

## Developing Natural Talent

**Craig Macadam** is Scotland Director with [Buglife - The Invertebrate Conservation Trust](#) and has been involved with [The Conservation Volunteer's Natural Talent](#) programme since its inception. The Natural Talent Apprenticeship Scheme is supported by the Heritage Lottery Fund and delivered by TCV and key partners in the UK conservation sector. It has delivered 28 high quality training placements across Scotland and Northern Ireland since its launch in 2006, training individuals in either a taxonomic speciality or specialist habitat management skills in areas where there is a recognised skills gap.

The scheme has been very successful in producing environmental professionals who have progressed into employment and further research in the sector. **Suzie Bairner** is a former TCV Natural Talent apprentice studying brownfield ecology, who now works for Buglife as a Project Officer.

In addition to being involved in Natural Talent, Buglife deliver workshops and training on a wide variety of under-recorded invertebrate groups - everything from first encounters of bugs on 'bug walks' to in depth ID workshops. Craig and Suzie kindly answered questions posed by **Martin Harvey** and **Bex Cartwright**, **Paula Lightfoot**, **Teresa Frost**, **Mike Beard** and **Rich Burkmar**.

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**MH** All being well, we're about to start the second of today's interviews. Hello Craig and Suzie - Can you hear me?!

**CM** Hi Martin, All ready to go!

**MH** Great! Welcome to the NFBR #SkillsTalk and many thanks for taking part.

I believe you're both based at Buglife's Scottish office, and have both had involvement with the Natural Talent Apprenticeship Scheme, run by The Conservation Volunteers (TCV) in Scotland. We'll come on to both of those organisations later, but first could you each tell us what your particular area of interest is in wildlife and recording?

**CM** I'll go first then!

My particular interest is in aquatic invertebrates. I've been the national recorder for mayflies (Ephemeroptera) since 2000 and have recently taken on the stoneflies (Plecoptera) as well. Away from the wet stuff I'm also interested in urban biodiversity and the wide variety of invertebrates that live alongside us in our towns and cities.

I'm a committee member of BRISC ([Biological Recording in Scotland](#)) and I'm currently the chair of the Scottish Biodiversity Information Forum which was established by the Scottish Government to address issues surrounding biological recording in Scotland.

**SB** I am interested in all wildlife including plants but my interest at an early age was always with birds, although I have always loved wildflowers and bugs. Through University and my TCV Natural Talent Brownfield Ecology apprenticeship and my current role as Project Officer with Buglife my interests are now very different and I focus on a range of invertebrate groups including beetles, hoverflies, spiders, grasshoppers, ants, bumblebees, harvestman and I am now beginning to look at other groups including some Hemiptera.

I am also still very interested in birds and other wildlife. I am particularly interested in wildflowers and the invertebrates that are associated with them.

**MH** What first sparked your own interest in wildlife, and what were the major influences that helped you to develop your skills?

**SB** I think my Nan sparked my interest in nature as she loved butterflies and wildflowers. I would stand for hours looking out her kitchen window at the birds feeding at her bird feeders. My skills were developed with my own interest and experiences growing up and then when I went on to volunteer with Birdlife Malta I learned about bird of prey migration and how to identify the different species of bird from a distance. My skills on invertebrate identification were only improved during the TCV Natural Talent apprenticeship and have since been improved further with my job with Buglife and my own general interests.

- CM** I grew up in the countryside of North-east Scotland and spent much of my childhood along the banks of my local river. As with many people my interested started with bird-watching but I suppose my interest in aquatic invertebrates stems from wondering what the dippers were collecting from the water. After turning stones in the river and finding amazing creatures living there I was hooked!
- I suppose the major influence that helped me develop my skills was curiosity! There were so many different things in the river that I read as many books as I could to try and find out what they were. However the most important book was TT Macan's Guide to Freshwater Life. This was an amazing book as it allowed me to ID almost everything that I found. I'm delighted that the [Freshwater Biological Association](#) have published an updated version this year.
- MH** Can you give us an introduction to the [Natural Talent](#) project - what does it do, when did it start, what has it achieved?
- CM** Natural Talent is all about training the next generation of naturalists through an apprenticeship scheme. The programme is supported by the Heritage Lottery Fund and delivered by TCV and key partners in the UK conservation sector.
- To date Natural Talent has delivered 28 high quality training placements across Scotland and Northern Ireland since its launch in 2006. Each of these apprenticeships were placed with a conservation organisation where they were trained in either a taxonomic speciality or specialist habitat management skills in areas where there is a recognised heritage skills gap. Most of these apprentices have since gone on to find employment.
- MH** The focus of Natural Talent is very much on the more specialist end of conservation and biological recording (e.g. Coleoptera, bryophytes, lichens, fungi, molluscs, marine macroalgae, brownfield ecology, Hymenoptera and Caledonian Pinewood Invertebrates), and I guess could even be seen as somewhat elitist. Was it hard to persuade people, partners or the funders that these species groups and subjects should be the focus of an HLF-funded project?
- CM** Not at all! HLF were keen to fill the gaps in knowledge and skills so there was a natural bias to those under-recorded groups and habitats. Natural Talent gave placement providers an opportunity to tackle those groups or habitats that were difficult to get involved in because of the time and knowledge constraints.
- BC** Hi, Craig and Suzie. It's been great to see Buglife grow and develop over the last 10 years or so, there always seems to be something new appearing in the 'projects' pages. Which projects are you both involved in at the moment?
- SB** Hello, Bex. We are involved in a number of projects including outreach activities such as walks, talks and workshops funded by Scottish Natural Heritage. Glasgow's Buzzing and Muirton's Buzzing both involve transforming urban greenspace into colourful and species rich wildflower meadows for pollinators. We are also involved in different Brownfield Stepping Stones Projects and they aim to identify Open Mosaic Habitat and promote the importance of brownfield sites for invertebrates in Scotland. We are also developing projects to create Green roofs in Scotland.
- MH** Suzie, that's an impressive array of projects for Buglife, and good to see wildlife recording feeding in to on-the-ground conservation work.
- You were a Natural Talent apprentice, could you tell us what attracted you to the project and what you got out of it?
- SB** When I found or saw something new, I have always enjoyed looking at it and trying to identify the species. After University, I found that I had very few skills. I had very bad identification skills and wanted to improve these, so I spent a year volunteering with TCV, RSPB, Birdlife in Malta and WWF in Sicily doing a variety of habitat creation tasks and learning about bird identification.
- I was very keen to improve my invertebrate identification skills and saw the TCV Natural Talent Apprenticeships and applied for the Hoverfly traineeship. I did get an interview for it but unfortunately I wasn't chosen. I then went on to do a Masters in Research, making sure my projects included invertebrates and plants.

**SB** After my Masters I saw that more of the apprenticeships had come up so I applied for the Brownfield Ecology traineeship as it involved learning about a range of invertebrates as well as wildflowers and birds. Learning how to identify different invertebrates was something I really wanted to know. There are over 40,000 species of invertebrates in Britain which can be very daunting. I wanted to be able to take away a ground beetle knowing what it was and how I would go about identifying it to species so that if I saw it again I would recognise it. This is exactly what I got out of the apprenticeship so now, when I run bug walks with kids or adults, I can say a little bit about what we find and I will know how to identify it to species level if I wanted to.

**MH** I think that mix of self-motivation, guidance from others and more formal training and work experience is great, although arguably it is a shame that the more general environmental courses at university level don't do more on taxonomy and identification.

How was the Natural Talent training delivered, what was the balance between field work and lab work, and between how much was taught directly and how much you put into it yourself? What was toughest, and what was most rewarding?

**SB** Hi, Martin. You are 100% correct, it is such a shame that some University's don't do more training on taxonomic identification. It is the one thing I felt I really missed out on at University.

As to the training side of Natural Talent, the apprenticeships are not done through a traditional training scheme and the training that is delivered is suited to the needs of each person. There are a variety of courses that I went on which included group specific workshops such as beetles, hoverflies, harvestman, pseudo-scorpions but also wildflower identification and Phase 1 habitat. I also spent some time with experts particularly within Edinburgh Collections museum to learn more about beetles as well as people who helped me with spiders.

I also had the opportunity to go down to our head office and work with Sarah Henshall who has spent a lot of time promoting the importance of brownfields and I also had Alan Stubbs the chairman of Buglife to help with hoverflies and other insects. I did a lot of training through the reading of papers and also reading identification guides and just trying different groups on my own. I knew that if I got stuck there would be someone I could ask for help.

I spent a summer out in the field collecting specimens and over the winter I spent a lot of time inside identifying my specimens. The toughest part during the apprenticeship was trying to identify things on my own and getting stuck. It was learning that I would often need to take time away from the microscope and come back to it another day and try again. This is the one thing I teach to others now as you can get easily frustrated when you go wrong using a key. Even when you are used to using the key sometimes you just need to take a step back. The most rewarding thing during my apprenticeship was identifying the ground beetle *Amara praetermissa*, a Nationally Scarce Notable B species, all by myself and getting the identification correct. I was so pleased with myself after it was confirmed by an expert.

**MH** The [2012 Natural Talent annual report](#) (pdf download) says that

*"In the 2007 Skills for Justice report, Lantra profiled employed staff in the environmental sector as predominantly male (69%) with over a third between 25 & 34. To date, 23 of the 32 Natural Talent Apprenticeships delivered have been female and more than a quarter over 30 years of age."*

I think that among the wildlife recording community more widely it's probably still true to say that there are more men than women involved (although I don't have any stats to back that up!). Did the Natural Talent project carry out any positive discrimination with a view to redressing this balance, or was it a reflection of wider changes in society, or just down to chance?

**CM** It's a good question and perhaps not one I can answer! The recruitment process was rigorous and followed TCV's process so no positive discrimination was intended. I'm not sure whether it's a reflection on wider changes in society either however we've certainly seen a change in the demographic for the Scottish Entomologists' Annual Gathering – around 40% of the participants this year were female and the average age was significantly lower than usual! I wonder if similar changes are being noted by recording schemes or with [iSpot](#) membership?

**MH** I think some of the entomological recording schemes at least have reported similar changes in the gender mix attending training events, although I'm not sure it is yet reflected so much in the people who go on to send in records - but no doubt such changes will take time to work through the system. (We don't collect data on age/gender etc. on iSpot, a deliberate policy aimed at making it easy to register on the site!).

**PL** Hi, Suzie. You say that you had few skills and poor ID skills after University - the provision of field skills training by universities is something we'll touch on in the interviews with Sally Hayns and Sarah Whild later on so I hope you can stick around or read them later! Sally and Sarah are both doing important work in this area.

On a more local level, my local natural history society provides an annual Field Skills and Species ID Training Day for MSc students at Leeds University. This also covers the less 'charismatic' species like lichens and spiders, which are actually very popular with the students. Several of the students go on to join in general field meetings and some go on to become members of the society. I wonder if other local natural history societies do anything like this with their local university - or if not, perhaps they could!

**SB** Hi, Paula. I wish I had something like this when I had been at University. Our Nature Society group was not very involved and I ended up leaving the group after a few months. I thought I had poor id skills after University but some of the other students in my year couldn't even tell you what a Lapwing looked like which I found very worrying!

**PL** Personally I find that plenty of students and young graduates are interested in getting involved in recording with local or national schemes to improve their ID skills (usually in hope of improving their employability), but the challenge can be around keeping them involved in recording once they have found paid work and all the pressures it brings with it!

Some employers do support CPD and even provide a training budget, but the focus tends to be on formal courses, perhaps providing some kind of accreditation, rather than informal learning through going on field meetings with experts. Employers could do more to encourage membership of relevant national or local schemes and societies as a way of keeping their skills fresh!

Natural history societies can sometimes seem unwelcoming and a bit daunting to new members which is a shame, as they have such a lot of valuable skills to share and they need new members to thrive! We discussed this a bit during the Facebook interview about social media and biological recording, local natural history societies need to use all these channels to attract and support new members. There's a lot of invert Id help being given via our local natural history society Facebook group at the moment which I hope is helping new/younger members improve their Id. skills, and hopefully will encourage them to come on some field meetings with us!

**MH** There may be some more questions to come on Natural Talent, but shifting the focus to Buglife, how do Natural Talent and other training projects relate to Buglife's conservation strategy?

**CM** A major part of the [Strategy for Scottish Invertebrate Conservation](#) is about mobilising support. In particular there is an objective to 'provide the training and promotion necessary to implement the strategy'. Another objective is 'to promote the study and recording of poorly recorded invertebrate groups'. Natural Talent is an ideal way to deliver these objectives. I've worked with a lot of the apprentices (not only those that we've hosted) and the links made with other organisations have been great to encourage more awareness of invertebrates. We run an annual programme of walks, talks and training workshops with funding from Scottish Natural Heritage. Some of our workshops have been fully booked within 20 minutes and our beetle workshops had a waiting list of over 70 people!

**MH** Wow, that's an impressive take-up for the workshops!

There's clearly a lot of interest in learning more about invertebrates and no doubt other species groups among at least part of the general public. In your experience, does this interest translate into people becoming active after the courses have finished, either as recorders, practical conservationists or supporters of Buglife campaigns etc.? Have you got any good examples of training leading directly to positive conservation outcomes (as opposed to the valuable but more general raising of awareness and skills)?

**TF** We have good numbers of students from the University of Cumbria joining and attending Carlisle Natural History Society meetings in the winter – they bring a minibus load. They are not usually around for summer field meetings but did attend a fungi meeting last autumn. You can hear both older society members and some of the students talk about their experiences of being involved in the society in this video: <http://www.youtube.com/watch?v=FlcNfyKjyuc>.

Both undergrads and postgrads also come to the museum to hear about the Collections and CBDC/recording; we used to do something similar with local universities when I worked at KMBRC in Kent – I think it is a really important to tell people about recording at university so they know where data comes from, how they can contribute, and make them aware of the extra-curricular/peer learning available. An annual field skills workshop is a nice idea.

**MB** I have seen a couple of references this afternoon to 'charismatic' species groups, which are certainly a motivator for the would-be amateur recorder. However, should we perhaps also be considering the needs of would-be professional surveyors - a market that is very hard to get into and yet is crying out for new experts (hence initiatives like Natural Talent to bridge that gap).

Job adverts from consultancies often require knowledge of protected species and so these species are what new field workers are drawn to. The sad fact is that less popular species, such as most invertebrates, very rarely generate paid work.

Do we need to look at demand-led measures rather than supply-led. i.e. increase the amount of paid work available rather than the number of competent recorders? If there is more demand then supply may well follow?

**CM** There are two angles to that I suppose. Some of our workshop participants are professionals who will take the knowledge learned and use it to manage the sites that they are working on pass on those skills to others (particularly so with Countryside Rangers). It's far more difficult to know whether the amateur naturalists that attend are putting the skills to use as Buglife doesn't gather records from them - we leave that to the specialist schemes and societies or local record centres.

My experience from running mayfly and stonefly workshops is that for every 10 people trained, I might receive records from 1 person. The key is to keep giving them things to look for. The [Riverfly Recording Schemes](#) have been running postal/online surveys for the last couple of years and I must say though that the development of [iRecord](#) has meant that I'm getting a lot more records being sent in from anglers, etc., than I ever did with postcards alone.

**MH** That's interesting Mike. Do you mean that the likes of Field Studies Council and other training course providers should be running more courses on protected species, as a commercial venture? Or do you mean that we should be promoting the importance of biodiversity more generally and arguing for more professional surveyors to be employed to look beyond the protected species?

And what responsibility do ecological consultancies and the like have for developing training opportunities? No doubt these topics will be covered in the forthcoming interview with Sally Hayns.

**BC** I agree Mike, I had a conversation with someone about this issue just yesterday. I am keen to specialise in invertebrate recording, surveys and conservation however I feel I am at a disadvantage for many posts as I have chosen not to spend time and money on acquiring various protected species licenses.

**MH** And this links us back to the Natural Talent project, whose apprentices have been very successful at going on to get jobs related to their area of study. What's the secret of that success - is it that the apprenticeships were deliberately targeted to fill recognised gaps in the skills needed, or has the availability of skilled apprentices actually led to new areas of work being tackled by other organisations?

**CM** I think it's partly because that there were gaps there to be filled but a lot of it is about the commitment and enthusiasm of the apprentices. They are the ambassadors for the scheme and their attitude to their placement has established Natural Talent as a training scheme to trust.

**CM** Many of the placements have been suggested by the placement providers and I'd say that Natural Talent has definitely helped Buglife to develop our work on Brownfields and Peatlands. Without the links made and the work undertaken by the apprentices we would probably still be thinking about what we could do for invertebrates in these habitats in Scotland.

**RB** A really important point. If one in ten course participants currently send in records after attending a course (a rough figure that my own experience backs up) then to increase the number of records coming in by five times, we could either run five times as many courses or come up with ways that improve the rate of people returning records from 10% to 50%. The latter might be more cost effective. So I think we definitely need to think about this much more.

We are doing so at FSC with the [Bio.Fells](#) project and will continue to do so with [Tomorrow's Biodiversity](#). Lots of other initiatives like iRecord and iSpot can help, but we need to join the dots up a bit more perhaps.

**PL** Developers who employ consultants probably only want surveys for protected species, although a few \*might\* want broader data on other groups, especially invertebrates, to support biodiversity offsetting decisions or if they are interested in habitat enhancement rather than just mitigation. But other data users like the country conservation agencies need data on a much broader range of taxa to inform policy making and to monitor conditions of protected sites.

There's definitely a need for professionals with these skills (unless we imagine that volunteers are going to produce this data) but there will probably always be a stronger demand for professional skills in protected species surveying. I guess if I were a young graduate wanting to get on the career path I'd be prioritising getting a bat license over improving my invert ID skills... which is a shame!

**MB** I think my comment opens up a very wide range of possible threads, each of which could be relevant during this interview or best left to the interviews that will follow. I see that other participants have already started to follow up so let's see how things progress :-).

**CM** As Paula says, biological records are being called upon for more and more uses. Whether to inform planning decisions, monitor environmental change or to inform land management. Much of this relies on a huge amount of volunteer effort and a relatively small pool of specialists. We need to provide support for these volunteers and make sure that we don't end up with volunteer 'fatigue'.

**MH** Yes, those are powerful arguments for the value of investment in training and skills, showing that what is a relatively small amount of money in the scheme of things can lead to very positive outcomes. We should probably take that as a cue to recognise that financial support is needed to make this happen, and to pick just two examples from our interviews this afternoon I hope that Defra/Natural England (funders of the Bio.Fells project) and the Heritage Lottery Fund (for Natural Talent) feel they are getting a good return on their investment.

The next NFBR interview (with Sally Hayns of CIEEM) is starting shortly, so can I round things off by asking what you think NFBR can/should/is doing that can help develop and support the ideas we've been discussing?

**CM** We need to continue to promote the value of biological records and recording and to ensure that the efforts of the many volunteers involved are acknowledged and valued. As Richard said earlier, joining the dots is very important and have some standardised data pathways which are well communicated and properly resourced would ensure that the flow of records continues.

Training isn't just about training the next generation of recorders, it's about adding skills to existing recorders whether that's about learning a new group of invertebrates or learning how to submit records online - as John McFarlane from TCV who runs the Natural Talent programme says - *every day's a school day!*

**MH** Okay, it's time for me to pass on the baton for the next interview. Many thanks to Craig and Suzie for their input, really good to learn more about how Buglife and the Natural Talent project have produced such excellent results. And thanks to everyone for their comments - further contributions to this thread will be welcome if you have them, but now it's over to the next interview.

And back at the beginning of this thread, Craig has reminded me that I need to send him my stonefly records as well as my mayflies - I will get on to it ASAP :-).