

BUTTERFLIES OF GUERNSEY 2014-2019

Red Admiral, Common Blue, Glanville Fritillary

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GUERNSEY BIOLOGICAL RECORDS CENTRE





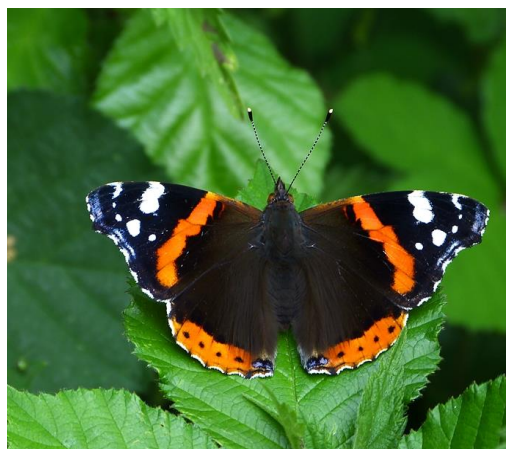
Red Admiral

Vanessa atalanta

Total counted over the period:
2517

Resident with numbers
boosted by migrants

First recorded: 19th century

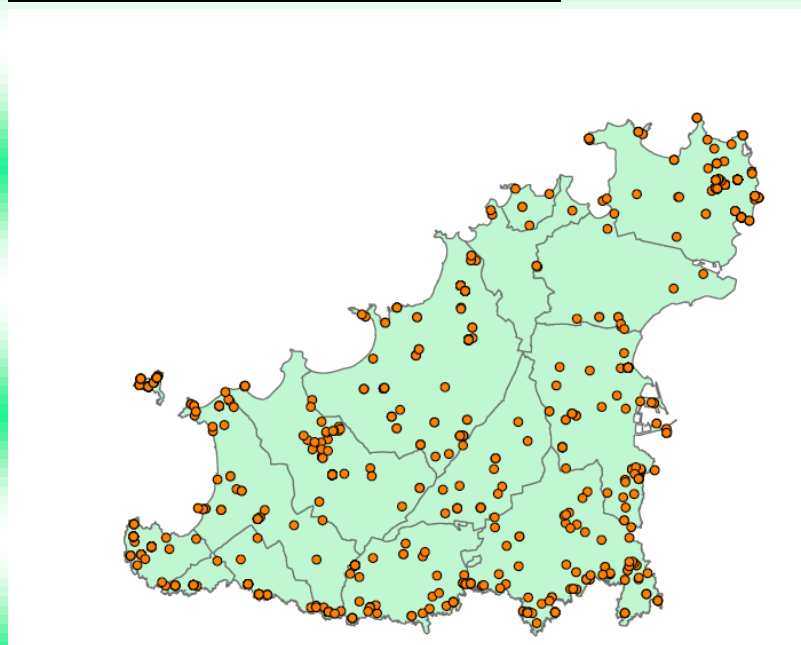


(Freeman, 2019)

Facts

The Red Admiral is easily recognizable and found almost everywhere on Guernsey, shown in our distribution map. Our resident numbers are boosted by incoming migrants each year and numbers may fluctuate depending on the number of successful migrants. Although the Red Admiral can be seen any time of year, numbers peak from mid-August to October, when locally-bred adults hatch out. Food plants include buddleia, bramble, ivy and thistle. Larvae mainly feed on common nettle but will also eat hop, pellitory-of-the-wall and small nettle. Red admirals are known to be people-friendly and may land on humans.

Distribution Map 2014-2019



(Guernsey Biological Records Centre, 2019)





Abundance

Numbers of Red Admirals per year vary from around 100 to 1000.

Higher numbers occurred from 2015-2016. Abundance is generally quite spread out with peaks of individuals occurring at different times. Data is obtained from the Guernsey Biological Records Centre (GBRC), iRecord and The Big Butterfly Count. However, data from the Big Butterfly Count focuses on July and August as the count takes place over these months. This may affect our data, as more people are likely to report sightings during the Count rather than all year round. Adult Red Admirals tend to congregate around flowering ivy bushes in autumn resulting in peak counts in favourable conditions in some years.

2015

This year sees a peak in individuals in July, suggesting this was peak flight time for adults. This may also have been peak time for hatching of chrysalises, although hatching usually starts around August. Individuals normally start to emerge from hibernation early April/May; however, data may be affected by the success of The Big Butterfly Count. Another peak for 2015 occurs earlier than 2016 around September, before trailing off as individuals start hibernating. 2015 saw a sunny September perhaps accounting for this peak.

2016

In 2016, small peaks of individuals are seen in May, July and August. This may be due to the emergence of adults from hibernation in May and hatching of chrysalises in August. July is one of the peak months in the flight period and this is reflected on our graph. The main peak for the year is seen in October, which was dry and sunny, so perhaps saw another brood of Red Admirals hatching or lead to extended flight periods for the Red Admiral.

2017

Peaks for 2017 occur early around May, again matching other years, when the butterflies emerge from hibernation. The main peak is in July, where individuals start to hatch. The first part of July was sunny, with little rain, encouraging emergence. Smaller peaks in September and October, also represent hatching, however September was dull and wet, potentially affecting flight periods of the butterfly.

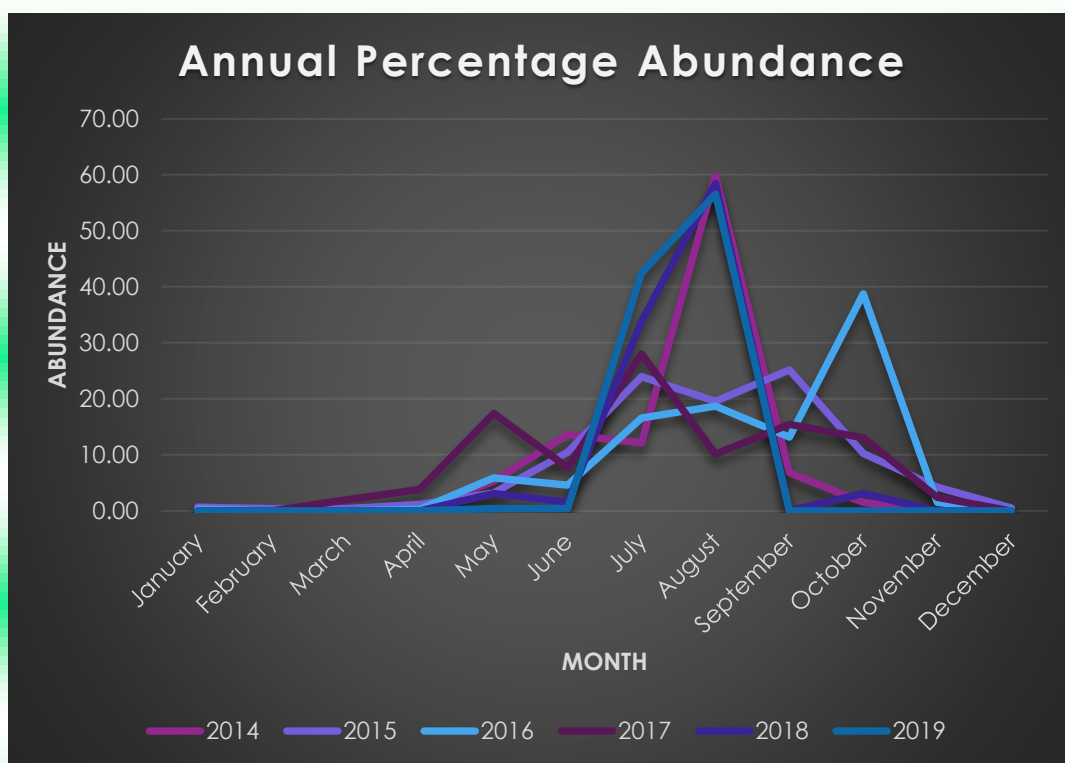




Other Years

Records for 2014, 2018 and 2019 are low, so may not represent the true numbers present. However, there is a peak in 2019 for July and August, which can be accounted to data from the Big Butterfly Count which encouraged recording over these two months. As records for the rest of 2019 are low, this cannot really give an accurate overview for the year and as such, is not looked at in great detail.

Abundance 2014-2019





Pictures



Red Admiral (Gor, N.D)



Red Admiral Underwing (Nestor, N.D)



Glanville Fritillary

Melitaea cinxia

Total Counted: 1542

Resident

First Recorded: 1860

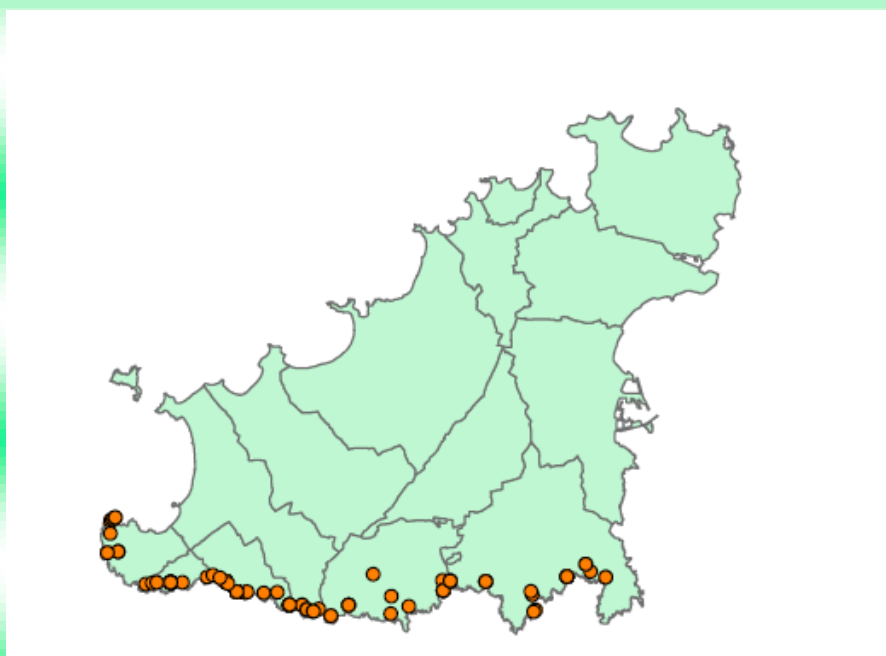


(Eade, N.D)

Facts

The Glanville fritillary is Guernsey's only resident fritillary. This fritillary was named after Lady Eleanor Glanville, the 17th century butterfly enthusiast that discovered it in Lincolnshire. It flourishes where ground disturbance allows its food plants to grow, like cliff falls in coastal areas. Once the habitat becomes overgrown, it will move to new areas. It is most active in bright sunshine. They are vulnerable to improvements in coastal habitats and hot summers, as the larval food source, Ribwort Plantain shrivels up. We can see from the distribution map that the Glanville fritillary is only found on the west coast and southern cliffs, highlighting its dependence on this habitat.

Distribution Map 2014-2019



(Guernsey Biological Records Centre, 2019)



Abundance

High numbers of Glanville fritillaries are seen in 2015 and 2016, with few records in 2017 and none in 2014, 2018 and 2019. There were 9 records for 2017, so the data is not accurately represented on the graph. Our data for Glanville Fritillaries is limited with records from GBRC and iRecord. Unfortunately, the Big Butterfly Count does not include the Glanville in their list of species to identify. As the Glanville Fritillary rarely visits gardens, preferring coastal habitats, there is likely to be less data than for our two other common species (Smith, A, Pers. Communication, 4/10/19).

2015

Adults usually emerge for the first time in mid- to late-May with chrysalises hatching end of May/start of June. As April 2015 was dry and sunny, many larvae were noted which boded well for a good adult count. The main 2015 peak in individuals occurs in June suggesting June was the peak time for individuals to hatch. Another peak in September was of larval nest records, not adult butterflies- no evidence exists that they have ever been double-brooded in Guernsey.

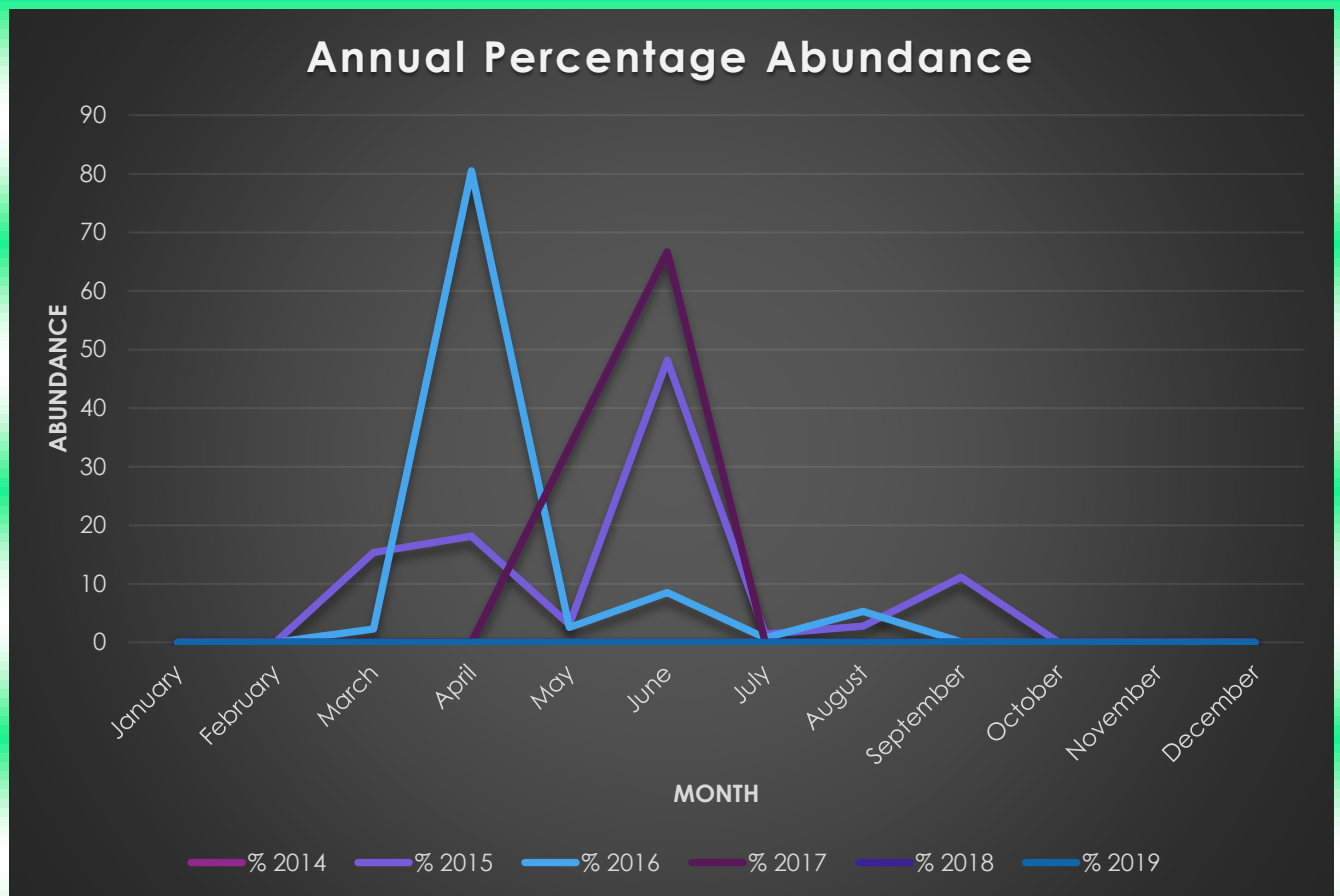
2016

In 2016 the Glanville fritillary was most abundant as in April with over 80% of sightings reported then. The warmer than average weather allowed larval counts to be high. Another small peak in June meant that adult emergence was disappointingly low when compared to numbers of larvae seen. This month experienced a short heatwave. The second small peak in August relates to a couple of early stage larval nests being found at known breeding sites. The flight period for the Glanville normally ends in mid-July

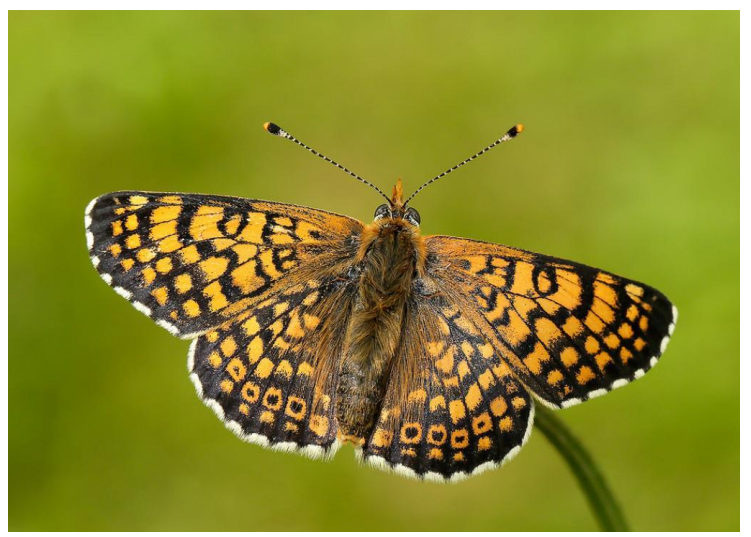




Abundance 2014-2019



Pictures



Glanville Fritillary Underwing (Nestor, N.D)

Glanville Fritillary (Leach, N.D)



Common Blue

Polyommatus icarus

Total Counted: 3655

Resident

First Recorded: 19th century

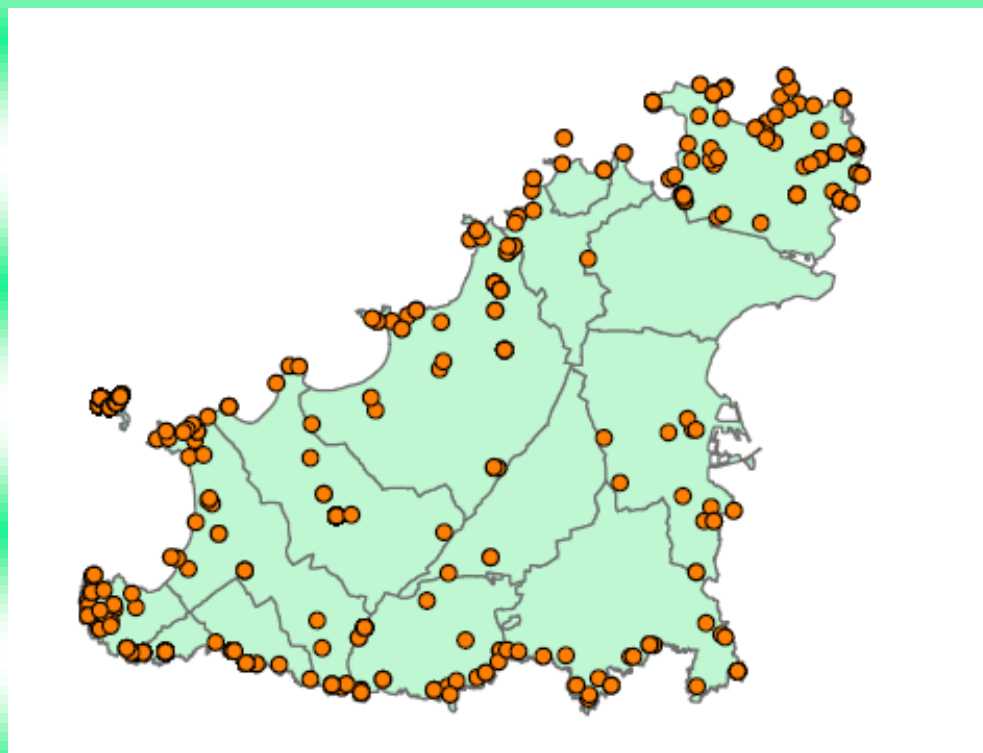


Male Common Blue (Lynas, N.D)

Facts

The Common blue, as its name suggests, is very common and widespread in Guernsey as we can see on the distribution map. This is because it likes a wide range of habitats such as unimproved grassland, meadows, verges and semi-natural habitats. Look for it in sunny, sheltered spots. While the males are blue, females are generally brown with varying amounts of blue scaling, but always with small black-edged orange spots. Common blue butterflies are sensitive to habitat change and are a good indicator of biodiversity.

Distribution 2014-2019



(Guernsey Biological Records Centre, 2019)



Common Blue Larvae and Ants

Larvae eat Birds Foot Trefoil and clovers and have a mutualistic relationship with ants. This is because the caterpillars have specialized glands which make a sweet liquid. Ants are attracted to this liquid and feed off it. In return the ants try to protect the larvae, benefitting the caterpillar's survival. Ants taste bitter to other animals, so caterpillars surrounded by ants are less likely to be eaten.

Abundance

Peak abundance of the Common Blue butterfly can be seen in 2015 and 2016 where reported numbers reach around 1500! Records for 2014 and 2017 are seen from May to September, representing the Common Blue's flight period. Data is from GBRC, iRecord and the Big Butterfly Count, however, data from the Big Butterfly Count focuses on July and August when the count takes place. While this gives us some information for July and August in 2018 and 2019, it skews the abundance, and as data for these years is still incomplete a detailed analysis of the graph cannot be done.

2014

Records for 2014 are low, compared to 2015 and 2016. In terms of weather, the year was wet and not overly warm. June and July were warm, dry and sunny, providing a good summer, however spring was very wet, which may have impacted emergence from hibernation and affected the number of broods produced. Highest numbers of butterflies are seen in May and July, shown in peaks on the graph. This represents the first and second brood hatching, as well as emergence and flight periods for adults. Numbers for this year are higher than those of 2017, which saw only 72 records.

2015-2016

The number of individuals for 2015-2016 peaks in August, reflecting the peak flight time of the adult butterfly and peak for chrysalis hatching. This also may be due to the short heatwave in August 2016. The smaller June peak of 2016 could represent adult flight periods, however as the weather was dull it is more likely the peak relates to the early emergence of the butterfly's first brood of young.

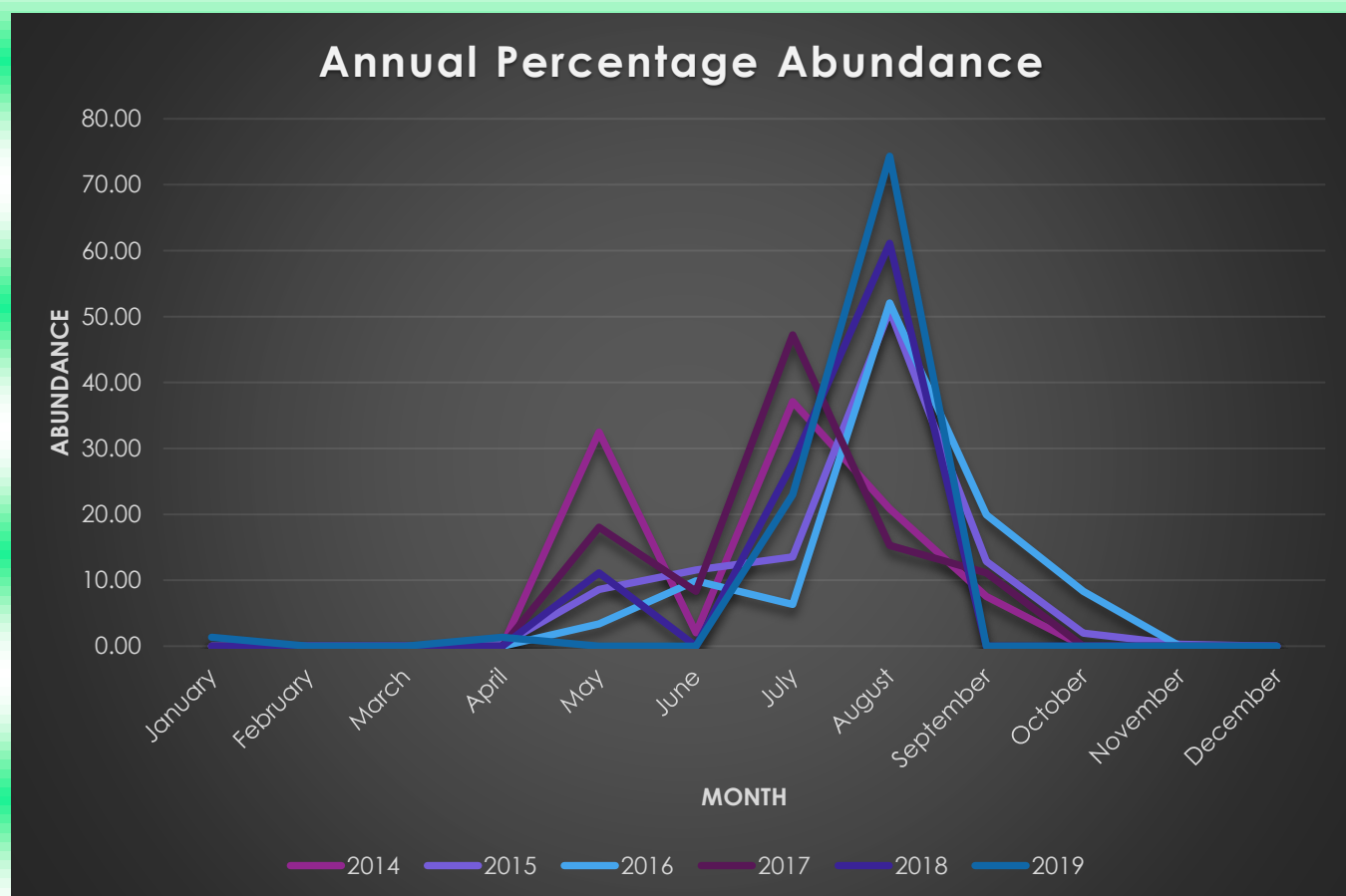




2017

In 2017 numbers are reduced. This may be due to lack of records, as the spring of 2017 was warmer than average, setting the butterfly up for a good year. Emergence of adults initially peaked with May being dry. However, June and August were wetter, which may have led to lower levels of reproduction survival. Yet there is a peak in July, which could show the hatching of the second brood. July started off sunny which may have helped emergence rates of hatching.

Abundance 2014-2019





Pictures



Common Blue Female (Leach, N.D)



Male and Female Underwing (Lynas, N.D)





General Factors affecting Butterflies

Butterflies are very sensitive to change due to:

- Short life cycles
- Reliance on specific larval food plants
- Sensitivity to climate change
- Inability to disperse rapidly
- Specific habitat requirements
- Low down on food chain
- Reliance on environment to trigger migration, reproduction and hibernation

This makes them excellent indicators of environmental health and climate change.

Climate Change

Effects of climate change on butterflies include

- Increased temperatures mean species may awaken earlier from hibernation/ are seen earlier in the year
- Species may produce more than one brood due to increased temperature and sunnier days
- Migrant species increase and may become resident in new places as they can now overwinter successfully due to increased temperature.
- Species at the northern limit of the butterfly's range may expand to new habitats as habitats become more suitable
- Species at the southern limit of the butterfly's range may contract, leading to some species increase and some species decline
- Life cycles, flight times, food plants, interactions, hibernation, migration and reproduction, may be affected
- Hot weather will reduce flight time of butterflies and may cause food plants to shrivel up
- Warmer temperature will lead to multiple broods per year, increasing competition between the species itself and other species for food and egg-laying/pupae space





Solutions to decline in butterflies:

- Reintroduction
- Assisted migration
- Habitat restoration (larger areas, more food plants so butterflies more abundant)
- Managed relocations
- Captive rearing

Peaks

General peaks occur in abundance graphs of all butterflies due to events in life cycles:

- Peak after hatching of chrysalis (there may be one or two broods per year dependent on weather, species, availability of food plants)
- Peak after awakening of overwintering adults
- Peak due to influx of migrants

The month in which these peaks are seen depends on the butterfly's life cycle, environmental conditions and weather conditions.





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