marie Smout, sharing a joke outside the Bute. AMS is wearing one of her retirement presents: a hand-painted bumblebee silk scarf. (Alan Cameron)



William Penrice, Thomas Huxley, Gordon Corbet and others during the AGM (Alan Cameron)

MONITORING MARINE MAMMALS AROUND THE UK: THE SCANS AND SCANS-II SURVEYS

John Harwood* and Kelly MacLeod, NERC Sea Mammal Research Unit, University of St Andrews

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Many marine mammal species, including some surprising ones – such as the hooded seal *Cystophora cristata*, occur regularly around the UK. The two commonest seal species – the common or harbour seal *Phoca vitulina* and the grey seal *Halichoerus grypus* – are monitored regularly by the Sea Mammal Research Unit (SMRU), but monitoring of cetaceans (porpoises, dolphin and whales) has been less systematic until very recently.

SMRU has been carrying out annual aerial surveys of all the major grey seal breeding colonies around the British coast since the early 1960s. The white-coated pups are easily counted in photographs taken during these surveys and we now have a very good picture of how numbers have changed

over the last 40 years. The UK grey seal population has increased steadily over this period, although the numbers breeding at colonies along the west coast of Scotland have changed very little over the last decade. SMRU estimates that there are currently around 113,000 grey seals breeding around our coasts.

Harbour seals are less easy to count because they do not breed in well-defined colonies. These seals are most easily counted when they haul out on sandbanks and rocky skerries. They spend most time hauled out during the moult, which occurs in July and August, soon after the end of the pupping season. SMRU carries out aerial surveys every year in this season but, because harbour seals are so widely distributed, it is not possible to survey the entire British coastline in one go. Instead, different regions are surveyed every year. The current population size is estimated to be at least 34,000. Numbers have gone up and down over the last 20 years. In particular, the two outbreaks of phocine distemper virus, in 1988 and 2002, each killed nearly 20,000 harbour seals in European waters. All of the European populations had recovered to their original levels by 2000, but it remains to be seen how quickly they will recover from the most recent epidemic. This epidemic had very little impact on Scottish harbour seals, but we still do not know why that was.

A number of voluntary schemes, such as the one run by the SeaWatch Foundation in Oxford, record the presence of cetaceans at various sites around the coast and collect information by placing observers on “ships of opportunity”, vessels that are not actually performing surveys of cetaceans but allow cetacean observers to travel with them. The results of this work have recently been summarised in the *Atlas of Cetacean Distribution in North-west European Waters*, published by the Joint Nature Conservation Committee (see jncc.gov.uk)^a. Although this work has provided an invaluable picture of where the different cetacean species occur throughout the year, it does not provide any estimates of the size of their populations.

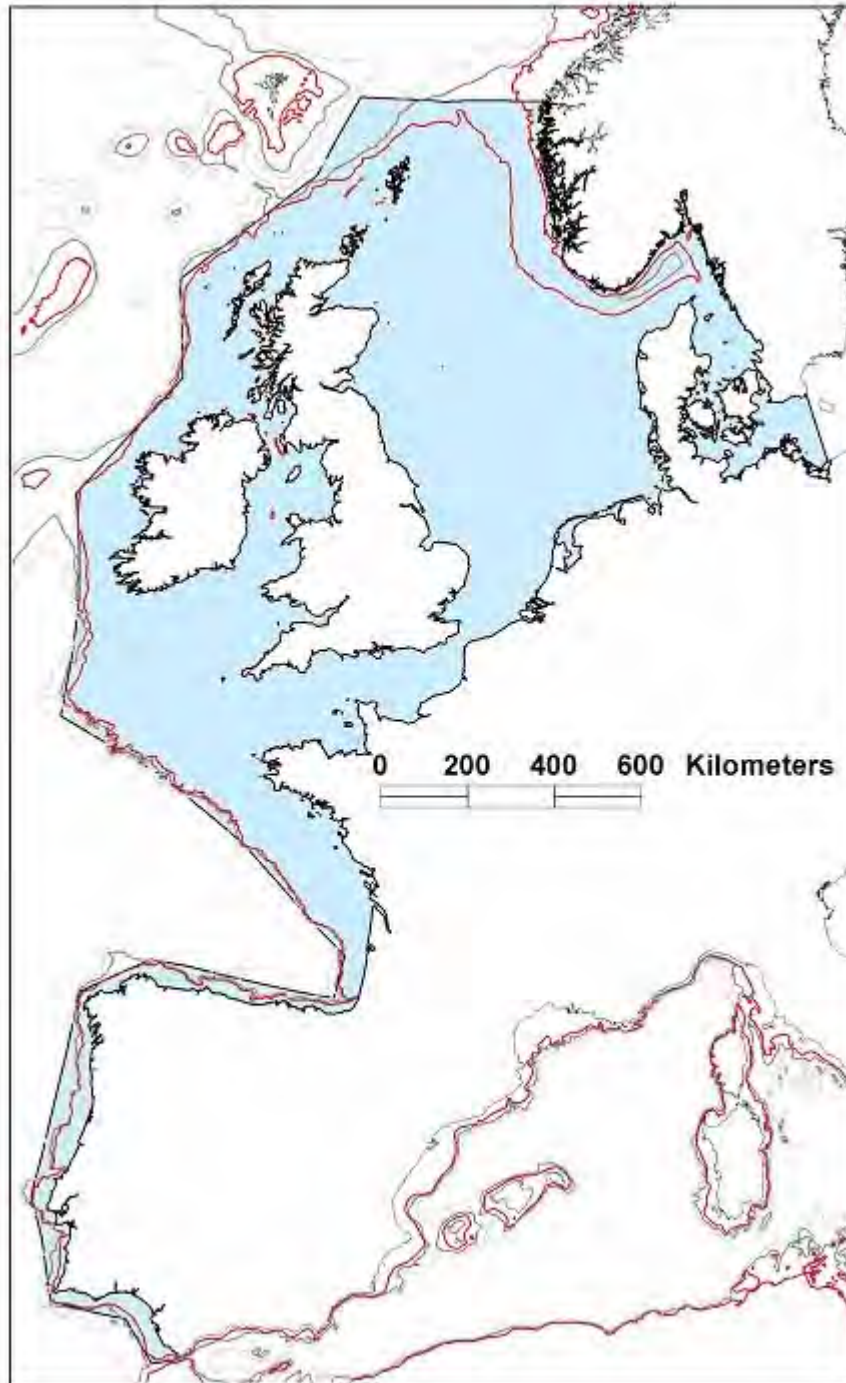
At the moment, the only way to do this is to carry out dedicated surveys using large vessels or aircraft. SMRU conducted the first major surveys of this kind (SCANS – Small Cetaceans Abundance in the North Sea) in 1994, with funding from the European Commission’s LIFE programme. The survey covered the North Sea (including the Kattegat and Skagerrak) and the Celtic Sea. It revealed that, at that time, there were around 8,500 northern minke whales (*Balaenoptera acutorostrata*) in the North Sea, 75,500 common dolphins (*Delphinus delphis*) in the Celtic Sea, and 300,000 harbour porpoises (*Phocoena phocoena*) in the North and Celtic Seas.

SMRU has organized a successor to SCANS (SCANS-II, Small Cetaceans in the European Atlantic and North Seas), again with European Commission funding, scheduled for June and July 2005. It will cover a much wider area (see map), including the entire west coast of the UK and Ireland,

^a Also reviewed in *BRISC Recorder News* No 54 (July 2004)

and the Atlantic coasts of France, Spain and Portugal. Eight ships and three aircraft will undertake this massive survey, at a total cost of around €1.5 million. In addition to providing up-to-date estimates of the current size of the three species considered to be of highest conservation importance in Northwest Europe (the harbour porpoise, common dolphin and bottlenose dolphin *Tursiops truncatus*), it will also allow

scientists to assess the impact of the bycatch of these species in commercial fisheries and other human activities. The project will also develop methods for monitoring the abundance of these species between major dedicated surveys, such as SCANS and SCANS-II, and will provide European states with a cadre of trained personnel who can carry out this work.



Map of northwest Europe showing (in blue) the area surveyed by the 2005 Small Cetaceans in the European Atlantic and North Seas (SCANS-II) project.

MONITORING SEABIRDS IN THE FIRTH OF FORTH: IDENTIFYING IMPACTS OF FISHERIES, CLIMATE CHANGE AND INVASIVE PLANT SPECIES

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The Firth of Forth is renowned for its abundance of seabirds and spectacular breeding colonies. Keeping track of how these species are doing is therefore a top conservation priority. A seabird monitoring programme has been running on the Isle of May for the last 20-30 years that aims to collect standardised data for a wide range of parameters, e.g. population size, breeding success, adult survival and diet for European shags, common guillemots, razorbills, Atlantic puffins, black-legged kittiwakes and northern fulmars. These long-term datasets have been used in a variety of ways to highlight potential threats to seabirds and changes in the wider marine environment. Three contrasting examples are described below.

The North Sea is one of the most intensively fished areas in the world, and since the 1970s the biggest fishery has been for sandeels. This species is also the main food of many of the seabirds, marine mammals and other commercially important fish such as cod and herring. When the Isle of May monitoring began no catches of sandeels were taken near the Isle of May. However, in 1990 a fishery started on the Wee Bankie and Marr Bank that are about 30-50km from the Isle of May and well within the foraging range of many of the breeding seabirds. Over the following nine years this developed into a major fishery with total annual catches of 30-50,000 tonnes (max 100,000 tonnes). During this time monitoring of kittiwake breeding success showed that output fell from an average of one chick per pair prior to the start of the fishery to only 0.5 chicks per pair while the fishery was operating. Due to similar findings at other colonies, sandeel fishing grounds down the east coast of Britain were closed in 2000, and this ban remains in place up to the present (2005). Initially the closure seemed to have worked and kittiwake breeding success on the Isle of May returned to pre-fishery levels. However, all this changed in 2004 when widespread breeding failures were recorded at many seabird colonies bordering the North Sea. Clearly in this instance the industrial fishery could not be blamed and climate change was the leading contender.

Once again long-term monitoring on the Isle of May played a key role in providing information with which to test this hypothesis. In this case, dietary monitoring proved useful and standardised sampling of sandeels brought in by puffins to provision their chicks, showed that there had been a sustained decline in the average body length of fish on a given date over the last 30 years. There was no evidence that the trend was affected by the start of the Wee Bankie sandeel fishery, rather it seemed that the decrease was due to environmental changes that were probably climatically driven.

The final example of seabird monitoring again involves puffins but this time uses changes in numbers in colonies in the Firth of Forth. The Forth is one of the best places in the UK to see puffins close-up and the number of breeding pairs are monitored every 5-10 years by counting all the active burrows in each of the colonies. Numbers at the two largest colonies on the Isle of May and Craigleith have increased steadily over the last 30 years at an average rate of c.10% per annum. However, the most recent census in 2003 showed that in contrast to the Isle of May, where numbers continued to increase, the number of active burrows on Craigleith dropped dramatically. The main reason for the decrease did not appear to be directly due to fisheries or climate change but rather to the spread of tree mallow, an invasive plant species. This tall woody plant occurs at high densities and prevents puffins getting to their burrows. If the expansion of tree mallow continues then puffin numbers on Craigleith will probably continue to decline.

In conclusion, seabird monitoring in the Firth of Forth provides a wealth of information about seabird status and performance. Many of these data feed into the UK seabird monitoring scheme coordinated by JNCC and thus provide indicators of the status of UK seabirds and early warnings of environmental change.

Many people have contributed to the monitoring work described here and particular thanks are due to Mike Harris who initiated these studies. Various organisations, notably JNCC, CEH, SNH and the Isle of May Bird Observatory have provided data and financial support over the years.

MCS MARINE RECORDING IN SCOTLAND

Calum Duncan

MCS Scottish Officer

Seasearch Scotland Co-ordinator

Scotland's diverse seas, some 53% of Scotland's territorial area, are home to over 8000 species of plant, invertebrate, fish, bird, seal, whale, dolphin and even turtle. As the UK charity dedicated to the protection of the marine environment and its wildlife, the Marine Conservation Society (MCS) has for many years been at the forefront of actively involving people in conservation projects to help protect such wonders.

In addition to campaigning for excellent bathing water quality (www.goodbeachguide.co.uk) and involving the public in beach litter monitoring (www.adoptabeach.org.uk), MCS engage people in recording basking sharks, turtles, jellyfish and, if keen divers, our splendid underwater life.

Conserving the *cearban*

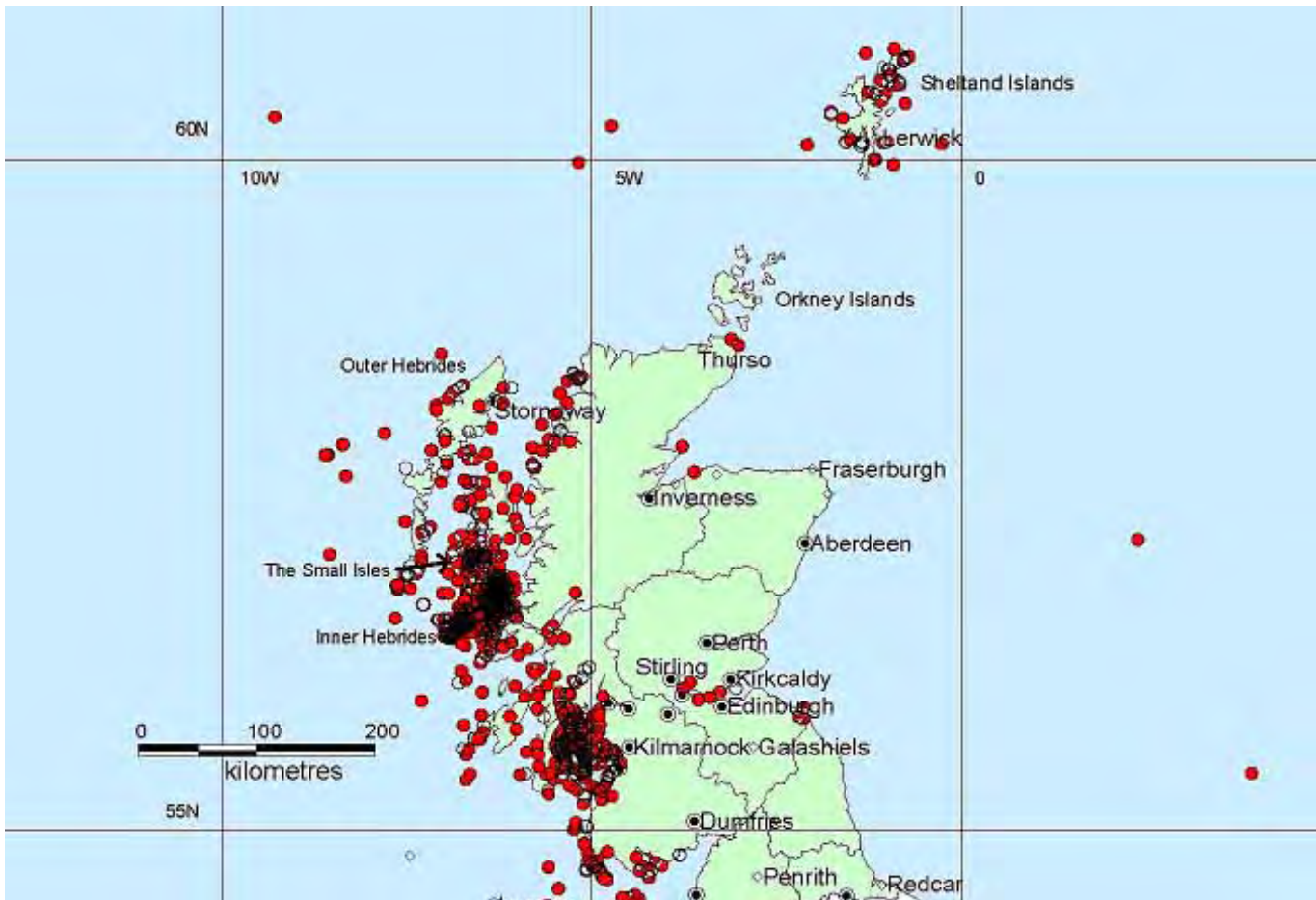
Since launched in 1987, MCS Basking Shark Watch has collated sightings records of over 21,000 basking sharks (*Cetorhinus maximus* or, in gaelic, *cearban*) from members of the public (www.mcsuk.org). In March 1998, MCS distribution records helped get the world's second largest fish protected under Schedule 5 of the Wildlife and Countryside Act 1981. In 2002, thanks to UK government lobbying, these gentle giants were finally listed under

Appendix II of the Convention on International Trade in Endangered Species (CITES), a marine conservation milestone finally reached.

Hot off the press, there has been a 65% increase in Scottish basking shark sightings since 2001, whilst those in Southwest England have decreased by 66% (MCS Basking Shark Watch Report 1987-2004). Whether this northward shift results from climate change altering Sea Surface Temperatures (SST) and therefore the distribution of zooplankton, the basking shark's food, requires further study.



Basking shark *Cetorhinus maximus*— (Gavin Parsons)



Map showing the distribution of basking shark records around Scotland

As a whole, the west of Scotland is the new UK hotspot for baskers with particular concentrations in the Firth of Clyde, Sea of the Hebrides, the Minch and Shetland. However, absence of evidence is not evidence of absence, and effort-based initiatives such as Solway Shark Watch have been crucial for elucidating localised distribution to complement the 'broader brush' work of MCS Basking Shark Watch.

Leatherbacks and their lunch

Since 2001, MCS has been the lead partner in the UK Marine Turtles Biodiversity Action Plan. Unbeknown to many, leatherback turtles are regular summer visitors to Scotland, following the Gulf Stream from their Caribbean nesting beaches to colder, jellyfish-rich North East Atlantic waters. Accordingly, to improve our understanding of these endangered species, the MCS Basking Shark Watch reporting scheme has been expanded to enable reporting of leatherback and hard-shell turtles in UK waters. Furthermore, to improve our understanding of leatherback

turtle ecology, MCS is collating UK jellyfish sightings. If readers walk regularly along a favourite beach or stretch of coast, we would be very interested in regular records of jellyfish type and number and even reports of jellyfish absence. Record cards are available on request or by download from the MCS website.

Diving into biological recording

Seasearch is a volunteer seabed surveying project for recreational divers. Since even professional marine biologists know but a fraction of the underwater world surrounding the UK, sports divers can play a significant role in helping to map the distribution of marine species and habitats, both the commonplace and those requiring conservation. Consequently MCS, in conjunction with the Nature Conservancy Council - then the government's nature conservation agency - launched Seasearch in the mid 1980s. Participating Seasearch divers contributed information to the Marine Nature Conservation Review, the most comprehensive source of UK marine habitat and species information (see www.jncc.gov.uk/mermaid).

To realise its full potential, MCS established a National Seasearch Steering Group (NSSG) in 1999, co-ordinating the statutory nature conservation bodies, conservation and education groups and diving organisations with an interest in developing the project. By 2002, the NSSG had developed a 2-tier training programme for piloting throughout the UK.

Since the MCS Scottish Office was launched in 2000, over 200 Seasearch divers have been trained on over 15 courses around Scotland, Seasearch expeditions to Lochs Torridon, Roag and Goil, Cape Wrath, Isle of May, Isle of Coll, Oberon Bank, Isle of Rum, Firth of Lorn, Moray Firth and the Pentland Skerries have been co-ordinated and over 550 Scottish Seasearch records returned, including over 200 in 2004 alone, comprising 40% of the UK total.

Opening the eyes of divers to the life that, prior to undertaking a course, may only have been 'wallpaper' to their dives is what Seasearch is all about:

"Its great to think you don't have to go very far or very deep to get fantastic dives...and record wonderful underwater life" (*Isle of May*)



Firth of Lorn RIBs (Rigid-bottom Inflatable Boats)

Keen sports divers can maintain Seasearch records locally, becoming experts on their favourite dive sites, and also contribute to UK marine species and habitats databases. One group in Arran established the Community of Arran Seabed Trust (COAST) and, having undertaken a Seasearch Observer course in March 2003, subsequently submitted over 60 Seasearch records from southeast Arran. These included records of some of the best examples of maerl, a beautiful calcareous seaweed, in the Clyde, forcing a planned sewage pipe to be re-routed outside Lamlash Bay to a less sensitive area. Another particularly keen diver in Shetland has submitted over 80 Seasearch records after her dives. Seasearch data is now available to view on the National Biodiversity Network (www.seasearchnbn.net). We are also looking for sightings of the endangered fan mussel (*Atrina fragilis*), as spotted by diver George Brown in Loch Duich earlier this year, and collating measurement data for northern sea fans (*Swiftia pallida*).



Rare fan mussel in Loch Duich - one of literally only half a dozen specimens photographed in Britain (credit: George Brown)

For more information about any of the projects listed above please contact Calum Duncan on 0131 226 6360, email scotland@mcsuk.org or visit www.mcsuk.org or www.seasearch.org.uk.

BOUNDARIES ON THE MOVE: changing vegetation zonation at Tentsmuir National Nature Reserve R M M Crawford

A visit to Tentsmuir provides an outstanding opportunity to consider the nature of limits to distribution in natural vegetation. The dunes, slacks, heaths and marshes of this coastal region display a series of boundaries that are laid out in a strict time sequence due to a long history of rapid sand accretion. The variation in species content between the communities (beta-diversity) that is found in this reserve is remarkable given that the soil substrate throughout the whole area is made up of homogeneous shell-deficient sand. In addition, many of the boundaries are abrupt and distinct (*lines convergens*) and not diffuse and gradual (*lines divergens*) as might be expected from the gradual change in the environmental gradient that takes place in moving inland from the sea. Here in a microcosm, the effects of wind, drought, salt, erosion, burial, pH change, and depth of the water table,

all interact in their effects on plant succession and produce a diverse flora on a geologically homogeneous terrain.

Despite the uniformity of the soil substrate these coastal dune and slack systems can reveal very distinct zonations in relation to distance to the sea. Examination of soil nutrients, pH and water table level shows gradual changes yet the actual position of the demarcation lines are usually abrupt and easily mapped. Details of changes along a transect that has been observed for over 24 years have already been published (Crawford, 1996; Studer-Ehrensberger *et al.*, 1993). These studies suggest that the demarcation lines between many of the communities are determined, not just by physical conditions, but by inter-specific competition. This type of competition tends to optimise fitness for survival in particular habitats, which results in a restriction in the range of habitats and resources that any one species or community can exploit.

A transect that was observed over 24 years in a marsh in an inland region of the reserve revealed that some of the boundaries had migrated during this period as a consequence of more frequent shallow flooding resulting from a drain that was put in place to alleviate flooding in the adjacent forestry plantation in the late 1960s. This shallow flooding favoured the spread of reed sweet-grass (*Glyceria maxima*) and caused the retreat of queen-of-the-meadow (*Filipendula ulmaria*) due to their differing phenological responses to flooding. *Filipendula ulmaria* is anoxia²-tolerant and well-adapted to flooding, but is not capable of shoot extension under experimental anoxia and endures experimental oxygen-deprivation in a quiescent state. This same behaviour is observed in the field. During spring-flooding growth is not resumed in this species until flooding has subsided and if extensive flooding should re-occur after the first flush of spring-growth further shoot development will be delayed. This curbing of growth by a secondary period of flooding does not damage the plant as growth is resumed when the water table subsides with no visible signs of injury. By contrast, *Glyceria maxima* rhizomes are killed under prolonged anoxia (3 weeks or more in winter). However, this species has well-developed aerenchyma³ which allows the diffusion of oxygen from shoot to rhizome, and provided flooding is not excessive (<10cm deep) and the shoots have access to light or air, the rhizomes are unlikely to suffer from any dangerous imposition of anoxia. Under these conditions *G. maxima* can commence growth while still flooded and before *F. ulmaria*. This early growth in spring gives this species an ecological advantage over *F. ulmaria* in an ability to pre-empt space as the latter species, despite a high level of anoxia-tolerance, requires the lowering of the water table in order to commence growth. Thus, with shallow flooding the anoxia-intolerant *Glyceria* out-competes and causes the retreat of *Filipendula*. There then follows a loss in biodiversity, as the *Glyceria* community is relatively species poor.

One outstanding aspect of a physical boundary that does leave a major imprint on the vegetation is winter-flooding. Plants

can be divided into those that can withstand prolonged winter-flooding and those that cannot tolerate prolonged deprivation of oxygen to their underground organs (Crawford, 2003). Usually, there is a maximum level to which any particular region will flood for a lengthy period as any further excess of water decants to another region. This creates more beta-diversity as the flora of the region that never floods differs significantly from the area that is prone to flooding. Photographs taken of the old 'Great Slack' taken in the mid 1960s (Figs 1-2), which at that time had a very diverse and rich flora, show this is achieved with relatively small increases in elevation of minor hillocks. This has now been lost due to much less frequent flooding and other causes (see Crawford, 1996). However, the new 'Great Slack' as photographed in April on the BRISC visit this year (Fig 3) shows promise of developing the marked local boundaries in its vegetation that used to make the old 'Great Slack' the ecological delight of Tentsmuir.



Fig. 1 Winter flooding of the 'Great Slack' at the N.E. end of Tentsmuir as photographed in the mid-1960s. Note the emergent hillocks.

(R.M.M. Crawford)



Fig. 2 Species diversity between non-flooded hillock and flood-prone slack as seen in the "Great Slack" in the mid 1960s

(R.M.M. Crawford)



Fig. 3 Prolonged winter flooding of the new "Great Slack" at Tentsmuir as photographed on the BRISC visit on 9th April 2005. Note the emerging on-flooded hillocks.

(R.M.M. Crawford)

² anoxia = deficient supply of oxygen to the tissues

³ aerenchyma = respiratory tissues

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Members examining the changing shoreline on the outing to Tentsmuir NNR
(Alan Cameron)

CHAIRMAN'S COLUMN

Patrick Milne Home

This is my first opportunity since the AGM to communicate in general with the members of BRISC. My thanks to all of you for electing me as Chairman; a complete outsider and with minimal prior knowledge of BRISC and its workings. Anne-Marie, Alan Cameron and the Committee have tried their best to keep me straight, more often than not repeating things previously passed on to me, but I am beginning to find my way.

Alan Cameron, as part of his Development Officer Post, has been providing an invaluable administration role to BRISC but sadly this project is coming to an end. I have only seen a fraction of what he has done over the last three years but it strikes me that this has been an invaluable project and that he has achieved much for raising the awareness of recording and raising the profile of BRISC. With his imminent departure BRISC loses considerable support for routine administration matters, be that arranging meetings, being an enquiry point or liaising with members etc. The Committee will obviously keep these routine matters going but inevitably it will be at a lower key. We are reviewing how the running of BRISC should be conducted in the future.

Anne-Marie, in common with all departing Chairmen, had sort of said she had not found it too onerous leading BRISC over the last (many) years and all of you will know that this was a gross understatement of all that she undertook on

behalf of BRISC. However, not all is lost as she has agreed to continue with the production of the Newsletter, remain as Chairman of the Development Officer Project and the new Wildlife Counts Project and be an Ex Officio member of the Committee! BRISC owe her an enormous debt of gratitude for all that she has done and I am not sure how I am going to be able to follow on.

To enable us fully to assess the administration requirements of BRISC over the next three to five years I need to know what our aims are. To identify these we are preparing a Strategy and Business Plan but it will be appreciated that, as all Committee Members have full time jobs, it is not easy to find time to produce a plan and meet to discuss issues related to it. However, a recent Committee Meeting had the Business Plan as its main agenda item and good progress was made in identifying issues and four of us are undertaking the preparation, with the aim of completing it in the next four to six weeks.

Membership Subscriptions are now due and it would be much appreciated if you would pay these promptly as it adds considerably to the burden of the Membership Secretary if people have to be reminded. We will be looking at subscription levels for 2006 and I hope that the aims and aspirations of BRISC, which will be brought out in the Business Plan, will help formulate what these should be.

The present Committee Members are listed and the roles that they are playing, in the absence of any administration back up, are also indicated. I would like to co-opt another three or four members onto the Committee and if you would like to be considered, or have suggestions of those too modest to put themselves forward, do please contact me or the Secretary, Jennifer Davidson.



Northern brown argus (*Aricia artaxerxis*) (AM Smout)

Northern Brown Argus found for the first time in a century at its original site

Arthur's Seat in Edinburgh is the original spot where the northern brown argus was first discovered and identified in Scotland. Although always 'local' in its distribution, it has subsequently been found in a number of other places across Scotland. However, for over a century it has not been seen on Arthur's Seat – till this summer, when someone, who was in the habit of walking to work across Arthur's Seat, found a small brown butterfly on a patch of rockroses, which he took to be a northern brown argus. The identification was

subsequently confirmed by experts. The question is now: Has it been there all the time unobserved? Although it is a very small butterfly, it would seem extraordinary, especially as Arthur's Seat is so well watched. Has it been surreptitiously reintroduced by some enthusiast? SNH did at one time consider reintroducing this butterfly to its place of origin, so to speak, but in the end was dissuaded. Or has it arrived under own steam? There is a good colony across the water at Kincaig in Fife. The northern brown argus is not considered a great traveller, but butterflies do probably move about more than we think. One point in favour of this option is that SNH has been managing the common rockroses (*Helianthemum chamaecistus*), which are butterfly's food plant, on the site in the hope of exactly such a re-colonisation. We shall probably never know which. The editor is indebted to SE Scotland Butterfly Newsletter for this particular item.

BRISC's Wildlife Counts Project

Anne-Marie Smout

Over the last nine months, BRISC has been working hard to develop a new project aiming at raising awareness and understanding of local biodiversity for new audiences in urban areas through a programme of events and dedicated support. To this end we have been in close discussion with interested parties in the Central Belt, and three local authority areas: North Lanarkshire, Falkirk, and Stirling, have agreed to become involved. The target audience is beginners and non-naturalists, who have an interest in wildlife but have little or no experience in wildlife recording. The idea is to catch participants' enthusiasm through a structured hands-on experience and training in identifying, recording and monitoring species and habitats in and around their local area.

We are delighted to announce that BRISC has been successful in obtaining grants for the project from the Heritage Lottery Fund and Scottish Natural Heritage, with smaller contributions by the three Local Authorities. The integrated programme will deliver 21 events per year over the two year period, and will aim for an average of 15 participants per event. All events are free of charge and individuals will be encouraged to participate in the whole programme in their area. There will be outdoor practical sessions in the summer and indoor study and meetings in the winter. We had planned to get the project started in May 2005, but this proved too optimistic, and we are now likely to get the project off the ground by 15 August or 1 September at the latest. The original idea was to start with a series of 'taster events' focusing on local sites, such as countryside parks and SSSIs, but this will probably have to be revised, and due to the delayed start of the project we may have to begin with evening meetings. These will cover various aspects of biological recording and introduce the outdoor events in 2006. Following on from the summer events, when participants will be instructed in the field, the project will work with the local communities and any existing recorder to establish self-sustaining groups (Wildlife

Recording Forums). The project will ensure that the Forums receive ongoing support, and the summer of 2007 will focus on recording local priority species and encourage long-term monitoring.

A Project Officer will be employed to co-ordinate and manage the programme, develop the supporting materials, ensure that the training adheres to high and consistent standards, and provide ongoing support and advice to participants and the wider community. Contracted instructors and volunteers with specialist skills will deliver the training events and sessions alongside the Project Officer.

BRISC will lead on this project and I have agreed to chair the Management Group for the project – at least for the time being. Paul Kirkland has agreed to act as Deputy Chair. BRISC has entered into agreement with BTCV to host the post in similar arrangement as we had with BTCV over the post of the Development Officer. It is hoped in this way to ensure continuity of a BRISC office at BTCV at least for the next two years. For BRISC's future plans, see the Chairman's column elsewhere in this newsletter.

BOOK REVIEWS

Peter S. Maitland (2004). *Keys to the Freshwater Fish of Britain and Ireland: with notes on their distribution and ecology*. Freshwater Biological Association, 248 pp. ISBN 0-900386-71-1. pbk £22

This volume is the 62nd in the internationally acclaimed Scientific Publications series published by the Freshwater Biological Association. The series, which began in 1939, epitomises the very best endeavours of a learned society to support the scientists, managers and policy makers that comprise its membership. The main aim of this series has been to provide highly authoritative identification keys for the freshwater groups from the U.K., thus providing the practical freshwater researcher with a reliable and practical set of identification tools to enable research on, management of, and teaching in, freshwater ecology. This current volume makes a welcome latest addition to this series.

Professor Maitland's volume builds upon and replaces his original 1972 key, also published in the FBA series (No. 27). It covers species not included in the 1972 key which have resulted in additions to the British checklist, either by taxonomic changes (e.g. the pollan, *Coregonus autumnalis*) or by the arrival of alien species to Britain (e.g. false harlequin *Pseudorasbora parva* and black bullhead *Ameiurus melas*) but there have also been losses of species over the 32 years since the last volume. The sub-specific status of sea trout / brown trout is no longer recognised, as our understanding of the nature of variation in life-history strategies has deepened through research in the intervening years. In addition to the main key to families and a series of species keys to the 57 species included, there are revised keys to family level, based on fish eggs and scales and, new to the 2004 volume, a key for post-larvae to family level.

Significant additions to the original key include a particularly useful description of the technique for the removal of fish pharyngeal bones (used in the identification of cyprinids) and, although there are better examples in other texts, the series of colour plates illustrating many of the species covered in the keys adds to the usefulness of the volume.

There have of course, been a number of significant changes since 1972 that relate to fish species. The legislative position of conservation, both in Britain and Ireland and more broadly throughout Europe, has changed dramatically and a brief account of the current legislation with regard to freshwater fish is given as useful, stand-alone section. Unfortunately, as a result of fish movements by humans, the distribution of many of species has also changed within Britain and Ireland. Clear and up-to-date distribution maps

are presented for each species, and in a useful change to the original publication, these are based on the ecologically more sensible hydrometric areas (i.e. on a modified catchment basis) rather than the more traditional 10km squares.

For all of those working in freshwater fish conservation, protection, research, management or training in Ireland and Britain, will want to base their identification of fish on the most authoritative criteria, and this volume provides those criteria. This text will be the standard text for the identification of freshwater fish in Britain and Ireland for the next 30 years.

Dr Colin Adams
Glasgow University Field Station

Saturday 13 August: BRISC Recorders' Day at Glen Nant NNR, Argyll. The site is managed in partnership between SNH and FCS, and that FCS is currently reviewing the management plans.

The day will be hosted by SNH, and FCS staff will also be attending (probably one from each organisation).

Outline of the event.

Meet at the Forestry Commission Scotland car park 3 miles along B845 from Taynuilt (signed to Kilchrenan). The aim is to start at 10am and a minibus will take participants to the site. John Halliday, SNH Reserve Manager, Argyll will set the scene before we start recording and recorders will be issued with photocopies of a map of the area to be surveyed as well as a list of the species recorded for the site to date. The site is particularly interesting for flowering plants and invertebrates. Recent surveys have been limited to lichens, bryophytes, and otters.

Somewhere along the way there will also be a pre-set moth trap for moth enthusiasts to get their hand on!

What to bring: a packed lunch, stout footwear or wellies, rainwear just in case, midge repellent and any tools of the trade you may need.

At the end of Saturday we plan to gather in a nearby pub where we could have a meal and the opportunity to talk about what we found.

All records from the event will be collated by BRISC and passed on the SNH and FCS.

Anyone who is at all interested in this great chance to visit an outstanding national nature reserve in Argyll and to do some recording, should contact the Event Organiser, **Jonathan Willet at Conservation and Greening Unit, North Lanarkshire Council, Palacerigg House, Cumbernauld G67 3HU, tel 01236 780636 or email willetj@northlan.gov.uk**

Roy, M. (2004). *The Weathermen of Ben Nevis, 1883-1904*. The Royal Meteorological Society, Reading. ISBN: 0 948090 24 3; pbk. £10.00 inc p&p.

For readers coming totally new to the subject, this is the story of the weather observatory on Britain's highest mountain which functioned at the end of the 19th and beginning of the 20th centuries. It ceased because of lack of funds. In the 1880s, the Meteorological Council maintained regular observations at just seven locations in Britain (from Kew to Aberdeen) all at low level. In 1877 Mr David Milne Home of the Scottish Meteorological Society, having climbed Ben Nevis to consider the practicalities of an idea, suggested taking observations on Ben Nevis and asked for volunteers, he being 73 at the time. Cometh the hour, cometh the man; soon after Clement Wragge put himself forward to climb to the summit daily from 1 June to 14 October and a stone hut was erected for his instruments. For this quite extraordinary effort Wragge was awarded a gold medal but not the permanent job of superintendent. This went to Robert Trail Omond in the Department of Natural Philosophy at Edinburgh. In 1883, having constructed the essential bridle path up the western shoulder, one-room accommodation was built with 3.5 metre thick granite walls. In 1884 two more rooms and an observation tower were added.

Although Marjory Roy's account is published more in the fashion of a modest A5 booklet than a weighty book, nevertheless her summary of events, photographs of people and the building itself under different weather conditions, reproductions of pages from Minute books, supplemented by weather maps and many charts, together add up to an excellent buy, especially recommended to anyone who has struggled to the top, seen the building remains and wanted more information than the explanatory plaque. There are chapters about the early years, construction of the bridle path and building, observations at the summit and at a low-level observatory built in 1889, eventual financial difficulties and a contemporary postscript. Perhaps there could have been more about living conditions and how the three men got on together, cooped up in what at times were appalling conditions. Fine snow could blow in through crannies and cover everything: beds, tables etc; instruments frequently froze; gusting wind knocked observers flat, yet they kept up

their hourly observations, year after year. I have often wondered why one of the famous ascent routes for today's mountaineers is called *Gardylloo Gully*. Roy provides the explanation and much more, for example about summer visitors and how their curiosity affected the daily regime of these dedicated men.

Yes of course modern satellite imagery and other 21st century technical advances were eventually to be the death of this kind of scientific recording. Nevertheless, one feels ashamed at the meanness of the Treasury resulting in the Scottish Directors having to close down the observatory, with a memorandum "of profound disappointment that in this wealthy country it should have been found impossible to find the comparatively small sum required to carry on a work of great scientific value." True too, in the Treasury's defence, the needed annual grant in 1904 of £950 is roughly equivalent to about £0.5m in today's money. Even so, the nasty impression is that the big boys in the south were simply not interested in a uniquely Scottish success story.

Thomas Huxley

Clark, H. & Sellers, R.M. (eds.). *The Birds and Mammals of Caithness: Robert Innes Shearer's contributions to the natural history of Caithness, 1859-1867*. Bellfield Publications, 3 Lindsay Place, Wick, Caithness KW1 4PF. 248pp.

ISBN 0-9549197-0-x; pbk, £14.95, post free.

One of the most important but least-known means of publication in the 19th century was the local newspaper. It would commonly carry lengthy and sometimes valuable reports of talks or articles by local worthies, which might then be reprinted in pamphlets or their society proceedings before sinking without trace. This fine book resurrects the "letters" of a first-class, self-taught, and now forgotten local naturalist mainly from the *John O'Groat Journal*, with a comprehensive introduction and judicious comments by the editors to bring them up to date. It involves separate accounts of the more prominent local birds and mammals, with detailed descriptions probably more useful than now, reports of their behaviour and distribution, and interesting incidental anecdotes, comments and reflections.

Robert Shearer was the oldest of eleven children born to a farmer at Ulbster near the rocky coast south of Wick in 1826. At some stage he appears to have visited Cornwall, and he apparently also made some lesser trips, before becoming a factor and estate agent, but apparently spending most of his time at Ulbster House. He seems to have been largely a self-taught naturalist, using the books of his day, and was also interested in archaeology. He may have been persuaded to write for *The Groat* by a younger naturalist friend, Henry Osborne, who worked for it as a compositor. Most of his contributions are in the form of letters, starting out working through the larger birds, but then wandering among them at random when he had something to say, and ending with the mammals. They are written in a simple and engaging style, with numerous acute observations; for example like William MacGillivray, whom he quotes, he

often dissected his subjects, and describes such things as the anatomy as well as the movements of the gannet, and the vocal apparatus of whooper swans and some other wildfowl. He was usually extremely accurate until he disagreed with the editor of the *Field* about the clutch-sizes of the Shagmorants, when the honours were split about equally.

He eventually produced the second check-list of the birds of Caithness in the *Proceedings of the Royal Physical Society of Edinburgh* 2: 334-341, also reprinted here; it is a pity that the accompanying report by Henry Osborne on some of the new species, including a parrot crossbill taken at sea, was not included. There are however discussions of not only a little bustard, but also one of its eggs, Pallas's sandgrouse, and similar trophies. The book is a nice piece of work except that with references to species widely scattered in the text it lacks an index. It should also be noted that Harvie-Brown's missing Caithness notes may be with his other papers in the Royal Scottish Museum. It seems a pity that dying at the age of 45 unmarried Robert Shearer never attained the fame brought to the cobbler Thomas Edward of Banff by Samuel Smiles through his *Life of a Scotch Naturalist*. It is to be hoped that this book may now belatedly help repair the deficiency.

W.R.P. Bourne.

Sidaway, R. (2005). *Resolving Environmental Disputes: From Conflict to Consensus*. Earthscan, London. ISBN: hbk. 1-84407-014-X, £ 80.00; pbk. 1-84407-013-1, £22.95.

At a guess, most readers of BRISC Recorder News will have at some time participated in a dispute about the environment. Perhaps involvement was no more than signing a petition; perhaps it was considerably more, from attending numerous meetings and speaking at a public inquiry, to something courageously daring as a member of Greenpeace. Whatever one's activity in the heat of the moment, at a later calmer time questions may have arisen about where one's activity could be placed in an objectively ordered history of the dispute. Did one's opinions alter as more facts became available? Was there a marked difference in the power base of the opposing parties? And, crucially, whether a third party mediator helped, or could have helped, resolve matters. Roger Sidaway's book is a formidable analysis of the structure of environmental disputes, the typology of key players and suggestions as to how future disputes could generate more light and less heat. The author hopes that it "will provoke reflection among a wide range of thoughtful people", and this it should certainly do.

The book is structured into an Introduction and four Parts: two important case studies, one in England and one in Scotland (Part 1), a wide ranging discussion of stages in disputes, the people and their roles, (Part 2), the politics of power (Part 3) and suggestions as to how matters might be better arranged in future (Part 4). Parts 2 and 3 make use of other case studies in Europe and North America, based on the author's extensive research and teaching experience. The 300 pages include nearly 80 text figures (several are maps and schematic flow diagrams but no photographs), ten

text boxes, a list of acronyms and abbreviations, a glossary, four pages of notes, some dozen pages of references and a good index. This is a scholarly contribution to understanding an extremely costly aspect of present society.

It is not, however, an easy read. I may be mistaken but the way the text is broken up into bullet points, indented italicised quotations, boxes and text figures gives the impression of a stitched together series of lectures, with omissions which only this inadequate reviewer fails to understand, e.g. consensus is explained in the glossary, compromise is not, yet we read that they have different shades of meaning. Indeed, for this armchair reader, there are parts where the flow is so perturbed, comprehension requires considerable effort. For example there is a diagrammatic representation of changes in power and decision-making (Fig 10.10 about countryside access in Scotland) in which the 'south-west quadrant' seems to change in accordance with a circular argument. This is a pity as it disrupts one's understanding of a really interesting summary of disputes about recently enacted access legislation and the country code, which is where the book is so good: teasing out the main threads in well-publicised disputes and thereby, as a by-catch, usefully adding to the history of environmental events in Britain.

The author concludes with a message to decision-makers: "Be less pre-occupied with outcomes and performance indicators and be more concerned about processes and relationships. Allow others the time to reach consensus." This is good advice. My worry is that what is surely intended to be read by top floor management will get passed down to minions because of the complicated way it is written. Perhaps the author could yet try his hand at a simpler, shorter edition.

Thomas Huxley

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**BRISC Office – an arrangement has been made with
BTCV to retain our office at Balallan House, 24
Allan Park, Stirling FK8 2Q. In the first instance this
is only till the end of August 2005. It is hoped to have
a Wildlife Counts Project Officer in the post after that
and thus, with any luck, provide some continuity for
BRISC's admin. As from July 05 however contact
should be by email only - using brisk@btcv.org.uk –
till further notice.**

Deadline is 17 September 2005

for the next issue of *BRISC Recorder News*

All material, preferably in electronic format, to Anne-Marie
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BRISC Website **Members' Only** pages are accessed from
www.brisec.org.uk, selecting the 'Membership page' and
then clicking on 'Members Only Area'
The current username and password will remain valid till
October 2005. They are

Username recorder
Password brisc

Visit these pages to see short biographical notes and
photos of members currently serving on the committee