

Summertime!



Contributions to our newsletters are always welcome.

Please use the contact details below to get in touch!

If you do not wish to receive our newsletter in the future, simply reply to this message with the word 'unsubscribe' in the title -

Photo Credits (above):

Transparent Burnet - Dave Green
Garden Tiger - Gary Barlow
Dark Green Fritillary - Iain H Leach
Common Blue - Iain H Leach

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Dates for your Diary

Scottish Entomological Gathering - SEG 2022 – Isle of Bute 1-3 July

For those who have not heard of or attended a SEG before they are just as they sound. A gathering of Scottish entomologists who meet up over a weekend once a year and get out in the field and record invertebrates. They are obviously also very enjoyable and sociable as well as being informative with many of the great and good of Scottish entomology in attendance. The venue of SEG changes each year so that different habitats and parts of Scotland can be visited and explored.

SEG has been running annually since 1981, although unfortunately Covid-19 scuppered plans for SEG 2020 and 2021 when it was due to be held at Dundreggan near Invermoriston and hosted by Trees for Life, however, we plan to hold SEG there in 2023.

We can now confirm that SEG 2022 will be held on the Isle of Bute, very kindly organised by Ron Forrester over the weekend of Friday 1st to Sunday 3rd July, using the museum library in Rothesay as a base during the day to provide space for attendees to meet, arrange site visits and discuss their findings.

If you are interested in attending, or want to hear about future SEGs, then please let one of the SEG organisers know so we can send you more details and add you to the SEG distribution list.

Many thanks

Suzie Burgess suzanne.Burgess@buglife.org.uk

David Hill dhill@butterfly-conservation.org

Tom Prescott tprescott@butterfly-conservation.org

James Silvey James.Silvey@rspb.org.uk

Ron Forrester ronandedith1@gmail.com

Northern Brown Argus surveys

There's still time to get involved in surveys for the Northern Brown Argus butterfly this summer!

We held an online training workshop via Zoom on Wednesday 22nd June at 7.30pm. A recording of this workshop is available.

There are also upcoming field workshops at:

Morrone, Braemar - Saturday 9th July at 10.30am

Grantown-on-Spey - Sunday 10th July at 10.30am

Surveys are best undertaken between late-June and the end of July. Surveys can take place in dull weather as presence of the butterfly is most easily confirmed by searching for the conspicuous eggs.

If you would like to request a recording of the zoom presentation or attend either of the field sessions, then please let us know via the form [here](#).

East Branch

East branch have 2 field trips organised to see Northern Brown Argus in July.

Butterfly Field Trip - Watch Water Reservoir

The first is to Watch Water Reservoir on July 3rd. We will meet at Rawburn Farm (grid ref. NT673561) at 10.30am. near Longformacus in the Lammermuir Hills.

Contact: Richard Buckland. Mob: 07711 453605.

The second is a Northern Brown Argus ID workshop primarily for potential volunteer surveyors of the species in the Lothians, although everyone is welcome.

Butterfly Field Trip - Linn Dean Water

This will take place on 10th July at Linn Dean Water on the top of Soutra hill. We will meet up at 10.30am. in the lay-by at the entrance to the nature reserve at the top of Soutra, grid ref., NT468595.

Contact: Richard Buckland. Mob: 07711 453605.

Big Butterfly Count

The Big Butterfly Count will begin on Friday 15th July 2022 and run until Sunday 7th August. For more info and how to take part go to www.bigbutterflycount.org

Dates for your Diary

Taynish Moth Morning

There will be a moth morning at Taynish National Nature Reserve on **Saturday 30th July**. Meet us at 10am down by the mill to look through the contents of the previous nights trap. In particular we will be looking for the rare Square-spotted Clay moth.

To book please contact: heather.watkin@nature.scot

Highland Branch

Butterfly Field Trip - Findhorn Beach, near Forres

Target Species: Grayling and whatever we find

Date: Sunday 31 July

Time: 10:30am

Meeting place: Car park at NJ036648. Drive through Findhorn village on the B9011 and bear left taking the road signposted "Harbour" and "Beach". The road turns sharp right immediately after the Crown and Anchor Inn, then take the next left signposted "Beach Car Park" and "Heritage Centre". Carry on until you see a brown sign, "Car Park No Overnight Camping", pointing to the right, turn here and the road quickly becomes a rougher track. Bear left when the track splits, then after a short distance the track turns sharply to the right and widens into a parking area which is where we'll meet.

Description: A walk along the dunes to see if we can find Grayling and other butterflies such as Common Blue and Small Copper. There are also likely to be Six-spot Burnet Moths.

Approx duration: 3 to 4 hours depending on how far we walk

What's needed: Lunch, sun cream, waterproofs

Leader name: Audrey Turner

Leader contact details: 07450 548862 email: unicorn64@btinternet.com

Scottish Autumn Gathering 2022 - Zoom Webinar - Saturday, 8th October

Our annual Autumn get-together will once again be held virtually this year on Saturday, 8th October. This half-day event will take place as a FREE Zoom Webinar between 10am until 1pm, and we will have an exciting programme of talks and presentations from our butterfly and moth experts and our wonderful volunteers. The event will be held using an online platform called Zoom. More details and how to register for your free place will become available on our Events page shortly.

Garden Butterfly Survey: Count the butterflies in your garden once per month – now much easier to take part! Visit the new website [here](#).

BC events in Scotland

Don't forget to check our website at www.butterfly-conservation.org/scotland as well as your local Branch website for up-to-date lists of fieldtrips, events etc:

Highlands & Islands – <http://butterfly-conservation.org/313/highlands-and-islands-branch.html>

South West Scotland – <http://butterfly-conservation.org/311/glasgow--sw-scotland-branch.html>

East Scotland – <http://butterfly-conservation.org/312/east-scotland-branch.html>

News and Updates

Goodbye from Shona

Hi everyone, as many of you know I am the Office Manager for Butterfly Conservation in Scotland and just wanted to let you know I will be leaving BC at the end of July. I have worked for this wonderful charity for almost 20 years now, and have so very much enjoyed my time here, working as part of the Scottish team. It has been a real pleasure and a delight to work with so many great people, staff, supporters and of course, our brilliant volunteers and I wish you all the very best for the future. Keep up all the good work!

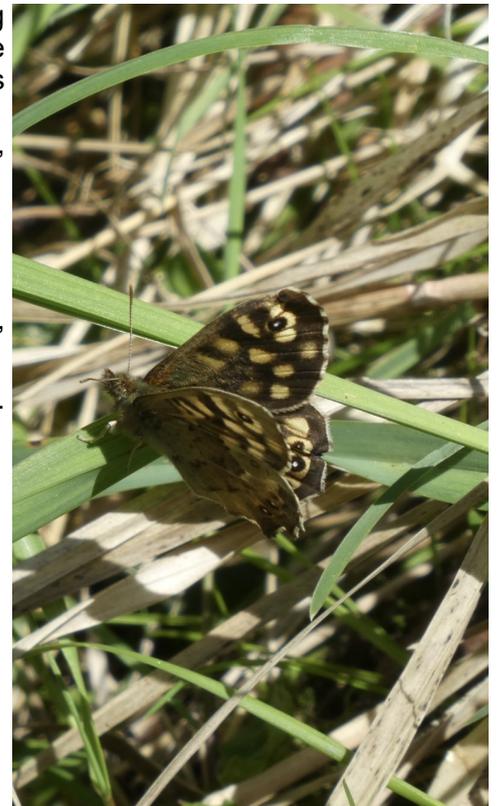
Shona Greig 😊 🐛 🦋

Speckled Wood in Lanarkshire

I am delighted to report I have had my first ever Speckled Wood sighting in Lanarkshire. After ten years of transect walking it was great to find one flying on 29th April at Greenhead Moss butterfly transect in Wishaw. It is only since 2017 that the butterfly has been recorded in VC77 Lanarkshire, first in Dolphinton, then one sighting near Carluke in 2018, two sightings from Law in 2021 and now this at Greenhead suggest a movement through from the east branch areas. Another sighting in Bishopbriggs in 2019 show the butterfly is around the edges of the county.

Interestingly, there is an historic record from Cadzow Castle, Chatelherault in the 19th century, so I'm hoping it'll colonise once again.

There have also been good numbers of Green Hairstreak out this year. This one below is from Langlands Moss.



Speckled Wood at Greenhead Moss

Tam Stewart
(VC77) Lanarkshire & Glasgow City Butterfly Recorder

News and Updates

When to look out for Day Flying Macro Moths

I have been thinking for some time that it would be useful to have an easy lookup of species that I should be considering going out and looking for during the day. That is, if it is sunny or warm of course.

I have only looked at macros and have excluded a few very common species that we will all bump into such as Silver Y, Common Heath, Shaded Broad-bar, Common Carpet, Twin-spot Carpet and Silver-ground Carpet and may have accidentally missed others. For each species the period when they are likely to be flying is shown in half-month periods. These will obviously vary from year to year depending on a number of factors. I have highlighted some of these in yellow as focus species, but this is purely based on my personal view which may well be different to yours. There is also some basic summary information about where geographically and habitat-wise they might be found. Not all species can be found local to where we each live.

You should refer to your field guide for more information or look at the [East Scotland Branch website](#) for more detailed information on flight times and distribution maps.

Species	Mar	April	May	June	July	Aug	Sept	Range in Scotland	Habitat
Orange Underwing								Major highland valleys, Rannoch and Borders	Over or among scattered birch
Rannoch Brindled Beauty								Central and North Scotland	On fence posts in damp moorland and bogs
Belted Beauty								West coast islands	Coastal machair
Kentish Glory								Spey and Dee valleys and Perthshire	Pheromone lures in areas with young birch
Emperor								Whole of Scotland	Many habitats from moorland to sand dunes
Netted Mountain Moth								Mostly Cairngorms National Park area	Moorland with Bearberry
Small Yellow Underwing								Extremely rare. Recent sighting in Borders	Grassland with mouse-ears
Brown Silver Line								Very common. Whole of Scotland	Bracken
Mother Shipton								Widespread, rarer further north	Rough grassy places
Narrow-bordered Bee Hawk-moth								Mostly NW. Scarce across rest of Scotland	Damp places with D-b Scabious and nectar sources
Red Twin-spot Carpet								Widespread, more diurnal further north?	Moorland and a variety of other places
Small Purple Barred								Central highlands. Local in SW and Borders	Grassland and moorland with Milkwort
Large Red-belted Clearwing								Locally scattered across Scotland	Old birch woodland
Broad-bordered White Underwing								High altitude > 650m across Scotland	Mountainsides with Crowberry and Cowberry
Fox Moth								Whole of Scotland	Moorland and a variety of other places
Speckled Yellow								Widespread with western bias	Scattered woodland with Wood Sage
Burnet Companion								Borders	Rough grassy places
Dew Moth								Western islands, Argyll and Eyemouth	Rocky coasts
Satyr Pug								Widespread	Moorland
Cinnabar								Southern half of Scotland with coastal bias	Coastal and rough grassy areas
Small Argent & Sable								Widespreads except extreme N & E	Uplands and moorland
Bordered White								Widespread	Pine trees
Red-tipped Clearwing								Dumfries & Galloway	Sallow carr, swamp & river-sides
Argent & Sable								NW and very SW	Damp moorland, bogs and open woodland
White-banded Clearwing								Perthshire (one record)	Mosses and stream-sides with Alder
Northern Eggar								Whole of Scotland	Moorland
Thrift Clearwing								D&G and NE Scotland	Cliffs with Thrift
Chimney Sweeper								Widespread except extreme N	Grassland with Pignut
Forester								Argyll and D&G	Rough grassland
Grass Rivulet								Scattered across Scotland	Dry grassland
Latticed Heath								Southern and eastern half of Scotland	Bogs and marshes
Red-necked Footman								Southern half of Scotland spreading N	Woodland
Transparent Burnet								West coast	Steep S facing slopes and cliffs
Wood Tiger								Scattered across Scotland with eastern bias	Moorland
Hummingbird Hawk-moth								Anywhere, but often coastal	Nectaring flowers including gardens
Lunar Hornet Moth								Scattered, historically more eastern	Areas with willows that catch the sun
Six-spot Burnet								Coastal and Central Belt	Rough grassland
Black Mountain Moth								Central and NW Highlands	High altitude with crowberry
Currant Clearwing								Very local in Borders	Untreated Currant bushes
Scotch Burnet								Braemar area	High altitude with crowberry
Narrow-bordered Five Spot Burnet								SE plus subspecies on Skye	Rough grassland
Pretty Pinion								Mostly central belt to Ross-shire	Moorland and upland grassland
Rannoch Looper								Central Scotland	Long established woodland with Bilberry
Welsh Clearwing								Perthshire & Invernesshire	Open birch woodland
Treble-bar								Patchy distribution across Scotland	Open dry habitats with St John's Wort
Dark Bordered Beauty								Cairngorms National Park area	Rough grassland with Aspen saplings
Manchester Treble-bar								Mostly down centre of Scotland	Damp moorland
Lesser Treble-bar								Centered on the Inner Forth area	Open dry habitats with St John's Wort
Heath Rivulet								Scattered across highlands	Moorland

The table can be downloaded at higher resolution and may be updated following feedback (which is welcome):

[Scottish Day Flying Macro Moths.pdf](#)

Good luck hunting with your net or camera.

Mark Cubitt

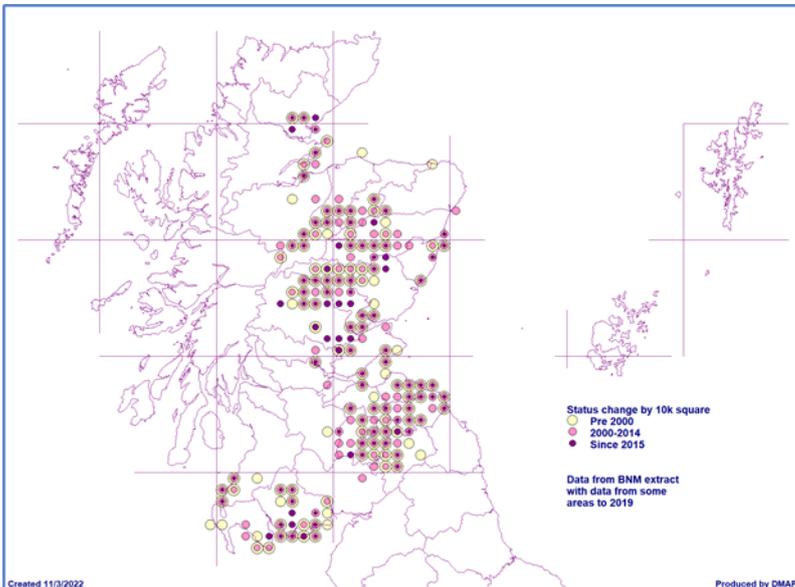
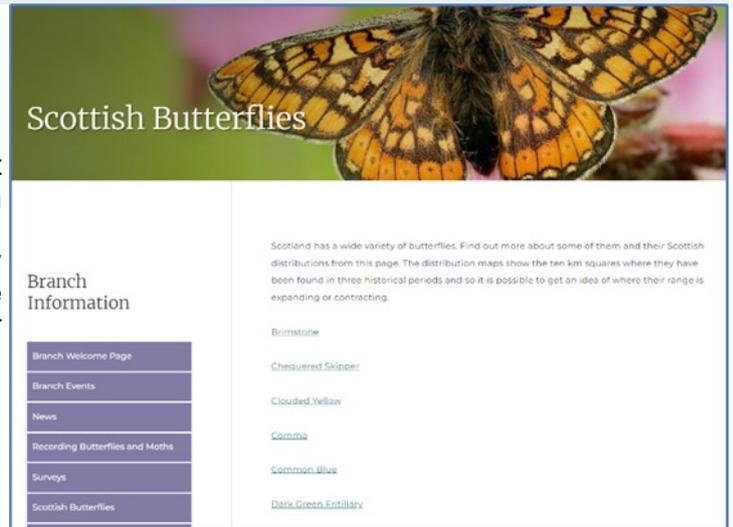
westlothianmoths@eastscotland-butterflies.org.uk

News and Updates

Scottish Butterfly Maps

I have created a set of web pages with distribution maps of Scottish Butterflies which you may find useful. The maps are based on data up to 2019 that has been provided by BC HQ following a request from Glyn Edwards of Butterfly Conservation East Scotland Branch. This is first set of draft pages with text largely based on the national BC species accounts. We hope to enhance the information held on these pages over time.

See <https://butterfly-conservation.org/in-your-area/east-scotland-branch/scottish-butterflies>



The distribution maps show the ten km squares where each species (Northern Brown Argus shown here) have been found in three historical periods and so it is possible to get an idea of where their range is expanding or contracting.

Mark Cubitt

Seeking moth survey volunteers in Aberdeenshire!

Do you live near Huntly in Aberdeenshire? Would you like to help out with our rewilding project? We at Highlands Rewilding are hoping to find some moth enthusiasts to help with our baseline biodiversity surveys at our Beldorney site in the Deveron valley.

At Highlands Rewilding we are striving to enable both nature recovery and community prosperity through rewilding (to find out more, please visit our website www.highlandsrewilding.co.uk). Beldorney is our more recently acquired site and has spectacular broadleaf woods along the River Deveron but is dominated by over-grazed pasture and coniferous plantations. It is a blank canvas for native woodland creation, regenerative agriculture, and building back better by restoring ruined crofts. This summer we are starting our baseline biodiversity surveys, which will include butterflies and other pollinators. We would love to also survey the moth diversity but we currently don't have the expertise to do this. But perhaps you could help! If you would be interested in volunteering with us this summer, then please get in touch.

Penelope Whitehorn
penelope.whitehorn@bunloit.com

News from Scottish Borders

National Moth Night on the border

This year's woodland-themed moth nights seemed quite early for those of us in the Scottish Borders and more northerly locations. It could have been a choice of clear skies and dropping temperatures or damp, drifting haar from the east coast. A disappointing turnout of moths looked more likely than not.

A fresh sunny day with a beautiful sunset got the evening off to a decent start. Eight of us gathered on the Hirsell estate in Coldstream close to the border with Northumberland under a high canopy of oak, beech and pine. We put out five light traps; four actinics and one mercury vapour lamp on a Robinson trap with a generator powering two of the lights. Our spot in Dundock Wood was relatively sheltered from the awesome impact of Storm Arwen's northerly blast and there were few of the hazards there that remain in so many Borders forests.

As darkness fell in the woods, we watched as bats poured from a roost high in a nearby Scots Pine. A reminder for future events: always bring a bat detector!



Most of the participants were active moth-ers and included Barry Prater, Berwickshire Moth Recorder and so there were few issues identifying the moths that came to the lights.

With plenty of traps available we could process between them at leisure, adding to the anticipation of what might have arrived since our last visit.

By late evening we had seen 16 species to which another eight were added from a single trap left out overnight. Most numerous were Silver-ground Carpet, Nut-tree Tussock, Scalloped Hazel, Common Pug and Water Carpet while Brimstone, Lunar Thorn, The Rivulet and Red-green Carpet also caught everyone's attention. Less eye-catching but no less interesting were a couple of Bee Moths and a smattering of Pugs including Currant, Brindled and Mottled. The complete list was sent off to the National Moth Night organisers.

Although it did turn out to be a cool night under an open sky everyone was delighted to take part and be together again doing something that we all enjoy after such a long period of Covid restrictions. We're all set for more get-togethers over the coming summer and autumn. Thanks to everyone that came along and helped make the evening a success, including our hosts on the Hirsell estate.



Silver-ground Carpet

Michael Scott

Project Updates

Bog Squad

Since our last update Bog Squad has continued with three more work parties before laying down tools at the beginning of April. We continued work at White Moss near Barmill, North Ayrshire installing a couple more plastic dams and adding to previously installed dams. We have revisited Braehead Moss, South Lanarkshire to continue the removal of birch scrub surrounding the boardwalk area and lastly, we made a return visit to Portmoak Moss, Perth and Kinross. Here we assisted the Community Woodland Group and the Lothian Conservation Volunteers with conifer removal from the moss.



Portmoak before - Polly Phillpot



Portmoak after - Polly Phillpot

Work is now underway putting together the autumn/winter programme of work parties and these will go up on our events page when finalised. However, we are looking forward to a return visit to Portmoak on Sunday 18th September, so you can pop that date in your diaries now!

Between Earth Day (22nd April) and 29th April this year, Bog Squad was one of the projects highlighted by 'The Big Give' Green Match Fund 2022, which provided a platform for 146 environmental charities over the week. With their help we were able to raise our target of £10,000 towards the project. A big 'Thankyou' to all of you who contributed to this fundraising campaign.

The Large Heath butterfly survey is now fully underway. This butterfly is the only bog specialist in the UK and is a conservation priority species. We have identified over 50 priority lowland raised bogs in Scotland that we are keen for people to go out and survey to find out more about the distribution of the butterfly and the condition of the bog habitat at these sites.

To see the location of these bogs, view our interactive map at the webpage below:

<https://butterfly-conservation.org/in-your-area/scottish-office/priority-species-updates/chequered-skipper-and-large-heath>

Earlier this month we had two online training sessions for this season's survey and have sent out the recorded presentations to other interested people since then.

Soon we will be running two free field training sessions, which you can still join if you are interested to take part in the survey this June and July:

Saturday 25th June – Leadburn Community Woodland, West Linton, Midlothian 11am – 2.30pm

Saturday 2nd July – Langlands Moss, East Kilbride, South Lanarkshire 11am – 2pm

If you would like a copy of the recorded presentation or would like a place on one of these field workshops, please [register here](#).

For more information about the Bog Squad please contact:

pPhillpot@butterfly-conservation.org

We would like to thank [Peatland Action](#) for their continued support, without which, the Bog Squad Project would not be possible.



Project Updates

Helping Hands for Butterflies

Our Helping Hands for Butterflies Project Officer, Anthony, will be running events at new urban meadows in July and August. These meadows were all created in 2019 as part of his project, and the numbers of butterflies and other insects at them has increased each year since then. Join Anthony to see what butterflies, moths, bees and other insects are now making their homes at these meadows.

The locations and dates are:

Glasgow (Elder Park, Friday 5th August. Ruchill Park and Springburn Park, Saturday 6th August)

Edinburgh (Silverknowes Park, Thursday 14th July)

Hamilton (Bothwell Road Park, Sunday 7th August)

Blantyre (Hunthill Road Orchard, Friday 15th July and Stonefield Park, Sunday 7th August.)

Lennoxton (Whitefield Pond, Friday 15th July)

More information and booking for all events on our events page at www.butterfly-conservation.org/events/scotland

These events are part of the Helping Hands for Butterflies Project, which is funded by the National Lottery Heritage Fund and NatureScot.

Look for Grayling from Coast to Coast!

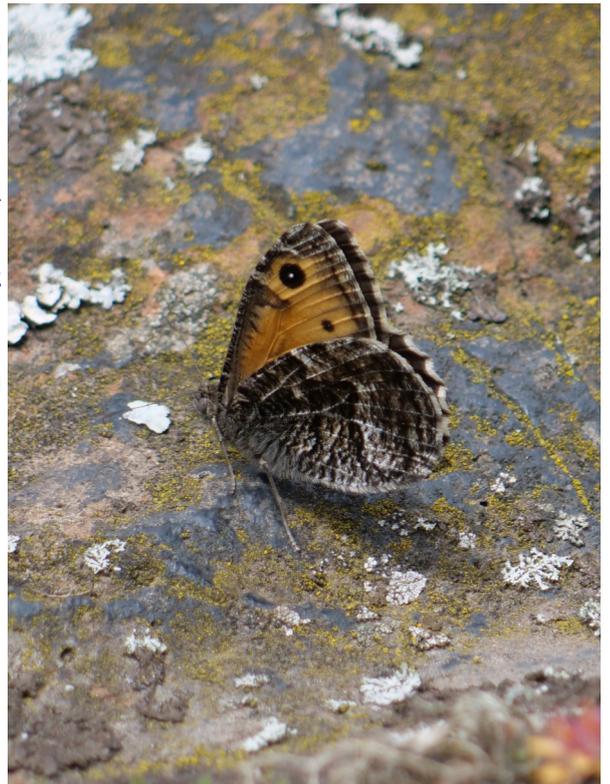
Grayling butterflies are one of our more threatened species, and are now mostly found in coastal areas in Scotland with a few inland populations remaining. This year we're hoping more volunteers will get out to look for this elusive species.

Join Anthony McCluskey on guided walks and learning workshops at **Irvine** on Saturday 16th July and **Tentsmuir NNR** in Fife on Tuesday, 19th July.

Full details of all events on our website at www.butterfly-conservation.org/events/scotland

These events are part of the Helping Hands for Butterflies Project, which is funded by the National Lottery Heritage Fund and NatureScot.

Anthony McCluskey
Helping Hands for Butterflies Project Officer



Grayling by Mairi McIntosh

Survey Updates

Chequered Skipper

Targeted recording of Chequered Skipper in Scotland, undertaken between 2012 and 2014, identified 1km squares through distribution modelling to have suitable habitat but where the butterfly had not previously been recorded. The survey discovered the butterfly in 104 new 1km squares and thereby increased the known range of the butterfly at a 1km resolution by almost 42%, a remarkable result for what was formally thought to be a very scarce and localised species. It also encouraged butterfly recorders to look for Chequered Skipper away from the handful of well known and very well recorded sites e.g. Glasdrum Nature Reserve and our Allt Mhuic reserve on the north shores of Loch Arkaig.

Since the survey there have been further new sites discovered which have increased Chequered Skipper's range including its western limit on the Ardnamurchan peninsula where the butterfly was recorded just east of Ben Hiant and its southern limit where it was recorded at Strontoiller, just east of Oban.

However, this year records suggest that the expansion of Chequered Skipper continues, though whether the butterfly is a recent colonist or just previously undiscovered at these "new" sites is unclear.

The highlight of these sightings is the first official discovery of Chequered Skipper on Mull. In fact this is the first record away from the Scottish mainland, apart from the wee island of Eriska, just north of Benderloch, that is attached to the mainland by a bridge. Over the last ten years or so there had been one or two unconfirmed reports of Chequered Skipper from different locations on Mull, these mostly being tantalising and fleeting glimpses by people unfamiliar with the butterfly and there was no photographic evidence. This changed on 28th May when Craignure resident Chris Austick spotted two Chequered Skippers whilst out looking for Red-belted Clearwing at Scallaster, just north of the village. He even got photographs and later video as proof. It was subsequently featured on Springwatch and is available on the BBC's iPlayer, [HERE](#) about 10 minutes into the programme.



Mull's First Chequered Skipper
(photo by Chris Austick)

Scotland's most north-westerly Chequered Skipper
(photo by David Gaskell)



On 23rd May David Gaskell photographed a Chequered Skipper in his garden in Morar. This increases the known range of the butterfly at its NW limit by around 7km, the nearest previous sightings being just to the south of Arisaig.

On the 5th June Pete Moore and Hilary Swift went searching for Chequered Skipper at the east of its range along the A86 Spean Bridge to Laggan road with the intention of starting at Fersit, its most easterly known regular site, and heading east. However, they stopped for a coffee in a layby near Moy and saw a Chequered Skipper fly in and land nearby. They then headed east pulling in at every convenient parking place. Each place they stopped they found the butterfly often in good numbers until they drew a blank at the Creag Meagaidh National Nature Reserve car park. This has now increased the butterfly's easternmost limit by around 10km.

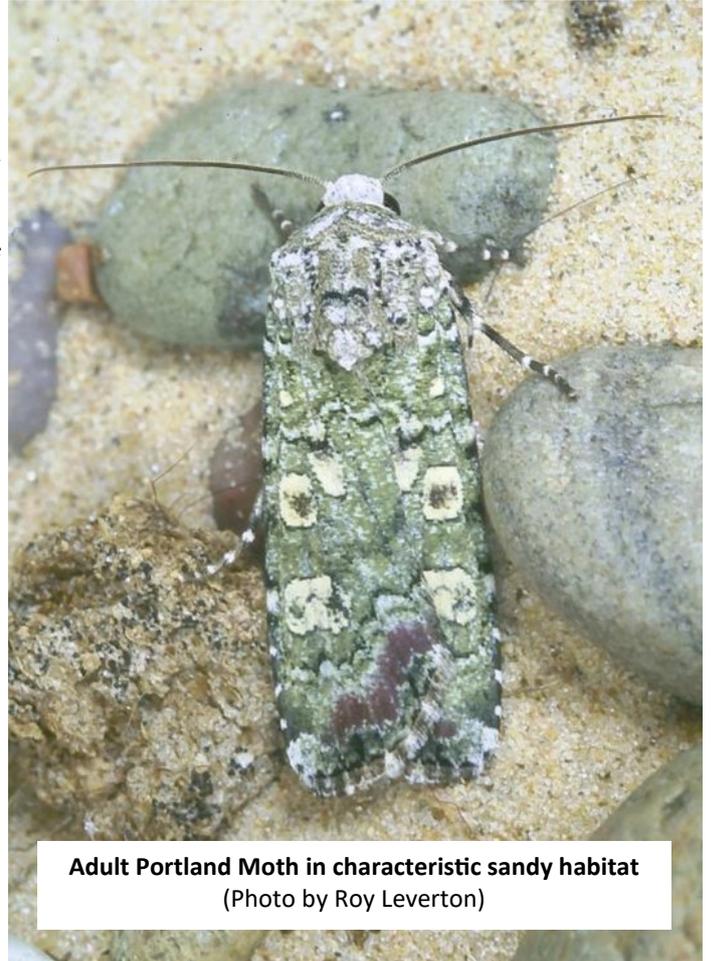
Tom Prescott
Senior Conservation Officer

Survey Updates

Portland Moth *Actebia praecox*

The Portland Moth is a very attractive and quite large Noctuid moth, with mottled green colouration on the forewings. The adult moth is predominantly on the wing in August. It comes to light where it often crawls rather than flies into moth traps. It can also be found nectaring on plants such as ragwort and heather, and is also attracted to wine ropes and sugar. The critical part of the life cycle is the larval stage, the main foodplant being Creeping Willow (*Salix repens*), although the larvae will feed on other dune plants to a lesser extent. It seems that, in Scotland at least, Creeping Willow, which is prostrate and low-growing, is present at all localities and this seems to confirm that this does act as the main foodplant.

The eggs, which are laid in late summer or early autumn, hatch quickly and the larvae overwinter when very small, becoming fully grown the following June. At all stages they spend the day in burrows that they dig in the sand and they then emerge from their burrow at night to feed on the willow. Wherever they are found, it is apparent that the foodplant has open, bare sand around it, presumably so that the larval burrows can be formed adjacent to it.



Adult Portland Moth in characteristic sandy habitat
(Photo by Roy Leverton)



Portland Moth larva in characteristic sandy substrate
(Photo by Graham Collins)

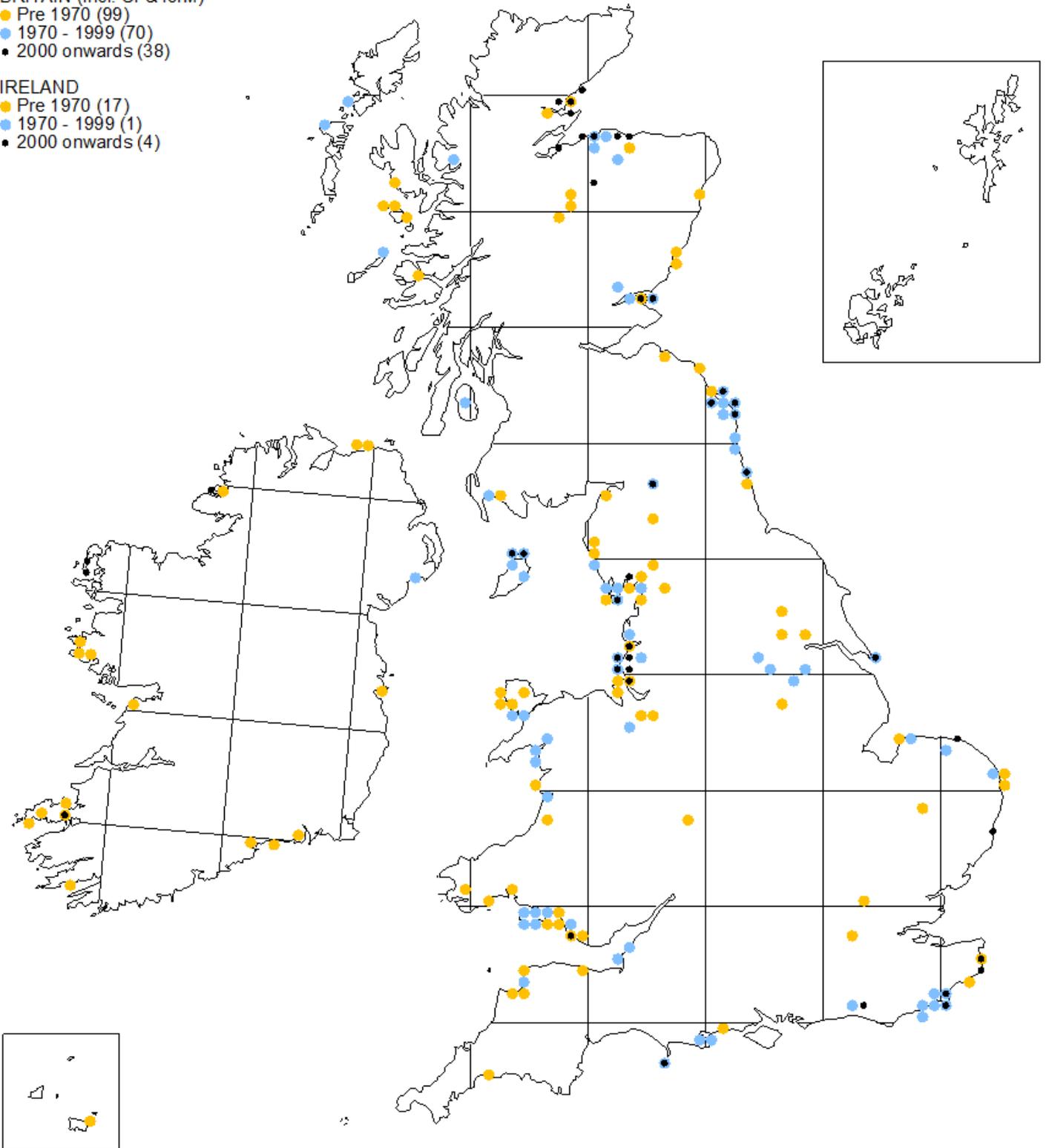
Survey Updates

The map below, taken from the “Atlas of Britain and Ireland’s Larger Moths” clearly shows that Portland Moth has a scattered distribution around the coast of Britain, as well as Ireland and the Isle of Man. It also highlights a decline in the number of 10km squares the species has been recorded in over the three time periods. From 99 10km squares pre-1970, to 70 during the period 1970-99 to just 38 2000-16.

73.308 *Actebia praecox* (Portland Moth)

BRITAIN (incl. CI & IofM)
● Pre 1970 (99)
● 1970 - 1999 (70)
● 2000 onwards (38)

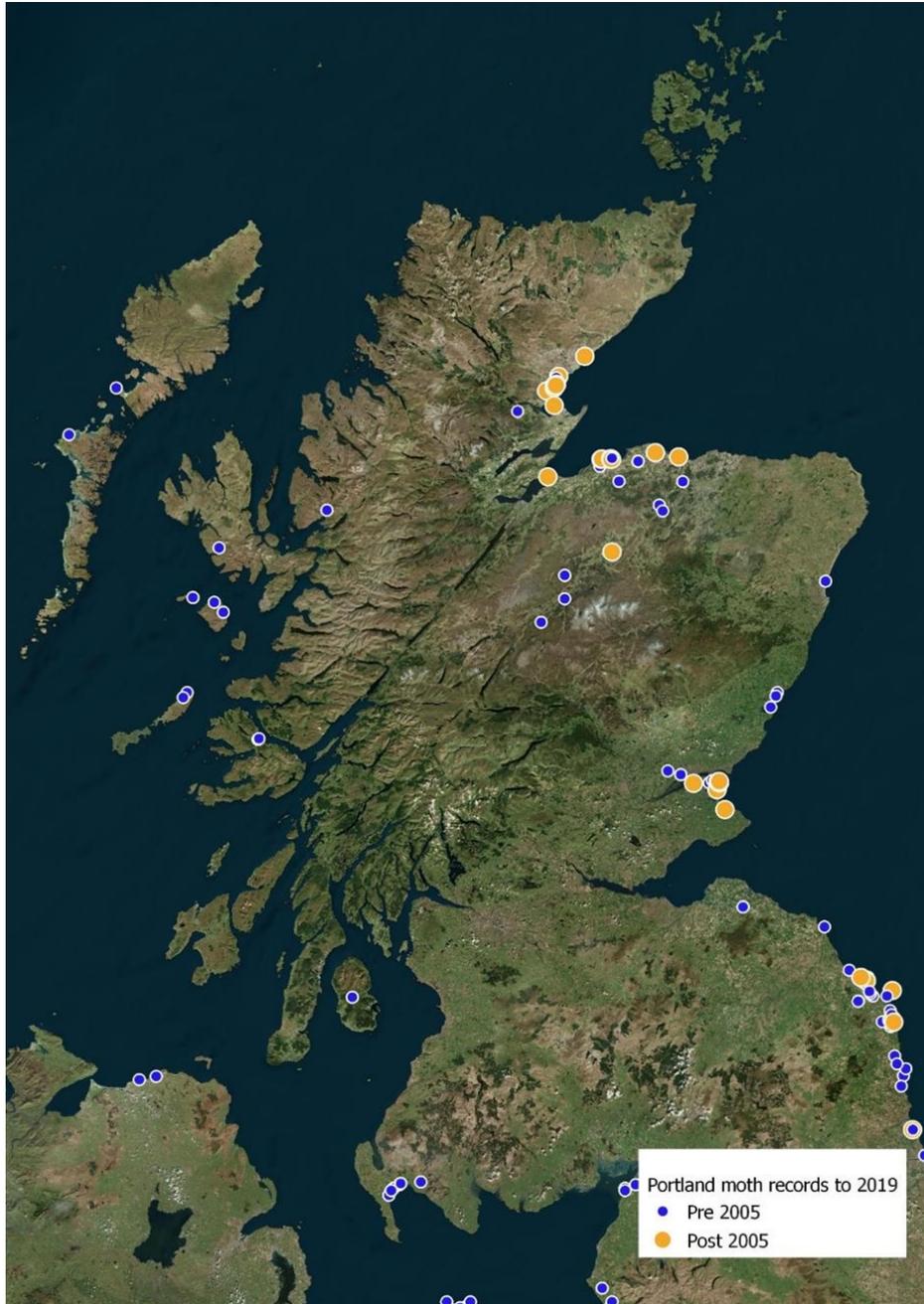
IRELAND
● Pre 1970 (17)
● 1970 - 1999 (1)
● 2000 onwards (4)



Distribution map of Portland Moth in Britain and Ireland

Survey Updates

There are similar concerning declines in Scotland as indicated by the map below that shows the distribution of the moth pre and post 2005. This clearly highlights that since 2005 it has only been found on the east coast and very locally on river shingles along the Spey. The inner Moray Firth is a stronghold, ranging from the Spey Bay dunes up to its northern-most site at Coul Links, as is Tentsmuir in Fife.



Scottish distribution map of Portland Moth pre and post 2005

Due to these declines Portland Moth is a high priority species in our Scottish Conservation Strategy and is also one of the species identified in Butterfly Conservation's new corporate strategy as part of its first strategic goal to halve the number of threatened species.

We are therefore keen to determine the moth's current status in Scotland and would like to encourage moth recorders to visit coastal sandy sites, as well as those along the Spey, with Creeping Willow, and particularly any of the dots on the map. We are also hoping to undertake targeted survey days at some of these locations e.g. Tentsmuir and Findhorn Dunes in August.

If you would like to get involved, or for more information please contact Tom

Email: tprescott@butterfly-conservation.org

Tel: 01540 661469. Mob: 07979 785665

Survey Updates



Ecosystem Explorers: Call for Volunteers!

Discover the hidden world of insects and their homes in all the green spaces around you...

The UK's species-rich grasslands (those home to a variety of plant species) have been reduced by more than 97% over the past century, threatening the vital services that these habitats provide us (from carbon storage to pollination). The loss of these areas threatens associated wildlife, including many butterfly and moth species, and we must monitor and manage these threatened habitats and species to avoid their permanent loss.

Ecosystem Explorers is a novel citizen science survey that aims to combine satellite imagery with environmental observations to save our species-rich grasslands and its associated butterflies and moths...but we need your help!

We are asking participants to get out into the field over the summer season and conduct butterfly and habitat transects to identify unrecorded areas of species-rich grasslands across Scotland and to tell us whether our models have been successful in recognising these habitats in satellite images. We are also interested in finding the locations of key species: in particular, common rock-rose for the conservation of the vulnerable Northern Brown Argus.



Common rock-rose; the food plant for Northern Brown Argus caterpillars. These flowers are often found on species-rich calcareous grasslands.

During your survey you will:

1. Walk a transect and record the general grassland habitat and any butterflies seen.
2. Conduct three small quadrat surveys to record the floral diversity across the habitat.
3. Look for common rock-rose and Northern Brown Argus eggs on your site.

If you would like to learn more about the survey and how to get involved, please email the lead researcher Samantha Suter at 2604496s@student.gla.ac.uk.



Get outside this summer and come help us survey species-rich grasslands across Scotland!

You can also follow the project's updates and learn how to get involved on the survey web platform: <https://citsci.org/projects/ecosystem-explorers>. To join the project, you will need to sign up to the platform with a pseudonym if you would like to stay anonymised. More information will be provided on the online platform in the coming weeks with detailed video tutorials and instructions for participating!

Thank you and we look forward to having you involved and contributing to the conservation of the UK's butterflies and moths!

Conservation News

Update on Moth Monitoring in Scotland

The development of a rare moth indicator has been a focus of attention at Butterfly Conservation in recent years. The aim is to systematically monitor 40 scarce moth species across the UK on an annual basis. Many of the selected species are those that are too scarce to have either distribution or abundance trends in the Atlas of Britain and Ireland's Larger Moths. The data collected as part of the scheme will contribute towards important reports such as the State of Moths and the State of Nature. This short article gives you an update on progress made on monitoring moths in Scotland so far.

Firstly, we reviewed species where there was already data available, with three moth species having datasets. The first two were New Forest Burnet and Slender Scotch Burnet, the latter monitored primarily by National Trust for Scotland on Mull. Both these datasets were long-term with data ranging back to the 1990's. Long term datasets such as these are incredibly valuable for monitoring purposes as they allow us to track population changes over time. The third species was *Lampronia capitella*, currently known from a single site in Scotland in the Borders. This species has been monitored by local branch volunteers the last few years where the number of wilted shoots on currants are counted.



Mountain Burnet

The next step was to develop and trial methods for monitoring new species. Given the diversity of life-cycles a wide range of methods could be used from counting larval spinings to adult moths. A total of seven species have had monitoring methods trialled so far, with those that worked including Mountain Burnet, *Ancylis tinena*, *Choreutis diana* and *Coleophora arctostaphyli*. For many of these species, with the generous help of volunteers we now have data from the last 2 to 3 years. As the dataset expands and more sites are covered over a longer time period we will be better able to understand how populations are faring. It's important we continue this work into the future as robust evidence is incredibly important for advocating for the conservation of moths.

Over the next few years we will be expanding the current network of sites working with local volunteers and will also continue trialling methods for new species such as for Heath Rivulet. If you're interested in taking part or would like more information please get in contact at pcook@butterfly-conservation.org.

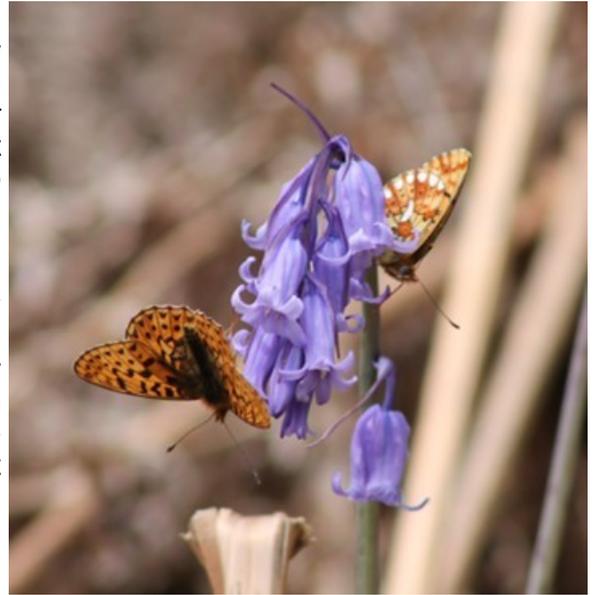
Patrick Cook
BC Ecologist/GIS Support Officer

Conservation News

Studying Pearl-bordered Fritillary at Loch Katrine

Over the past three months I have been undertaking a placement with Butterfly Conservation in Scotland as part of my PhD studies. I have previously studied Pearl-bordered Fritillary in Lancashire and so it was decided that I should conduct a similar research project in the Loch Katrine area. It was thought that PBF were long disappeared from the Trossachs but thanks to the hard work of volunteers several colonies have been discovered in recent years.

My work has been focussed on PBF egg laying. I was incredibly excited to find out where egg laying has been occurring for several of the colonies at Loch Katrine and also to work out why those sites had been chosen by females. My previous study in Lancashire had found that PBF are extremely fussy with where they choose to lay their eggs, often selecting areas with a hot microclimate and lots of their larval foodplant, the violet.



For the past several weeks I have been following females from four separate small colonies around Loch Katrine and I have managed to record over 40 egg laying events, which is fantastic! Especially as often the weather was against me and following a female over thick bracken makes the task very difficult. My results so far have been fascinating, at one site below Ben Venue I discovered a colony is thriving and laying their eggs in really hot microclimates, sometimes 10 degrees higher than the ambient temperature! Often, they have also laid on violet plants due to their vast abundance at this site (an egg can be seen on the image to the left!).

Unfortunately, however the other three sites were not as ideal. At these, females were laying in small restricted areas where bracken was thick, violets not as abundant and microclimate temperatures a lot lower. The number of PBF at these sites were also small. The hope is that these findings will go on to inform management around the Trossachs to improve their breeding areas.



I have thoroughly enjoyed my placement with Butterfly Conservation and it has been fantastic to get involved with organising this year's effort to survey PBF across Scotland. So, I want to say a huge thank you to all the volunteers that have got involved and to Butterfly Conservation for supporting this project. I am sure I will be back out again searching for PBF next year!

Jessica Burrows
PhD Placement

Pearl-bordered Fritillaries Project

Conservation News

A Good Year for Glen Feshie Dingy Skippers and Small Blues

Glen Feshie supports two of our rarest butterfly species, Dingy Skipper and Small Blue. Not only that but they occur in unusual habitat on dynamic shingle islands and river banks that support kidney vetch and bird's-foot trefoil, making it a fascinating destination for Scottish butterfly spotters. I took the opportunity of arranging a family outing for a first visit on 4th June this year, with a promise of paddling and cycling.

It turned out to be very well-timed indeed as it seems to have been a bumper year for the butterflies. I had no trouble finding both species quickly, after a short paddle out to a likely-looking shingle bank with sparse vegetation. Later we cycled further up the glen and cut through the woods to check out some similar looking river habitat, finding another strong population of Dingy Skipper with a few more Small Blues, on what appears to be a new site.



Dingy Skipper on its caterpillar foodplant, bird's foot trefoil - C Stamp

After reporting our trip on social media, others followed up and reported very high numbers of Small Blue, with between 100 and 200 in a small area.



Habitat at NH844007 - C Stamp

Conservation News



Habitat at NN847983 - C Stamp



Small Blue female at Glen Feshie, probably egg-laying on caterpillar foodplant kidney vetch, accompanied by a male. Likely eggs are visible on the flowerhead - Colin Wilson



Small Blue at Glen Feshie - C Stamp

The ease of finding these species led me to believe that they would be discoverable at new sites further downstream in similar habitat, and upstream in the glen possibly for several kilometres, but perhaps the strong populations this year means that that opportunity doesn't come round very often.

Small Blue is a species that can still be surveyed after the adults have stopped flying, as the caterpillars can be found on the kidney vetch flowerheads in July.

Chris Stamp

Conservation News

Taking it Sloe

When I worked in Linlithgow, one of my favourite runs was round Linlithgow Loch, but having retired at the end of March I have had to find something more local to my home near Auchtermuchty in Fife. I have only been here a couple of years and so don't know the area that well, but with Birnie and Gaddon Lochs practically on my doorstep they seemed ideal. Two circuits, 5km - perfect.

I had visited these lochs before but it was only during my April runs that I realised just how much Blackthorn there is: a 300m long wall of blossom on the north east edge of Gaddon Loch. My thoughts turned to Sloe Pug and on 24th April I tried beating bushes for caterpillars. I was delighted to find a caterpillar on my first attempt.

As I have got older, my moth trapping has deteriorated into setting the trap, going to bed then checking the trap contents in the morning. Stephen Buckland has been recording at Gaddon Loch a bit longer than I have and the couple of times we have been there together I could see that his technique differed slightly by setting the trap and then spending a couple of hours or more netting moths in the surrounding area either by torchlight or as they approach the trap. On 5 June, I thought I'd give that a go and so I set up two MV Robinson traps along the length of the Blackthorn bushes then spent the

next hour or so walking back and forth netting anything I could see flying round the Blackthorn in the gathering darkness. Most were immediately identifiable, but I potted some Pugs for closer examination in the daylight. The traps remained in place all night and the contents checked in the morning as usual.



Between the 2 traps were 150 moths of 50 species – a nice tally, but no Sloe Pug. Given how easily I had found the caterpillar I was rather surprised and disappointed. However, I had also netted 12 species and on closer examination of those that I had potted I found a single Sloe Pug. My CMR, Nigel Voaden, subsequently pointed out that Sloe Pug is notoriously trap-shy and so perhaps I should not have been so surprised by the result.

I am grateful to Nigel for the information and to Steve for reminding me of one of the fun sides of recording.

Duncan Davidson

Conservation News

White-letters make final preparations for 2022

One of the best things that has happened to me these past few years has been learning about the lifecycle of the White-letter Hairstreak. It's a whole new world I keep saying. But it is! Trees in general have always been much ignored in favour of open herb rich grassland filled with Fritillary, Blue, and Copper Butterflies. Looking up had never ever occurred to me much. Since then things have changed. Woodlands are now very much part of my year. Apart from White-letter Hairstreak of course, there are other woodland species to look for. The Speckled Wood, Red Admiral, Comma, Large White (a surprising inhabitant), and lately joined by the Holly Blue.

So, elms is where the action is concerning the lifecycle of this Hairstreak species. There are several varieties of elm, there are various stages of elm. Elm can be incorporated into hedgerow, it can be at seedling level, or very rarely a good old gnarly tree that has escaped disease and grown to an old age. White-letter Hairstreak are not all that fussy; however, they do prefer those trees that produce copious amounts of seed-bearing pods.

I spent winter sporadically looking for eggs on elms locally around the village of Chirnside in Berwickshire. It's where I live, so you would think I would know something about my local patch. Truth is these days, things can change so quickly that many things can be missed. While out gallivanting around the Border chasing White-letters I had failed to notice until last year that the Hairstreaks had settled all around me. I now have occupied trees less than a half mile from home. It's very exciting of course because I can go out and look for them all year round. Previously I was needing to board several buses and spend 9-hour days to get to sites and back. As a result, I learned next to nothing quickly.

Once the caterpillar hatches it digs a way into a nearby bud, and then goes missing for a short while, shedding skin to camouflage itself from predators mimicking perfectly the stages of elm development from bud to flower, to seed pod, to leaf. Now... my test case this year was named Haggis, for whatever reason. The elm Haggis occupied stood by the Whiteadder at Ninewell Mains. During Storm Arwen a diseased elm had been brought down nearby that caught on a large elm branch on the other bank allowing me full access to one whole branch at eye level for all this season. A very lucky find. Despite me keeping an eye on this elm, after hatching I completely lost sight of Haggis. I visited often and found nothing but very slim evidence that Haggis was in fact still alive. I studied the elm and studied the elm and finally when the seed pods appeared I became more confident as I could see typical seed pod damage with many of the pods chewed with clear central holes. It wasn't until the 21st of May that I finally caught up with Haggis again. Haggis had reached third Instar by now and was not far away from thinking about pupating. At this stage White-letters move on to leaves of the tree and can be quite obvious with lots of local damage, especially visible around the canopy of the tree where most eggs are laid.



The third instar larva feeding up on the elm leaves on the underside.

Conservation News

I visited more regularly and found several other nearby White-letters at roughly the same stage and wondered when the next change would come. I didn't have to wait long. In no more than a few days Haggis had morphed to its final instar and was obviously now slowing down and looking for a safe place to pupate. A few strands of silk are wound around the head end to the underside of a leaf, and from then it's a process of change. Locked in. No going back. The following images show the fourth instar, the developing pupa, and Haggis in full Chrysalis armour ready for the big off in July.

The final instar larva now attached to the underside of the leaf awaiting the next big change



The change begins as the larva darkens further



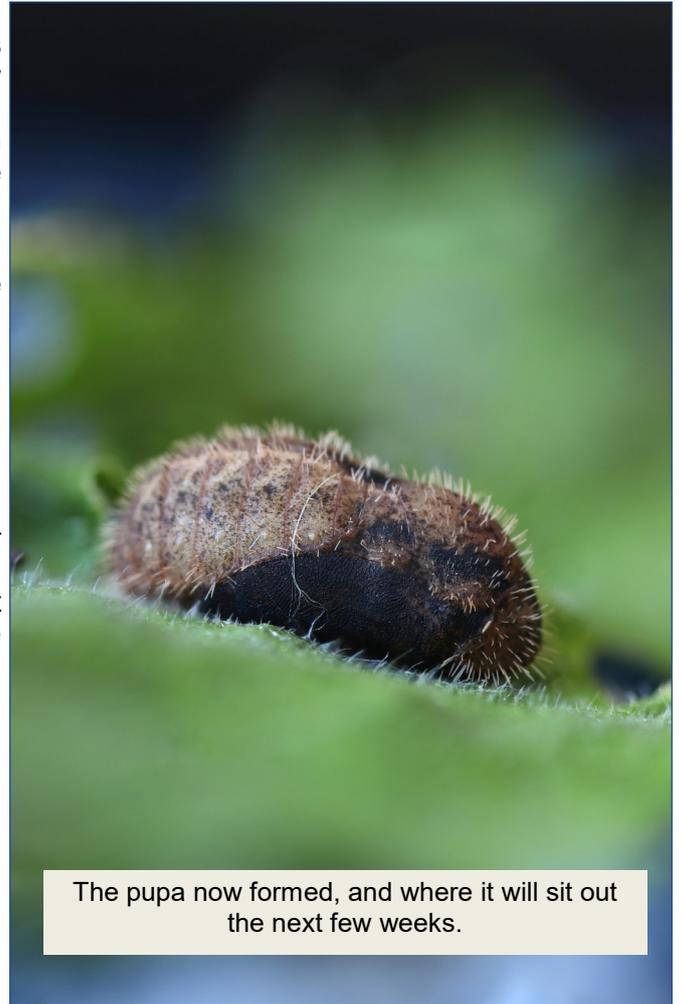
Conservation News

I am hoping to learn something of just how early the adults can emerge. What we have learned so far is that they emerge from the very last days in June at the earliest, though I have a sneaking suspicion it can be earlier than that. I guess it would all depend on the development of the larva from the egg, and then current weather conditions. There are far more factors than that of course.

Just a note to finish on regarding the colouration of the final instar, and the pupa. At all stages of White-letter Hairstreak development the emphasis is on camouflage, yet it appears that during the final stage of this Development, camouflage tactics are thrown out the window as the larva turns dark brown becoming very obvious to see, and the pupa itself is hardly inconspicuous. I believe that in the right conditions the larva would actually drop to the ground to pupate, rather than remain on the tree in plain sight. That would explain the colour change. It would be a far better camouflage at ground level amongst debris and detritus. It may be the case that some do, and some don't.

Iain Cowe

Borders Butterfly Recorder



The pupa now formed, and where it will sit out the next few weeks.

Conservation News

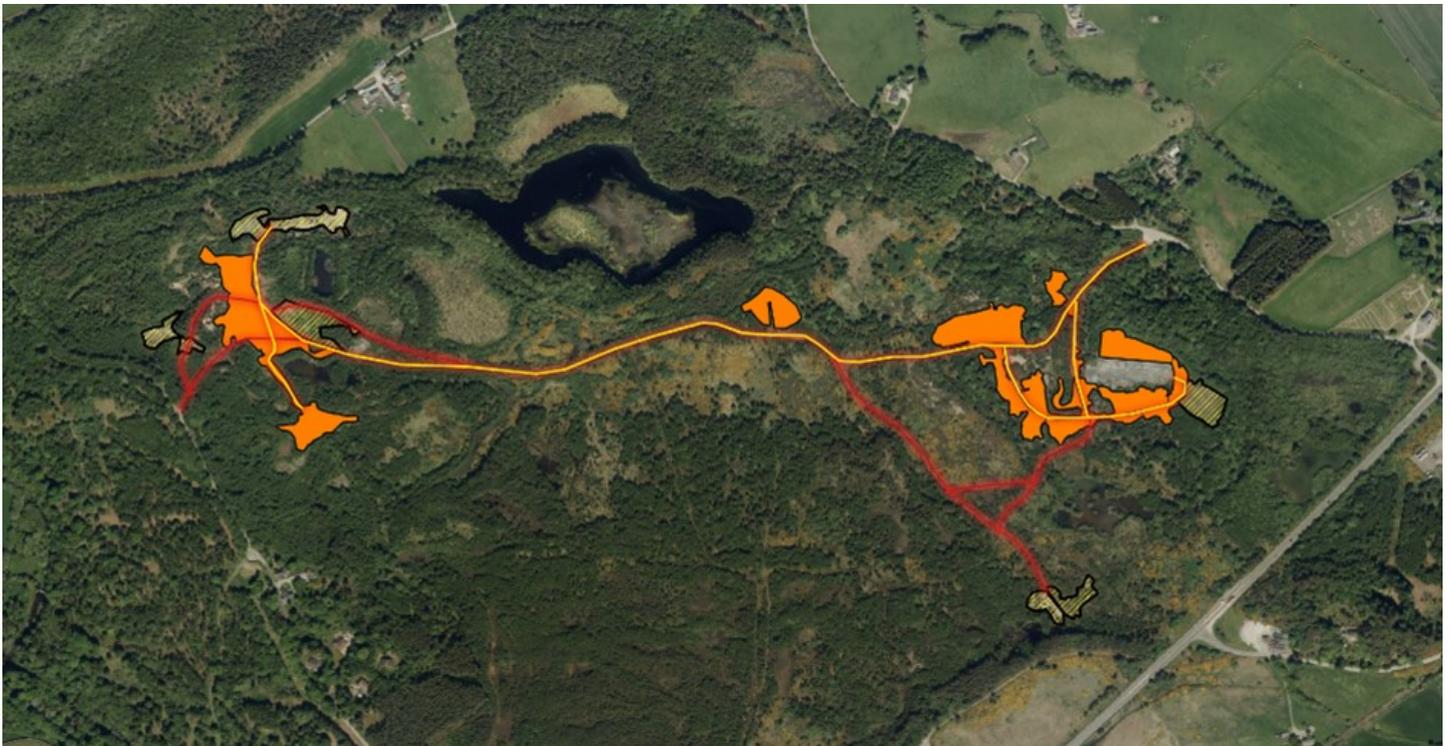
Logie Quarry

As reported in the previous Enews we were successful in gaining funding from Highland Council's Highland Nature Restoration Fund to work at Logie Quarry near Tain to benefit Dingy Skipper and Small Blue. Highland branch had previously undertaken a couple of work parties at the site clearing scrub using handtools, mainly the wonderful Treepoppers, and had thus started to make a positive impact. However, the funding now gave the opportunity to work at a much bigger and more ambitious scale.



Happy Highland Branch Poppers!

The aerial map below outlines our intentions. The orange areas being proposed clearings, the yellow line existing paths whose sides would benefit from being flailed to improve connectivity between the butterfly populations in the west and east. The red lines are other existing tracks and the shaded polygons additional areas that would benefit from being opened up. To get a scale of the proposals the distance, from east to west, is around 1.5km.



Logie Quarry Proposed Management Map

Conservation News

The track sides and clearings in the east were flailed by Kim MacKenzie of Kildary Plant Hire using a tractor mounted flail, whilst the area in the west was tackled by contractors from LandTech using clearing saws, chipping the cut material on site.



Tractor mounted flail in operation

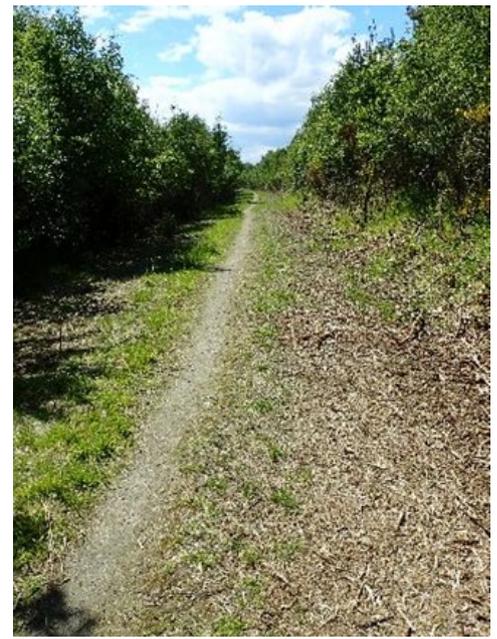


Recently created clearing

A well-attended Butterfly Day was held on the 4th June to see the impact of the management on the site and the butterflies. Excellent numbers of Small Blue were counted across the site with an estimate of around 150, with around 50 Dingy Skipper seen.



An Abundance of Bird's-foot Trefoil



Opened-up Track Sides

Although early days, the initial signs are very encouraging both in terms of the number of butterflies seen and more importantly how widespread both larval foodplants are; Bird's-foot Trefoil and Kidney Vetch. However, further work will be required to ensure that these areas remain open and prevent broom and birch in particular from re-establishing.

I would like to thank Highland Council for their generous funding to support this work, LandTech and Kildary Plant Hire for undertaking the work at short-notice and for Balnagown Estate for allowing, supporting and encouraging this work on their land.

Tom Prescott
Senior Conservation Officer

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