

# Species Action Plan

## Stepping Stones Project

Male black darter - © Natural England/Allan Drewitt

Last updated: Jan 2024

Many dragonflies found in our uplands, such as emerald damselfly and common hawker, are declining nationally. This is due to a combination of factors including the effects of climate change and seasonal drying of pools and streams, drainage of wetlands, afforestation of the uplands, and lack of active habitat management. As well as highlighting the need to understand more about their status and distribution in the Project Area, this Action Plan considers how and where habitat management, creation and restoration can be carried out to help counter some of the threats to upland dragonfly survival. It sets out a series of practical actions to protect these important wetland species and to conserve, enhance and expand the habitats on which they depend.

This Species Action Plan covers two upland dragonflies that occur within the Stepping Stones Project Area – the **golden-ringed dragonfly** and the **black darter**. These have been chosen because they are ‘specialist’ species with specific (and different) ecological requirements. They can act as flagship species for a wide range of upland wetland habitats.

**Common name:** Golden-ringed dragonfly

**Scientific name:** *Cordulegaster boltonii*

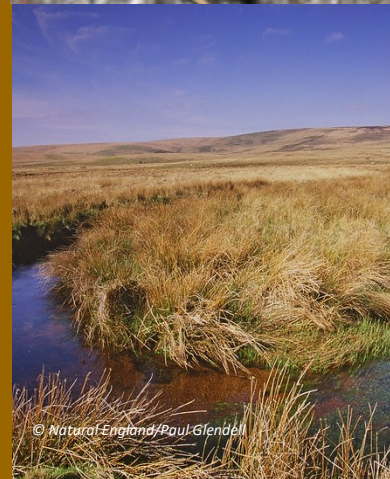
**Appearance:** Striking black with yellow bands along the length of the abdomen, the golden-ringed dragonfly is very large, with the male measuring up to 77mm in length and the female 84mm.

**Habitat:** Breeds in gravel-bottomed acid streams and small rivers and runnels, particularly in lowland heathland and upland moorland habitats. Larvae may live for up to 7 years in the watercourse before emerging as adults, and require plentiful food and oxygen throughout this time, making them sensitive to periods of drought, and pollution incidents. Adults may be found flying and hunting away from water, and fly between May and October with peak activity in the period June-August.

**Prey:** A fast, powerful and agile flier, adults prey on large insects including other dragonflies, damselflies, bees, wasps and beetles.



Male - © British Dragonfly Society/David Kitching



© Natural England/Paul Glendell



© Natural England/Paul Glendell

# Upland Dragonflies



National  
Trust



**Common name:** Black darter

**Scientific name:** *Sympetrum danae*

**Appearance:** The UK's smallest dragonfly at only 29-34mm long. Both sexes have 3 yellow spots on a black panel on the sides of the thorax, black legs and black pterostigma. The mature male is predominantly black and the female is yellow ochre with black markings including a black triangle on the top of the thorax.

**Habitat:** Associated with heathland, peat moss and moorland habitats, the black darter breeds in shallow acid ponds, bog pools and drainage ditches. Adults of this late-flying species fly from June to November, with peak activity between July-September.

**Prey:** Black darter larvae feed on shrimp, fly, mosquito and mayfly larvae. Adults feed primarily on small flying insects including mayflies, moths and flies.



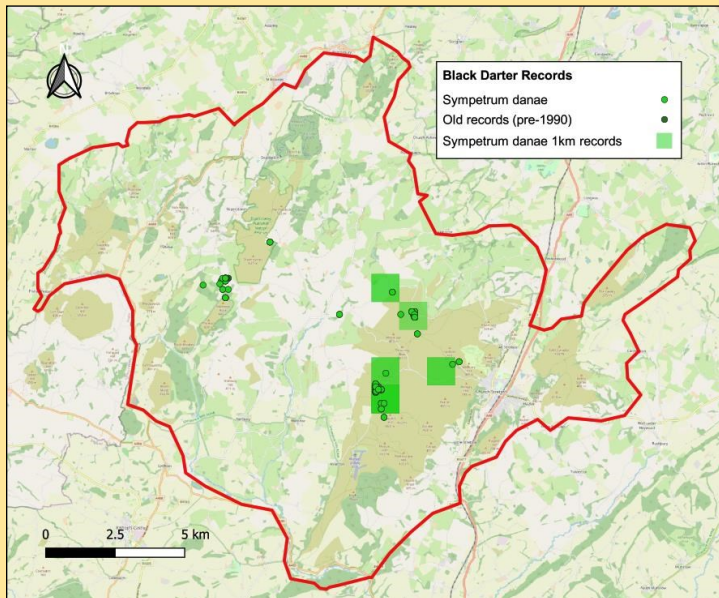
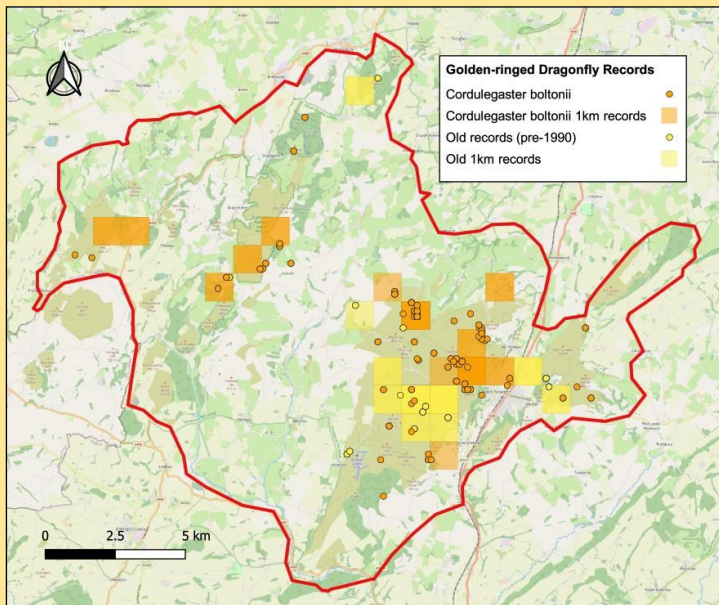
Male - © British Dragonfly Society/Keith Noble



Female - © BDS/David Smallshire

## Existing Records in the Stepping Stones Project Area

Data held by the National Biodiversity Network (NBN) has been analysed to identify records of both *golden-ringed dragonfly* and *black darter* in the Project Area. Records for both species have been split



into 6-figure records (shown as point data) and 4-figure records, shown as the corresponding 1km grid square. Darker squares indicate a higher density of records for that grid square. Data has been further split to show recent records (from 1990 onwards) alongside historic (pre-1990) records, to highlight where former sites, potentially suitable for habitat restoration, may occur.

*Golden-ringed dragonfly* records show a strong association with upland habitats in the Project Area, including the valleys and moorland of the Long Mynd, Stiperstones and The Bog, and Stapeley Common in the west. Other records are associated with Caer Caradoc, Hope Bowdler Hill and Helmeth Hill in the east, and with Eastridge Woods and (previously) Earl's Hill in the north. Acid streams and their catchments within these areas are likely to be the focus of management to benefit the species.

Existing *black darter* records are limited and focussed around a small number of sites on the Long Mynd (including Wildmoor Pool, Carding Mill Valley and a mosaic of small pools west of Pole Cottage), as well as upland pools at and near The Bog Mine. Individual records also occur along the Darnford Brook east of Bridges and on the eastern flank of the Stiperstones. Around 65 acid pools occur on the Long Mynd alone, and further survey for black darter

will be an important part of the Action Plan for this species.



National  
Trust



# Habitat Management for Dragonflies in the Project Area

Black darter is one of the fastest-declining dragonflies in the UK and, beyond land management practices such as peat cutting and afforestation, the seasonal drying of shallow pools in which the female lays her eggs is thought to be an increasing driver of decline in the context of hotter, drier summers. Whilst the Long Mynd has in excess of 60 upland pools and over 200 wet flushes, and the Stiperstones a number of small pools and wet flushes, most of these have not been surveyed for the species. Generating an accurate picture of their size and distribution, habitat characteristics, water quality and susceptibility to drying will be an important first step in action to conserve this species.

Golden-ringed dragonfly relies upon clean, healthy acid streams and actions to retain water in the uplands, slow-the-flow and maintain and improve water quality will form the mainstay of action to support this species. Key elements of management for these two important dragonflies will comprise:

- **Identification of priority areas** for habitat management, creation, expansion, and enhancement within the Project Area.
- **Enhancement of existing pools, flushes and streams** at key locations to increase their suitability for black darter. This may include increasing their depth and size to reduce susceptibility to drying, management of edge habitats including reducing the impact of livestock poaching, and planting/translocation of sphagnum and other species to enhance their suitability for black darter and other dragonflies.
- **Habitat creation** of 'stepping stone' acid ponds and bog pools between existing and high-value sites to link populations and areas of value. Building a strong habitat network of suitable breeding sites will be a key part of this Action Plan.
- **Actions to slow-the-flow** from existing wetlands, expand these areas and help conserve water in the uplands, including reducing the flow of drainage ditches, blocking field drains and re-wetting of pastures, particularly around the Stiperstones where wet habitats on the lower slopes have been lost through field drainage and previous drainage for forestry and timber production.
- **Management of watercourses and riparian habitats for golden-ringed dragonfly** including re-naturalisation of watercourses where appropriate, and measures to improve water quality and decrease the effects of diffuse water pollution. These include conservation management of adjacent habitats, creation of buffer zones along streams and reducing the impact of livestock, particularly poaching, on streams and rivers.



Acid mire pool © Natural England/Peter Wakely

## Conservation Objectives for Upland Dragonflies

- Maintain an accurate and up-to-date record of the distribution of black darter and golden-ringed dragonfly and an inventory of sites supporting the two species in the Project Area.
- Develop a black darter Conservation Strategy detailing how and where habitat management, creation and restoration can be carried out to help counter some of the threats to survival.
- Develop a golden-ringed dragonfly Conservation Strategy detailing how and where management of watercourses can be carried out to help conserve the species breeding population.
- Increase the value of existing black darter habitats and create new breeding habitat and 'stepping stone' pools through implementation of practical management interventions.
- Increase understanding of dragonfly conservation priorities amongst the local community and landowners through a programme of information dissemination, practical management advice and management support.



# Conservation Actions for Upland Dragonflies

- Conduct a literature review of each species to increase understanding of species habitat requirements and inform the development of species-specific Conservation Strategies.
- Liaise with the British Dragonfly Society and other relevant bodies to examine national case studies of habitat creation and management for these and other scarce/declining dragonflies and inform the development of Conservation Strategies for each species.
- Recruit and train a group of volunteers to conduct dragonfly surveys of the two target species, including larval surveys, exuviae surveys and adult surveys at key locations in the Project Area.
- From April 2025, conduct an annual programme of dragonfly surveys to generate new records and develop a better understanding of the two species distribution and habitat preferences. Add species records to the master data spreadsheet and GIS mapping layer for the project annually.
- Use the results of dragonfly surveys, GIS mapping and ground survey to identify potential sites for habitat enhancement, creation and expansion in the implementation phase of this SAP.
- Prioritise areas for practical management interventions in a dedicated Conservation Strategy for each species. Liaise with relevant landowners and conduct practical habitat management interventions in support of known populations, aimed at improving, expanding and connecting key habitats and breeding sites within the Project Area.
- As detailed in the Conservation Strategy for black darter, create a series of connecting pools between known breeding habitats, informed by the results of surveys and literature review.
- Identify and map areas for potential re-naturalisation of watercourses within the Project Area to benefit golden-ringed dragonfly. Include in the golden-ringed dragonfly Conservation Strategy.
- Identify and map areas where habitat management can be implemented to improve and maintain water quality and reduce drying of streams and watercourses to benefit golden-ringed dragonfly.
- Prepare a *SAP Summary Factsheet* for each of the two target species, for dissemination to farmers, landowners, wildlife groups and other interested parties, which summarises the species and provides advice for the management of habitats to benefit each.

## About Stepping Stones

Stepping Stones is an innovative landscape-scale conservation programme. The aim is to connect wildlife habitats by strengthening or creating 'stepping stones' and corridors of habitat between the Long Mynd and Stiperstones, and beyond. In practice, this means creating and linking areas of heathland, flower-rich grasslands and broadleaved woodland by a network of wildlife-rich hedgerows, road verges, hillsides, streamside wetlands and strong riparian corridors.



Golden-ringed dragonfly - © Natural England/Isabel Alonso



Black darter - Male © BDS/David Kitching

# Upland Dragonflies



National  
Trust

