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

Planning for the Future

Site Improvement Plan

River Lambourn and Kennet-Lambourn Floodplain

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)

UK0030044	**Kennet & Lambourn Floodplain SAC**
UK0030257	**River Lambourn SAC**

Site description

The River Lambourn is an example of a classic chalk stream with a seasonally dry winterbourne section. It is relatively unmodified and has near-natural flow characteristics. The river supports a characteristic range of aquatic plant communities of the *Ranunculion fluitantis* and *Callitricho-Batrachion* types. As well as being classified as SAC for its river type, the Lambourn is also of importance in supporting self-sustaining populations of Bullhead. An additional qualifying feature present is Brook lamprey.

The Kennet and Lambourn Floodplain SAC consists of a cluster of sites in the Kennet and Lambourn river valleys. These areas represent locations where the terrestrial snail *Vertigo moulinsiana* is particularly abundant.

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	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1096 Brook lamprey, S1163 Bullhead	Review and update and deliver the river restoration plan and the Diffuse Water Pollution plan	Environment Agency, Natural England, West Berkshire Council, Catchment Sensitive Farming (CSF), Action for the River Kennet, Southern Streams
2 Water Pollution	Pressure	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1016 Desmoulin`s whorl snail, S1096 Brook lamprey, S1163 Bullhead	Review, update and deliver the diffuse water pollution plan; Develop and deliver an Infiltration Reduction Plan; Continue and develop Catchment Sensitive Farming activities.	Environment Agency, Natural England, Thames Water Utilities Ltd, West Berkshire Council, Action for the River Kennet, Southern Streams
3 Invasive species	Pressure	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1096 Brook lamprey, S1163 Bullhead	Investigate impacts of signal crayfish, review potential control/mitigation	Environment Agency, Natural England, Action for the River Kennet
4 Hydrological changes	Threat	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1016 Desmoulin`s whorl snail, S1096 Brook lamprey, S1163 Bullhead	Investigate impacts of climate change on river ecology	Environment Agency, Natural England, Action for the River Kennet
5 Inland flood defence works	Threat	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1096 Brook lamprey, S1163 Bullhead	Review and update flood defence plan	Environment Agency, Natural England, West Berkshire Council

6 Inappropriate cutting/mowing	Threat	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1096 Brook lamprey, S1163 Bullhead	Produce and disseminate good practice guidance	Environment Agency, Natural England, Landowner(s), Fisheries managers
7 Change in land management	Threat	S1016 Desmoulin`s whorl snail	Agree sustainable habitat management strategy	Natural England
8 Inappropriate water levels	Pressure	S1016 Desmoulin`s whorl snail	Review Water Level Management Plan in key areas	Environment Agency, Natural England, Landowner(s), Fisheries managers
9 Hydrological changes	Threat	S1016 Desmoulin`s whorl snail	Investigate causes of decline of Vertigo moulinsiana	Environment Agency, Natural England, Landowner(s), Fisheries managers
10 Water Pollution	Threat	S1016 Desmoulin`s whorl snail	Commission research into effects of mollucicides	Environment Agency, 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

Siltation is an issue in several stretches of the river, mostly related to past modification of river morphology and flow rates. teh river morphology is currently unfavourable, but being adressed by a river restoration plan. Sediment arising from highway runoff as well as from farmland continues to be of concern and there is a diffuse water pollution plan in place to address this. Implementation of both plans is constrained by staff resources to manage projects and is threatened by future constraints on funding.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1A	Undertake brief update/review of river restoration plan with Environment Agency, identify revised timescale and costings, and agree revised implementation plan	Not yet determined	2014-15	River Restoration Plan: Restoration Project	Staff time	Natural England	Environment Agency
Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1B	Implement activities identified in river restoration plan	£1,300,000	2014-20	River Restoration Plan: Restoration Project	Environment Agency	Environment Agency	Natural England, West Berkshire Council, Catchment Sensitive Farming (CSF), Action for the River Kennet, Southern Streams

2 Water Pollution

Although significant water quality improvement has been achieved through investment by water companies in sewage treatment works and control of domestic treatment plants by Environment Agency, water pollution remains a significant issue. Both sediment and nutrient input are of concern. A diffuse pollution plan is in place and catchment sensitive farming initiative covers the catchment. However, evidence of diffuse pollution remains and this has the potential to affect aquatic habitats and species as well as habitat quality in areas of riverside habitat supporting Vertigo moulinsiana. Diffuse pollution is arising from highway runoff as well as from farmland. Pollution also results from overflowing sewers (a result of high groundwater levels infiltrating sewers) with ongoing/recurring incidents at numerous locations on the River Lambourn.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2A	Review Diffuse Water Pollution Plan	Not yet determined	2014-15	Diffuse Water Pollution Plan	Staff time	Environment Agency	Environment Agency, West Berkshire Council, Catchment Sensitive Farming (CSF), Action for the River Kennet, Southern Streams

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2B	Establish partnership body to take forward actions identified in diffuse pollution plan	Not yet determined	2014-15	Diffuse Water Pollution Plan	Staff time	Natural England	Environment Agency, West Berkshire Council, Catchment Sensitive Farming (CSF), Action for the River Kennet, Southern Streams

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2C	Secure source of partnership funding to ensure that advisory visits to farms can continue for foreseeable future	Not yet determined	2014-16	Partnership agreement	Not yet determined	Natural England	Environment Agency, West Berkshire Council, Catchment Sensitive Farming (CSF), Action for the River Kennet

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2D	Commission survey to create improved map of catchment identifying areas of concern in relation to diffuse pollution	Not yet determined	2015-16	England Catchment Sensitive Farming (CSF)	Staff time	Natural England	Natural England

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2E	Complete programme of advisory visits and grant funding to address specific pollution sources	Not yet determined	2014-17	England Catchment Sensitive Farming (CSF)	Not yet determined	Environment Agency	Natural England, West Berkshire Council, Catchment Sensitive Farming (CSF), Action for the River Kennet

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2F	Expand water quality monitoring to include targeted sediment 'fingerprinting' to identify specific sources of pollution, and increased number of routine sampling points	Not yet determined	2015-20	England Catchment Sensitive Farming (CSF)	Not yet determined	Environment Agency	Environment Agency, Natural England, Catchment Sensitive Farming (CSF), Action for the River Kennet, Southern Streams

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2G	Secure agreement with local authority highways department to produce action plan to address diffuse pollution from roads, and agree implementation plan	Not yet determined	2015-20	Partnership agreement	Not yet determined	West Berkshire Council	Natural England, West Berkshire Council, Catchment Sensitive Farming (CSF), Action for the River Kennet

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
2H	Re-vitalise community-based campaign to raise local public awareness of sources of pollution and mechanism to report problems	Not yet determined	2015-16	Advice: Education & awareness raising	Not yet determined	Environment Agency	Natural England

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
2I	Develop and deliver an Infiltration Reduction Plan	Not yet determined	2014-20	Water Industry Asset Management Plan (AMP): Implement Plan Scheme	PR14, AMP6	Thames Water Utilities Ltd	Environment Agency

3 Invasive species

Signal crayfish have been abundant in most stretches of the river for almost 20 years and they are thought to be having significant adverse impacts on native species through predation (of fish fry and invertebrates), competition for breeding sites and cover (with bullhead and lamprey), and destruction of river banks. No effective means of control are available at present. However, no information is available on the scale of the impact and research to determine this may help to develop means to mitigate or ameliorate these effects. Azolla is also a recurring problem in parts. It forms floating mats where flow is impeded resulting in impoverishment of species diversity. Some success has been achieved through biological control. May not be a significant issue once main water control structures have been modified/removed.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
3A	Commission study to determine the scale of impact from signal crayfish on designated interest features and general river ecology of the site to inform a control strategy.	Not yet determined	2015-20	Investigation / Research / Monitoring	Not yet determined	Environment Agency	Natural England

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
3B	Develop and implement a local control strategy based on national best practice measures	Not yet determined	2015-20	Invasive Control Plan: Invasive Species Control Programme	Not yet determined	Natural England	Environment Agency

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3C	Undertake programme of habitat enhancement works to offset effects of signal crayfish on fish fry, bullhead, lamprey and water vole	Not yet determined	2015-25	Conservation Enhancement Scheme (CES)	Not yet determined	Natural England	Environment Agency, Action for the River Kennet

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3D	Undertake awareness raising campaign to promote understanding of the risks arising from Azolla and other non-natives	Not yet determined	2015-20	Advice: Education & awareness raising	Not yet determined	Natural England	Environment Agency, Action for the River Kennet

4 Hydrological changes

An increase in unseasonally high groundwater levels, prolonged periods of high rainfall, and prolonged periods of drought are all likely to be exerting stress and adverse impacts on the river and associated flora and fauna. There is a need for consideration of means of ameliorating these impacts at a catchment scale. There is concern that Vertigo moulinsiana populations have undergone significant decline, which may be related to increased prevalence of prolonged periods of drought and prolonged summer flooding.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
4A	Commission review of river quality to determine possible impacts of changing weather patterns on the ecology of the river and associated floodplain habitats	Not yet determined	2015-20	Investigation / Research / Monitoring	Not yet determined	Natural England	Environment Agency

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
4B	Commission re-survey of Bullhead and Brook lamprey populations to improve evidence base in the light of changing water flow patterns and condition reporting capability	£6,000	2019	Investigation / Research / Monitoring	Not yet determined	Natural England	Environment Agency, Action for the River Kennet

5 Inland flood defence works

There is currently increased pressure from domestic property owners to reduce flood risk. This highlights the need for a revised flood defence strategy for the river which takes changes in rainfall patterns into account and considers action at a catchment level.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
5A	Commission review of flood defence strategy for the river which increases resilience to changing weather patterns and which ensures that future works are planned strategically, whilst protecting site integrity	Not yet determined	2015-16	Flood Risk Maintenance Programme: Flood Risk Management - Capital/ Improvement Schemes	Not yet determined	Environment Agency	Natural England, West Berkshire Council

6 Inappropriate cutting/mowing

As a result of increased fear of flood risk there is pressure to increase removal of in-channel vegetation over and above that which would traditionally be cut for fisheries management. This has the potential to significantly change the character of the ecology of the river. Additionally, there is risk associated with the fact that a single individual undertakes weed cutting management over a large proportion of the river.There is a need to ensure that there is transfer of knowledge of the river to a new generation of river managers to secure sympathetic management into the long term. This is increasingly relevant as the pattern of land ownership alongside the river changes and in face of increasing pressure to carry out ad hoc weed management.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
6A	Produce good practice guidance for landowners and river managers on weed cutting and bank management	Not yet determined	2020-25	Advice: Education & awareness raising	Not yet determined	Natural England	Environment Agency

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
6B	Undertake review of current consenting protocols with regard to weed cutting and weed disposal to assess whether adequate controls are in place to protect the integrity of the site, and take action as necessary	Not yet determined	2014-15	Regulation: Compulsory Withdraw/Modify Notice/Consent	Not yet determined	Natural England	Environment Agency, Landowner(s), Fisheries managers

7 Change in land management

Part of the complex (Boxford Water Meadow) has suffered from management neglect and loss of riparian structure. Although infrastructure is now in place to facilitate restoration of grazing the land owner is dependent upon third parties for grazing. A longer term management solution is desirable.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
7A	Draw up project plan with landowner to identify measues required to secure favourable condition	Not yet determined	2015-16	Advice: Negotiation	Not yet determined	Natural England	n/a

8 Inappropriate water levels

Water supply to parts of the complex is vulnerable to changes in control structures by third parties (Speen Moor, Rack Marsh). Greater control of these structures is desirable.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
8A	Secure formal agreement over management of critical water control structures with relevant landowners	Not yet determined	2015-20	Water Level Management Plan	Staff time	Environment Agency	Natural England, Landowner(s), Fisheries managers

9 Hydrological changes

Parts of the floodplains are becoming less suitable for Vertigo moulinsiana. The reason for this is not clear and needs investigation.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
9A	Commission an investigation into possible reasons for reduction in suitability of habitat for Vertigo moulinsiana.	Not yet determined	2015-2020	Investigation / Research / Monitoring	Not yet determined	Natural England	Environment Agency, Fisheries managers

10 Water Pollution

It is currently unclear whether molluscicides derived from farmland in river water are affecting Vertigo moulinsiana populations in the catchment. It is possible that this is contributing to local declines or losses of populations and needs investigation. Advice on molluscicide use is delivered via CSF but unclear whether this is effective.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
10A	Commission research to determine level of risk to Vertigo moulinsiana arising from molluscicides in river water	Not yet determined	2015-20	Investigation / Research / Monitoring	Not yet determined	Natural England	Environment Agency

Site details

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

Qualifying features

#UK Special responsibility

Kennet & Lambourn Floodplain SAC	S1016 *Vertigo moulinsiana*: Desmoulin`s whorl snail
River Lambourn SAC	H3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion*
	S1096 *Lampetra planeri*: Brook lamprey
	S1163 *Cottus gobio:* Bullhead

Site location and links

Kennet & Lambourn Floodplain SAC

Area (ha) **114.47** *Grid reference* **SU313704**	Map link
Local Authorities	West Berkshire; Wiltshire
Site Conservation Objectives	European Site Conservation Objectives for Kennet & Lambourn Floodplain SAC
European Marine Site conservation advice	n/a
Regulation 33/35 Package	n/a
Marine Management Organisation site plan	n/a

River Lambourn SAC

Area (ha) **27.27** *Grid reference* **SU398739**	Map link
Local Authorities	West Berkshire
Site Conservation Objectives	European Site Conservation Objectives for River Lambourn 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 (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.

Additional information is provided on targets for flow and some water quality parameters, in order to meet the conservation objectives for certain Natura 2000 sites. The relevant targets are identified in the revised conservation objectives document (see link to PDF below).

These targets have been revised for a number of Natura 2000 rivers and lakes, following a review by the conservation agencies of Common Standards Monitoring Guidance. For rivers, this is done through local discussions between Natural England and Environment Agency staff. For lake sites, the only parameter where alignment of standards was reviewed was phosphorus and so this work was undertaken jointly at a national level.

The linked PDF documents include the proposed target values, and also set out an 'interim progress goal', that will need to be achieved by 2021. Where sufficient information is available the document also identifies a timescale for achievement of the longer-term target. For any sites where it has not been possible to agree specific targets, usually because further technical work is required, these will be indicated in the documents by an asterisk. For further information please see Part 2 of the River Basin Plan

Kennet & Lambourn Floodplain SAC

River basin	Thames	Thames RBMP
WFD Management catchment	Kennet and Pang	

WFD Waterbody ID (Cycle 2 draft)	GB106039023173, GB106039023174, GB106039023220	
Locally revised Conservation Objectives		
Additional information on locally revised Conservation Objectives	n/a	
EA/ NE agreed RBMP lake SAC targets	n/a	

River Restoration Plan

Source of information on river restoration plans for SAC rivers where these are in place or planned, with links to documentation where this is available.

Webpage link: Restoring Designated Rivers	n/a	
River Restoration Plan document	n/a	

River Lambourn SAC

River basin	Thames	Thames RBMP
WFD Management catchment	Kennet and Pang	

WFD Waterbody ID (Cycle 2 draft)	GB106039023210, GB106039023220
Locally revised Conservation Objectives	Moving towards common standards monitoring guidance targets for SAC rivers
Additional information on locally revised Conservation Objectives	Progress goals and selected targets for N2K rivers: Recording table and Record of decision
EA/ NE agreed RBMP lake SAC targets	n/a

River Restoration Plan

Source of information on river restoration plans for SAC rivers where these are in place or planned, with links to documentation where this is available.

Webpage link: Restoring Designated Rivers	Restoring Designated Rivers
River Restoration Plan document	River Kennet SSSI and River Lambourn SSSI and SAC

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
Kennet & Lambourn Floodplain SAC	River Kennet SSSI
	River Lambourn SSSI
	Kennet & Lambourn Floodplain SSSI
	Thatcham Reed Beds SSSI
	Chilton Foliat Meadows SSSI
	Boxford Water Meadows SSSI
River Lambourn SAC	River Lambourn SSSI
	Kennet & Lambourn Floodplain SSSI
	Boxford Water Meadows SSSI

National Nature Reserve (NNR)	
Kennet & Lambourn Floodplain SAC	n/a
River Lambourn SAC	n/a

Ramsar	
Kennet & Lambourn Floodplain SAC	n/a
River Lambourn SAC	n/a

Special Areas of Conservation (SAC) and Special Protection Areas (SPA)	
Kennet & Lambourn Floodplain SAC	n/a
River Lambourn SAC	n/a

Version	*Date*	*Comment*
v1.0	01/10/2014	