Improvement Programme for England's Natura 2000 Sites (IPENS)

Planning for the Future

Site Improvement Plan

Abberton Reservoir

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)

UK9009141 Abberton Reservoir SPA

Site description

Abberton Reservoir is a large water storage reservoir close to the Essex coast. It is one of the most important reservoirs in the country for overwintering waterfowl and also supports substantial aggregations of moulting birds in early autumn and a large colony of tree-nesting cormorants. Causeways divide the reservoir into three sections. Currently the water level of the main, eastern section is being raised by 3 metres to increase storage capacity. As part of the level-raising scheme, the original concrete banks have been removed and the shoreline re-profiled, creating extensive new areas of shallow wetland habitat for the site's waterfowl.

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 Siltation	Pressure/ Threat	A005(NB) Great Crested Grebe, A017(B) Great cormorant, A036(NB) Mute swan, A050(NB) Wigeon, A051(NB) Gadwall, A052(NB) Eurasian teal, A056(NB) Shoveler, A059(NB) Common pochard, A061(NB) Tufted Duck, A067(NB) Goldeneye, A125(NB) Common coot, A140(NB) Golden Plover, Waterbird assemblage	Reduce the sediment load in reservoir inflow	Environment Agency, Essex And Suffolk Water, Natural England
2 Public Access/Disturbance	Pressure/ Threat	A005(NB) Great Crested Grebe, A017(B) Great cormorant, A036(NB) Mute swan, A050(NB) Wigeon, A051(NB) Gadwall, A052(NB) Eurasian teal, A056(NB) Shoveler, A059(NB) Common pochard, A061(NB) Tufted Duck, A067(NB) Goldeneye, A125(NB) Common coot, A140(NB) Golden Plover, Waterbird assemblage	Monitor and seek to reduce disturbance, particularly by aircraft	Essex And Suffolk Water, Essex Wildlife Trust, Ministry of Defence (MoD), Natural England, Civil Aviation Authority (CAA)
3 Planning Permission: general	Threat	A005(NB) Great Crested Grebe, A017(B) Great cormorant, A036(NB) Mute swan, A050(NB) Wigeon, A051(NB) Gadwall, A052(NB) Eurasian teal, A056(NB) Shoveler, A059(NB) Common pochard, A061(NB) Tufted Duck, A067(NB) Goldeneye, A125(NB) Common coot, A140(NB) Golden Plover, Waterbird assemblage	Develop guidance on impacts of new development near wetland SPAs	Developer, Natural England
4 Changes in species distributions	Pressure	A017(B) Great cormorant	Investigate reduction in numbers of breeding cormorants	Essex And Suffolk Water, Natural England
5 Bird strike	Pressure/ Threat	A036(NB) Mute swan	Install new bird scarers on overhead powerline	UK Power Networks

6 Water Pollution	Threat	A036(NB) Mute swan, A056(NB) Shoveler, A059(NB) Common pochard, A061(NB) Tufted Duck	Investigate potential impacts of changes in nutrient levels	Essex And Suffolk Water, Natural England
7 Air Pollution: risk of atmospheric nitrogen deposition	Threat	A036(NB) Mute swan, A056(NB) Shoveler, A059(NB) Common pochard, A061(NB) Tufted Duck	Investigate potential atmospheric nitrogen impacts on the site	Natural England

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 Siltation

Silt entering the reservoir via Layer Brook is gradually accumulating in the western and central sections. This increases water turbidity and reduces light penetration, limiting the growth of the submerged aquatic plants on which the reservoir's fauna – including many of the waterbirds – largely depends. Siltation also reduces the water depth and increases the already high nutrient load. Now that concrete banks have been removed as part of the water-level raising scheme, siltation in the eastern section might also increase as a result of wave action until the earth banks have become vegetated. Essex and Suffolk Water is monitoring water quality, aquatic vegetation and bird numbers and carrying out a programme of work to accelerate vegetation colonisation of the new earth banks.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1A	Reduce the sediment load in reservoir inflow through the Catchment Sensitive Farming initiative within relevant catchments.	Not yet determined	2014-18	England Catchment Sensitive Farming (CSF)	Not yet determined	Natural England	Environment Agency, Essex And Suffolk Water
Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1B	Investigate scope for additional measures to reduce sediment load in reservoir inflow, such as new sediment traps within or outside the SPA boundary.	Not yet determined	2015-16	Investigation / Research / Monitoring	Not yet determined	Essex And Suffolk Water	Environment Agency, Natural England
Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1C	Reduce sediment load in reservoir inflow through actions under the Anglian River Basin Management Plan (RBMP).	£274,000	2015-21	Mechanism not identified / develop mechanism	Not yet determined	Environment Agency	Essex And Suffolk Water, Natural England

2 Public Access/Disturbance

Human disturbance to feeding and resting waterbirds reduces their energy intake and increases energy expenditure. This can be critical if the birds are already stressed by severe weather or other factors. Disturbance at ground level is well controlled by Essex & Suffolk Water, though there is occasional trespassing. Disturbance from the air by low-flying civilian and military aircraft occurs several times each year and is more difficult to manage.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2A	Keep a comprehensive record of disturbance events and their effects on the site's waterbirds, paying particular attention to low-flying aircraft.	No cost	2014-20	Investigation / Research / Monitoring	No funding required	Essex And Suffolk Water	Essex Wildlife Trust, Natural England

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2B	Develop and agree guidelines to reduce disturbance of SPA waterbirds by low-flying military aircraft. Given similar issues at some other wetland SPAs in the region, this may be best addressed at a regional rather than a single-site level.	No cost	2014-16	Advice: Negotiation	No funding required	Natural England	Ministry of Defence (MoD)

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2C	Investigate scope for marking this and other SPAs on Civil Aviation Authority air maps to reduce disturbance of SPA waterbirds by low-flying aircraft.	No cost	2015	Investigation / Research / Monitoring	No funding required	Natural England	Civil Aviation Authority (CAA)

3 Planning Permission: general

The reservoir's waterbirds often fly over surrounding farmland on their way to and from the nearby Blackwater and Colne estuaries. Some species also use the surrounding fields for feeding. Inappropriate development in the vicinity could therefore have adverse effects on them. Planning legislation and the Habitats Regulations provide regulatory mechanisms but for some new types of development, published data from well-designed impact studies at comparable sites appears to be limited.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3A	Identify new types of development which may present a risk to waterbirds if located close to wetland SPAs, but for which insufficient data is available to assess that risk adequately – such as solar arrays. Work with the industry to design monitoring or experimental studies to provide the data necessary to quantify the risk.	Not yet determined	2014-16	Investigation / Research / Monitoring	Developer	Natural England	Developer

4 Changes in species distributions

The reservoir's breeding colony of tree-nesting cormorants has declined from a peak of over 500 pairs in the mid-1990s to about 160 pairs in 2010. Reasons for the decline are unknown. Possibilities include a reduction in suitable nest sites, predation (possibly linked to lower water levels in the central section), cormorant control measures at fisheries, or a decline in summer food supply within foraging distance of the colony.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
4A	Investigate causes of the decline in the site's cormorant colony to identify possible remedial action.	£5,000	2015-18	Investigation / Research / Monitoring	Not yet determined	Natural England	Essex And Suffolk Water

5 Bird strike

Mute swans, and possibly other species, have been killed as a result of colliding with overhead powerlines near the reservoir.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
5A	Install new bird-scarers on the overhead powerline that crosses the western end of the site.	Not yet determined	2015-16	Mechanism not identified / develop mechanism	UK Power Networks	UK Power Networks	n/a

6 Water Pollution

Water stored in the reservoir is high in nutrients (eutrophic) as it comes from intensively farmed catchment areas. As a result, algal blooms are regular in summer. In some years these may include toxic blue-green algae that can kill wildfowl, though no significant mortality has been recorded.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
6A	Assess the risk of negative effects on the SPA's waterbirds occurring in the future as a result of changes in water quality, by combining information in the literature (on mechanisms etc) with available data on trends in water quality and bird numbers at the site.	£5,000	2015-16	Investigation / Research / Monitoring	Not yet determined	Essex And Suffolk Water	Natural England

7 Air Pollution: risk of atmospheric nitrogen deposition

The site is identified as at risk from air pollution as Nitrogen deposition levels exceed the site-relevant critical load for ecosystem protection. However the site's Nitrogen load is likely to be dominated by levels in the water entering the reservoir (mainly from the distant Ouse catchment) rather than direct deposition.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
7A	Further investigate potential atmospheric nitrogen impacts on the site based on the application of guidance from Chief Science Group Nitrogen Task and Finish Group.	Not yet determined	2014-17	Investigation / Research / Monitoring	Not yet determined	Natural England	n/a

Site details

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

Qualifying features

#UK Special responsibility

Abberton Reservoir SPA	Waterbird assemblage
	A005(NB) *Podiceps cristatus*: Great crested grebe
	A017(B) *Phalacrocorax carbo:* Great cormorant
	A050(NB) *Anas penelope*: Eurasian wigeon
	A051(NB) *Anas strepera*: Gadwall
	A052(NB) *Anas crecca*: Eurasian teal
	A056(NB) *Anas clypeata*: Northern shoveler
	A059(NB) *Aythya ferina*: Common pochard
	A061(NB) *Aythya fuligula*: Tufted duck
	A067(NB) *Bucephala clangula*: Common goldeneye
	A125(NB) *Fulica atra*: Common coot

Site location and links

Abberton Reservoir SPA

Area (ha) **726.2** *Grid reference* **TL979182**	Map link
Local Authorities	Essex
Site Conservation Objectives	European Site Conservation Objectives for Abberton Reservoir SPA
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 (RMBP) 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.

Abberton Reservoir SPA

River basin	Anglian RBMP
WFD Management catchment	Combined Essex
WFD Waterbody ID (Cycle 2 draft)	GB105037034130, GB30540418

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
Abberton Reservoir SPA	Abberton Reservoir SSSI

National Nature Reserve (NNR)	
Abberton Reservoir SPA	n/a

Ramsar	
Abberton Reservoir SPA	Abberton Reservoir

Special Areas of Conservation (SAC) and Special Protection Areas (SPA)	
Abberton Reservoir SPA	n/a

Version	*Date*	*Comment*
1.0	17/12/2014	