

Darter

Magazine

Hi and welcome to the 2014 edition of Darter. Last year's flight season was a season of contrasts. It started off with a long-lasting cold spell resulting in late emergence for spring species but was then followed by the best summer in terms of sunshine that we have had in years. Reading through the vice county reports, I am concerned for some of our riverine species who seemed to suffer in 2013 in some areas – I hope that they and other species will not have been too adversely affected by the flooding and tidal surges that we experienced in the winter of 2013/14.

In this edition we are looking forward to the recording season and publication of the atlas. Ken Crick has written an article about his long-term transects at Bramshill, Warren Heath and Heath Warren, arguably and collectively one of the best sites in the UK for dragonflies, and how he has been able to influence site management to benefit Odonata. Juliette Dinning has written about one of her many recording experiences and how collecting exuviae can reveal the true value of a site. Brian Walker has been looking for trends in our Welsh data and shares his initial findings – this shows the strength in our records and how they can be used to give us an indication about the health of the national populations of some of our more common species. All three of these articles complement our new *DragonflyWatch* recording framework, Ken's transects fit with the 'Priority Sites' tier, Juliette's article shows the value of exuviae in recording and Brian's analysis shows how both the 'Site Lists' and 'Priority Sites' tiers can be used to produce national population trends. Turn to page 3 for a preview of some of the maps that will appear in the forthcoming atlas.

Have a great dragonfly year and remember to let us know if your records are complete site lists!

Claire

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Figure 1. Brilliant Emerald in Capel, Surrey. Mike Thurner.

DragonflyWatch

Looking out for Britain's Dragonflies



DragonflyWatch is the name of our new recording framework. With the publication of the atlas, we want to support you so that your records can be used to conserve dragonflies. No matter what your skills level is, you can help us to help dragonflies. The diagram to the right shows how you can use your skills to give us different types of records, whether you are a beginner and are honing your ID skills or an experienced dragonfly recorder, there is a level of recording suitable to you. This will also depend upon how much time you have. There are three 'levels' of recording, 'Priority Sites', 'Site Lists' and 'Dragonfly Spot'. More details, including how these records will be put to good use, are given on page 4.



Figure 2. *DragonflyWatch* framework ladder. Diagram created using the photo "Pigeons on a Ladder" by PamLink (flickr name) which is licensed under CC BY-NC 2.0.

Atlas Preview – Emperor Dragonfly

For the first time in a national dragonfly atlas due to the availability of high quality digital printing, it is possible to show in colour the core range for each species combined with gains and losses at a hectad resolution. The map symbols chosen show increases and decreases in range. The colour palettes used in the maps and graphs were designed to be distinguishable by those with colour impaired vision.

The DragonflyIreland dataset has been added to the BDS's dataset which allows us to view the whole of Britain and Ireland in one map. For the Emperor dragonfly, this new distribution map has shown some surprises. Previously, we knew of the Emperors advance northward but this new map also shows its westward movement into Ireland.

Key

- ▲ recent gain (new in 2000 - 2012)
- ▲ old gain (new in 1991 - 1999)
- stable (present in all periods)
- ▼ recent loss (last recorded pre 2000)
- ▼ old loss (last recorded pre 1991)

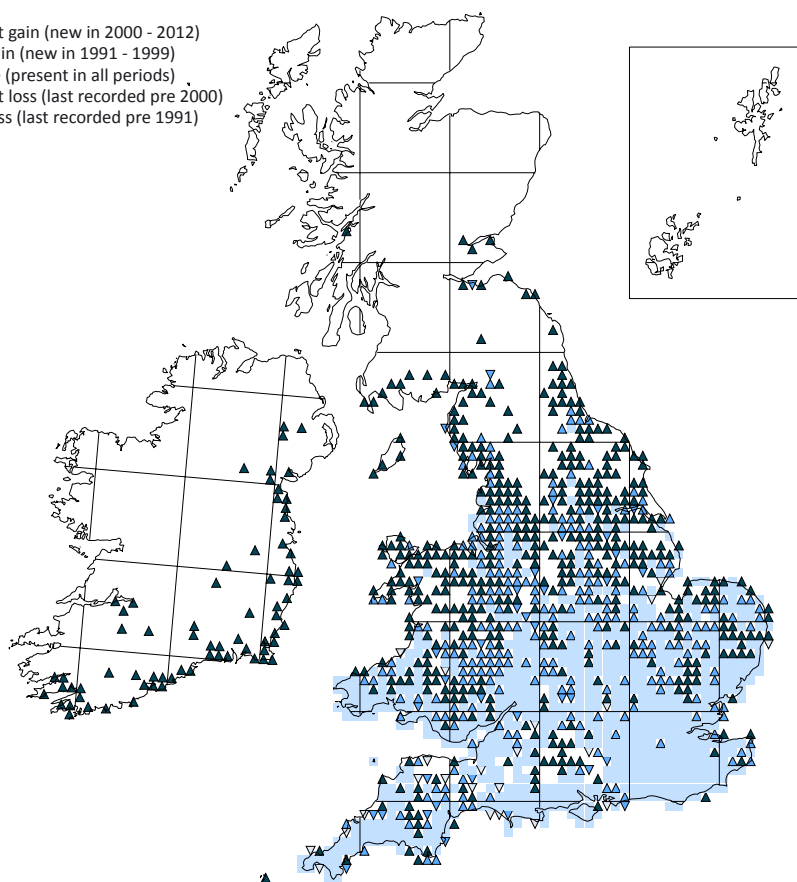


Figure 3. The distribution of the Emperor Dragonfly showing increases and decreases in its range over time.

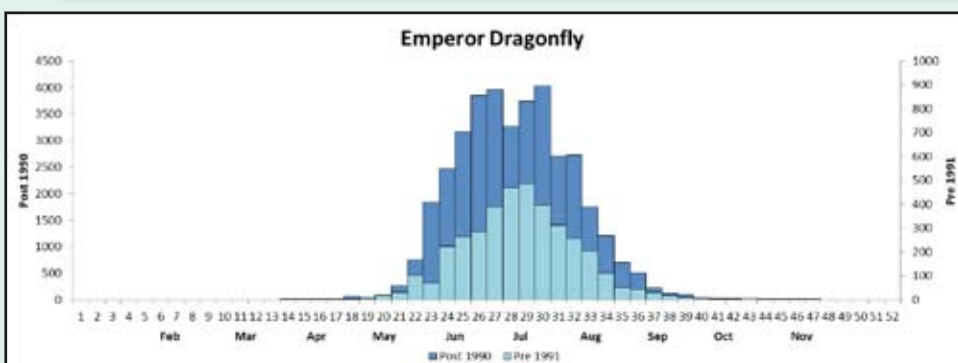


Figure 4. The flight period histogram shows a comparison of the Emperor's flight period between the previous and current atlas. The scales have been adjusted to clearly display the two periods and highlights the increase in recorder effort.

Migrant and new colonist species in Britain during 2013

Adrian Parr

It was a mixed year for migrants in 2013, with some species being poorly represented but with others such as the Vagrant Emperor occurring in above-average numbers. Our new colonist species by-and-large did well.

Southern Emerald Damselfly: The only records during the year came from the breeding colony at Cliffe in Kent, and from Winterton Dunes in Norfolk where ovipositing had similarly been reported during 2012. It will be important to monitor the progress of these colonies, and to determine whether the high surge tides and heavy rains of winter 2013/14 will have had any negative impact.

Willow Emerald Damselfly: Range expansion within East Anglia continued apace, with several new sites for the species being discovered in Norfolk, Suffolk and Essex. There were no repeat sightings from Cambridgeshire and Bedfordshire, where 'probables' were seen back in 2012. The status of the Willow Emerald Damselfly in these areas thus remains unclear, but continued range expansion within southeast England is clearly to be expected.

Dainty Damselfly: A new site for the species was discovered in the Isle of Sheppey area during 2013. Hopefully the Dainty Damselfly will not have been badly affected by the high surge tides and heavy rains of winter 2013/14.

Southern Migrant Hawker: There are suggestions that this species may usually have a 2-year life-cycle in Britain, and after the good showing during 2012, last year might have been anticipated to be an "off-year" for this recent colonist. Indeed there were much lower numbers reported than during 2012, but pleasingly the species was still seen at several sites. These included Hadleigh Country Park, Wat Tyler Country Park, Canvey Marshes and Canvey



Wick in southern Essex, and Cliffe Marshes in northern Kent. It will be intriguing to see how Southern Migrant Hawker fares in 2014.

Lesser Emperor: It was a surprisingly quiet year for this species, with reports received from only six sites – in Cornwall, Wiltshire, Warwickshire, Sussex and Kent (two sites). This is one of the lowest annual totals since the species' first appearances in Britain almost two decades ago. No obvious local emergences were noted, but oviposition was seen at Drift Reservoir in Cornwall. The exact duration of the larval stage in Britain currently remains poorly-known.

Vagrant Emperor: This species provided one of the highlights of 2013, with a major influx during the autumn. In all, nine individuals were recorded from England, at least eight from six sites in Ireland and three from Wales, with a further report from the Shetland Isles. Oviposition was noted at Bovey Heath in Devon, though this breeding attempt is perhaps unlikely to be successful.

Scarce Chaser: The first record for Cornwall was made at Marazion Marsh during July.

Keeled Skimmer: There were several records well away from known breeding sites, presumably as a result of dispersal induced by periods of hot, dry, weather during the summer. Highlights included the first Lancashire record at Grindleton Pool in early August.

Black Darter: A significant influx was noted on the coast of northeast Suffolk during late September/October.

Red-veined Darter: Yet again, 2013 was quite a productive year for this species, with good numbers reported in both spring/early summer and in autumn. Most records referred to migrants, but a single spring emergent was seen at Victoria Park in London, and a presumed locally-bred second (autumnal) generation was noted near Llanilid, south Wales.

Atlas Preview - Recorder Effort

The colour of the squares in Figures 5 and 6 indicates the number of visits to each hectad whereby the dark squares relate to higher number of visits than the light squares. This demonstrates the increasing effort by recorders.

Key

No. of visits

1 - 3
4 - 9
10 - 19
20 - 59
60 - 99
100 - 199
200 - 399
400 - 799
800 >

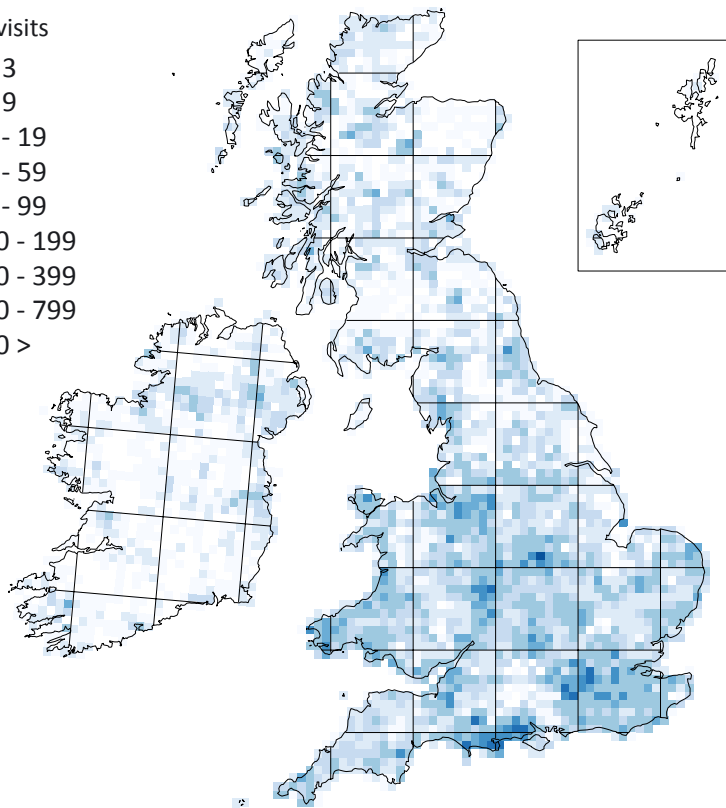


Figure 5. Recording intensity up to the end of 1990.

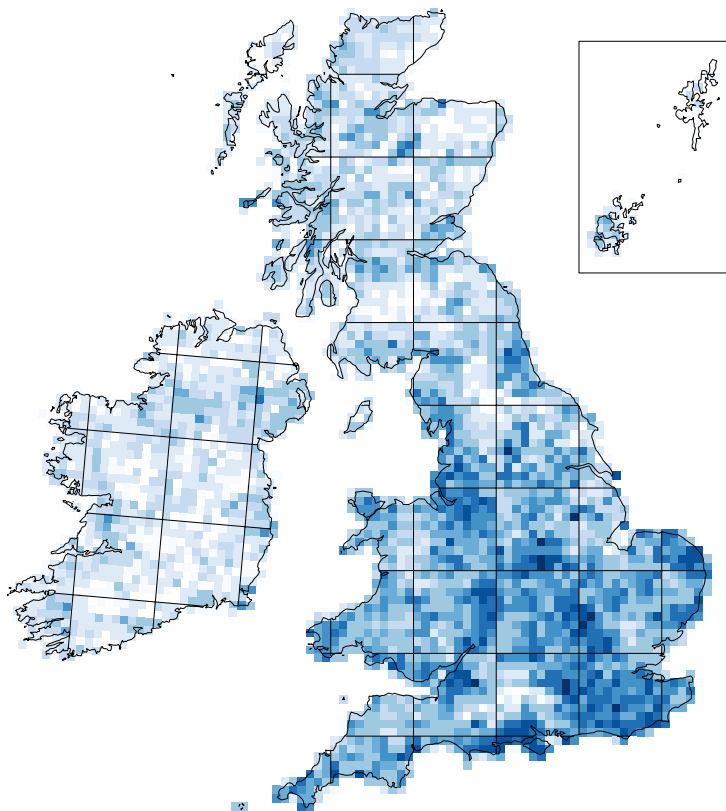


Figure 6. Recording intensity from 1991 to 2012 inclusive.



DragonflyWatch

Looking out for Britain's Dragonflies

Dave Smallshire



Figure 7. Mark Tyrrell.

The records you collect are fundamental to the workings of the BDS. They provide much of the scientific basis for our knowledge, helping us to find out when and where dragonflies occur. Using atlases, we can plot changes in species' ranges. By filtering the data, we can identify and monitor important sites and guide the Society's conservation priorities.

We have built up tremendous recording momentum for the Atlas and we want to keep that going. Your records can be used in a number of ways, as well as producing atlases, depending on the level of detail you gather. The more time you have available and the more experienced you are, the more use we can make of your records. So our framework for recording in the future – **DragonflyWatch** – allows you to 'climb up the recording ladder' (see p1).

Dragonfly Spot will enable us to plot distributions and changes in range and phenology, and to periodically revise the Red List of species of conservation concern.

Dragonfly Spot requires the basic 'what, where, when and who' record. It includes all *ad hoc* sightings, including simple records gathered during systematic surveys like *Garden BirdWatch*, *BirdTrack* and the *Wider Countryside Butterfly Survey* run by the British Trust for Ornithology

and Butterfly Conservation.

Site lists are complete lists of the species you record during each visit you make to a site. **PLEASE MAKE SURE YOU TELL US THAT YOU'VE DONE THIS** e.g. tick in a 'Complete List' column in a spreadsheet. Ideally, 'adopt' a site and make a few visits there each year to cover the main flight periods. This information will be used to produce national trends for each species, so **Site Lists** from the more remote parts of Britain will be especially valuable.

Priority Sites will be identified from systematic visits to important sites, to do counts and record breeding evidence. **Priority Sites** will be promoted as sites of national or local importance for dragonflies. Counts or estimates of numbers and confirmation breeding evidence are needed. So if you have identification skills – of larvae and exuviae as well as adults – you can put those skills to good use by recording for **Priority Sites**.

Thank you for all your records – please keep them coming! Record as much detail as you can – **DragonflyWatch** has been designed to make the best use of your records! This table summarises how different types of records will be used:

To produce:	Dragonfly Spot	Site Lists	Priority Sites
Trends in distribution (Atlases) and phenology	X	X	X
National population trends		X	X
Evaluation and monitoring of important dragonfly site			X

Trends in Dragonfly Populations in Wales

Brian Walker

The Atlas will give us a very good picture of the current range of our dragonfly species and the changes that have occurred since the last Atlas but there is a growing interest in more continuous surveillance of our dragonflies. Our **DragonflyWatch** initiative is designed to provide data to allow this and we are being encouraged by our funders to generate trend data. In particular Natural Resources Wales is interested in trends for Wales and some work has been carried out to look at currently available data to identify possible methods of doing this. The ideal would be to have regular monitoring to a set protocol at a wide range of sites. However, we do not realistically have the resources to undertake this at sufficient sites to provide meaningful data. We do have a good number of records submitted each year though and it was felt that these could provide an indication of any

changes that might be occurring.

A number of approaches were tested and the one that seemed to have the potential to provide the most meaningful results was to plot the proportion of visits in which a species was recorded each year. To avoid possible distortions due to changes in the pattern of visits only visits within the main flight period of the species and to sites within the areas where the species had been recorded were considered. Thus only visits that had the potential to record the species were counted. It is difficult to identify individual sites from our database because of differences in map references and site names so a site was defined as a 10km square for the purposes of this exercise (the Atlas analysis is based on 1km squares) and the records for a single visit were defined as



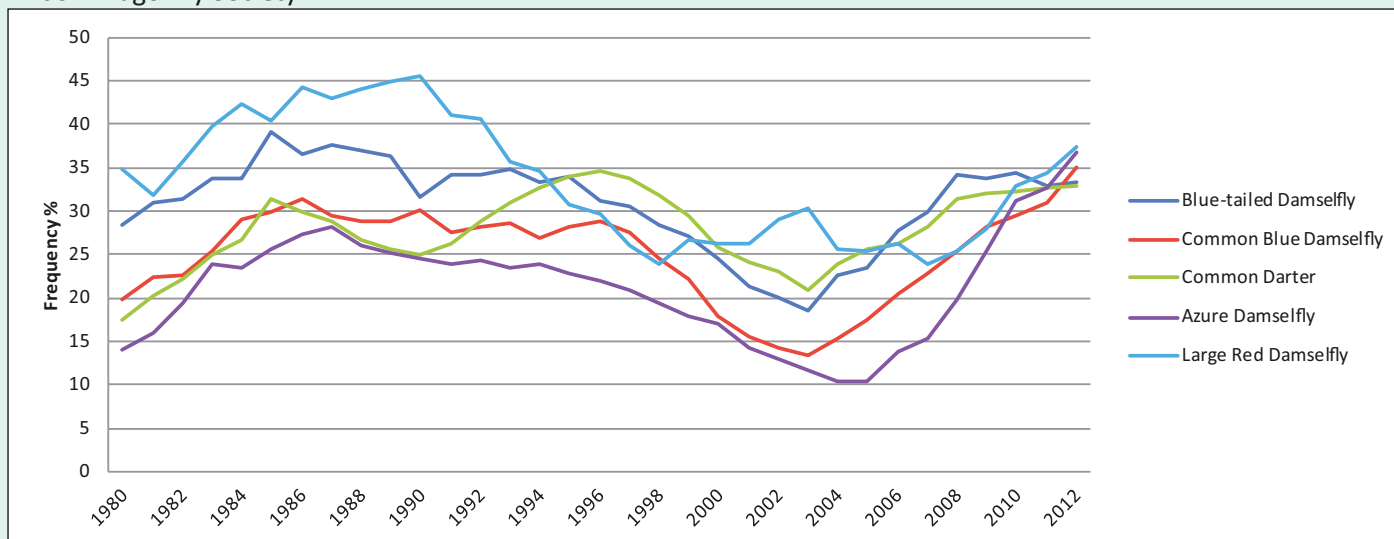


Figure 8. The percentage frequency of observations for five common and widespread species between 1980 and 2012.

all records for the particular square on a single date. This may introduce some anomalies but they will generally average out.

Our database contains over 90,000 individual records for Wales with some dating back to the 19th century. However, reasonable annual totals of records run from the mid 1970s and the analysis was carried out for the period from 1980. There is significant year to year variation in the results. Some of this is probably due to changes in recording and some to real changes in dragonfly populations from year to year. To smooth these fluctuations the results for each year were plotted as an average of the five years ending with the stated year. The results are shown for five common and widespread species in figure 8.

The results show a similar pattern for Blue-tailed Damselfly *Ischnura elegans*, Common Blue Damselfly *Enallagma cyathigerum*, Common Darter *Sympetrum striolatum*, Azure Damselfly *Coenagrion puella* and Large Red Damselfly *Pyrhosoma nymphula*. The recording frequency follows a similar pattern for all these species with a distinct dip in the early 2000s. This was a period when there was a focus on rarer species and this almost certainly was the reason for this decrease. Records of commoner species were probably not submitted in all cases rather than them not being seen. The overall impression is of fairly stable populations, although Azure Damselfly may be increasing in Wales. It is possible that this apparent increase is because more effort has been made to identify this species (separating Azure Damselfly and Common Blue Damselfly) because of the requirements for the Atlas and this may also affect the records of Common Blue.

A number of species show an increase in recording frequency over the period. These are Migrant Hawker *Aeshna mixta*, Black-tailed Skimmer *Orthetrum cancellatum*, Southern Hawker *Aeshna cyanea*, Emperor Dragonfly *Anax imperator*, Hairy Dragonfly *Brachytron pratense* and Four-spotted Chaser *Libellula quadrimaculata*. The first two occurred in around 8 times

more 10km squares in the 2000s compared with the 1980s, while the other species occurred in between 50% and 100% more 10km squares between the same two decades.

As shown in figure 9, Black-tailed Skimmer has increased substantially. The frequency in the early 1980s is based on small numbers and may have been influenced by visits specifically to see the species. The recent levelling of the trend may indicate that expansion has reached its limit or may be a temporary change. Migrant Hawker has increased over the same period and seems to have increased at a faster rate.

Looking at figure 10, Southern Hawker shows a more recent, but a fairly steep increase in records from Wales. While it is possible that the Atlas has encouraged more reporting of the species away from traditional sites, the increase does suggest that numbers as well as range have increased in Wales. Four-spotted Chaser shows a sharp increase on the same timescale, possibly exaggerated by a dip in recording frequency in the early 2000s as noted for many species. It is worth noting that the increase in 10km squares in Wales in which Four-spotted Chaser is recorded between the 1980s and the 2000s (54%) is less than the increase for Southern Hawker (82%).

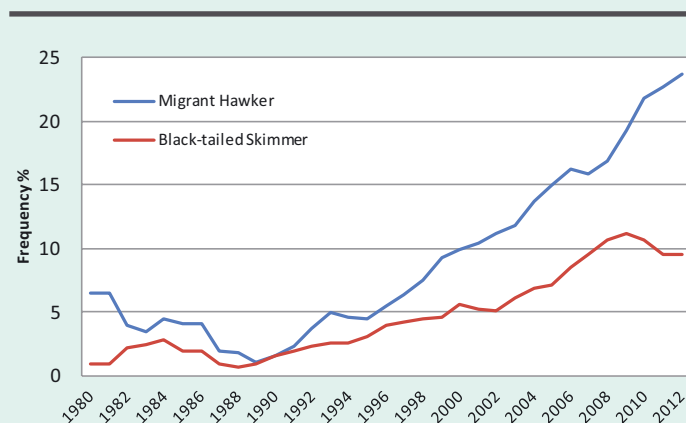


Figure 9. The percentage frequency for Black-tailed Skimmer and Migrant Hawker between 1980 and 2012.



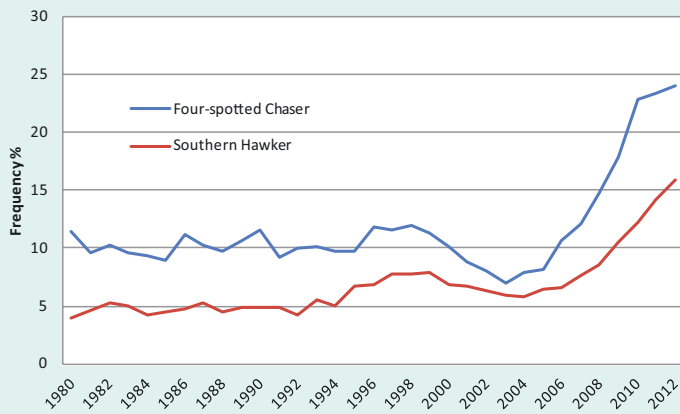


Figure 10. The percentage frequency for Southern Hawker and Four-spotted Chaser between 1980 and 2012.

A number of species appear to show a decline in recording frequency, although this tends to be modest and it is difficult to be sure whether this is a real decrease or a change in recording activities. Golden-ringed Dragonfly *Cordulegaster boltonii* is one example that shows a decrease as illustrated in figure 11. The number of 10km squares from which it is being recorded is slightly down in Wales but not enough to account for the reduced frequency and the lower frequency in recent years is which odd, especially when most species show an increase presumably because the Atlas has

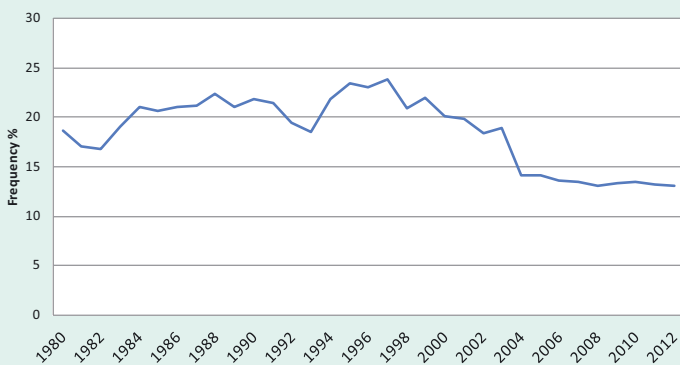


Figure 11. The percentage frequency for Golden-ringed Dragonfly between 1980 and 2012.

encouraged full lists and does suggest that the reduction is real. Analysis of records for this species for the whole of Britain for the Atlas shows a similar result with the number of 10km squares fairly stable but trend analysis indicating a decline. This is no doubt worthy of further study.

Figure 12 shows that both of species of Demoiselle seem to be showing a decreased frequency of recording in Wales but whether this is real or a function of recording activity is unclear. Both show the dip in recording frequency in the early 2000s that most species of damselfly show and a subsequent recovery but to a level still below that in the 1980s.

The results indicate that we can use the records in our database to begin to produce trend data for dragonfly species, or at least those which have a reasonably wide distribution and are recorded in reasonable numbers each year. Changes in recording behaviour are a problem and create uncertainties in assessing the apparent trends. The key request going forward is for recorders to submit complete lists of the species seen on a visit. The process will largely self-compensate for changes in visiting patterns but not for changes in whether full or partial lists are submitted. A full list may be a single species of course and the request for full lists should not be taken as discouraging submission of single species records if this is all that was seen.

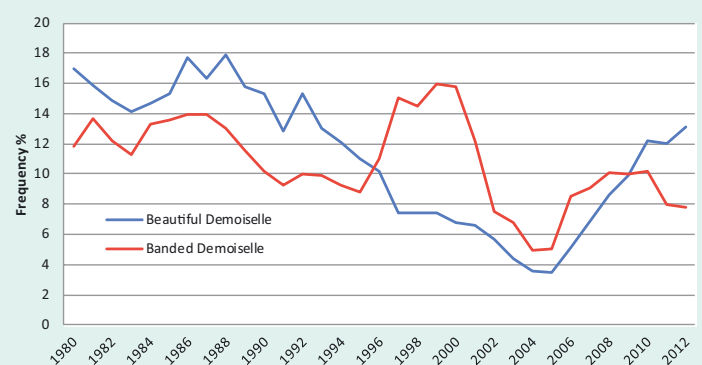


Figure 12. The percentage frequency for Beautiful and Banded Demoiselles between 1980 and 2012.

Surveying Dragonflies at Hampshire's Bramshill & the two Warrens

Ken Crick

Introduction and History of Bramshill, Heath Warren and Warren Heath

The three sites in question cover 671 ha and lie just south of the Hampshire-Berkshire border. The sites are intimately connected, punctuated by a single road running from Eversley to Heckfield. The ownership of the land is complicated but is managed as a whole by the Forestry Commission (FC). All three sites are encompassed by a single SSSI designation and feature in the BDS Key sites register.

Reference to the 1817 Ordnance Survey map shows one possible pool which could equally be an enclosure and a couple of streams feeding water to the river Hart. Tree cover is also very sparse. By 1897 tree and scrub cover has taken over wherever the ground is dry enough to sustain root systems; this is designated as Wet Acid Heathland.

The 1923 map illustrates the presence of two adjacent reservoirs on Warren Heath, beneath Warren Hill. Bramshill Plantation was illustrated having a crop of pit

props taken from it in H L Edlins' book "Forestry and Woodland Life" published in 1947. Apart from the reservoirs there was still no water on site. Since then there has been a succession of mineral extraction companies working across all three sites. The final phase of this human intervention on the topography is only now coming to a close at the Eversley Pit end of the site. Early landfill following mineral extraction saw large amounts of chalk and concrete introduced onto the Bramshill site which accounts for the six species of orchids present.



As the Bramshill site was returned to Forestry Commission stewardship, a mosaic of 14 ponds and lakes were created to act as silt traps to protect the nearby river Blackwater. By 1998 these ponds were attracting the interest of local Odonata enthusiasts. The mineral extraction on Heath Warren had left a shallow valley, the Flashes, some 450 meters long which though ephemeral can hold water for up to two years. This has happened twice over the current survey period. Prior to 2010 the Forestry Commission added two new ponds and extended another on Warren Heath. Then over the winter of 2010/11 a further 30 water bodies were strategically placed across all three sites.

This landscape is totally man made and new.

Dragonfly Surveys

Brief visits to Bramshill Plantation from 1999 led me to believe that there was a large assemblage of Dragonfly species present. For the 2002 flight season the FC granted me a permit to survey. The FC is my primary customer for the data produced. Prior to the granting of the first permit, a clearly defined set of transects were declared and a written survey method established. Reports are submitted annually to the FC and the British Dragonfly Society. The issue of a permit to survey is supported by a lone worker risk assessment. The majority of the survey is out of sight of the public tracks and the commitment to use a mobile phone with an emergency call button allayed many concerns. The FC requires the annual report to be accompanied by site management recommendations. This is to be a 15 year survey and the year 12 report has just been submitted.

Data Collection Specifics

The method of data collection and recording has not changed significantly over the years, though the number of water bodies visited has. The same Excel formatted data sheet is used for both new and old water bodies. These data sheets reflect the raw data.

This data is collected using a hand held tape recorder. Every



Figure 13. Male Downy Emerald on Warren Heath, July 2013. Ken Crick.

sighting and its location is recorded immediately as the transect progresses, only those observations that could be identified to species level are recorded. Every effort is made to ensure that the same insect is not counted twice. Adults are not caught. Digital photography is always available but a set of Pentax Papilio 6.5 X 21 binoculars and the mark 1 eyeball are more often employed. The marginal vegetation of each water body is searched for exuvia. Immediately after each survey the data on the tape recorder is compiled on a species-by-species, pool-by-pool basis and the resulting totals recorded on the appropriate data sheet. This results in a rather precise looking dataset. The aim is to visit each water body at least once every 2 weeks throughout the flight season.

The data sheet for any given water body records the number of each species seen on the wing, whether they are male, female, copulating and/or egg-laying; the number of exuvia found and their sex. There is a small map showing the general outline of the water and transect to be followed. There are fields for water pH, water temperature, light levels, sun visibility, extent of cloud cover, air temperature and the transect start and finish times.

Temperature and pH measurements are taken in shallow water typically 1 to 2 cm in depth, with an immersion depth less than 1 cm at a point where exuvia are most likely to be encountered. The light level

is still assessed with the original Sekonic light level meter, during the dragonfly count on a pond-by-pond basis.

The data sheet also includes an 8 digit map reference and the water bodies' name. The naming of ponds is crucial for effective communication with the land management team especially as so many water bodies are surveyed.

There are in excess of 60 water bodies on site, this includes both permanent and ephemeral. Since 2010, the survey has included 50 water bodies; some of the ephemeral pools are surprisingly productive for a limited number of species. Though many of the water bodies have their own designated data sheet, a number of the recently created pools are in such close proximity to one another, that for practical purposes, the complex they form is treated as a single entity.

Dragonflies on the Site

The SSSI designated site supports 24 full life cycle species. 18 species are abundant and 3 species are classified as nationally scarce. Common Blue, Azure, Large Red and Blue-tailed Damselfly plus Common Darter Dragonfly are all found in large numbers across the SSSI as a whole and have been designated as key indicator species, allowing for a rough and ready easy assessment of the overall health of the site.

Data Manipulation

Currently the data is manipulated in





Figure 14. Bramshill Plantation Deep Pit - 12th August 2013. Ken Crick.

a number of ways:

- The numbers on the wing for the key indicator species appear on a single chart on a pool-by-pool basis for all the pools that have been surveyed annually from 2002. Since 2010, a further line has been added to show the impact of the new pools on the site's key indicator species.
- There is a chart showing the number of species of exuvia found each year at a number of selected water bodies.
- Each pool/complex has a chart comparing each year's observed species-specific sexual activity, including copulation, egg-laying and emergence (exuvia).
- Finally there are species-specific charts showing the total numbers observed on the wing for each year of the survey on a pool-by-pool basis; this information includes the number of visits made to achieve the annual total.

Site Management and Partnership Work

The FC host visits to the site, by both regulatory bodies and non-government organizations. The FC often invites me to these events and the data manipulation described above has been generated to answer the questioning most often encountered.

I have a very good working relationship with the FC ecologist and the beat team. If they are proposing work in close proximity to any of the water bodies, it has

become usual practice to give me an opportunity to comment on the potential impact on the site's Odonata. The site is a factory producing timber but, within those constraints, it is increasingly managed with a sympathetic approach to the environment and its wildlife. It is also an amenity for dog walkers, horse and carriage riding and occasional motor sport events.

There have been many site meetings to discuss subjects such as the new seasons felling programme, the siting of new ponds, the management of scrub around existing ponds, and the repair of leaking dams.

Longwater (figure 15) is a mature pond on Bramshill Plantation, 1/3 of its margin is regularly cleared of scrub. It is exposed to heavy dog

walker use but has excellent water quality, confirmed by the carpets of water crowfoot flowering across its surface in the spring. The pond supports 18 species on the wing including the Downy Emerald Dragonfly. The FC has agreed to leave the tree cover for the remainder of the shoreline in place to protect much of the pond from casual human and canine incursion.

Deep Pit (figure 14), also on Bramshill Plantation, was completely lost within a dense conifer plantation and had a tendency to dry out, access was almost impossible. It was occasionally used only by the Southern Hawker Dragonfly. In 2010, the FC agreed to open it up from the north. The pit is long and narrow and lies on an east-west major axis. The pit was over flown by 16 species in 2013 with evidence of a full life cycle being completed by 11 species. A significant amount of on site management takes place with Odonata wellbeing in mind, thanks, in part, to the current survey work.

The dragonfly survey has led to many other aspects of the sites fauna and flora being recorded and a rise in interest in this. The local parish council requested a presentation at its AGM. Women's Groups, Photographic Clubs and Natural History Societies have all received talks. Points of contact have been established with DEFRA (Natural England) and the Environment Agency. Life has been greatly enriched in many unexpected ways as a direct result of the current dragonfly survey.



Figure 15. Bramshill Plantation Longwater - bankside clearance in 2011. Ken Crick.



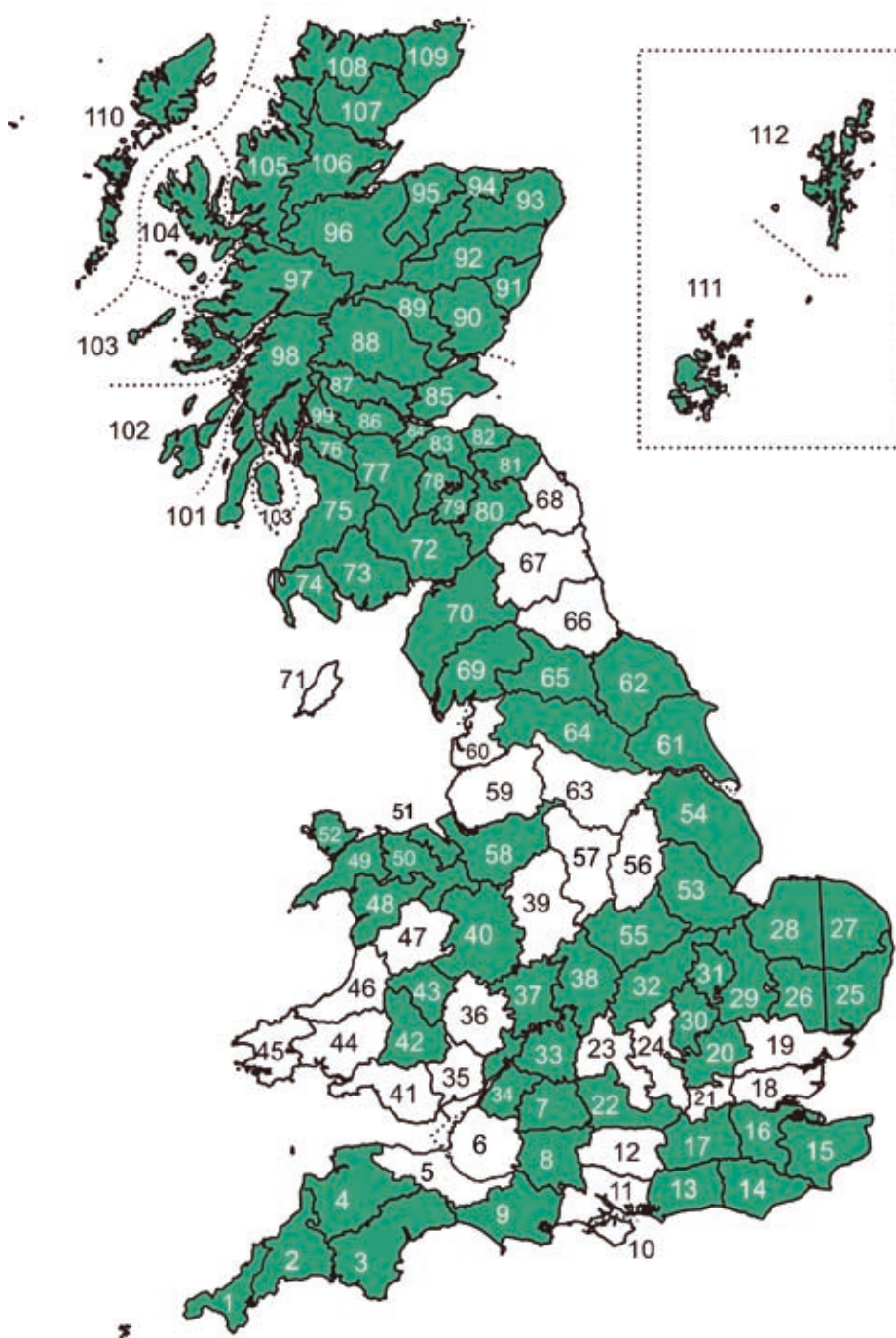


Figure 16. Vice county map. Vice Counties for which 2013 accounts have been written are coloured in green.

Vice County Reports

Cornwall – VC 1 & 2

Perry Jonathan Smale

It is a pleasure to be writing this, my first vice county report as a recorder, and 2013 proved to be a very interesting first full year in the role! After the truly awful start to spring that we experienced (with the first emerging Odonata species not seen until 19th April, with Steve Jones recording a **Large Red Damselfly** *Pyrrosoma nymphula* at Tuckingmill

Valley Park, Camborne), the remainder of the season gathered pace remarkably and with an above average amount of warm sunshine this summer. This resulted in a nice series of unusual sightings, the most notable being the county's first confirmed sighting of **Scarce Chaser** *Libellula fulva* and two records of **Vagrant Emperor** *Hemianax ephippiger*.

A female **Scarce Chaser** was photographed at Marazion Marsh on 17th July by Christine Moore (figure

17) and is the first definite record for VC1 and indeed for Cornwall. There are some doubtful older reports though. This species is gradually expanding westwards so we may look forward to more sightings in future!

Two female **Vagrant Emperors** were photographed in late summer, the first being at Godolphin Woods on 12th August by Christine Moore (this observer did indeed have a wonderful season this year!), and the second at Bosporthenis Farm near Zennor on 25th September by Stuart Coleman. Nationally, we have had an excellent year for this species with a wide spread of sightings. Of greatest significance perhaps was an extended stay by a pair in Devon, with the female photographed ovipositing, recalling the events on *The Lizard* in 2011. We await the 2014 season with interest regarding this species.

An ovipositing female **Lesser Emperor** *Anax parthenope* was photographed (figure 19) at Drift Reservoir on 14th July by Christine Moore, but there were to be no more reports of the species this year. An unusual sighting for the county was that of a male **Ruddy Darter** *Sympetrum sanguineum* photographed at Marazion Marsh on 2nd September by the exceptionally lucky Christine Moore. This species is very rarely sighted in the county and this individual would surely have been a migrant, presumably from the near continent.

A **Keeled Skimmer** *Orthetrum coerulescens* was photographed on the very early date of 18th May at Penhale by Paul Fenn, and I believe this was nationally the first sighted this year.

My wife Judi and I were very pleased to visit Dean Quarries, St. Keverne on 20th July and to find two male **Small Red Damselflies** *Ceriagrion tenellum*. This is a new site for the species (in fact no recording has ever taken place here before!) and does look attractive for a range of species so will doubtless be worth repeated visits this coming season. A single male (photographed) was also seen by us when we visited with my parents on 27th July.



have now been largely flooded.

On 15 July, Dave Hopkins saw two male **Small Red-eyed Damselflies** *Erythromma viridulum* on the Exeter Canal near Countess Wear Sewage Works and on 6 August he found two males near Turf, some 3 km to the south-east and an extension of the known range. Further south, the reserve rangers found at least eight on the main pond at Dawlish Warren in August, when Steve Waite discovered the species at Seaton Marshes, a new (fourth) site for the county.

Male **Ruddy Darters** were reported on the coast at Middle Soar on 12 August and at Exminster Marshes on the very late date of 23 October. Unusually, October saw the most exciting records of the year, in the form of **Vagrant Emperors** at Bovey Heathfield DWT reserve. On the 8th, John Walters found two, after which a male was seen on several occasions up to 2 November and a female egg-laying on 18 and 26 October (figure 22), the first records of such in the county and the first since egg-laying was seen on the Lizard in Cornwall in 2011. A possible **Vagrant Emperor** was reported later at Paignton on 12 November.

Wiltshire – VC 7 & 8

Steve Covey

As, no doubt, others will have reported, the flight season got off to a slow start due to the prolonged,



Figure 18. Male Scarce Blue-tailed Damselfly. Iain Perkins.



Figure 17. The first confirmed Scarce Chaser in Cornwall at Marazion Marsh on 17th July 2013. Christine Moore.

An ovipositing female **Scarce Blue-tailed Damselfly** *Ischnura pumilio* was seen at Cargoll Mine, St. Newlyn East Downs on 27th July by Steve Jones. This is a new site for this species, and the observer had long anticipated recording it here.

Last but not least, **Red-veined Darter** *Sympetrum fonscolombii* had an excellent year, being reported from various sites including Drift Reservoir and Windmill Farm, with breeding being recorded at the latter.

So, it was a really lively season after a slow start! I'm sure 2014 will bring its share of rarities, influxes and new sites for species being recorded - who knows maybe another addition to the county list? I've thoroughly enjoyed receiving records from all who have sent them to me, and the more the better. Roll on spring.....!

Devon – VC 3 & 4

Dave Smallshire

The cold weather until late June – in fact the third cold spring in a row – was no doubt responsible for abysmally low numbers of dragonflies in Devon until the warmer conditions in July-August helped to reduce mortality. Even then, though, numbers were generally still below average.

Very little of note was seen during April-May. In June, Ray Jones counted dozens of **Red-eyed Damselflies** *Erythromma najas* along the Grand Western Canal, but only small numbers of **Scarce Chasers** (albeit the only ones reported in the county in 2013). Four male and an egg-laying female **Hairy Dragonfly**

Brachytron pratense were seen at Stover on 15 June. While I was discussing pond management with Met Office staff at one of the ponds outside the Exeter offices on 19 June, a female **Hairy Dragonfly** flew in and began egg-laying right in front of us. Two male **Downy Emeralds** *Cordulia aenea* at Bystock on 29 June were the only records of that species submitted.

Lesley Kerry found rather disappointing peak numbers of **Southern Damselfly** *Coenagrion mercuriale* at Aylesbeare (57) and Colaton Raleigh Commons (32). However, it is most pleasing to report her peak transect count of 98 on 9 July at Venn Ottery Common, excellent signs that the reintroduction there has been successful.

Six male **Small Red Damselflies** were at an old ball clay settlement pond at Meeth Quarry DWT reserve on 19 August, the only site known in North Devon for this species. On Dartmoor, 16 were at Emsworthy Bog on 8 July. Although a further area of Smallhanger, including one excellent pond, was lost to clay extraction in 2013, 37 **Small Reds** were found on 8 August in an isolated pit at the southern end of the site that is not part of the phased reworking of the site, so the future for at least this species looks hopeful there. A further 50 were present over the rest of the site, together with five rather late **Scarce Blue-tailed Damselflies**. One **Scarce Blue-tail** was at Prewley Moor 14 July (Dave Hopkins). It remains to be seen whether the species has survived at Meeth, where the former occupied areas



harsh winter. The first sighting for the year was of a **Large Red Damselfly** in VC8 at Furzey Pond, Cadnam on 25th April, by Derek Jenkins.

The next Odonata sighting, on 1st May, was also the first for VC7. Damian Pinguey found several **Large Reds** at 'Chippenham Pond', including a semi-mature male which had obviously emerged a few days previously!

After that, all the spring species appeared as expected; but in small numbers and in fits and starts! That said, **Downy Emerald** had another reasonable year reinforcing its expansion into new areas of the Cotswold Water Park [CWP].

Riverine species were very late to appear and in much reduced numbers at their usual haunts, perhaps as a result of flooding the previous year?

The undoubted highlight of the year was the discovery, by Iain Perkins, of an extensive scattered population of **Scarce Blue-tailed Damselfly** (figure 18) on the Salisbury Plain Training Area [West] (SPTA[W]). This was while carrying out his study of the rare Fairy Shrimp (*Chirocephalus diaphanous*) which utilises the same type of ephemeral pools as *I. Pumilio*. Several hundred ponds were involved and it is hoped to extend the search to the central and Eastern sections of the SPTA in 2014 and beyond. This bridges a gap between the small, elusive population in the CWP and the one in the VC8 section of the New Forest. An added bonus, due to the delay in publication, is that this important find will be able to be documented in the new Atlas!

As July brought a 'proper' summer at last so the later species played catch up and emerged at normal times and in average numbers. During this period there was another exciting find of the year – this time by yours truly! It was of a male **Lesser Emperor** seen briefly on 24th July patrolling the western margin of Mallard Lake at the WWT's Lower Moor Farm reserve – almost in exactly the same place as I saw one on 19th July, 2006! It was most likely a primary immigrant.

One anomaly was a late sighting of a **Broad-bodied Chaser** *Libellula depressa* on 21st August at the Wilts Wildlife Trust's Blakehill Farm reserve, between Minety and Cricklade. I'm guessing this was a delayed emergence [rather than a second generation] caused by the late start to the spring.

The last sighting of the year [that I have received] was of a **Common Darter** *Sympetrum striolatum* seen by Derek Jenkins at Furzey Pond, Cadnam on 16th November. The recorder and location being the same as for the first sighting of the year!

My heartfelt thanks, as always, goes to all those who go out and collect records and particularly for the continuing and increasing use of Living Record.

Dorset – VC 9

Andrew Brown

Greeting from Dorset! After a very long and prolonged cold spring, 2013 finally burst into warmth and will be remembered as a decent old fashioned warm summer with only the occasional rainy day.

2013 has seen a real increase in people participating in dragonfly recording in Dorset. Over 1500 records have so far been posted to Living Record (www.livingrecord.net), a record for a single year, and if we add another 200 sent direct to the local records office, that's a fantastic improvement! Firstly, thanks to Adrian Bicker who visited Shaftesbury & Gillingham U3A last year for a dragonfly workshop, we now have a small group of people actively recording in North Dorset which has previously been under-recorded.

The Cyril Diver project has been launched by the National Trust at the Studland peninsula. This project aims to build on the amazing records collected during the 1930's by Cyril Diver and his team. The project is a comprehensive ecological survey of the Studland peninsula recording changes in landscape and land use using fixed point photography and also detailed ecological recording of groups such as plants, birds, mammals, reptiles and a number of invertebrate groups including beetles, bugs, hoverflies, ants and of course dragonflies. Adrian and I led a workshop to recruit volunteers



Figure 19. Lesser Emperor ovipositing at Drift Reservoir, Cornwall on 14th July. Christine Moore.



Figure 20. Lesser Emperors mating at West Rise Marsh, Sussex on 23rd August. Dave Sadler.



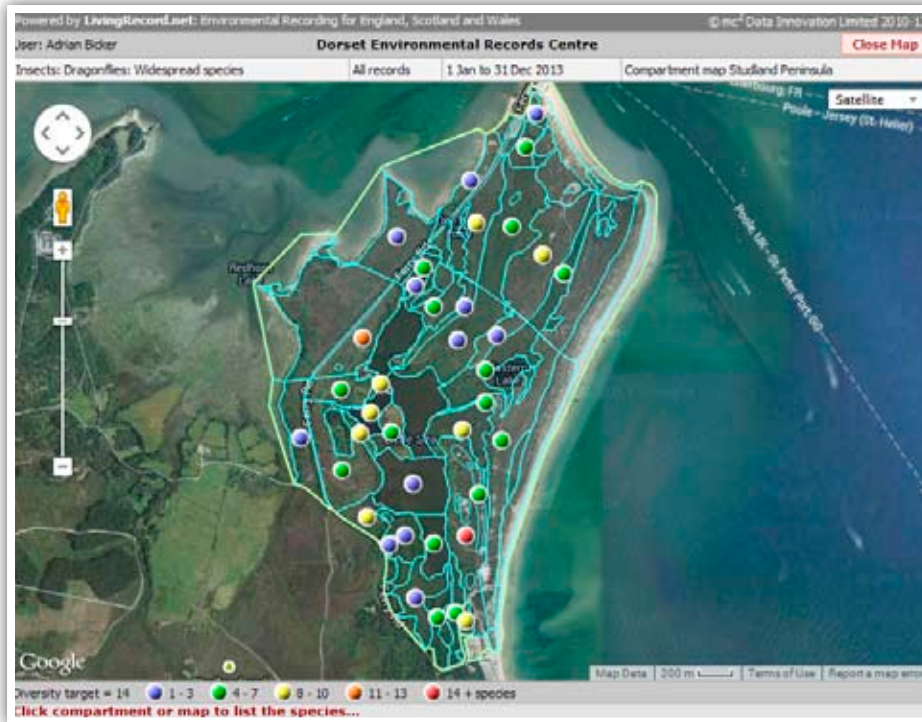


Figure 21. Living record compartment map of the Studland Peninsula.

to help record over the summer of 2013. This was very successful and over 400 records have been collected for over 18 Odonata species. The Living record map (figure 21) shows all compartments surveyed so far. Living Record is a great recording tool for general recording and also specific projects. Part of the Diver project involves going through historic records and displaying these on Living Record for each compartment. Once this is done and the three year project had collected more data for all compartments there will be a comprehensive record of what conditions were like in the 1930's and now in the new millennium. True comparisons can then be made per species and per compartment and it will be fantastic to get such detail from the two sets of records. Living Record makes handling and analysing such data sets easy and rewarding.

Looking forward to 2014 with more recording on Studland and hopefully a new project to increase recording across the Purbecks working closely with the Dorset Wildlife Trust.

Sussex - VC 13 & 14

Penny Green

The first Odonata recorded on the wing in Sussex in 2013 was a **Large Red Damselfly** at Woods Mill, West

Sussex, on 10th April.

The best **Common Club-tail** *Gomphus vulgatissimus* showing in many years was observed in the Arun Valley, West Sussex, in early July; six individuals were seen on one field trip and 11 teneral plus exuviae at a reliable site were seen in late May, followed by immatures in nearby woods. On 5th June an immature male was recorded at Rewell Wood, West Sussex – it's not been recorded here since 1989. A mature male was recorded on 8th August (figure 23) - the latest record we have for this species in Sussex - this was previously 3rd July 1991.

Good numbers of **Keeled Skimmers** were observed on two sites on the Ashdown Forest, East Sussex, at the end of July (10-20 at one; 10 males and 4 in cop at the other). It is a scarce species in Sussex, with the Ashdown Forest being its stronghold. It was good therefore to hear that a male was spotted at a site in West Sussex, having not been recorded there since 2005.

On 20th August a **Lesser Emperor** was seen in Eastbourne, and a couple of days later two were seen patrolling the area. This follows sightings made in the same spot in 2012; a pair was photographed ovipositing, along with an additional male (figure 25).

We'd like to search for exuviae in 2014 to try to confirm breeding.

An immature male **Red-veined Darter** was spotted on the coast in early October, and a male **Vagrant Emperor** was recorded on the coast at Shoreham on 30th October and again on 2nd November (figure 24). This is only the second record for Sussex - the last was in 2011.

There was a distinct lack of **Small Red-eyed Damselfly** records in 2013, with only six records. I will end with good news that the **Small Red Damselfly** was confirmed as a breeding species on an RSPB heathland restoration site, near to an existing colony in West Sussex.

Kent - VC 15 & 16

John & Gill Brook

In 2013 Odonata activity started later than usual in Kent with the first sighting, a **Large Red Damselfly** on 29th April, followed by the **Broad-bodied Chaser** on 3rd June. Many species were three or four weeks later than usual.

As well as the **Southern Migrant Hawker** *Aeshna affinis* and the **Southern Emerald Damselfly** *Lestes barbarus* at Cliffe, a **Black Darter** *Sympetrum danae* was also seen there and photographed by Phil Sharp, a keen "birder", on 8th August.

The **Willow Emerald Damselfly** *Lestes viridis* had a very good year at North Stream, south of Reculver. Numbers have increased since they were first discovered here in 2010. On a visit on 23rd August Derek Tutt recorded 50 to 100 adults, many in tandem and ovipositing. North Stream is a fairly steep sided drainage dyke, so exuviae are not easy to look for.

On 8th July Mark Heath saw four **Red-veined Darters** along a track north of Highstead. They were later seen by other observers in the same general area. On the same day Mark also photographed a **Lesser Emperor** near Reculver. Sightings of the Lesser Emperor were fewer this year but there was also a record at Dungeness.

While on a visit to the Isle of



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Sheppey we saw an amazing sight of several hundred **Ruddy Darters** along a sheltered track. It was a warm sunny day and as we walked along they flew up around us.

For us, the two highlights of the year were of the **Dainty Damselfly** *Coenagrion scitulum* and the **Norfolk Hawker** *Aeshna isosceles*. While visiting one of the private sites on the Isle of Sheppey we were delighted to see at least nine pairs of the **Dainty Damselfly** ovipositing into a small patch of Canadian Pondweed and Hornwort. We are hoping that this means that the population will be considerably increased in 2014. Fortunately, while doing some more general recording on another part of Sheppey, we came across a couple of ponds previously unknown to us, where we were pleased to discover an ovipositing pair of **Dainty Damselflies** and a lone male. A week later about five adults were seen. Unfortunately this is again a private site. We are trying hard to find a public site where anyone will be able to go and visit. We checked a dyke on the mainland which looks suitable, but although we visited it four times we only found lots of **Blue-tailed Damselflies** *Ischnura elegans* and a few other common species. The **Dainty Damselfly** does seem to favour shallowish ponds with floating or submerged vegetation such as Canadian Pondweed, Water Milfoil, Water Crowfoot and similar plants.

For the third year running the **Norfolk Hawker** has been recorded in East Kent. After receiving a phone call in July to let us know that it had been seen at Westbere, we drove over there to see it for ourselves. After a considerable wait with numerous other people, mostly "birders" with cameras at the ready, we were rewarded with our first sighting soon followed by a second. One "birder" photographed a female ovipositing into a reed low down at the water's edge of the fen-like dyke. They were observed on numerous occasions during the rest of the month.

Our thanks to the faithful few who regularly send in their records and to the "birders" who keep us in touch with the rarer species in the county.

Surrey – VC 17

Surrey Biodiversity Information Centre

Recording for the National Atlas may have come to an end but we have been as busy as ever here in Surrey. Despite a late start to the season, we had a summer packed with events. We started the season with a trip to Sparrs Rough, led by Don Tagg, which was followed by a Surrey Wildlife Trust (SWT) BioBlitz at Pond Farm, Wisley, where Mike Thurner led dragonfly walks around the reserve. The highlight was the spontaneous emergence of large numbers of **Four-spotted Chasers** *Libellula quadrimaculata* around the central pond which was quite a sight to behold. The second BioBlitz, for the National Trust at Leith Hill, took place on a sunnier day with the appearance of **Brilliant Emeralds** *Somatochlora metallica* and **Downy Emeralds** being a particular highlight. In July we organized a meeting at The Moors, near Redhill, as part of National Dragonfly Week. This recently created wetland reserve is managed by SWT with ranger Simon Elson kindly agreeing to show us its Odonata highlights. Although it was a chilly day we managed to notch up a number of records and it was great to see the management that was in place to encourage dragonflies. The last of the season's

meetings in August was led by Francis Kelly at Wisley Common. This joint meeting with Butterfly Conservation introduced a lot of butterfly enthusiasts to the world of dragonflies and they were delighted to see **Black Darters** and **Emerald Damselflies** *Lestes sponsa* for the first time, which thrive on Surrey's heathland. Francis is hopeful that the trip produced a few converts. We would like to thank the BDS Hants, Surrey & Berks Group for all their work, all of Surrey's recorders and everyone who helped lead walks and teach ID courses last year.

Hertfordshire VC 20

Roy Woodward

The 2013 flight season got off to a fairly slow start in Hertfordshire with the first **Large Red Damselflies** on May 5th. Further sightings were quick to follow though, and regular sunny days through the summer meant that it was a good year for most species in the county.

Hairy Dragonflies and **Small Red-eyed Damselflies** were reported from sites where they had not been recorded during the Hertfordshire Atlas project, with some of these representing occurrence in new 10km squares.

Up to four male **Red-veined Darters**

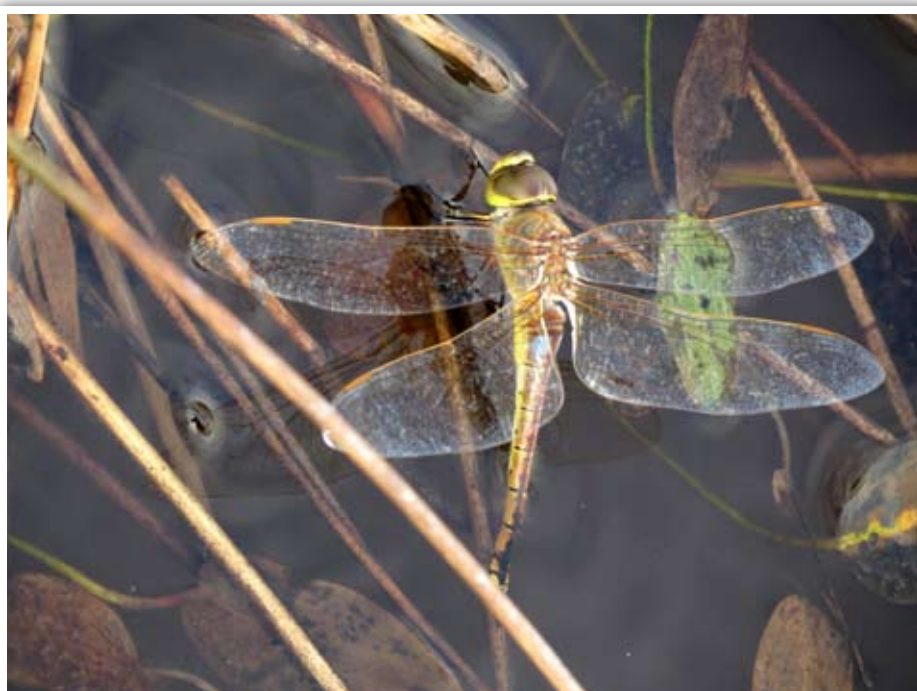


Figure 22. Female Vagrant Emperor ovipositing at Bovey Heathfield on 26th October. Pauline Smale.



were seen at a site with no public access in the south of the county in early July. Even more exciting, I also received a very convincing written description of a **Vagrant Emperor**, the first record for the county, seen at the same locality on October 6th, around the same time as there were reports of the same species from other parts of the country.

The last records of the year were **Common Darters** and an exceptionally late **Common Blue Damselfly** *Enallagma cyathigerum* on November 12th.

On a negative note I have not received any records of **White-legged Damselfly** *Platycnemis pennipes* this year. The population just over the Essex border which is likely to be the source of most recent records in south-east Hertfordshire seems to have been adversely affected by recent wet summers, to the point where it has all but disappeared. Hopefully the populations in north-western parts of Hertfordshire are still surviving and just haven't been reported.

Berkshire – VC 22

Mike Turton

The season started slowly, picked up in June until September when both the temperatures and records took a dive. As a result of the cold weather, **Large Red Damselfly** didn't appear until 30th April – the latest first date for several years. 16 species were first recorded more than 1 week later than their previous latest first date, with 9 of those species not being recorded until more than a month later than previously.

The effect of the weather on early species was noticeable with records of **Downy Emerald** and **Common Clubtail** significantly down on recent years. **Large Red Damselfly** and **Hairy Dragonfly** recovered as the season went on with both species peaking later than normal, but **Common Clubtail** appears to have had a very poor year – the second in succession. Two adults plus 10 exuvia at Goring and 3 exuvia plus 1 dead adult at Caversham were the only May records with another single adult at Goring and 3 larvae near Pangbourne in June and another late



Figure 23. Mature male Common Club-tail seen in Sussex on 8th August. Paul Stevens.

female in July at Abingdon. **Downy Emerald** wasn't recorded until 6th June – 6 weeks later than the earliest ever date (in 2011). Having just experienced a second successive winter of bad floods on the Thames, it will be interesting to see what 2014 brings.

Hairy Dragonfly was reported at 2 new county sites - Farmoor reservoir and Decoy Heath. **Small Red Damselfly** seems to have had a good year with good numbers at most sites.

After last year's excitement, there were no records of **Scarce Chaser** in 2013. **Brilliant Emerald** had a very poor year in its normal stronghold around Bracknell with just one record from Rapley Lake, although there were 6 single adult records at Decoy Heath during June and July. **Common Hawker** *Aeshna juncea* also struggled this year with just the one record, at Wildmoor.

The Wildlife Trust organise regular surveys by local volunteers, at their key dragonfly reserves (Wildmoor, Decoy Heath, Dry Sandford Pit / Parsonage Moor and Sole Common). Thanks to all the volunteers who sent

in records this year and to Thames Valley Environmental Records Centre for providing their records.

Suffolk – VC 25 & 26

Adrian Parr

As with most other counties, the dragonfly season in Suffolk got off to a late start. It wasn't long, however, until important discoveries were made. **Large Red Damselfly** clearly had a good spring, allowing many previous gaps in its recorded distribution to be filled. More significantly, the **Hairy Dragonfly** was also recorded from several new sites in West Suffolk (VC26), showing that its populations in the area continue to strengthen. In the early 1990s, at the time of the last Atlas, it was indeed unknown from the vice county, though it has now been recorded from over two dozen tetrads. Records from East Suffolk have, by contrast, long been known.

Although there was to be quite a lot of good weather over the summer, recording during this period was relatively routine. Autumn did however make up for things. The **Willow Emerald Damselfly** continues to be well-recorded in the county,



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and several new sites for the species were discovered. Populations at some localities were clearly substantial, with over 100 being reported from Staverton Lake on 13 September, despite limited public access making only a small portion of the site readily available for surveying. On the other hand, Alton Water, another favoured site for the species in past years, produced only low numbers during the year. The reasons for this apparent local decline remain unclear.

Autumn 2013 was also notable for some interesting records of migrants in the county. A female **Vagrant Emperor** was sighted on the coast a few miles north of Lowestoft on 6 October, while another – probably a different individual – was photographed in a Lowestoft park on 9 October. These are the first Suffolk records for the species. **Black Darters** were also reported from the coast in the Lowestoft – Minsmere region of the county during the last days of September and much of October. Although most records referred just to singletons, a site near Corton held over twenty males on 7 October – this being more than all other Suffolk records for the past 50 years put together. Before this time, a presumed breeding population existed at Redgrave Fen, but this was lost when water abstraction dried out key parts of the Fen, though the area has since been largely restored. The importance of last year's records of **Black Darter** is that they hint at the possibility of the species being able to spontaneously re-colonise the county.

In summary, the 2013 dragonfly season in Suffolk was somewhat mixed, but with several important highlights. It will be of interest to see whether the very wet weather at the end of the year and during early 2014 will have had any impact on the county's dragonflies in the coming season.

Norfolk – VC 27 & 28

Pam Taylor

Regular county species including **Southern Aeshna cyanea**, **Brown Aeshna grandis** and **Migrant Aeshna mixta** **Hawkers**, **Emperor Anax imperator** and **Hairy Dragonflies**,

Four-spotted Chaser, **Common Darter** and most of the more widespread damselflies all had a good year. The only exception was **Large Red Damselfly**. This suffered from the late spring and failed to appear at some of its usual sites. Thankfully it was plentiful in other places with reasonable numbers persisting well into July. The last record was of a single individual on 28th August.

Scarcer species also seemed to fair well. **Norfolk Hawker** had another good year with the first records for West Norfolk coming from Thompson Water where two were seen on 16th July. This followed reports of other wanderers from an urban garden in Sprowston and the River Wensum at Lenwade.

Common Hawker, which is anything but in Norfolk, was present in known locations at Potter Heigham Marshes and Winterton Dunes, but four were also reported from Blakeney Point, a site known for its migrants. There is only one location for **Small Red Damselfly** in Norfolk, so it was reassuring to hear that at least 150 were present there in early July.

Willow Emerald Damselfly continues to spread slowly within the county and a new colony is present on the River Yare at Cringleford.

On the east coast two migrant species were once again reported,

although the presence of aurantiaca females of **Scarce Blue-tailed Damselfly** indicates that these individuals at least were locally bred from those that arrived in 2012.

Southern Emerald Damselfly *Lestes barbarus* may also be breeding in coastal dunes near Winterton, but although both mating and oviposition were noted this year, no exuviae have yet been found in the pools. This is despite the species having been present in more years than not since first arriving at the site in 2002.

Cambridgeshire and Huntingdonshire – VC 29 and 31

Val Perrin

Following the final impetus on field recording coverage for the forthcoming atlas in 2012, where we managed to get records for all 10 km squares in our two vice counties, recording in 2013 was a more leisurely affair.

I am very pleased that most of my regular recorders and also several out of county recorders from neighbouring areas have made use of Living Record to enter their data online, which has been a big help to me and I am very grateful for their co-operation.

Compared with the wet summer of



Figure 24. Male Vagrant Emperor at Shoreham, Sussex on 2nd November. Dave Sadler.



2012, the last season here was good, with numbers of dragonflies and damselflies in good heart at most locations

The most significant event of last year was the confirmation of breeding evidence for **Norfolk Hawker** at Little Paxton pits NR by Ian Dawson. This species was a former resident of the Cambridgeshire Fens until the late 19th century and the observation of a male **Norfolk Hawker** over Hayling Lake at Little Paxton by Steve Brooks in 2011 alerted us to the presence of the dragonfly at this site which, with an extensive cover of Water Soldier over part of the lake, somewhat resembles its habitats in the Norfolk Broads (figure 27). Ian Dawson also saw and photographed the species at Little Paxton in 2012 and last year was able to use a boat together with the site manager to check for exuviae on the Water Soldier plants. Together with shore-based observation via a telescope, and collection of actual exuviae from the lake, Ian managed to verify around 30 exuviae at the site, confirming definitive proof of breeding (figure 26). At least two female **Norfolk Hawkers** were observed ovipositing there later last June and several were still flying in early July.

Further highlights included the recording of over 300 **Variable Damselflies** *Coenagrion pulchellum*, a very localised species that has several known locations in our area, on 19th May at Fen Drayton lakes

RSPB, together with good numbers of **Common Blue**, **Blue-tailed**, **Red-eyed** and **Large Red Damselflies**.

I observed thousands of **Common Blue Damselflies** over Ferry Lagoon on 12th July, many in tandem. **Banded Demoiselles** *Calopteryx splendens* were numerous along the river bank throughout the summer, using nettle banks on which to bask and display. Fen Drayton is a extensive complex of flooded former gravel pits in the River Ouse valley, with mature willows and scrub, brilliant for birds and dragonflies and it is good that the RSPB has started to restore the former dragonfly pond here with the legacy of a local man and dragonfly enthusiast. Another recently restored pond at Great Gidding harboured 7 species when surveyed last summer and other nearby ponds also had healthy populations of Odonata.

Downy Emerald was confirmed at the private lake in Shepreth, as in 2012, so is likely to be breeding here at its only known county site. **White-legged Damselfly** was also seen here again in 2013. This last species has a scattered small population in Cambridgeshire, including along small stretches of the River Great Ouse; it would be good to ascertain habitat characteristics that attract the species.

Bedfordshire – VC 30

David Anderson

The summer weather in Bedfordshire was better than recent years, but

surprisingly the number of records was down at 1552, compared to 2355 records in 2012. The first record of the year was on the 21 April and the last record was on the 25 November, as always for **Large Red Damselfly** and **Common Darter**. There were records for the usual 21 resident breeding species, but the real surprise of the year was of records for two new species creeping in from adjacent counties. The first was the now widely reported sighting of a **Norfolk Hawker**, found by Ian Woiwod in Potton Wood on the 3 June. Ian proved the worth of always carrying a camera with him, as there was no disputing the record (figure 28) which otherwise would have been listed as “unlikely”. With the knowledge that Norfolk Hawkers had been seen in the previous two years at Paxton Pits, Cambridgeshire, only eight miles away from Bedfordshire. The only suitable site for the species in Bedfordshire was checked for exuvia but none were found.

The other new species was for one **Variable Damselfly**, found by Ian Dawson on the River Ivel at Sandy. This may be an exploring male from a colony outside of Bedfordshire, or an unknown population at this site. Searches in 2014 will be made to try to resolve the situation.

There were no migrants found in the county in 2013. Thanks go to the 72 recorders who supplied the records.

Northamptonshire – VC 32

Mark Tyrrell

With a late start to the season in Northants, where the first **Large Red Damselfly** wasn't recorded until 4 May, many species extended their flight season and were recorded later than in recent years. Notably, **Broad-bodied Chasers** had a very good year, with more adults recorded than ever before at their best sites and several seen into late August; **Scarce Chasers** lasted further into August than before; the last **Hairy Dragonfly** was recorded on 13 July, 10 days later than the previous record and finally, **Migrant Hawkers** were recorded well into November. Whether these were helped by a good hot spell in July and a warmer than normal late summer early



Figure 25. Lesser Emperor in Sussex. Ian Whitcomb.



Autumn or by the late start is not known.

Surveying along the upper reaches of the Brampton Valley Nene discovered small colonies of **Beautiful Demoiselle** *Calopteryx virgo* at several new sites indicating that this species is still working hard on expanding its range in the County. I expect them to make the short hop over to the River Welland very soon and therefore into neighbouring Leicestershire. Interestingly, the **Hairy Dragonfly** was recorded on the Welland for the first time too.

And finally, the most notable event of the year was the publication of the second edition of "The Dragonflies of Northamptonshire". This is a thoroughly updated version of the book first published in 2006, with new photographs and records covering 2000-2012 – the same period covered by the forthcoming National Atlas. Copies are available from the County Recorder. If you have a copy of the first edition, please get in touch for an extra special offer.

Gloucestershire – VC 33 & 34

Ingrid Twissell

Dragonfly recording in Gloucestershire didn't start until May, owing to the prolonged wet spring, but by the end of the month, 18 species were recorded. The first was **Large Red Damselfly** on 2nd May, with **Blue-tailed Damselfly**



Figure 26. Norfolk Hawker exuviae at Little Paxton Pits. Ian Dawson.



Figure 27. Norfolk Hawker habitat at Hayling Lake, Little Paxton Pits in Cambridgeshire. Ian Dawson.

and an exceedingly early date for a newly-emerged **Common Darter** on 7th May. Other notably early dates for **Common Darter**, **Ruddy Darter** and **Southern Hawker** all occurred at Woorgreens Lake in the Forest of Dean on 16th May, and one wonders what climatic conditions promoted their early metamorphosis.

Hairy Dragonfly emerged late, was in good numbers at Slimbridge, and continued to be seen until 15th July. On 12th July a clash of wings between a male **Hairy Dragonfly** and a male **Golden-ringed Dragonfly** *Cordulegaster boltonii* was witnessed at Slimbridge – a rare sight! This is the only recent sighting of **Golden-ringed Dragonfly** at Slimbridge, with a possible sighting some 20 years previously. There was a new 10km square record of **Golden-ringed** at Oxenhall in July.

Scarce Chaser was present in only low numbers, but there were two new locations near Tewkesbury, a male was present at Coombe Hill Canal, all in June, with a male at Slimbridge and an unconfirmed report of one at Frampton Pools.

Common Clubtail was seen at Apperley for the second year running, with sightings at Twynning, The Mythe and English Bicknor, although only in small numbers.

In the Forest of Dean, **Downy Emerald** was present at The Dilke

in May, with the best ever numbers recorded. They were also present at Woorgreens Lake, Fairplay and Cinderford Linear Park-North with a very late sighting at the new "pondscape" on 27th July.

A male **Vagrant Emperor** was recorded and photographed in a suburb of Bristol on 25th October; this sighting being just within the boundary of VC34.

Keeled Skimmer and **Red-veined Darter** were both recorded at the new "pondscape" near Woorgreens Lake in July. **Keeled Skimmer** is rarely seen in the Dean, and the two males were the first sightings since 2009 – one male was at the "pondscape" and the other at a ditch on the north-east side of Woorgreens Lake. The two male **Red-veined Darters** were both at the same pond as in 2012. Also at the "pondscape" small numbers of **Black Darter** were present, hopefully breeding, and a small colony of **Scarce Blue-tailed Damselfly** was confirmed, with probable breeding. This is an excellent site with 20 species recorded in 2 years.

Two new locations were discovered of **Small Red-eyed Damselfly**, both in August, when 6 were seen at Apperley Hall Farm in the north of the county, and one male was present at the Horsebere Brook Flood Alleviation area near Gloucester on 31st August. At The





Figure 28. Norfolk Hawker, Potton Wood, Beds, 3rd June. Ian Woiwod.

Mythe Fishing Lake near Tewkesbury, a very good breeding population still exists with approx 150 present in August, but at Coombe Hill Canal only one pair was seen, maybe the numbers being reduced by the amount of flooding over the last winter and spring.

A report of a male **Small Red Damselfly** on 4th July along the disused Thames and Severn Canal near the Cotswold Water Park Spine Road, was subsequently confirmed. This is the first time, to my knowledge, that this species has been recorded in Gloucestershire (VC33).

The season continued until the last sightings on 10th November of several **Migrant Hawker** and three **Common Darter** at Slimbridge, another **Common Darter** at Over Ponds, near Gloucester, and four **Common Darters** along the R. Severn near Saul Warth and Hock Cliff.

Worcestershire – VC 37

Mike Averill

The long cold spring weather which lasted in to May had a dramatic effect delaying the emergence of all species by between 1 and 6 weeks except for the **Small Red-eyed Damselfly**.

In terms of individual species, all the regular species were seen plus an occasional one, the **Red-veined Darter** which was seen at Grimley but not at its usual location at

Pirton. The **Club-tailed Dragonfly** was 17 days late to emerge and the numbers counted were somewhat lower so perhaps some individuals will have delayed their emergence until next year. This is particularly vital for a synchronised species that disperses widely after emergence. The **Beautiful Demoiselle** seems to expand its range each year showing in more locations on the River Severn and even at Yardley, Birmingham. Croome Court had less **Small-red Eyed Damselflies** than last year but the species was seen at another location. The fact that this species wasn't late emerging compared to other years may be explained by the fact that it normally emerges later in the summer and so would have had time to recover from the early cold spell. The **Four-spotted Chaser** tends to pop up in more locations than it used to so it was nice to have proven breeding reports from Penny Hill, Martley.

The unexpected arrival of the **Scarce Chaser** at Hildditch Pool, Hartlebury in 2012 gave rise to the possibility of a breeding colony there and so it was with excitement that the first larval cases were found in June this year. Whether such a small group will be self sustaining will make an interesting case study.

Dragonflies attracted to moth traps are not all that common but there were two instances via Val Weston this year: a **Brown Hawker** in Acocks Green and a **Common Darter** at

Monkwood.

Warwickshire – VC 38

Kay & Peter Reeve

As elsewhere, 2013 started very cold but the year progressed and we had the best summer for many years. Even so the late emergence for many species continued. The warm summer should result in good reproductive success and so, hopefully, we can look forward to many dragonflies and damselflies for 2014.

The onset of cold weather finished the flight period for most species fairly early. **Migrant Hawker** and **Common Darter** hung on until mid-November.

The histogram in figure 29 shows the history of the number of records received for the county with a peak in 2012. 9752 records (2000-2012) will contribute to the atlas plus one of a **Lesser Emperor** from 2013.

During 2013 there were two notable vagrant sightings. The **Lesser Emperor** at Morton Bagot was first spotted by Mike Inskip on August 6th and then August 7th by Mike and Kay & Peter Reeve. Mike has seen this species twice in three years. In July 2011 Mike made the First County Record of the species about 2 miles from 2013 sighting. The other vagrant was **Red-veined Darter** seen by Jon Bowley on 14 July at Salford Priors.

The rarer county species had a mixed year. The **Scarce Blue-tailed Damselfly** is still hanging on at its one breeding site, a working sand and gravel quarry. Vegetative succession, causing shading the shallows, and site reinstatement works have made it change breeding location. The population seems to accommodate these habitat changes by moving within the quarry. So long as the quarry continues to work it is probably secure there.

Hairy Dragonfly did well at Stockton Quarry with a total of 18 exuvia collected but was not seen elsewhere.

Scarce Chaser was not seen this year despite careful searching. This may



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be explained by the usual two-year life cycle. It was first found in the county in 2010 and then in 2012 in larger numbers so we will, hopefully, see it in still larger numbers in 2014.

The status of **Club-tailed Dragonfly** on the Avon is worrying with none seen in 2011, two adults in 2012 and none in 2013. Between 1998 and 2010, reasonably good numbers of adults were recorded and in most years emergents and exuvia were found too. The peak years were 2002 with about 40, 2004 with 15 and 2009 with 20. Recording effort has been consistent. We hope the species is not going extinct in the county.

Shropshire – VC 40

Sue McLamb

A huge 'thank you' to all who recorded Shropshire dragonflies during 2013. Well over 60 enthusiasts contributed to an amazing total of nearly 1500 records, 1154 of them made during 2013! This nearly doubles the number of records made in 2012. Special mention must go to Paul Hope who spent most of 2013 cycling through Shropshire gathering 253 records - an incredible effort!

28 species were recorded in 2013 comprising 18 dragonfly and 10 damselfly species. Numerically this is 1 more species than 2012 though there are differences in those species represented. Top of the list is a new Shropshire record – a recently deceased **Vagrant Emperor** found at Muxton Marsh by Gwyn Hiat on 23rd November. One of a number of UK records for this migrant this year and a really great find!

Hairy Dragonfly was recorded at Whixall Moss. This is a 'county third' with only 2 other detailed Shropshire records made in south Shropshire in 2000. This north Shropshire record is therefore of much interest and a first for Whixall Moss. This site provided a number of interesting records this year with **Keeled Skimmer** being recorded here for the first time since 2007. Late records from 2012 also revealed **Variable Damselfly** was recorded at Whixall Moss for the first time since 1995.

Species unrecorded in 2013 were **Scarce Blue-tailed Damselfly** and **Red-veined Darter**. This was despite repeated visits to Venus Pool where the latter was seen ovipositing in 2012.

Though directly influenced by recorder effort, the first recorded sightings of all damselfly species were later than in 2012. Such a uniform pattern was not seen with dragonfly species and indeed a number of the hawkers were on the wing earlier in the season. Interestingly **Large Red Damselfly** provided a number of late sightings most notably 2nd October at Preston Montford. This represents the 3rd latest sighting ever of this species in the county. **Common Darter** though always a late comer was recorded on 4th November – also the 3rd latest record of this species in Shropshire.

Breconshire VC 42

Keith Noble

On the days of early summer when I visited Llangorse Lake, **Variable Damselflies** and **Common Blue Damselflies** were present in hundreds rather than the thousands of some other years. Through the season dragonfly numbers there seemed generally lower than usual, but Hobbies were clearly enjoying the **Migrant Hawk**ers in September

and October.

Mynydd Illtyd provided my best days, especially along the Camlais stream and at the shallow western pool, Traeth Bach. There were high counts of 80 **Four-spotted Chasers** on 8 June, and 35 **Keeled Skimmers** with 30 **Scarce Blue-tailed Damselflies** on 20 July. Although there are a few previous records of **Keeled Skimmers** here, this was the first time I had seen them. On 22 August the site was full of activity, making counting tricky. I noted minima of 131 **Emerald Damselflies**, 46 **Common Hawk**ers, 84 **Black Darters** and 43 **Common Darters**. The same species were present a few days later in the swamp at Pant y Llyn SO 0446. At Penlan Ponds near my home in Brecon a **Brown Hawker** on 26 August was new and I hope to see more of this spreading species.

There was another small increase in the number of records to 240 which mostly confirmed previous sightings by the same observers at their usual sites. I kept in touch with them and other interested people by emails with photographs at intervals through the season, and included dragonflies in the talks, 'A Wild Year' and 'A Wild Garden', which I gave to local groups. In the county next door I ran a training day for Gwent Wildlife Trust staff

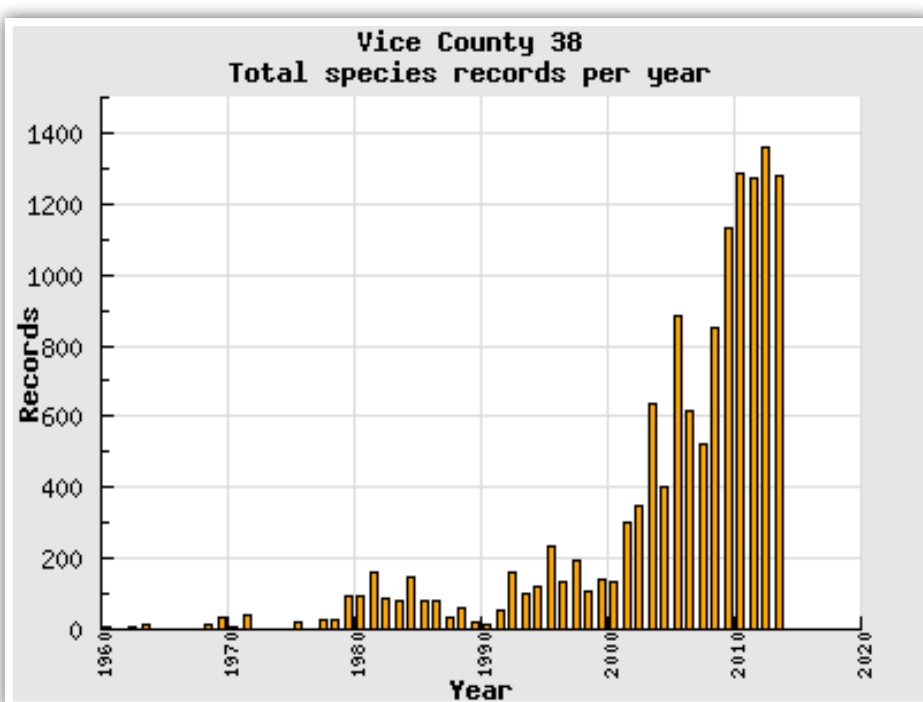


Figure 29. A histogram showing the history of the number of records received for Warwickshire. Kay and Peter Reeve.



and volunteers at Magor Marsh. Three Breconshire sites – Llangorse, Mynydd Illtyd and Brechfa Pool – are now on the BDS website, and with Penlan Ponds and Pant y Llyn will be on an improved Brecknock Wildlife Trust website later this year. With Bob Dennison of Radnorshire I am now on the Board of the Biodiversity Information Service for Powys and Brecon Beacons National Park (BIS), and will give a presentation about the Dragonfly Atlas at its Recorders Day in April.

Radnorshire – VC 43

Bob Dennison

A total of 529 records were received in 2013 from 19 named contributors and the '*Rhayader by Nature*' group. This compares quite favourably with 595 records from 25 contributors in 2012. As usual, the biggest contributors were Radnorshire's *Dragonfly Stalwarts*, Ian Standen and Dick Eastwood, amassing an impressive 70% of VC43 records between them.

The 12 Dragonfly and 8 Damselfly species in 2013 featured most of the 23 species regularly recorded in Radnorshire, with the exception of **Common Clubtail**, **Ruddy Darter** and **Scarce Blue-tailed Damselfly**.

Some of our normally common and widespread species, appeared in unusually small numbers or at very few sites. Notable amongst this category were **Beautiful Demoiselle**, **Banded Demoiselle** and **White-legged Damselfly**. Could this apparent dip in river-species sightings, along with a lack of Gomphus records, suggest adverse impacts on the VC43 river network?

Among the other species for which sightings seemed much less widespread than usual were **Blue-tailed Damselfly** and **Emperor Dragonfly**; though in the case of the latter, a few sites in the south east of VC43 were discovered to have healthy congregations of these normally quite solitary dragonflies.

Although there were only 4 records at 3 sites in the south east of Radnorshire for **Black-tailed Skimmer** *Orthetrum cancellatum*, these showed good overall numbers

and evidence of breeding.

On a more positive note, a record number of sightings for **Brown Hawker** indicate the species continues its spread across the vice county; and a good return of records, with healthy numbers of insects at any given site, was apparent for **Large Red Damselfly**, **Black Darter**, **Emerald Damselfly**, **Golden-ringed Dragonfly** and **Four-spotted Chaser**.

'Out of County' visitors were welcomed in 2013. Red Liford, based in neighbouring Ceredigion, used his best efforts to relocate the elusive **Small Red Damselfly** in the Elan Valley. From Buckinghamshire, David Tompkins, came to the same part of VC43 and surveyed freshwater invertebrates. Small Red Damselfly remains an enigma but both visitors have increased our knowledge in that part of the VC and are very welcome to return!

Highest on my list of priorities is to improve the VC43 representation on the BDS Wales website for 'Good Places to See Dragonflies'. I have a handful of places in mind to show off Radnorshire's dragonflies – so watch this space!

North Wales – VC 48 – 52

Allan Brandon

Recording across North Wales definitely tailed off in 2013, partly due to a steep decline in my own recording and partly due to a significant drop off in the number of contributory recorders - only 32 people sent in records for last year's flight season. This follows 10 years of sustained growth in recorder numbers that culminated in 81 recorders for the 2012 flight season. This fall off is somewhat compensated for by an increase in records I have to verify for Cofnod (the North Wales Records Centre), although many of these records are older records made available through digitization of paper databases at Countryside Council for Wales, North Wales Wildlife Trust etc.

I would like to thank those who sent records in during 2013 (named in the North Wales Dragonfly Newsletter no. 74) and especially those that contributed photos for use in the

newsletter. This has been available on the Cofnod website for more than a year so that older issues can be viewed there - www.cofnod.org.uk

There is very little of interest to report as regards Odonate activity across North Wales. I co-presented a number of training courses across Wales with Claire Install during the year. The two courses in February aimed at teaching people how to lead walks for dragonflies. These were at Newton, mid-Wales on 21 February and Rhydymwyn Nature Reserve, North Wales on 27 February. Three further courses followed in July and August that concentrated on equipping people with field ID skills. The first was at WWT Llanelli, South Wales on 11 July, then at Rhydymwyn on 17 July and the last at the wonderful Fenns Moss NNR near Wrexham, North Wales on 1 August. All the courses were fully booked up and a greatly appreciated judging by the feedback and more are planned for next year.

Lincolnshire – VC 53 and 54

Nick Tribe

The headline event of 2013 in Lincolnshire was the tidal surge overnight on 5th and 6th December. The inundation of coastal reserves was extensive. North Flash at Donna Nook NNR Quad 3 area (TF4398) (**Small Red-eyed Damselfly**), most of the fresh water bodies at Gibraltar Point NNR (5 breeding species and 5 vagrant species recorded in 2013 including the long established **Red-veined Darter** colony in the Mere) (TF5658) and lagoons and reedbeds of Far Ings NR on the south bank of the Humber (TA0123) all flooded extensively with salt water. The impact on the Odonata assemblages will no doubt have been disastrous but it will be fascinating to watch the re-colonisation of sites over the next five or ten years. Thankfully sites such as Saltfleetby-Theddlethorpe NNR and the RSPB reserves at Frieston and Frampton Marsh largely avoided inundation.

Of note elsewhere, 25 **Brown Hawkers** were seen on 10th August at Messingham Sand Quarry NR (Andrew Ashworth) and 5 of the same species were seen at Wolla Bank NR on 23rd July (Pete Childs).



Two male vagrant **Black Darters** were seen at Gibraltar Point NNR on 22nd September (Chris and Sue Bottomer) and one male was seen at Saltfleetby-Theddlethorpe NNR on 29th September (John Walker). An **Emperor Dragonfly** was seen to arrive from over the sea at the latter site on 18th August (Cliff Morrison). December 1st saw records of late-flying **Common Darter** at Gibraltar Point and Whisby Nature Park near Lincoln; November records are reasonably common for this species but any December record is unusual.

Leicestershire – VC 55

Ian Merrill

I am sure that many of the people closely involved with the creation of the new dragonfly atlas were very disappointed when the publishing deadline of late 2013 was missed; if it is of any consolation to you, I was delighted! Our small band of dedicated recorders (essentially Lorraine Ellison, Barbara Vickers and me) had already decided that we would continue the recording impetus of the 'Big Atlas Push' and try to fill in as many missing 10km squares as we could in 2013. We managed a magnificent 16 new species grid squares between us, during the first real summer weather for three years, all of which will now appear as dots in the 'delayed' atlas!

The single highlight of the year was the discovery of a male **Keeled Skimmer** at Bradgate Park on 28th July, constituting the first record of this species for VC55. It was once again Matthew Billings whose diligent observation revealed the presence of this vagrant, and his recording persistence also paid off with the discovery of the first **Variable Damselfly** for Puddleyke Pool, a site in the Charnwood Forest well away from any known colonies. Matthew also recorded a male **Black Darter** at Charnwood Lodge Nature Reserve, which was present for four whole weeks; it would be wonderful to think that he bumped into a female at some time during his stay!

A final note of recording significance was the 1st December occurrence of **Common Darter** at sites in both Leicestershire and Rutland, the latest records ever in the Counties.

The flight season for this species has been steadily lengthening over recent years, a certain indicator of our changing climatic conditions, but to see a dragonfly in the twelfth month of the year is certainly a significant threshold now passed.

Cheshire – VC 58

David Kitching

The first **Large Red Damselflies** were seen on 5th May. After this things improved and a good season seems to have been enjoyed by most species but no records were received for **Beautiful Demoiselle**, although this is likely to be due to lack of recording in the restricted number of places where it is found. **Ruddy Darter** was scarce during the year and this seems to reflect a slow decline in numbers since it first moved into the county in the 1980s and 90s.

One of the highlights of the year came in early July when Barry Shaw found a male **White-legged Damselfly** on the canal at Baddiley. It was always thought possible that this species was using the Llangollen Canal as a route to migrate northwards from the Severn to the Dee and this sighting certainly boosts the theory. Equally encouraging was the sight of **White-faced Darter** *Leucorrhinia dubia* flying in Cheshire for the first time in ten years; a good start to the reintroduction project.

Twenty years ago the **Broad-bodied Chaser** was a scarce insect in Cheshire but in 2013 June and July saw the species recorded right across from the Inner Marsh Farm RSPB reserve on the Wirral, to the hills of East Cheshire at Bosley. A record of **Common Club-tail** east of Aldford was over 10km from its only known breeding location on the Dee and notable as this species has rarely been seen far from that river. Another interesting sighting was a single **Golden-ringed Dragonfly** at Hockenhull Platts in late July. This species is still not known to breed in Cheshire but the increasing number of sightings suggest that it may yet do so if suitable waters can be found.

Details by month with photographs can be found on the Cheshire Odonata website at www.brocross.com/dfly/dfly.htm

South-east Yorkshire - VC 61

Paul Ashton

Emergence dates were up to 3 weeks late for early species. Despite this slow start **Variable Damselfly** went on to break two records, one for the highest ever site count, and also our latest ever date on July 18th, clearly helped by the late emergence and high numbers. **Small Red-eyed Damselfly** did not move further north. There were no records from Saltmarsh Delph, but poor visibility may have prevented



Figure 30. Keeled Skimmer at Timble, North-west Yorkshire. Ian Hargreaves.





Figure 31. A White-faced Darter re-introduction pool, Foulshaw Moss, south Cumbria. David Clarke.

it from being seen. The surge tide in December however resulted in the area being inundated by brackish water which will no doubt have an impact on some species. **Hairy Dragonfly** continues to be found in good numbers along Leven Canal, with evidence of range expansion to new sites along the Humber Estuary. **Broad-bodied Chaser** had a disastrous year in 2012, though this did improve in 2013 with the number of sites recording this species doubling to eight. **Migrant Hawker** and **Common Darter** had low numbers, despite the excellent summer weather, perhaps indicating a poor year for incoming migrants. The mild autumn extended the flight period of the later species to the 22nd November, a new latest date. The lack of migrants was backed up by only a single record of **Red-veined Darter** at Spurn. Records would indicate that this species has not bred successfully since 2007 and is no longer considered to be an annual breeder, its status changing back to irregular migrant breeder. The highlight of the year was a male **Keeled Skimmer** found at Spurn on 16th July, the second record of this species for the VC, following the first at Skipwith in 2010. Many thanks to all those that submitted their records during the year please keep up the great work. Further information on the wider county of Yorkshire can be found on the Yorkshire Branch of the

British Dragonfly Society's website at www.yorkshiredragonflies.org.uk. Information about the on-line East Riding Dragonfly Atlas can be found at www.erdragonflies.co.uk

North-west Yorkshire VC64 Tom Hubball

2013 was a difficult year for me and I was unable to get out into the field at all, so any of you that managed to enjoy the lovely summer weather have me at a disadvantage.

The major records of note concerned sightings of **Keeled Skimmers** away from their usual sites. On 28th July I received an email, with a photo (figure 30), of one recorded at Timble Ings (SE156528) which is over 70 miles away from their north-east stronghold at Fen Bog (SE8598) in VC62. I therefore checked with the other Yorkshire recorders to see if they had heard of any unusual sightings as well. Paul Ashton (VC61) told me that he had recorded one at Skipwith Common (SE6537) and had heard about one at Spurn (TA4012). I then contacted Adrian Parr and he informed me of one seen in Lancashire at about the same time. I was subsequently contacted by the person who had made the Lancashire sighting and he provided me with the location details. This actually turned out to be in VC64 as the western edge of the vice county straddles

the modern Yorks/Lancs border. However, his sighting was confirmed as a first for Lancashire.

Despite not being able to venture out myself I was far from idle, managing to type up over 6800 paper records, from 1991 onwards, to help fill some gaps in VC64 for the atlas project and I can't wait to get a copy of this publication to see what strides we have all made in recording dragonflies over the years since the last atlas in 1996.

North-east and North-west Yorkshire – VC 62 & 65

Keith Gittens

The season started late with no Odonata being found until 19th May when a damaged emergent **Large Red Damselfly** (figure 32) was discovered at Gilling Lakes. Looking at the condition of the individual this would have emerged a day or two earlier. A visit to Strensall Common the following day produced good numbers of emerging **Large Red Damselflies**. **Four-spotted Chaser** and **Azure Damselfly** *Coenagrion puella* were also recorded at Strensall.

As the weather improved both **Emperor** and **Golden-ringed Dragonfly** seemed more evident, but overall the number of records was average.

Generally then, an uneventful year but records were received from some new sites and some new recorder. Many thanks to all those who sent records in.

There is an increasing number of bioblitz / wildlife day events held which I or the local group are asked to attend. These are a great way to promote both dragonflies and the BDS, but demanding of time though very rewarding.

Cumbria – VC 69 & 70

David Clarke

Like much of the UK, Cumbria had a late-winter cold spell that lasted many weeks and continued long into May. Thereafter, a warm, settled period gave one of the best summers for many years, returning to unsettled conditions by August.





Figure 32. A failed Large Red Damselfly at Gilling Lakes, Yorkshire on 19th May. Keith Gittens.

There was a consequent delay of emergence of normally early species such as **Large Red Damselfly** and **Four-spot Chaser**, typically two to three weeks later than average dates. The good summer enhanced breeding activity of some species able to take advantage of the conditions. The later season was quiet - and there were fewer reports than usual of **Migrant Hawkers**.

Banded Demoiselles in the south of the county are a recent development: their presence was again noted at a site (figure 33) that also holds **Beautiful Demoiselle**. One of the latter species was also noted by the Derwent in upper Borrowdale in mid July and may have been a warm weather traveller into this unoccupied valley. **Broad-bodied Chaser** also continues at various sites from Kendal southwards, with evidence of breeding. Perhaps surprisingly, the warm weather brought no obvious northward spread: a male briefly at a garden pond on 29 July near Carlisle was the only northern sighting. July also brought interesting sightings of **Keeled Skimmer** away from known breeding sites in the Lake District – suggesting local movements prompted by the fine summer. These were in upper Swindale (8th), upper Borrowdale (18th) and Wet Sleddale (27th). Reduced access to the west

coast site that has held site that has held **Black-tailed Skimmer** since c. 2005 means that it may longer be possible to monitor what may still be the only established colony in the county.

The good weather coincided with the flight period of the **White-faced Darter**. At its Carlisle site, breeding activity was intense after a delayed the start of emergence - even by mid May this had only just started. Some 2200 exuviae were counted this season. At the Foulshaw Moss reintroduction site (figure 31), exuvia monitoring proved that some 500 adults emerged. Mating and oviposition were observed for the first time at this site. The species continued to be encountered at one site on Claife Heights, Windermere, with three adults (? the same ones) on two occasions almost a month apart.

Scotland – VC 72 – 112

Pat Batty

In Scotland emergence was 2-3 weeks later than usual for most spring species because of exceptionally cold spring weather. First emergence of the **Hairy Dragonfly** was on the 5 June, this species usually emerges mid May in Scotland. The weather improved

in June and July with long spells of dry and sometimes warm weather. Consequently bog pools in the west became unusually dry until later in the season.

Conditions suited the **Northern Damselfly** *Coenagrion hastulatum*. Over a hundred adults were seen at several sites on Deeside and on Speyside. This is the first time large numbers have been recorded for several years. The population at the Curling pond at Logierait is also likely to be in the hundreds from the numbers of larvae found.

Two new sites were discovered on Deeside by Juliette Dinning, one near Braemar and the other at Logie Coldstone. A new pond was completed at Castle Fraser early in 2011, 85 metres from the original pond. In 2013 Juliette found small numbers of adults, larvae and exuviae of the **Northern Damselfly** here indicating early colonisation.

Ron Youngman and Lynnette Borradaile also discovered another new **Northern Damselfly** site in Perthshire near Ballinluig.

The **Azure Damselfly** continues to spread northwards in Scotland. It has been found at new sites throughout Deeside.



Figure 33. A site for both Demoiselle species, R. Gilpin, Lyth valley, south Cumbria. David Clarke.





Figure 34. Black Darter larvae. Juliette Dinning.

New breeding sites for the **Northern Emerald** *Somatochlora artica* were found with new 10 km and post 2000 records. The Sunart and Ardnamurchan area is a stronghold for the species. Carl Chapman saw fifty adults along woodland rides and several kilometres forestry track near Claish Moss. Interestingly some were preyed upon by bats. A female **Northern Emerald** was found dead on a board walk near the Moine Mhor in Argyll by Sue and Steve Walker and larvae were found nearby. Ruary Mackenzie Dodds and Kari de Koenigswarter saw an adult emerging in Glen Lyon on 5 June. It was also seen on Flanders Moss in Stirlingshire again this year.

The **Keeled Skimmer** too had a good year with a number of sightings. It is increasing its range with records from the Ardnish peninsular to the north of Ardnamurchan. New breeding areas were found in Sunart.

David Clarke discovered a new area for the **White-faced Darter** on Rannoch Moor near Glen Etive, several miles from the known site in Glen Orchy. Larvae, exuviae and adults were seen. Neville Crowther also found a new outlying site north of Oban at the Moss of Achnacree. Both of these are in new 10km squares. Jonathan Willet has also added to our knowledge of the species in the Speyside and North West Scotland.

There were few sightings of the



Azure Hawker *Aeshna caerulea* in 2013. The Silver Flowes area in Dumfries-shire was searched for larvae and adults but none were seen. Ron Youngman and Lynnette Borradaile refound the species in the forestry above Loch Rannoch when surveying the area for the Forestry Commission. Adults were seen on Rannoch Moor and in Glen Affric.

The **Southern Hawker** continues to colonise sites. From nine squares in the last atlas it is now in well over a hundred 10km squares in Scotland. New breeding records have been found in hectads from East Inverness-shire and Easter Ross to Dumfries-shire and Argyll.

The **Banded Demoiselle** was seen in new sites on the Whiteadder River by Peter Vandome and David Graham. It now seems well established in the area. David also recorded the **Red-veined Darter** from Millars Moss in the Borders again, the first sighting since 2009. The **Emperor Dragonfly** is breeding at a small number of ponds near Reston in the Borders. Numbers are down since the cold winters. However it was also seen at Caerlaverock in the south west. The **Migrant Hawker** was seen at St Abbs on 25 September and was egg laying at Newmains Farm pond on 5 October.

Our knowledge of the distribution of species in Scotland continues to grow thanks to a group of widely

dispersed enthusiastic volunteers. They have been continuing to visit squares with no or few records, particular mention should be given to Larry Templeton and Andy Scott for their efforts in the north and Andy Riches and Barbara and Richard Mearns in the south.

Also members have added to our knowledge of their local area by making repeat visits to local sites Robert Smith at Greenhead Moss and Dennis Kennedy at Crombie Park, Dundee. Both recorded nine species at their sites. This is a good number of species for Central Scotland. In the north east Juliette Dinning, Peter Gordon Smith and Ron Forrester also complete repeat transects along with others throughout Scotland.

Thanks for the efforts of all volunteers. To date over 65 volunteers have contributed 2700 records and spending over 750 days recording.

A major development in Scotland has been the appointment of a part time Scottish Officer. Danièle Muir, an experienced Perthshire ranger, started in October. She is already making contacts and organising events. We hope this will raise the profile of dragonflies in Scotland and develop our work. A Scottish Conference in Perth is planned for the 12th April.

2013 has been an exciting year and hopefully it will continue in 2014.

The Role of Collecting Exuviae

The table below accompanies Juliette Dinning's article on pages 25 - 26. It shows how many Black Darter exuviae Juliette collected each week from the start of August in 2013. These were all collected from a small pool at Invercauld Estate near Braemar. A total of 1264 were collected, without this evidence we would not know how important this small pool is for this species.

Date of Exuviae Collection	Number of Exuviae Collected
Week 1	212
Week 2	257
Week 3	465
Week 4	258
Week 5	72

The Role of Exuviae Collecting to Establish Breeding Success

Juliette Dinning

Following on from the *DragonflyWatch* initiative outlined in the 2012 Spring edition of *Darter*, it is clear that finding a range of methods suitable for recording dragonflies will be a key issue in collecting information on dragonfly population trends and changes, both locally and nationally, as well as successfully retaining interest in dragonfly recording from Dragonfly Recording Network volunteers. It is intended that this information will provide data for distribution mapping and the identification of key sites – those sites which have outstanding assemblages of dragonflies or sites which have red data book species breeding. Results obtained can then help inform management decisions and future planning for sites at both a local and national level.

The new *DragonflyWatch* scheme has detailed a range of recording methods which encompass different levels of skill and commitment in order to include as many volunteers in recording as possible. The pilot scheme on adult transect counts which ran for four years from 2009 has produced some good quality data, but was also found to require a level of commitment that was difficult for many volunteers to maintain. So a number of recording methods, ranging from regular



Figure 35. Black Darter exuviae. Juliette Dinning.

transects and spot counts of adults, to a site species list compiled on each visit, to casual records submitted on occasion, are all being encouraged. Counting adults during key flight periods will no doubt continue to be one of the most popular options amongst volunteers, but collecting data from larval surveying as well as collecting exuviae is also to be encouraged in providing additional value in recording.

The lifecycle of dragonflies can be split broadly into three stages: the egg stage, the larval development

stage and the adult flight period following emergence. Counting adults at a site can give us good information about population trends at a site, including probable breeding, especially where a species is recorded there for many years, or adults are seen in-cop or females egg-laying. However, the only way of determining confirmed breeding is through the presence of larvae, and breeding success through the collection of exuviae. Counting the delicate larval cases of emerged adults provides very high quality information and determines that the entire lifecycle has been successfully completed. Where exuviae are collected from a site for several years it demonstrates that a site is not only suitable for the larval stages, but that it is favourable for adults to continue the breeding cycle.

Collecting exuviae can also give us other information not obtained through any other method. This includes exactly where the larvae are emerging, the start and finish of the emergence period for that species at a site, variations on this from year to year, peak emergence times as well as exact numbers that have successfully emerged. Emerging behaviour such as choice of vegetation and how many larvae choose the same stem or area can be noted. The proportion of larvae who failed to successfully emerge can often also be determined, as



Figure 36. Black Darter exuviae in piles of ten ready for counting. Juliette Dinning.





Figure 37. The small pool at Invercauld Estate, near Braemar. Juliette Dinning.

perished larvae who failed fully to emerge can be found amongst the exuviae of the fully fledged. In areas of the country where cool and overcast weather periods may provide low numbers of adults on the wing, or when adult populations may disperse widely (depending on site size and species behaviour), or when a species can be difficult to find as larvae, counting exuviae may prove to be a useful recording method. Another advantage is that any exuviae accidentally overlooked on one visit can be collected on the next, on the provision that the elapsed time between visits is relatively short and the weather remains dry.

The value of collecting and counting exuviae was demonstrated to me this summer, when I collected over a thousand exuviae of Black Darter (*Sympetrum danae*) from a small pool near Braemar (figure 37). The pool at Invercauld Estate is relatively new and has only formed in the last couple of years, forming from a water channel running down an incline and set in open pine forestry around 340m above sea level. With dimensions of around 15m by 7m, and at around 14 inches deep in the middle, the pool is small and shallow. There has not been any forestry or land management work in the area or diversion of watercourses which could account for the formation of the pool, so it is likely that its formation is entirely natural.



I do not carry out a regular spot count or transect at this pool, so at best a site species list with approximate numbers would have been the most likely data submission. This would still have been valuable, but collecting exuviae over several weekly visits provided excellent data that I could scarcely have hoped for. In fact I had intended to count adult Emerald Damselfly which were also at the pool, but on arrival in the middle of August noticed a large number of exuviae. On closer inspection these were identified as Black Darter and over the month that followed I set about collecting them.

The Black Darter is a univoltine species completing its life cycle in just one year. A hardy species with a late flight period often well into October even in the north of Scotland, the eggs are laid by the female nearly always in tandem with the male, often at the shallow edges of pools or amongst vegetation, dead leaves or woody debris. The eggs overwinter and hatch in early spring, the larvae then having an express development time before emerging as adults in late July. Often the larvae are only found from early June and it can be difficult to tell from aquatic surveys whether a pool supports them, so looking for adults or collecting exuviae are the best ways to record them.

I always make sure I have a number

of small shallow pots with me so that I can look at larvae closely or collect exuviae from the various sites that I visit. I had set about working the pool each session in areas characterised by clumps of rush and sedges or heather near the sides where the darters had also emerged. Once I got my eye in it was easy, the pale beige exuviae sitting a few inches above the water. Removing them required a bit of a knack: squeezing at the sides and gently pinching them off in one motion kept them mostly intact. Each collecting session lasted a couple of hours and at home I separated them gently with tweezers and put them in small mounds of ten, laid out in lines on a sheet of white printer paper which allowed me to count them accurately (figure 36).

The exuviae were collected over five sessions at weekly intervals during August and September. Following the peak emergence at the end of August, numbers emerging declined steeply, a total of 1264 exuviae having been collected overall. See the table on p.24 showing the numbers of exuviae collected each week. When I collected the first batch of exuviae, I never expected to collect them in such numbers over that month. In addition, the last record of Black Darter seen on the wing at this site was at the end of the first week of October 2013, and this information combined with the dates for final emergence provide an insight into typical lifespan, something to investigate as a future project. Interestingly, despite spending a great deal of time at the pool over several weeks during settled and often warm and sunny weather, I only counted a couple of dozen or so adults on the wing at any one time. This showed that sometimes an adult count reveals only the tip of the iceberg as far as numbers emerging is concerned, and really demonstrates how important exuviae collecting alongside counting adults on the wing is. The accuracy value provided by this method is very high and is therefore an excellent way to establish a benchmark for future recording. By collecting the exuviae, I was able to get an accurate count of emerged adult Black Darters and a representation of the true value of this site to this species.

DRAGONFLY RECORDING NETWORK

Please send your records to the correct Vice-County Recorder, who will send data to the DRN National Database.

Vice-County	Vice-County Recorder	Contact details
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65. North-west Yorkshire	Keith Gittens	See VC62. Website: www.yorkshiredragonflies.org.uk
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67. S. Northumberland	Position Vacant	Send records to Steve Prentice, Dragonflies in Focus Officer.
68. N. Northumberland	Position Vacant	Send records to Steve Prentice, Dragonflies in Focus Officer.
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