Dumfries & Galloway
Wildlife Review
2015

DUMFRIES AND GALLOWAY
erc
environmental
resources centre

Cover Image: Hedgehog by Keith Kirk.

Keith is a former Dumfries & Galloway Council ranger and now helps to run Nocturnal Wildlife Tours based in Castle Douglas. The tours use a specially prepared night tours vehicle, complete with external mounted thermal camera and internal viewing screens. Each participant also has their own state-of-the-art thermal imaging device to use for the duration of the tour. This allows participants to detect animals as small as rabbits at up to 300 metres away or get close enough to see Badgers and Roe Deer going about their nightly routine without them knowing you're there.

For further information visit **www.wildlifetours.co.uk**
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Contributing photographers

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Acknowledgements

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DGERC are grateful for the continued support of Scottish Natural Heritage, without which the work of DGERC and the production of this publication would not be possible.

Design and layout by: Findlay Design

Notes from the editor …

Mark Pollitt—DGERC manager

Dumfries & Galloway Environmental Resources Centre (DGERC) is the local environmental records centre (LERC) for our region. We are one of over 50 LERCs, employing over 120 staff, that operate on a local or regional basis throughout the UK—each one a local hub for collating, managing and sharing information about our wildlife and habitats and promoting and supporting wildlife recording (also knowns as biological recording) at a local level.

The majority of the records that we manage come from volunteer wildlife recorders, and the data gathered nationally are amongst the most detailed for wildlife anywhere in the world. Recorders now generate over 4.5 million records every year shared through the National Biodiversity Network (NBN) Gateway, something that the UK can be rightly proud of, with approximately one third of these originating from LERCs. It's estimated that about 70,000 people contribute records every year, either by taking part in national schemes, societies and surveys or simply by reporting records to county recorders and LERCs.

Many ad-hoc wildlife records are gathered each year which are not part of specific surveys or monitoring schemes. Such records add breadth and depth to the information gathered from more structured surveys, and by offering wildlife recorders much greater flexibility allows many more people to become involved. Anyone who can confidently recognise a species can contribute—I doubt anyone will struggle to identify a Hedgehog, and it's one of the species we'd like to get more records of this year. This type of recording often gives the first indications of changes—new species discoveries, changes in regional distributions and even changes in species associations. It provides detail at a local level, helps to highlight sites of local importance for biodiversity and thus complements the information on trends and distribution changes usually gained from structured recording.

The colossal input of time and effort by volunteers makes wildlife recording incredibly good value for money. The Joint Nature Conservation Committee (JNCC) recently carried out an assessment of the value of volunteer recorders' contributions for their structured recording schemes (such as the Wetland Bird Survey and National Plant Monitoring Scheme). This conservatively estimated that the volunteers' contributions totalled over £8.6 million each year. All this value for a relatively modest investment of just over £1 million from the government conservation organisations. The value of non-structured recording—people reporting their sightings to organisations like DGERC—is much harder to quantify, though estimates suggest the order of magnitude to be in the tens of millions of pounds each year. And then there's the time that volunteers spend working at LERCs, which across the country is worth over £1 million. DGERC currently have three volunteers who help us to process the records we receive, and we are immensely grateful to them. The benefits to the health and wellbeing of volunteer recorders from all the exercise (both physical and mental!) could even be added to the value too. Couple all this with the educational value, either directly through training days or indirectly through self-learning, and you begin to see the bigger picture of what wildlife recording provides to society.

So get out there and do some wildlife recording. It's good for you, good for the economy and certainly good for our biodiversity. But most importantly of all, it's simply good fun!

National Plant Monitoring Scheme

The National Plant Monitoring Scheme (NPMS) is the UK's first monitoring scheme that tells us about the quality of our habitats for wild plants. The scheme is a long-term government-funded survey, and is a partnership of the Botanical Society of Britain and Ireland (BSBI), the Biological Records Centre (within the Centre for Ecology and Hydrology), Joint Nature Conservation Committee (JNCC), and Plantlife. The NPMS builds on previous research projects funded by JNCC and Defra. The aim is to collect data to provide an annual indication of changes in plant abundance and diversity. For statistical validity we need data from sufficient survey plots in each of the habitats included in the NPMS.

Who can take part in the NPMS?

The scheme is designed to be carried out by non-expert volunteers. Anyone interested in nature who can identify plants, or who is keen to learn, can take part. We have different survey levels to suit different levels of ability. Volunteers can take part individually or in groups.

What does taking part involve?

Volunteers adopt a kilometre square from those available. This may be somewhere near your home address, or somewhere else that you would like to visit each year. To see what survey squares are available, go to **http://www.npms.org.uk/squares-near-me-public**, and zoom in on the map to the area you are interested in (available squares are blue). Volunteers will then visit the kilometre square twice a year to monitor about 5 small plots in different habitats, recording species from easy to identify lists for each habitat. For more experienced observers there is the option to record all species present in each plot.

What support will volunteers get?

- All volunteers registering for a square (on **www.npms.org.uk**) will receive a survey pack (survey guidance; species lists; full colour flower ID guide).
- All volunteers have access to telephone and email support provided by the Volunteer Coordinator (Hayley New).
- We run free training courses around Scotland each year, both for participants and for anyone else interested in taking part.

How to get more information

The dedicated survey website **www.npms.org.uk** has detailed information including electronic copies of all the survey guides. Or you can contact Plantlife on (01786) 479382 or **jill.williams@plantlife.org.uk** to find out more.

National Plant Monitoring Scheme

New NBN website launched

The National Biodiversity Network (NBN) is a membership organisation built on principles of collaboration and sharing biological information. DGERC is a supporter member of the NBN. Its long term vision is that "biological data collected and shared openly by the Network are central to the UK's learning and understanding of its biodiversity and are critical to all decision-making about nature and the environment." The NBN website **www.nbn.org.uk** has recently been revamped. It's a fantastic source of news and information about wildlife recording and data sharing and the associated NBN gateway **data.nbn.org.uk** is the national portal for exploring the UK's biodiversity data.

A Tail of rare ferns…

Richard Clarkson—Ranger at the National Trust for Scotland's Grey Mare's Tail reserve

Oblong Woodsia *Woodsia ilvensis* is a very rare fern in Britain with fewer than a hundred surviving at just six locations, one location being in the Moffat Hills. After the last ice age this little fern was probably more widespread, but as ice retreated and temperatures rose it became restricted to mountainous areas. Grazing pressure in the last few hundred years has further restricted Oblong Woodsia to relatively inaccessible localities on crags and scree. Its discovery in the Moffat hills coincided with the start of the Victorian craze for collecting ferns, and the opening of nearby Beattock railway station in the late 1840s. As the local hills became more accessible, knowledge of Woodsia populations and its distribution increased rapidly and by 1856 at least five populations were known. Its rarity however ensured it was also enthusiastically sought and collected and by 1909 only one plant was known to survive. As interest eventually waned knowledge was lost about former Woodsia sites until 1954 when Derek Ratcliffe found 25 plants. Another much smaller colony was found nearby in 1972. These populations have declined steadily since and now number just four plants.

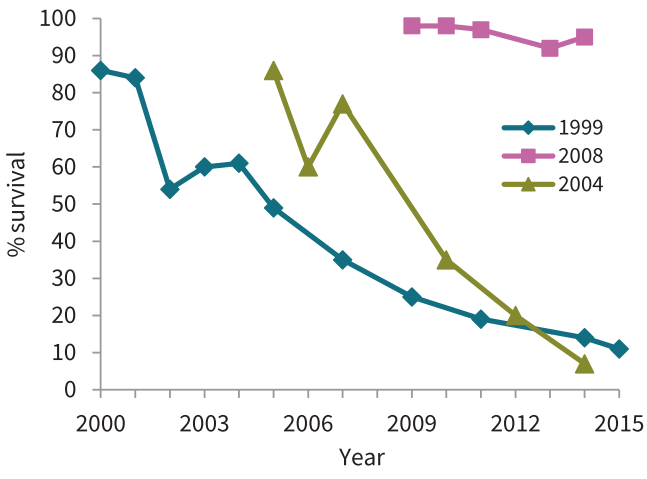


Figure 1. Annual % survival of Oblong Woodsia at three reintroduction sites in the Moffat Hills. Monitoring was every year for the first three to five years, and then usually every two years after that.

Given the precarious nature of the Oblong Woodsia population a recovery programme was initiated. This was co-ordinated by the Royal Botanic Garden Edinburgh (RBGE) and guided by a steering group. In 1999 two reintroduction sites were selected and planted, based on where Victorian records provided good evidence of a former Woodsia locality. One site was at Grey Mare's Tail. Another local reintroduction occurred in 2004, and in 2008 there was a second at Grey Mare's Tail. Plants were raised from spores collected from the remaining local wild population, and then planted out in rock crevices and amongst scree; the latter a favoured habitat in Norway where it is relatively common.

All the reintroductions have been monitored regularly. The first (Fig.1, 1999) has shown a continual decline. In 2015 only 14 plants remained (11% survival). Four still have 10 or more fully fertile fronds, but nearly all plants have fewer fronds than previously. Lessons were learned here about the selection of planting sites that benefitted the 2008 planting, as plants on ledges were less successful than those planted in scree.

The second reintroduction (Fig.1, 2004) was planted in a neighbouring valley. The area has been fenced for the entire period and consequently there has been considerable encroachment by moss and other vegetation across scree patches; in some cases reducing the area of bare scree by over 50%. Survival has been poor in both scree and on ledges with only four of the initial 60 surviving. Three of these have a good number of fronds and one in particular is probably the most impressive specimen of all the Moffat Hills plants. Nevertheless, its condition although still comparatively healthy has deteriorated in recent years as the number of fronds has reduced by half.

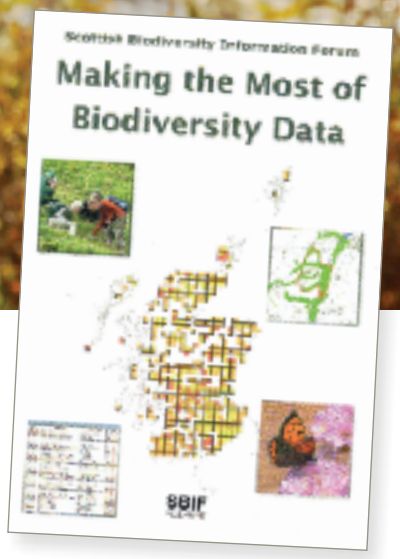
The 2008 planting (Fig.1, 2008) was all into scree and to date has done well. As the area is within a montane willow exclosure the ferns may have benefitted from reduced browsing damage, but as with the 2004 reintroduction the downside to this has been increased competition from surrounding vegetation. By 2013 only 5 had been lost, but after a little weeding in four grass swamped locations during the 2013 survey two were refound the following year. Although most plants have survived, the numbers of fronds and their length have declined from earlier counts. This may be due to any residual nutrient in the plant plug being exhausted and plants growing less vigorously as they exist on what is naturally available. The same will apply to all reintroductions and could account for other declines after successful establishment.

The aim of the programme was that populations should not only survive, but also reproduce in order to become viable self-maintaining populations. It is a concern that there has been no regeneration from reintroduced plants, even though it appears that regeneration does still occasionally occur in natural populations. If sterility isn't the issue, perhaps it is that remaining wild populations are so small that enforced self-fertilisation reduces plant viability; or maybe it is climate change, or a combination of factors. It has also been thought for some time that germination may be a rare event that only occurs at long intervals when conditions are right. Clearly there are still major gaps in our knowledge, but hopefully new research into the genetic rescue of Oblong Woodsia will help shed new light on the problem and contribute towards saving this rarest of ferns.

Birdwatching in Loch Ryan

Loch Ryan is one of the most important wildlife sites in the UK. It is a significant location for wild birds throughout the year and holds nationally important populations of several species. A new booklet showcasing this special site is now available from visitor outlets and libraries in the region. An electronic copy can be downloaded from **www.solwayfirthpartnership.co.uk**

The booklet was produced by Solway Firth Partnership with support from RSPB and funding from Dumfries & Galloway Council.



Scottish Biodiversity Information Forum update

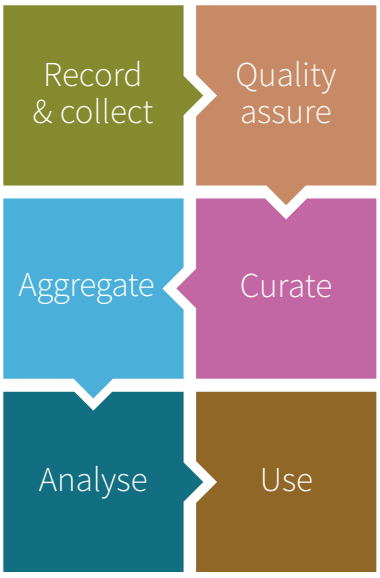
Christine Johnstone—SBIF co-ordinator

Information on biodiversity is key to understanding the species and habitats found in Scotland and our effect upon them. The Scottish Biodiversity Information Forum (SBIF) was established in June 2012 following discussions within the biodiversity community in Scotland. The aim is to ensure that biodiversity data is collected, managed, shared and used in the most effective way to benefit biodiversity.

This last year was full of activity and new projects for the Forum. We created and launched our first publication *Making the Most of Biodiversity Data*; we held our first Conference at which we agreed our Data Flow Pathway, and identified the major points that need to be addressed to make it work; we conducted a survey to identify data needs; and we worked with the National Biodiversity Network (NBN) Trust on the development of the Atlas of Living Scotland.

Making the Most of Biodiversity Data

This publication is a collation of five case studies focussing on uses of biodiversity data. It is intended for use as an advocacy document to illustrate the value and need for biodiversity data in Scotland and copies of the publication have been distributed widely amongst the biodiversity data community. It has also been distributed to all MSPs as a way of highlighting some of the work that the Forum has been carrying out since it was established. Printed copies of the booklet are available and can be ordered by email from the Co-ordinator. A pdf of the booklet can be downloaded from the SBIF web pages.



Spring Conference 16th April 2015

Fifty-five Forum supporters attended our conference. Presentations developed ideas on the theme of *Making the Most of Biodiversity Data* and SBIF's Action Plan; our publication was launched, and in the afternoon workshops discussed our proposal to develop a national Data Flow Pathway. We also conducted a data needs survey that resulted in a response rate of over 90% and the results of which will be used to help us understand gaps in data provision. Full Conference reports can be found on our web pages.

Data Flow Pathway (Scotland)

The pathway sets out the journey taken by all biological records—from collection by the recorder to use by planners and researchers. The first discussions about the pathway (held at the Conference) were very positive. In summary, while there was no major disagreement about the way the pathway had been described, it was highlighted that the reality of data flow is very complex. The main points that were raised, many of which relate to the delivery of the pathway, included the need for us to:

- reduce the amount of data duplication in the system
- develop and promote standards at all stages
- increase support for quality assurance and verification stages
- promote data input from all sectors, especially the commercial sector
- seek to have full coverage of Local Environmental Records Centres across Scotland
- speed up the process of data becoming available.

These points are being taken forward by the Forum and are being used to inform our future work programme. We are also currently preparing to distribute the Data Flow Pathway to all organisations that handle biodiversity data seeking its adoption as a measure of successful data handling in Scotland.

The NBN Trust and the Atlas of Living Scotland

We have been supporting the NBN Trust with the development of the Atlas and in particular with stakeholder engagement and ensuring data needs are addressed. You can find out more about the atlas on p19.

Stop Press! From 1st April the work of SBIF and its co-ordinator has now been restructured to become part of the National Biodiversity Network (NBN). Christine's new role will be the NBN Scottish Liaison Officer, and she can be contacted at ***c.johnston@nbn.org.uk****. The SBIF Steering Group will become an advisory group to the NBN. Further information can be found on the NBN website* ***www.nbn.org.uk***

Southwest Scotland Hedgehog Survey

Recent long-term studies of the humble **Hedgehog** *Erinaceus europaeus* have shown that this widespread resident of the British countryside has undergone a significant decline in recent years. The latest report from the British Hedgehog Preservation Society and Peoples Trust for Endangered Species[1] suggests that since 2000, rural populations have declined by at least a half and urban populations by up to a third.

Hedgehogs are perhaps the UK's most easily recognised animal – the covering of 25mm long spines along their back and sides makes them unmistakable. In Britain it is native almost everywhere except some of the Scottish islands. They are present throughout much of the countryside but tend to be more scarce or absent in the uplands, wet areas and coniferous forests. Hedgehogs are also well established in urban habitats and survive well in cities, frequently using cemeteries, brownfield sites and gardens.

Their diet consists mainly of invertebrates such as beetles, caterpillars, slugs and earthworms, but they will also take birds eggs and even small mammals. Their droppings, which are often found on lawns, can be easily recognised with practise – black, cylindrical, up to 50mm long (may be tapered at one end) and often containing the shiny remnants of beetles and other insects.

Have you seen a hedgehog? You can help…

If you have seen a hedgehog in Dumfries & Galloway, please take part in our hedgehog survey and report your sightings. You can report sightings of live animals or road casualties, recent records or past sightings, so long as you can identify where and when you saw it. You can fill in our postcard survey or submit your records online to **www.dgerc.org.uk/?q=hedgehogsurvey**

[1] BHPS/PTES, 2015. *The State of Britain's Hedgehogs 2015.* [pdf] **http://www.britishhedgehogs.org.uk/pdf/SoBH_2015.pdf**

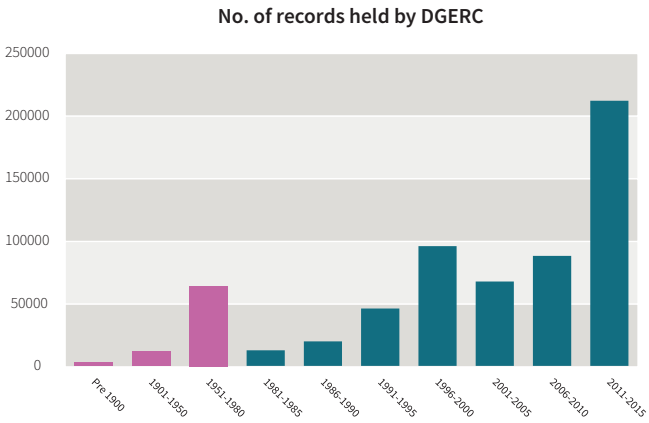
DGERC update 2015-16

Mark Pollitt—DGERC Manager

Last year saw DGERC pass a landmark in the number of records held by the Centre. In September we added the half-millionth record to our database—a flock of Rooks near Parton—and celebrated the occasion with the Stewartry SOC group that month. As I write, our database holds 627,218 records, though the figure rises regularly as we incorporate more records into the system. The vast majority are from recent years (Figure 1), undoubtedly helped by the advent of computers and improved online technologies, though there was a notable peak in recording in the late 1990s as many recording schemes prepared to publish atlases at the turn of the millennium. The data cover a wide range of taxa, with moths and butterflies accounting for over 40% of the records (Figure 2). And the species currently with most records? **Green-veined White** *Pieris napi*, although **Mallard** *Anas platyrhynchos* is chasing hard on its heels and may overtake it as more bird records are added to the system. Over a third of the records we hold are of species referenced in nature conservation legislation or having some conservation interest at a local, national or international level.

The increase in records was partly due to incorporating the county bird records from 2011 to 2013 into our database. Local bird records now total over 40,000 records per year, adding greatly to the amount of information accessible through DGERC. Work continues to incorporate the older bird records which will be added over the next year.

Last summer's rather poor weather can't have escaped the attention of many wildlife recorders. On the whole it was cooler, cloudier and wetter than average, and this impacted both our events and the records received. Sitting atop a cliff at Portpatrick in a howling gale looking for whales and dolphins in July (part of the National Whale and Dolphin Watch) was memorable for all the wrong reasons, and not surprisingly few people decided to join me. I did spot a **Harbour Porpoise** *Phocoena phocoena* though! Our cetacean ID day earlier in the year at Mull of Galloway was well attended and the weather was a little kinder, though the porpoises which often frequent the Mull proved elusive that day. With the help of Eaglesfield Gardening Club members we managed to organise an event where moth traps were placed overnight in gardens all around the



village and the contents of the traps was examined by the village church for all to see next day. We had a fabulous day, with 109 different species recorded—and the home-baking provided was well received too! A wildlife day held the following day at Glenwhan Gardens (in conjunction with the local Scottish Wildlife Trust members group) was sadly a washout, but we plan to try again in 2016.

WWT Caerlaverock BioBlitz

On 13th June, the Wildfowl & Wetlands Trust held a bioblitz event at the Caerlaverock Wetland Centre. Thankfully the weather was favourable, and we were joined by families, recorders and local wildlife experts who helped to record over 500 different species on the reserve. Highlights included a scarce water beetle, new plant finds for the reserve and a micro-moth new to Dumfriesshire.

The national picture

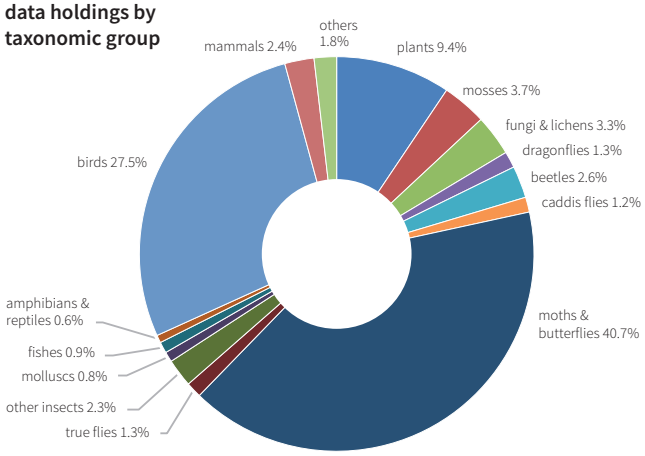
Last year also saw the continued development of a number of national initiatives to improve the flow of biodiversity data. The Atlas of Living Scotland and the Scottish Biodiversity Information Forum are both reported on elsewhere in this review, and I attended useful conferences and workshops relating to both of these. The NBN also launched the Consultants Portal **www.consultantsportal.uk**, which is a way of sharing the data gathered by environmental consultants. A large amount of information is gathered by field surveys and monitoring work when assessing proposed and existing developments, but very little of that information is shared for re-use by others. The first records from the Portal have already reached DGERC and hopefully many more will be shared this way in future.

Looking ahead

This coming year, we hope, will see some significant developments for DGERC. We have had a lot of interest from neighbouring local authorities in Ayrshire who are keen to see the type of work we do in D&G extending into their area. As a result we have been working with local partners to establish a project which will see DGERC undertaking a range of 'citizen science' activities in Ayrshire. This will involve employing a new project officer who will organise a programme of training days, surveys, and events and begin to build up the network of wildlife recorders across the region. The hope is that we will be able to continue operating across the whole of SW Scotland at the end of the project, and to this end the Centre's name will need to change to reflect this ambition. So, during the coming year, you can expect to see our name change to **South West Scotland Environmental Information Centre (SWSEIC)**. If anyone would like to offer some ideas for an updated logo I'd be delighted to receive them!

Finally we hope that you enjoy this publication which replaces our former newsletter *ERC News*. We hope to be able to repeat this in future years to keep you updated on all matters relating to local wildlife recording in the region. For more regular updates of news and events please subscribe to our email distribution list via our website **www.dgerc.org.uk**

Percentage of DGERC data holdings by taxonomic group



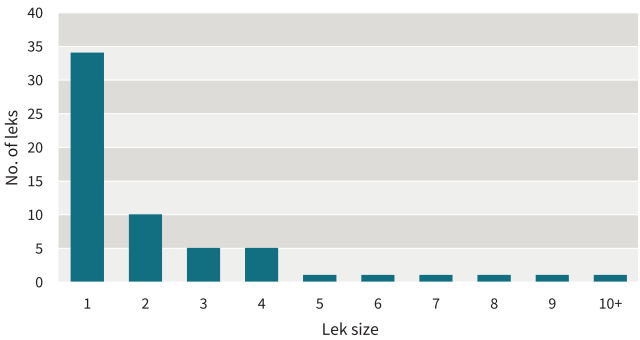
Black Grouse in Dumfries & Galloway 2015

Julia Gallagher—RSPB Conservation Officer

In 2015, 132 lekking male **Black Grouse** *Tetrao tetrix* were recorded in Dumfries & Galloway, which includes records from the Trial Management project[1] (TMP) in Ayrshire. This is an increase of 33% from 2014 (98). The annual monitoring of Black Grouse in Dumfries & Galloway comprises formal survey work within the Galloway Forest Park (GFP) undertaken under the TMP and additional survey work carried out by FCS staff, RSPB volunteers, Scottish Natural Heritage and the Borders Forest Trust. For purposes of reporting results the data is summarized as GFP and non-GFP data[2].

Table 1. Lek numbers and sizes in D&G (incl. TMP) in 2015.

	2015	2014	% change
Total leks found	58	51	+ 13 %
Total lekking males	132	98	+ 33%
Total mean males/lek	2.3	1.9	+ 20%



There was a 20% increase in the average number of males at leks, including one count of thirteen birds recorded in the GFP. The highest lek size recorded outwith the park was of eight birds at a Dumfriesshire site. However, lek sites with single lekking birds still accounted for 60% of total leks recorded.

The overall trend was of an increase both in the number of lekking males, the size of leks and in the overall number of

leks recorded and this trend was consistent within and outwith the Galloway Forest Park with the exception of a small decrease in the number of leks recorded within the GFP. However, it should be noted that this total included a number of key sites which were not monitored in 2014. The upward trend in the total number of lekking males from 2014 is encouraging although results from other areas of Scotland were a mixed bag with slight decreases in Argyll and Central Scotland but significant increases in Perthshire. It is possible that the increase in 2015 is a result of the exceptionally good and late spring and summer in 2014. 2014 was also a record vole year and it may be that predation by foxes was reduced as a result, but this is pure speculation, whereas there is no doubt that chick survival would be increased due to better weather conditions.

We are extremely lucky to maintain our knowledge of lekking grouse across the region since outwith the TMP area survey work is largely carried out through voluntary effort. The collation of this data enables us to target conservation effort aimed at protecting and enhancing habitat to benefit grouse and to this aim we have been carrying out a number of site visits to farms where we have worked with landowners and farmers over the past couple of decades to assess habitat change over time. This assessment includes the use of habitat sampling and fixed point photography

which can be repeated in future years. We are also supporting farms that are making application to the Scottish Rural Development funding where plans are aimed at maximizing the quality of foraging and nesting habitat through moorland management or the planting of native broadleaves. Another important use of annual survey data is in the safeguarding of lek sites from developments such as wind farms or afforestation where birds may be at risk form collision, displacement or disturbance or where existing suitable habitat may be compromised.

The RSPB is grateful to SNH for helping to fund our work on Black Grouse and would like to thank everyone who contributed to 2015 surveys and submitted records.

Footnotes

[1] The Trial Management Project survey work is a partnership between FCS and RSPB Scotland.

[2] A small number of sites classified as non-GFP fall within the forest boundary but continue to be reported as outwith the park to meet consistency with past reporting.

Southern Scotland Bat Survey

The Southern Scotland Bat Survey is a project commissioned by Scottish Natural Heritage being conducted by the British Trust for Ornithology (BTO) in collaboration with several other organisations. The survey will take place across the whole of southern Scotland and anyone can take part, whatever your level of knowledge about bats. The project has set up a number of Bat Monitoring Centres across southern Scotland, from which volunteer recorders can borrow sound recording equipment and set these in suitable habitats over a few nights. The resulting recordings will be analysed by BTO. The survey season runs from May until the end of September. See **www.batsurvey.org/scotland** for more information about how to take part.

Moths in Dumfries & Galloway 2015

Alison Robertson – County Moth Recorder for Dumfries & Galloway

We received 9,500 moth records for 2015, rather fewer than the 13,000 for 2014 but that's no great surprise given the often dire weather. The bulk of the records came from D&G's 25 or so regular recorders, with holiday lists from visiting moth-ers and one-off sightings.

One moth turned out to be the first Scottish record of a micro-moth (the collective name for most of the smaller moths) not previously recorded north of Cumbria: a **Twin-barred Knot-horn** *Homoeosoma sinuella*, netted by Richard Mearns at Rascarrel Bay, Kirkcudbrightshire, on 3rd July.

Identifications of some difficult species, mainly micros, are still to be finalised. Micros comprised most of the additions to the D&G list, as expected; however, this year a new macro species was added as well. Jennifer Dunn from Ayrshire, enjoying a day out at RSPB Wood of Cree, photographed an attractive moth on Blaeberry. It was identified by Tom Vorsterman, an experienced Ayrshire moth-er, as **Beautiful Snout** *Hypena crassalis* (so called from the long palps extending forwards from the head), a moth seen only once before in Scotland, in 2012 in the Trossachs.

Other records this year included a **Buff Footman** *Eilema depressa* rescued from inside a watering can, a caterpillar found dangling from a child's head during a school nature event, several moths on the outside walls of campsite toilets (always a good place to look), a **Beautiful Golden Y** *Autographa pulchrina* found resting on a shop window in Kirkcudbright and a **Merveille du Jour** *Griposia aprilina* caterpillar inside a squirrel feeder in Cally Woods.

An interesting record came from Birkshaw Forest near Lockerbie on 30 July where Jimmy Maxwell from Lanarkshire was watching **Six-spot Burnet** *Zygaena filipendulae* moths nectaring on knapweed. One looked slightly different and, on closer examination, turned out to be a **Narrow-bordered Five-spot Burnet** *Zygaena lonicerae*. This is the first record from Dumfriesshire, all previous

occurrences originating from just over the border in Kirkcudbrightshire a good 10 miles away. The moth is common in England but Scottish records are mostly confined to Scottish Borders and the east coast round to the Lothians.

This year's prize for the most dramatic moth must go to the huge **Convolvulus Hawk-moth** *Agrius convolvuli* found resting on a stone in the old cemetery in Beattock by Craig Landsborough on 26 August. This is a migrant species from southern Europe and there were sightings in 2015 from as far north as Shetland. The species' love of *Nicotiana* (tobacco plant) flowers and the fact that it can be attracted to a wine rope engendered an array of "Giant moths invade Britain in search of booze and fags" headlines.

So what are our plans for the coming year? Firstly, D&G were approached by a PhD student to take part in a **Forester Moth** *Adscita statices* study. The study will use pheromone lures in the hope of increasing our knowledge of UK-wide Forester distribution. Secondly, 2016 is the last year of fieldwork for Butterfly Conservation's forthcoming atlas of UK macro moths, scheduled for publication in 2018, so we will be targeting under-recorded 10km squares. If you have any records, from any years, still outstanding, do please get them to us ASAP so that they can be included in the new atlas. 2016 records should be submitted to **mothrecorder@dgerc.org.uk** (or to DGERC if not electronic) by 31 January 2017. Our thanks to everyone who contributed records in 2015. Here's to many interesting sightings in 2016.

2015 additions to the Vice-county lists

Dumfriesshire (VC72)

Narrow-bordered Five-spot Burnet *Zygaena lonicerae*
Devon Carpet *Lampropteryx otregiata*
Silky Wainscot *Chilodes maritima*
Meadow Long-horn *Cauchas rufimitrella*
Northern Tubic *Denisia similella*
Large Birch Purple *Eriocrania sangii*
Early Purple *Eriocrania semipurpurella*
Narrow-winged Grey *Eudonia angustea*
Bog-rush Fanner *Glyphipterix schoenicolella* (first for D&G)

Kirkcudbrightshire (VC73)

Beautiful Snout *Hypena crassalis* (first for D&G)
Devon Carpet *Lampropteryx otregiata*
Broom Midget *Phyllonorycter scopariella* (first for D&G)
Downland Case-bearer *Coleophora lixella*
Twin-barred Knot-horn *Homoeosoma sinuella* (first for D&G and Scotland)
Scarce Purple & Gold *Pyrausta ostrinalis*

Wigtownshire (VC74)

Large Pale Clothes Moth *Tinea pallescentella* (first for D&G)
Brindled Plume *Amblyptilia punctidactyla*
Hemp-agrimony Plume *Adaina microdactyla*

Biosphere Water Vole Survey 2016

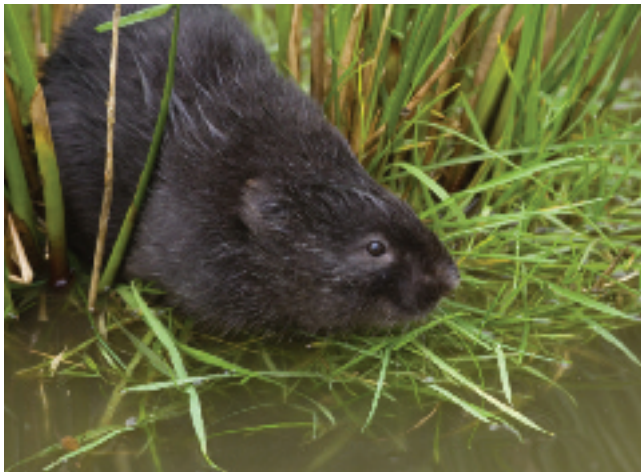
Wendy Fenton—Biosphere Natural Heritage Officer

Water Voles *Arvicola terrestris* are one of the nine High Focus species selected as of great importance and concern within the Galloway and Southern Ayrshire Biosphere. It is a UK Biodiversity Action Plan priority species protected through Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Although globally the species is largely stable, it suffered a dramatic decline in the second half of the 20th century in Britain due to habitat degradation and fragmentation and due to predation by introduced **American Mink** *Neovison vison*. Past recording within the Galloway and Southern Ayrshire Biosphere has suggested declines in the population and it is has disappeared from many sites; nonetheless they are thought to be present across much of the core and buffer areas, reflecting the widespread presence of suitable habitat. Much more surveying is required across the Biosphere to gain a better picture of Water Vole distribution.

Water Voles are the largest of the British vole species and the Scottish Water Vole is genetically distinct from those in the rest of the UK and thought to be descended from migrants from northern Iberia. They are amphibious mammals, dividing their time between water and land, where they occupy burrows, located close to the edge of a stream. Although they may live for two to three years, most survive for much less than this. Young are born between April and September and they may have three or four litters in a season. They live in central colonies with small satellite colonies, which are defended as territories, but will move between colonies if theirs is predated or becomes unviable. Water Vole diet consists of plant species associated with water margins, predominantly rushes, but also grasses and sedges. In winter time, when food is in short supply, they are known to feed on roots and bark of trees. Although the most significant predator is the American Mink, they are also predated by **Stoats** *Mustela erminea*, **Weasels** *Mustela nivalis* and **Grey Heron** *Ardea cinerea*.

In the lowlands Water Voles are generally associated with slow-flowing streams and ditches with luxurious marginal vegetation and are present in some intensively farmed and urban areas. Losses in the lowlands, where predation by mink has been significant, however, been high. In the uplands Water Voles are found in slow-flowing narrow moorland streams with peaty channels on flat or gently sloping ground, with streamside vegetation of rushes and sedges, but without any significant shading by trees. Typically such habitat is found in the upland areas with significant deposits of peat and slope gradient no greater than 3%. Upland habitats, which may be less vulnerable to predation by Mink, may be a significant stronghold of the Water Vole in the Biosphere.

The main conservation objectives for Water Voles in the Biosphere are therefore to improve our understanding of Water Vole distribution throughout the Biosphere by co-ordinating and starting new monitoring and recording projects. It is anticipated that this will give us a much better idea of distribution and numbers and this will help inform future projects involving suitable habitat management.



To this end the Biosphere staff are teaming up with DGERC to run a volunteer-based survey in 2016 to help provide a better picture of their populations within the Biosphere. Surveys will be carried out within pre-selected 1km squares within the Biosphere in areas with, or adjacent to, previously recorded Water Voles. Surveying will take place during April and May then again during August and September, each participant choosing when to survey in those periods. No previous experience is necessary, but it is likely that the sites will involve walking on rough ground away from footpaths so participants will need to have a level of fitness that allows them to undertake the surveying of allocated sites.

A training course is taking place in spring (23rd April) covering the survey methodology and identification of animals and their signs. Attendees will also have a chance to try out a smartphone app developed by COBWEB (the Citizen OBservatory WEB, **https://cobwebproject.eu**) for use in Biospheres that can be used in place of the paper survey form.

For those who do not wish to undertake a formal survey, DGERC are keen to receive any ad hoc records and sightings which can be reported via the DGERC website.

If you would like to take part in the survey during 2016 please contact Wendy on **wendy@gsabiosphere.org.uk**

Plant recording in Kirkcudbrightshire in 2015

David Hawker—BSBI county plant recorder for Kirkcudbrightshire (VC73)

Up to the year 2000, there were around 1600 plant species listed for this vice-county (VC) of which around 90 had not been seen since 1950. Between 2006 and 2015 approximately 160 new species have been discovered in the vice-county, including one at its only British site. Nine of those listed as unrecorded since 1950 have been re-found. Currently there are about 97,000 plant records on my database for this VC, with 25,000 records added since 2006. However there are large areas with few or no records and I would welcome any records for this vice-county. And who knows, perhaps more new species for the VC! Details of what information is required, or a dedicated excel spreadsheet, can be supplied, as well as what constitutes the vice-county area.

Despite the poor weather, this has been a reasonable season for recording. The recently formed Kirkcudbright Botany Group (KBG), in its second season, held 10 meetings between March and October, with only one curtailed due to very inclement conditions. Altogether 1500 records were produced by this group, with meetings held from sea-level to Merrick, the highest hilltop in the Southern Uplands. The highlights were

- Re-discovering **Marsh Mallow** *Althaea officinalis* at its original and only VC site, after 172 years absence – or at least unreported presence
- re-discovery of **Mountain Sorrel** *Persicaria vivipara* after an absence of 56 years – same and only VC73 spot, so just not seen in the intervening period
- new locations for **Mossy Saxifrage** *Saxifraga hypnoides*, **Rose-root** *Sedum rosea* and **Alpine Saw-wort** *Saussurea alpina*, all very restricted species in VC73

Reports for each meeting and a summary report are available and can be obtained from the Vice-county Recorder. The programme for 2016 is in preparation – if you're interested please contact me. Some of the group are experts, but there's always an element of learning how to identify the species encountered, even amongst the experts! Beginners are very welcome.

One Botanical Society of Britain & Ireland (BSBI) weekend field meeting was held in early June with 10 individuals to a series of wetlands (Carrick Ponds SSSI) and Colvend Lochs (LWS), producing over 500 records including various bladderwort *Utricularia* species, several water starwort *Callitriche* species, a couple of charophytes (stoneworts), **Greater Chickweed** *Stellaria neglecta*, **Saw sedge** *Cladium mariscus* and **Greater Butterfly Orchid** *Platanthera chlorantha*. A report on this meeting is given in the 2016 BSBI Year Book.

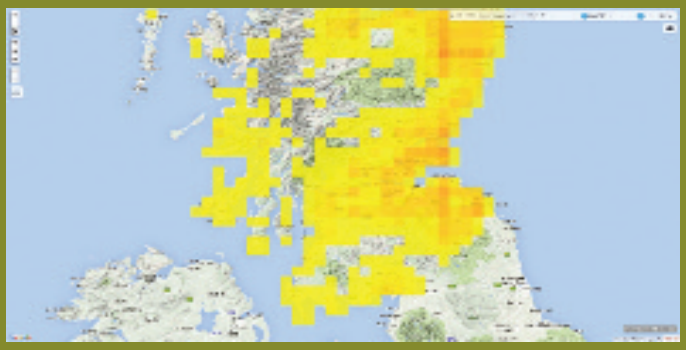
Progress with Atlas 2020, which aims to update the previous national plant atlas of 2000 with records during 2000-2019, has been good, with a total of 7500 records for 2015 entered to the MapMate database, including 7 new county records (NCRs)— **Annual Beard-grass** *Polypogon monspeliensis*; **Greater Chickweed** *Stellaria neglecta*; **Masterwort** *Peucedanum obstruthium*; *Sasa palmatum* (a bamboo), obviously long established **Russian Vine** *Fallopia baldschaunica* although known for several years previously;

Celandine Saxifrage *Saxifraga cymbalaria*, although it was noted and sketched, using local material, in my predecessor's notebooks, without location or date (but pre-1998); **Least Duckweed** *Lemna minuta*. Also of interest was a new hectad (10x10km square) record for *Hypericum x inodorum* (a hybrid St John's wort) which had disappeared after 1985 from its only previously known site.

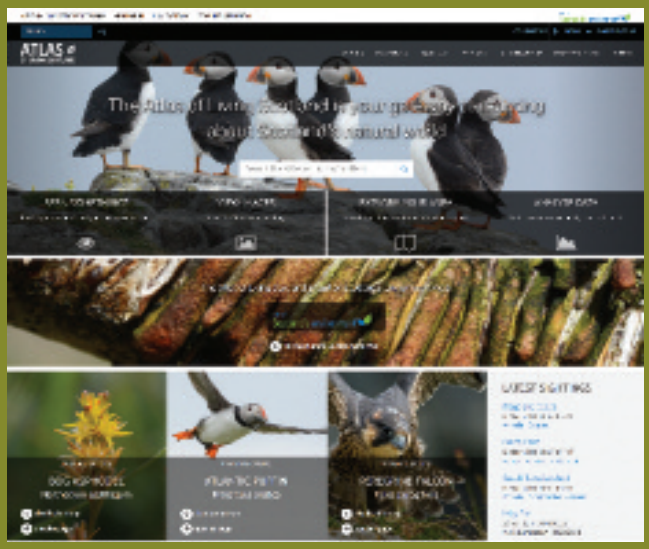
Batches of seed from three widespread species were collected, cleaned and sent to the Millenium Seed Bank at Kew – **Yellow Flag** *Iris pseudacorus*, **Giant Bellflower** *Campanula latifolia* and **Ramsons** (or **Wild Garlic**) *Allium ursinum*. We hope to collect seed of more species this coming year.

Cooperation with, and submission of the KBG records to DGERC continues, as does the mutual exchange of records with FCS on their estate. Thanks to everyone who has submitted records to me during the year.

I will happily supply reports of all field meetings and other details—contact **davidhawker3@gmail.com**



Atlas of Living Scotland



Last year saw the creation of an exciting new portal for information about Scotland's biodiversity. The Atlas of Living Scotland **www.als.scot** was created to provide a platform for the collection, aggregation, analysis and use of biological data in Scotland. It is as a daughter website to Scotland's Environment Web **www.environment.scotland.gov.uk**. It is also a pilot for a potential UK-wide initiative to develop new biodiversity data infrastructure for the entire United Kingdom.

Many people and organisations in Scotland are involved in observing, monitoring and recording nature including government and non-government organisations, research and educational institutions, local environmental record centres, museum and botanic gardens, community groups and national and regional biological recording schemes and societies. The Atlas will provide a platform to bring the data collected by these organisations together and to merge them with other environmental data, such as spatial layers for soil, climate and habitats. This initiative would not be possible were it not for the work of the Atlas Data Partners in monitoring and recording species and habitats across Scotland, most of which is done by volunteers and citizen scientists.

The Atlas has been built by the Atlas of Living Australia team using the same code used to develop Australia's equivalent website. The project is a partnership between the Scottish Environment Protection Agency, Scottish Natural Heritage and the National Biodiversity Network. Significant funding support for this work came from the European Commission LIFE+ funding programme.

At the time of writing the Atlas website is currently at beta-testing stage and a user-testing group has been established. Although not all the functions or datasets are available on the website yet, it is available for anyone to explore the interface, try out its functions, send in your comments and consider sharing your data. It is expected that the Atlas will be launched later in 2016.

3

The solitary bees and wasps of Bonnie Galloway 2015

Jon Noad—local wildlife recorder and Chair of the Scottish Wildlife Trust Galloway Group

Bees and wasps are desperately under-recorded in Dumfries & Galloway. The last comprehensive recording was done by the late Arthur Duncan in the 1970's since when, records have been few and far between apart from a number made in the 1980s, possibly as a result of commercial development interest in certain areas.

For bees and wasps, as for much of our flora and fauna, Dumfries & Galloway represents an overlapping boundary for northern and southern species. There seems to be a trend of species moving northwards but with scant previous recording this is hard to quantify, however species that are new to the area, and often new to Scotland, do show up giving a northerly extension to their range. For example the **Tree Bumblebee** *Bombus hypnorum* (a 'social' bee) continues its relentless spread—a queen here in Creetown in April—and I have little doubt that it will reach the western extremities of Dumfries & Galloway this year if it hasn't already.

Many will be familiar with the **Red Mason Bee** *Osmia bicornis* and I seem to have a good garden population of them although the miserable excuse for a summer seems to have hit the nesting rate—in 2014 I easily found 100+ nests but in 2015 struggled to find 40. I also retained 14 O. *bicornis* cocoons from a 2014 nest. The site was in a gap in some greenhouse shelving and appeared to be shared by two females—one from each end as far as I could tell. I had seen some tiny wasps hanging around and eventually observed them ovipositing. These turned out to be *Monodontomerus obscurus* (kindly determined by Richard Askew); all cocoons had been parasitized and in July yielded 97 females and 14 males. Nothing else emerged.

I also found *Osmia parietina* (3 records in Scotland) and O. *leaiana* (not previously recorded in Scotland), both I think nest in amongst O. *bicornis*.

I have noticed *Stelis punctulatissima* for the second year running. This bee is a kleptoparasite of both *Osmia leaiana* and the **Wool Carder Bee**, *Anthidium manicatum*, which is a perennial visitor although I have yet to find their nest site.

I also have *Hylaeus hyalinatus* and *H. brevicornis,* white-faced bees, nesting in drilled logs. Both of these are commonly recorded in the southeast of the UK, but rarely here.

There was an outbreak of jewel wasps *Chrysis impressa* and C. *ruddii*. These are kleptoparasites of solitary potter and mason wasps (*Ancistrocerus* spp.) and are stunningly coloured insects, a definite crowd-pleaser under the microscope at wildlife events!

Pemphredon lugubris, the **Mournful Wasp**, turned up not having been recorded anywhere near here for some time but I was happy to see it as it provisions its nest cells with aphids and plant hoppers.

I encounter *Ectemnius cavifrons* quite often although not previously recorded in this area. I found some cocoons in some locally sourced firewood which I saved and reared, eventually producing two males and two females along with some parasitoids including *Macronychia striginervis*, a sarcophagid fly whose larvae predate *Ectemnius* nests (thanks to Brian Little for checking and identifying this and many other beasties I am unsure of!).

In a recently established wild-flower meadow I found *Megachile ligniseca*, a leaf-cutter bee, previously only recorded as far north as Yorkshire. Other leaf-cutters (*M. centucularis, versicolor* and *willughbiella*) are fairly common so it will interesting to see if the new addition turns up elsewhere. At the same site I found *Argogorytes mystaceus*, a solitary wasp that preys on frog-hopper nymphs. The males are important pollinators of the **Fly Orchid** *Ophrys insectifera* although there are, as yet, no records of this orchid from Scotland.

In these troubled times there is much debate about the decline of pollinators, the focus of which tends to be largely upon honey bees and bumblebees due to the obvious economic considerations associated with our (ab)use of these creatures. The value of solitary species of bee (and wasp to a lesser extent) is not to be under-estimated, their life-style dictates that many are very efficient pollinators and their services are free. Pesticide and herbicide use, loss of nesting/foraging habitat and the deliberate introduction of honey and bumblebee species all have a negative impact on these valuable but often overlooked species.

The identification of bees and wasps almost always requires a specimen for microscopic examination. I am happy to assist with this and can be contacted via DGERC. Detailed information can be found on the Bees, Wasps and Ants Recording Society's website **www.bwars.com**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1

List of species found in 2015:

Ancistrocerus gazella
Andrena bicolor
Andrena carantonica
Andrena fucata
Andrena lapponica
Andrena scotica
Andrena subopaca
Andrena wilkella
Argogorytes mystaceus
Anthidium manicatum (1)
Chrysis impressa†
Chrysis ruddii†
Crabro cribrarius
Crossocerus megacephalus
Dipogon variegatus
Ectemnius cavifrons (3)
Halictus rubicundus
Halictus tumulorum
Hylaeus hyalinatus
Lasioglossum calceatum
Megachile centuncularis
Megachile ligniseca
Nomada flavoguttata
Nomada marshamella
Nomada ruficornis
Nomada striata
Osmia leaiana (2)
*Osmia parietina**
Pemphredon lugubris (Sphecodes puncticeps)

*Listed as a Rare species (RDB3) in Shirt (1987) and by Falk (1991); it has also been listed as a priority species under the UK Biodiversity Action Plan.

†Image 4 is of an unidentified *Chrysis* wasp.

Capturing our Coast

Hannah Grist—Capturing our Coast Project Officer for Scotland

Capturing our Coast (CoCoast) is a brand-new project that is bringing together a range of charities, universities and volunteers across the UK to investigate the fabulous diversity of marine life across our coastline. The aim of the project is learn more about a range of coastal species such as periwinkles, crabs and seaweeds. Although some of these species may seem commonplace to those who are regularly out on the seashore, there can be some hidden surprises when we take a step back and look at what is happening across the whole of the UK.

Human use of the coastline and seas, alongside a changing climate, are having an impact on seashore plants and creatures. As the sea temperature changes, species that prefer warmer waters like the **Black-footed limpet** *Patella depressa* might start expanding their range northwards. However, not all species are going to win. Some of the shelled species like mussels (*Mytilus* spp.) are affected by changes in pH of the oceans, which makes it more difficult for them to build the strong shells and holding threads that they need to survive. In order to track how species are changing in numbers and range, we need hundreds of pairs of eyes out looking all over the coastline of the UK.

Now, more than ever, we need to know about the animals and plants living on our shores. The UK coastline is one of the longest in Europe, and a world-class habitat. Species that live in these environments are thought to be more vulnerable to change than those living on land due to the high level of adaptation to specific environments, and yet we know far less about them. Despite the huge numbers of species living on and around the seashore, in the UK National Biodiversity Network wildlife database, only 3% of the records are from marine environments.

CoCoast hopes to change this number, by asking everyone to get involved with looking out on the seashore over the next three years. It is led by Newcastle University and funded by the Heritage Lottery Fund, and involves large numbers of people working in partnership. The Scottish Association for Marine Science in Oban is coordinating the project in Scotland, but is working with community groups, organisations like the DGERC and individuals to ensure that we can record as much of the over 6,000km of Scottish coastline as possible. It means that every survey completed in Scotland is incredibly valuable.

If you are interested in registering or knowing more, then please visit the website **www.capturingourcoast.co.uk**, or if you have queries email **cocoast@sams.ac.uk** or call 01631 559313.

Galloway Fisheries Trust Riverfly Monitoring Initiative

Rowan Armstrong—Fisheries Biologist at Galloway Fisheries Trust

With the support from Awards for All Scotland, Galloway Fisheries Trust held two Riverfly Partnership monitoring workshops last summer in conjunction with the Clyde River Foundation and Scottish Environment Protection Agency (SEPA). The workshops were made available to anyone with an interest in the great diversity of fly life that exists within the freshwater environments of Galloway. The two one-day workshops, based on the Water of Fleet and River Cree, trained 20 volunteers in how to undertake freshwater invertebrate monitoring as part of a national network known as the Anglers Riverfly Monitoring Initiative (ARMI).

The ARMI has been running in England and Wales for many years but has only been recognised by the SEPA since 2009. The aim of the ARMI is to detect freshwater pollution quickly and alert the relevant agency. Five Scottish fishery trust districts are currently involved in the ARMI, including now a Galloway network, which covers 6 rivers and includes 20 monitors. The monitors can enter their invertebrate data to a new ARMI database. This data can be shared between many interested groups (SEPA, Fishery Trusts, landowners) which gives real importance to the project and is a key driver to maintaining volunteer enthusiasm in sampling.

During the workshop, volunteers were first given a talk, introducing them to the Riverfly Partnership and the target groups which sampling intends to pick up – caddisflies, mayflies (or up-winged flies), stoneflies and freshwater shrimp. Once out upon the river, the sample method is demonstrated. Essentially, this involves a three minute kick/sweep sample using a standard kick sample net followed by a one minute manual search (beneath stones where invertebrates may be clinging). It is important that the sample is representative of the site - that it covers all the flow and habitat types available. This standardised method

allows comparable samples to be collected over time. As volunteers sample their sites, as frequently as once monthly, they will become more familiar with what species are commonly found, at what times of year and which species may be the best indicators to highlight a pollution event should one occur.

Following the workshops and under some guidance form SEPA, the volunteers chose their sampling sites which are being input to the ARMI database. During the first year of sampling, it is important that the volunteers become familiar with the sampling technique and invertebrate identification. Generally, the best times to sample for freshwater invertebrates are during the spring and autumn and the group will be gathering in spring time to discuss their progress.

The Galloway Fisheries Trust Riverfly Monitoring Initiative is an on-going project and one that we hope will run for many years, attracting new volunteers to participate in an important citizen science project. The project has helped the volunteers become more environmentally aware and has helped connect volunteers with their local agencies to provide long-lasting benefits. Anybody wishing to join the monitoring network should contact Rowan Armstrong at Galloway Fisheries Trust.

Bird surveying with the BTO

Andrew Bielinski—BTO Regional Representative Kirkcudbrightshire VC73

The British Trust for Ornithology (BTO) has been co-ordinating and undertaking bird surveys since its inception in the 1930s; the current number stands at around 250 different surveys. These surveys have contributed hugely to our understanding of bird populations in the UK and have resulted in a uniquely rich and detailed body of scientific work. This will help us to understand the complex challenges facing wild birds at a time of great change in the environment.

Some of these now form what the BTO refers to as 'core surveys' – these include the Breeding Birds Survey (BBS), the Nest Record Scheme (NRS) and the Wetland Bird Survey (WeBS). Others are species specific (such as the current **House Martin** *Delichon urbicum* surveys) or time limited (such as the 2007 – 2011 Bird Atlas).

One of the very first surveys, back in 1934 was on **Woodcock** *Scolopax rusticola*. At that time Woodcock were known to breed over much of Scotland and Ireland as well as southern England but with gaps in the Midlands and in Wales and SW England. It was thought to winter over almost all of the country. However details of this and general biology of the species were largely unknown, and so it was deemed to be a species worthy of a survey to find out more, especially as it was also thought to have decreased as a wintering species and increased in the breeding season. Over the two years of the survey, around 1000 forms were returned which provided information on distribution and some idea of numbers, together with a lot of information on the general biology of the species. The first breeding Woodcock survey was undertaken in 2003 and provided an estimated breeding population of 78,000 males. The survey was repeated in 2013 (jointly with the Game and Wildlife Conservation Trust – GWCT) and showed an estimated population of 55,241 males – that's a decline of 29% since 2003. Because of this alarming decline BTO are asking

volunteers to repeat the survey in 2016 in order to more closely monitor changes in breeding Woodcock numbers. This species has just gone from amber to red on the list of birds of conservation concern (BoCC).

Another long standing survey is the annual heronries census, which began in 1928 and is now the longest-running breeding-season monitoring scheme for any bird in the world. Whilst the main species covered is the **Grey Heron** *Ardea cinerea*, **Little Egrets** *Egretta garzetta* are now fully included, since this species has been nesting in a growing number of English and Welsh heronries since 1996; we await the first breeding in Scotland with bated breath.

One of the most recent additions to the survey suite is Birdtrack. This developed from Migration Watch, which ran in the springs of 2002 to 2004. It is essentially a project to track migration, movements and distributions of birds throughout Britain and Ireland, by providing facilities for observers (of all abilities) to store and manage their own personal records. The principle is that the records of birds seen (or indeed not seen) can be useful data. Thus the scheme is year-round, and ongoing, and anyone with an interest in birds can contribute. Important results not readily available from other surveys and sources include mapping migration timings (arrivals and departures), and monitoring of scarce birds.

This summer the BTO are running a House Martin Nest Monitoring Study, which builds on last year's House Martin Count Survey and aims to find out more about why this bird is in such an alarming decline across the country; it is currently amber in the BoCC listings.

BTO surveys are generally co-ordinated by BTO Regional Representatives who are themselves volunteers. There are three of us in Dumfries & Galloway – myself covering Kirkcudbrightshire, Geoff Sheppard covering Wigtownshire and Andy Riches, who covers Dumfriesshire. Contact details for all BTO representatives can be found at **http://www.bto.org/volunteer-surveys/regional-network/rn-directory**. Anyone wishing to find out about current BTO surveys and how to take part can contact us or go to the BTO website **www.bto.org** and look at volunteer surveys. They're a great excuse to get out into the countryside and contribute to wildlife conservation.

D&G 2014 county bird report now available

The latest edition of the county bird report is now available. Published by the local branches of the Scottish Ornithologists' Club, the report summarises the bird records for the region in 2014. It also includes results of bird ringing recoveries and more detailed local studies on Black Grouse, Willow Tits and Pied Flycatchers. Copies of the report, priced £9.50 including p&p, can be obtained from Peter Swan, 3 Castleview, Castle Douglas DG7 1BG, or can be purchased from local bookshops and nature reserves.

Dumfries & Galloway Bryophyte Recording Group 2015

Dr Liz Kungu—bryophyte recorder and Research Associate at the Royal Botanic Garden Edinburgh (RBGE)

The group managed twelve recording sessions this year, and much of the recording focused on areas with conservation status. Work continued to record the bryophytes of the Borders Forest Trust reserve at Corehead, with visits in May and September looking at the higher ground accessed from the Annandale Way above the Devil's Beeftub. The first visit covered the ground below the Strait Step and Great Hill, where we found a second location on the reserve for the moss **Upright Brown Grimmia** *Schistidium strictum*. The second visit looked at the upper reaches of Tweedhope Burn. Over the last two years we have recorded 218 bryophytes on this reserve, and there is still much ground to cover. The bioblitz at Caerlaverock WWT reserve in June produced a surprising number of new or recent records for Dumfriesshire including, for the mosses a recent record of **Heim's Pottia** *Hennediella heimii* and also **Raspberry Bryum** *Bryum klinggraeffii*, **Golden Thread-moss** *Leptobryum pyriforme* and **Bordered Screw-moss** *Tortula marginata* new to Dumfriesshire, VC 72. The latter, found growing on the walls of the abandoned pig sty at the back of the centre, is a predominantly southern species known from only five other sites in Scotland. **Smooth Hornwort** *Phaeoceros laevis* was another interesting new record for Dumfriesshire, known from only two other sites in the region, one of which at Logan Botanic Garden, was only found in 2014. Other sites recorded during the year included a very cold and snowy visit in February to the woods at Drumlanrig Castle, where we made a second recent record in Dumfriesshire for **Slender Pocket Moss** *Fissidens exilis*, last seen at Drumlanrig over a century ago, and **Velvet Feather Moss** *Brachythecium velutinum*, abundantly fertile and growing in profusion on the tops of the garden walls. In March we visited Well Craigs above Durisdeer, and June saw a return visit to Black Hope in Moffatdale where we found both the moss **Spreading-leaved Grimmia** *Grimmia ramondii* and the liverwort **Waxy Earwort** *Douinia ovata* on a huge block boulder, the latter being new to Dumfriesshire. Our August meeting was to Wanlockhead and here **Bent-leaved Beard-moss** *Leptodontium flexifolium* growing on top of a rotten fence post was a new find for most people.

During the October visit to the RSPB Wood of Cree reserve we found a beautiful ravine on the Cordorcan Burn with, among other things, two minute western leafy liverworts **Toothed Pouncewort** *Drepanolejeunea hamatifolia* last seen in the region in 1975, and only known from 3 other sites, and the slightly more widespread **Long-leaved Pouncewort** *Aphanolejeunea microscopica*. The Community Trust reserve at Castle Loch, Lochmaben had three short visits this year to provide a detailed account of their bryophytes, and so far a total of 81 species have been recorded, which is an amazing total for a narrow fringe of woodland around the loch with a limited range of habitats. The final session of the season was a November visit to Tarras Water, near Langholm, where both **Transparent Fork-moss** *Dichodontium pellucidum* and **Yellowish Fork-moss** *D. flavescens* were found with fruits, the former on riverside rocks and the latter near the tufa mound which also supported abundant populations of **Brown Beard-moss** *Didymodon spadiceus* and **Whorled Tufa-moss** *Eucladium verticillatum*, both uncommon in Dumfriesshire.

Plans for 2016 include continuing the recording at Corehead and Wood of Cree, finishing Castle Loch, Lochmaben and recording the Community reserve at Moffat.

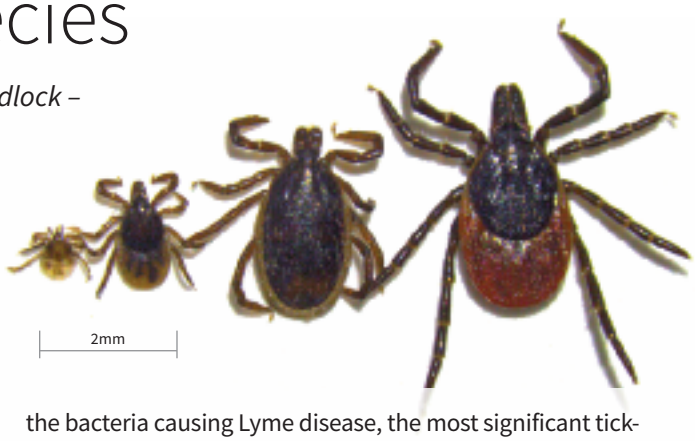
Tick surveillance – help us record our British species

Maaike Pietzsch, Kayleigh Hansford, Ben Cull & Jolyon Medlock – Tick Surveillance Scheme organisers and researchers at Public Health England, Porton Down, Salisbury.

Ticks may be familiar pests to those who live, work or spend time enjoying the countryside, but can often go unnoticed due to their small size. These blood-feeding arachnids wait on the tips of vegetation for a suitable host to brush past before climbing on to feed – a process known as questing. Using sensory organs located on their front legs, ticks can detect carbon dioxide, heat and other stimuli of an approaching host. As the host brushes past the vegetation, the tick will climb on and after finding a suitable spot, begin feeding. They are extremely sensitive to temperature and humidity and often descend to ground level to rehydrate. Depending on the stage of tick, they will take one continuous feed over a number of days, after which they will drop off the host and return to the ground vegetation to digest and moult. The entire life cycle, consisting of a larval, nymph and adult stage, can take three years to complete.

There are 20 tick species endemic to the United Kingdom, and others are imported on birds, pets or humans. The majority of our endemic species are exclusive specialist parasites of wildlife hosts and as such have a limited distribution. In contrast, *Ixodes ricinus*, commonly known as the **Sheep Tick** or **Deer Tick**, is our most widely distributed and abundant species. It is found in areas where the ground cover vegetation provides a humid environment and a variety of hosts, such as deciduous woodlands, long grass and also some urban parks and gardens. The immature stages usually feed on small mammals, birds or lizards, whilst the adult stages require larger mammalian hosts.

Ixodes ricinus is an important vector of medical and veterinary pathogens, many of which are zoonotic, meaning they are spread from animals to humans. It is the principle vector of



the bacteria causing Lyme disease, the most significant tick-borne infection across the Northern Hemisphere. Since 2005, in order to better understand tick-host relationships that are important in disease-transmission cycles, Public Health England (PHE) have been monitoring tick distributions and currently hold data on 18 tick species from across the country. This data allows us to monitor changes and investigate how or why this may be happening.

Data have been submitted to PHE via the Tick Surveillance Scheme which enhances our knowledge on the distribution of endemic tick species, monitors their activity and informs us about host preference, as well as detecting rare or imported species. This national scheme relies on submissions from the public, health and veterinary professionals, wildlife groups and amateur entomologists to help us gather the data to support the assessment of the public health risks posed by ticks and tick-borne diseases.

You can enhance our knowledge of tick distributions by sending any ticks you encounter, along with a completed recording form giving us details on the date and location the tick was acquired and the host from which the tick was removed. Packs containing sample pots, recording forms and instructions can be collected from the DGERC office. You can find full details about the surveillance scheme, along with additional information on ticks, on our website **https://www.gov.uk/guidance/tick-surveillance-scheme**

Mammals in Dumfries & Galloway

Andy Riches—County Mammal Recorder

Dumfries & Galloway is a region rich in wildlife and mammals are an important component of that. We currently have records of thirty two terrestrial mammals which breed here with an additional seven bat species that are regularly recorded. Six species of marine mammals visit our coasts in most years.

Because many of our terrestrial mammal species and all our bats are nocturnal or crepuscular they often live unseen by the majority of the human population but traces of their presence are everywhere in the landscape if you know what to look for.

Most of us will have seen deer in our travels and **Roe Deer** *Capreolus capreolus* are by far the most numerous and widespread, but we also have pockets of **Red Deer** *Cervus elaphus* and **Fallow Deer** *Dama dama* which are gradually spreading out across the region.

Badgers *Meles meles* are most often seen lying dead at the roadside but the population holds its own in spite of the huge numbers of deaths caused by motor cars each year and the serious problem of badger baiting. The Badger is probably the most persecuted of our mammals with incidents of baiting, perpetrated by both local and visiting criminals, being a regular occurrence. There are also problems with damage to setts caused by poorly managed forestry, agricultural or development operations. Happily Scotland's strict conditions on cattle testing have ensured that Bovine TB has not been brought into the country and passed on to wildlife.

The **Brown Hare** *Lepus europaeus* is another species that is heavily persecuted with hare coursing - a crime in which the hare is chased by lurcher-type dogs until it is caught and killed - being on the increase in Dumfriesshire.

Following a disastrous drop in numbers in the twentieth century caused by poor water quality and persecution, the **Otter** *Lutra lutra* is now making a spectacular comeback with the help of European laws that give it an exceptionally high level of protection. This magnificent animal is regularly recorded on the Nith in Dumfries town centre and has even been seen trotting up Moffat High Street! There are virtually no water courses in the region that do not have signs of Otter somewhere along their length.

A programme to re-introduce **Pine Marten** *Martes martes* into the forests of Galloway has proved very successful, whilst the pre-existing population in Dumfriesshire is spreading naturally. It is wonderful to see these fascinating mustelids, which were almost exterminated by man, reoccupying their former territories.

Another mustelid that is making a comeback after years of persecution is the **Polecat** *Mustela putorius*. It has been recorded in the Nith valley for some years now and is gradually extending its range. To date there are very few records elsewhere but with so much high quality habitat available it cannot be long before other areas of the region start producing records.

The **Rabbit** *Oryctolagus cuniculus* is an animal known to almost everyone and rarely rates a mention in most surveys of mammals. In actual fact it is in serious decline across the

UK and this is very noticeable within our region where there are large areas which have no Rabbit presence at all. This absence is due to Rabbit Haemorrhagic Disease Virus (RHDV) which arrived here from the Far East in the 1980s and has been spreading northwards ever since. Whilst some may cheer the huge decline in Rabbits, the removal of, or heavy reduction in numbers of a species, has serious 'knock on' effects for the whole ecology of an area. If Rabbit numbers continue to plummet then many other mammal and avian species with be seriously affected.

This very brief look at some of the region's terrestrial mammals can only scratch the surface of a wonderful secret world waiting to be explored. If you would like to know more or to find the keys to unlocking the secret then do please get in touch. I will be running training courses around the region during 2016. If you are interested in taking part, please contact me at **dgmammals@aol.com**

Recording flowering plants and ferns in Dumfriesshire in 2015

Chris Miles—BSBI county plant recorder for Dumfriesshire (VC72)

Atlas 2020

The current focus of survey work continues to be on filling gaps in coverage for the new Atlas of the British and Irish Flora planned in 2020. This will be an update on the atlas published in 2000. The ideal is to record in every tetrad (2x2km squares) or even monad (1x1km) by 2020. There are 813 tetrads with all or part of their area in Dumfriesshire and 4 times as many monads and like most parts of Scotland with few recorders this is an impossible target. So the aim is to try to record in 5 tetrads for each full hectad (10x10km) and proportionately in partial tetrads. This gives a target of 161 tetrads in Dumfriesshire. To date including 2015 138 tetrads have been recorded reasonably well since 2000. This leaves a modest target to achieve the minimum coverage with the chance to extend recording further by the last field season in 2019. Anyone contributing records can help with this work in either taking on a square (tetrad or monad) in an area requiring further recording or in a square near them. All records are valuable.

2015 field season

In 2015 a total of 18 tetrads and 7 monads were covered during the season.

This has generated 3239 new records meaning a total of 45757 records have been made in Dumfriesshire since 2000. This compares to the 47003 records made before 2000 that are held on the BSBI database.

First records for Dumfriesshire were **Great Lettuce** *Lactuca virosa* by the motorway slip road at Lockerbie, a northward spreading southern species; **New Zealand Bitter-cress** *Cardamine corymbosa*, on compacted gravel in Greystone Loaning Dumfries. This species has spread with pots through the horticultural trade and is consequently becoming established in gardens. **Keeled- fruited Cornsalad** *Valerianella carinata* at the junction of Moffat and Edinburgh roads in Dumfries.

Refinds in the Moffat Hills included: a healthy population of **Bearberry** *Arctostaphylos uva ursi* on Deacon Snout; **Bog Blueberry** *Vaccinium uliginosum* which still survives where D.A. Ratcliffe recorded it on the Mid Craig in 1956; **Mountain Everlasting** *Antennaria dioica* on Redgill Craig, the first record since 2000; the upland version of pussy willow *Salix caprea subsp. sphacelata* in Raking Gill.

Elsewhere there were plenty of interesting finds. Outstanding were **Whorled Caraway** *Carum verticillatum* an important eastern record at Castle Loch reported by Drew Davidson and Freda Seddon for the first time since before 2000. The tiny bluish flowers of **Common Cornsalad** *Valerianella locusta* are similar to those of *V. carinata*. This was previously recorded from 3 places along the Solway coast and last year was found growing on the Powfoot foreshore for the first time since 1975. A Plantlife wildflower walk at Drumlanrig in July turned up some scarce plants. We saw **Greater Spearwort** *Ranunculus lingua* probably only the fourth record for Dumfriesshire, **Fools Water-cress** *Apium nodiflorum*, and a colourful display on riverside rocks including **Northern Bedstraw** *Galium boreale*, **Globeflower** *Trollius europaeus* and **Tea-leaved Willow** *Salix phylicifolia*. The Bioblitz at the Wildfowl & Wetland Trust's Caerlaverock Wetland Centre in June generated 170 higher plant records for the monad (1km square). This included **Pink Water-speedwell** *Veronica catenata* and **Fennel Pondweed** *Potamogeton pectinatus* and **Lesser Pondweed** *Potamogeton pusillus*.

Plans for 2016

A field meeting is being held on 23rd and 24th July 2016 in the Moffat Hills to focus on mapping **Sheathed Sedge** *Carex vaginata* and undertake further monad recording for these species rich hills.

I also aim to publish a Rare Plant Register for Dumfriesshire. This will update the number of records currently known for the 200-300 rare and scarce plants of the County. This is the first attempt to do this since the *Flora of Dumfriesshire* was published in 1896.

Wildlife recorders' gallery 2015

Clockwise: Vapourer moth *Orgyia antiqua caterpillar,* Bargrennan © Buzz Clark, Brown-footed Leafcutter Bee *Megachile versicolor,* Moffat © John Clark, Sea Gherkin *Pawsonia saxicola,* Carrick © Nic Coombey, Red-headed Cardinal Beetle *Pyrochroa serraticornis,* Caerlaverock © Alison Robertson, Blue Jellyfish *Cyanea lamarkii,* Port Logan © Jim Logan, Kidney-spot Ladybird *Chilocorus renipustulatus,* Kelhead Flow © Richard Mearns

Wildlife recording events in 2016

Wed 15 June	**Moth trapping at Clatteringshaws**	**Clatteringshaws Visitor Centre**
Come along to discover more about the wonderful world of moths. See which local species have landed in our night time light traps and help DGERC staff to record our finds. All moths will then be released carefully back into their natural habitat.		
Sat 18 – Sun 19 June	**RSPB Mersehead Bioblitz weekend**	**RSPB Mersehead nature reserve**
Join natural history experts to find and identify as many different plants, birds, insects, amphibians and mammals as possible at Mersehead during the weekend.		
Sat 25 June	**WWT Caerlaverock Insectathon**	**WWT Caerlaverock nature reserve**
As part of National Insect Week, DGERC will be joining other wildlife experts to help WWT to find and identify as many different types of insects as possible on the reserve. Drop in during the day to take part in a variety of activities.		
Sat 30 July	**Moth trapping at Clatteringshaws**	**Clatteringshaws Visitor Centre**
Come along to discover more about the wonderful world of moths. See which local species have landed in our night time light traps and help DGERC staff to record our finds. All moths will then be released carefully back into their natural habitat.		
31 July	**SWT Gardening for Wildlife Day**	**Glenwhan Gardens, Dunragit**
Scottish Wildlife Trust will be demonstrating practical ways to enhance your garden for wildlife. DGERC will be helping with wildlife recording including pond dipping and moth trapping. Usual garden admission fees apply.		

More events will be organised later in the summer. To hear about these, and for news and information about other local wildlife events in Dumfries & Galloway, join the DGERC email list via our website **www.dgerc.org.uk**. You can also follow our social media pages.

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