

Wildlife Gardening Forum Conference

November 27th Hillside Event Centre RHS Wisley

Summaries of the morning talks

Gardens and Wildlife

Brett Westwood: BBC Radio 4 Nature

Brett spoke entertainingly of wildlife experiences in his garden, and those of his neighbours. He commented on the interconnectedness of gardens, and the rapidity with which a new garden resource becomes exploited. A small pond created at the end of a long garden had a frog on the second day, and egg-laying Southern Hawker dragonflies the next. Brett described watching the Wool Carder Bee *Anthidium manicatum* nest building in his garden. But he has no suitable “wool” plants, like *Stachys*, so the bees are exploiting resources spread across several gardens.

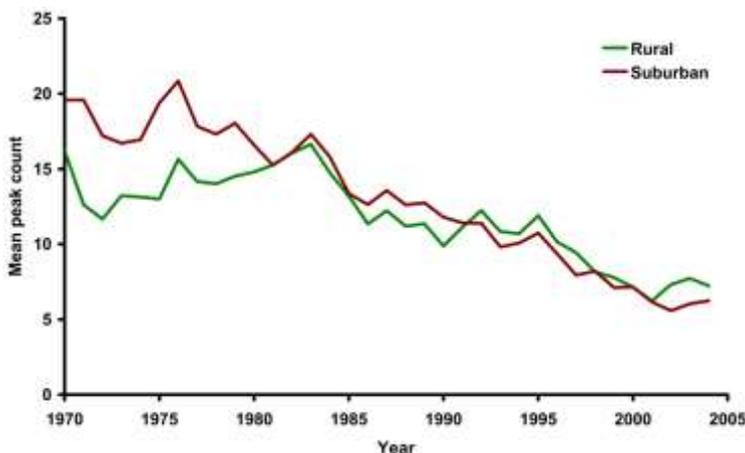
Individual gardens contribute to a larger area able to support many populations of many species. Carefully watching his own modest garden, Brett has seen long-tailed tits, woodcock, redstart and white admiral – treating the garden like a patch of woodland, despite being in the middle of Stourbridge. But his garden is quite close to a park in one direction, and another park with a lake in the other, encouraging visitors like nuthatch and moorhen which would not find all they need in one small garden. Gardens can therefore supplement the limited resources in parks and countryside.

Watching wildlife in gardens can provide important information on national trends. In 2005, Brett recorded the first Worcestershire record of the harlequin ladybird in his garden. Recently he realised that a snail climbing in his garden was *Hygromia cinctella*, the alien girdled snail, recorded mainly in the south of England, and his record may prove close to its present northern limit..

Monitoring Garden Wildlife through Citizen Science.

Mike Toms: Head of Garden Ecology, British Trust for Ornithology www.bto.org/gbw
michael.toms@bto.org

Gardens are an important resource for birds, but hard for professional ecologists to monitor because of their large number, diversity and private ownership. Since 1970, BTO has very successfully used the garden owners themselves to gather important national data on population trends in garden birds. The winter Garden Bird Feeding Survey has documented the decline of the house sparrow and starling in both town and country, while black-headed gull, blackcap, wood pigeon and magpie numbers increased, especially in towns.

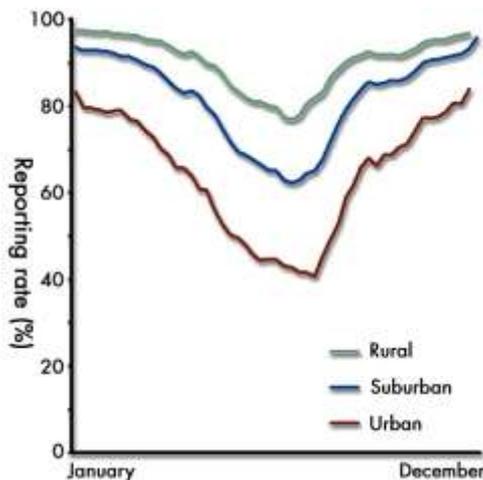


National trends in counts of house sparrow in rural and suburban gardens 1970- 2004.

BTO Garden Bird feeding Survey

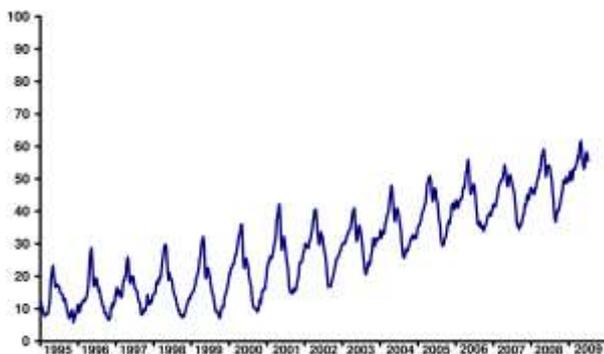
More recent garden surveys have enabled the BTO to look at patterns across the country – London does not show the same trends as the West Midland for example. The BTO Garden Birdwatch started in 1995, and involves over 15,000 people, reporting bird data throughout the year, using scanner-readable printed forms to input results directly into the database. Results can also be entered directly on-line. Data are also collected for other vertebrates, butterflies, and bumblebees, and for the garden and its surroundings.

The database contains 5.4 million weekly submissions, and 69 million species observations. Because it is so big, it is possible to analyse it in detail and produce significant conclusions.



This graph (left) shows that for rural, suburban and urban areas, robins use gardens most in the winter, and less during the summer breeding period. Gardens provide food for more birds than they can support as breeding sites

Seasonally, garden greenfinch numbers peak in the winter, are least in the summer, and pick up in the autumn. The long-term database allows the impact of recent trichomonosis infections to be demonstrated as a drop from previous baseline levels.



The survey allows gradual changes to be picked up, such as the steady increase in goldfinch numbers from 1995 -2009(L to R), also apparent for woodpigeon.

There are sufficient garden sites recorded that it is possible to generate distribution maps at a county level. We also know that urban birds become active earlier than their rural counterparts, probably because in the warmer urban environment they use less of their energy reserves overnight and so are less pushed to find food in the morning. The survey and the trends it has revealed could only be accomplished through the cooperation of garden-owning volunteers.

OPAL Report – the earthworm survey, and lichens
Dr John Tweddle, Natural History Museum

www.opalexplornature.org
j.tweddle@nhm.ac.uk

The OPAL project is running until December 2012, funded by £11.7 million from the Big Lottery Fund. Working with 15 partners, it is running 31 biodiversity and environment “Citizen Science”

projects building awareness, enthusiasm, confidence and active participation. It is hoped to encourage a new generation of natural historians and amateur naturalists. Surveys on Soil Quality (using earthworms) and Air Quality (using lichens) were launched during 2009. In Spring this year the focus will be on Water Quality, with Hedgerow Biodiversity this Autumn.

The soil survey, led by Imperial College, involved measuring soil characteristics and identifying 12 of the commoner earthworm species. It raised considerable interest, with 3,240 surveys entered through the website portal, and has created the UK's first earthworm distribution map. It has even resulted in the formation of the "Earthworm Society of Britain" (www.earthwormsoc.org.uk).

The Air survey uses lichens and tar spot fungus to look at nitrogen pollution (ammonia and NOx) levels in England, and variation in local air quality and bio-indicators in space and time. Over 1800 surveys had already been received.

The quality of data returned by volunteers was variable, but still capable of fielding useful scientific results. Soil data were broadly comparable with professional datasets in pH, soil type and infiltration rate. The worm data were more variable, but still very useful. Worms from 148 surveys (568 worms, 308 identified by adults, 260 by children) were checked by Natural History Museum staff. Overall, nearly 60% of specimens were correctly identified to species, with some species easier to identify than others. 84 % of identifications of the Black-headed Worm *Aporrectodea longa* were correct, but only 53% of the Lob Worm *Lumbricus terrestris*, and only 15% of the identifications of the Blue-grey Worm *Octolasion cyaneum*. Adults generally identified more worms correctly than children, but lengths of live worms proved hard to measure!

The Big Garden Pond Dip.

Dr Jeremy Biggs, Pond Conservation

www.pondconservation.org.uk/bigponddip
jeremy.biggs@brookes.ac.uk

In the countryside about 2/3 of *all* Britain's freshwater species can be found in ponds – more than live in lakes or rivers. Ponds also support exceptional numbers of endangered species – 82 Biodiversity Action Plan species in ponds, compared with 71 in rivers and only 42 in lakes. Unfortunately, 80% of countryside ponds are in 'Poor' or 'Very Poor' condition mainly because of pollution. The best ponds have clean unpolluted water: fortunately, it is easy to create new high quality unpolluted ponds, which rapidly colonise and become clean oases in otherwise degraded countryside.

Making a pond is one of the best things you can do for wildlife in the garden, and garden ponds are making an important contribution to protecting freshwater wildlife generally. But despite the mass of advice on managing garden ponds, almost no research has been conducted on what lives in garden ponds, and how they can best be managed for wildlife.

There are at least 2-3 million ponds in gardens, about 5 times the number in the countryside, but we know little of the animals and plants they support or their potential contribution to freshwater biodiversity generally. To answer these questions, Pond Conservation has set up the Big Garden Pond Dip supported by Natural England, the Ornamental Aquatic Trade Association and the Environment Agency. The project combines professional research, beginning with detailed surveys of ponds in Abingdon, with public participation surveys, and also aims to foster interest in freshwater wildlife. In 2010, the public survey will link up with the OPAL Water Survey to extend the survey to a wider audience.

Typical untested garden pond myths found in wildlife gardening books

- Make the biggest pond you can
- Fish and wildlife are incompatible
- Find a sunny position for your pond in order to attract the greatest variety of wildlife
- Ponds need to be at least 45 cm deep, or maybe 60 cm deep or perhaps even 75 cm
- Using tap-water to fill your pond is fine
- You should add a bucket of water or mud to give the pond a kick-start
- About half of the water surface should be covered with plants to achieve a ‘balanced’ pond
- Autumn is the best time of year to give the pond a clear-out, since the least number of species will be affected
- You should prevent your pond from icing over completely in winter

Results from the public surveys so far suggest only 1 in 10 garden ponds approach their full potential. Most ponds had tolerant animals including slaters, shrimps, water snails, pond skaters, and water beetles. Around half of participants reported dragonflies and damselflies, but fewer saw the more choosy caddis flies and alderflies. Since volunteers are self-selecting, it is also possible that this survey has so far reflected the better ponds.

Initial results from the professionally surveyed Abingdon ponds suggested most were quite polluted, with average water conductivity of 343 μ siemens/cm, but this still compares well with the countryside pond average of 506 μ siemens/cm, and a few of the best ponds sampled had conductivity below 150 μ siemens/cm. Water plant diversity was low, and dominated by non-native species, with few native species. Although non-natives are generally regarded as undesirable they did provide habitat for animals. While most ponds contained tolerant generalist species found in the amateur survey, some ponds had rarer species, including one with the nationally local Blunt-flowered Rush (*Juncus subnodulosus*) a fen specialist plant. The cleanest pond had four dragonfly and damsel fly species, twice the national countryside pond average. All the ponds supported breeding or visiting amphibians, including the ponds with fish, and 91% had frogs.

Generally, the richest ponds were exceptionally shallow, less than 30cm deep, and with naturally high dissolved oxygen levels. Deeper ponds accumulated leaves which can lead to high oxygen stress and bottom areas with few species. 8 out of 10 ponds also had hard edges unsuited to the majority of species which live in the top couple of centimetres. Ponds with the cleanest water do seem to have a greater variety of wildlife, so taking steps to avoid pollutants is likely to make ponds better for wildlife – such as filling with rainwater from a butt.

In conclusion, results so far suggest that small garden ponds can sometimes be very valuable for freshwater wildlife, but there’s also a lot of opportunity for improvement.

Species Flow in the Inner City.

David Perkins, Roots and Shoots, Lambeth, London

www.rootsandshoots.org.uk

david@rootsandshoots.org.uk

Roots and Shoots is a charity primarily providing vocational training for young people, including GNVQ Horticulture, Life Skills, Personal Development and Retail Skills. The charity also holds Environmental Education sessions for schools, community groups and specialist audiences. It also holds events and special programmes such as National Science and Engineering Week, National Apple Day, Moth Nights, Beekeeping Conferences and Courses. The half acre site is managed as a

model of city centre gardening for people and wildlife. Monitoring and recording of the biodiversity of the site and the nearby public open spaces has been maintained over ten years. The wildlife garden contains a pond, a flower-rich meadow area, planted beds, bee hives, shaded shrubs and dead wood habitats. Exotic species such as *Buddleia* and *Echium pininana* take their place alongside native species, as in normal gardens. The education centre has a *Sedum* roof into which *Muscari*, alpine tulips, chive and crocus have been planted as spring bee fodder and a “rubble roof” providing habitat for nesting mining bees and digger wasps.

Species numbers recorded in selected groups 1999 – 2009:

Odonata	Damselflies and Dragonflies:	10
Lepidoptera	Butterflies and Moths:	57
Syrphidae	Hoverflies	30
Hymenoptera	Ants, Bees, Wasps	60

Notable breeding species include small skipper *Thymelicus flavus*; 6-spot burnet *Zygaena filipendulae*; Longwinged conehead *Conocephalus discolor*; Roesel’s bush cricket *Metrioptera roeselii*; Bee killer wasp *Philanthus triangulum*; and the cuckoo bees *Melecta armata/albifrons*; (*Bombus hypnorum*) and *Nomada fabriciana*. Notable visitors have included the 5-spot burnet *Zygaena trifolii*; Violet carpenter bee *Xylocopa violacea*; Hairy-legged mining bee *Dasypoda altercator* and the mining bee *Andrena pilipes*. Visiting birds have included Woodcock *Scolopax rusticola*; Sparrowhawk *Accipiter nisus*; Peregrine *Falco peregrinus*; Sedge Warbler *Acrocephalus schoenobaenus* and Lesser Whitethroat *Sylvia curruca*.

Most of the families of bees can be demonstrated at Roots and Shoots, and many parasitic hymenoptera. Records are showing how species fluctuate in abundance. From 2000-2004 the six-spot burnet moth *Zygaena filipendulae* bred in small numbers. By 2005 breeding adults were seen in the Wildlife Garden meadow and in the meadow of the neighbouring public open space. But by 2006 only one pair was present, then none until a single adult in poor condition in 2009. The records show changes in emergence and abundance in other species such as Long-winged conehead *Conocephalus discolor* and Roesel’s Bush Cricket *Metrioptera roeselii*.

Green Corridor Case Study.

Jenny Littlewood, WING (Wildlife in Newington Green)

www.newingtongreen.org.uk

drjlittlewood@btinternet.com

Newington Green is a small road-locked inner city garden, surrounded by some attractive older buildings, but suffering the expected damage to trees from vandals and dogs. Initially the only wildlife present was pigeons. The Newington Green Action Group has been working to regenerate the area in physical infrastructure, and with WING, in wildlife and environmental terms. A local inspiration is The Muse, an ecological house and office designed and owned by architect Justin Bere. The building is highly energy efficient and has biodiverse green roofs supporting a range of native species including small hawthorn trees, bat boxes, stag beetle sandpits and even bumble bee hibernacula. Most houses however have only small front gardens, but even here a green roof has been created on a bin box.

The area has been improved by new tree planting commemorating the 300th anniversary of the Unitarian Church., and to engage the housing estate and link it with the historic old centre, a knot garden and a food project including espalier apple trees and vegetable planters. WING has also planted flower bulbs, grown fungi on log piles and planted under new trees. Communal activities include plant and seed swaps, and nest box construction.



Gradual signs of renewal are appearing, with nesting bees, lichens, crows and returning goldfinch and house sparrows. An even rarer sight has been the appearance in day time of populations of normally nocturnal male teenage youth.

Ref: Bere J 2009 The Native versus the non-native planting debate. Sustain (v10i04 September pp 59-62)

Building a Wildlife Garden.

Dr Toni Bunnell, University of Hull

www.tonibunnell.co.uk

T.Bunnell@hull.ac.uk

This talk described the experience of creating a wildlife garden from scratch at Spindle Dell adjacent to allotments. When work started the site was a mass of brambles, ivy and stinging nettles. It was cleared mechanically without use of weed killers. Planting areas and features were roughly marked with dead wood. Plats were donated or bought cheaply at boot sales, based on standard wildflower lists. A hedge was established by the adjacent beck, and patches of bramble retained were used for nesting by song thrush and dunnock. After clearance, established plants such as ferns, primrose, snowdrops and bluebells reappeared, included the white variety of the bluebell.

Nest boxes and bird feeders were introduced, and log piles for invertebrates. Ladybird refuges were made inexpensively out of spent firework cases. Stacked clay pipes provide further cover. A “fedge” – a hedge like barrier made from thin twiggy material woven into vertical supports, provides an invertebrate and hedgehog resource. Water filled trays are used by hedgehogs and birds, and a simple pond has been created from an old sink. A hedgehog feeding station was established, and a hedgehog house covered with gently rotting vegetation proved very attractive to nesting bumblebees.

Appropriate nectar flowers such as lavender and *Allium* were provided for insects, and *Buddleia* was planted, without concern for its non-native status. New plant species such as wormwood, eucalyptus, teasel, delphinium, harts-tongue fern, hemp agrimony, foxglove and lovage are established, and cowslips are being bulked up on the nearby allotments. The garden is now well established and has comma, ringlet, orange tip and small tortoiseshell butterflies, and the 6 spot burnet, and mullein moth. It is a wildlife resource, a magnet for pollinators to help the adjacent allotments, and a pleasant space in which to relax.

Pest Control in the Garden - Options for the wildlife friendly garden and how they work

Becky Groves, Little Groves Nursery becky@grovesnurseries.co.uk

www.grovesnurseries.co.uk/Little-Groves/Introduction.aspx

Although Forum members like invertebrates, even we have our limits when they destroy our vegetables. It is a big problem for nurseries and garden centres whose customers have little tolerance of damaged plants, so it is vital to prevent stock loss from pests.

Slugs are a real problem. Wildlife gardeners like to avoid chemicals and use “natural” controls, but this simply does not work with brassicas and salad leaves. We have to be realistic. Metaldehyde based slug pellets really work, but many people feel they should not use them. In any event they should be used in small quantities only to protect individual plants. Hand picking at night when slugs and snails are active works very well, one person with a head-torch can catch 200 slugs per hour. Barrier methods using proprietary “organic” granules, crushed eggshells, hair or coffee generally work once – until it rains, and no-one has time or patience to renew them every day. Beer traps and salt traps work, but the smell of a ripe slug-filled beer trap is remarkable, and not in a good way.

New “organic” slug baits are being marketed, based on “ferramol”, iron tri-phosphate. These almost immediately inhibit feeding, and affected molluscs crawl away, expiring 3-6 days later. The pellets break down to liberate useful iron and phosphorus. These pellets work, and are being recommended to concerned customers.

Another approach within the nursery or green house is the use of copper tape around pots, or copper mats. These create a minute electric current in the approaching foot of a slug or snail, which repels their unwelcome advances.

Aphids – green or white flies – are another major problem. Many proprietary sprays contain long-lived systemic chemicals such as thiacloprid which continue to poison insects for 6 weeks, and should be avoided. Another spray uses fatty-acids such as starch oil, which only kill aphids by blocking their spiracles on contact and so are not systemic or long lasting. These sprays are also effective on caterpillars and insect eggs.

Caterpillars can strip a plant in two days. They can be controlled by hand picking, but this takes considerable time, and they are often well camouflaged against stems or under the leaves. Damage from caterpillars, plus carrot root fly and flea beetle can be prevented by protecting growing plants with “Enviro-mesh”, preventing adult insects from reaching the plant and laying eggs.

Finally, healthy plants are more resistant to disease and pests, so provide good compost and feed them well.

Wiggly Wigglers, Worms and Ways of Working together. www.wigglywigglers.co.uk

Richard Fishbourne, Wiggly Wigglers

richard@wigglywigglers.co.uk

Richard talked entertainingly of worms and the work of Wiggly Wigglers. Worms are hermaphrodite, some such as lob worms mating nocturnally for hours on the wet grass surface before laying egg cocoons shaped like little lemons. You can catch worms by watering the lawn with a solution of table mustard. They are principal contributors to soil fertility by constantly turning it over through their guts, and bringing in organic matter.

Wiggly's have grown and greatly extended their range, and now sell many garden wildlife and sustainability products. They are increasingly working with communities and the voluntary sector to bring about change and improvement. They hope to make more commercial organisations aware of environmentally sound products, but recommend working with small companies, because the big ones won't listen.

The Wiggly's weekly blog is listened to by more than 10,000 people in Britain and around the world. 200 episodes have been recorded, and they are always looking for new material. NGO's should contact Richard if they would like the opportunity to reach a large audience through the blog.

Nature and Health, Great Outdoors Project.

Janet Pell, Landlife at the National Wildflower Centre

www.landlife.org.uk

jpell@landlife.org.uk

It is increasingly understood that contact with "nature" and green spaces provides health, well-being and social services, a survey in the US found children living in poor areas near to green spaces put on 5kg less weight than those without access to green space. Attention Deficit Hyperactivity Disorder symptoms are significantly decreased through spending time outdoors and older people concentrate significantly better after resting in a garden rather than in their room. Terry Hartig, (The Lancet, November 2008) concluded there is:

"...valuable evidence that green space does more than pretty up the neighbourhood; it seems to have real effects on health inequality, of a kind that politicians and health authorities should take seriously". The difference in life expectancy between rich and poor shrinks by up to half for those who live near to green spaces."

Access to good quality, inspirational nature provides an effective population-wide strategy for the promotion of good health, wellbeing and quality of life but the UK annual spend on parks is only £600m – just a third more than is spent on Prozac for 6 million people, and tiny compared to the £74.9 billion NHS budget.

The Landlife projects at Knowsley, Merseyside and the northwest have shown that wildflowers do work in providing health and social cohesion in deprived areas. The Great Outdoors project started in January 2008, and has engaged over 1000 beneficiaries and worked with 90 health practitioners and community health champions to increase awareness and strengthen partnerships. The project is

- Creating 5.5 hectares of new accessible wildflower areas to support health promoting environments
- Increasing use of the outdoors for healthy physical activity
- Increasing sense of belonging in communities combating mental stress
- Promoting wellbeing through events and creativity in parks and open spaces
- Involving people in volunteering and food growing
- Strengthening and health partnerships

The project has created large wildflower plantings on neglected and unattractive civic areas. The results have been notable, as recorded in a local people's blog

"For a while at least the area became less troublesome – with local youths less inclined to wreck the place. A calming influence was witnessed by many of us. People began to use the area as it was intended – as a nice area to walk the dog, to take your children or for carers to accompany elderly people in wheelchairs, and for local residents to enjoy a nice walk or sit off for a while'

Wherever they are in the world, people plant up their patch of garden or their backyard or balcony. It is instinctive, making them feel better, linking them with the seasons and bringing a robin or a Red Admiral butterfly close to their window. Contact with nature has the power of healing a broken spirit, reducing isolation, and boosting the endorphin “pleasure hormone”



The more people use parks and green-spaces, the more familiar and confident they become and their perception of risk in public places goes down.

Wildflowers create beauty -the WOW factor, making people want to be “out there”, meeting people and increasing social interaction. People enjoy events taking place in parks and open spaces and the events themselves gain a major extra impact and draw.

Allotments are another important well-being tool, but over 200,000 allotments have disappeared in the last 30 years. Nationally 100,000 people are on waiting lists. In a recent UK survey:

- 77% want to reduce household costs by growing food
- 64% thought new-build houses with added allotments would be more attractive to buy
- 46% would like to rent an allotment

Northwood Allotments were started only 2 years ago by our group of mothers on a derelict site next to their community centre and are now so popular they have a waiting list – but these are the only allotments in Kirkby. Cherryfield Primary School in Southdene, started a wildflower meadow in the grounds through a teaching assistant who learnt about wildflowers as a Landlife volunteer, and this has developed into a award-winning food growing project in the school.

Improving community spaces with wildflowers offers something for everyone, connecting people to their heritage and a greener future..

Natural Connections: Raising awareness of garden wildlife through a web photo gallery and free wildlife information service.

David North Norfolk Wildlife Trust.

www.norfolkwildlifetrust.org.uk/naturalconnections
DavidN@norfolkwildlifetrust.org.uk

Norfolk Wildlife Trust received a grant of £207,000 from the Heritage Lottery Fund to support the involvement of local communities in wildlife surveys and conservation projects. As part of this a new web-based information service has been created.

The Trust receives over 1000 enquiries per year, of which 10% are on aspects of wildlife gardening. 20% of these are about ponds and their management, and another 20% are about *getting rid of* unwanted biodiversity – such as rats.

The Natural connections website allows people to submit and access wildlife photographs. This relieves pressure on the Trust, while bringing more people to its website, provides a service for the

public, and is good for promoting wildlife. Over 2000 images of wildlife and wild spaces are now on file, and many more have been submitted. All are checked for propriety and identification by volunteers. This represents a source of free images for the Trust, and brings in over 30,000 hits to the website.

The gallery can be reached from www.norfolkwildlifetrust.org.uk/naturalconnections. The page also provides access to 36 species profile leaflets, and 17 other leaflets on aspects of wildlife in gardens.