

Site Improvement Plan

Cothill Fen

Site Improvement Plans (SIPs) have been developed for each Natura 2000 site in England as part of the Improvement Programme for England's Natura 2000 sites (IPENS). Natura 2000 sites is the combined term for sites designated as Special Areas of Conservation (SAC) and Special Protected Areas (SPA). This work has been financially supported by LIFE, a financial instrument of the European Community.

The plan provides a high level overview of the issues (both current and predicted) affecting the condition of the Natura 2000 features on the site(s) and outlines the priority measures required to improve the condition of the features. It does not cover issues where remedial actions are already in place or ongoing management activities which are required for maintenance.

The SIP consists of three parts: a Summary table, which sets out the priority Issues and Measures; a detailed Actions table, which sets out who needs to do what, when and how much it is estimated to cost; and a set of tables containing contextual information and links.

Once this current programme ends, it is anticipated that Natural England and others, working with landowners and managers, will all play a role in delivering the priority measures to improve the condition of the features on these sites.

The SIPs are based on Natural England's current evidence and knowledge. The SIPs are not legal documents, they are live documents that will be updated to reflect changes in our evidence/knowledge and as actions get underway. The information in the SIPs will be used to update England's contribution to the UK's Prioritised Action Framework (PAF).

The SIPs are not formal consultation documents, but if you have any comments about the SIP or would like more information please email us at IPENSLIFEProject@naturalengland.org.uk, or contact Natural England's Responsible Officer for the site via our enquiry service 0300 060 3900, or enquiries@naturalengland.org.uk

This Site Improvement Plan covers the following Natura 2000 site(s)

UK0012889 Cothill Fen SAC

Site description

Cothill Fen is an exceptionally important site with an outstanding range of nationally rare habitats which support a large number of rare invertebrates and plants.

The habitats consist of calcareous fen, calcareous grassland, woodland and scrub of varying degrees of wetness. The habitat supports over 330 species of vascular plant and over 120 nationally scarce or rare invertebrates, including the nationally rare Southern Damselfly (*Coenagrion mercuriale*).

Plan Summary

This table shows the prioritised issues for the site(s), the features they affect, the proposed measures to address the issues and the delivery bodies whose involvement is required to deliver the measures. The list of delivery bodies will include those who have agreed to the actions as well as those where discussions over their role in delivering the actions is on-going.

Priority & Issue	Pressure or Threat	Feature(s) affected	Measure	Delivery Bodies
1 Water Pollution	Pressure	H7230 Calcium-rich springwater-fed fens	Investigate the impact, pathways and sources of water pollution. Draw up and implement a Diffuse Water Pollution Plan (DWPP).	Berks, Bucks and Oxon Wildlife Trust, Environment Agency, Natural England, Volunteers
2 Hydrological changes	Pressure/Threat	H7230 Calcium-rich springwater-fed fens	Investigate the hydrology of the site	Berks, Bucks and Oxon Wildlife Trust, Environment Agency, Natural England
3 Air Pollution: impact of atmospheric nitrogen deposition	Pressure	H7230 Calcium-rich springwater-fed fens	Reduce the impacts of atmospheric nitrogen	Not yet determined

Issues and Actions

This table outlines the prioritised issues that are currently impacting or threatening the condition of the features, and the outstanding actions required to address them. It also shows, where possible, the estimated cost of the action and the delivery bodies whose involvement will be required to implement the action. Lead delivery bodies will be responsible for coordinating the implementation of the action, but not necessarily funding it. Delivery partners will need to support the lead delivery body in implementing the action. In the process of developing the SIPs Natural England has approached the delivery bodies to seek agreement on the actions and their roles in delivering them, although in some cases these discussions have not yet been concluded. Other interested parties, including landowners and managers, will be involved as the detailed actions are agreed and delivered. Funding options are indicated as potential (but not necessarily agreed or secured) sources to fund the actions.

1 Water Pollution

Water samples from streams, ponds and ditches at Parsonage Moor and Cothill National Nature Reserve (NNR) show high nitrate levels. Further water quality monitoring, together with monitoring of vegetation and invertebrate populations, on Parsonage Moor, the NNR and Lashford Lane Fen needs to be carried out to identify sources, pathways and potential means of reducing nitrate levels, and to understand the effects of diffuse nitrate pollution on fen vegetation and invertebrate communities.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
1A	Continue water sampling and analysis of Nitrogen and Phosphorus levels, together with a tracing study to determine the sources and pathways of diffuse water pollution.	£20000	2014-16	Investigation / Research / Monitoring	Water Framework Directive (WFD)	Environment Agency	Natural England
1B	Carry out a detailed quantitative vegetation study of fixed quadrats to determine whether diffuse water pollution and/or hydrological changes are affecting vegetation composition at Cothill Fen. This would be a long-term study to monitor changes.	£15000	2014-20	Investigation / Research / Monitoring	Natural England	Natural England	Berks, Bucks and Oxon Wildlife Trust, Volunteers
1C	Develop and implement a Diffuse Water Pollution Plan (DWPP)	Not yet determined	2014-20	Diffuse Water Pollution Plan	Natural England	Natural England	Environment Agency

2 Hydrological changes

There is concern that fen areas of Cothill Fen SAC may be becoming drier, and that this may be affecting populations of rare fen plants and invertebrates. This needs to be investigated by carrying out hydrological studies of the fen, and detailed studies of vegetation & invertebrates.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
2A	Assess current groundwater levels at Cothill Fen by establishing a series of dipwells replicating dipwell locations used in P Morris 1988 hydrological study. Assess current surface water flows in streams, ditches and runnels. Review P Morris 1998 study, the Environment Agency's Water Level Management Plan, and Upwood Park hydrological data to assess the magnitude of any changes in groundwater levels & surface water flows.	£15000	2014-20	Investigation / Research / Monitoring	Environment Agency	Natural England	Berks, Bucks and Oxon Wildlife Trust, Environment Agency

3 Air Pollution: impact of atmospheric nitrogen deposition

Modelled nitrogen deposition exceeds site relevant critical load for the rich calcareous fen feature. Excess reed growth in unit 2 (Parsonage Moor & Cothill Fen NNR) which supports southern damselfly, could potentially be related to atmospheric nitrogen deposition.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
3A	Control, reduce and ameliorate atmospheric nitrogen impacts	Not yet determined	2014-20	Site Nitrogen Action Plan	Not yet determined	Not yet determined	Not yet determined

Site details

The tables in this section contain site-relevant contextual information and links

Qualifying features

#UK Special responsibility

Cothill Fen SAC

H7230 Alkaline fens

H91E0# Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)

Site location and links

Cothill Fen SAC

Area (ha) **43.55**

Grid reference **SU463999**

[Map link](#)

Local Authorities

Oxfordshire

Site Conservation Objectives

[European Site Conservation Objectives for Cothill Fen SAC](#)

European Marine Site conservation advice

[n/a](#)

Regulation 33/35 Package

[n/a](#)

Marine Management Organisation site plan

[n/a](#)

Water Framework Directive (WFD)

The Water Framework Directive (WFD) provides the main framework for managing the water environment throughout Europe. Under the WFD a management plan must be developed for each river basin district. The River Basin Management Plans (RBMP) include a summary of the measures needed for water dependent Natura 2000 sites to meet their conservation objectives. For the second round of RBMPs, SIPs are being used to capture the priorities and new measures required for water dependent habitats on Natura 2000 sites. SIP actions for non-water dependent sites/habitats do not form part of the RBMPs and associated consultation.

Cothill Fen SAC

River basin

[Thames RBMP](#)

WFD Management catchment

Vale of White Horse

WFD Waterbody ID (Cycle 2 draft)

GB106039023410

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
Cothill Fen SAC	Cothill Fen SSSI

National Nature Reserve (NNR)	
Cothill Fen SAC	Cothill NNR

Ramsar	
Cothill Fen SAC	n/a

Special Areas of Conservation (SAC) and Special Protection Areas (SPA)	
Cothill Fen SAC	n/a

<i>Version</i>	<i>Date</i>	<i>Comment</i>
1.0	28/10/2014	

www.naturalengland.org.uk/ipens2000

