

Water for Wildlife

Odonata recording reference guide

When to survey Odonata

- Counts should only be carried out when most dragonflies are active, **between 10am and 4pm**. On hot days (above 22°C), counts between 9.30am and 4.30pm are permissible.
- Count during **sunny weather**, with cloud cover less than 60% and no rain.
- Don't count if wind is stronger than Force 4 on the Beaufort scale (>18 mph, when small trees in leaf sway).
- The temperature should be at least 17°C and not exceed 30°C. On sunny, calm days, counts may be made at 15°C.

How to survey Odonata

- Surveyors should make an effort to cover all habitats on the site that could provide habitat for Odonata, and spend a reasonable amount of time checking for territorial species.
- Walk around your site and focus on areas providing habitats for dragonflies, such as riverside paths or near ponds.
- Count all individual adults. A pair in tandem or mating counts as two individuals.
- Newly-emerged individuals should not be counted, but immatures that have clearly been flying for some time should be. Please note emergence in notes on the form.
- Try to identify the species on sight; close-focus binoculars will help.
- Some females, teneral and species groups, notably blue damselflies, are difficult to identify. If you are unsure, count all individuals then return, catch and identify a number at random (ideally 10-15) and extrapolate. For example, if you counted 100 blue damselflies and caught 10 of which two were Common Blue and the rest Azure, you record 20 Common Blue Damselflies and 80 Azure Damselflies.
- When dragonflies are numerous, make a sensible estimate. For example, if many four-spotted chaser are patrolling, divide the area into small parts and count how many are present in each. Avoid double counting.
- Also use note observations about the site (such as disturbance, water level and pollution).
- To capture early and late emerging species, it's best to conduct a count at one location at least twice, once at the start and once at the end of the season. However, a single count per site is still useful.

How to fill in your recording form

- Use one form per visit and give each site a unique name. E.g. the name of the park, pond or section of river.
- Add a grid reference (at least 6-figure), ideally for the centre of the surveyed site. This can be found using various phone apps or websites such as gridreferencefinder.com. If you need help, get in touch with us.
- The form has a space to enter the date, temperature, wind speed, cloud cover and start/finish time of the survey.
- Estimate wind speed using Beaufort scale: 0 = smoke rises vertically; 1 = slight smoke drift; 2 = wind felt on face; 3 = leaves in slight motion.
- Keep track of the numbers by recording the individuals you see in the form using tally marks.
- Enter the total of adult dragonflies counted (excluding newly-emerged) for each species – even if none were seen.
- Make notes on behaviour, including any mating behaviours, territorial displays, ovi-positing and emergence.
- Use the notes box to describe factors such as aquatic vegetation or sediment clearance; grazing or cutting of bankside vegetation; invasive non-native species (INNS) such as Himalayan balsam or floating pennywort; water level, clarity and flow rate; presence of fish or predators; and length or percentage of margin shaded by trees.
- Note observations such as presence of exuvia (only collect if safe to do so) and other interesting species.
- Note freshwater habitats present on the site using the relevant boxes.
- Note types of vegetation in and around water. If possible, enter percentage of area covered, or tick the boxes.

Guide to Odonata flight periods

The table below provides an overview of periods when adults of different species are present. Please note that this can be affected by untypical weather. For example, warm springs can lead to early emergence.

Damselflies	March	April	May	June	July	August	September	October	November
Beautiful Demoiselle			■	■	■	■	■		
Banded Demoiselle		■	■	■	■	■	■		
Emerald Damselfly			■	■	■	■	■	■	
Scarce Emerald Damselfly				■	■	■	■	■	
Willow Emerald Damselfly					■	■	■	■	■
Large Red Damselfly	■	■	■	■	■	■	■		
Small Red Damselfly			■	■	■	■	■	■	
White-legged Damselfly			■	■	■	■	■		
Southern Damselfly			■	■	■	■	■		
Northern Damselfly			■	■	■	■	■		
Irish Damselfly			■	■	■	■	■		
Azure Damselfly		■	■	■	■	■	■	■	
Variable Damselfly		■	■	■	■	■	■		
Common Blue Damselfly		■	■	■	■	■	■	■	
Dainty Damselfly				■	■	■	■		
Blue-tailed Damselfly		■	■	■	■	■	■	■	
Scarce Blue-tailed Damselfly				■	■	■	■	■	
Red-eyed Damselfly		■	■	■	■	■	■	■	
Small Red-eyed Damselfly				■	■	■	■	■	

Dragonflies	March	April	May	June	July	August	September	October	November
Hairy Dragonfly		■	■	■	■	■			
Azure Hawker			■	■	■	■	■		
Common Hawker				■	■	■	■	■	■
Migrant Hawker					■	■	■	■	■
Southern Hawker				■	■	■	■	■	■
Brown Hawker					■	■	■	■	
Norfolk Hawker			■	■	■	■	■		
Southern Migrant Hawker				■	■	■	■		
Emperor Dragonfly			■	■	■	■	■	■	
Vagrant Emperor	■	■	■	■	■	■	■	■	■
Lesser Emperor			■	■	■	■	■	■	
Club-tailed Dragonfly		■	■	■	■	■			
Golden-ringed Dragonfly			■	■	■	■	■	■	
Downy Emerald			■	■	■	■	■		
Brilliant Emerald				■	■	■	■		
Northern Emerald			■	■	■	■	■		
Four-spotted Chaser		■	■	■	■	■	■		
Scarce Chaser				■	■	■	■		
Broad-bodied Chaser		■	■	■	■	■	■		
Black-tailed Skimmer		■	■	■	■	■	■		
Keeled Skimmer			■	■	■	■	■		
Common Darter		■	■	■	■	■	■	■	■
Highland Darter				■	■	■	■	■	
Ruddy Darter				■	■	■	■	■	
Black Darter				■	■	■	■	■	
Yellow-winged Darter				■	■	■	■	■	
Red-veined Darter				■	■	■	■	■	
White-faced Darter		■	■	■	■	■	■	■	

Why we survey Odonata

As part of Water for Wildlife project, London Wildlife Trust is collating data for an atlas of Odonata across London. We are working with Greenspace Information for Greater London (GiGL) to understand what information is already available. The records from volunteer surveys will be collated alongside other sources to fill in gaps and determine if any existing gaps relate to a shortage of suitable habitat. This data can also contribute to conservation of wildlife by informing best management for nature conservation, directing policymakers and informing the public about wildlife on their doorstep.

How to return your data

There are several ways you can send your data:

- Fill in the Excel spreadsheet (downloadable from our website) and email it to wfw@wildlondon.org.uk.
- Use Epicollect5 downloadable form to upload your data.
- Send, scan or photograph the filled-in form and email it to wfw@wildlondon.org.uk.
- Post the forms to **London Wildlife Trust (Water for Wildlife), Dean Bradley House, 52 Horseferry Road, London SW1P 2AF**. We can supply freepost envelopes, please get in touch via email.

We'd like to receive your forms soon after the survey was carried out, and by the end of September at the latest.

Health and safety

- Please refer to the risk assessment accompanying this guide.
- Try to avoid lone working, and make sure you follow the procedure if you do.
- Make sure you have landowner's permission if you are surveying private land.

All recording advice in this guide has been adapted from the British Dragonfly Society manual.



Water for Wildlife project funders

