

# TWIC Autumn Conference Report, November 2016

## Sea Change? A Conference on Marine Recording and Conservation

The Autumn Conference was held on Saturday 26<sup>th</sup> November 2016 at Bo'ness Town Hall, Falkirk and was attended by 61 people. **David Dodds**, TWIC Director, warmly welcomed everyone to the conference.

David explained that 2016 was a special year for TWIC as it marked 25 years since the inception of its predecessor organisation "Wildlife Insite" in 1991. Graeme Wilson (TWIC Manager) covered the history of TWIC in more detail in his talk, but the remainder of the programme focussed on the marine theme – from examples of citizen science and recording initiatives to more applied aspects of ecology – with a brief detour to spiders before lunch!

### Marine Invasive Non-Native Species in Scotland

#### - Stan Whitaker (Non-native Species Advisor, Scottish Natural Heritage)

Stan Whitaker, Non-Native Species Adviser with Scottish Natural Heritage, began his talk on Marine Invasive Non-Native Species (INNS) in Scotland by looking at the impact of one INNS – Carpet Sea-squirt (*Didemnum vexillum*). *D. vexillum* is a filter feeding marine invertebrate that forms large colonies, carpeting hard structures on which it grows. Its fast growth could threaten the fishing industry, shellfish growers and the conservation of native marine habitats. Carpet Sea-squirt was only confirmed in British waters in 2008. However, there are strong concerns that it will quickly colonise a much wider area, as it has done in other countries.

Marine INNS get to Scotland through a variety of means including ballast and fouling on ships' hulls, fouling on flying boats, on drinking water barrels, unintentional introduction through aquaculture and deliberate commercial introduction.

Species already here include: **Green Sea Fingers** (*Codium fragile* subsp. *tomentosoides*) – known to displace native seaweeds; A red alga (*Dasysiphonia japonica*) – displaces other algal species; **Wireweed** (*Sargassum muticum*) – out competes native species; **Common Cord-grass** (*Spartina anglica*) – creates monospecific stands that can reduce feeding areas for bird species; **Acorn Barnacle** (*Austrominius modestus*) – competes with native species for space and appears to have entirely displaced native species in some places; **Japanese Skeleton Shrimp** (*Caprella mutica*) – displaces native skeleton shrimps from the substrate even at low densities; **Leathery Sea Squirt** (*Styela clava*) – can reach high densities in shallow sheltered habitats having negative effect on other shallow-water suspension feeding sessile invertebrates.

Stan also highlighted three species that are not here yet, although it may be that they have just not been recorded. These were: **American Slipper Limpet** (*Crepidula fornicata*) – known to damage oyster fisheries; **Chinese Mitten Crab** (*Eriocheir sinensis*) – likely to impact native, benthic invertebrate populations in freshwater and marine systems; **Asian Shore Crab** (*Hemigrapsus sanguineus*) – likely to reduce common shore crab abundance and mussel density.

To tackle these and other marine INNS there needs to be concerted effort on biosecurity including managing hull cleaning, ballast water and aquaculture, rapid response to reports of INNS and surveillance and early detection to tackle these invasive species before they become a problem.

Graeme Wilson



Stan Whitaker, Scottish Natural Heritage (SNH). Photo: Natalie Harmsworth.

### TWIC 25 years

#### - Graeme Wilson (TWIC Manager)

Graeme Wilson first came across the Lothian Wildlife Information Centre (LWIC), formerly known as Wildlife Insite, in 1997 when he was a Scottish Wildlife Trust (SWT) trainee. He joined SWT a year later and met Alastair Sommerville and Bob Saville at staff events. Through talking to them he realised how important biological data are and how much work is involved in gathering and mobilising data.

In 2002 LWIC became an independent company with charitable status, after SWT decided that they could no longer afford to run it. Graeme was working in the

Scottish Borders by this point, first for SWT and then for the Rural Resource Centre, where he worked closely with Scottish Borders Biological Records Centre (SBBRC), and their staff of Michael Scott and Jon Mercer. In working with SBBRC on their Borders Backyard Biodiversity survey, Graeme saw how the public's imagination can be caught by recording wildlife.

When, in 2009, Scottish Borders Council decided they could no longer afford to run SBBRC but still needed their services, LWIC took on this extra role and, to reflect their new status, changed their name to **The Wildlife Information Centre** and at the same time become a charity and a company limited by guarantee. Sadly, only a year later, TWIC lost one of its biggest assets in Bob Saville who passed away. In his memory, TWIC now awards the Bob Saville Award annually to a recorder who has made a significant contribution to biological recording in TWIC's area.

2010 and 2011 were tough times for TWIC as there was a turnover of staff and other changes. Alex, David, Imogen, Claire and the other Alex all played a role in TWIC and even if they only stayed for a short time, they were all committed to the work of the LRC. In October 2011 Graeme left Midlothian Council to work at TWIC as the Centre Manager. He was lucky to inherit a team that consisted of Steve and Natalie and volunteers who included Christine Johnston, who later became a staff member. Once he became manager Graeme fully understood the work that TWIC does, some visible and some not so visible, such as:

- Gathering, validating and verifying new data
- Servicing data requests from a range of users including recorders and the public
- Running conferences, excursions, public wildlife surveys and Bioblitz events
- Offering volunteering opportunities in the office

Graeme concluding remarks pointed out that TWIC is, "...not just the staff, the directors and the members, it's the recorders who verify records. It's the office volunteers who help process data. It's the local experts who sit on the Local Biodiversity Site (LBS) groups. It's the recorders who survey proposed LBS in their own time. It's the people who come to our conferences, workshops or excursions and lead events at Bioblitzes. It's the members of the public who send in wildlife sightings. Without all these people and more, TWIC couldn't survive and wouldn't be in the position of not only celebrating 25 years, but also celebrating having expanded into Falkirk, Stirling and Clackmannanshire Councils as well as Loch Lomond and Trossachs National Park. TWIC is here for you and because of you."

Steve Hannah

## Dead Useful? What Strandings can tell us about the Marine Environment

- Andrew Brownlow (Scottish Marine Animal Strandings Scheme, SMASS)



Andrew Brownlow from SMASS. Photo: Natalie Harmsworth.

The Scottish Marine Animal Stranding Scheme (SMASS) is based in Inverness but covers all of Scotland. The scheme is part of the Cetacean Strandings Investigation Programme (CSIP) and is funded by the Scottish and Westminster governments. Since 1992, the organisation has collated 9,500 stranding records for 22 species. Strandings data provide information on cause of death (from necropsies) and give an insight into the health of, and threats to, cetacean populations.

The Scottish government are responsible for the disposal of stranded animals (a cost now rather than a resource). Andrew showed a slide of a Sperm Whale in transit to the waste tip for post mortem with its tail dangling off the end of the lorry. Andrew commented: "One of the rules of strandings is that things are always bigger and further away than you think!" bringing humour to what might have been a morbid presentation. The animal weighed an equivalent of 3.5 double decker buses. Weighing such immense animals is problematic, so heart weight is often used to derive an estimate for body weight.

There is a paradox between how common something is and how frequently it is reported. On the Shetland Islands for example, seals are so common that their mortalities are not reported.

Harbour Porpoises (*Phocoena phocoena*) account for half of all strandings. Recent evidence suggests that some fatalities are caused by Bottle-nosed Dolphins (*Tursiops truncatus*) which attack Harbour Porpoises.

Interestingly, plastic is not often the cause of cetacean deaths, but other pollution from human activities is an issue. Killer Whales are reputed to be among the most contaminated animals globally. As top predators and long lived animals with a long lactation period there is a large potential for the bioaccumulation of contaminants such as poly-chlorinated biphenyls (PCBs). High levels of

PCBs can cause low immunity and could affect some populations.

Over the last 20 years dead seals with characteristic corkscrew lesions have been reported in the UK. The regularity of the markings, lack of tissue loss and clean edged wounds suggested the damage might be anthropogenic – perhaps caused by moving ship propellers. However, recent evidence has come to light to show that the marks were likely due to Grey Seal (*Halichoerus grypus*) predation (Brownlow *et al.* 2016).

Recorders can provide useful information on stranded animals by reporting sightings to the SMASS. It is useful if photographs are submitted with sightings, but an indication of scale is necessary.

The SMASS also has a national network of trained volunteers who assist with the identification, recovery, storage and transport of stranded animals in Scotland. Their help is essential to cover the 18,840 km of Scottish coastline effectively.

Stranding data, including short reports on individual strandings, are accessible via the website, [www.strandings.org/](http://www.strandings.org/). On this site, you can also find out more about the SMASS, including guidance on reporting stranded animals. SMASS also have a Facebook page ([www.facebook.com/Strandings/?fref=ts](https://www.facebook.com/Strandings/?fref=ts)).

## References:

Brownlow, A., Onoufriou, J., Bishop A., Davison, N., Thompson, D. 2016. *Corkscrew Seals: Grey Seal (Halichoerus grypus) Infanticide and Cannibalism May Indicate the Cause of Spiral Lacerations in Seals*. PLoS ONE 11(6): e0156464.  
doi:10.1371/journal.pone.0156464.

Natalie Harmsworth

## Scottish Spider Search

### - Katty Baird (British Arachnological Society)

Katty provided a brief introduction to our latest public survey, the Scottish Spider Search. Spiders are under-recorded; some quite large areas have no records at all. For example, in southern Scotland, there are quite a few records at the coast but coverage is generally poor in the Borders. The four species selected for our new wildlife survey, the Scottish Spider Search, have been chosen primarily because they are easy to identify, though a photo must be supplied to confirm identification. Most of the species should be visible in the summer months.

The **Four-spotted Orbweb Spider** (*Araneus quadratus*) is the heaviest UK spider. It is very variable in colour but always has four white spots on its abdomen. The spiders mature in late summer/autumn and weave large webs in rough grassland. Current data from the Spider Recording Scheme (SRS) show a very patchy distribution in Scotland.

The **Zebra Spider** (*Salticus scenicus*) is a jumping spider with big “human-looking” eyes. It is found on sunny walls and does not make a web. SRS data show very poor coverage of records in Scotland.

The **Nurseryweb Spider** (*Pisaura mirabilis*) has been recorded only once in the TWIC area, but it must be more widespread than this! The female carries her egg sac in her jaws and constructs a conspicuous and distinctive web in which to raise her young. The species favours rank grassland.

Lastly, the **Daddy Longlegs Spider** (*Pholcus phalangioides*) can be found now (December) – in houses, cellars and outhouses. It is spreading northwards, but so far Scotland has very few records. The species may look delicate with its very long legs, but it eats big spiders.



The postcard for the new Scottish Spider Search, showing the four spiders in the survey.

The project is supported by the British Arachnological Society, Caledonian Conservation Ltd., Buglife Scotland, and TWIC and is part-funded by Scottish Natural Heritage (SNH). Further details are available on TWIC's website, <https://goo.gl/gx8TII>.

Jackie Stewart

## Lunchtime exhibitors

During lunch there was a chance for delegates to browse the displays and to network. The following organisations provided displays at the event: British Phycological Society; Conchological Society; Inner Forth Landscape Initiative; Seasearch; Slamannan Angling & Protective Association; St. Abbs and Eyemouth Voluntary Marine Reserve; and The Conservation Volunteers.

## Presentation of the Bob Saville Award

### - Sarah Eno (TWIC Chair)

The Bob Saville Award, a silver quaich, is awarded annually in memory of Bob Saville who was the key staff member of The Wildlife Information Centre from its foundation until his untimely death in 2010. Without doubt Bob Saville was one of the best known faces in



biological recording in Scotland in the 25 years preceding his death. His enthusiasm and determination on behalf of biological recording was a lesson to us all and his own contribution of records, either directly or by encouraging and organising others, was outstanding. This award will encourage others like him to find out more about the fascinating wildlife of Scotland and to pass that knowledge onto others. This year the award was presented to Dr Brian Coppins and Sandy Coppins.

Brian has been at the forefront of lichen research in Britain for more than 30 years. He became interested in lichens while at school when, like so many of his generation, he fell under the spell of Kershaw and Alvin's *The Observer's Book of Lichens*.

He rapidly gained a reputation for being a gifted lichen taxonomist and, in 1974, he was appointed to the position of Ascomycete Taxonomist in the herbarium at The Royal Botanic Garden Edinburgh (RBGE) where he was for 35 years in charge of the Lichen Section. In that time he added to and built up the lichen herbarium into one of international importance, with an unparalleled reference section on Scottish Lichens. He has recently retired from the RBGE and Brian is now a Scientific Associate.

Brian has extensively travelled, describing the lichen mycota of habitats in many parts of Scotland, latterly frequently undertaken with his wife Sandy, and has made a monumental contribution to our appreciation of the conservation importance of habitats such as the Atlantic hazel woods, Scottish native pinewoods, and alpine areas such as Ben Lawers and the Ben Nevis range – raising awareness of the rich heritage of lichen communities in Scotland and their biodiversity importance in a European context.

Brian has given generously of his time as a teacher and mentor, running numerous training courses and workshops until recently, the annual lichen course for beginners at the Kindrogan Field Studies Centre, and training course and excursions with TWIC, often again in conjunction with Sandy.

Sandy has worked closely with Brian over the years in the capacity of a self-employed lichenologist, specializing in lichen habitats, carrying out contract work for a wide range of GOs and NGOs throughout Britain, as well as teaching.

As a part of their lichen conservation campaign, Brian and Sandy initiated the "Lichen Apprenticeship" scheme providing training in lichen identification and survey methods to novices with work-related interests in conservation with a view to increasing awareness about lichens and increasing the number of skilled lichen identifiers. This scheme has prompted a remarkable revival of interest in lichenology in Scotland.

Sarah Eno, Chair of TWIC's Board, presented the Bob Saville Award as a token of recognition for the

generosity of Brian and Sandy's time and their huge contribution to the recording of lichens in Scotland and support of learners.

Brian and Sandy were honoured to receive the award especially as it was in honour of Bob Saville, someone they had worked with closely and gotten to know well over the years.

Graeme Wilson



2016 recipients of the Bob Saville Award: Brian & Sandy Coppins. Photo: Natalie Harmsworth

## Seasearch - How Volunteer Data Contribute to Protecting the Marine Environment

### - Natalie Hirst (Seasearch Coordinator Scotland)

Natalie Hirst took over the role of Seasearch Scotland Coordinator in February 2016. Natalie, along with the west coast Seasearch coordinator Owen Paisley, organises training and diving for volunteers to collect species and habitat data along the Scottish coastline and oversees data collation.

In 2018 Seasearch will celebrate its 30<sup>th</sup> year. Seasearch is coordinated by The Marine Conservation Society and supported by a range of organisations. The project is aimed at volunteer sports divers who have an interest in what they are seeing underwater and want to learn how to contribute to protecting the marine environment through biological recording.

Seasearch data are all publicly accessible online via the National Biodiversity Network Gateway (NBN Gateway<sup>1</sup>) and more than 300 survey reports can be viewed on the Seasearch website. Seasearch is the third biggest provider of marine data to the NBN Gateway. Natalie emphasised that Seasearch data are one of the few up-to-date and current marine datasets available. In order to ensure that the data are accurate Seasearch invests heavily in training and implements a vigorous quality assurance process.

Seasearch data are used for marine research, management and conservation initiatives. They have

aided the designation and management of Marine Protected Areas (MPAs) and have been used to identify and inform the protection of priority marine species and habitats.

There are several training levels for volunteers – from short courses that cover completion of the simple Seasearch observation form to specialised courses covering specific species groups like seaweeds. Some of the diving trips target unknown areas to plug gaps in recording. One such trip that Natalie described was to South Skye sealochs in August 2016. The joy with diving is that you never know what you might find and on this particular trip some rarities were found. Seasearch also leads community initiatives to reach new audiences. Scottish Women's Institutes have been particularly keen to get involved and their boat trips are accompanied by the best baking!

In the future, Seasearch intends to coordinate training with other training providers such as the Field Studies Council (FSC), so that they do not duplicate effort. The national database currently used by Seasearch – Marine Recorder – is also now showing its age. There are therefore plans to move to using iRecord for their data management in the future. For more information on Seasearch, please visit their website ([www.seasearch.org.uk/](http://www.seasearch.org.uk/)), Facebook groups (the link to the general Seasearch group is: <https://goo.gl/5oVqdd>) or Twitter page (<https://twitter.com/seasearchscot>).

#### Footnotes:

1. TWIC holds a copy of the *Seasearch Marine Surveys in Scotland* dataset for the TWIC area, comprising 7,399 species records (total correct at time of writing).

Natalie Harmsworth

## Capturing our Coast: Marine Citizen Science

### - Dr Hannah Grist (CoCoast Project Officer, Scottish Association for Marine Science)

Capturing our Coast (CoCoast) is a marine citizen science project that aims to find out more about the species that live in our seas and how we can protect them. Almost all citizen science is terrestrial – but projects like Seasearch (covered in another report), show that marine citizen science is possible and valuable. At present, the National Biodiversity Network (NBN) Gateway has more than 150 million records, but only 3% of these are for marine species. Evidence indicates that our seas are changing, with increases in surface temperatures and in acidity – and it is likely that species are changing too – but we lack the baseline information to demonstrate this, even for very common species.

CoCoast believes that members of the public should be empowered to contribute to marine science in meaningful ways by sharing their skills and enthusiasm – in other words, by becoming “Citizen Scientists”.

“Gentlemen naturalists” such as Gilbert White and Charles Darwin could be considered citizen scientists of the past – interested amateurs whose observations and documentation provided a wealth of information. However, in the modern sense, citizen science is “Big Science” – it’s about crowd-sourcing our resources to help provide answers to big questions – it’s about members of the public contributing to scientific knowledge and discovery by collecting data, or by analysing and interpreting findings – and it’s about acknowledging the fact that people are interested in science and want to be involved.



Dr Hannah Grist provided an entertaining and informative talk on CoCoast. Photo: Natalie Harmsworth.

Advances in technology facilitate networking, co-ordination and remote working as never before. For example, Remotely Operated Vehicles (ROVs) have helped people explore the Deep Sea environment through video footage streamed online for anyone to watch – but can remote sensing be used to explore intertidal environments?

Intertidal environments are of particular interest to CoCoast because the species on rocky shores occupy specific niches determined by median temperature and are very responsive to change. Repeated photography from drones can be used to produce a topographical map of a sea shore with a resolution of 1.5cm – so it is possible to identify plants, but not to look under rocks! To improve our understanding of our shores and create predictive models we need to gather information to answer: **What is where? How many are there? What else is there?**

CoCoast runs general surveys, targeted experiments and digital/online surveys.

In the **General Survey**, each recorder becomes specialised in the identification and recording of about 8 species and the survey area is divided up to share the work. This survey requires team effort over a concentrated period and the resulting data will become open access via the NBN Gateway.

The **Targeted Experiments** look at particular species, community disturbance, artificial structures (and what’s growing on them), and invasive species.



The resulting data will be used to:

- Provide distribution maps of marine species
- Explore anthropogenic effects on our seas
- Investigate if conservation policies are effective
- Study how species interact, including marine invasive species
- Explore local issues on the coast

Training is given at various sites around the coast and there is ongoing support for volunteers via coffee mornings and “Wine and Science” events. Since January 2016, more than 3000 people have registered, more than 1500 have been trained and there have been more than 700 surveys resulting in 80,000 data points.

To find out more, visit the CoCoast website

[www.capturingourcoast.co.uk](http://www.capturingourcoast.co.uk).

Jackie Stewart

## Marine Conservation at the Scottish Seabird Centre

### - John Hunt (Scottish Seabird Centre Trustee)

John Hunt talked about the work of the Scottish Seabird Centre based at North Berwick, which has a fantastic view of the Bass Rock, the world’s largest Northern Gannet colony. The Centre was officially opened in May 2000 by HRH Prince Charles. The Centre is an independent charity dedicated to sustainably increasing awareness, appreciation and care of the natural environment as well as benefitting the local community. Part of the Centre’s remit is to educate people of all ages, and it frequently runs educational events for school children in their learning centre. The Centre also runs boat trips for schoolchildren and other groups which gives them an experience of the seabirds and the islands they inhabit in the Forth at close range.

Tree mallow (*Lavatera arborea*) has been found on Bass Rock, Craigleith, Fidra, The Lamb and Inchcolm islands in the Firth of Forth. The plant grows to around 3 metres tall and prevents the Puffins from nesting and rearing their young. The Seabird Centre has been sending out volunteer work parties to Craigleith and Fidra to clear the mallow annually. While this is a repetitive job, as the tree mallow grows back every year, the plants’ growth is gradually curtailed until it is under control. The Puffins have been returning to the islands and other bird species have benefitted from this work.

The Centre has won various awards for its work such as a 5 star rating from the Scottish Tourist Board and the Queen’s Award for Enterprise. However, the Centre has reached the point where it needs to evolve. The Scottish Seabird Centre is going to become the National Marine Centre. The vision is “To become a leading Marine Science Visitor Attraction and create a national hub for marine related education, conservation and research activities”. The new educational exhibits will

focus on wildlife, habitats, issues and the history of communities who live and work in the marine environment.

So far the Centre has to complete the development phase and raise another £2 million to fund the construction work that is needed. A new exhibition will be designed, utilising new technologies, to interpret the marine environment. New educational programmes about marine heritage will also be devised. A large capital works programme will be initiated which will mean the Centre will be closed temporarily while work goes on. Partnerships with other organisations are to be established. All of this is intended to be complete by 2019. Watch this space!

Steve Hannah

## Summing up

### - Rob Briers (TWIC Director)

Rob remarked that it been an excellent day and that the programme really highlighted the multifaceted nature of biological recording and the diversity of people involved. Technology’s increasing use in biological recording was once again a common theme, but this needed to be balanced against core field identification and recording skills. There was a clear requirement for citizen science to fill the gaps in knowledge; in the face of increasing limitations on statutory agencies budgets, this role was likely to grow. Rob commented that Graeme’s excursion in to TWIC’s history and that of its predecessor organisations showed how far the organisation had come and he looked forward to the next 25 years. Rob closed by thanking the speakers for their thought-provoking and entertaining talks, the TWIC team for organising the event and to everyone who attended and contributed to discussions.

Natalie Harmsworth



Jackie Stewart’s fabulous cake to mark TWIC 25 years.  
Photo: Natalie Harmsworth.