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

Planning for the Future

Site Improvement Plan

River Kent

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)

UK0030256 River Kent SAC

Site description

The River Kent SAC is designated for white-clawed crayfish, *Austropotamobius pallipes*, freshwater mussels, *Margaritifera margaritifera*, in one of the upper tributaries, and Bullhead *Cottus gobio*, as well as for its river type - water courses of plain to montane levels with water crowfoot *Ranunculion fluitantis* and starwort *Callitricho-Batrachion* vegetation - which are rare and threatened in Europe. The river type includes the natural functioning and geomorphology of the river.

The River Kent SAC is the only major river system in England where populations of white-clawed crayfish can still be found throughout the catchment, wherever there are suitable habitats.

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	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1029 Freshwater mussel, S1092 White-clawed (or Atlantic stream) crayfish, S1163 Bullhead	Implement Diffuse Water Pollution Plan	Environment Agency, Natural England, South Cumbria Rivers Trust
2 Siltation	Pressure	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1029 Freshwater mussel, S1092 White-clawed (or Atlantic stream) crayfish, S1163 Bullhead	Implement sustainable riparian management and Diffuse Water Pollution Plan	Cumbria Wildlife Trust, Environment Agency, Lake District National Park Authority, Natural England, Woodland Trust, Landowner(s), South Cumbria Rivers Trust, Source to Sea, Local angling club(s)
3 Agricultural management practices	Pressure	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1029 Freshwater mussel, S1092 White-clawed (or Atlantic stream) crayfish, S1163 Bullhead	Implement agricultural management elements of Diffuse Water Pollution Plan	Environment Agency, Natural England, Rural Payments Agency (RPA), South Cumbria Rivers Trust
4 Physical modification	Threat	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1029 Freshwater mussel, S1092 White-clawed (or Atlantic stream) crayfish, S1163 Bullhead	Implement River Restoration Plan	Environment Agency, Natural England, Landowner(s), South Cumbria Rivers Trust, Local angling club(s)

5 Invasive species	Pressure/ Threat	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1029 Freshwater mussel, S1092 White-clawed (or Atlantic stream) crayfish, S1163 Bullhead	Implement invasive species management	Environment Agency, Natural England, South Cumbria Rivers Trust
6 Disease	Threat	S1092 White-clawed (or Atlantic stream) crayfish	Implement biosecurity control plan	Environment Agency, Natural England, South Cumbria Rivers Trust, Cumbria Invasives Forum
7 Changes in species distributions	Threat	S1029 Freshwater mussel	Implement monitoring and captive breeding programme	Environment Agency, Natural England, United Utilities Water Plc, Freshwater Biological Association

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

Diffuse water pollution is causing failures in nutrient and suspended solid objectives on some tributaries. Reduced water quality and increased siltation impacts on all life-stages of the species interest features.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1A	Re-write Diffuse Water Pollution Plan to reflect new water quality targets.	Staff time	2014-15	Diffuse Water Pollution Plan	Not yet determined	Natural England	Environment Agency, South Cumbria Rivers Trust

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1B	Implement Diffuse Water Pollution Plan actions to address water pollution and siltation through improved agricultural management practices (Catchment Sensitive Farming advice and capital works).	£2,700,000	2014-21	England Catchment Sensitive Farming (CSF)	England Catchment Sensitive Farming Delivery Initiative (ECSFDI) Capital Grant Scheme	Natural England	Environment Agency, South Cumbria Rivers Trust

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
1C	Monitor to lower levels of detection, below the water quality targets outlined within the favourable condition tables.	£15,000	2014-21	Investigation / Research / Monitoring	Environment Agency, Natural England, Water Framework Directive (WFD)	Environment Agency	n/a

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
1D	Encourage uptake of Farming and Forestry Improvement Scheme (FFIS) grant applications to reduce diffuse pollution.	£90,000	2014-21	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	New Environmental Land Management Scheme (NELMS)	Natural England	n/a

2 Siltation

Increased sediment supply from land management practices, bankside erosion due to inappropriate grazing and extensive, often unstable mine spoil in the upper catchment is contributing to downstream siltation and gravel accumulation. Many characteristic species of fish, invertebrates and plants are susceptible to siltation at some stage of their life cycle and disturbed sediments can smother spawning grounds of fish and aquatic plants. Native white-clawed crayfish and freshwater mussels require clean, clear water and unnatural increases in fine sediment, in particular, can clog up their gills, affect mussel filter-feeding and silt up river substrates where they live. A major cause of freshwater mussel decline is thought to be siltation of riverbed substrates preventing juvenile recruitment.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
2A	Implement Diffuse Water Pollution Plan by securing capital funding and management agreements to reduce siltation by restoring riparian habitat through improvements to riparian management including bank reprofiling, fencing and tree planting. In particular ensure that agreements protect the river and Dubbs and Borrans Reservoirs.	£3,600,000	2014-21	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Rural Development Programme (RDPE)	Natural England	Environment Agency, South Cumbria Rivers Trust

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2B	Establish areas of new woodland as an effective approach to reducing sediment losses in the Kent catchment (to reduce soil erosion at source, to limit the delivery of sediment to water courses, to protect river banks from erosion and to encourage sediment deposition within the floodplain).	£150,000	2015-21	Habitat creation / restoration strategy: Creation of new habitat	Rural Development Programme (RDPE)	Forestry Commission	Cumbria Wildlife Trust, Lake District National Park Authority, Natural England, Woodland Trust, South Cumbria Rivers Trust, Source to Sea

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2C	Improve riparian management including bank reprofiling, fencing and tree planting, in areas, primarily farmland where landowners do not qualify for agri-environment funding.	£1,500,000	2015-21	Conservation Enhancement Scheme (CES)	Natural England, Conservation Enhancement Scheme (CES)	Natural England	Landowner(s), South Cumbria Rivers Trust, Local angling club(s)

3 Agricultural management practices

Inappropriate riparian management (stock poaching and inappropriately grazed banks) contributes to bank erosion and high sediment loads. Riparian zones within parts of the SAC which are not in favourable condition need a mechanism to improve management where these are impacting on the interest features. This issue needs cross-referencing with the areas of physical modification.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3A	Improve riparian management including bank reprofiling, fencing and tree planting.	£660,000	2015-21	Partnership agreement	Rural Development Programme (RDPE), Water Framework Directive (WFD), External funding	Local partnership	Natural England, South Cumbria Rivers Trust

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3B	Education of farmers/land managers highlighting the issues and best management practices including the importance of riparian management.	Staff time	2014-21	Advice: Education & awareness raising	Staff time, Catchment Sensitive Farming (CSF)	Natural England	South Cumbria Rivers Trust

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3C	More on ground Single Farm Payment Scheme (becoming the Basic Payment Scheme), cross compliance/SSSI enforcement and practical education to ensure land owners are complying.	Not yet determined	2014-21	Regulation: SSSI Regulation	Rural Payments Agency (RPA)	Rural Payments Agency (RPA)	Environment Agency

4 Physical modification

Physical modifications such as channel alignment, weirs and extensive artificial reinforcement of banks are affecting the way the river system functions by changing river flows and altering the way sediment is sourced, transferred and deposited. Modifications also reduce the connectivity of the river with the floodplain.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
4A	Assisted natural recovery and 'significant channel restoration' through implementation of the River Restoration Plan and follow up through post-restoration support.	£43,000,000	2014-27	River Restoration Plan: Restoration Project	Environment Agency, LIFE, Natural England, External funding, Grant in aid, Waste management funding	Environment Agency	Natural England, Landowner(s), South Cumbria Rivers Trust, Local angling club(s)

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
4B	Restore river ecosystem structure and function by removing or modifying artificial barriers, which are a key reason for the River Kent failing it's morphology objectives.	£600,000	2015-21	River Restoration Plan: Restoration Project	Environment Agency, LIFE, Natural England, External funding, Grant in aid, Waste management funding	Environment Agency	Natural England, Landowner(s), South Cumbria Rivers Trust

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
4C	Ensure land management agreements contribute to implementation of the River Restoration Plan through improvements to riparian management including bank reprofiling, fencing and tree planting.	included in costs under Action 2A	2015-21	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Rural Development Programme (RDPE)	Natural England	n/a

5 Invasive species

Himalayan balsam and Japanese knotweed have become established along the River Kent and tributaries, contributing to bank erosion and displacing native species. The aim is to target the eradication of both species through a strategic plan working downstream from the upstream extent of both species.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
5A	Control of invasive species, including organising and training volunteers to undertake annual Invasive Non-Native Species (INNS) surveys and control.	£444,000	2015-21	Invasive Control Plan: Invasive Species Control Programme	Environment Agency, Natural England, External funding	Natural England	Environment Agency, South Cumbria Rivers Trust

6 Disease

Signal crayfish are the vector for *Aphanomyces astaci* which causes crayfish plague in the native white-clawed crayfish. Crayfish plague is devastating to native crayfish. As well as being transferred by non-native crayfish it can also be transferred in water and mud containing the *Aphanomyces astaci* zoospores. Signal crayfish are presently absent from the River Kent SAC, but the threat remains.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
6A	Implement Cumbria Biosecurity Plan - to control and eradicate invasive non-native species (INNS) through a national co-ordinated approach.	£120,000	2015-21	Bio-security plan	Environment Agency, Natural England, Grant in aid	Natural England	Environment Agency, South Cumbria Rivers Trust, Cumbria Invasives Forum

7 Changes in species distributions

The freshwater mussel population has experienced a significant decline with no recent recruitment. A major cause is thought to be elevated nutrient levels and siltation of riverbed substrates preventing juvenile recruitment.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
7A	Implement freshwater mussel captive breeding programme.	£72,000	2015-21	Partnership agreement	Environment Agency, Natural England, External funding, Grant in aid	Natural England	Environment Agency, Freshwater Biological Association

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
7B	Carry out water quality and substrate monitoring to ensure conditions are favourable for freshwater mussels and white-clawed crayfish. Also carry out monitoring of freshwater mussel and white-clawed crayfish populations.	£300,000	2015-21	Investigation / Research / Monitoring	Natural England, External funding	Natural England	Environment Agency, United Utilities Water Plc

Site details

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

Qualifying features

#UK Special responsibility

River Kent SAC	H3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation S1029 *Margaritifera margaritifera*: Freshwater mussel S1092 *Austropotamobius pallipes*: White-clawed (or Atlantic stream) crayfish S1163 *Cottus gobio:* Bullhead

Site location and links

River Kent SAC

Area (ha) **109.12** *Grid reference* **SD508953**	Map link
Local Authorities	Cumbria
Site Conservation Objectives	European Site Conservation Objectives for River Kent 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

River Kent SAC

River basin	North West RBMP
WFD Management catchment	Kent/Leven
WFD Waterbody ID (Cycle 2 draft)	GB112073071340, GB112073071370, GB112073071380, GB112073071390, GB112073071410, GB112073071430, GB112073071460, GB112073074640, GB31229254
Locally revised Conservation Objectives	Moving towards common standards monitoring guidance targets for SAC rivers
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	Restoring Designated Rivers
River Restoration Plan document	Kent SSSI and SAC and tributaries

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
River Kent SAC	River Kent & Tributaries SSSI

National Nature Reserve (NNR)	
River Kent SAC	n/a

Ramsar	
River Kent SAC	n/a

Special Areas of Conservation (SAC) and Special Protection Areas (SPA)	
River Kent SAC	n/a

Version	*Date*	*Comment*
1.0	23/10/14	