Spotlight on SSSIs

Working towards the goals of Biodiversity 2020

Issue 4 – June 2014

It is with great pleasure that I bring you the fourth issue of 'Spotlight', the newsletter highlighting the achievements of farmers and other land managers in improving the condition of SSSIs.

Natural England has been through some changes since the last issue. We have taken a fresh look at the way we work and have chosen to move to a more locally focussed structure with fourteen area teams who cover all of our business.

As an organisation we want to invest in our local relationships with those we work with. We are doing this because a detailed understanding of local issues is the only way we can properly ensure that our joint achievements on SSSIs last long into the future.

Achieving and maintaining favourable condition on SSSIs is not a tick box exercise, it is a long and continuous process. We hope that our new teams will offer a more practical and joined up service to farmers and landowners, so we can respond to the needs of these most special of sites.

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NATURAL ENGLAND

In this issue Colin Morris from the Vincent Wildlife Trust gives us a tour around the 'Horseshoe Hilton' – also known as Bryanston SSSI in Dorset – home to hundreds of horseshoe bats. With its own heating, infrared cameras, security fences and grilles and newly planted hedgerows to give the bats food, this is definitely a 5-star establishment worth reading about.

We also hear about the amazing life-cycle of the Mediterranean oil beetle once thought to be extinct in England and last seen over one hundred years ago in Kent. Due to the presence of some key habitat features on a SSSI in Devon it has made a comeback. Read about the Mosaic Approach and how it can be applied to any site, irrespective of its designation and which can benefit many UK species.

Gary Pilkington, Reserve Manager at Marsland Nature Reserve tells us about the wonderful variety of flora and fauna that can be found there, and the chocolate connection that gives the reserve ongoing protection.

We hear about how Catchment Sensitive Farming is improving the condition of the River Nadder in Hampshire and how to restore damage to a SSSI via voluntary agreement. I hope you enjoy this issue.

Alan Law
Director, Biodiversity Delivery

Farm track improvements to protect the River Nadder

Hampshire Avon Catchment

The River Nadder is a major tributary of the River Avon and is designated as a Site of Special Scientific Interest and Special Area for Conservation.

The designations recognise the river's importance for breeding species such as Atlantic salmon, brook and sea lamprey, bullhead and the water-crowfoot plant. The Avon is a wonderfully diverse chalk stream system.

Visible sediment in the River Nadder

The Avon is failing however, to meet the required standards for environmental water quality to sustain its nature conservation interest and to comply with the European Commission's Water Framework Directive. One of the issues identified is diffuse water pollution from agriculture, namely soil particles which wash into the river from fields and tracks and nutrient enrichment from phosphate bound to the soil particles.

Natural England and the Environment Agency worked together with farmers at Burcombe Manor Farm and The Wilton Estate, to introduce a series of improvement works.

A Special Project through Higher Level Stewardship and subsequent funding gained from Catchment Sensitive Farming's (CSF) Capital Grant Scheme, were used to make a series of improvements to a long farm track.

CSF also helped to fund sediment trap to catch the remaining sediment still travelling along the track.

Firstly, the level of the track was substantially raised, then compacted and given a convex camber to shed the water continually and gently along the track length.

Regular drainage channels (grips) were not possible due to the proximity of a chalk grassland SSSI and farm buildings below so there was a need to avoid localised nutrient enrichment and flood risk.

A suitable location was available at the base of the track for the sediment trap.

The reduction of water in the trap allows the sediment and fine particles to settle out before the clean water either seeps away into the groundwater or overflows at the outlet.

It is estimated in an intense rain storm of 15mm in half an hour, the trap will provide four hours retention time. The trap will need periodic maintenance to empty the material, which can be composted on the manure heap.

Catchment Sensitive Farming, the Environment Agency and the local fishing club are pleased at how effective the works have been to date in helping to protect this important SSSI waterbody and the breeding species it supports.

Elaine Brady, Catchment Sensitive Farming.

Before work commenced; showing the extent the track had to be raised.

The sediment trap installed in 2012 at the base of the track

The sediment trap overflow outlet showing the solids trapped since installation

Interview with Gary Pilkington, Senior Nature Reserve's Manager at Marsland Nature Reserve

Gary on site at Marsland Nature Reserve

How long have you worked at Marsland Nature Reserve and SSSI and what is your role?

I've been at Marsland for 26 years as warden and reserve manager – previously teaching and working for the RSPB.

Can you tell us a bit about its history?

The wildlife interest of the site has been long known, with for example, SSSI designation in 1952 for amongst other things its clifftop maritime heath, grassland and the stunted western sessile oak woodland rich with western species of lichen and bryophytes. In terms of reserve status, Christopher Cadbury, the late nature conservationist from the famous chocolate manufacturing family purchased the land in the 1950s and created a private nature reserve.

The first warden, who arrived on site in 1974, prepared a working management plan which formed the basis for the current work programmes. It was handed to the Royal Society for Nature Conservation (RSNC) in the 1970s, whilst the current managers, Devon Wildlife Trust took over the day-to-day running under a lease agreement in 1997.

What condition is the site in?

The area covered is around 420 acres and at present the reserve is in favourable condition and the overall plan includes management of rides and glades, open meadows within the woodland and hay cutting and baling. Scientific and monitoring work is on-going throughout the seasons and includes a Common Bird Census (CBC), butterfly and dragonfly transects and listings of most other major species groups.

The reserve also lies within an Area of Outstanding Natural Beauty with the Marsland Valley being the most representative of an unspoilt coastal coombe habitat. The reserve itself is predominantly steep sided oak woodland intermixed with ash, holly, rowan, beech, sycamore and hazel.

The valley contains wet flushes of alder and willow much of which has been coppiced in the past.The coastal area contains maritime grassland and heathland adding yet another diverse habitat which already includes ponds, traditional hay meadows, grazing pasture and open farmland.The actual management comprises mainly of coppicing in the old coupes, traditional meadow grazing and cutting.

What can you tell us about the species you get at the reserve?

Pearl-bordered fritillaries

Amongst many other things there are over 320 species of flowering plants, 34 different types of butterflies, including breeding pearl-bordered fritillary and small pearl-bordered fritillary, 160 beetles,18 dragonflies, over 500 moth species, 51 hoverflies, 9 bats and 115 birds. We have breeding otters (filmed in Feb 2010 – on our web site), thriving dormouse populations, and a colony of lesser horseshoe bats.

Due to a progressive national decline in status, the violet-feeding pearl-bordered fritillary and small pearl-bordered fritillaries have become an increasingly important management focus. Over the 25-year monitoring period, the pearl-bordered fritillary has increased significantly in abundance by 219 per cent, in sharp contrast to the national trend where over the same period there has been a very highly significant decline of 54 per cent.

Similarly, the small pearl-bordered fritillary has increased significantly in abundance on the reserve by 358 per cent, in comparison to the national trend where there has been a very highly significant decline of 53 per cent.

What do you love about your job?

I love the variety included in the work at Marsland ranging from early morning common bird census, butterfly monitoring, hay making, coppicing and winter management to taking visitors round the reserve, and running courses for a wide variety of people; hoverfly ID, wildlife photography and filming. I also find great satisfaction in seeing the results of all the work we do here.

How do you overcome the challenges?

Challenges are overcome with hard work and dedication mixed in with a bit of good humour and a deep seated love of wildlife and its conservation since being a nipper.

Mediterranean oil beetle

The Mosaic Approach

Nick White, Biodiversity 2020 Programme Team

In 2012 a remarkable discovery was made at a site on the South Devon coast, they re-discovered oil – or to be precise a species of oil beetle once thought to be extinct in England was found on a National Trust site near Bolt Head. The Mediterranean oil beetle (*Meloe mediterraneus*) was last seen over one hundred years ago in Kent in 1906 until its re-discovery by local naturalist John Walters in Devon. The beetle is one of five species of oil beetles known to be present in the United Kingdom.

Oil beetles have one of the most remarkable life cycles of any British beetle. They are parasites of solitary bees whose larva lay in wait in flowers for a bee to arrive before attaching themselves to the bee and being carried back to the bees nest where they feed on its pollen and nectar stores, eventually pupating and emerging as an adult oil beetle.

They are a good indicator of the health of wild bee populations because they are so dependent on the presence of solitary bees to complete their life cycle. The bees themselves contribute towards the estimated £430million[1] worth of pollination services provided for free to farms, allotments and gardens throughout the UK each year.

Oil beetles are heavily dependent upon the presence of these wild bees to thrive, but what of the bees themselves? Solitary bees thrive in areas of flower rich grassland, because of the pollen and nectar provided, but which also contain patches of bare earth to burrow and nest in. The presence of these elements is essential for the bees. On this particular site in South Devon all these key elements were present. Sadly, outside of some SSSIs such flower rich grasslands are increasingly rare in the wider countryside.

In fact, just like the wild bees many UK species, including the majority of our most endangered ones, depend on the presence of a few key elements or features within a site or wider landscape in order to complete their lifecycle. These elements, such as patches of bare earth, scrub, flowering plants, a varied topography or other features, collectively form a mosaic. Mobile species, such as bees thrive best when these mosaics are present across a wide landscape. Other, less mobile species need a mosaic only within the site on which they live out their life.

[1] Smith, P.E., et al., Regulating Services, in *The U.K National Ecosystem Assessment Technical Report 2011: U.K National Ecosystem Assessment UNEP-WCMC* Cambridge p. 535-597.

Many land managers already adopt this Mosaic Approach in the way they manage their land. But, for those who are unfamiliar easy to follow interactive Mosaic Approach guides have been especially developed to highlight the crucial importance of just a few key elements, on a site or across the wider landscape, to ensuring species survival.

The Mosaic Approach can be applied to any site, irrespective of its designation. It could be a site designated for over-wintering birds, rare plants or one designated for its geological features, it doesn't matter. By introducing the appropriate elements associated with the habitat, owners and managers can significantly enhance its value and importance to wildlife.

The South Devon coastline

SSSIs already constitute some of our most valuable natural assets and adopting the Mosaic Approach within them would enhance their value still further. Providing more of these key elements in a landscape would support more wild bees, which in turn would provide more pollinating services for farmers and growers as well as benefitting oil beetles. These Mosaic Approach principles are embedded in the new environmental land management scheme (NELMS), the successor to Higher Level Stewardship, thus providing owners and managers with a tool for applying this approach to their land.

Of course, SSSIs do not exist in isolation. They are an integral part of the wider landscape. For wild bees – and thus oil beetles – to thrive the more neighbouring land that contains the key elements of the mosaic they need, the better. Encouraging neighbouring land owners to adopt and apply the Mosaic Approach to their land too would bring huge benefits to local wildlife.

The Mediterranean oil beetle in South Devon highlights the extraordinary wildlife value of our SSSIs but also the importance of applying the Mosaic Approach within these sites and across the wider landscape. By implementing and advocating this approach you can boost nature, boost the natural economy but could boost oil too!...in the form of more oil beetles.

Image taken from the Lowland Grassland Mosaic Guide

Restoring damage to SSSIs

SSSIs on the whole are managed and looked after with care and attention but on occasions sites are damaged as a result of actions by owners and occupiers, by public bodies or by third parties. Natural England will take all possible measures to resolve issues through advice and voluntary agreement but at times we may have to use powers within the Wildlife and Countryside Act (1981) to enforce measures to protect a site or prosecute people.

Natural England may impose civil sanctions in some instances where SSSIs have been damaged. A civil sanction provides a means of addressing an issue without resorting to the courts and can take the form of monetary penalties, restoration notices, compliance notices, stop notices or Enforcement Undertakings.

Enforcement Undertakings allow people to volunteer steps to remedy a potential or actual offence including ensuring future compliance, restoring harm, giving up a financial benefit, or providing compensation to affected local communities. If the steps agreed between the customer and Natural England are undertaken, no civil or criminal sanctions would follow.

The following is an example of how an Enforcement Undertaking has allowed Natural England and a SSSI landowner to work together to achieve the restoration of a SSSI damaged by unconsented activities:

A track was constructed through a SSSI without Natural England consent and this lead to significant damage of an area of maritime heathland and grassland habitat. On realising their mistake the landowners contacted Natural England regarding the incident. Natural England's assessment of the damage was that recovery was possible but extensive restoration works would be required and in the worst affected areas recovery could take many years.

As the landowners were quick to accept responsibility and offered to undertake voluntary restoration we were able to work together to agree a programme of restoration through an Enforcement Undertaking. The agreed works included the removal of imported topsoil, re-profiling of modified areas, cutting of vegetation to provide for a seed source for re-seeding, some natural regeneration and monitoring. It was agreed that the works would be undertaken by the landowner and an agreed contractor and any costs would be met by the Landowner.

An example of maritime heath

More information regarding Enforcement Undertakings and Natural England's Enforcement Position can be found at http://www.naturalengland.org.uk/ourwork/regulation/enforcement/

Chantal Hagan, SSSI Regulation and Enforcement

Bryanston greater horseshoe bat roost – 'The Horseshoe Hilton…'

As it's been affectionately known for a number of years: a moniker earned from the no-expense-spared generosity of the founder of The Vincent Wildlife Trust, the Hon. Vincent Weir. The Trust purchased the site in the mid 1990s and today is a 5-star hotel for bats.

Once part of the mansion owned by the Portman family, the 'servants quarters and kitchens' is all that remains following its partial demolition in the 1890s. The ancestors of the greater horseshoe bats that live here now probably moved in not long after the house was built in the late 1790s.

The study of bats in the UK is still a relatively new science, and although a small band of pioneers such as Michael Blackmore, Andrew Watson and John Hooper started studying these enigmatic animals in the 1940s and 50s, it is only in the last 40 years that their study has become fashionable.

Both Michael and Andrew visited Bryanston regularly and it was one of the first sites where ringing individual animals was undertaken.

Here they are gathering baby bats in the 1950s.

The study discovered that many of the animals relocated from here to the Purbeck stone mines to hibernate. In later years, Bob Stebbings and Henry Arnold took on this study.

In the late 1970s, the original slate roof was replaced with one of steel and asbestos. Unfortunately this reduced the internal temperature and no bats bred the following year.To overcome this, a set of greenhouse heaters was installed and breeding began again. Eventually the greenhouse heaters were replaced with bespoke 'electric blankets' fitted on the underside of the rafters. These proved very reliable, the final one failed in 2010 nearly 30 years after its initial installation

The roost as it is today

Apart from the re-roofing, the building has been made secure with the installation of a security fence and grilles over the windows, an outbuilding has been rebuilt and is used by the bats during the night, and in the late 1980s the world's first artificial hibernacula ever dug in solid rock was excavated to encourage more bats to hibernate here; a second much bigger cave was excavated in the 1990s.

The improvements made to their hotel would be of little use if the bats had nowhere to eat.The VWT has negotiated with local landowners, and many kilometres of hedgerow have been planted to allow bats to travel and forage in previously inaccessible areas.

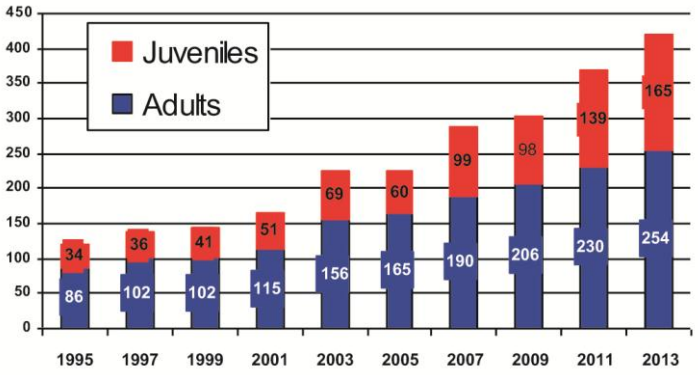
I started visiting the site in the mid 1980s when there were only around 60 adults on-site and just 20-25 babies. In 2013, the colony had increased to around 260 adults and 170 babies. The long-term management of the building is secure, and with careful management of the surrounding habitat the colony should continue to flourish.

About the author

Colin Morris joined the Trust in 1992, initially to search for new greater horseshoe nursery sites in south-west England and became the Nature Reserves manager in 2010. With two colleagues Dai Jermyn and Kate McAney he manages 40 sites in the south-west of England, Wales and Ireland, all of which contain greater or lesser horseshoe bat nursery roosts.

BRYANSTON OLD KITCHENS
A Selected History.

1940's - used as a Billet for American soldiers.
1950's - **1980's** site studied by Roger Blackmore, Andrew Watson, Bob Stebbings.
Late 1970's - the original slate roof was removed and partly replaced with asbestos sheets (funded by the NCC now NE). Artificial heating was installed.
1989 - Dorset Bat Group excavates a small tunnel under north-west chimney.
1991 - Dorset Bat Group extends tunnel into building.
1994 - Vincent Wildlife Trust purchased the building and part of the SSSI.
1995 - Erected a security fence and fitted new doors.
1996 - Planted hedge on north elevation.
1997 - Removed the asbestos roof and replaced it with natural slate. Replaced and improved electrical supply and fittings.
1998 - The tunnels 'extension' was rebuilt.
1998 - Infra-red camera's and monitor installed to enable non-intrusive monitoring.
1999 - Excavated a second 'south-west' tunnel – removing 60 tons of chalk.



Adult and juvenile bats recorded 1995 – 2013

2002 - Constructed a connecting tunnel between main building and 'south-west' tunnel.
2003 - Habitat reinstatement. Planted hedge close to roost, also several km of hedges planted on Crown Estate property to connect isolated habitats.
2006 - Replaced the missing section of roof on the south elevation.
2006 - Removed dangerous trees.
2007 - Rebuilt a small outbuilding and steps.
2009 - Removed more trees.
2009 - Radio-tracking bats to identify important habitat used for foraging and commuting.
2011 - More radio-tracking (as above)
2012 - Incubator replaced

Science into practice: Helping nature conservationists prepare for climate change

Natural England and the RSPB, in partnership with the Environment Agency's Climate Ready Support Service and the Forestry Commission have recently published a new resource for conservation practitioners: '*Climate change adaptation manual: evidence to support nature conservation in a changing climate':* http://publications.naturalengland.org.uk/publication/5629923804839936

There is strong evidence that climate change is already affecting wildlife and habitats; species such as the Dartford warbler and the bee orchid are moving further north and recent storms have highlighted the vulnerability of coastal and wetland habitats.

The manual is a hands-on document giving up-to-date, detailed, habitat-specific information for conservation managers to use, to prepare and respond to a changing climate.

We have a statutory duty to keep up-to-date contact details for our SSSI owners / occupiers. Please can we have the following details to ensure our records are correct:

- **Your name**
- **Name of SSSI**
- **Postal Address**
- **Email Address you would like correspondence sent to**

Please also let us know if you would like to receive future copies of the SSSI Annual Statement and newsletter. You can email us on sssi@naturalengland.org.uk or call 0845 600 3078

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