

Stratherrick & Foyers Biological training and recording project

Boleskine Environmental Network



Highland
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BIODIVERSITY
THE VARIETY OF LIFE

Acknowledgements

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This report has been compiled by the members of Boleskine Environmental Network. Photographs are by Rosemary Holt and Neil MacKenzie.

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Boleskine Environmental Network (BEN) was established in 2000 to address local environmental issues in the Stratherrick and Foyers area. It is run by volunteers and has been involved in several local projects (bottle bank project; school tree nursery and compost project; forest design plan consultation with Forest Enterprise; Foyers School's "a year in the life of Loch Bran"). It is a regular contributor of environmental articles to the Boleskine Bulletin, the local newsletter with a distribution to 350 households.

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Introduction

The Stratherrick and Foyers area occupies a sizeable part of the rural hinterlands of the Inverness and Nairn Local Biodiversity Action Plan (LBAP) area. It contains extensive moorland and hill ground along the north-east edge of the Monadhliath mountains, significant amounts of conifer and broadleaved woodland, several lochs and river systems, including the south side of Loch Ness, small amounts of farmland and some scattered settlements. There are four SSSIs within the area – Loch Bran, Knockie Lochs, Easter Ness woodlands and Inverfarigaig woodlands. The latter two sites are also part of the Ness Woods Special Area of Conservation (SAC) and are therefore of international importance and the Knockie Lochs are a Special Protection Area notable for their bird interest. The potential for the area having a rich diversity of flora and fauna is therefore high. However, although many common plants and animals will be well known to the local community there has been very limited formal recording of any species group outwith the SSSIs that occur in the area.

The Inverness and Nairn LBAP report of 2004 encourages communities to raise the awareness of biodiversity issues within their local area and listed two specific recurring themes that emerged during the consultation exercise:

- Lack of awareness about local biodiversity issues.
- Lack of information on specific groups of plants and animals.

As a contribution to the improvement of biodiversity within the Stratherrick and Foyers area the local environmental group (Boleskine Environmental Network or B.E.N.) initiated a biological training and recording project. B.E.N. had previously established through a public meeting and lecture involving members of the Highland Biological Recording Group that there was considerable community interest in learning about and recording wildlife within the area. The aim of this project therefore became twofold:

- To raise awareness of the natural history and biodiversity within Stratherrick and Foyers and to encourage participation from community members.
- To encourage the identification and recording of selected species groups to add to the database already held by the Highland Biological Recording Group.

In order to progress the project a two-staged approach was used. The first involved the employment of specialist tutors for one or two day instruction in the identification of specific groups of plants and animals. The second stage involved the targeting of selected groups or species with a view to collecting biological recording information.

Stage 1 The tutorials

In order to raise awareness of and provide instruction on the identification of some of the main groups of species within the area a series of tutorials by expert biologists were arranged. The tutorials were held at regular intervals during 2005 and 2006 and were based on the following subjects:

- Waders
- Mammals
- Plants (vascular plants, ferns, sedges and grasses)
- Butterflies and moths
- Fungi
- Bird song
- Gardening for wildlife
- Bats
- Squirrels

Wader survey

Stuart Benn of the RSBP provided an instructive evening on the identification and recording of wader species within the Loch Mhor catchment. This took place in late April 2005 and was attended by about 25 members of the community. The main wader species observed were curlew, oystercatcher, lapwing, snipe and common sandpiper. The recording of waders was to be carried out on an annual basis with observations made between April and the end of June. Early morning observations, about 4 am, are usually the most productive, but records can be obtained at any time of day. After June breeding is generally over and the birds will have dispersed.

The types of records that are most useful are the number of breeding pairs of each species seen and if there are any fledglings observed. Information on breeding birds and successfully fledged chicks are the most important records although it is very difficult to collect such data. In addition, note the dates for each species and a grid reference of their location or mark the position of each species on a 1:25,000 scale map. In order to avoid the duplication of records a specific area in the strath should be allocated to each individual or group carrying out the survey.

At the end of the season all the locally collected data can be collated and the records submitted to the RSPB.

Mammal recording

This one day event in May 2005 was attended by 14 people and was hosted by Ro Scott who provided a comprehensive lecture on what mammals to look out for and where these might be found. There were plenty of examples of the skulls and skins of different mammals. Instruction was given on the completion of Mammal Recording forms, ensuring that the name of recorder, date of sighting, grid reference of sighting and species must always be

completed. The search method (actual sighting of animal or tracks, droppings, hair etc) also needs to be recorded.

It was also essential to learn about wildlife law, protected species and the health and safety procedures that need to be taken into account when conducting surveys in the field.

During the days field trip to the Farigaig River signs of badger, pine marten, red squirrel, deer and voles were observed.

All completed mammal records can be submitted to the Highland Biological Recording Group and to the Mammal Society.

Wild flowers

In mid June 2005 experienced botanist, Tessa Jones, led a field trip to the River Foyers delta area where a variety of woodland and grassland flowers were studied. She provided instruction on the identification of common vascular plants to 9 members of the community.

A follow up session was made in early August July 2006 for a small group to look at plants in other habitats including woodland, heathland and bog communities on the hillside above the Farigaig river.

Grasses

Tessa Jones again provided instruction to 6 people on the common grasses and sedges during a warm but wet day in early July 2005. The day was largely based in an area of rough pasture and planted new native woodland that contained a rich selection of grasses such as tufted hair grass and sweet vernal grass as well as a variety of sedges, rushes and horsetails. As the field was ungrazed all the grasses possessed their flowering parts, which made identification easier. The field also contained three species of orchid – heath spotted, common spotted and the fragrant orchid.

Butterfly recording

In July 2005 a group of 13 heard Tom Prescott of Butterfly Conservation provide enthusiastic instruction on how to catch, identify and then release the butterflies that can be found in the fields and woodland around Stratherrick and Foyers. Advice was also given on what to record - species, date, grid reference and the kind of habitat the butterfly species was observed in (garden, hedge, broadleaved wood, conifer wood, mixed wood, next to freshwater, moorland, grassland, quarry etc.). He particularly asked the group to look out for the priority species, the Pearl bordered fritillary, the Northern brown argus and the Chequered skipper. It would also be worth watching out for the Mountain ringlet, which is spreading north and has been recorded in the Cairngorms.

Fungi

Expert mycologist, Ern Emmett led a field trip of 14 to Inverfarigaig forest in mid October 2005. A wide range of fungi was discovered in both broadleaved birch woodland and also in the conifer plantations nearby. 30 species of fungi were identified. Fungi were found on rotting wood, on leaf litter and on living and dead tree trunks. This included the uncommon aspen bracket fungi, *Phellinus tremulae*, which only grows on the trunks of aspen trees. Many fungi do not have vernacular names but of those that do there are the aptly descriptive Terracotta hedgehog, the Deceiver, the Deer shield, the Charcoal burner and the Jelly tooth. More detailed observations, such as looking at the hyphae and fruiting bodies and at the distinctive coloured spore prints of fungi under a microscope, also provided an aid to identification.



Looking at *Phellinus tremulae* on the trunk of an aspen tree, Farigaig forest

Mammal tracks and signs

In late January 2006 Steve Austen took a small group of 6 people out to look for the tracks and other signs of mammals. The main aim was to introduce the different kinds of evidence that could be found on everyday walks especially in winter. In the woodlands around Foyers, at Loch Bran and along the River Fechlin there were signs of red squirrel, otter, pine marten, rabbits, two species of deer and various small rodents. There were very close sightings of a weasel on the banks of the River Fechlin and five black grouse perched on a birch tree near the main B862 road west of Drummond.

Wildlife gardening

In February 2006 Toni Clark introduced a group to the concept of gardening for wildlife in order to improve the biodiversity of managed gardens. Several local gardens, ranging from those with minimal intervention where natural habitats dominated to those with cultivated flowerbeds and mown lawns, were visited. There was much discussion on how minor changes could greatly improve gardens for wildlife. For example, the planting of a few native trees; planting low shrubs and hedges as roosting and nesting cover; leaving some grass areas uncut; creating small areas of wild flower meadows; retaining small log piles or brush for invertebrates and hibernating animals. The benefits of leaving ground unmanaged and allowed to grow wild were also to be encouraged. Another issue that came up was the impact of garden escapes on natural habitats. The dumping of garden refuse and the seed from certain cultivated but invasive species such as snowberry, Himalayan balsam, Japanese knotweed and the *ponticum* varieties of Rhododendron, can have very deleterious effects on the natural environment.

Red squirrels

Suzann Barr of Abriachan Forest Trust spent a day in March 2006 instructing 10 members of the recording group on the biology of red squirrels. As the forests around Foyers and in parts of Stratherrick appear to have healthy populations of red squirrels it was possible to see lots of evidence of squirrel activity, including dreys and partly eaten pine cones.

Suzann Barr described a method based on counting the proportions of feeding cones within a fixed area transect that would give an indication of squirrel density. Initial counts from transects near the Forestry Commission exhibition centre at Inverfarigaig suggest an estimated 1 – 2 squirrels per hectare. However, for an improved estimate several transects should be laid out and repeat counts made every three months. Details of the methodology can be found at www.highlandredsquirrel.co.uk

Juliet Robinson, the Highland Red Squirrel Project Officer, paid a visit in October to encourage the group to continue with the cone transects and also provided field guidance on how to conduct a sighting transect for red squirrels.

Moths

On the morning of 22 April 2006 Tom Prescott introduced 8 enthusiasts on how to identify spring-time moths using the recommended field guides by Waring & Townsend (2004) and Skinner (1998). A mercury vapour Skinner moth trap had been set up and left on over the previous night and the catch of moths was then identified during the morning. All moths were released unharmed.

Later in the summer Tom Prescott gave an illustrated and very detailed evening talk on the huge diversity of moth species in Scotland. During the same evening the group set up four light traps overnight at different locations

and habitats to see and identify the moths that could be found in late July in the Stratherrick and Inverfarigaig area.

Bats

In late April 2006 Steve Austen gave a talk on bat biology and led a group of 14 into the field to listen to the echolocation sounds of bats using bat detectors. He described the common species of bat likely to be found in this area – the two species of pipistrelle (common and soprano), Daubenton's and Long-eared bats, and gave instruction on how the bat detector was able to distinguish between different species based on their call frequencies.

Bird song

In early May 2006 5 keen birders were given instruction by wildlife expert Kenny Taylor on the value of listening to and learning bird song – as one tends to hear birds before seeing them. He first gave a short talk on the subject and provided good advice on the different types of binoculars and the best field guides to use. He suggested the different places to see birds and explained that estuaries were a good place to start. He also encouraged note taking in the field and how important it was to record behaviour – what they are doing and where.

During the field trip everyone was able to hear the wood warbler song and learned to distinguish between a meadow and a tree pipit. In particular, taking into account the different types of habitat, heathland and woodland that the two latter birds occupy. A number of distinctive birds were observed such as a Peregrine seen at Farigaig gorge; and a sand martin colony on the banks of the River Farigaig at Torness, although their nests tend to be eventually destroyed by cattle trampling and erosion. When a cormorant was observed on Loch Killin the use of telescopes was found to be invaluable over open water.

Stage 2 Recording projects

During the course of the past 18 months and following the guidance given in the tutorials a number of specific biological recording projects were selected for study. These included:

1. Wader recording
2. Moth recording
3. Butterfly recording
4. Red squirrel transects

1. Wader survey

This survey aims to record the presence and numbers of breeding pairs of wader species that reside in the area between the west end of Loch Mhor and the moorland around Torness. Several individuals collected records at a number of locations in the strath during the spring of 2005 and again in 2006. Wader records were obtained for curlew, lapwing, oystercatcher, common sandpiper, redshank and golden plover.

The survey will continue on an annual basis and all records have been copied to the local RSPB office in Inverness.

2. Moth recording

In early 2006 two Skinner moth traps each with 120 watt mercury vapour bulbs were purchased for the project. These were circulated among different members of the recording group so that moths could be trapped at up to six different locations in the strath. Trapping and identifying moths took place once or twice a month between April and October and records collected on species name, number trapped, habitat type, grid reference and name of recorder. Traps were set in a number of different habitats that included mature and young broadleaved woodland, grassland, pasture and garden ground and included altitudes ranging from 25 m to 225 m above sea level.

Since trapping began in April 2006 a total of 179 species of mainly macro moths have been identified in the Stratherrick – Foyers area and also at nearby Dores. Figure 1 illustrates the number of species captured per month. The list includes a small number of nationally scarce species such as the Plain clay, Saxon and the Barred tooth-striped.

At the end of the season the records were typed into a spreadsheet and copied to the vice county recorder. The moth survey will continue in 2007.



Elephant hawk moth on honeysuckle

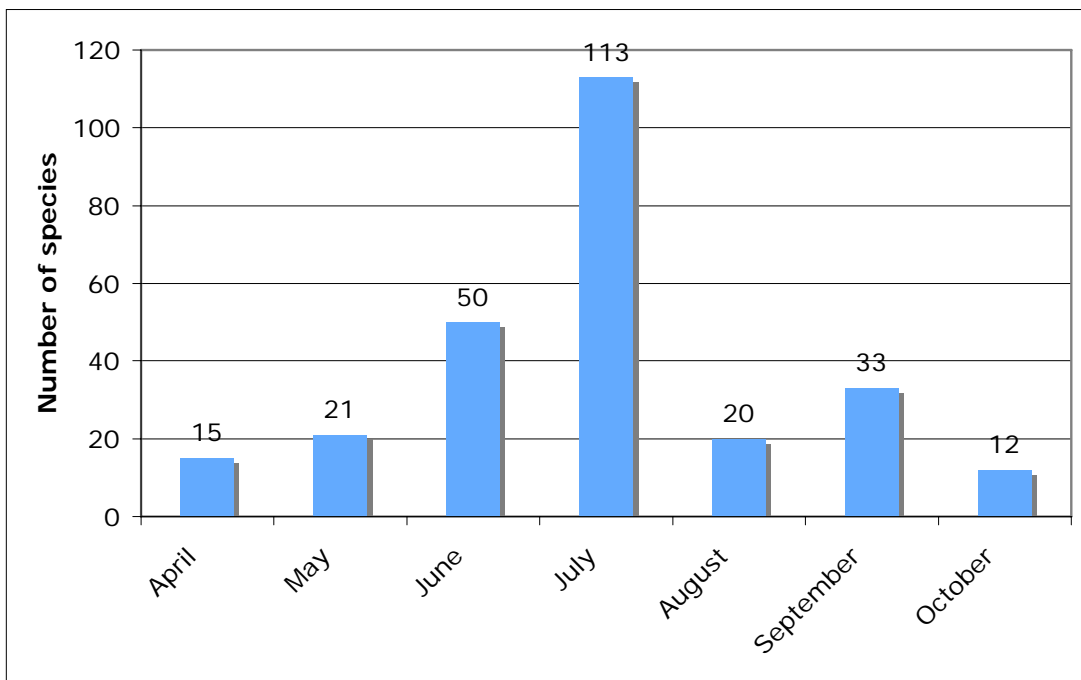


Figure 1 Number of moth species captured in light traps each month between April and October 2006 in the Stratherrick – Dores area.

3. Butterfly recording

Several individuals in the community collected records of butterflies during 2005 and 2006, either as casual observations at different locations or regular observations from fixed locations. 12 species were recorded in 2005 and 15



Common blue on bird's foot trefoil

species in 2006 giving a total of 16 species for the area (Figure 2). Some of the butterflies that perhaps should be in the area, such as the priority species the Northern brown argus, have not yet been recorded. The survey will continue to be conducted annually.

All records are collated by the recording group and copied to the vice-county recorder at the end of each season.

Figure 2 Butterfly species recorded in Stratherrick – Foyers area, 2005 – 2006.

Species	2005 record	2006 record
Large white		√
Small white	√	√
Green-veined white	√	√
Orange-tip	√	√
Small copper		√
Common blue	√	√
Red admiral	√	√
Painted lady		√
Small tortoiseshell	√	√
Peacock	√	√
Small pearl-bordered fritillary		√
Dark green fritillary	√	
Speckled wood	√	√
Scotch argus	√	√
Meadow brown	√	√
Small heath	√	√

4. Red squirrel transects

In 2006 several members of the community established ten squirrel transects in different parts of the conifer plantation areas. Most transects are under a canopy dominated by Scots pine, Douglas fir, Norway spruce or Sitka spruce. All transects are of a fixed length and width (1 m x 30 m) and have boundaries delineated with sticks or string. Cones were initially cleared completely from each transect and, about three months later, cones were collected, divided into stripped and untouched and counted. After each cone collection the transect was again cleared and recounts made every three months thereafter.

Although cone count data are available for the 2006 season the results have not yet been analysed further as refinements may yet need to be made to the survey procedure. Guidance will be sought from the Highland red squirrel project officer. However, useful information has been obtained on red squirrel activity and distribution within Stratherrick and Foyers.

Sighting transects for red squirrels are planned for 2007. These will be carried out in the early morning at least four times a year, one per season.



Hazel and bluebell wood, Loch Ness side

Conclusions

The biological recording project set out originally simply to facilitate an interest in and provide the requisite training for individuals in the community who wished to learn how to record the flora and fauna in their local area. It also aimed to show where the records could be sent and how these might benefit the biodiversity of the area. However, such was the interest in getting directly involved in recording in the field that information on, for example, breeding waders and butterflies, was already being collected during the first year of the project. By year two and following the acquisition of the moth traps 6 -8 individuals in the community were regularly trapping and compiling lists of moth species. At the same time others were developing an interest in monitoring the red squirrel population and learning how to survey transects. Casual recording of mammal sightings is ongoing and records are being sent to the mammal society. Now that the seeds have been sown the collection of data on other species or habitats will doubtless follow. Many individuals may now be recording their local wildlife for many years to come as a result of the impetus of this project.

The enthusiastic approach shown by the tutors for their particular specialisations undoubtedly helped to stimulate an interest in biological recording. However, it was not always easy to secure the services of suitably experienced tutors in some of the subjects, particularly ones who lived reasonably locally and were familiar with the habitats and species in this area. There are not many mycologists or bat experts and those that are available tend to be in high demand.

Throughout the course of the tutorials the participants were able to become involved in numerous discussions on biodiversity issues such as why some species occur in some habitats and not in other, perhaps superficially similar habitats. The tutors leading the butterfly and vascular plant field trips commented on the extensive areas of semi-natural habitats with very limited diversity and the difficulty of locating suitably rich examples for demonstrating potential diversity. Butterflies for example may have very specific habitat requirements relating to, for example the presence of certain food plants or the amount of sunlight. Overgrazing of the grasslands or the effect of conifer shading will therefore limit distribution. Examples of these impacts could be seen in Glenlia where there are a number of suitable butterfly habitats along the paths and rides in the forestry plantation but the shading effect of the adjacent conifers was deterring colonisation. The shinty pitch at Foyers contained a rich diversity of plants but could provide much extra habitat if the grass was left uncut around the perimeter verges. Unfortunately, most herb-rich grasslands have been grazed to such an extent that few contained any flowering herbs.

Poor diversity in structure and in the ground flora and shrub layer was evident in many of the semi-natural birchwoods where many years of constant browsing and grazing pressure is preventing regeneration of trees, dwarf shrubs and some flowering plants. The grassland tutorial was largely held

within an enclosed new native woodland planting scheme because this was one of the few sites where grazing was limited and grasses were able to flower. Particular concern was also expressed on the impact of non-native trees and shrubs on the biodiversity of natural habitats. Rhododendron, for example, has invaded many of the native woodlands around Foyers and Inverfarigaig and, if winters are to continue to be mild and wet, this will exacerbate its growth and the impact on the biodiversity of these habitats will be severe.

Although the biological training element of the project has come to an end the biological recording of moths, butterflies, breeding waders and red squirrels will continue on an annual basis. There will always be one individual in the community who will coordinate the collection of the records and ensure that these are forwarded to the Highland Biological Recording Group or other appropriate organisation. There are also a number of new projects, such as monitoring the bat population using bat detectors, already planned for 2007 while future projects could include recording water voles in the upland areas, participating in the national badger survey commencing in 2008 and mapping the distribution of veteran trees.



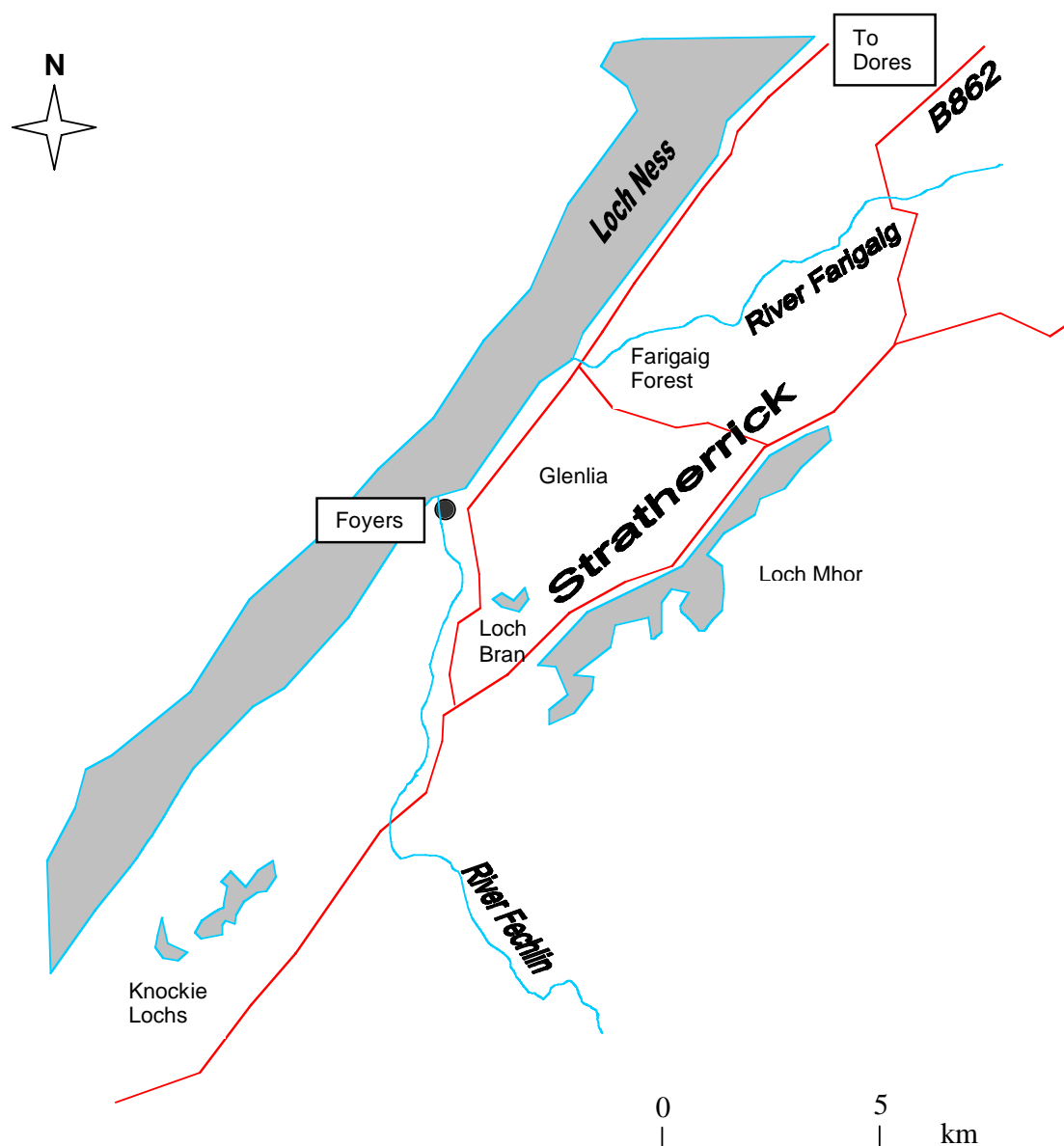
Garden tiger

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Map of area covered by the biological training and recording project

Appendix 1 Vascular plants recorded in Stratherrick – Foyers June – August 2006

Angelica	<i>Angelica sylvestris</i>
Bedstraw - heath	<i>Galium saxatile</i>
- hedge	<i>Galium mollugo</i>
- lady's	<i>Galium verum</i>
- marsh	<i>Galium palustre</i>
Blaeberry	<i>Vaccinium myrtillus</i>
Bluebell	<i>Endymion nonscriptus</i>
Bramble	<i>Rubus fruticosus</i>
- stone	<i>Rubus saxatilis</i>
Broom	<i>Cytisus scoparius</i>
Bugle	<i>Ajuga reptans</i>
Buttercup - creeping	<i>Ranunculus repens</i>
- meadow	<i>Ranunculus acris</i>
Cinquefoil - marsh	<i>Potentilla palustris</i>
Cleavers	<i>Gallium aparine</i>
Clover - red	<i>Trifolium pratense</i>
- white	<i>Trifolium repens</i>
Common cat's ear	<i>Hypochaeris radicata</i>
Common figwort	<i>Scrophularia nodosa</i>
Common knapweed (hardheads)	<i>Centaurea nigra</i>
Common mouse ear	<i>Cerastium fontanum</i>
Common nettle	<i>Urtica dioica</i>
Crowberry	<i>Empetrum nigrum</i>
Common spotted orchid	<i>Dactylorhiza fuchsii</i>
Cuckoo flower (lady's smock)(milkmaids)	<i>Cardamine pratense</i>
Daisy	<i>Bellis perennis</i>
Daisy - oxeye	<i>Leucanthemum vulgare</i>
Devil's bit scabious	<i>Succissa pratensis</i>
Dock - broad	<i>Rumex obtusifolius</i>
- curled	<i>Rumex crispus</i>
Dog rose	<i>Rosa canina</i>
Dogs mercury	<i>Mercurialis perennis</i>
Sundew	<i>Drosera rotundifoliar</i>
Enchanter's nightshade	<i>Circaea lutetiana</i>
Eyebright	<i>Euphrasia agg. (many species)</i>
Forget-me-not - field	<i>Myosotis arvensis</i>
Foxglove	<i>Digitalis purpurea</i>
Golden rod	<i>Solidago virgaurea</i>
Fragrant orchid	<i>Gymnadenia conopsea</i>
Golden saxifrage	<i>Chrysosplenium oppositifolium</i>
Gooseberry	<i>Ribes</i>
Deers ear hawkbit - autumn	<i>Leontodon</i>
Hawksbeard - soft	<i>Crepis capillaris</i>
Hay rattle	<i>Rhinanthus minor</i>
Heath spotted orchid	<i>Dactylorhiza maculata</i>
Heather - ling	<i>Callunavulgaris</i>
- bell	<i>Erica carnea</i>

Appendix 1 continued

Hedge woundwort	<i>Stachys sylvatica</i>
Herb bennet (wood avens)	<i>Geum urbanum</i>
Herb Robert	<i>Geranium robertianum</i>
Hogweed	<i>Heracleum sphondylium</i>
Intermediate hybrid of common spotted and heath spotted orchids	
Ivy	<i>Hedera helix</i>
King cups, marsh marigold	<i>Caltha palustris</i>
Lady's mantle	<i>Alchemilla glabra</i>
Meadowsweet	<i>Filipendula ulmaria</i>
Nipplewort	<i>Lapsana communis</i>
Northern marsh orchid	<i>Dactylorhiza purpurella</i>
Parsley - upright hedge	<i>Torilus japonica</i>
Parsley piert	<i>Aphanes arvensis</i>
Pearlwort	<i>Sagina</i>
Pignut	<i>Conopodium majus</i>
Pink purslane	<i>Montia sibirica</i>
Plantain - ribwort	<i>Plantago lanceolata</i>
- broadleaved	<i>Plantago majus</i>
Ragged robin	<i>Lychnis flos-cuculi</i>
Ragwort	<i>Senecio jacobea</i>
Ramsons (wild garlic)	<i>Allium ursinum</i>
Raspberry	<i>Rubus idaeus</i>
Selfheal	<i>Prunella vulgaris</i>
Sorrel	<i>Rumex acetosa</i>
Speedwell - germander	<i>Veronica chamaedrys</i>
- heath	<i>Veronica officinalis</i>
- thyme leaf	<i>Veronica serpyllifoliar</i>
Stitchwort - greater	<i>Stellaria holostea</i>
- lesser	<i>Stellaria graminea</i>
St John's wort	<i>Hypericum</i>
Strawberry - barren	<i>Potentilla sterilis</i>
- wild	<i>Fragaria vesca</i>
Thistle - creeping	<i>Cirsium arvense</i>
- marsh	<i>Cirsium palustre</i>
- melancholy (deer's ear)	<i>Cirsium helenoides</i>
- spear	<i>Cirsium vulgare</i>
Tormentil	<i>Potentilla erecta</i>
Tormentil - trailing	<i>Potentilla anglica</i>
Trefoil - bird's foot (bacon & eggs)	<i>Lotus corniculatus</i>
- hop	<i>Trifolium campestre</i>
Valerian	<i>Valeriana officinalis</i>
Vetch - bush	<i>Vicia sepium</i>
- tufted	<i>Vicia cracca</i>
Vetchling -meadow	<i>Lathyrus pratensis</i>
Violet - dog	<i>Viola canina</i>
- marsh	<i>Viola palustris</i>

Appendix 1 continued

Willowherb - broadleaved	<i>Epilobium montanum</i>
- marsh	<i>Epilobium palustre</i>
Wood cranesbill	<i>Geranium sylvaticum</i>
Wood sage	<i>Teucrium scorodonium</i>
Wood sorrel	<i>Oxalis acetosella</i>
Yellow pimpernel	<i>Lysimachia nemorum</i>
Yellow rattle	<i>Rhinanthus minor</i>

Appendix 2 Grasses, sedges, horsetails and ferns recorded in Stratherrick – Foyers area, July – August 2006

Bent grass - common	<i>Agrostis capillaries (A. tenuis)</i>
Bent grass - creeping	<i>Agrostis stolonifera</i>
Bent grass - velvet	<i>Agrostis canina</i>
Black sedge	<i>Carex nigra</i>
Bottle sedge	<i>Carex rostrata</i>
Bulbous rush	<i>Juncus bulbosus</i>
Carnation sedge	<i>Carex panacea</i>
Cock's foot	<i>Dactylis glomerata</i>
Common cotton grass	<i>Eriophorum augustifolium</i>
Common couch - twitch	<i>Elymus repens (Agropyron repens)</i>
Common quaking grass	<i>Briza media</i>
Common reed	<i>Phragmites australis (P. communis)</i>
Common sedge	<i>Carex nigra</i>
Compact rush	<i>Juncus conglomeratus</i>
Creeping Soft grass	<i>Holcus mollis</i>
Crested dog's tail	<i>Cynosurus cristatus</i>
Deer grass (deer sedge)	<i>Trichophorum cespitosum</i>
False brome	<i>Brachypodium sylvaticum</i>
False oat grass	<i>Arrhenatherum elatius</i>
Fescue - Red	<i>Festuca rubra</i>
Fescue - Fine leaved sheep's	<i>Festuca tenuifolia</i>
Fescue - Giant	<i>Festuca gigantea</i>
Fescue - Sheep's	<i>Festuca ovina</i>
Fescue - Wood	<i>Festuca altissima (F. gigantea)</i>
Field horsetail	<i>Equisetum arvense</i>
Field wood rush	<i>Luzula campestris</i>
Floating sweet grass	<i>Glyceria fluitans</i>
Glaucous sedge	<i>Carex flacca</i>
Great wood rush	<i>Luzula sylvatica</i>
Green ribbed sedge	<i>Carex binervis</i>
Hairy wood rush	<i>Luzula pilosa</i>
Hare's tail cottongrass	<i>Eriophorum vaginatum</i>
Heath grass	<i>Danthonia decumbens (Sieginglia decumbens)</i>
Heath rush	<i>Juncus squarrosus</i>

Appendix 2 continued

Heath wood rush	<i>Luzula multiflora</i>
Jointed rush	<i>Juncus articulatus</i>
Marsh horsetail	<i>Equisetum palustre</i>
Mat grass	<i>Nardus stricta</i>
Meadow foxtail	<i>Alopecurus pratensis</i>
Meadow grass - annual	<i>Poa annua</i>
Meadow grass - rough	<i>Poa trivialis</i>
Meadow grass - smooth	<i>Poa pratensis</i>
Perennial rye grass	<i>Lolium perenne</i>
Purple moor grass	<i>Molinia caerulea</i>
Reed canary grass	<i>Phalaris arundinacea</i>
Remote sedge	<i>Carex remota</i>
Sharp flowered rush	<i>Juncus acutiflorus</i>
Soft rush	<i>Juncus effusus</i>
Star sedge	<i>Carex echinata</i>
Sweet vernal grass	<i>Anthoxanthum odoratum</i>
Timothy	<i>Phleum pratense</i>
Toad rush	<i>Juncus bufonius</i>
Tufted hair grass	<i>Deschampsia cespitosa</i>
Wavy hair grass	<i>Deschampsia flexuosa</i>
Wood horsetail	<i>Equisetum sylvaticum</i>
Wood melick	<i>Melica uniflora</i>
Yorkshire fog	<i>Holcus lanatus</i>
Beech fern	<i>Thelypteris phegopteris</i>
Bracken	<i>Pteridium aquilinum</i>
Broad buckler fern	<i>Dryopteris dilatata</i>
Hard fern	<i>Blechnum spicant</i>
Lady fern	<i>Athyrium filix-femina</i>
Lemon scented fern	<i>Oreopteris limbosperma</i>
Maidenhair spleenwort	<i>Asplenium trichomanes</i>
Male fern	<i>Dryopteris filix-mas</i>
Oak fern	<i>Gymnocarpium dryopteris</i>
Polypody	<i>Polypodium vulgare</i>
Scaly male fern	<i>Dryopteris affinis</i>

Appendix 3 Fungi recorded in Farigaig forest, 16 October 2005

Fungus Name	Vernacular name	Ecological note
<i>Inocybe geophylla</i> var <i>lilacina</i>	Lilac Fibrecap	Mycorrhizal with various tree species
<i>Amanita muscaria</i>	Fly Agaric	Mycorrhizal with various tree species
<i>Amanita citrina</i>	False Death Cap	Mycorrhizal with various tree species
<i>Amanita fulva</i>	Tawny Grisette	Mycorrhizal with various tree species
<i>Suillus bovinus</i>	Bovine Bolete	Mycorrhizal with Pinus
<i>Suillus grevillei</i>	Larch Bolete	Mycorrhizal with Larix
<i>Paxillus involutus</i>	Brown Rollrim	Mycorrhizal with various tree species
<i>Xylaria hypoxylon</i>	Candlesnuff Fungus	Saprophyte of wood of deciduous trees
<i>Spathularia flavida</i>	Yellow Fan	Saprophyte on forest litter
<i>Lepista saeva</i>	Field Blewit	Saprophyte on forest litter
<i>Mycena filopes</i>	Common Bonnet	Saprophyte on forest litter
<i>Mycena leptocephala</i>	Nitrous Bonnet	Saprophyte on forest litter
<i>Prunulus purus</i> (= <i>Mycena pura</i>)	Lilac Bonnet	Saprophyte on forest litter
<i>Phellinus tremulae</i>	Aspen Bracket	Parasite of Populus tremula
<i>Crepidotus applanatus</i>	Flat Oysterling	Saprophyte of wood of deciduous trees
<i>Phaeolus schweinitzii</i>	Dyer's Mazegill	Parasite of coniferous trees (in this case, Sitka Spruce)
<i>Clitocybe fragrans</i>	Fragrant Funnel	Saprophyte on forest litter
<i>Clitocybe nebularis</i>	Clouded Funnel	Saprophyte on forest litter
<i>Lycoperdon perlatum</i>	Common Puffball	Saprophyte on forest litter
<i>Hydnum rufescens</i>	Terracotta Hedgehog	Saprophyte on forest litter
<i>Pseudohydnum gelatinosum</i>	Jelly Tooth	Saprophyte of old wood of coniferous trees
<i>Pluteus cervinus</i>	Deer Shield	Saprophyte of wood of deciduous trees
<i>Cantharellus tubaeformis</i>	Trumpet Chanterelle	Mycorrhizal with various tree species
<i>Laccaria laccata</i>	Deceiver	Mycorrhizal with various tree species
<i>Lactarius torminosus</i>	Woolly Milkcap	Mycorrhizal with various tree species
<i>Russula cyanoxantha</i>	Charcoal Burner	Mycorrhizal with various tree species
<i>Hypholoma fasciculare</i>	Sulphur Tuft	Saprophyte of stumps of various tree species
<i>Calocera viscosa</i>	Yellow Stagshorn	Saprophyte of wood of coniferous trees
<i>Stereum rugosum</i>	Bleeding Broadleaf Crust	Weak parasite of deciduous trees
<i>Chlorociboria aeruginosa</i>	Green Elfcup	Saprophyte of deciduous trees (no fruiting bodies found, just the stained wood – so could be aeruginascens).

**Appendix 4 Moth species recorded in Stratherrick – Foyers – Dores,
April – October 2006**

Species	Species
Antler Moth	Dark Brocade
Autumn Green Carpet	Dark Marbled Carpet
Autumnal Moth	Dark Swordgrass
Autumnal Rustic	December Moth
Barred Red	Dipleurina lacustrata
Barred Tooth-striped	Dotted Carpet
Barred Umber	Dotted Clay
Barred Yellow	Double Square Spot
Beautiful china Mark	Double Striped Pug
Beautiful Brocade	Dusky Brocade
Beautiful Golden Y	Ear Moth spp.
Birch Mocha	Early Grey
Black Rustic	Early Thorn
Bright Line Brown Eye	Early Tooth-striped
Brimstone Moth	Elephant Hawk Moth
Brindled Beauty	Engrailed
Broom Moth	Epirrita species (a)
Brown China Mark	Epirrita species (b)
Brown Line Bright Eye	Feathered Thorn
Brown Rustic	Flame Carpet
Brown Silver Line	Flame Shoulder
Buff Tip	Flounced Rustic
Burnished Brass	Fox Moth
Burnished Brass-complete	Garden Carpet
Burnished Brass-divided	Garden Tiger
Campion	Ghost
Canary-Shouldered Thorn	Gold Spangle
Catoptria margaritella	Gold Spot
Centre Barred Sallow	Grass Moth (Pyralid Moth)
Chestnut	Green Arches
Clay	Green Brindled Crescent
Clouded Border	Green Carpet
Clouded Drab	Grey Arches
Clouded-Bordered Brindle	Grey Pine Carpet
Common Carpet	Grey/Dark Dagger
Common Footman	Hebrew Character
Common Lutestring	Herald
Common Marbled Carpet	Hummingbird Hawk
Common Quaker	Ingrailed Clay
Common Rustic sp	Iron Prominent
Common Whitewave	July Highflyer
Coxcomb Prominent	Knot Grass
Crescent (Scotica)	Large Ear
Dark Arches	Large Emerald

Appendix 4 continued

Species	Species
Large Yellow Underwing	Sandy Carpet
Lead Coloured Drab	Satin Lutestring
Least Black Arches	Saxon
Lempke's Gold Spot	Scalloped Hazel
Lesser Broad Bordered Yellow Underwing	Scalloped Oak
Lesser Common Rustic	Scarce Prominent
Lesser Swallow Prominent	Scarce Silver Y
Lesser Yellow Underwing	Scarce Umber
Light Arches	Scoparia (Pyralid Moth)
Light Emerald	Scorched Wing
Lunar Thorn	Setaceous Hebrew Character
Map-winged Swift	Shark
Marbled Carpet	Silver Ground Carpet
Middle-Barred Minor	Silver Y
Minor Shoulder Knot	Six-striped Rustic
Mother of Pearl (Pyralid Moth)	Small Angle Shades
Mottled Beauty	Small Dotted Buff
Mottled Umber	Small Fan Foot
Northern Spinach	Small Fan-Footed Wave
Northern Winter Moth	Small Magpie
November Moth	Small Phoenix
Nut-Tree Tussock	Small Rivulet
Old Lady	Small Square Spot
Pale Brindled	Small Wainscot
Pale Eggar	Smoky Wainscot
Pale Prominent	Snout
Pale Shoulder Brocade	Spectacle
Peach Blossom	Square Spot Rustic
Peacock Moth	Straw Dot
Peppered Moth	Streak
Pine Beauty	Streamer
Pine Carpet	Swallow Prominent
Plain Clay	Tawny Barred Angle
Plume Moth	The Clay
Poplar Hawk Moth	Tortrix sp
Pug sp	Triple Spotted Clay
Purple Bar	True Lover's Knot
Purple Clay	Unid. Minor
Pyralid Moth (2 spp)	Water Carpet
Red Carpet	Welsh Wave
Red Chestnut	White Ermine
Red Green Carpet	Willow Beauty
Red Swordgrass	Wormwood Pug
Riband Wave	Yellow Brimstone
Rosy Rustic	Yellow line Quaker
Sallow Kitten	

Appendix 5 National surveys and local contacts for biological records

Highland Biological Recording Group

Contact:

HBRG, c/o Inverness Museum & Art Gallery, Castle Wynd, Inverness IV2 3BJ
or www.hbrg.org.uk Email records to records@hbrg.org.uk

The local record centre is at Inverness Museum. Records of flora and fauna from throughout the Highland area can be submitted here. Always include species, date, place, 6-figure grid reference and any other notes on behaviour or habitat. The HBRG will submit records to national recording schemes.

The Mammal Society

Contact:

www.abdn.ac.uk/mammal or email enquiries@mammal.org.uk for information on surveys. The local county mammal recorder is Ms. Ro Scott. Email ro.scott@care4free.net

National Bat Monitoring Programme

Contact:

Inverness Bat Group - Jonathan Watt. Email: jonathan.watt@highland.gov.uk
The Bat Conservation Trust, 15 Cloisters House, 8 Battersea Park Road,
London SW8 4BG www.bats.org.uk
Helpline: 0845 1300 228

Count the number of bats exiting from a known roost at dusk on 2 evenings in June. Takes about one hour per evening. No bat detector required, although it is advantageous if you wish to know what species it is. The Trust also run other surveys on bats during the summer.

Butterfly Survey

Contact:

The local coordinator: Dr David Barbour, 125a High St, Aberlour, Banffshire,
AB38 9PB Tel: 01340 871850

The British Butterfly Conservation Society, Manor Yard, East Lulworth,
Wareham, Dorset, BH20 5QP www.butterfly-conservation.org

Count the number of each species of butterfly seen at your chosen site (usually your garden), and record date and the weather. You can also choose to count butterflies in other sites on a separate form.

Moth survey

Contact:

Vice county recorder – Jeff Waddell, 9 Cumming Street, Nairn, IV12 4NQ

Email: <mailto:jeff.waddell@ukf.net>

Moth records for East Inverness-shire (VC 96) should be sent to the county recorder at the end of each season.

Garden Bird Watch

Contact:

British Trust for Ornithology, The Nunnery, Thetford, Norfolk, IP24 2PU.

www.bto.org/gbw or Mike Toms, Garden Bird Watch organiser, email:

gbw@bto.org

Count the maximum number, seen at any one time, of birds of all species in your garden on a weekly basis. Return your results online weekly or by post every 3 months. Costs £12 per year to contribute to the costs of running the survey.

Big Garden Birdwatch

Contact:

RSPB – www.rspb.org.uk/birdwatch

Spend one hour during one week-end in January watching the birds in your garden or local park. Record the highest number of each species seen at any one time. Enter results online or fill in a form.

Common Plants Survey

Contact:

Plantlife Scotland, Balallan House, Allan Park Stirling, FK8 2QG

www.plantlife.org.uk

Email: enquiries@plantlife.org.uk

or Tel: 01786 479382

Participants are asked to look for 65 of the UK's common plants that are both easy to identify, such as Primrose, and indicative of particular habitats, such as ancient woodlands in randomly selected 1km squares close to where they live. Full instructions with a flower guide are provided.

Single Species Survey

In addition to the common plants survey, Plantlife run a Single Species Survey each year (Previous years have included poppies, bluebells, juniper and harebells) It entails noting the grid reference where the species are seen and the count of that species.

Contact 01722 342755, or email as above and request a survey form, or visit their website www.plantlife.org.uk. You can also become a member of Plantlife if you wish, and receive their magazines through the year.

Phenology Survey

Contact:

Phenology Project Administrator, Woodland Trust, Autumn park, Dysart Rd, Grantham, Lincolnshire, NG31 6LL. Or go to: www.naturescalendar.org.uk and register online.

(Phenology is the study of the timing of the seasons)

Note the first day of the year you see such things as: the first swallow, first cuckoo heard, first frogspawn, first budburst and first leaf of various trees, first of various flowers etc. This is followed by similar observations in the autumn months: first autumn colour, last swallow seen, blackberry ripening or ivy flowering. This survey contributes to studies on climate change. Walks become so much more interesting when you really have your eyes open. Results can be entered online or posted.

Mammals on Roads Survey

Contact:

Tel: 020 7498 5262 or www.mtuk.org

The survey is run annually by the Mammals Trust UK and records the number and species of mammals killed on the roads as an effective way of monitoring mammals across the whole country.