



From Summit to Sand



Newsletter Issue 05

ACTION FOR TAYSIDE'S BIODIVERSITY

As we sit on the eve of 2013 we can look forward to a Year of Natural Scotland. It will be a year in which we can celebrate the beauty of Scotland's landscapes, the richness of Scotland's wildlife and its plants and above all the sense of place that is our Scotland. It will also be a time to reflect on the life and work of John Muir who saw the need for wild places and showed us how such places must be preserved for all time for the benefit and enjoyment of us all.

But the new year is not only going to bring us a year of celebration, it is also going to bring us many questions to answer and challenges to solve regarding our environment.

2013 will bring the publication of the revised Scottish Biodiversity Strategy and once that is agreed then comes the greater challenge of how we can all work together to enhance our biodiversity to ensure more robust and sustainable ecosystems with the natural resources we all need to live in both the medium and the long term.

At the same time we have a Scottish Government which wants to make us use those natural resources to grow the economy.

In addition 2013 will see the Scottish Government starting to decide about the future of the Landfill Tax Communities Fund. There is a consultation out now. Up until now we have benefitted locally to the tune of £700,000 or so over the last seven years from the SITA Tayside Biodiversity Action Fund because of that company's site at Glenfarg. But in 2015 the Landfill Tax money will become the responsibility of the Scottish Government and locally we need to ensure that we continue to benefit from the Communities Fund. It is essential that we make strong representations in the consultation to ensure that we continue to receive money locally to enhance our biodiversity and environmental projects throughout Tayside.



The next few years are going to be quite a challenge to implement the Scottish Biodiversity Strategy, both at the national strategic level and at the local level where much of the real work will need to be done.

In our area the Tayside Biodiversity Partnership has been preparing for the work ahead with its Seminar in December to look at how we take forward our Local Biodiversity Action Plan. In the new year it is our intention to revise our own local action, even to find new ways of preparing the Plan to fit with an ecosystem approach.

Following last year's time of consolidation for the Partnership with the loss of Dundee City as a partner we now need to enlarge our Biodiversity Forum to include a much wider membership from the local community. The Forum must include more people from business and industry, from the health and social work sector, the farming community and many more, not just from the environmental world. The Partnership's five Habitat Working Groups and four Species Interest Groups are already doing sterling work in taking projects and initiatives forward, but so much more



needs to be done and with so much less income. New members are always welcome, the more so in 2013 when we start to revise our Local Biodiversity Action Plan.

It is also our intention to hold at least one Forum each year and if possible an open event to target a different sector of the wider public each year. In 2013 we particularly want to engage with business and industry. The publication of our Biodiversity Teaching Guide will also enable us to work more holistically with the schools in our area.

Working on an ecosystem approach means we will need to cross local authority boundaries if we are to achieve results on a landscape scale. So it won't just be Perth & Kinross and Angus which will benefit from our input. Although we have done so in the past, we intend to become much more involved in partnership working with our neighbours, particularly those in Fife and in North East Scotland. In fact we have already started to discuss joint projects with the North East Biodiversity Partnership.

We will do so in junction with SNH the Government agency particularly tasked with a concern for biodiversity and Forestry Commission Scotland. One target would be to build a North and East of Scotland Green Network. We have as much need for such a network as does central Scotland and we deserve the same inject of Scottish Government funds as the Central Scotland Green Network gets.

Green networks, ecological connectivity and enhancing ecosystems on a landscape scale means there is a lot of work to do. Every little helps: one regenerated pond by a community leads to another, and on to a regenerated burn and that in turn leads to improvement of the whole river basin catchment system. The River South Esk Catchment Partnership's project is already showing what can be done.

The task ahead of us is huge and there is little money but we do feel that the Tayside Biodiversity Partnership can help show the way forward and assist in binding communities, government agencies, and businesses, along with environmentalists and others – in fact the whole community – to produce results and to meet the tough targets which are being set for 2020.

Dennis Dick, Chair - Tayside Biodiversity Partnership



Muirton's Buzzing

Muirton's Buzzing is an exciting new project in the north of Perth which will create habitat for pollinating insects in an area of stalled space.

A massive 97% (over 3,000,000 hectares) of flower-rich grassland has been lost in the UK since the 1940's through agricultural intensification, and wider development (housing, transport infrastructure and industry). This loss has contributed towards a serious decline in flower-rich areas that are vital habitats for wild bees, butterflies and other insects to nest and feed. The loss of this important habitat has resulted in large declines in UK pollinators as well as other invertebrates.

Eighty percent of plants need insects for pollination and without these plants we would not have the air we breathe and the food we eat. Pollination of agricultural crops by insects in Britain is valued at more than £400 million. National reports in the press stress the importance of honeybees in food production but wild bees and other insects are even more important as they are adapted to pollinate a much wider range of plants.

The Tayside Biodiversity Partnership and Perth and Kinross Council are working in partnership with invertebrate charity Buglife on this project which is funded through the SITA Tayside Biodiversity Action Fund.

The project site in Muirton in Perth is an area of derelict land, where the old flats have been demolished, and the area is awaiting development for housing. This project has created a meadow which is both colourful and species-rich, and that will provide a vital food source for pollinating insects in the centre of the city.

The project will involve the local community in creating and

managing wildlife havens within the surrounding areas of the project site in Muirton. So far at the project site, sub-soil has been spread across the area and a diverse wildflower seed mix - which is of local origin - has been sown. The seed mix includes the annuals Corn marigold (*Glebionis segetum*) and Field forget me not (*Myosotis arvensis*), the biennials Wild carrot (*Daucus carota*) and Vipers bugloss (*Echium vulgare*) and the perennials Common knapweed (*Centaurea nigra*) and Field scabious (*Knautia arvensis*), as well as many other species.

Even in the very first year, 21 different invertebrates were recorded feeding on wildflowers, including Small tortoiseshell butterfly (*Aglais urticae*), Marmalade hoverfly (*Episyrphus balteatus*), Buff tailed bee (*Bombus terrestris*), Common carder bee (*Bombus pascuorum*) and Common wasp (*Vespula vulgaris*). This is surprising considering what a poor summer we had. The project has already improved the appearance of the local area within Muirton by adding colour and is providing a healthier environment for local people.



Muirton's buzzing with wildflowers and wildlife © David Williamson

Tayside Lochs Recovery Project – Lintrathen

The Lintrathen Loch Catchment Partnership has, for a number of years, been trying to secure funding to enhance biodiversity within the Lintrathen catchment, near Kirriemuir. The SITA Tayside Biodiversity Action Fund and Angus Environmental Trust have together now provided the necessary funding which will allow free visits to all land managers in the Lintrathen catchment. Having worked with landowners and managers in Angus for over 14 years (originally through FWAG and now as Littlewood Land Care), Carol Littlewood will be able to discuss with land managers where habitat links could be enhanced to improve wildlife corridors already in existence on their land, or new links created.

In addition to the free visits there is also funding to carry out capital works, such as native tree planting and small amounts of fencing. These enhancements will primarily be for direct biodiversity gain, but may also help in a more roundabout way, for example by putting in place things that will help reduce diffuse pollution. The funding could also enhance measures that land managers may be considering applying for through the Scottish Water's Best Practice Sustainable Land Management (SLM) Incentive Scheme, the aim of which is to reduce the level of diffuse pollution entering drinking water sources.

The Tayside Lochs Recovery Project fund is completely separate from the SLM Incentive Scheme, but can be used alongside it, for example to provide capital to plant scattered trees along a margin being fenced through the Scottish Water Initiative. Once all the land

managers in the catchment who are interested in taking part have been visited, Carol will advise the partnership how best the capital grant should be used to deliver the greatest improvements for biodiversity in this important catchment. Having a free visit does not tie the land manager to having to take part in the project, or to applying to the Scottish Water SLM Initiative, but there is funding available to help enhance the area if land managers wish to do so.

Land managers in the catchment interested in a visit should contact Carol Littlewood on 0791 999 2064 or carol@littlewoodlandcare.co.uk. Further information about Scottish Water's Sustainable Land Management Incentive Scheme is available by e-mailing protectdwsources@scottishwater.co.uk.

The Loch of Lintrathen reserve was recognised as a wetland area of global importance when designated as a Ramsar site in 1980. It is an internationally important site for vast numbers of wintering wildfowl, including Greylag geese returning from their summer breeding grounds in Iceland. Whooper swans can also be seen. The loch also supports many summer birds too, including Heron, Great crested grebe, Tufted duck, Shoveler, Mallard and Coot. Ospreys are occasionally sighted.

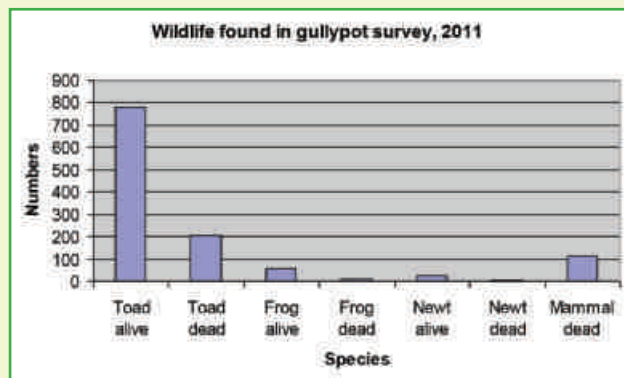
Award-Winning Amphibians in Drains Project

In 2010 Perth & Kinross Council Countryside Ranger Service started the Amphibians in Drains Project across Perth and Kinross. For a number of years prior to this, observations made by Rangers and Tayside Contracts staff undertaking routine drain maintenance suggested a significant number of roadside gullypots contained trapped amphibians. These were mainly toads (*Bufo bufo*) but also frogs (*Rana temporaria*), and the occasional palmate newt (*Triturus helveticus*) - along with numerous small mammals. Roadside gullypots can act as pitfall traps when animals fall through the grid at road level, especially over periods of mass movement such as during the breeding season and when animals disperse to find hibernation sites. Once trapped the animals cannot escape, nor survive for any length of time.

Surveys were carried out in 2010 and 2011 to estimate the number of gullypots that may be affected across central and eastern Perthshire, to estimate the number of amphibians and mammals that may be trapped, and to also record the species affected.

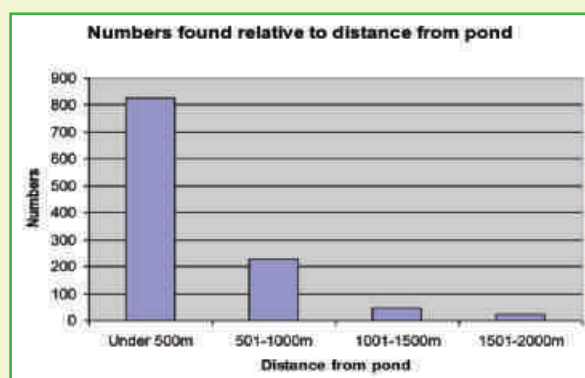
In 2010 three hundred and twenty two gullypots were checked, with 69% containing wildlife – 641 amphibians, 56 mammals (mostly voles, mice and shrews) and 1 bird. The data did not include the whole year so the numbers look relatively low compared to the 2011.

In 2011 six hundred and thirty six gullypots were checked, with 63% containing wildlife – 1087 amphibians and 114 mammals being found. Species breakdown is as follows (see graph):



The majority of animals were found in August and September. Young amphibians leave their breeding ponds in the summer and, along with adults, disperse to their hibernation sites in autumn. The same migration route can be used for many years and these are frequently found in woodland. The majority of toads should be hibernating by November across Tayside. It is surprising that more animals were not found in spring, when amphibians migrate to their breeding sites. Similar numbers to those found in August and September would have been expected.

The initial findings suggest gullypots could have a significant impact on local populations of amphibians, as well as small mammals. The majority of amphibians were found in gullypots within 500m of a breeding pond in 2011 (see graph below).



The survey continued throughout 2012; an up-to-date report will be available via www.taysidebiodiversity.co.uk.

The Ranger Service was recently granted SITA Tayside Biodiversity Fund monies to purchase a number of ACO wildlife kerbs. These will replace the standard kerbs at a pilot site in Elm Drive, Blairgowrie, a new road close to a pond where there is data from 2010 and 2011 to enable comparison of before and after figures.

Wildlife kerbs contain a recess which allows wildlife to follow the lower edge of the kerb and bypass the gullypot (see photo). A study by the Vale of Glamorgan Pond Survey in Wales in 2006 showed that moving the gullypot 10cm away from the kerb led to 80% fewer Great crested newts falling into the gullypots by allowing the animals to bypass the danger zone.



Wildlife kerb in situ © Daniele Muir

If the wildlife kerbs are shown to be successful, Perth and Kinross Council Roads Section is interested in using them in suitable locations across Perth and Kinross in future.

As a result of the Council's pioneering work, PETA UK has recently presented the Council with a Proggy (progress) Award which recognises companies, people, and products for innovative and animal-friendly achievements. A spokesperson for PETA said: "Our Proggy Awards are coveted awards recognising those who truly exemplify animal-friendly progress in culture and commerce. PETA is delighted to recognise the Council for its compassionate initiative."

Local Councillor Bob Ellis joined Countryside Ranger Daniele Muir and Senior Roads Engineer Willie Mahoney in Blairgowrie to highlight the award. He said: "The Perth and Kinross area is renowned for its natural beauty and high level of biodiversity. We want to help protect the local wildlife population and the kerbs we are using in the pilot scheme are designed to assist with that, by giving animals a safer route when they move en masse. It's great that PETA have picked up on the work we are doing here and we appreciate the recognition of the efforts being made by our staff."

Following the sterling work by Perth & Kinross Council, Angus Council Ranger Service is now also working with their Roads Department to implement amphibian-friendly drain covers and curbstones at Monikie. There is currently a designated toad crossing at Monikie which has, as a temporary measure, covers placed over the gullypots during the amphibian migration and breeding season. Plans are being put in place to ground-truth some of the key amphibian migration routes in Angus and to work with Angus Council in proactively planning installation of wildlife kerbs where they are necessary.



Daniele Muir receiving the PETA Award on behalf of Perth and Kinross Council

Small Blue Butterfly and Kidney Vetch Survey



If you took part in our Small Blue survey this summer, you might have been lucky enough to see this butterfly. You may know that the feisty and charismatic Small Blue butterfly is now the focus of a project in Angus. This Priority Species, listed in the UK Biodiversity Action Plan, has suffered a significant contraction in range over recent decades. It once had colonies in many places along the Scottish coast - all of those on the west have been lost, together with some on the east coast. A project to reintroduce the Small Blue is currently underway in Ayrshire, but ironically it is now falling behind schedule due to difficulties being experienced with the proposed donor sites!

There is still a scattering of colonies along the Angus coast, shown on the map below, but in some cases it is up to 20 years since the butterfly has been seen there. The butterfly is a key species in the Tayside Biodiversity Action Plan. It lives in wild, uncultivated places, is often reluctant to stray far from its origin, can easily be overlooked, doesn't come into gardens (so people just don't see it much) and so it is threatened by changes to the countryside which may unwittingly destroy the habitats it needs.

The Angus project was initially aimed at getting an accurate picture of the butterfly's current distribution, as well as that of its sole caterpillar food plant, Kidney Vetch. The project was launched at the Tayside Recorders' Day on 10 March 2012 and a follow up volunteer meeting was held in Arbroath at the end of April.



© Duncan Davidson

The project is initially planned to run for five years. 2012 was to be the year where we surveyed sites and identified potential actions for site improvement, consolidation or extension; in 2013 it is planned to carry out further surveys and monitoring and to initiate agreed actions; the following years will see a continuation of monitoring and further actions, with a final report in 2016.

Although the project is organised by the Tayside Biodiversity

Partnership, Butterfly Conservation East Scotland branch, Angus Council Ranger Service and the Scottish Wildlife Trust, by far the most important people are the volunteers. Those who carried out the surveys in May, June and July this year and who will hopefully be involved in continued site monitoring and actions in the coming years.

So how did the surveys go this summer?

The good news is that just about every site was surveyed, some of them very thoroughly over a number of repeat visits. This was testament to the dedication of the volunteers - we all know what the summer was like - one of the wettest on record, with some areas having weeks' worth of rain falling in a single day. So it is doubly impressive that people got out to do these surveys. There was further good news in as much that the majority of sites had thriving populations of Kidney Vetch - the pictures below are of various sites from Seaton, Ethie, Boddin and Usan.



© Duncan Davidson

However, there were some places where Kidney vetch could not be found, notably round Lunan Bay, between East Haven and Elliot, and along the disused railway lines west of Frickheim.



Unfortunately the sightings of Small Blue were much fewer than those of Kidney Vetch. In some cases, the Kidney Vetch was in areas that were dangerous and inaccessible, and so a butterfly survey could not be effectively carried out. In other cases the weather was the governing factor. For example a number of otherwise perfect sunny days were blighted by cold north-easterly winds and if the butterfly was present it is unlikely it would have been flying in these conditions.

There was some success though. Small Blue was reported from Barry Buddon and from Carnoustie, where colonies have been recorded regularly in recent years. There were also some sightings at Seaton and a single record from a disused railway cutting near Glamis.

Once all the survey detail is gathered and collated, the next steps will be considered and discussed. Further survey work will be carried out in areas of Kidney Vetch where the butterfly was not seen this year and some initial action plans will be formulated. We will also be joining forces with the N.E. Aberdeen Biodiversity Partnership to extend the project further up the coast, especially in and around St Cyrus where Small Blues are already known.

Building Better Biodiversity Training Days

A slight shift of focus has occurred in the past year with professional workshops provided to the local authority staff and Tayside Biodiversity Partners giving way to more training days available to everyone. In the past few months, there have been specific events to look at how to manage wildflower meadows, verges and ponds (with thanks to Scotia Seeds for hosting this), the traditional skill of hedge-laying, summer management of orchards, and two workshops on lichens – one focussing on the rich assemblage of orchard lichens, the other exploring churchyard lichens.

Future training days and workshops will continue to involve the local community, but there will also be a return to professional training opportunities on such subjects as badgers and development, barn owls and planning, swift nest conservation, bats, buildings and trees. The events are always publicised on the “What’s On” section of www.taysidebiodiversity.co.uk, as well as the Tayside Biodiversity Facebook page.



From left to right – top: Scotia Seeds Day; bottom: Hedgelaying, churchyard lichen identification, summer management of orchards. All © C A G Lloyd

A New Lichen Species for Britain

A recent churchyard survey in the Carse of Gowrie has unearthed two species new to Britain. The first was the tiny crustose lichen *Lecanora invadens* with ‘jam tart’ like spore producing bodies (apothecia). The second was the lichen parasite *Sclerococcum tephromelarum* found growing on the black shields lichen *Tephromela atra*.

Lichens are part-fungi and part-algae and sometimes have their own specific fungal parasites. Deciphering these species has been a lifetime’s work for the discoverer of the two new species, lichenologist Dr Brian Coppins. He was part of the Scottish Churchyard Lichen Group, led by John Douglass, surveying the churchyards for Perth &

Kinross Council. The surveys are continuing in N.E. Perthshire as part of the Green Graveyard Initiative.



Photo on the left – © John Douglass; on the right - © C A G Lloyd

ScotRail Gardeners Scoop Perth Community Award



© C A G Lloyd

ScotRail staff, who are creating a tranquil garden at Perth station, have won a community award for their efforts. The employees, collectively known as Perth Station Gardening Club, scooped a Silver Gilt Award in the 'It's Your Neighbourhood' category at the Beautiful Perth Awards.

The award recognises their ongoing work to transform a patch of scrub-filled waste ground into an attractive green space. The garden features a pond, seating, wildflowers, edible plants and flower beds made from recycled materials.

Judges praised the club – which includes ScotRail staff members

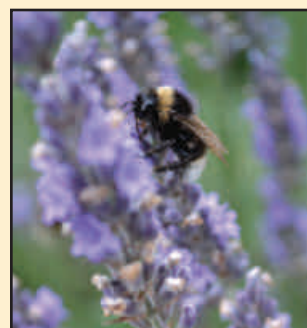
Tracey Hutton, David McLauchlan, Pete McDonald, Gordon Waugh, Martin Duncan and others – for their focus on biodiversity.

Tracey Hutton said: "It's great to be recognised for all the hard work that has gone on here with the help of the community. The project has caught people's imaginations and surpassed our expectations. We focussed on improving biodiversity, resulting in toads being introduced to our pond, as well as solar panels being installed to power oxygenators in the water feature. We feel we have already made a real difference to this previously unused space, but we have more plans to keep developing the garden in future. For example, we hope to invite primary school pupils to the garden so they can carry out nature hunts in search of insects, birds, flowers and trees."

The gardening project has benefitted from the support of local businesses and community organisations, including a £500 grant from Perth Round Table. Perth Station Gardening Club is now planning to plant native apple and pear trees, sourced from a local supplier and is working with the Tayside Biodiversity Co-ordinator on other areas of the station to enhance biodiversity across a wide area.



© C A G Lloyd



© C A G Lloyd

SITA Tayside Biodiversity Action Fund

Since September 2005, the SITA Tayside Biodiversity Action Fund (SITA TBAF) has provided funding for vital local biodiversity conservation projects. It has been the only SITA Trust fund in Scotland and the Partnership has been extremely fortunate to distribute £700,000 to projects in line with the Landfill Tax Credit Scheme. Few of the projects would have gone ahead without this funding from the SITA TBAF, so this has been direct "work on the ground" being funded for the Tayside area. Recent projects have included:

Loon Braes & Pond Partnership – Bee Wild Pilot Project	Blairgowrie & Rattray in Bloom	1,200
Amphibians in Drains Pilot Project	Perth & Kinross Council Ranger Service	4,800
Tayside Lochs Recovery Project (Phase 3 - Lintrathen) – jointly funded between SITA TBAF (£9,000) and the Angus Environment Trust (£9,000)	Littlewood Land Care	9,000
Supporting Tayside's Tree Sparrows Project (Angus)	Littlewood Land Care	16,662
Historic Churchyards Project (N.E. Perthshire Pilot)	Perth & Kinross Heritage Trust	10,000
Lednock Millennium Path Biodiversity Project (Comrie)	Comrie Millennium Footpath Association Ltd.	4,500
Saving Scotland's Red Squirrels Programme (Tayside)	Scottish Wildlife Trust (SWT)	8,950
Balnaguard Glen Juniper Restoration (Phase 2)	SWT	4,500
Tummel Shingle Islands (Non-Native Invasives) Project (Phase 2)	SWT	1,500
Highland Perthshire Large Mammals Project	SWT	2,750
Braes of the Carse Biodiversity Project	Braes of the Carse Conservation Group	4,075
Peddieston Trail West Heathland Restoration (Crombie Country Park)	Angus Council Ranger Service	1,000
Sand Martin Nesting Programme	Murton Wildlife Trust	2,400
Lapwing Habitat Improvement Project	Murton Wildlife Trust	4,600
Grey Partridge Breeding Programme – Phase 3	Murton Wildlife Trust	6,450
Wetland Biodiversity Enhancement: Loch of Kinnordy Nature Reserve	Royal Society for the Protection of Birds	6,000
	TOTAL	£88,387

In May, to coincide with Scottish Biodiversity Week, the SITA TBAF Reception welcomed nearly 60 people to the AK Bell Library, Perth, to hear about the good work being achieved by the grants. There was a wide range of presentations, including

- Saving Scotland's Red Squirrels (Tayside Project) – Scottish Wildlife Trust
- House of Dun Walled Garden Biodiversity Project – Volunteer Angus
- Kinnordy Wetland Project - Royal Society for the Protection of Birds
- Amphibians in Drains Survey and Project - Perth & Kinross Ranger Service
- Sand Martin Wall on the River Erich, Blairgowrie – Perth & Kinross Council
- Biodiversity Enhancement at Lintrathen Loch, Angus - Littlewood Land Care
- Perthshire Large Mammals Project - Scottish Wildlife Trust
- Green Graveyard Projects - Perth & Kinross Heritage Trust

Green Graveyards: From Bare Earth to Bee-friendly Planting

Perth and Kinross Heritage Trust (PKHT) has been undertaking a series of projects repairing some of the fragile monuments and structures in churchyards and cemeteries across the eastern area of Perth and Kinross. Whilst their main objective was to safeguard the monuments and fabric of the graveyards, the opportunity was also taken to reinstate the soil around headstones that had been eroded away as a result of the continual application of chemical weed killer. It was agreed with the Grounds Maintenance Team at Perth and Kinross Council that a wildflower mix would be included in the soil reinstatement. The transformation from bare soil to bee-friendly planting has been well worth the effort.



Meigle Before... © Fiona Fisher



...and Meigle After © Fiona Fisher

Highland Perthshire Large Mammals Project



The construction of an artificial otter holt © Emma Rawlings, SWT

With SITA Tayside Biodiversity Action Fund monies, the project's aims were to protect and encourage two iconic highland wildlife species – the Otter and Pine Marten - on the Scottish Wildlife Trust's Perthshire reserves, piloting it first at Loch of the Lowes, Dunkeld. The first phase of the project saw the refurbishment of two otter holts and the erection and monitoring of six Pine Marten Den boxes. Phase two involved spreading the message about these practical habitat enhancements to other local community groups and landowners.

Surveying for otter using tracking and camera traps showed presence of one male on the loch using a natural den site. The previous artificial holt construction was in the wrong place, so it was reconstructed in a better location with a view to attracting a breeding female to the loch. A camera trap was installed to

monitor uptake without disturbance.

In the meantime, Pine marten sightings had decreased since 2009, with several causes possible. Food availability was still good, but habitat continuity with the neighbouring forest could have been a problem, together with a lack of denning sites (because of the tree species). This meant animals were having to travel across roads to get to the reserve. Presence of animals was identified using hair tube traps and camera traps, so denning boxes were constructed and placed in several areas around the reserve, with camera traps on to monitor uptake.

“How to” sheets on otter holt and Pine Marten den box construction have now been supplied to local landowners. There was excellent publicity via the Loch of the Lowes Visitor centre and its popular Blog of these species and what can be done to help them. Links have been created with the Perthshire Ranger Education Programme to promote these species and practical techniques have been passed on to local schools and community groups.



A pine marten den box © Emma Rawling

Tayside Geodiversity

The Tayside Biodiversity Partnership is a member of this group and hosts a designated geodiversity section for it on its website. There will soon be a “Who's Who” section of famous local geologists; this is currently being compiled.

The Group has so far published three walks leaflets - Seaton Cliffs, Angus Coast, Corsiehill Quarry, Perth and the latest on the glacial geology and its effects on the landscape of Strathardle in Highland Perthshire. The leaflets can be downloaded from www.taysidebiodiversity.co.uk/Geodiversity/index.html; paper copies are also available on request.

The Partnership is now a member of the Scottish Geodiversity Forum.

Green Spaces: From Green Desert to Wildflower Meadow

Perth and Kinross Council's Greenspace and Grounds Maintenance Teams have created a number of wildflower areas in parks across the district. These have been a combination of simple procedures, such as allowing some less-used areas of grass to grow during the summer and then cut and lifted in autumn, to the more proactive projects such as sowing wildflowers in some areas - or where the local community has been keen to increase the interest of their local park - planting wildflower plant plugs.

In one particular instance, collaboration between a contractor and the Greenspace Team helped create ideal conditions to create a wildflower meadow - the contractor needed to dispose of a large quantity of subsoil without incurring the cost of transport and disposal and the Grounds Maintenance Officer was glad to take the soil at no cost to fill an area that was causing him problems. This was then sown with a mixture of annual and perennial wildflowers to create a colourful and interesting area of parkland which is also

providing a much-needed food source for insects such as bumble bees and butterflies.



Millennium Park, Kinnoull, Perth © David Williamson

Restoration of the Rottal Burn, Glen Clova

The lower reaches of the Rottal Burn in Angus have recently been transformed. The burn - which has flowed through 650m of straightened, embankment-lined channel since the 1830s - has now been restored to an open, meandering channel extending to 1,100m. This will restore the natural river process, providing more varied in-stream and riparian habitat within a designated Special Area of Conservation for Atlantic salmon and Freshwater pearl mussel.

Although spawning habitat had been present in the old channel, the lack of variation in habitat resulted in low numbers of juvenile salmonids. The restoration design effectively had three zones, each around 400m long: the upper zone had the steepest gradient and was routed through a new channel in existing agricultural fields with lower bank heights. The middle zone had a shallower gradient and the channel was routed through remnants of relict channel which had remained a relatively wet, marshy area. The lower zone had a shallow gradient with a new channel through agricultural fields to the confluence with the River South Esk.

The construction works were designed to create the restored channel without any import or export of material, which required careful planning through the design and the construction phase. The existing gravel embankments were used to provide material for the bed of the new channel and excavated material was used in landscaping and infill of the diverted channel. Sections of the restoration included large woody debris in the form of trees with rootballs which were sourced from wind-blown Scots Pine from the local estate.

The new channel was constructed during late spring 2012 and

time allowed for vegetation to grow before diverting flow from the existing channel into the new channel in late summer. There were a number of challenges facing the construction phase, including the remote location, presence of overhead services on site, weather conditions and the limited growing season at an altitude of 220m above sea level.

A monitoring network has now been installed which will help assess the longer term performance of the project. The new channel has been tested by a number of significant flow events, including the largest spate of the year to date just 36 hours after being diverted! During mid-October, a 1 in 5 year return period flow tested the new channel. A number of sediment bar features have formed creating a significantly improved habitat variety compared to what was present only 2 months ago.

The Project Team consisted of the Esk Rivers & Fisheries Trust, EnviroCentre Ltd., and McIntosh Plant Hire Ltd. The project was part funded through the SEPA Water Environment Fund and the support of Dee Ward from Rottal Estate.



Work on the Rottal Burn, Angus © River South Esk Catchment Partnership

Help Us Collect Marine Mammal Sightings

The Angus coastline is a wildlife - watching secret and is home to a wide variety of coastal and marine habitats and species. A range of marine mammals can be spotted from many land based sites and Bottlenose dolphins frequently travel the length of the coast. Fantastic seabirds such as puffins and gannets visit during the summer months and many cliff paths are home to a colorful menagerie of maritime plants and coastal insects.

The website www.marinelifeangus.co.uk, launched in May 2012, highlights the coastal locations in Angus where maritime and marine species can be enjoyed. There is also the opportunity to report species sightings via the website - the information is then used to help understand and conserve the area's maritime habitats and species. During 2012 there were sightings of Bottlenose dolphins and Minke whales the length of the Angus coast in locations from St Cyrus to Montrose harbour, from Lunan bay to the Tay estuary.



Bottlenose dolphins - © Taymara

Swifts in Tayside

Perth and Kinross Ranger service has continued to map the presence of swifts and their nest locations across the county. The public has assisted with the survey, too, by passing on their sightings via phone calls, taking part in the Swift Survey, and by entering sightings onto the Tayside Biodiversity website's online survey. The information received is put into the local authority GIS systems to produce 'Swift Priority Zones' which is proving to be crucial in swift conservation.

In June the Biodiversity Co-ordinator witnessed thousands of swifts feeding below a large weather front west of Kinross, so it seems Loch Leven is still very much the best place in Perth & Kinross to watch large numbers of feeding swifts. Where they all nest is still a mystery.

Two popular guided walks were held by the Rangers in Aberfeldy and Errol. In the Carse of Gowrie there is now talk of setting up a large-scale Swift Project, focussing on the houses within the Conservation Area, together with schools and churches. The Ranger Service has also been raising the profile of our swifts through a display at various events and libraries and Hillcrest Housing Association continues to support the project, last year providing a dozen especially-built nestboxes made by its Apprentice Team.

Surveys undertaken in the Angus Glens and in the coastal towns show there is much still to learn about where the swifts actually nest. We need more feedback from these areas before a full Swift Map can be drawn up.

To take part in the Swift Survey, or report swift colonies or nest sites, please check the Swift section of www.taysidebiodiversity.co.uk. If you can offer help in a particular area, perhaps acting as a voluntary Area Swift Survey Co-ordinator (which will involve no more than 15-20 hours a year), please contact Daniele Muir in the first instance at Tel. 01250 874661 or DMuir@pkc.gov.uk.

Tayside Recorders' Forum

There is a designated section about the Forum, its members and meetings on the Tayside Biodiversity Partnership's website. The Forum is jointly chaired by Mark Simmons, Perth Museum and David Lampard, Leisure & Culture Dundee.

The Recorders' Forum website section has proved very useful since its inception. As with all lists of organisations, contacts and newsletters, though, it is now becoming out of date, so everything will be checked and updated soon, ahead of the Local Biodiversity Action Plan Review. There will be no changes made to the "Help for Recorders" page which includes 'the four Ws in biological recording', and only a slight update to the "What you Can do" section which features all the surveys - including online surveys - that the Partnership and its Partners are running. The current surveys are always listed on the website's home page, so please check these; any offer of help is greatly appreciated!

The annual Recorders' Day, hosted in turn by Perth Museum, Leisure & Culture Dundee and Angus Ranger Service, attracts around 50 people every year to hear updates from a variety of local recorders and project news from across Tayside and beyond. The sixth Recorders' Day will take place in Spring 2013: look out for further details on the website. Everyone welcome.

Heathland Restoration at Crombie

Crombie Country Park in Angus covers over 100ha of conifer plantations, birch woods, lowland heathland, unimproved grassland and a freshwater loch. Recently it has been possible to undertake scrub clearance on the lowland heath as the Angus Council Ranger Service was awarded a £1,000 grant from the SITA Tayside Biodiversity Action Fund.

With local volunteers, the Countryside Rangers used hand tools and brush-cutters to clear birch and rhododendrons along the Peddieston Trail. This opened up the heath beside the trail.

Scrub clearance will continue so that heather can enhance the habitat. Lowland Heathland is a listed priority habitat in the Tayside Biodiversity Action Plan. It has declined greatly over the past 60 years as a result of agricultural improvement, development and afforestation. Remaining Lowland Heathland is also threatened by mismanagement.

For further information on the variety of habitat work underway at Crombie, contact the Ranger Service at crombiepark@angus.gov.uk.



Crombie Country Park Heathland © Angus Council Ranger Service

Non-Native Invasive Species Interpretation

The threat of non-native invasive species within Angus' South Esk catchment has been highlighted by a suite of leaflets and by the Partnership's website. On-site interpretation now complements all this and brings invasive species education to all areas of the catchment.

The interpretation boards are located in Glen Doll, Cortachy, Brechin, and at Montrose Basin – all in locations where walking routes begin or where there is a high footfall. The information will help everyone to identify problem plant species such as Giant hogweed, Japanese knotweed and Himalayan balsam. The American mink is also highlighted and there is also help to distinguish between problem species and native biodiversity.

The public will be encouraged to report any sightings of invasive species or activities being carried out within the catchment which are detrimental to the river's health. The boards were funded by Angus Council, the Esk Rivers & Fisheries Trust, Esk District Salmon Fisheries Board, Scottish Natural Heritage, Cairngorms National Park Authority and Rural Tayside LEADER.



© River South Esk Catchment Partnership



© River South Esk Catchment Partnership



The Partnership has published a series of eight bookmarks highlighting the rich biodiversity and geodiversity of the area. These are available on request to any organisation or community group in Tayside who would like to help raise awareness of our special wildlife.

Promoting Awareness of our Amphibians and Reptiles

The Friends of Angus Herpetofauna (FAH) have been very helpful to the Partnership. Ongoing monitoring at Kinnaber, near Montrose - where in 2011 the Friends were involved in a last-minute "rescue bid" to save common lizards from construction of a cycle path - has revealed that lizards are still prevailing. The high profile of the Kinnaber project has befitted reptile and amphibian conservation locally, as FAH, via the Tayside Biodiversity Partnership, have been approached by developers and planners on other projects, thankfully allowing more timely intervention where it is required. Not least is a development currently at the planning stage in the reptile-rich area of Glen Esk, where slow worms are a particular concern. Other projects include the identification of roads crossed by migrating amphibians during the breeding season, which involves volunteers who can collect amphibians with torches and buckets to help them across busy roads where they might otherwise be killed by passing road traffic. There are also plans to work with the Partnership to widen the new Amphibians in Drains project currently being piloted in Perthshire.

Training for the National Amphibian and Reptile Recording Scheme (NARRS) continues to be very popular with local people taking part in both the amphibian and reptile days. Interest in biological recording is gaining momentum and new surveyors are joining

NARRS. As the Amphibian and Reptile Groups UK (ARG-UK) have provided the Friends with a free website and recording system - <http://groups.arguk.org/fah/> this will help build a better picture of herpetofauna records for Angus which currently remain anecdotal at best because of so few recent records.

The annual guided walks to Loch Lee in Glen Esk are now a regular feature on the Friends' calendar, although the 2012 events were marred by inclement weather, with just a few amphibians and reptiles found on the first trip and, for the first time ever, a complete blank on the second visit. The fresh air and superb scenery never fail to delight and those who joined the walks still claimed to have enjoyed themselves. Future training events and guided walks will be publicised on the TBP website or the Friend's own website.



Smooth Newt © Daniele Muir

New Biodiversity and The Curriculum for Excellence: Teaching Guide

Partnership working is extending beyond the Tayside boundaries once again with permission to use the East Lothian Biodiversity Teaching Guide as a template for our own version. Steven Sinclair, a graduate of Geography from Dundee University, has been researching and compiling all the teaching resources in Tayside, together with a suite of case studies from key organisations in the area. The more research he undertook, the more he found, so the publication date has now been postponed until 2013 to ensure the Guide is as comprehensive and up-to-date as possible.

The Curriculum for Excellence encourages outdoor learning, so this makes biodiversity a very convenient topic to teach since Tayside is rich in iconic species: from Red Squirrels and Wild Cats to Dolphins and Small Blue Butterflies, as well as the more commonly seen species such as bumblebees, bats and garden birds. The area offers a great diversity of habitats to safely explore, be that the local park or wood, a nearby beach or one of the many nature reserves that welcomes visitors.

The Teaching Guide will provide support to those who want to teach biodiversity and related topics. Useful websites and a list of education packs currently available will be included, as well as local contacts for the many environmental organisations that can offer specialist advice or support for a specific habitat or species. The Guide will show how to facilitate a visit or outdoor classroom - there will be a list of wildlife sites within Tayside to consider. Once the Guide is published, further information will be put on the Biodiversity Education hub via the Partnership's website.

All 147 schools within Perth & Kinross and Angus will receive their own copy of the Teachers' Guide, but it will also be available as a pdf to download from the website. A number of events are currently being planned to publicise the launch of the publication; again details will be given on the "What's On" section of www.taysidebiodiversity.co.uk.

Advice to Developers and Householders

The popular leaflets "Biodiversity - a Developer's Guide" and the "Householders' Guide to Biodiversity" are being updated and will soon be put on the website www.taysidebiodiversity.co.uk. The 44-page "Guide to Incorporating Biodiversity into Development" is also being reviewed with new links and up-dated legislation. There is a comprehensive section on the website for developers and householders with advice available on:

- Creating Green Roofs for Invertebrates
- Barn Owls and Rural Planning Applications
- Swift Advice to Contractors and Developers
- Legislative Protection for Scotland's Amphibians and Reptiles
- Trees in the Townscape - A Guide for Decision Makers
- Biodiverse Buildings
- Bats and Buildings (including the Tayside Bat Survey Requirements)

Links are also given to the SNH Codes of Practice for Development affecting the River Tay, Loch Leven and River South Esk.

Publications from the Tayside Biodiversity Partnership

Paper copies are available on request or can be downloaded from www.taysidebiodiversity.co.uk.

Multiple copies are available on request for events, exhibitions, etc – contact cagloyd@pkc.gov.uk or Tel. 01738 475373.

- * Newsletters – Summit to Sand; Barn Owl; Red Squirrel; Swifts in Tayside
- * An Introduction to the Tayside Biodiversity Action Plan
- * Biodiversity in Community Gardens, Orchards and Allotments – Making Way for Nature
- * Traditional Orchards in Tayside – a Guide to Wildlife and Management
- * Tayside Green Kirk & Graveyard Initiative
- * Species – Tayside Terns: Information and Code of Practice; Tayside's Farmland Priority Species Guide; ZOOM Bumblebee survey; Have you Seen a Barn Owl survey; Tayside Swift Survey
- * Planning for Biodiversity – Householders' Guide to Biodiversity; Biodiversity – a Developer's Guide; A Guide to Incorporating Biodiversity into Development (A Manual for Planners and Developers in Tayside); Biodiversity Advice Notes; Incorporating Biodiversity into Local Services

FURTHER INFORMATION

Tayside Biodiversity Forum Partners include:

Angus Council, Atholl Palace Hotel, Atholl Ranger Service, Aviva, Bat Conservation Trust, British Association for Shooting & Conservation, Broughty Ferry Environment Project, Buglife Scotland, Butterfly Conservation (Scotland), Concern for Swifts Scotland, Community Woodlands Association, Dundee Botanic Gardens, Felicity Martin, Field Studies Council, Forestry Commission Scotland, Friends of Angus Herpetofauna, Game & Wildlife Conservation Trust, Hillcrest Housing Association, Historic Scotland, Ian Ford, James Hutton Institute, John Muir Trust, Landmanager.eu, Leisure & Culture Dundee, Littlewood Land Care, Lockett Agri-Environment, Murton Nature Reserve, National Farmers' Union, National Trust for Scotland, Native Woods Co-operative (Scotland), Perth & Kinross Council, Perth & Kinross Tree Wardens Network, Polly Pullar, River South Esk Catchment Partnership, Royal Society for the Protection of Birds, Scotia Seeds, Scottish Agricultural College, Scottish Badgers, Scottish Crannog Centre, Scottish Government Rural Payments & Inspections Directorate, Scottish Environment Protection Agency, Scottish & Southern Electricity, Scottish Golf Environment Group, Scottish Land & Estates Ltd, Scottish Mink Initiative, Scottish Natural Heritage, Scottish Wildlife Trust, Scottish Wild Beaver Group, Tay Estuary Forum, Taymara, Tay Salmon Fisheries Board, Tayside Police Wildlife Crime, UHI Centre for Mountain Studies, Volunteer Action Angus, Wendy Mattingley

Chair – Dennis Dick

Tayside Biodiversity Co-ordinator – Catherine Lloyd

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