



BRISC
BIOLOGICAL RECORDING IN SCOTLAND

Issue No 115 - February 2021

ISSN 0966-1964

www.brisc.org.uk

www.facebook.com/BrisScotland

Recorder News

CONTENTS

Discovering Purple Hairstreak	
Butterflies	1
IRecord defense	5
Chair's column	7
Editor's piece	8
BRISC Annual Meeting	9
Chair's AGM Report	10
SBIF Report	
Spotlight on Scotland's Seagrass	
Meadows	13
NBN Notes & Committee	16



Purple Hairstreak male, female and underside.
Photos taken near Charlestown, Fife by Colin Edwards

Discovering Scottish Purple Hairstreaks

Chris Stamp

Butterflies are a popular and well-known group, so while records can be patchy the general distributions of all the species is well known. That's what I believed until an eye-opening journey of discovery with the elusive Purple Hairstreak *Favonius quercus* in 2020, proved otherwise!

The Purple Hairstreak is a *lycaenid* butterfly – in the same family as the Common Blue and of similar size. A very attractive insect, the unusual lifestyle of this tree-top species can unfortunately make it feel out of reach, literally, for butterfly recorders and photographers. Its unique habits do mean that it



can be identified fairly easily once you know how and, importantly, *when* to look, however.

It's our only butterfly species that prefers to be active in the evening, between 5pm and 8pm, when temperatures are 18 degrees and above. Its arboreal habitat and the spiralling of males jousting for prime

spots on a sunny oak canopy mean that glimpses of flight can be enough to be sure you have found them once you are familiar with them. The grey undersides look silvery in flight against the green of the trees, which, along with their habit of perching with wings open, distinguishes them from the White-letter Hairstreak *Satyrion w-album* (in Scotland only found in the Borders, breeding on elm).

East Perthshire is home to a well-known Purple Hairstreak site at Kinclaven bluebell wood. Butterfly enthusiasts make an annual after-work pilgrimage to see the species dash around the oak trees on sultry evenings in late July and August, most holding a camera in vain just in case one decides to descend. This almost never happens, prompting half-serious conversations about cherry pickers and drones.

An experiment with my spotting scope on 23rd July proved very successful with some memorable views of the male butterflies perched in their territories high up on the oak canopy, outlined against blue skies, a bluish sheen on brown wings and even the orange antenna tips clearly visible. Inspired by these glimpses into a secret treetop world, I was hooked, keen to try to discover more.

As a first step I pondered whether they might be present in another bluebell wood at Ardblair near Blairgowrie about 6km north. Despite no records existing in that 10km square, it was the most similar habitat I could think of to Kinclaven.

An evening safari produced instant results with the thrilling sight through binoculars of small silvery wings flashing about the canopy as I approached the woods. A short walk within the wood itself produced plenty more sightings, with this site seemingly equal to Kinclaven but all the more exciting as I was evidently the first to discover it.

Extending my wander, I was surprised to discover more beyond the woods, flitting around isolated oak trees in nearby pastures. Driving home still buzzing from these discoveries, I stopped off at two more spots with a few oak trees en-route. The surprises mounted, with Purple Hairstreaks present at both.



Scoping Purple Hairstreaks at Kinclaven bluebell wood, photo Chris Stamp

An excursion in the opposite direction the next evening produced another sighting at Rossie Priory near Inchtute, and on the following day a speculative inspection of oaks on a family walk near Birnam station during the afternoon revealed two perched hairstreaks, occasionally making brief flights to change position. A species that I previously knew just from one special location seemed to be showing up everywhere I went!

The first week of August featured more warm evenings, during which I embarked on some speculative 'square bashing'. By the end of this period of settled weather I had recorded more new 10km squares, and a 100% success rate.

Things started to feel a little surreal when a familiar silver flash passed me at eye-

level as I mowed our garden lawn on a hot 8th August morning. Abandoning the mower in pursuit, I was thankful that the butterfly landed in a hedge low enough to get a clear look and assure myself that I wasn't becoming obsessed to the point of imagining Purple Hairstreaks. But why was a Purple Hairstreak in our garden nowhere near any oak woods (albeit we do have a mature oak tree overhanging the garden)? Why was it abroad in the morning?



Purple hairstreak habitat at Paddockmuir Wood, east Perthshire, photo by Chris Stamp

A glorious evening on 12th August gave me a chance to focus my attention nearer to home, this time with a bike ride around local country lanes. Although we are lucky to have many impressive hedgerow oaks nearby, I was doubtful whether trees sandwiched between arable fields and tarmac could provide conditions conducive to butterflies that pupate on the ground. But my tour produced continuous sightings of hairstreaks for many kilometres, culminating in me arriving back at our house at around 8pm to watch in astonishment as three Purple Hairstreaks duelled in the oak tree over our own garden. As an active butterfly explorer for decades, discovering what I believed to be a rare, localised species happily living undiscovered yards from the front door took some believing.

The mystery of the garden hairstreak was solved (it must have been a female, active



Hedgerow oaks holding a Purple Hairstreak colony near Milton of Collace.

Photo Chris Stamp

during the day as she searched for egg-laying spots), and it was gradually dawning on me that not only were these butterflies not rare and confined to a few special oak woods, but were possibly the most common and widespread butterfly in the area in that moment of high summer.

Other recorders were paying attention to my excited posts on the East Scottish Butterflies Facebook group. New sightings were coming in from Perth, Dundee, Fife and further afield in South Lanarkshire, demonstrating that once people knew what to look for, Purple Hairstreaks could be found in new places across Scotland with dots popping up on iRecord maps in previously blank areas. One lucky recorder even showed off chance photos of a mating pair perched at eye level near Errol.

As if the revelations weren't enough for one season, my Purple Hairstreak journey took a new twist during a walk around our village with my wife and my mother, who had taken advantage of a respite in lockdown for a visit. It was an opportunity to

expound on my new specialised subject and what I'd read about the butterfly and its arboreal lifecycle with eggs laid on the leaf buds of mature oaks.

A stormy night had littered the lane with windfall twigs, some of which I picked up on impulse to inspect. One of the first twigs to be examined did indeed to my surprise have a little white dot tucked between the terminal leaf buds. Although I didn't really know what I was looking for and had never before seen a wild butterfly egg of any kind, I took the twig home more in hope than expectation.

After attempts using magnifying glasses, mobile phone cameras and a cheap USB microscope, I finally convinced myself that the tiny, brilliant white, bun-shaped object was indeed, miraculously, a Purple Hairstreak egg! Further reading revealed that these tiny eggs, less than 1mm wide, house a fully formed caterpillar which remains dormant for seven or eight months over the winter before emerging to burrow into breaking spring oak buds.

I found more windfall eggs locally over the coming days, inspecting them with an improved microscope (having started the season with a telescope!) and discovering a new world of tiny leaf-dwelling creatures along the way. I learned how lucky I had been to find an egg quickly - the average time to find one during some dedicated searches was close to an hour per egg, or maybe one per two hundred clusters of buds. If I had not found one by fluke at almost my first attempt I would no doubt have left the idea of finding and studying butterfly eggs to the experts.

Having amassed a grand total of seven eggs, finding some new locations for the species in this way, I was forming vague plans for rearing the caterpillars which were otherwise doomed with only dead twigs to eat when they emerged. It could also go some way to tackling the Purple Hairstreak photography challenge.

Something of a game-changer happened on 10th September when I returned to Rossie Priory hoping to forage another egg or two. I was confronted with a huge south-facing limb from an ancient oak lying by the cricket pitch, having demolished the fence in its fall. More twigs than anyone could hope to deal with! A few repeat visits, secateurs in hand, ultimately gleaned a miniature treasure trove of 10 tiny eggs.

Half of the twenty two eggs that I have gathered at the time of writing have gone into the fridge to overwinter and half have gone to outdoor storage. After a few experiments I settled on using tea strainers to provide the benefits of good ventilation, drainage and steel armour against potential avian predators like the family of goldcrests that I had nervously watched combing our oak tree for snacks!

The raising of butterflies from the eggs will be a story for another day...



Purple Hairstreak egg on a windfall twig near Collace, photograph Iain Cowe

There are currently several regions of Scotland with no known sites for Purple Hairstreak. The northern limit of their range right across the country is I suspect yet to be established and the distribution maps also show suspicious blanks further south in the Borders and Lothians.

I hope this account inspires some recorders to target this species in new areas in 2021



Purple hairstreak eggs overwintering in a tea strainer, photo Chris Stamp

and uncover more of the mysteries of this beautiful creature that seems not to be as rare or localised in Scotland as we had thought, just one that exists very discreetly in a widespread habitat.



A defence of iRecord

Alistair Shuttleworth

A short while ago I came across one of the occasional, throwaway negative comments I hear about iRecord. Often, they are comments about asking people to identify things from photos, which I take to mean they've confused iRecord with something else. iRecord is a recording "tool" which works in much the same way that Recorder or Mapmate might, but with the advantages that come with records being in the public domain.

I felt like it was worth composing a defence of iRecord. I'm sure it doesn't cover everything, positive or negative, but I wanted to explain why I think all recording should be done through iRecord. I can probably pinpoint some potential issues, but this is a defence! To be fair, most issues relate to "misuse" of iRecord.

1. The record is a record

Sounds obvious, right? During a brief stint as county moth recorder for VC85/Fife I was often surprised how many people give you some information which doesn't constitute a record. iRecord won't let you do that. You have to make a properly constituted record - as a minimum the date, location, and species. If you don't supply that, the system won't accept the record.

2. One record for everyone

Anybody can make a copy of this record for whatever use suits them, but one record is one piece of data. It shouldn't, ideally, be one record on my PC and one record on the county recorder's laptop and one record on the next county recorder's PC and so on. Records from SWT reserves can be accessed by SWT. Local record centres can automatically access records, too. Records can be accessed by relevant recording

schemes, which is why so many recording schemes choose iRecord as their preferred method, and why many verifiers on iRecord are actually those who run the recording schemes.

3. Information pertaining to a record is held with the record

In the old days – let’s say spreadsheet rather than the even older days of actual cards – a spreadsheet record might be queried. Then correspondence ensues where the recorder has to find voucher photos or provide additional information. Instead of that all being lost in someone’s personal email it’s now with the record. That’s where it should be. Anyone querying the record forever in future can look in this one location. Perfect.

4. A record is easily verified, corrected or rejected

A spreadsheet record will be assumed to be true if it’s reasonable. However, it might be rubbish! I know because several verifiers have corrected mistakes of mine which were within reasonable bounds, thus salvaging bad records. No spreadsheet method would ever have caught these. Instead accompanying photos and information allow errors to be corrected in situ and all the data on that correction remains with the original record (including my own daft mistakes, sadly - a small price to pay!). Verifiers are also able to alert submitters to potential issues, like when a photo isn’t enough, when additional info is required, when a species has been split, etc.

5. Auto flagging of “outlier” records

iRecord is able to auto-flagging questionable records IF all our records are shared, both as individuals and as recording schemes. When compared with currently known records, outlier records are high-

lighted when submitted. When set up and accumulating verified records over time this gives us the best chance of building a system to flag outlier records with no manual intervention required. Many schemes have well-defined data-flows which result in verified records being exported to NBN.

6. Recording lists of records is as easy as pie

Many people aren’t aware that you don’t have to type in a whole name to get a record in iRecord. If you type, for instance “sc she” in the species box it will offer you Scalloped Shell. If you type “l b b y u” it will offer you ... the right species. And your OS gridref won’t end up in the North Sea because you’ll spot any error immediately when it shows it on the map. I like the way the spreadsheet works but iRecord provides the same functionality (although you don’t have to remember the code/algorithm)

7. iRecord can cope with taxon specific data and specific schemes

Mosses have sporophyte states, lichens have substrates and insects have life stages. Most groups have specific things which it might be good to record but which don’t have analogues in other taxon groups. iRecord copes with this by allowing recording schemes to set up specific “activities”. Recording schemes may not get all the information they’d ideally like to have, but that’s not an issue of the tool. It’s only an issue of usage. Even more specific schemes (e.g. “Hibernating Heralds”) can set up very specific activities.

8. “I don’t have time for this”

If, as I do, you record across a wide range of taxonomic groups you’ll be relieved that most recording schemes choose iRecord as their preferred method. Instead of, come

1st January, figuring out 100 different ways to submit records to 100 different schemes you don't have to do anything. All your records are already submitted. So it won't mean trying to deal with records in 100 different formats from 100 different recorders. No more time spent chasing (and typing! Arghh!!) handwritten records with incomplete information supplied. If all records came via iRecord they would already be all verified, and accessible to all parties, by 1st January. How can you do better than that?

So there it is. There's probably more. Like the inbuilt analysis tools and query support. Like the fact you can pass a record to an interested party by providing the URL. Like the fact that all the records aren't lost when you spill tea into your keyboard. Like ... OK, I'll stop now. As a long time recorder, I can honestly say I wished every scheme would use iRecord, and I'm very pleased that most of them do.



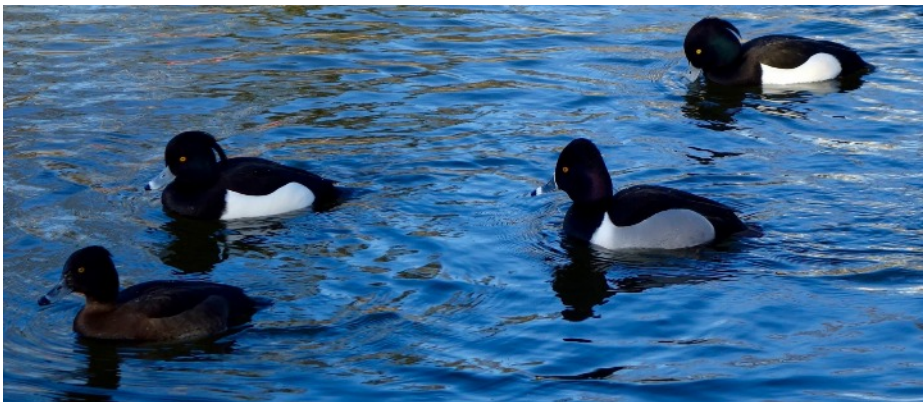
Chairs report

February 2021

Chris McInerny

The COVID-19 pandemic continues to dominate the news and our daily lives, though with the development and current implementation of vaccines we can start to see the end of these difficult times. During this period, I hope that all BRISC members have been safe, and have managed to engage with the natural world, which can be a great source of comfort and consolation to us all, as many are discovering.

COVID-19 has had a significant impact on BRISC and its activities. We postponed the 2020 annual conference and AGM, funded bursary courses were cancelled, and much biological recording was prevented or reduced. The BRISC committee met last November remotely, and decided that the AGM will be in March 2021, with an invited



Male Ring-necked Duck (front right) with male and female Tufted Duck, Bingham's Pond, Glasgow, 8 February 2021 (Chris McInerny)

speaker Richard Liddell giving an exciting and interesting presentation "A Spotlight on Scotland's Seagrass Meadows". We very much hope that you can attend this Zoom meeting to hear the talk and contribute to the AGM, details of which are shown elsewhere in this Newsletter. We plan to organise a BRISC conference later in 2021, either remotely or, if possible, in person though the latter may be in 2022.

Though we all had a period through the summer and autumn of 2020 when travel was allowed and we could enjoy wildlife further afield, as I write in early 2021 we are under a more restrictive lock-down again, with only essential travel permitted.

However, I still enjoy wonderful wildlife on my local West End of Glasgow walk. Most observations are of more familiar Scottish natural history, but recently we were lucky to have a male Ring-necked Duck on various ponds near my home. This North American "cousin" of our familiar Tufted Duck is a rare bird in Britain, with this observation being the first record for Glasgow, though likely the same individual has been seen near Glasgow in previous winters. With a peaked crown, white bill markings and grey flanks the species is smart and brought a smile to those who saw him. I hope you all have been able to enjoy local wildlife near your homes.

Best wishes, and good recording through 2021

However, I watched an osprey for 2 hours, and the blackcap and chiff-chaff are chattering away in the woods behind our new house, now a month in building and which will be ready in March. I doubt we can get back before then without punitive (though necessary) measures for entering the UK! So see you on zoom on the 16th at least.



Editors piece

Sarah Eno

Despite it's problems, social media certainly is useful. I had been following Chris Stamp on Facebook, and similarly, Ali Shuttleworth's defence of iRecord so they were willing targets for this issue. Borders Forest Trust which is involved in a big ecological restoration project in the Wildheart of Southern Scotland, will be launching it's revamped website shortly. iRecord will be on there as a prompt to encourage casual observations as well as more systemic surveys. In fact BFT are very keen on more expert help to acquire biological data for the newest large site, Talla and Gameshope near Tweedsmuir. So please contact BFT via the website, <https://bordersforesttrust.org/> or me if you would like to offer help with any research or monitoring effort. We have a lot of ideas! Lastly, Richard will be giving his talk on Eelgrass Meadows at the BRISC Annual meeting - see page 9. It's very good.

Meanwhile I have been here in Asturias, in northern Spain since middle of December, just avoiding the problems in the UK. It's interesting discovering wildlife and natural history here and comparing with the UK. There is much concentration on honey pots like the Picos de Europa but less so on the 7 other protected areas. In fact about 30% of Asturias is protected as national parks, Biosphere Reserves or other designations. However, the practices within can be questionable. Here, overlooking the ria de Villaviciosa, an SPA and SAC, we are horrified to see slurry spreading on the porreos, (flooded meadows) just before predicted heavy rain.

continued



**BRISC 2021 Annual General Meeting
Tuesday 16th March 2021 at 7.00pm, by Zoom**

<https://uofglasgow.zoom.us/j/98653766786?pwd=K3V5YW41bFlzaE5zc2VUcEQ4Z2N6dz09>

Meeting ID: 986 5376 6786 Passcode: 783350

The AGM will be preceded by 2 talks:

Richard Lilley of Project Seagrass: "A Spotlight on Scotland's Seagrass Meadows"

Savanna van Mesdag, on her bursary course "Identifying Bryophytes for Conservation and Recording".

AGM Agenda 2021

1. Apologies
2. Minutes the last meeting
3. Chairman's Report for 2019-2021
4. Annual Accounts and Treasurer's Report for 2019-2021
5. Memberships and subscriptions for 2019-2021
6. Election of Honorary Officers and Council for 2021/2022
7. Any other business

Chairman's AGM Report 2019/2021

2019 AGM

The 2019 AGM at Edinburgh Methodist Church, Nicolson Square, Edinburgh was attended by 45 people, 24 of whom were BRISC members. All the proposals and motions put forward were approved.

The raffle went well, supporting the finances of the conference.

Membership

Membership is stable but we always welcome new members. Please join us in recording wildlife in Scotland!

BRISC Committee

The committee met two times in the last 18 months, in November 2019 and November 2020, the first in person at Stirling, with the second remotely by Zoom due to COVID-19 travel restrictions.

Bursaries

BRISC has awarded a number of bursaries during 2019/20 to allow aspiring naturalists to attend course of various aspects of natural history, although alas due to COVID-19 travel restrictions none were taken up in 2020. We hope for a more positive situation in 2021.

As well as BRISC funding two of these bursaries, BRISC awards more bursaries funded by other organisations: four from the Glasgow Natural History Society (GNHS), and two by Scottish Natural History (SNH). We have also managed a bursary on behalf of the Inverness Botany Group.

We had three talks from bursary recipients at the 2019 conference: "Marine mammals" by Alexander Paterson; "Hoverflies" by

Tereza Kocarkova; "Mosses and liverworts" by Ash-Lynn Tavener. All talks were excellent. And we look forward to one more at this year's conference "Identifying Bryophytes for Conservation and Recording" by Savanna van Mesdag. The reports that bursary recipients write, and which are published in the BRISC and GNHS Newsletters, are also very well received.

The bursaries form a very important part of BRISC's mission to support and encourage wildlife recording in Scotland. The committee is delighted to witness the number of aspiring naturalists who have been helped to attend these courses over the years, and BRISC thanks all the organisations and benefactors who provide money to enable this.

SBIF project

BRISC has continued to support the very important SBIF project. BRISC works closely with the SBIF Development Officer, Rachel Tierney and Jonathan Willet, who are both BRISC committee members and supports SBIF's review of the biological recording infrastructure in Scotland.

Thanks

Finally, and most importantly, thanks to all the committee who give their time, energy and expertise to BRISC, and the continued support of you the members. The recording of biology is increasingly important in Scotland, and we all play a role in this.



Bryophytes on rocks (Savanna van Mesdag)

SBIF Project Progress and Development Officer changes

We have been a little quiet of late, but that is because we have been very busy! Rachel Tierney, the previous SBIF Development Officer, gave birth to a healthy baby boy in early January. This small matter(!) did not get in the way of the submission of our new funding application to NatureScot (SNH's new name), which was submitted before the Christmas break, just before Rachel went on maternity leave. Rachel and Gill Dowse did a power of work to get it over the line, I did my bit too.

Who is this I? Jonathan Willet, the new Development Officer and of course BRISC Treasurer. I started in early November, courtesy of funding from NatureScot who extended the Development Officer post until March. The main reason for the post's extension was to provide continuity in dealing with funders and partners, and to undertaking future planning so that the new project (!) can start in April (funding permitting).

I don't come into the role of SBIF Development Officer cold; as some of you will know I have had a twenty-year plus involvement with biological recording in Scotland and was closely involved in the development and evolution of SBIF since its very beginning. I have taken a bit of a step back in the last few years due to working full-time as a tourist guide. Obviously, that stopped last year... so other work was very welcome. However, it hasn't taken me long to get back up to speed with all things SBIF'ian.

The new project proposal that we submitted in December was a reaction of the failure of the full SBIF Infrastructure project to secure funding. An ask of £15million over 5 years from our sector was exceptional and this bid coincided with the COVID-19 pandemic, meaning ambitious

new projects not addressing the pandemic were not a focus for the Scottish Government. However, there was enough interest in the proposal to encourage SBIF to submit a more targeted project addressing the highest priority action, that of ensuring the continuity and accessibility of the Scottish LERC and recording group data.

We still believe that the full Infrastructure is the way forward, but it may take a series of steps to see it fully realised. If you have forgotten about its value for money and astronomically good Benefit to Cost Ratio (BCR) have a look at pages 44-53 of the [SBIF Review](#), page 52 in particular. A ratio of 4:1, so four pounds benefit to every one pound invested, is seen by the UK Government as very good value for money. A pessimistic value of 9.9 to 23 was calculated for the full SBIF infrastructure, the actual BCR without the 99% discounting was between 848-2450!

The BCR for investing in biodiversity directly or indirectly tends to generally be very high for a relatively low investment. For example, in addition to other non-market benefits associated with fisheries, forestry, and recreation, the flood protection benefits from mangrove preservation and restoration are worth up to 10 times the costs (a BCR of 10:1). [VWT](#). The problem is that is these "intangibles" i.e. non-market costed (though obviously flood protection is a tangible if you live close to a mangrove forest) benefits currently don't show up on anyone's balance sheet.

There is some change in mainstream economic thinking to start taking this into account, see [Mark Carney Reith Lectures](#) on the BBC and the recent [Dasgupta Report](#), recognising that the earth's resources are

finite and in need conservation and restoration for humanity's long-term benefit.

The new project that I have mentioned, is a two-year one that seeks to deliver three key actions by its completion;

1. To facilitate the closer working of the LERCs and Recording Groups in Scotland and the signing of formal agreement to do this.
2. To create a single species record database for Scotland's LERCs and manage a phased transition from regional databases to this. By doing so we will secure the long-term future and accessibility of databases whose long-term future is uncertain.
3. To provide a single, standardised data product that is available nationally to aid land management decision making.

Another change in the focus of this project is that it would seek to generate income from supplying this data product. This would allow the project to start to cover its operating costs. One particular principle of

the project is to not impinge on the current income streams of the existing LERCs in Scotland.

We believe that there is a legal requirement for better utilisation (or just utilisation) of biodiversity data by public and private bodies. If you have seen the [Position Statement](#) on National Planning Framework 4 you will know that it has an enormous, tacit requirement for a great deal of specific biological data products to make sure it is delivered. There are untapped income streams existing nationally and locally for supplying these data products.

So, with an uncharacteristic note of optimism, I shall end this article. We should hear about the outcome of our funding bid in March. I will keep you posted on our progress: the future beckons with the promise of exciting times ahead.

Jonathan Willet
jwillet@scottishwildlifetrust.org.uk

EVENTS

There are so many zoom talks that really it's a full time job listening to them: Froglife, Buglife..... BRISC and TWIC have good diaries of many events. And there are also a few online conferences to book for March:

NESBRec Recorders Forum Saturday March 7th
<http://www.nesbrec.org.uk/whats-new/>

TWIC series of talks and their Spring Conference is Sunday March 14th 'Backyard Biodiversity' 10-1pm <http://www.wildlifeinformation.co.uk/events.php>

Butterfly Conservation Scottish Recorders Gathering Sat March 13th
<https://butterfly-conservation.org/events/scottish-recorders-gathering-2021-online>

BRISC Tuesday 16th March 7pm. Two talks and the AGM. See poster page 9

A spotlight on Scotland's Seagrass Meadows

Richard Liddell

It was 2016 when I moved from Cardiff to Edinburgh to set up our operations in Scotland. At [Project Seagrass](#) we were about to host the International Seagrass Biology Workshop at Nant Gwrtheyrn on the Llŷn Peninsula, and the eyes of the seagrass world were very much on Wales. Through this event, we managed to garner some much-needed media coverage, and with Welsh Government in attendance, the conference provided the opportunity to present our case to the 'powers that be' that Welsh seagrass meadows matter! From that point onwards, we've gone from strength to strength, and we now currently enjoy a very positive and supportive working relationship with Welsh Government. Indeed we continue to survey, monitor and restore seagrass in both the Pembrokeshire and Pen Llŷn a'r Sarnau SACs.

In 2016 I had high hopes for what might be achieved in Scotland; indeed, I still do!

There exists an active [Coastal Communities Network](#) in Scotland and if I've learnt anything about conservation over the years it is that communities are central to its success. What's more, ever since I arrived in Scotland, I have been warmly welcomed into the marine conservation conversation, not just by the NGOs, but by Scottish Government too. A special mention here must go to Gail Ross MSP who has gone beyond the call of duty in her role as Species Champion for seagrass. We all want our politicians to act with conviction, and I certainly can't question her commitment when it comes to protecting Scotland's Nature.

In Scotland there exists a number of challenges for protecting and enhancing our existing seagrass meadows. First, not many people have ever heard of seagrass, so it's hard to communicate the value of something if people aren't clear on what you are talking about! In addition to this, we actually have two species of seagrass in our waters, Dwarf eelgrass (*Zostera noltii*) which is found much higher up on the intertidal and Eelgrass (*Zostera marina*)

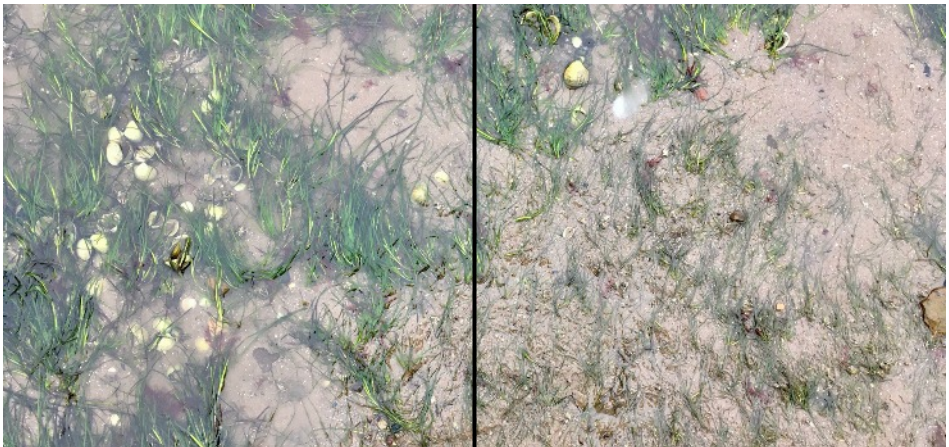


Figure 1 – Side by side; *Zostera marina* (Left of photo) and *Zostera noltii* (Right of photo) in Belhaven Bay, East Lothian

which can be found both on the lower intertidal and subtidally. Both species are quite different, and so communicating benefits of seagrass meadows can be a challenge too. Eelgrass is an important habitat for juvenile fish as it stabilises sediments, enhances marine biodiversity and is gaining recognition as an important 'Blue Carbon' habitat. Dwarf Eelgrass is an important food source for species such as brent geese and wigeon.

Further complicating matters is the phenotypic plasticity of Eelgrass; whilst Dwarf eelgrass is always diminutive, Eelgrass can grow from several cm in the intertidal zone to well over 1m in subtidal meadows, so one could easily be forgiven for thinking they were very different plants! Indeed, for many years in Scotland there has been a linguistic delineation with *Zostera marina* being recorded as *Zostera angustifolia* when it was found on intertidal tidal mudflats and where it is much smaller in stature in comparison to those plants found subtidally.

What's particularly interesting is that in Scottish Gaelic there also exists two different words for *Zostera marina*, '*bilearach na duilleige caoile*' when it is found intertidally and exhibits smaller, narrower leaves, and *bilearach-coitcheanr* when it is found subtidally and is therefore generally larger. This subtidal variety was much used for [thatching purposes](#), and it was supposed to last longer than straw.

The second major challenge is that there is a real paucity of data on where our seagrass meadows are, or where we have 'point data', just how big the meadows at that location are. The [NBN Atlas](#) has some indicative data, but it doesn't require the record to be a permanent feature and so revisiting these records when you are looking to find a seagrass meadow can be



Figure 2 - Subtidal Eelgrass (*Zostera marina*) in Loch Eishort, Isle of Skye

a little misleading. On the flip side, this wider recording of presence can enable the discovery of 'new' meadows that haven't been officially mapped or recorded as permanent features. In contrast, the [Marine Scotland NMPi](#) is an excellent resource for locating known seagrass meadows as it only records features which are 5 sq m or larger in size. However, again, it doesn't have every seagrass meadow mapped; there's still a lot of work to be done!

The third challenge is that we are often restricted by how recent the data is. A recent foray into historical seagrass data from the Firth of Forth has revealed records from as far back as 1823! However, such data, whilst useful, only helps us to understand the persistence of seagrass at a given location that is regularly monitored. Indeed, in some cases it tells us about where seagrass used to be but gives us no indication as to whether or not it is still there!

All these challenges aren't unique to Scotland though which is why we have devel-

oped the website and smartphone app SeagrassSpotter.org.

With SeagrassSpotter, biological recorders around the world can contribute to marine conservation with just a few taps of their phone. The data we collect is open access, and so anyone can download it for their own use. Through this global Citizen Science platform, we have so far been able to engage over 2000 users, who have recorded the presence of seagrass species in well over 3200 locations in nearly 100 countries worldwide.

I believe the real benefit of this data is yet to come though, as we hope to utilise the SeagrassSpotter data to ground truth seagrass habitats for remote sensing technologies (satellite and drone imagery). Through this we should be able to turn some of the SeagrassSpotter 'point' data into much more useful 'polygon' (habitat extent) data. Indeed, if that is achieved then we will have a much better idea of just how much seagrass we have in Scotland, and what's more, we'll be able to document any further seagrass loss or recovery regularly.

I'm optimistic for the future of our Scottish seagrass meadows. At Project Seagrass, we've been in collaboration with NatureScot and the Royal Botanic Garden Edinburgh on a survey and monitoring project that has incorporated sites from Shetland to the Solway Firth. This work is currently paving the way for potential seagrass restoration projects by addressing a number of 'knowledge gaps'; not least the genetic connectivity of our *Zostera marina* populations. We anticipate that by March 2021 we should have a better understanding of our existing seagrass populations and therefore we can ensure that any seagrass restoration initiatives are firmly evidence led.

It's been a genuine pleasure working with both Scotland's nature agency, and with the Genetics and Conservation Group at the RBGE. What's struck me during this project is the passion with which we are all working to improve our natural environment, and to inspire everyone to care more about it. It's my sincere hope that from this summer, we can really begin to engage meaningfully with [UN Decade on Ecosystem Restoration \(2021-2030\)](#) and help to facilitate the restoration of seagrass meadows across Scotland. It is the job of all of us to achieve a balance in the sensitive management of our natural world, in order to maintain and enhance biodiversity, and it's only through collaboration with communities that this can realistically be achieved.



So next time you are out down the coast, please take SeagrassSpotter with you. Your submissions really are contributing to a better understanding of Scotland's seagrass meadows!

Contact:

info@projectseagrass.org



Due to shortage of space in this issue (trying to keep it to 16 pages) I have not put in the NBN Network News this time. In fact there may be a case for leaving it out in future and saving some extra work for NBN staff. This time too, Mandy Henshall who usually compiles the news is also very busy. She is happy for us to check our reader's views on continuing a full NBN news. We would still include key points or dates from NBN.

For now, their news is readily available at <https://nbn.org.uk/news-events-publications/latest-stories-from-our-network/> and it is easy to sign up to a regular free mailing. Issue 56 February 2021 is there now.

If anyone feels strongly about keeping a couple of pages for the NBN, please let the editor know by early-May.

BRISC contacts & committee

Chris McInerny, Chairman

Email: chairman@brisc.org.uk

Louisa Maddison, Secretary

Email: briscsecretary@live.co.uk

Jonathan Willet,

Treasurer, membership

Email: treasurer@brisc.org.uk

Andy Wakelin, Website manager

Email: postmaster@brisc.org.uk

Sarah Eno, Editor

Email: saraheno@riseup.net

Christine Johnston, NBN Atlas Project Officer

Email: c.johnston@nbn.org.uk

Richard Weddle

Email: richard@canto.plus.com

Kelly Anne Dempsey

Email: DempseyK@angus.gov.uk

Sarah Jayne Forster

Sarah-Jayne.Forster@rspb.org.uk

Francesca Pandolfi

Francesca.Pandolfi@eastdunbarton.gov.uk

COPY DEADLINE :

20TH MAY 2021

Articles, recording news, book reviews, stories of favourite places or species are all welcome. Please send copy in Word or Open Office format. Photos are welcomed but best as jpeg files and less than 800kb in size. If larger send them via wetransfer or similar. Please do not embed photos in your text as it sometimes can be hard to extract them!

Please send by email to the editor:

saraheno@riseup.net