



Dragons & Damsels! Conservation & Management



Sussex
Wildlife Trust

What are Dragonflies and Damselflies?

Dragonflies and damselflies are insects (invertebrates), whose modern species are almost identical to relatives which flew around 300 million years ago. They live and breed in and around water and wetlands, although they also use, and move through drier land based habitats such as woodland.

How can I tell them apart?

Most dragonflies rest with their wings open, a bit like an aeroplane. Damselflies on the other hand rest with their wings folded together and behind over their body (the Emerald damselfly is an exception as it holds its wings half open). Damselflies are weak fliers and tend to stay close to water.



Banded Demoiselle Damselfly resting © D Sadler



Male Brown Hawker dragonfly resting © D Sadler

Why are Dragonflies and Damselflies important?

Apart from being incredible aerial acrobats and extremely beautiful insects, dragons and damsels tell us a great deal about whether wetlands are healthy.

They are indicators of good water quality – and need clean water to live

They eat pests – Including a number of insects that are considered garden and agricultural pests

They provide food for other (rare) species – They are an important part of the diet of a number of fish species, amphibians, reptiles, birds (such as hobbies), and mammals (such as otters).

Dragonflies & Damselflies

Where do dragonflies and damselflies live?

Ponds are important for dragonflies and damselflies, but different species like different wetlands. They may live in still or running water, marshes, temporary ponds, lakes, gravel pits etc. Some species such as the Black Darter (*Sympetrum danae*) are specialists and prefer to live in heathlands, wet woodlands and acid waters. Others can be seen flying around the canopy of trees. Dragonfly larvae will often live in the silt at the bottom of ponds before they emerge as dragonflies.



Golden Ringed Dragonfly (*Cordulegaster boltonii*) © D Sadler

What do Dragonflies and Damselflies need?

Dragonflies need a few essential things to survive, you can help by providing some of these in your garden or on your land :-

Clean water - Larvae and adults spend almost all their time in and around water. If water is polluted it can harm their ability to reproduce, or indirectly by destroying their food and shelter.

Permanent Water & Silt - Almost 95% of a dragonflies/damselflies life is spent in silt and water as eggs and larvae. They eventually emerge and moult to become an adult dragon or damsel. This process can take 6 months or up to 2 years for some species. Try not to drain too many 'soggy' areas of your land, as these are seasonally important for dragonflies.

Warmth - Small creatures like these find it difficult to stay warm. Providing areas where they can shelter from cold winds and rain, and native plants where they can perch when it is windy can help.

Joined-up wetlands - Adult dragons and damsels are relatively short-lived. Even the hardiest dragonflies only stay alive for around four weeks. In this time they must stay healthy enough to breed. Weaker flying damselflies in particular need wetland areas which are close together so that they can find food and a mate in time to breed before they die. Larger dragonflies can travel several kilometres, but some damselflies cannot travel more than a few hundred metres. A series of ponds and wetland features close to each other can help them find enough food and shelter to breed.

Wetland plants and vegetation - Dragonfly and damselfly larvae need vegetation to hide in. They are ambush predators and use vegetation to find food. When larvae are ready to become a dragonfly or damselfly, they need to find the stalk of an emergent wetland plant to crawl up. Once out of the water, dragonflies and damselflies are very vulnerable to predation. Wetland vegetation provides shelter and camouflage from predators and during bad or windy weather.

Good terrestrial plants and habitats - Species rich grasslands can be important because of their abundant insect life, hedgerows can provide valuable shelter from wind and migration corridors.

A good food source - Dragons and damsels cannot hunt in poor weather (i.e. if it is too windy or cold). Many dragonflies starve when they emerge if weather is poor and they can't move far enough to find food. They eat almost any creature or insect that is smaller than them (i.e. mosquito larvae, snails, flies, tadpoles). They need up to 20% of their body weight in food every day. Dragons and damsels are voracious predators and love to eat insects such as greenfly. Try not to use pesticides and other harsh chemicals which can kill both dragonflies and their food source.

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What can you do to help Dragonflies and Damselflies ?

- Build a pond – make sure it has both shallow and deep areas, a few sunny spots and some emergent native plants
- Buffer watercourses from soil and chemical run off from arable fields with vegetated buffer strips
- Keep dead wood piles near water, and leave some floating dead wood in water – the Southern Hawker sometimes lays its eggs in rotting logs near water
- Don't cut or clear all the wetland vegetation in your ditches and watercourses at one time – always leave some vegetation, and preferably a 'mosaic' of different ages and types of vegetation
- Collect rainwater to top up your pond, use on the farm and in the garden, its much better than chlorinated tap water
- Don't stock your pond or lake with fish – stocked fish tend to eat dragonfly larvae and wetland plants. Bottom swimmers disturb silt causing algal blooms
- Don't buy peat based compost – help retain peat bogs where some of the rarer species live
- Try not to buy moss used for hanging baskets. Dragonfly nymphs are often removed with this moss and die en route to garden centres.
- Create an interconnected mosaic of wetland habitats or ponds as a wetland 'stepping stone'
- Restore some rivers or wetlands. Talk to your local Wildlife Trust Wetlands Officer, Natural England or Environment Agency officer for some advice.
- Reduce or reverse your land drainage. Something as simple as breaking an old land drain can create a small but valuable wet flush or pond.
- Send in records or pictures of the dragonflies you see to your Biodiversity Records Centre.
- Join the Dragonfly Atlas project – visit a new area and record dragonflies and damselflies where they are unrecorded, or 'adopt' a local watercourse.
- Join the British Dragonfly Society or your local Dragonfly Group

Where can you learn more about Dragonflies and Damselflies in Sussex?

'The Dragonflies of Sussex' book is a useful local guide compiled by local experts. The Field Studies Council also sell a cheap, waterproof fold out guide of British dragonflies and damselflies. The British Dragonfly Society also has a lot of useful resources on its website.



Immature Male Scarce Chaser © J Luck

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Funding

Direct funding for dragonflies is hard to come by. However, Countryside Stewardship Schemes can pay significant contributions towards creating / maintaining ponds and wetlands.

Your local WildCall officer (01273 494777) may be able to help you find some local Wildlife grants.

The British Dragonfly Society sometimes host grants for pond creation and small research projects. These include the Philip Corbet Award, the Norman Moore Award and the Peter Miller School Ponds Award.

The Freshwater Habitats Trust may also be able to help.



Reedbeds help purify water, provide shelter from predators and weather, habitat for larvae and larvae food (aquatic insects etc.) © F Southgate

Contacts

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Sussex Dragonfly Society

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Natural England

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British Dragonfly Society

www.dragonflysoc.org.uk

Sussex Biodiversity Record Centre

01273 497521

www.sxbrc.org.uk

Environment Agency

Ask for Fisheries & Biodiversity teams

03708 506506

Freshwater Habitats Trust

<http://freshwaterhabitats.org.uk/>

Wildcall

01273 494777

References

- **Natural England** (2007) – Dragonflies and Damselflies in your garden
- **Belden et al.** (2004) - The Dragonflies of Sussex.
- **British Dragonfly Society** - Dig a pond for Dragonflies; Managing habitats for dragonflies
- **Adult dragonfly survey advice** – <http://freshwaterhabitats.org.uk/projects/pondnet/survey-options/dragonflies/>

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