

Site Improvement Plan

River Mease

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)

UK0030258 River Mease SAC

Site description

The River Mease is representative of a relatively un-modified clay lowland river which supports nationally significant populations of Spined Loach *Cobitis taenia* and Bullhead *Cottus gobio*, both of which are of International importance.

Other interest features include freshwater White-clawed Crayfish *Austropotamoius pallipes* and Otter *Lutra lutra*, both have restricted distribution within the East Midlands.

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, S1092 White-clawed (or Atlantic stream) crayfish, S1149 Spined loach, S1163 Bullhead, S1355 Otter	Reduce the levels of nutrients by controlling point and diffuse pollution sources	Environment Agency, Highways Agency, Lichfield District Council, Natural England, North West Leicestershire District Council, Severn Trent Water Ltd, South Derbyshire District Council, Mease Nutrient Management Plan Programme Board
2 Drainage	Pressure	H3260 Rivers with floating vegetation often dominated by water-crowfoot	Understand and better manage drainage discharges	Derbyshire County Council, Environment Agency, Forestry Commission, Highways Agency, Leicestershire County Council, Lichfield District Council, Natural England, North West Leicestershire District Council, South Derbyshire District Council, Staffordshire County Council
3 Inappropriate weirs dams and other structures	Pressure	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1092 White-clawed (or Atlantic stream) crayfish, S1149 Spined loach, S1163 Bullhead, S1355 Otter	Implement the River Restoration Plan	Environment Agency, Lichfield District Council, Natural England, North West Leicestershire District Council, South Derbyshire District Council

4	Invasive species	Pressure	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1092 White-clawed (or Atlantic stream) crayfish, S1149 Spined loach, S1163 Bullhead, S1355 Otter	Reduce and manage the impact of invasive species	Environment Agency, Natural England, Trent Rivers Trust
5	Siltation	Pressure	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1092 White-clawed (or Atlantic stream) crayfish, S1149 Spined loach, S1163 Bullhead, S1355 Otter	Work with land managers to reduce siltation levels	Forestry Commission, Natural England
6	Water abstraction	Pressure	H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1092 White-clawed (or Atlantic stream) crayfish, S1149 Spined loach, S1163 Bullhead, S1355 Otter	Improve the understanding of the ecological implications of the current water inputs and abstractions	Environment Agency, Natural England, Severn Trent Water Ltd

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

Elevated levels of phosphate contribute to eutrophication leading to increased algal growth and the decline in abundance and/or diversity of characteristic plant and freshwater species and habitats of the SAC. A large proportion of phosphate is associated with the high number of sewage treatment works (STWs) and more diffuse septic tank discharges. Whilst phosphate stripping has been undertaken at several STWs through the water industry Asset Management Plan process further reductions are desirable. Severn Trent Water are trialling five new techniques for phosphate stripping at Packington STW. In addition further investigation is required to understand the cumulative impact of small discharges such as from the high number of septic tanks. The river Mease is included in NE's Septic tank Risk Project. In the headwaters of the river high levels of ammonia are a concern and may be having an impact on juvenile recruitment of spined loach and bullhead. The sources of these elevated levels is not fully understood.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
1A	Installation of most appropriate trialled new technologies across STWs within the catchment.	£10,000,000	2018-24	Water Industry Asset Management Plan (AMP): Implement Plan Scheme	AMP process	Severn Trent Water Ltd	Environment Agency, Natural England
Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
1B	Implementation of visits and advice to owners of septic tanks across the catchment.	£25,000	2014-16	Advice: Education & awareness raising	Developer, Staff time	Local partnership	Environment Agency, Mease Nutrient Management Plan Programme Board

<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>
1C	Catchment walkover survey to identify sources of water pollution.	£5,000	2014	Investigation / Research / Monitoring	Environment Agency, Water Framework Directive (WFD)	Environment Agency	n/a
1D	Implementation of landowner training events, one to one visits and advice where identified during the catchment walk over.	Not yet determined	2014-24	Advice	Catchment Sensitive Farming (CSF)	Natural England	Environment Agency
1E	Undertake a more detailed assessment of the impact of road run-off to inform delivery of mitigation measures.	£81,000	2014-15	Investigation / Research / Monitoring	Water Framework Directive (WFD)	Natural England	Environment Agency, Highways Agency
1F	Investigation into the sources of ammonia in the headwaters of the catchment.	£2,500	2014-15	Investigation / Research / Monitoring	Environment Agency, Water Framework Directive (WFD)	Not yet determined	Environment Agency

<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>
1G	Complete actions and mitigation measures identified in the sources of ammonia investigation.	No funding required	2014-17	Advice	Not yet determined	Not yet determined	Environment Agency
1H	Reduction in and enforcement of pollution incidents within the catchment.	Not yet determined	2014-24	Regulation: Environmental Permits	Not yet determined	Environment Agency	n/a
1I	Implementation of the diffuse water pollution plan actions.	£150,000	2014-27	Diffuse Water Pollution Plan	Environment Agency, Water Framework Directive (WFD)	Local partnership	Environment Agency, Natural England
1J	Implementation of the Nutrient Management Plan.	£100,000	2014-27	Integrated Nutrient Management Plan: Nutrient Reduction Management Plan	Environment Agency, Water Framework Directive (WFD)	Environment Agency	Lichfield District Council, Natural England, North West Leicestershire District Council, Severn Trent Water Ltd, South Derbyshire District 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>
1K	Ensure use of the Developers Contribution Scheme is enforced.	Not yet determined	2014-34	Mechanism not identified / develop mechanism	Not yet determined	Local partnership	Lichfield District Council, North West Leicestershire District Council, South Derbyshire District 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>
1L	Detailed Notification Review.	£30,000	2014-19	Designation strategy: Notification Amendment	Natural England	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>
1M	Take appropriate action to operations which damage the interest features.	£25,000	2014-24	Enforcement	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>
1N	Review of Conservation Objectives.	Not yet determined	2014-15	Advice	Not yet determined	Natural England	Environment Agency

<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>
10	Long term additional water quality monitoring points across the catchment.	£35,000	2014-34	Investigation / Research / Monitoring	Environment Agency	Environment Agency	n/a

2 Drainage

Cumulatively drains, field under drainage and other discharges (eg.11 sewage treatment works, and roads as a conduit) within the catchment affect the naturalised flow pattern. As a consequence the river appears more 'flashy' with water levels rising and falling with increased rapidity.

<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	Investigation to confirm actual flow duration curves.	£30,000	2014-17	Investigation / Research / Monitoring	Environment Agency, Water Framework Directive (WFD)	Local partnership	Environment Agency
2B	Offer appropriate agreements to assist with reducing the speed at which water reaches the river via land drains.	£50,000	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

<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>
2C	Identify roads which are acting as a conduit for water.	£20,000	2014-16	Investigation / Research / Monitoring	Not yet determined	Leicestershire County Council	Derbyshire County Council, Highways Agency, Staffordshire County Council
2D	Implement mitigation for roads identified as conduits.	£50,000	2014-18	Partnership agreement	Not yet determined	Leicestershire County Council	Environment Agency, Highways Agency, Natural England, Staffordshire County Council
2E	Proactively target areas for forestry schemes.	£50,000	2014-19	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Not yet determined	Local partnership	Forestry Commission
2F	Ensure appropriate Sustainable Urban Drainage Schemes (SuDS) are included within all new developments.	No funding required	2014-34	Advice	Not yet determined	North West Leicestershire District Council	Environment Agency, Lichfield District Council, South Derbyshire District 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>
2G	Meet flow targets.	£1,300,000	2014-21	Water Industry Asset Management Plan (AMP): Implement Plan Scheme		Severn Trent Water Ltd	Environment Agency, Natural England

3 Inappropriate weirs dams and other structures

The modified physical condition of the river, such as the presence of multiple weirs affects the condition of the SAC features and can restrict their population size and distribution. Several actions have been identified in the River Mease River Restoration Plan for the River Mease in order to restore the necessary condition. This includes removal of structures which are preventing fish movement and the attainment of the required hydrological conditions. Other issues include poor planform and connection to the flood plain. Care will be required to ensure any weir removal is compatible with protection of the crayfish population.

<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	Implementation of the River Restoration Plan Actions.	£100,000	2014-44	Flood Risk Maintenance Programme: Flood Risk Management - Capital/Improvement Schemes	New Environmental Land Management Scheme (NELMS), Flood and Coastal Erosion Risk Management (FCERM) 2015-21	Local partnership	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>
3B	Implementation of the River Restoration Plan Actions.	£70,000	2014-44	Partnership agreement: Other	Developer Contributions Scheme (DCS)	Local partnership	Lichfield District Council, North West Leicestershire District Council, South Derbyshire District 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>
3C	Implementation of the River Restoration Plan Actions.	£50,000	2014-44	River Restoration Plan: Restoration Project	Conservation Enhancement Scheme (CES)	Environment Agency/ 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>
3D	Implementation of the River Restoration Plan Actions.	No funding required	2014-34	Advice: Negotiation	Not yet determined	Environment Agency	Lichfield District Council, Natural England

4 Invasive species

Himalayan balsam and Japanese knotweed are found along the banks of the river. American signal crayfish have recently been found in the lower reaches of the river. Signal crayfish out compete native species for available food and habitat and carry the crayfish plague which our native crayfish has no resistance to.

<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>
4A	Continued removal of invasive non-native species (INNS) with support for community engagement.	£100,000	2014-19	Invasive Control Plan: Invasive Species Control Programme	Heritage Lottery Fund (HLF)	Local partnership	Environment Agency, Natural England, Trent Rivers Trust

5 Siltation

High levels of siltation smother gravel beds which are the required spawning habitat of bullhead and can also cover areas of fine sand which are used as spawning habitat by spined loach.

<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	Offer appropriate agreements to assist with reducing siltation entering the river.	£750,000	2014-19	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
<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	Provide advice and support to landowners within the catchment to reduce siltation.	£500,000	2014-19	England Catchment Sensitive Farming (CSF)	New Environmental Land Management Scheme (NELMS), Catchment Sensitive Farming (CSF)	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>
5C	Offer agreements in appropriate locations to assist with preventing runoff.	£250,000	2014-19	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	New Environmental Land Management Scheme (NELMS)	Not yet determined	Forestry Commission

6 Water abstraction

Water abstraction changes the naturalised flow pattern from low to high flows and all flow ranges are important for different life stages of the SAC species. There are a number of regulated agricultural related abstractions along the River Mease and a permitted transfer of ground water to the Ashby Canal. However there are 11 sewage treatment works within the catchment providing a net surplus of water to the system overall. The water balance for the catchment and how this affects the flow pattern and ecology needs to be further understood.

<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>
6A	If the investigation into actual flows/flow duration curves confirms that flows are outside of the natural deviation, then measures will need to be put in place to ensure compliance.	Not yet determined	2017-21	Regulation: Environmental Permits	Not yet determined	Local partnership	Environment Agency, Natural England, Severn Trent Water Ltd

Site details

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

Qualifying features

#UK Special responsibility

River Mease SAC

H3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation

S1092 *Austropotamobius pallipes*: White-clawed (or Atlantic stream) crayfish

S1149 *Cobitis taenia*: Spined loach

S1163 *Cottus gobio*: Bullhead

S1355 *Lutra lutra*: Otter

Site location and links

River Mease SAC

Area (ha) **21.86** Grid reference **SK260114** [Map link](#)

Local Authorities Derbyshire; Leicestershire; Staffordshire

Site Conservation Objectives [European Site Conservation Objectives for River Mease 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.

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 Mease SAC

River basin	Humber	Humber RBMP
WFD Management catchment	Tame Anker and Mease	
WFD Waterbody ID (Cycle 2 draft)	GB104028046550, GB104028046560, GB104028046570, GB104028046580, GB104028046590	
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	Mease SSSI and SAC

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
River Mease SAC	River Mease SSSI

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

Ramsar	
River Mease SAC	n/a

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

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

www.naturalengland.org.uk/ipens2000

