

Introduction

Welcome to what we hope will become an annual newsletter for transect walkers in Scotland. We are delighted to have Neil Gregory as our Volunteer Co-ordinator, his arrival has given our transects the boost they needed since the departure of Julie Stoneman from the BC staff team in 2005.

The aims of the newsletter are to keep us all in touch, to highlight some of the myriad stories we receive from transect walkers, and to help raise the profile of this crucial activity.

Many of you will know that the Scottish Executive is planning to use 'biodiversity indicators' to measure how well Scotland is meeting its biodiversity targets, and we are very pleased that butterfly and moth trends are to be used in conjunction with others such as farmland birds.

It was through transect walking that I learnt how dependent many butterflies are on certain habitats, re-kindling my childhood interest in them, so I think they are invaluable in many ways.

Many thanks for all your help and have a great summer!

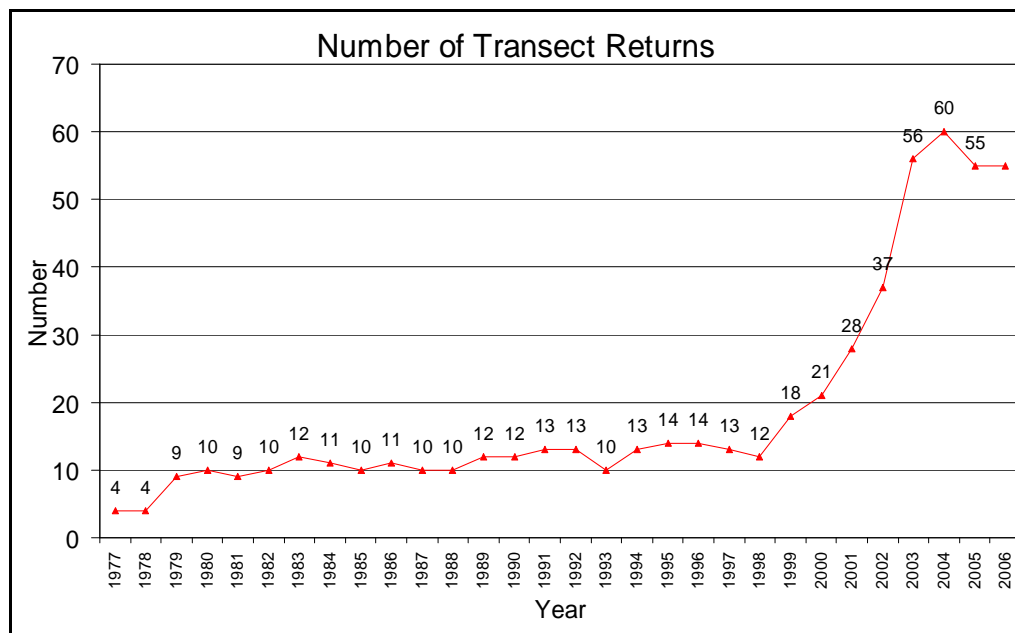
Paul Kirkland

This newsletter has information about the transects walked in 2006, complemented by anecdotal accounts from several sites across Scotland. The results from 55 transects received by the beginning of 2007 were entered into Transect Walker software if not already done so. This data was then passed to Head Quarters, having been checked for accuracy. 3 new transects were set up and walked and we welcome those walkers on board. I'm pleased to report that several new walks have been started in the current season.

Migrant butterflies did well due to the warm summer weather; let's hope this summer will be as interesting. I am pleased to report that on the whole most sites had relatively stable numbers and diversity.

Neil Gregory

Scotland-wide Transect Summary for 2006



Summary of species

MB and GVW were recorded on more transects than any other species. Unfortunately NBA and SH were not reported from all previously recorded sites. Overall there were many increases in the numbers of butterflies at various sites, mainly due to the good summer season and boost in numbers by the regular migrants. Comma has now been added to the transect list and time will tell if this will spread to other sites and stay regular at the current site. Of concern are the number of sites where decreases were observed, for example Wall and SPBF.

This table shows summary data generated using the Regional Co-ordinator software. It shows the number of sites at which each species was recorded and various changes at sites (from 2005 to 2006), either positive (greens) or negative (reds).

Species	Number of Sites	Previously Recorded on Transect	Number of Sites Colonisations	Number of Sites 20-49% Increase	Number of Sites > 50% Increase	% with 50% Increase	Number of Sites 20-49% Decrease	Number of Sites > 50% Decrease	% with 50% Decrease	Number of Sites <20% change	% With <20% change
Chequered Skipper	2									2	100%
Large Skipper	3						1			2	67%
Dingy Skipper	3				1	33%				2	67%
Clouded Yellow	3									3	100%
Large White	18				3	17%		1	6%	14	78%
Small White	21			1	2	10%				18	86%
Green-Veined White	30			1	2	7%	2	2	7%	23	77%
Orange-Tip	17			1	1	6%				15	88%
Green Hairstreak	5									5	100%
Purple Hairstreak	2									2	100%
Small Copper	16							3	19%	13	81%
Small Blue	4									4	100%
Northern Brown Argus	3	1								3	100%
Common Blue	26				4	15%	2	1	4%	19	73%
Red Admiral	25				6	24%				19	76%
Painted Lady	22				2	9%				20	91%
Small Tortoiseshell	22				2	9%	1	2	9%	17	77%
Peacock	11						1			10	91%
Comma	1									1	100%
Small Pearl-Bordered Fritillary	14				1	7%	2			11	79%
Pearl-Bordered Fritillary	4									4	100%
Dark Green Fritillary	8				1	13%				7	88%
Marsh Fritillary	2									2	100%
Speckled Wood	8							1	13%	7	88%
Wall	3							1	33%	2	67%
Mountain Ringlet	1									1	100%
Scotch Argus	7						2			5	71%
Grayling	5			1						4	80%
Gatekeeper	1									1	100%
Meadow Brown	31			1	3	10%	2	1	3%	24	77%
Ringlet	27		1	2	3	11%	1	2	7%	19	70%
Small Heath	23	2		1	1	4%	2	1	4%	18	78%
Large Heath	2	1						1	50%	1	50%
Six-spot Burnet	3				1	33%		1	33%	1	33%
Chimney Sweeper	3	1					1			2	67%
Latticed Heath	1									1	100%
Speckled Yellow	1									1	100%
The Cinnabar	1									1	100%
Silver Y	3									3	100%
NBHM		1									
Wood Tiger	1									1	100%
Clouded Buff	1									1	100%

Calculation of Collated Indices

As some of you will have noted, for each species Transect Walker software generates an Annual Index from the seasons counts, but only where sufficient counts have been made to produce what is considered to be a reliable index. Rules for this are built into the software. These indices enable year on year comparisons of changes in population levels at the site level and, when the indices are collated, for sites across sites as a whole. However to calculate these indices requires near continuous weeks of data to be recorded under appropriate weather conditions. Currently the Scottish dataset is held centrally in the UKBMS database and also partially by BC Scotland in Transect Walker. For us here in Scotland to calculate meaningful collated indices for Scotland using Transect Walker we need the whole dataset to be in Transect Walker. However until now there has been no easy way to transfer data from the UKBMS database to Transect Walker. Software to do this has now been developed and is almost ready. This facility has been a long time coming but it is expected that it will be in operation this summer. Watch this space!

A note from the National Trust for Scotland's Brodick Country Park

Butterfly transects have been carried out in the Country Park 1992, although we have been much more diligent since 2003 with our current transect. In the winter of 2003 a mile of hedge was planted in shelterbelts and new fencing created areas (e.g. for arable crops) that excluded the cattle.

The Brodick Country Park transect starts and finishes in the vicinity of the Ranger Centre. It progresses in a loop around the Country Park and Gardens. The route takes you through Castle Park Fields, along a mixed woodland border, across a summer meadow, through the walled garden, past a sloping summer meadow and through the wildlife garden back at the Ranger Centre. During the last eleven years Castle Park Fields have been grazed by a mixture of cattle and sheep and are currently being

grazed by Highland Cattle. The cattle graze the fields from May until the end of October benefiting wild flowers and, therefore, butterflies. Fertilisers have never been used on some parts of the fields, and certainly no application has occurred during the last 30 years.

This year's results indicated that **Small White** and **Green-veined White** do have two distinct broods a year on Arran (in May and August). The **Green-veined White** prefers damp, sheltered areas, breeding on wild crucifers, and along our transect the highest numbers were found along the edge of the arable crop in the Castle Park Fields. From May into early June **Orange-tips** were seen in the Country Park. One of their food plants is cuckooflower (*Cardamine pratensis*), which is abundant in the lower areas of park fields. **Red Admiral** have been

present in the park since the end of July and were still around in October after the recording period has finished. **Small Tortoiseshell** were recorded during May and June, and **Peacock** were recorded from mid-April until mid-July. This year meadow brown were around until mid-August, however in 2005 they were still present beyond the recording period. The **Meadow Brown** prefers open grasslands including heathland, hay meadows, and hedgerows. Again the highest numbers were recorded running along the edge of the arable crop.

In general, the highest recordings were seen across the Castle Parks Fields, and in the wildlife garden. The section of the transect with the lowest sightings correspond to areas of the formal garden where predominately non-native plant species are grown.

Jo Totty

Article on Small Blue Caithness



Within the highland area the **Small Blue** butterfly is mainly centred around the Moray Firth but there are isolated colonies in the north of the Scottish Mainland in Caithness. There are three coastal sites; Scrabster, Castlehill and lastly within the dune system at Dunnet. These coastal locations suit the caterpillars' food plant, kidney vetch. At the Dunnet site

where a Transect is walked much of the vetch grows at the seaward end of the dunes and it is steadily eroding into the sea. To ensure the long term survival of the habitat and butterfly colony the Caithness Biodiversity group chose as one of its projects for 2006 the enlargement of the area where the flower grows taking it into the dune back and finally into Dunnet forest itself where there are plenty of sheltered clearings.

There were several stages to the project. Seed was collected locally as we have a subspecies of vetch growing here and didn't want to introduce the wrong plant.

The seed was prepared by taking it out of its case and then given to a local nursery where it was grown on to form robust plugs.

These were then planted out with the help of the Caithness Countryside Volunteers in July. Because of the dry

weather and sandy soil the plants needed to be well watered in over a few weeks but all seemed to have matured into strong plants.

The local nursery did very well producing over 600 plants. Most of the seed germinated from spring sowing but it was unusual in that although nearly all the seed eventually germinated it did so sporadically over the two months. The plants have grown on well.



Within the forest area man and nature have combined to do their bit for the project.

The Dunnet Forest Trust has been laying new paths for improved access and, within these, patches of kidney vetch have appeared. We have also

scattered seed in some of the stoney open ground which the vetch favours.

We plan to repeat the project next year perhaps putting more flowers into the flagstone quarry spoil at Castlehill as well as at Dunnet.

I grew on a few seeds myself successfully and will plant them in our own garden. The vetches are such good plants for attracting bees and butterflies, it can only enhance our insect life.

Mary Legg, Senior Countryside Ranger, Highland Council Planning and Development, Caithness

Butterflies at St Abb's Head in 2006

Every summer, the Rangers have the pleasant task of walking a transect every week, a well established method for monitoring numbers of butterflies from year to year. In 2006, just under 2000 sightings were made during the transect survey made up of fourteen species.

Meadow Brown and **Ringlet** were by far the commonest species. Both have increased in recent years, particularly ringlet, probably benefiting from the growth of taller grasses in areas that were fenced off from sheep grazing in the nineteen eighties. The scarcest species was **Dark Green Fritillary** with just a single record in August, probably a visitor from the

colony at Lumsdaine cliffs to the north.

Northern Brown Argus is our most notable species and 2006 was a fairly average year for a species that seems to undergo some remarkable peaks and troughs from year to year. The most successful species was the **Small Copper** with the highest number ever recorded, including an exceptional count of 94 on 3rd August

Other species recorded on transects included **Common Blue**, **Grayling** and **Painted Lady**.

Outwith the transects, two other noteworthy species were seen on the Nature Reserve. There were four sightings of **Comma** between 21st

September and 12th October and six sightings of **Wall Brown** between 27th May and 27th August

Mid-July in the best time to see butterflies at the Head, though if you are particularly interested in seeing **Northern Brown Argus**, come a little earlier in the month.



Kevin Rideout

Loch Fleet Transect

Loch Fleet National Nature Reserve is on the east coast of Sutherland just south of Golspie. It is managed as a Scottish Wildlife Trust reserve under agreement with Sutherland Estates. In 1996 a butterfly transect was included in the CEH suite of national sites though a set of data exists certainly from 1993. Up until 2001 the SWT summer ranger at Loch Fleet carried out the survey work but there has not been a ranger since. There were a couple of blank years in 2002 and 2003 but we started doing the transect again in 2004 in consultation with SNH.

The transect follows informal but well established footpaths through an area of coastal dune grassland for just over 3km. Much of the length of the transect borders a conifer plantation and there has been considerable colonisation by seedling pines. However, in the winter of 2004-05 contractors were employed by SNH to remove most of the seedlings and small trees. Although the main aim was to preserve the maritime grassland habitat it undoubtedly will be beneficial to the important butterfly populations of the site.



Grayling is probably the most significant species recorded given its national decline and its status as a proposed addition to the UK BAP Priority list. Loch Fleet appears to be the most northerly colony on the east coast of Scotland.

Flight season is between mid July and early September with the peak numbers in the last three years being 81 in 2004, 46 in 2005 and 90 in 2006. In the last couple of years the first individuals have been seen on the 8th and 9th July, which is about a week or ten days earlier than most previous years.

Another proposed candidate for BAP priority status is the **Small Heath**, though one would not think so if one's only experience was Loch Fleet. In the last three years the flight season has been from early June (7th, 9th and 10th)



to the second half of September (18th in 2005 and 23rd in 2006). Peak numbers have been 273 in 2004, 164 in 2005 and 124 in 2006

and over 50 were recorded each week for between 5 and 10 weeks in each of these years.

Common Blue competes with the **Small Heath** as the most abundant species with seasons peaks of 337 on 29 July 2004, 266 on 9th July 2005 but



just 105 on 15th July 2006. Flight seasons are between late June and early September. Earlier years showed very wide variations in the peak numbers with hardly any in 2001 with a max of only 3 on 10th Aug, but as high as 392 in 1998 on 15th July.

Loch Fleet is also a stronghold for **Dark Green Fritillary** with peak numbers of 72 in 2005 and 81 in 2006 though previous year max counts were all under 50. Flight period is late June to late August.

2006 was the best year yet for **Meadow Brown** with a peak of 74 on 15th July but only a couple of other recent years have had peaks over 50. **Small Copper** appears in small numbers though the second flight in 2006 reached a peak of 24 on 24th Aug. **Green Hairstreak** is usually the earliest species seen but numbers never reach more than a handful. **Small Tortoiseshell**, **Green-veined White** and **Speckled Wood** all show up from time to time on the transect and there is just one record of **Small White**.



Among the migrants **Painted Lady** and **Red Admiral** are usually regular though in very variable numbers. 2006 was notable for the numbers of **Red Admirals** and there was a big influx in late August nectaring on the heather. After only 5 on the transect on 17th there were 80 on 24th, 72 on

26th, 73 on 2nd Sept but only 1 on 9th Sept. by which time local gardens were festooned with **Red Admirals** on the Buddleia. In 2005 there were only 5 recorded in total. **Painted Ladies** appeared in very good numbers in 2004 and 2006 (peak of 72 on 22nd June in 2004 and 43 on 18th June in 2006) while none were seen in 2005. 2006 was also notable in that there were three records of **Clouded Yellow** on the transect – one on 5th Aug and two on 17th.



With a large colony of **Small Blues** at Dornoch just 6 km to the south, it has always been hoped that they might colonise at Loch Fleet. There are a few patches of kidney vetch at Loch Fleet though not in the profusion that can be found in the dunes at Dornoch. 2006 raised hopes even further with single records on 18th and 28th June.

It will be interesting to see how things develop over the years. Will there be

crashes in numbers that there appear to have been at times over the past ten years? Or will the recent high numbers be maintained? Will **Common Blues** become bivoltine? Will the **Small Blue** establish a foothold? Will **Clouded Yellows** appear again? What about a **Camberwell Beauty**? Dream on - but the bottom line is that it is good to know that you are making a valuable contribution to scheme that monitors changes in our butterfly populations.



Tony and Helen Mainwood

Moths



Some recorders have kindly started to record moths on their transects. These records will add greatly to our understanding of moths and timely with the National Macro-moth Recording Scheme being launched. We would be grateful for any further moth records of the day-flying species, such as **Silver Y**, **Chimney Sweeper** or **Six-Spot Burnet**. They can be recorded in the same way as the Butterflies.



Neil Gregory – A little about myself...

I have recently taken over as the Scottish Transect Co-ordinator. Many thanks to all the people who have sent in their data. Hopefully this will go from strength to strength. For a few years I co-ordinated the transects for the West Midlands region and have lots of experience with the software, transect walking (having walked 2 for several years) and liaison with the appropriate agencies. I am a keen mother and Chair of the SW Scotland Branch of Butterfly Conservation. Please do contact me if you have any questions or queries.

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