



Species Action Plan: Southern Damselfly (*Coenagrion mercuriale*)

Introduction

Scope

This species action plan covers the Southern Damselfly (*Coenagrion mercuriale*). It is closely associated with slow flowing heathland streams and reference should be made to both the Heathland and Freshwater Habitat Action Plans for general habitat management which may benefit this species in addition to the actions detailed below. This plan applies to the species in Pembrokeshire in general. Populations within the Preseli Special Area of Conservation (SAC) are subject to more prescriptive aims set out in the Preseli SAC management plan. Detailed habitat and site-specific management requirements are set out in “An Overview of the Management Requirements of the Southern Damselfly (*Coenagrion mercuriale*-Charpentier) with Recommendations and Suggested Methodology for Habitat Improvement Within and Near to the Preseli SAC”.

Vision Statement

To maintain and enhance the size and distribution of populations of Southern Damselfly in Pembrokeshire.

Description of Species

The Southern Damselfly is one of several very similar looking small blue damselflies. This one is distinguished by a black mark near the top of its abdomen which looks like the astronomer’s symbol for Mercury (see Figure 1). Its behaviour also distinguishes it from other similar damselflies as it is a very weak flier and tends to flutter gently through the vegetation. Adult males are blue and are rather easier to see than the drab olive-green females.

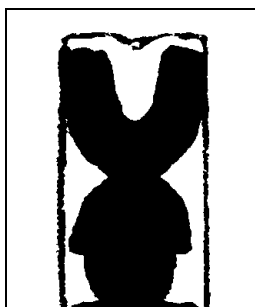


Figure 1: markings on the second abdominal segment

The majority of the Southern Damselfly's life cycle is spent in the larval stage in an aquatic environment. Eggs are laid into the stems of un-shaded submerged aquatic vegetation. The larvae prey upon small freshwater shrimps and fly larvae in the stream for two years before emerging as adults. The emerging adults usually appear from mid May to late July and require emergent plants or floating rafts of vegetation with fairly stiff stems such as *Juncus articulatus* (the jointed rush) upon which to haul out, emerge and rest before taking to the wing. Adults can usually be seen flying until late August.

The Heathlands of the Preseli Hills in Pembrokeshire are one of the few remaining strongholds for this species, which is considered threatened throughout its range. Consequently, it is protected under both EU and UK law. The Southern Damselfly is listed as a species of principal importance in Section 42 of the Natural Environment and Rural Communities (NERC) Act (2006) in Wales. The Southern Damselfly is found in South and West Europe and North Africa. It is at the edge of its range in the UK.

In Pembrokeshire the Southern Damselfly lives in base-rich, shallow streams and flushes on heathland. These spring-fed streams usually have a constant slow/moderate nutrient poor flow, rarely freeze and are well lit with plentiful submerged vegetation. All suitable habitats must be grazed, with livestock having access the watercourse. Grazing animals (preferably cattle) keep marginal vegetation short and lightly poach the area keeping streams open and maintaining the habitat in suitable condition.

The Southern Damselfly was, until recently, more widespread in Pembrokeshire, the populations in the centre and west of the County becoming extinct within the last 50 years. Today the core population is centred on Mynydd Preseli with three outlying populations at Waun Fawr SSSI (Puncheston), Mynydd Carningli SSSI and at a small site near Hayscastle Cross. The species remains in long-term decline as its habitats become increasingly fragmented and isolated. Individual sites become unsuitable due to natural succession following undergrazing or abandonment or other forms of inappropriate management.

In order to secure the long term future of this species, cattle (and mixed) grazing regimes capable of creating and maintaining extensive areas of suitable habitat need to be established at all its sites. In the shorter term, until

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such time as suitable grazing regimes are established, targeted mechanical interventions are required to artificially create and maintain areas of suitable habitat. Grazing and mechanical intervention needs to be focussed both upon existing, occupied sites and also at other key locations where habitat re-creation will link the outlying populations to each other or to the core Mynydd Preseli population. The Southern Damselfly is a poor disperser, so to allow interchange of populations between flushes (essential for long term viability), areas of suitable habitat need to be closely dispersed across the landscape.

Despite this the Pembrokeshire population is very important as one of the two strongholds for this species in the UK. Many hundreds of individuals still fly here in summer.

Species Management

In order to maintain the un-shaded, open conditions preferred by this species, grazing is essential. Under grazing results in excessive bank-side vegetation which can even grow completely over a small stream. Bank-side vegetation should be generally sparse and short with some taller vegetation nearby.

The role of management must therefore be:

1. To reverse/halt succession. Grazing with cattle, horses/ponies or sheep is required to remove vegetation shading out the streams but only heavy stock (cattle and horses) stop the natural tendency of streams to become tunnelled by overhanging vegetation and to migrate underground in the soft peaty substrate. Control of scrub by cutting/burning may also be required.
2. To maintain and create sites containing suitable flushes/streams across the landscape to allow a flow of individuals between existing populations and to provide alternative sites should existing ones become unsuitable.

Much of the area favoured by Southern Damselfly around the Mynydd Preseli SAC lies on Common land. Whilst this may have helped to prevent the agricultural intensification experienced in the wider landscape, it does introduce legal and practical difficulties in establishing conservation grazing regimes. Measures to maintain populations on private land are more easily agreed and implemented as there is usually a single landowner and administrative procedures to facilitate payments for conservation grazing in these cases are well developed. This is not the case with Common land where there may be multiple Commoners with legal grazing rights, often independent of the legal landowner.

In the short term, before appropriate grazing arrangements can be organised or if it becomes too difficult to do this, mechanical intervention may be necessary. Such schemes may also be required where drainage and other works have been carried out, damaging the site. Streams and flushes can be mechanically reinstated and their cross-sections altered to ensure they provide suitable habitat.

Threats

Threats to this species come from:

- Lack of or inappropriate grazing resulting in encroachment of bank-side vegetation and / or incision of the watercourse
- Fragmentation and destruction of wetland habitats
- Altered hydrology as a result of abstraction, drainage and/or climate change
- Nutrient enrichment and/or siltation by agricultural runoff, possibly resulting in excessive aquatic vegetation and/or low levels of dissolved oxygen

Related Plans and Policies

Other plans / policies directly affecting the management of this species in Pembrokeshire are:

- Preseli SAC Management Plan available from the NRW website: <http://naturalresourceswales.gov.uk/search> (search for Preseli SAC management plan)
- SSSI Management Plans: <http://naturalresourceswales.gov.uk/search> (search for Pembrokeshire SSSI management plans)
- Freshwater Habitat Action Plan: <http://ukbars.defra.gov.uk/project/show/36389>
- Heathland Habitat Action Plan: <http://ukbars.defra.gov.uk/project/show/36386>
- An Overview of the Management Requirements of the Southern Damselfly (*Coenagrion mercuriale*-Charpentier) with Recommendations and Suggested Methodology for Habitat Improvement Within and Near to the Preseli SAC; Claire Install, British Dragonfly Society. March 2012. Available at: www.british-dragonflies.org.uk/content/management-plan-southern-damselflies-within-and-around-preseli-sac

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Plan Aims

No	Aim	Deadline	Comments
SD01	Maintain all sites with populations of Southern Damselfly with appropriate management to ensure all water features on the site are sustaining the greatest density of the Southern Damselfly practicable	April 2019	Get baseline data
SD02	Provide suitable habitat between sites to reduce habitat fragmentation and improve connectivity of habitat.	April 2019	Undertake work in key locations between any existing populations to attempt to link up the wider Pembrokeshire population.
SD03	Lobby for the Welsh Government to implement effective procedures to allow effective Southern Damselfly habitat management measures to be applied on common land.	April 2019	

Plan Actions

Code	Action	Report By	Lead Role	Progress / Additional Information
SD01.01	Compile a list of current and former sites accompanied with a location map.	June 2014	BDS / NRW	Use Coker 2002 and BDS records.
SD02.01	Identify all suitable sites where habitat creation / restoration would benefit this species, particularly by connecting isolated populations. Prioritise the list of sites identified in an order that practical work should be completed.	June 2015	BDS / NRW	Refer to Coker, 2002. Priorities should be set by looking at connecting the healthiest populations. Aim should be connecting at least one of the three outlier sites with the core area
SD01.02	Monitor and update existing land management agreements which include Southern Damselfly sites with consultation with the BDS to ensure that Southern Damselfly habitat is maintained or improved to be in favourable condition.	Yearly	NRW	Identify enhancements with particular reference to grazing management, abstraction / drainage and enrichment / siltation through agricultural runoff.
SD01.03	Habitat restoration at the Glanyrafon-uchaf Flush (Hopkins Flush) by mechanical means to reinstate stream/flush route and suitable open cross-sections Phase 1 – work on the northern section Phase 2 – complete to cover whole water body	2012 2014	BDS / PCNPA NRW	
SD01.04	A scheme to raise a buried stream at Mirianog. Requires collapsing the sides of the old channel.	June 2015	BDS / PCNPA NRW	
SD01.05	Remodel Rhos Fach pond to remove silt and reduce the effects of agricultural runoff.	June 2015	BDS / PCNPA NRW	

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SD01.06	Monitor the vegetation growth on the habitat that has been created at Penlan. Feedback to PCNPA any issues with management. Implement any required changes to management of the Penlan site to maintain the Southern Damselfly habitat.	Ongoing	BDS/PCNPA	
SD01.07	Carry out yearly monitoring of Southern Damselfly populations.	Ongoing	BDS / NRW	<p>Ideally all sites would be looked at annually but there are not enough people to do this, so a structured look at all sites within each 6-year section 25 reporting cycle should be done. BDS and NRW to liaise to make sure that there is no overlap of work.</p> <p>NRW monitors the SAC population on a six yearly cycle and are happy that this is sufficient in combination with an on-going programme of surveillance undertaken by BDS and volunteers</p>
SD03.01	Respond to Welsh Government consultation on Glas tir	March 2014	BDS	