

Fife & Clackmannanshire Butterfly Report 2024
Gillian Fyfe and Elspeth Christie
County Recorders for Fife & Clackmannanshire



Small Copper - credit Simon Watson

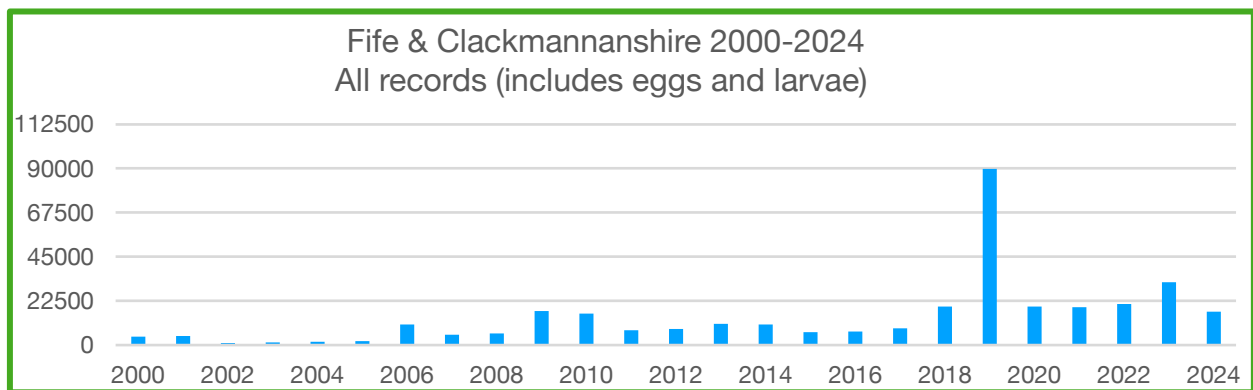
Looking back at 2024

The total number of records received in 2024 was over 17,000, roughly half the number in 2023. Overall, it was a very poor year for butterflies and Butterfly Conservation declared a butterfly emergency in September 2024. The number of records for the top 5 species was the lowest in the last six years with 9617 received; the previous low of 10,670 was in 2021.

The weather can have a major impact on butterfly populations causing noticeable fluctuations in populations. Storm Babet in October 2023 brought record breaking rainfall to Fife and Tayside. The winter was fairly mild and wet. This could have been a factor in low numbers of adults in the spring. Then, the spring and summer of 2024 continued in a similar vein with few spells of sunny, warm weather.

We would like to thank everyone who has taken the time to send in records; your contribution is vital to Butterfly Conservation's important work tracking the changes in the UK's butterfly species' distribution and abundance. The graph below illustrates the increase in records received over the last 25 years, allowing more detailed analysis of our local species' populations and distributions.

Graph 1: All adult records 2000-2024



The top 5 species in 2024

In Fife 25 species have been recorded in the last ten years, with 20 in Clackmannanshire. Over the last 6 years there has been a fair bit of jostling for positions in the top 5 rankings, as the table below highlights.

The Peacock is the only Vannessid to appear in the top 5 every year, however with reduced numbers in 2024. The Red Admiral, a migrant, had a great year in 2019 with nearly 17,000 records. It just sneaked in to the rankings in 2020 at fifth place, then had another good year in 2023 coming in at top place with 12,120 records. Numbers were much reduced in 2024 with this species not making the top 5 rankings. The migrant Painted Lady had a bumper year in 2019 with an astonishing 50,396 records, since then it has not made the top 5.

Table 1: Annual totals: top five species in Fife & Clackmannanshire (adult records)

Rank	2019	2020	2021	2022	2023	2024
1	Painted Lady (50,396)	Ringlet (3,349)	Ringlet (2,938)	Ringlet (3,354)	Red Admiral (12,120)	Ringlet (2478)
2	Red Admiral (16,972)	Peacock (2,469)	Meadow Brown (2,474)	Meadow Brown (2,902)	Meadow Brown (3,808)	Meadow Brown (2139)
3	Peacock (4,027)	Small Tortoiseshell (2,364)	Small Tortoiseshell (1,882)	Peacock (2,519)	Peacock (2,365)	Speckled Wood (1756)
4	Ringlet (3,175)	Meadow Brown (1,907)	Green-veined White (1,694)	Small White (1,792)	Ringlet (2,139)	Peacock (1640)
5	Small Tortoiseshell (2,651)	Red Admiral (1,813)	Peacock (1,682)	Green-veined White (1,695)	Large White (1,843)	Large White (1604)
Total	77,221	11,902	10,670	12,262	22,275	9,617

The national decline in the Small Tortoiseshell continues with such low numbers recorded in the last three years that it has dropped out of the top 5. The Ringlet and Meadow Brown have dominated the top spots over the last 4 years, with Green-veined and Small Whites doing surprisingly poorly, only the Large White appears at number 5 in 2023 and 2024. The Speckled Wood continues to colonise the region appearing for the first time at third place in 2024. This is a remarkable increase in numbers considering it only arrived in Fife 10 years ago. However, 2024 numbers were not greatly increased on 2023, it has entered the rankings due to the low numbers of other species.

2024 UKBMS

The UK Butterfly Monitoring Scheme (UKBMS) is a long-term monitoring scheme involving repeat sampling along transects at over 3,000 locations across the UK with over 2,500 volunteers. Here in Fife & Clackmannanshire 18 transects were monitored weekly from April to September in 2024. Walking a transect can be a long-term commitment and it is excellent that so many transects continue to be monitored adding to the long-term data sets. A big thank you to all the transect walkers who generate around a third of all the records we receive each year.

The Clune transect at Lochore Meadows has a valuable data set stretching back 17 years. Long term recorder George Guthrie was unable to continue monitoring here in 2024. Many thanks to George and his team of helpers who have recorded here over the years. Highlights have included 53 Small Pearl-bordered Fritillary in June 2011, and 2 Small Skippers in 2020, the 2nd and 3rd records for Fife! It was only monitored twice in 2025 and we hope a new team of volunteers will come forward. Continuing to monitor long term transects is of most value, however several new transects have been set up in recent years, which will in time, with sustained volunteer effort contribute to the long-term dataset.

Map 1: UKBMS transects in Fife and Clackmannanshire 2024



Across the UK

At the UK level the data from the UKBMS showed that 2024 was one of the poorest years on record for butterflies; in fact, the fifth worst year for UK butterflies in the last 50 years. Worse news was that more than half of butterfly species in the UK are now in long-term decline. Worryingly, nine species had their poorest year since records started, including the Green-veined White, Small Copper, Small Pearl-bordered Fritillary and Small Tortoiseshell.

Across Scotland

Green-veined White and Small Tortoiseshell (65% decline) had their worst years in the 46-year series. As these are both geographically widespread species with common larval food plants this decline is particularly concerning. No species present in Scotland had their best year on record in 2024. Small Copper have declined by 61% in the last decade. Grayling continues to decline with a very highly significant minus 92% change in abundance since 1990.

Relative newcomers to Fife, the Wall and Speckled Wood, show highly significant increases in numbers as they expand their ranges; +718% over the last 24 years, and +375% over the last 26 years respectively. The gains in Scotland for Wall are at odds with highly significant declines over the last 49 years in England of 86%. There is evidence from the Borders (pers. comm. Iain Cowe) that Wall numbers have declined over the last few years here after initial colonisation from the south, although the distribution continues to expand.

Link to UKBMS official statistics for 2024 <https://ukbms.org/official-statistics>

Distribution maps for all Fife & Clackmannanshire species from 2010 to 2024 are available on the East Scotland Branch BC website at <https://butterfly-conservation.org/in-your-area/east-scotland-branch/fife-and-clackmannanshire-butterflies>.

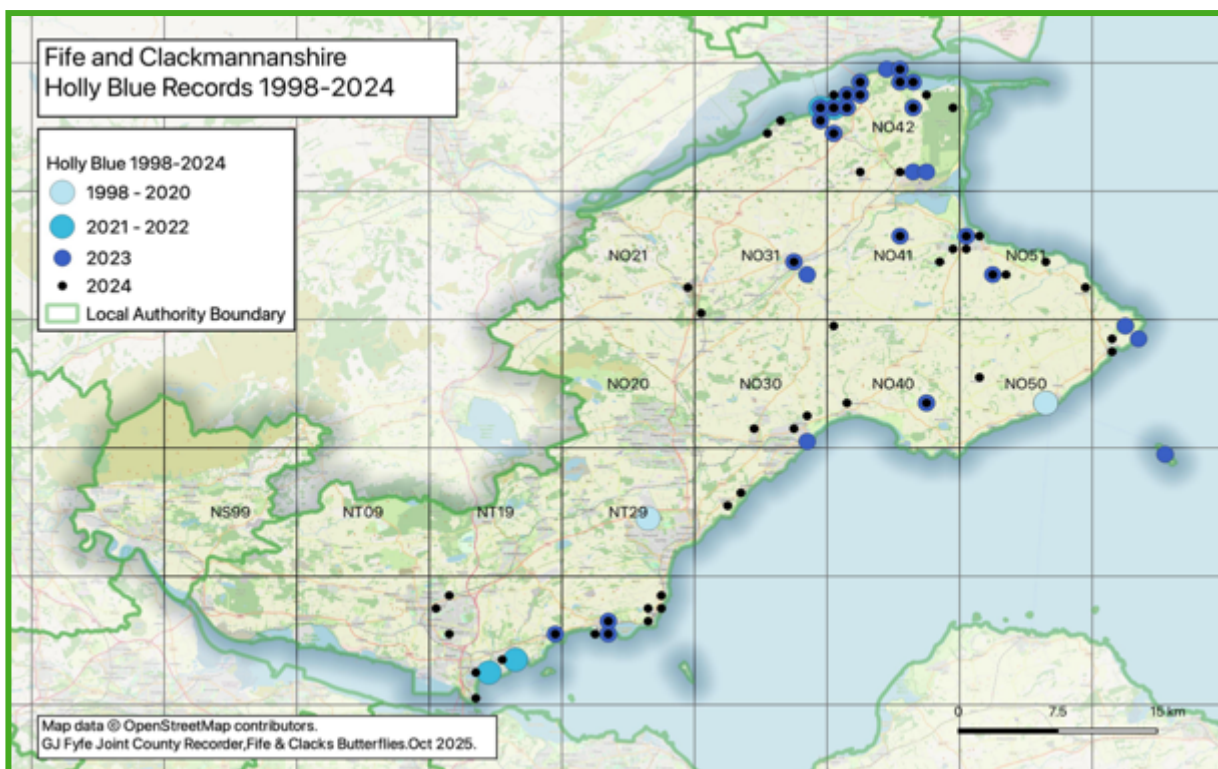
National distribution maps for all Scottish species can also be found on the East Scotland Branch website - <https://butterfly-conservation.org/in-your-area/east-scotland-branch/scottish-butterfly-maps-and-lifecycles>

2024 highlights – Speckled Wood enters the top 5 table for the first time, with Holly Blue and Wall continuing to colonise.

Holly Blue

The range and population size of the Holly Blue continued to expand with 361 records received in 2024, double the number in 2023. The population hot spots are still focused in north east Fife around Wormit, Newport and Tayport. The map below highlights the expansion of range in 2024 with records in the Howe of Fife in Cupar and around Ladybank, Leven and Dunfermline. Several new records on the coast were received from St Andrews, the East Neuk and along the south coast to North Queensferry. This really is a remarkable expansion since the first record in 1998 from Anstruther. Two broods a year have now been observed, with the females laying their eggs on holly in the spring, and second brood females laying eggs on ivy in the summer. This butterfly could now turn up almost anywhere in the county where holly and ivy grow together in sunny locations. It is largely found in urban areas with sheltered gardens, churchyards and green spaces allowing suitable habitat to thrive. Perhaps next year the first records will come in from Clackmannanshire.

Map 2. Holly Blue records in Fife 2010 to 2024

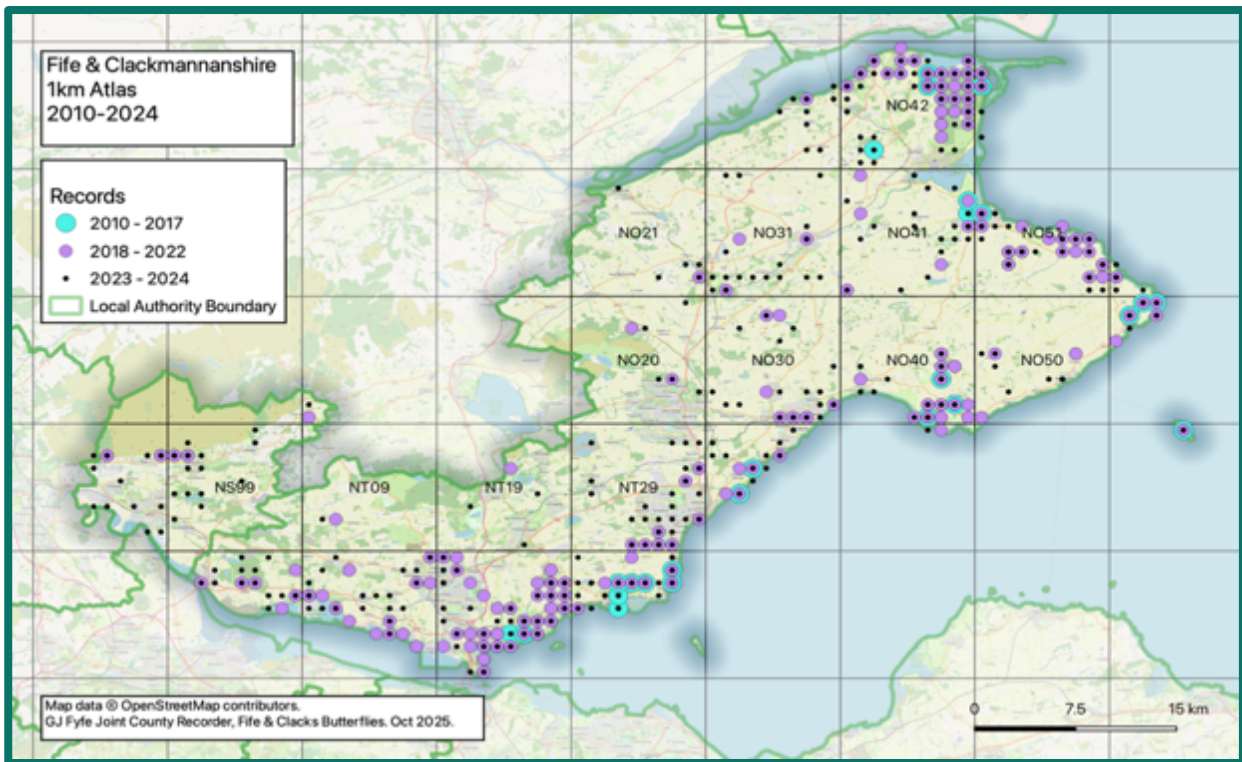


Speckled Wood

The Speckled Wood continues to colonise the region appearing for the first time at third place in 2024 'top 5 ranking table' with 1756 records. This is a remarkable increase in numbers considering it only arrived in Fife in 2014 with one record at Shell Bay, near Earlsferry. In 2023 there were 1647

records, so there has not been a big increase in the population, however the distribution continues to expand. Its entry in to the top 5 is more a reflection on the poor year other species had in 2024 rather than a leap in the number of records. Initially, it was found colonising the coastal dens along the southern and eastern fringes of Fife. More recently it has rapidly extended its range inland popping up across the Howe of Fife, around Dunfermline and north east Fife. The population in Clackmannanshire is now well established, with the first records appearing there in 2020.

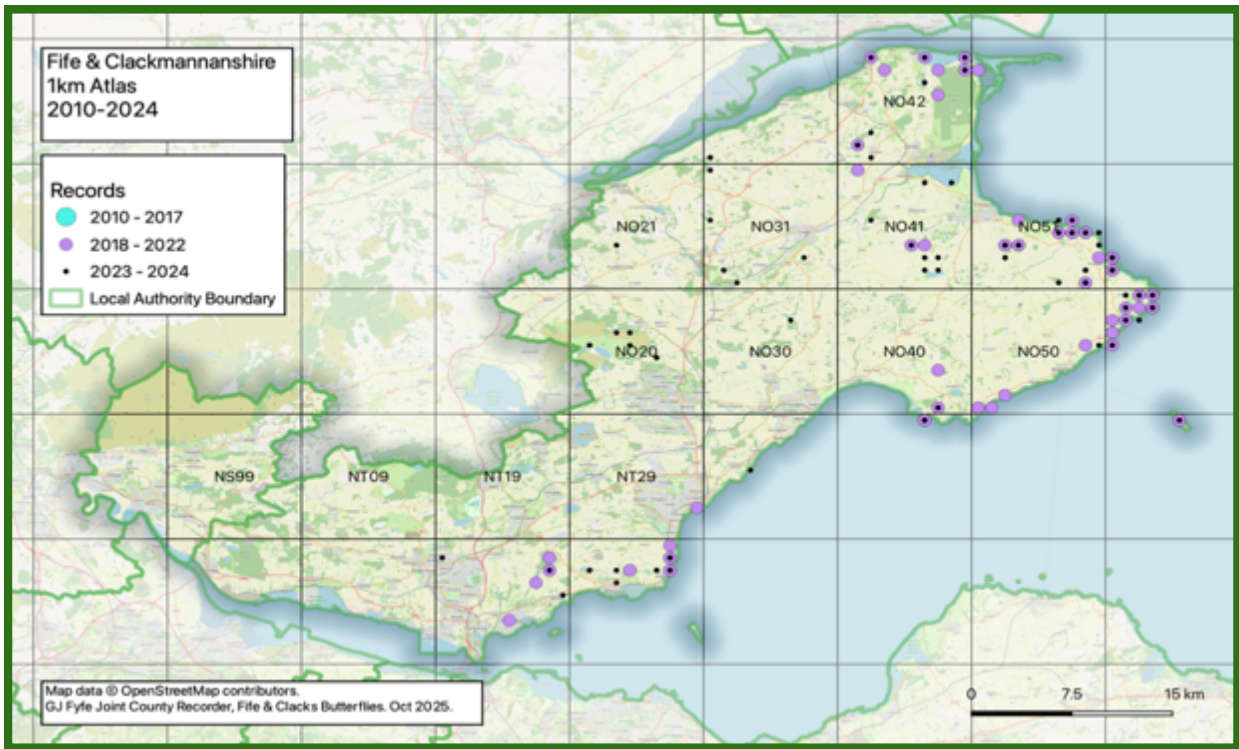
Map 3. Speckled Wood distribution in Fife & Clackmannanshire 2010 to 2024



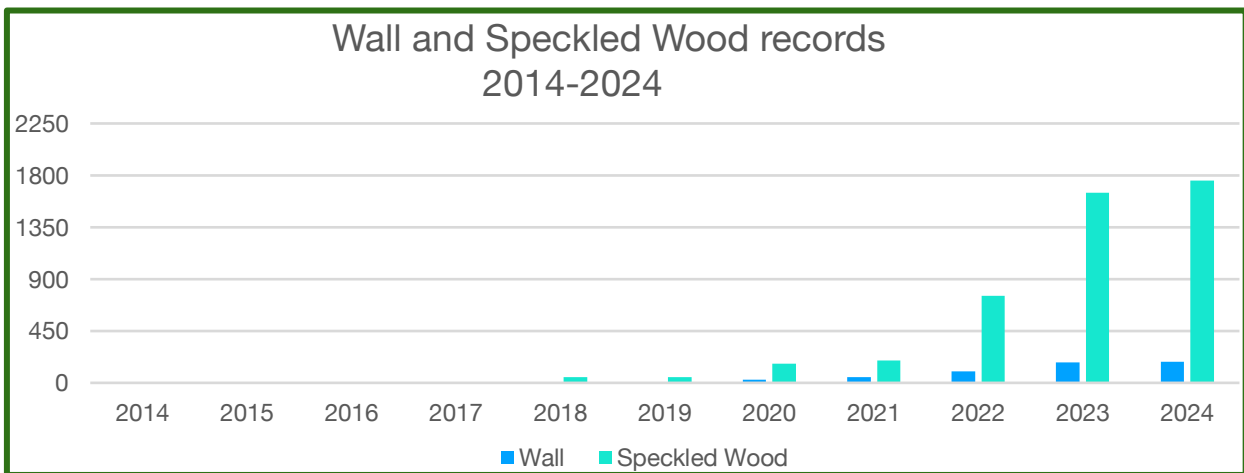
The Wall

The Wall continued to be noted across Fife with 183 records in 2024. This was much the same numbers as 2023, however the range expanded with new sites at Dunfermline, Auchtermuchty Common and around the Eden Estuary. The first record in Fife was in 2019 at Seafield near Kirkcaldy and hotspots are still largely coastal, particularly in the East Neuk. The last couple of years butterflies have been recorded on Fife’s hills where they were observed displaying ‘hill-topping’ behaviour. This strategy involves the males patrolling the summits in the hope of finding females, and is noted in species with low densities most often in spring and autumn. Since 1999 the Wall has increased in Scotland dramatically, with a 133% increase in the last 10 years. There have been no records of Wall in Clackmannanshire yet.

Map 4. Wall distribution in Fife & Clackmannanshire 2010 to 2024



Graph 2: Speckled Wood and Wall records 2014 to 2024



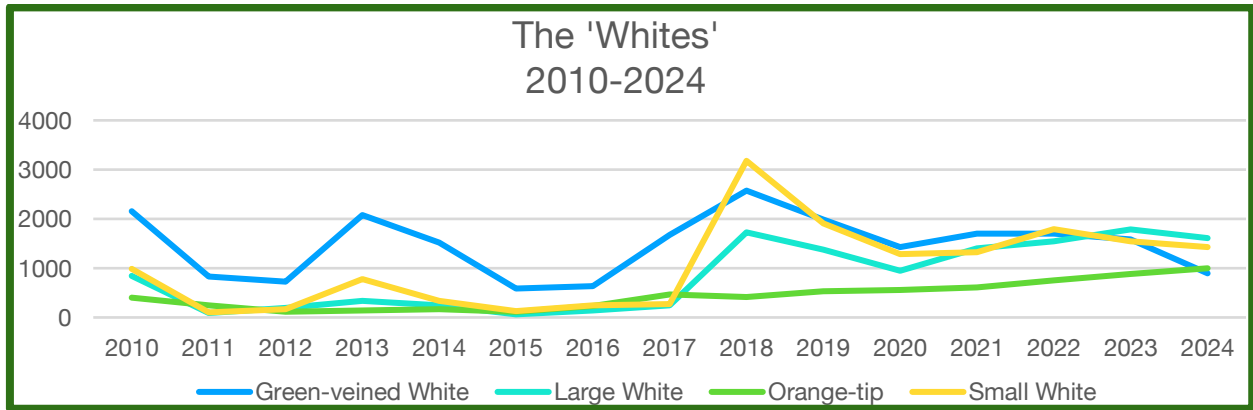
Species round-up in Fife & Clackmannanshire

The Whites – Pieridae

Numbers of butterflies within the Pieridae have stayed roughly level over the last five years. The exception is the drop off in Green-veined White numbers in 2024 to some of the lowest levels we have seen locally. This mirrored the picture across Scotland. 2024 proved to be a relatively good year for Large White with 1604 records; down slightly from 1843 records in 2023. Orange-tip records have continued to rise since a low point in 2012, with 998 records in 2024 the highest number in

the last 15 years. Small White numbers have remained fairly stable over the last 5 years with it only entering the top 5 ranks in 2022 with 1,792 records. In 2024 1,419 adult records were received, down marginally from 2023.

Graph 3: The Whites - records from 2010 to 2024



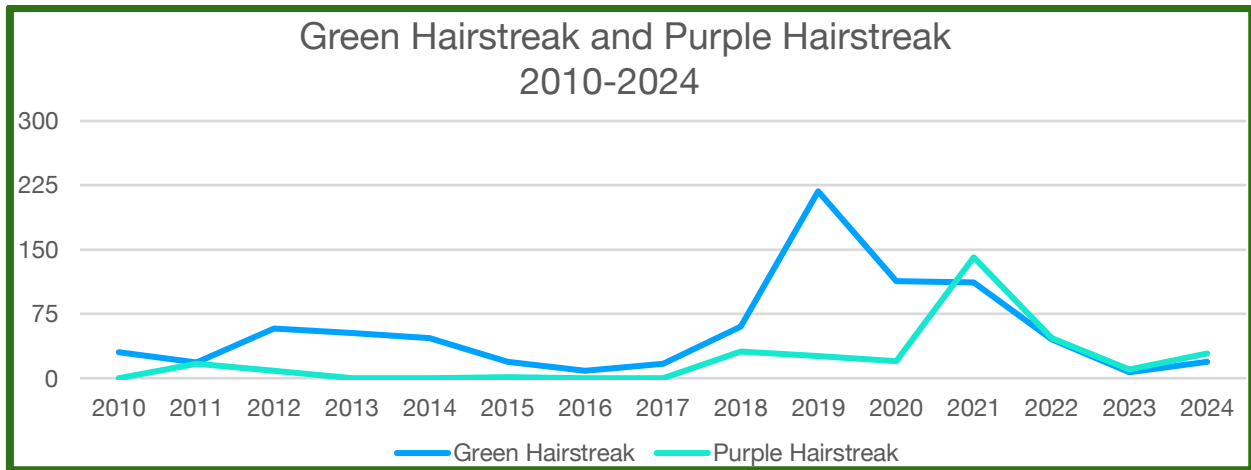
The Hairstreaks, Coppers and Blues - Lycaenidae

In 2023 **Green Hairstreak** had the worst year since 2010 with just 7 records, this was followed by a small increase to 19 records in 2024. This continues the downward trend since the recent peak in 2019 with 218 records. The Green Hairstreak is likely to be under recorded due to its impressive camouflage, early flight season and specialist habitat on hills and heathland. Strongholds at Tentsmuir, the Lomond Hills and the Ochil Hills are usually reliable places to see this butterfly in May. Other colonies have been recorded at Benarty Hill, Loch Glow, Norman’s Law and at Lucklaw Hill.



Green Hairstreak – credit Simon Watson

Graph 4: Green Hairstreak and Purple Hairstreak records 2010-2024



Purple Hairstreak

In 2024 only six adult Purple Hairstreak were recorded and 4 eggs. This is considerably fewer than the impressive peak of 141 records in 2021, when high recorder effort boosted numbers. New sites were discovered however, extending the known range of this species to populations at Menstrie Wood and Tillicoultry in Clackmannanshire, and Wormit in north east Fife. This species continues to present challenges to recorders with a relatively short flight period and a tendency to fly late in the afternoon and early evening high up in the canopy of mature oaks trees.

The **Small Copper** has had three very poor seasons with only 260 records in 2024 continuing the steep decline from a high of 1703 in 2018, preceded by a similar high of 1743 in 2012. Small Copper has a wide-spread distribution with the larvae feeding on Common Sorrel and Sheep's Sorrel. A few records came in from new sites, but it is clear this species is not faring at all well locally, reflecting the decline in Scotland of 61% in the last ten years. A similar picture of recent declines is found in England and Wales.

The **Northern Brown Argus** is dependent on its only larval food plant the Common Rock-rose, which has a restricted distribution growing on rocky slopes along the coast of southern Fife, and in the Ochil Hills in Clackmannanshire. In Fife Kinraig Point, near Elie is the stronghold for this butterfly with smaller colonies between Dalgety Bay and Seafield. In the Ochils records came in from a new site east of Menstrie. The high number seen in 2021 (683 adult records) was the peak count of the last 15 years. In 2024 numbers were higher than the previous two years with a total of 378 adults. Targeted egg counts found 222 eggs. Well done to Hamish Johnston and Stuart Cathro who carried out the surveys, and recorded so many of the tiny eggs on the upper surface of the Rock-rose leaves in late July and August.



Northern Brown Argus - credit Simon Watson

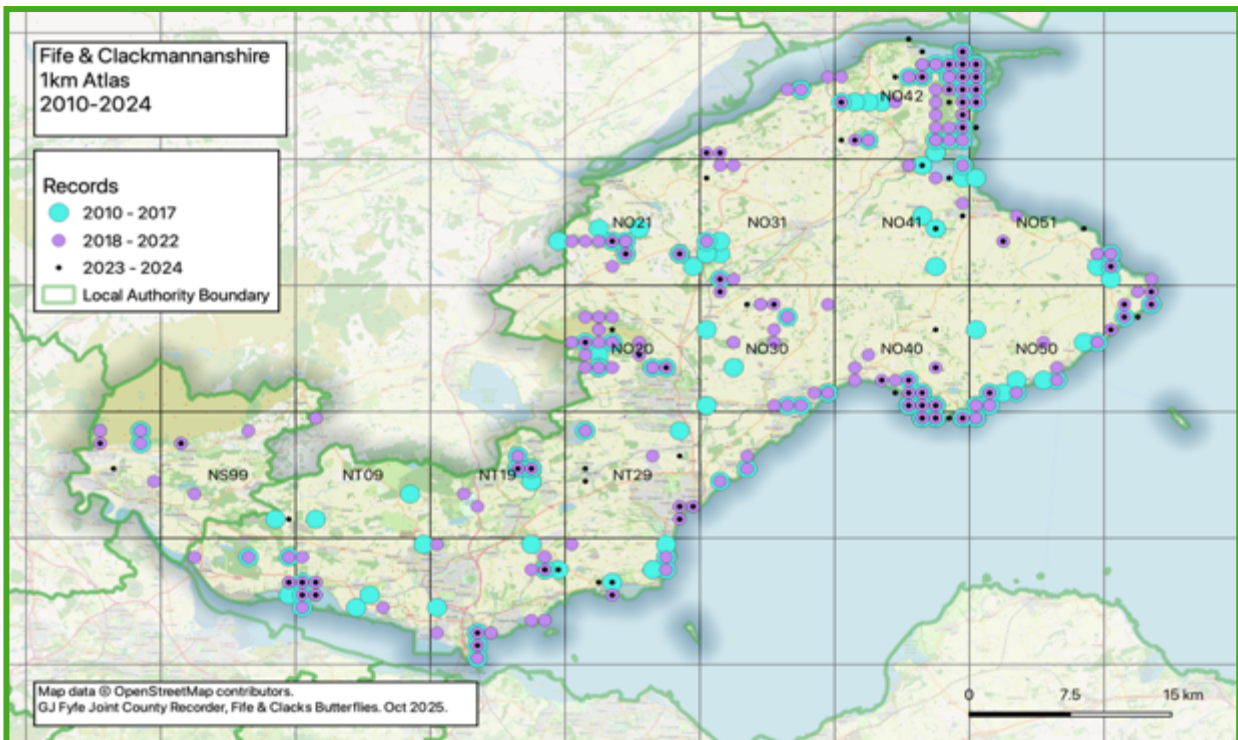
Common Blue

Common Blue numbers increased in 2024 to 430 records after a poor year in 2023 with 238 records. 2024 was in line with recent years although well below the best year in 2018 with over 600 records. This species is widespread cross Fife and Clackmannanshire requiring unimproved grassland with Bird's-foot trefoil, the favoured larval food plant, and other flowering plants such as thyme, for nectaring.

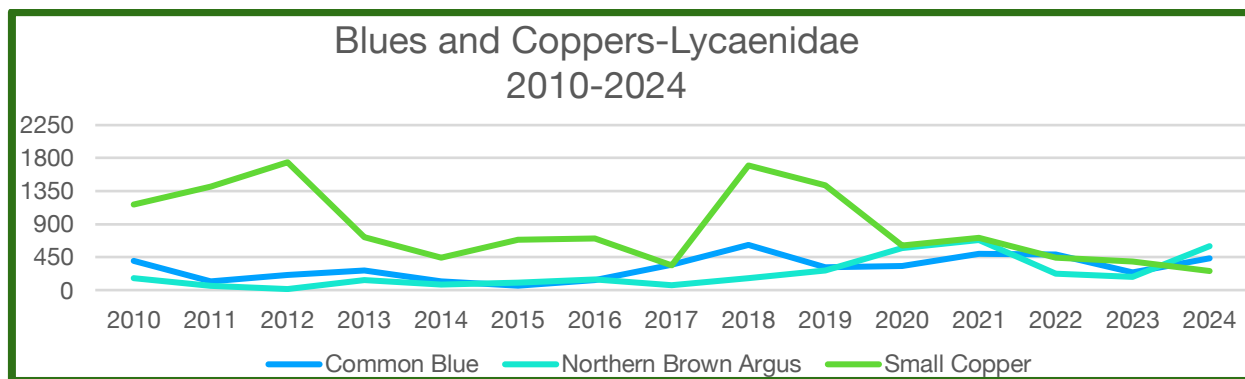


Common Blue female (left) and male (right) - credit Simon Watson

Map 5. Common Blue distribution in Fife & Clackmannanshire 2010 to 2024



Graph 5: Common Blue, Small Copper and Northern Brown Argus - number of records from 2020-2024



The Vanessids - Nymphalidae

The national decline in the **Small Tortoiseshell** continues with such low numbers recorded in Fife and Clackmannanshire in the last three years that it hasn't featured in the top 5. In 2024 just 325 records came in, compared to 1,399 the previous year. Across the UK this species has now declined by 86% over the last 50 years, which is a shocking statistic for such a well-known butterfly that frequently visits urban gardens to feed on flowering plants and bushes, particularly in the spring and autumn. It overwinters as an adult, hibernating in cold outbuildings, log piles and holes in trees. The eggs are laid in large clumps on nettle leaves in the spring, and the caterpillars can easily be observed developing quickly from tiny larvae in their protective web to large spiky caterpillars looking for the ideal spot to pupate.

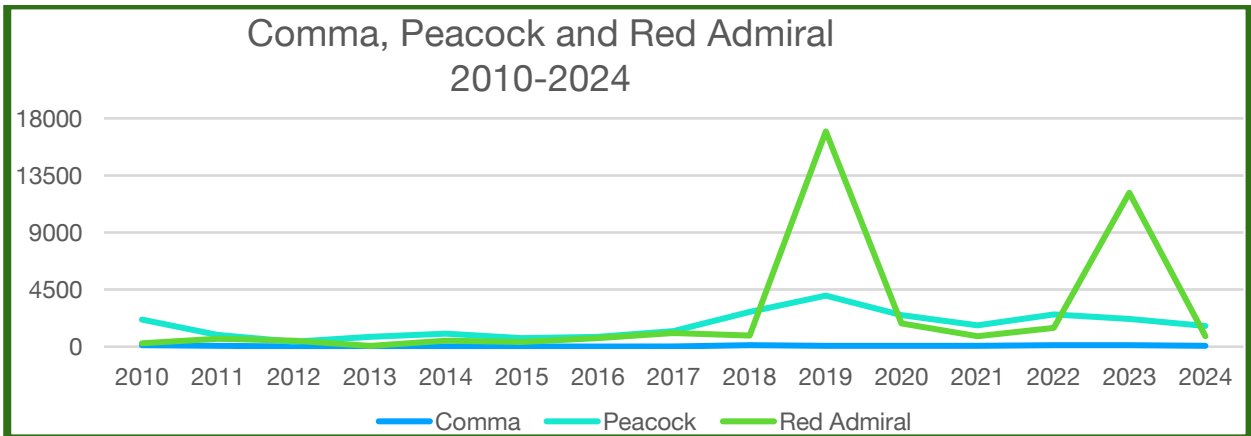
The migrant **Painted Lady** had a bumper year in 2019 with an astonishing 50,396 records, since then it has not made the top 5 ranking table with numbers in the low hundreds at best over the last five years. 2024 saw just 59 adult records, the same as in 2023.

The **Red Admiral**, another migrant, had a poor showing in 2024 with 814 records, which is a comparable low with 2021. This contrasted with high numbers in 2023 when it topped the rankings with 12,120 records.

Peacock has been in the top 5 rankings every year since 2019 with 1,530 records in 2024 coming in at 4th place. This is less than in previous years with a high in 2019 of 4,486 records. Along with other Vanessids Peacocks can often be found in gardens enjoying nectaring on flowering plants and shrubs such as Asters, Sedums and Buddleia.

The **Comma** is present across Fife and Clackmannanshire in low numbers every year and can turn up just about anywhere where suitable woodland and garden habitat occurs. It hibernates as an adult relying on its superb camouflage for concealment amongst fallen leaves in scrubby thickets, gardens and woodlands. 80 records were received in 2024, down on the previous two years, but nearly double the number in 2021. Nettles are the favoured food plant, and also elm and currant bushes. The striking caterpillars are elusive with just four records in the last couple of years - the white splash along the back mimics a bird dropping, making for superb camouflage amongst the leaves.

Graph 6: Comma, Peacock and Red Admiral - number of records from 2010 to 2024

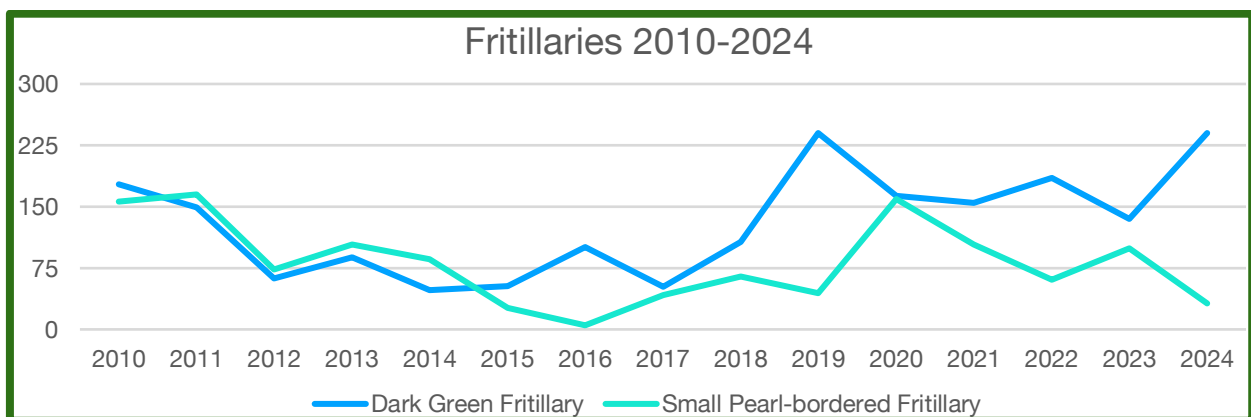


The Fritillaries - Nymphalidae

The **Small Pearl-bordered Fritillary** had a really poor year in 2024 with just 32 records, which was disappointing after a better year in 2023 with 99 records. It was recorded at two new sites this year - Lucklaw Hill and Clatto Reservoir and records came in from established colonies including Morton Lochs, Devilla Forest, Rossie Bog and Harperleas Reservoir. Sadly, this species has not been recorded for several years at Tentsmuir Point or Auchtermuchty Common.

The **Dark Green Fritillary** made a reasonable recovery in 2024 with 240 records following a poor year in 2023 dipping below 150. Generally, this species is faring better than the Small Pearl-bordered as it is less particular regarding its habitat requirements although both rely on violets, either Marsh or Common Dog Violet, for the larval food plant. Hot spots for this large, handsome butterfly are Tentsmuir and Earlsall Muir, the Earlsferry/Kincraig coast, the Lomond Hills, Norman’s Law, and the southern slopes of the Ochils.

Graph 7: Dark Green Fritillary and Small Pearl-bordered Fritillary records 2010 to 2024.



The Browns - Nymphalidae

Grayling

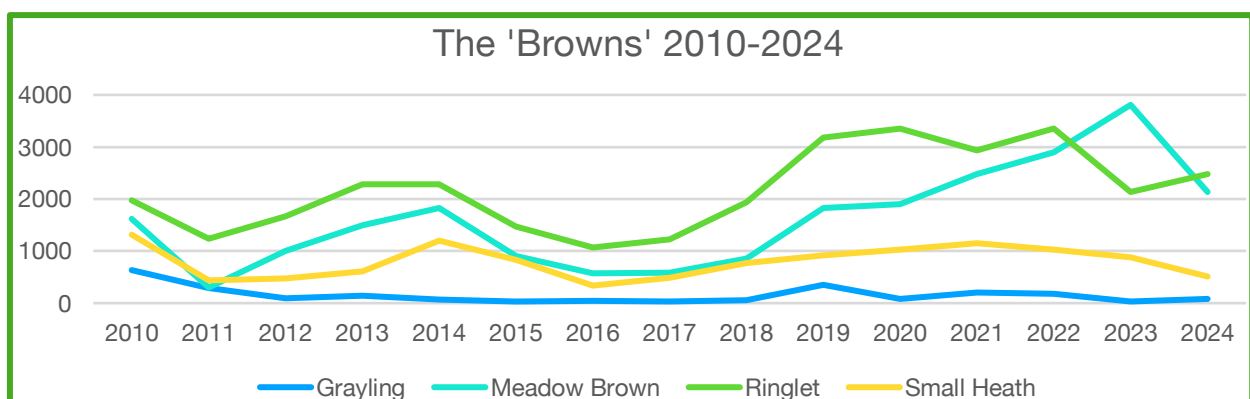
The coastal habitat from Tentsmuir south to the Eden Estuary continues to be the only area in Fife where Grayling are found, apart from the population at a mothballed inland quarry site near Wormit. The larval food plant is a variety of grasses including Sheep's Fescue and Marram. In recent years Grayling numbers have been on the decline with a high of 349 records in 2019, to just 37 in 2023. There was a slight recovery in 2024 with 82 records. The local population is in decline which mirrors the situation across Scotland with a decline of 92% since 1990. Hopefully the restoration of the heathland strip between Tayport and Tentsmuir Point will provide suitable habitat for Grayling. Work is ongoing by Naturescot, Forest & Land Scotland and Butterfly Conservation to reduce regeneration of trees and scrub on the sand dunes from Tentsmuir Point to Reres Wood.

Meadow Brown and Ringlet

The **Meadow Brown** and **Ringlet** have dominated the top 5 ranking table since 2020. These two species can turn up just about anywhere in Fife and Clacks where there is suitable grassland habitat. Across Scotland the Meadow Brown has increased by 115% in the last ten years, and the Ringlet by 228% since 1996. Here, Meadow Brown numbers have increased each year since 2016, peaking in 2023 with 3808 records, then dropping dramatically in 2024 to 2139. Ringlet numbers were pretty stable from 2019 to 2022, then in 2023 numbers dropped to 2139, making a slight recovery in 2024 with 2478 records.

The **Small Heath** had a really poor year in 2024 with 509 records, the lowest number since 2016 and 2017 when 337 and 486 respectively were recorded. The recent peak in 2021 was 1146 records. It is found on unimproved grasslands/heathland mosaics with long established colonies at Tentsmuir Point to Earlshall Muir, Elie to Lundin Links, the Lomond and Ochil Hills. Additionally, it occurs fairly widely across the area wherever suitable habitat occurs such as Norman's Law, Auchtermuchty Common, Lucklaw Hill and Lochore Meadows. Across Scotland there has been a decline of 13 % in the last 10 years.

Graph 8: the 'Browns' - records from 2010 to 2024



Large Heath

This species is a peatland specialist requiring Hare's tail Cottongrass, the main larval food plant, and abundant Cross-leaved Heath for nectaring. Not surprisingly its distribution is greatly

restricted in this area. Colonies are found at Lockshaw Moss and Dun Moss, both west of Saline, and on Tipperton Moss in the Cleish Hills. Just two records were received in 2024 after no records over the previous three years. This is probably largely a reflection on the lack of recording at these sites, although the population across Scotland has declined since 2003 by 27%.

The Skippers - Hesperidae

The Small Skipper is the only species in this family found in Fife with the first record in 2019 at Carlingnose Point near North Queensferry. In 2023 there was one record, then in July 2024 two males were recorded in an old quarry at Charleshill, and one female at Carlingnose. The Small Skipper favours species rich grassland with plenty of the larval food plant Yorkshire-fog grass, and nectar rich flowers such as Knapweed, Common Bird's-foot trefoil and clovers for the butterflies to feed on. The colonisation of Fife has started slowly and it will be interesting to see if it picks up pace in the next few years.

Recording

This is our chance to thank all recorders who have spent time looking for butterflies and most importantly, sent records in to be verified. Your contribution is greatly appreciated. Your fantastic work continues to reveal exciting changes in the abundance and distribution of butterflies in Fife & Clackmannanshire. **Thank you all.**

How to send in records

Our preference is to receive records in iRecord, or on an excel spreadsheet.

1. Use our dedicated spreadsheet. Available from us via email, or download from the website of the East Scotland Branch of Butterfly Conservation.

<https://butterfly-conservation.org/in-your-area/east-scotland-branch/recording-butterflies-and-moths>

2. iRecord – either through the iRecord website or the iRecord Butterflies App. Include the nearest village or town in the “location” box - ‘in my garden’ is not sufficient! A grid reference (ideally 6 figure) and an email address is required.

3. Via email at **fifebutterflies@outlook.com**. Please include the date, number seen, location and grid reference or postcode. Also include the name of the nearest village or town.

4. By submitting to another recording scheme for example Fife Nature (<https://beautiful.fife.scot/fife-nature-records-centre>) or The Wildlife Information Centre (TWIC) – <https://www.wildlifeinformation.co.uk>.)

Please ensure you do not duplicate records by sending them to more than one recording scheme. We share our records with iRecord, FifeNature and TWIC and vice versa.

Contact us by email at fifebutterflies@outlook.com



Small Copper - credit Simon Watson