

Site Improvement Plan

Norfolk Valley Fens

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)

UK0012892 Norfolk Valley Fens SAC

Site description

Norfolk Valley Fens is one of two sites selected in East Anglia, in eastern England, where the main concentration of lowland Alkaline fens occurs. This site comprises a series of valley-head spring-fed fens. Such spring-fed flush fens are very rare in the lowlands. Most of the vegetation at this site is of the small sedge fen type, mainly referable to M13 *Schoenus nigricans* – *Juncus subnodulosus* mire, but there are transitions to reedswamp and other fen and wet grassland types.

The individual fens vary in their structure according to intensity of management and provide a wide range of variation. There is a rich flora associated with these fens, including species such as grass-of-Parnassus *Parnassia palustris*, common butterwort *Pinguicula vulgaris*, marsh helleborine *Epipactis palustris* and narrow-leaved marsh-orchid *Dactylorhiza traunsteineri*. Six other Annex I habitats are present as qualifying features, but are not a primary reason for the selection of this site.

Two Annex II species are present, narrow-mouthed whorl snail and Desmoulin's whorl snail are also a primary reason for the selection of the site.

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 Inappropriate water levels	Pressure	H6410 Purple moor-grass meadows, H7210 Calcium-rich fen dominated by great fen sedge (saw sedge), H7230 Calcium-rich springwater-fed fens	Restore hydrology by fully implementing investigation and Water Level Management Plan (WLMP) findings	Environment Agency, Natural England
2 Inappropriate scrub control	Pressure	H6210 Dry grasslands and scrublands on chalk or limestone (important orchid sites), H6410 Purple moor-grass meadows, H7210 Calcium-rich fen dominated by great fen sedge (saw sedge), H7230 Calcium-rich springwater-fed fens, S1016 Desmoulin`s whorl snail	Preserve open fen through adequately funded scrub control programmes	Natural England
3 Hydrological changes	Pressure/Threat	H6410 Purple moor-grass meadows, H7230 Calcium-rich springwater-fed fens, H91E0 Alder woodland on floodplains, S1014 Narrow-mouthed whorl snail	Restore hydrology by fully implementing investigation and Water Level Management Plan (WLMP) findings	Natural England, Local conservation group
4 Water Pollution	Threat	H6410 Purple moor-grass meadows, H7230 Calcium-rich springwater-fed fens	Reduce diffuse water pollution impact through CSF and agri- environment schemes	Anglian Water Services Ltd, Environment Agency, Natural England, Norfolk County Council

5	Inappropriate cutting/mowing	Pressure	H6410 Purple moor-grass meadows, H7230 Calcium-rich springwater-fed fens	Use investigation results to adjust and optimise cutting	Natural England, Norfolk Wildlife Trust, Volunteers
6	Water abstraction	Pressure	H6410 Purple moor-grass meadows, H7230 Calcium-rich springwater-fed fens	Ensure the implementation of Review of Consents requirements	Anglian Water Services Ltd, Environment Agency
7	Undergrazing	Pressure	H6210 Dry grasslands and scrublands on chalk or limestone (important orchid sites), H6410 Purple moor-grass meadows, H7210 Calcium-rich fen dominated by great fen sedge (saw sedge), H7230 Calcium-rich springwater-fed fens, S1016 Desmoulin`s whorl snail	Optimise grazing by providing high level support and agri-environment funding	Defra: Common Land Branch, Natural England
8	Overgrazing	Pressure	H7210 Calcium-rich fen dominated by great fen sedge (saw sedge), H7230 Calcium-rich springwater-fed fens	Tailor grazing regimes more specifically to site requirements under agri-environment	Natural England
9	Invasive species	Threat	H6410 Purple moor-grass meadows, H7210 Calcium-rich fen dominated by great fen sedge (saw sedge), H7230 Calcium-rich springwater-fed fens, S1016 Desmoulin`s whorl snail	Control and remove all invasive species	Natural England, Norfolk County Council, Norfolk Wildlife Trust
10	Change in land management	Threat	H6410 Purple moor-grass meadows, H7230 Calcium-rich springwater-fed fens	Support on-site management by providing appropriate technical advice	Natural England
11	Changes in species distributions	Threat	H7230 Calcium-rich springwater-fed fens	Understand and halt the decline of characteristic SAC species	Not yet determined
12	Air Pollution: impact of atmospheric nitrogen deposition	Pressure/ Threat	H4010 Wet heathland with cross-leaved heath, H4030 European dry heaths, H6210 Dry grasslands and scrublands on chalk or limestone (important orchid sites), H6410 Purple moor-grass meadows, H7210 Calcium-rich fen dominated by great fen sedge (saw sedge), H7230 Calcium-rich springwater-fed fens, S1014 Narrow-mouthed whorl snail	Implement a Site Nitrogen Action plan to reduce deposition levels	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 Inappropriate water levels

Water levels are currently not favourable on the entire SAC and some ditches are not adequately managed (Badley Moor (Ba), Fouldon Common (Fo), Thompson Water Car & Common (Th), Swangey Fen (Sw)). Grip blocking is required at one component site (Coston Fen (Co)) to increase surface water levels and investigations and negotiations are needed to determine and implement the water appropriate level management management.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
1A	Enable clarification of the existing hydrology of Swangey Fen, and suitability of existing, albeit old structures	Not yet determined	2015-20	Water Level Management Plan	Not yet determined	Not yet determined	Environment Agency, Natural England
1B	Investigate the potential impacts of ditch management adjacent to Badley Moor	Not yet determined	2014-15	Water Level Management Plan	Not yet determined	Environment Agency	Natural England
1C	Investigate the hydrological functioning of Thompson Water, Carr & Common and Foulden Common, including vegetation surveys.	£35,000	2015-20	Investigation / Research / Monitoring	Not yet determined	Natural England	n/a

<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>
1D	Coston Fen: grip blocking to retain more of the water on the seepage slopes	£30,000	2016-20	Rural Development Programme for England (RDPE): Environmental Stewardship Higher Level Scheme (HLS)	Rural Development Programme (RDPE)	Natural England	n/a

2 Inappropriate scrub control

There is a loss of fen communities due to scrub and woodland encroachment. This is caused by lack of scrub control (East Walton & Adcocks Common (Ea)) and insufficient availability of capital HLS funds to add to agreements for additional HLS capital works plans (Co, Th, Fo, Sheringham & Beeston Regis Commons (Sh)) to cover cost of scrub control on difficult sites. In some cases rates are also not enough on difficult sites.

<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	Control the scrub at Sheringham and Beeston Regis Common. This requires additional funding to HLS standard rates.	£35,000	2014-20	Mechanism not identified / develop mechanism	Not yet determined	Natural England	n/a

<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>
2B	Control scrub on sites that are already under HLS agreement (Thompson Carr and Common, Coston Fen, Foulden Common). This requires additional capital payments under HLS.	£265,000	2014-24	Rural Development Programme for England (RDPE): Environmental Stewardship Higher Level Scheme (HLS)	Rural Development Programme (RDPE)	Natural England	n/a

3 Hydrological changes

The hydrological functioning of the site (Sw) is not well understood, and structures to hold water or allow flow are in poor condition and not necessarily correct. Investigation required to understand flows, levels and chemistry. A lack of up to date hydrological and stratigraphical information across the whole site (Flordon Common (FI)) is preventing a proactive approach to addressing water level/wetness issues, also in relation to the potentially conflicting requirements of *Vertigo angustior*.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
3A	Address the lack of stratigraphical and hydrological information on Flordon Common, and the distribution of SAC snail <i>Vertigo angustior</i>	£5,000	2014-15	Investigation / Research / Monitoring	Not yet determined	Natural England	Local conservation group
Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
3B	Establish and implement a pro-active approach to water level management based on the findings of the investigation	Not yet determined	2018	Water Level Management Plan	Not yet determined	Natural England	n/a

4 Water Pollution

There is a possible impact of nutrient loading from diffuse water pollution from surrounding land. Pollution sources include arable field drains (Sw) and a leaking sewage pipe (Southrepps Common (So)); agricultural land and roads (Buxton Heath (Bu), Potter & Scarning Fens (Po)) and river restoration (Ba).

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
4A	Mend the leaking sewerage pipe under Southrepps Common	Not yet determined	2014	Regulation: SSSI Regulation	Not yet determined	Anglian Water Services Ltd	Environment Agency, Natural England

<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>
4B	Encourage adjacent landowners at Buxton Heath, and Potter and Scarning Fens to address land management that may adversely affect the sites through nutrient loading from arable land and roads.	£177,500	2014-18	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Rural Development Programme (RDPE)	Natural England	Norfolk County Council
<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>
4C	Investigate the potential nutrient loading from diffuse water pollution from agriculture and roads at Swangey Fen, and Potter and Scarning Fens.	£40,000	2014-20	Investigation / Research / Monitoring	Not yet determined	Not yet determined	Environment Agency, Natural England, Norfolk County Council
<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>
4D	Advise on how to minimise potential nutrient loading from diffuse water pollution from agriculture and roads at Swangey Fen and Potter and Scarning Fens.	Not yet determined	2014-16	England Catchment Sensitive Farming (CSF)	Staff time	Natural England	Norfolk County Council
<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>
4E	Ensure that the proposed river restoration project at Badley Moor does not increase diffuse water pollution and nutrient loading on the SAC.	£9,000	2014-20	River Restoration Plan: Restoration Project	Water Framework Directive (WFD)	Environment Agency	n/a

5 Inappropriate cutting/mowing

Sub-optimal cutting regimes on 2 component sites (Sh & Po) leads to lack of appropriate structural composition. Investigation is required to determine appropriate management regimes.

<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>
5A	Increase the cutting regime at Sheringham. If the trial mechanised cut in summer 2014 is not successful this will require additional funding because the standard HLS rate is not sufficient.	£35,000	2015-20	Mechanism not identified / develop mechanism	Landfill tax	Natural England	n/a
<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>
5B	Investigate the causes of decline in rare bryophytes on Scarning Fen	£2,500	2014-17	Investigation / Research / Monitoring	Not yet determined	Natural England	Volunteers
<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>
5C	Ensure optimal grazing/cutting regime at Scarning Fen	Not yet determined	2014-18	Rural Development Programme for England (RDPE): Environmental Stewardship Higher Level Scheme (HLS)	Not yet determined	Natural England	Norfolk Wildlife Trust

6 Water abstraction

The required relocation of boreholes identified under Review of Consents has not been fully implemented yet. The water supply is fundamental to maintain European features.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
6A	Translocate the boreholes that have been shown to adversely affect Sheringham and Beeston Regis Commons, and Coston Fen. Vary the licences that have been shown to adversely affect Buxton Heath, and East Walton and Adcock's Common.	£4,000,000	2014-20	Water Industry Asset Management Plan (AMP): Implement Plan Scheme	AMP process	Anglian Water Services Ltd	Environment Agency

7 Undergrazing

There is a loss of appropriate structural composition through undergrazing. One site is complex to fence (Fo needs Secretary of State approval) and it is difficult to secure appropriate stocking rates due to ground conditions, terrain and a mix of habitats (Fo & Ea).

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
7A	Foulden Common: secure permission for fencing on common land	Not yet determined	2014-16	Advice	No funding required	Defra: Common Land Branch	Natural England

8 Overgrazing

Gooderstone Fen (Fo) has been overgrazed in the recent past by cattle, both in terms of overall numbers and in grazing period, extending into the winter.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
8A	Gooderstone Fen: ensure that the new grazing regime is appropriate to maintain target vegetation communities	Not yet determined	2014-15	Rural Development Programme for England (RDPE): Environmental Stewardship Higher Level Scheme (HLS)	Staff time	Natural England	n/a

9 Invasive species

Himalayan balsam is present on three component sites (So, Sh, Booton Common (Bo)), Orange balsam on one (Sw) and *Crassula helmsii* on one site (Th). Balsam is being kept under control, but there is a high risk of *Crassula* spreading.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
9A	Control and eradication of Himalayan balsam and Orange balsam	£2,000	2014-20	Rural Development Programme for England (RDPE): Environmental Stewardship Higher Level Scheme (HLS)	Rural Development Programme (RDPE)	Natural England	Norfolk County Council
Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
9B	Thompson Common: control <i>Crassula helmsii</i> in and around the SAC	£20,000	2014-20	Investigation / Research / Monitoring	Not yet determined	Norfolk Wildlife Trust	Norfolk County Council

10 Change in land management

Some component sites owned by Town or Parish Councils suffer from management neglect and need continuous significant support from Natural England staff in order to implement HLS agreements and achieve agreed targets.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
10A	Support town and parish councils to deliver HLS agreements in order to achieve favourable condition at Sheringham and Beeston Regis Commons, and Southrepps Common.	Not yet determined	2014-20	Advice: Other	No funding required	Natural England	Parish Council(s)

11 Changes in species distributions

Norfolk flapwort *Leiocolea rutheana*, a rare component species of the alkaline fen community, is in decline.

<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>
11A	Investigate the management options to halt or reverse the decline of Norfolk flapwort at Potter and Scarning Fens.	Not yet determined	2014-20	Investigation / Research / Monitoring	Not yet determined	Not yet determined	Not yet determined
11B	Implement the preferred management option to reverse the decline of Norfolk Flapwort	Not yet determined	2020	Mechanism not identified / develop mechanism	Not yet determined	Not yet determined	Not yet determined

12 Air Pollution: impact of atmospheric nitrogen deposition

Nitrogen deposition exceeds site relevant critical loads.

<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>
12A	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

Norfolk Valley Fens SAC

H7210# Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*

S1014 *Vertigo angustior*: Narrow-mouthed whorl snail

H6210# Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*)

S1016 *Vertigo moulinsiana*: Desmoulin`s whorl snail

H4030 European dry heaths

H7230 Alkaline fens

H6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)

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

H4010 Northern Atlantic wet heaths with *Erica tetralix*

Site location and links

Norfolk Valley Fens SAC

Area (ha) **616.21** Grid reference **TL937960** [Map link](#)

Local Authorities Norfolk

Site Conservation Objectives [European Site Conservation Objectives for Norfolk Valley Fens 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.

Norfolk Valley Fens SAC

River basin

Anglian

[Anglian RBMP](#)

WFD Management catchment

Broadland Rivers, Cam and Ely Ouse (including South Level), North Norfolk

WFD Waterbody ID (Cycle 2 draft)

GB105033043411, GB105033047840, GB105034050950, GB105034051000, GB105034051120, GB105034055710, GB105034055780, GB30537306

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
Norfolk Valley Fens SAC	Coston Fen, Runhall SSSI Sheringham & Beeston Regis Commons SSSI Potter & Scarning Fens SSSI Southrepps Common SSSI Holt Lowes SSSI Foulden Common SSSI Flordon Common SSSI Buxton Heath SSSI East Walton & Adcock's Common SSSI Booton Common SSSI Badley Moor, Dereham SSSI Great Cressingham Fen SSSI Thompson Water, Carr & Common SSSI Swangey Fen, Attleborough SSSI
National Nature Reserve (NNR)	
Norfolk Valley Fens SAC	n/a
Ramsar	
Norfolk Valley Fens SAC	n/a

<i>Version</i>	<i>Date</i>	<i>Comment</i>
1.0	06/10/2014	

www.naturalengland.org.uk/ipens2000

