

# Dartmoor Delivery Plan for Bog Hoverfly

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## Description and Importance of the Species

The bog hoverfly (*Eristalis cryptarum*), is a small hoverfly with narrow yellow bands on a dark abdomen and orange legs. Little is known of its ecology in the UK, but recent records have been made from sheltered rhos pastures and valley mires on the fringes of the open moorland. Although it was previously recorded from various sites across southern England, it has not been found anywhere other than Dartmoor since the 1950's. It is rare on Dartmoor and is listed as critically endangered in the UK Red Data Book. Over its European range, it is regarded as being threatened and decreasing.

This delivery plan builds on the objectives and actions set in national and county plans for the bog hoverfly. The most recent of these is '*Integrate into Higher Level Stewardship and National Park work programmes*', which is the national action sought by Natural England (NE, Nov 2013) due to its status as a NERC Act, Section 41 Species.



Bog hoverfly female on bogbean flower, copyright DNPA

## Current Status on Dartmoor

The bog hoverfly has been recorded in the past 10 years from 18 sites scattered along the eastern edge of Dartmoor. They are located in 10 areas containing suitable habitat which range in size between 1-300 hectares. It is found in small mires and flushes, often in the rhos pastures which have formed in shallow valleys. It is most often seen by observers whilst visiting flowers such as marsh marigold, bog bean, bog asphodel, heather and devil's-bit scabious in sunny weather from April to September.



Runnels where bog hoverflies have been recorded

## Issues affecting the Species on Dartmoor

1. Lack of knowledge of the fly's ecology, especially regarding the habitat required for egg laying and successful larvae development
2. Maintaining grazing levels with cattle and/or ponies sufficient to keep open runnel sites that the adults appear to favour
3. Willow and birch invasion caused by a lack of sufficient grazing and/or scrub control
4. The fly is thought to require extensive areas with patches of suitable habitat and therefore needs appropriate management across wide stretches of Dartmoor
5. There is likely to be a reduced budget for future agri-environment agreements on the sites that support this species
6. The sites in which it occurs often hold other rare wildlife including marsh fritillary butterfly and the narrow-bordered bee hawkmoth



7. The apparent low population density at known sites makes monitoring time-consuming and difficult to assess
8. Only one of the sites is notified as a Site of Special Scientific Interest (SSSI) or Special Area of Conservation (SAC)

### **Current Initiatives on Dartmoor**

1. Periodic monitoring of known sites has been organised by DNPA since 1998, with the latest complete monitoring survey being carried out in 2008, when it was sighted at 5 sites
2. A study was carried out by the charity Buglife in 2012 which looked at 6 sites, finding them at 3
3. Higher Level Stewardship agreements have incorporated much work to get rhos pastures better managed in recent years. Most of this has been supported by the Two Moors Threatened Butterfly Project Officer to benefit marsh fritillaries
4. The DNPA currently own or manage by agreement, 2 of the 18 sites
5. Exeter University and Paignton Zoo are looking at potential MSc student projects on this species, including developing a genetic test for the larva that could potentially provide a way to rapidly test large numbers of water bodies for the presence of bog hoverfly
6. Some of the areas holding known sites are designated as County Wildlife Sites



Belted Galloways grazing bog hoverfly site, copyright DNPA

7. The Landscape Partnership Bid, Moor Than Meets the Eye, contains a Natural Connections Project which will produce integrated management plans for the rhos pasture systems that occur along the river valleys of the West Webburn and the upper Bovey.

## **Targets**

1. By 2018, have records from the past 5 years for at least 15 sites in 8 areas
2. By 2023, have records from the past 10 years for at least 18 sites in 10 areas

## **Delivery and Monitoring**

1. Monitoring is currently very difficult for this species and this has been reflected in the targets above. The first aim has to be to achieve appropriate grazing and scrub control measures at known sites to maintain open runnels.
2. Agri-environment agreements will be the main mechanism to support sufficient grazing and scrub management at sites, whilst maintaining adjacent sheltering scrub. This is happening at some sites as part of the management taking place to maintain the rhos pasture habitat and/or the presence of marsh fritillary butterflies. The Community Ecologist employed by the Moor Than Meets the Eye Project will have an important role in trying to co-ordinate appropriate management in two of the key rhos pasture systems for the bog hoverfly.
3. Until a better method is found to monitor this species, all sites should be surveyed for the adults in any five year period. These visits would also look at whether grazing and scrub control levels are considered sufficient.
4. Liaise with researchers to look at further aspects of the species ecology and investigate developing a better methodology for surveying sites using a test for the genetic signature of the fly.
5. Seek SSSI status for at least one of the larger bog hoverfly areas.

	Lead	2014	2015	2016	2017	2018
Secure agri-environment management agreements at all sites	NE/DNPA	x	x	x	x	x
Re-survey all sites for the presence of adults and appropriate management by 2018	DNPA	x	x	x	x	x
Any changes to management needed at each site discussed between NE/landowners/Commoners/DNPA following monitoring visits	NE/DNPA	x	x	x	x	x
Produce Integrated Management Plans for the West Webburn and Upper Bovey systems through the Moor Than Meets the Eye project	DNPA		x	x		
Encourage research work on developing a genetic signature with Paignton Zoo and Exeter University	DNPA	x	x			
Further research to elucidate breeding ecology of the species and its habitat requirements	DNPA/Buglife		x	x	x	x
Look at potential for SSSI notification of a key bog hoverfly area	NE	x				