

Site Improvement Plan

River Derwent & Bassenthwaite Lake

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)

UK0030032 River Derwent & Bassenthwaite Lake SAC

Site description

The River Derwent is the finest large oligotrophic river system in England, a watercourse of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. This low nutrient status is reflected in the abundance of bryophytes and the absence of aquatic species typical of more nutrient-rich environments.

The river system includes Derwentwater and Bassenthwaite on the Derwent, and Buttermere and Crummock Water on the Cocker. Bassenthwaite Lake is important for its oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*. It is a large lake with an extensive catchment area and consequently is subject to rapid through-flow of water and moderate nutrient status, and supports a wide variety of pondweeds. Its periphery supports the largest area of appropriate habitat, M25 *Molinia caerulea* – *Potentilla erecta* mire, for marsh fritillary butterfly in Cumbria.

Other notifiable features of the SAC are Atlantic Salmon, Brook, River and Sea Lamprey, Floating water plantain (in Derwentwater) and Otter. Bassenthwaite and Derwentwater support the only two surviving UK populations of Vendace.

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	Threat	H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1065 Marsh fritillary butterfly, S1095 Sea lamprey, S1096 Brook lamprey, S1099 River lamprey, S1106 Atlantic salmon, S1355 Otter, S1831 Floating water-plantain	Reduce diffuse and point source water pollution	Cumbria County Council, Defra, Environment Agency, Forestry Commission, National Trust, Natural England, United Utilities Water Plc, West Cumbria Rivers Trust, Environment Agency (CSF), The Coal Authority, Keswick Tourism Association, Cumbria Tourism, Northern Lakes Hospitality Providers
2 Siltation	Pressure/Threat	H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1065 Marsh fritillary butterfly, S1095 Sea lamprey, S1096 Brook lamprey, S1099 River lamprey, S1106 Atlantic salmon, S1355 Otter, S1831 Floating water-plantain	Manage the impacts of agriculture, particularly diffuse pollution and erosion	Environment Agency, National Trust, Natural England, Rural Payments Agency (RPA), United Utilities Water Plc, West Cumbria Rivers Trust

3	Siltation	Pressure/ Threat	H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1095 Sea lamprey, S1096 Brook lamprey, S1099 River lamprey, S1106 Atlantic salmon, S1355 Otter, S1831 Floating water-plantain	Reduce silt levels and maintain natural processes	Cumbria County Council, Lake District National Park Authority, National Trust, Natural England, Landowner(s)
4	Invasive species	Pressure/ Threat	H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1065 Marsh fritillary butterfly, S1095 Sea lamprey, S1096 Brook lamprey, S1099 River lamprey, S1106 Atlantic salmon, S1355 Otter, S1831 Floating water-plantain	Control and removal of invasive species	Environment Agency, Natural England, South Cumbria Rivers Trust, West Cumbria Rivers Trust, Cumbria Invasives Forum
5	Physical modification	Pressure/ Threat	H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1095 Sea lamprey, S1096 Brook lamprey, S1099 River lamprey, S1106 Atlantic salmon, S1355 Otter, S1831 Floating water-plantain	Remove obstructions and maintain a natural river regime	Environment Agency, Natural England, United Utilities Water Plc, Landowner(s), West Cumbria Rivers Trust, Angling Trust(s), Local angling club(s)
6	Water abstraction	Threat	H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1065 Marsh fritillary butterfly, S1095 Sea lamprey, S1096 Brook lamprey, S1099 River lamprey, S1106 Atlantic salmon, S1355 Otter, S1831 Floating water-plantain	Explore options to prevent future damaging lake drawdown	Environment Agency, National Trust, Natural England, United Utilities Water Plc, Consultant
7	Changes in species distributions	Threat	H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1095 Sea lamprey, S1096 Brook lamprey, S1099 River lamprey, S1106 Atlantic salmon, S1355 Otter, S1831 Floating water-plantain	Increase the distribution of native species and control invasive species	Defra, Environment Agency, Lake District National Park Authority, Natural England, South Cumbria Rivers Trust, West Cumbria Rivers Trust, Derwent Owners Association, Keswick Anglers Association, International Council for the Exploration of the Sea (ICES), North Atlantic Salmon Conservation Organisation (NASCO), The Angling Trust

8 Change in land management	Threat	H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1065 Marsh fritillary butterfly, S1095 Sea lamprey, S1096 Brook lamprey, S1099 River lamprey, S1106 Atlantic salmon, S1355 Otter, S1831 Floating water-plantain	Manage under agri-environment schemes	Forestry Commission, Natural England, Landowner(s)
9 Forestry and woodland management	Threat	H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1095 Sea lamprey, S1096 Brook lamprey, S1099 River lamprey, S1106 Atlantic salmon, S1355 Otter, S1831 Floating water-plantain	Minimise siltation and run off from forestry operations	Forestry Commission, Natural England, Woodland Trust
10 Fisheries: Fish stocking	Threat	H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1095 Sea lamprey, S1096 Brook lamprey, S1099 River lamprey, S1106 Atlantic salmon, S1355 Otter, S1831 Floating water-plantain	Communication with anglers, and managing stocking	Environment Agency, Lake District National Park Authority, Natural England, South Cumbria Rivers Trust, West Cumbria Rivers Trust, Keswick Anglers Association, The Angling Trust
11 Hydrological changes	Pressure	H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1065 Marsh fritillary butterfly	Hydrological management of Braithwaite Moss	Cumbria County Council, Environment Agency, Natural England, Consultant
12 Air Pollution: impact of atmospheric nitrogen deposition	Pressure	H3130 Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, H3260 Rivers with floating vegetation often dominated by water-crowfoot, S1065 Marsh fritillary butterfly, S1095 Sea lamprey, S1096 Brook lamprey, S1099 River lamprey, S1106 Atlantic salmon, S1355 Otter, S1831 Floating water-plantain	Control and reduce impacts of atmospheric nitrogen deposition	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 Water Pollution

Diffuse water pollution from agriculture (DWPA) and discharge from septic tanks and road drains are adversely affecting the SAC interest features. Silt and fine sediment from DWPA and road drains can enter the river, smothering salmon spawning gravels and increasing the mortality of eggs and fry. Nutrient enrichment from slurry, fertilisers and septic tanks can accelerate plant growth, decreasing oxygen levels and habitat suitability for notified species. DWPA causes nutrient enrichment on Marsh Fritillary Butterfly habitat.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
1A	Implement Diffuse Water Pollution Plan actions	£7,000,000	2014-21	Diffuse Water Pollution Plan	Environment Agency, Natural England, Rural Development Programme (RDPE), Water Framework Directive (WFD), New Environmental Land Management Scheme (NELMS), Catchment Sensitive Farming (CSF)	Natural England	West Cumbria Rivers Trust, Environment Agency (CSF)

<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>
1B	Capital investment to address Diffuse Water Pollution Plan issues from farm infrastructure.	See cost for Action 1A	2014-21	Major Landowner Group land ownership activities : Other	Business investment & upkeep of asset (e.g. National Trust farms).	n/a	Defra, Environment Agency, National Trust, United Utilities Water Plc
<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	Implement Diffuse Water Pollution Plan actions.	£1,200,000	2014-21	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Defra (ECSFDI grant)	Natural England	Environment Agency, West Cumbria Rivers Trust
<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	Re-write Diffuse Water Pollution Plan to reflect new water quality targets	Not yet determined	2014-15	Diffuse Water Pollution Plan	Not yet determined	Natural England	Environment Agency, West Cumbria Rivers Trust
<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>
1E	Monitor to lower levels of detection, below the water quality targets outlined within the favourable condition table.	£15,000	2015-21	Mechanism not identified / develop mechanism	Environment Agency, Water Framework Directive (WFD)	Environment Agency	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>
1F	Consenting unregulated problem sewage discharges particularly tourism sites e.g caravan parks	£12,000	2014-17	Regulation: Environmental Permits	Not yet determined	Environment Agency	Natural England
1G	Investigate and remediate water pollution from point sources including Towncast refuse site.	Not yet determined	2014-21	Investigation / Research / Monitoring	Not yet determined	Cumbria County Council	n/a
1H	Investigation of issues surrounding sewage treatment including the frequency of discharge from combined sewer overflows.	£10,000	2014-21	Investigation / Research / Monitoring	Not yet determined	Environment Agency	United Utilities Water Plc
1I	Targeted education campaign for sewage treatment - prioritised to target larger issues first e.g. caravan sites	Not yet determined	2014-21	Advice: Education & awareness raising	Not yet determined	Not yet determined	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>
1J	Re-run the 'Love your Lakes' campaign on Bassenthwaite to highlight the issues with increased Phosphorus.	£50,000	2014-21	Existing Local Project	Heritage Lottery Fund (HLF)	Local partnership	Environment Agency, Forestry Commission, Keswick Tourism Association, Cumbria Tourism, Northern Lakes Hospitality Providers
<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	Address high impact mine waters and waste discharges.	Not yet determined	2014-21	Investigation / Research / Monitoring	Defra, Environment Agency, Natural England, Water Framework Directive (WFD)	The Coal Authority	Environment Agency, National Trust
<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	Increase woodland cover and maximise the use of forestry research mapping showing optimal sites to target siltation and diffuse water pollution.	£300,000	2015-21	Rural Development Programme for England (RDPE): England Woodland Grant Scheme (EWGS)	Rural Development Programme (RDPE)	Forestry Commission	Natural England

2 Siltation

Overgrazing and poaching on riverbanks causes exacerbated erosion problems, allowing large amounts of silt and fine sediment to enter the river. Whilst some woody debris is beneficial to the river habitat, unmanaged riparian woodland can cause blockages and obstacles in the river and fallen/falling trees may cause bankside erosion.

<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	Implement Diffuse Water Pollution Plan actions.	See cost for Action 1A	2014-21	Diffuse Water Pollution Plan	Environment Agency, Natural England, Rural Development Programme (RDPE), Water Framework Directive (WFD), New Environmental Land Management Scheme (NELMS), Catchment Sensitive Farming (CSF)	Natural England	West Cumbria Rivers Trust, Environment Agency (CSF)
<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	Capital investment to address Diffuse Water Pollution Plan issues from farm infrastructure.	See cost for Action 1A	2014-21	Major Landowner Group land ownership activities : Other	Business investment & upkeep of asset (e.g. National Trust farms).	n/a	Defra, Environment Agency, National Trust, United Utilities Water Plc

<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	Catchment Sensitive Farming - Capital works.	See cost for Action 1C	2014-20	England Catchment Sensitive Farming (CSF)	Rural Development Programme (RDPE), 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>
2D	Increase engagement with farmers and landowners to maximise awareness and compliance with cross compliance and SSSI legislation.	Not yet determined	2014-21	Regulation: SSSI Regulation	Rural Payments Agency (RPA)	Rural Payments Agency (RPA)	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>
2E	Develop partnership working with major land owners including the National Trust and United Utilities, to develop strategies for tenanted land and increased awareness of the issues surrounding the SAC.	£200,000	2014-21	Major Landowner Group land ownership activities : Undertake Specific Management Works	Environment Agency, Natural England	Natural England	National Trust, United Utilities Water Plc
<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>
2F	Education of farmers/ land managers highlighting the issues and best management practices including the importance of riparian management.	Not yet determined	2014-21	Advice: Education & awareness raising	Staff time, Catchment Sensitive Farming (CSF)	Natural England	West Cumbria Rivers Trust

<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	Explore opportunities for changes in land management to use marginal land for greater environmental benefit.	£1,000,000	2016-21	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Environment Agency, Natural England, Rural Development Programme (RDPE), New Environmental Land Management Scheme (NELMS)	Natural England	Forestry Commission, Landowner(s)

3 Siltation

Siltation is a particular problem in Bassenthwaite Lake where deposition of fine sediment has in particular affected spawning beds of Vendace. In the main river channel fine silt and sediment can cover gravels affecting the availability of salmon spawning ground, egg mortality through lack of oxygen and poor development of juvenile fish.

<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	Implement Diffuse Water Pollution Plan actions.	See cost for Action 1A	2014-21	Diffuse Water Pollution Plan	Environment Agency, Natural England, Rural Development Programme (RDPE), Water Framework Directive (WFD), New Environmental Land Management Scheme (NELMS), Catchment Sensitive Farming (CSF)	Natural England	West Cumbria Rivers Trust, Environment Agency (CSF)

<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	Capital investment to address Diffuse Water Pollution Plan issues from farm infrastructure.	See cost for Action 1A	2014-21	Major Landowner Group land ownership activities : Other	Business investment & upkeep of asset (e.g. National Trust farms).	n/a	Defra, Environment Agency, National Trust, United Utilities Water Plc
<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	Implement Diffuse Water Pollution Plan actions.	See cost for Action 1C	2014-21	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Defra (ECSFDI grant)	Natural England	Environment Agency, West Cumbria Rivers Trust
<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	Explore opportunities for changes in land management to use marginal land for greater environmental benefit.	Not yet determined	2016-21	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Environment Agency, Natural England, Rural Development Programme (RDPE), New Environmental Land Management Scheme (NELMS)	Natural England	Forestry Commission, Landowner(s)

<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>
3E	Increase woodland cover and maximise the use of forestry research mapping showing optimal sites to target siltation and diffuse water pollution.	See cost for Action 1L	2015-21	Rural Development Programme for England (RDPE): England Woodland Grant Scheme (EWGS)	Rural Development Programme (RDPE)	Forestry Commission	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>
3F	Continued partnership of the River Corridors Group to implement a co-ordinated plan of river bank habitat improvement works	£360,000	2014-21	Partnership agreement	Environment Agency, Natural England, Private funding	Natural England	Local partnership
<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>
3G	Implement Cumbria Freshwater Biosecurity Plan to control and eradicate invasive non-native species (INNS), through a national co-ordinated approach.	£60,000	2015-21	Bio-security plan	Environment Agency, Natural England, Grant in aid	Natural England	Environment Agency, South Cumbria Rivers Trust, Cumbria Invasives Forum
<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>
3H	Support the Cumbria Deer project, and awareness raising through the development and progression of co-delivery to coordinate culling/management where necessary, to protect against siltation attributed to riparian damage.	Not yet determined	2014-21	Partnership agreement	Not yet determined	Natural England	National Trust, Landowner(s)

<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>
3I	Better practice on maintenance of infrastructure to be addressed with local authorities/ agencies i.e. ditches and upgrading silt traps, particularly along the A66.	£500,000	2014-21	Advice: Education & awareness raising	Not yet determined	Cumbria County Council	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>
3J	Maintain footpaths and public rights of way in line with mitigating siltation issues.	£100,000	2014-21	Advice: Negotiation	Not yet determined	Lake District National Park Authority	Natural England

4 Invasive species

Himalayan balsam and Japanese knotweed are abundant within the SAC. An abundance of these species will dominate vegetation and leave bare soil susceptible to erosion in the winter months. *Crassula helmsii* is increasing in Derwentwater and Bassenthwaite forming in mats and creating a poor deoxygenated environment for invertebrates and fish. Signal Crayfish are present in St Johns Beck, competing with native species for food and shelter and coarse fish including Ruffe in Bassenthwaite have impacted the Vendace population by predated on eggs.

<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	Implement Cumbria Freshwater Biosecurity Plan to control and eradicate invasive non-native species (INNS), through a national co-ordinated approach.	See costs for Action 3G	2015-21	Bio-security plan	Environment Agency, Natural England, Grant in aid	Natural England	Environment Agency, South Cumbria Rivers Trust, West Cumbria Rivers Trust, Cumbria Invasives Forum
<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	Promote biosecurity for all invasives and ensure all partners take responsibility. Includes running school events.	See costs for Action 3G	2015-21	Bio-security plan	Environment Agency, Natural England, Grant in aid	Natural England	Environment Agency, South Cumbria Rivers Trust, Cumbria Invasives Forum

<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	Control of invasive species, including organising and training volunteers to undertake annual Invasive Non-Native Species (INNS) surveys and control.	£250,000	2015-21	Invasive Control Plan: Invasive Species Control Programme	Environment Agency, Natural England, Heritage Lottery Fund (HLF), External funding, Grant in aid	Local partnership	Environment Agency, Natural England, West Cumbria Rivers Trust
<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	Local investigation into the feasibility of removing invasives, including Ruffe, to address the issue of coarse fish expansion in the Cumbrian Lakes.	£150,000	2015-20	Investigation / Research / Monitoring	Not yet determined	Environment Agency	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>
4E	Control the spread of coarse fish into lakes as part of invasives work. Introduce bailiffs to the catchment; maintain and develop of the work carried out between EA and LDNPA.	Not yet determined	2014-21	Invasive Control Plan: Invasive Species Control Programme	Environment Agency, Natural England, Heritage Lottery Fund (HLF), Grant in aid, External conservation funding trusts,	Local partnership	Environment Agency, Lake District National Park Authority, Natural England, West Cumbria Rivers Trust

5 Physical modification

There are many examples where the River Derwent and its tributaries have been subject to channel modification and/or reinforcement. Yearl Weir & Seaton Hall weir may cause increased predation of smolts and restrict otter movement along the river. The River Restoration Strategy project addresses some of these through 'Assisted Natural Recovery' or 'Significant Channel Restoration', however it is not able to, nor is it practical to target all areas identified. It should be noted that funding for the River Restoration Strategy will cease in 2015.

<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	Assisted natural recovery and 'significant channel restoration' through implementation of the River Restoration Plan and follow up through post-restoration support.	£63,000,000	2014-27	River Restoration Plan: Restoration Project	Environment Agency, LIFE, Natural England, Grant in aid, External conservation funding trusts,, Inter-Reg, Water management funding	Environment Agency	Natural England, Landowner(s), West Cumbria Rivers Trust, Local angling club(s)
<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	Implement Yearl Weir recommendations once current investigation is complete.	£250,000	2015-21	Water Industry Asset Management Plan (AMP): Implement Plan Scheme		Environment Agency	United Utilities Water Plc
<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	Remove or modify obstructions to fish passage where feasible, for example Branthwaite Weir and Salmon Hall.	£5,000,000	2014-21	Investigation / Research / Monitoring	Environment Agency, LIFE, Natural England, United Utilities	Environment Agency	Natural England

6 Water abstraction

Crummock Water is not currently abstracted to its fully licenced limit. However, with restrictions on abstraction from Ennerdale Water there is a risk that this will be exercised in the future. There is also a proposed Drought Order which would allow further lake draw down. Abstraction could therefore cause damaging impacts on the hydro-ecology of the lake and river including lake macrophytes.

<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	Continue to explore with the Environment Agency and United Utilities options to prevent future damaging lake drawdown as a result of the abstraction licence and proposed drought order and improve the natural hydrological functioning of the lake. Continue programme of research and monitoring into lake drawdown effects.	Not yet determined	2015-25	Advice: Negotiation	Not yet determined	Natural England	Environment Agency, National Trust, United Utilities Water Plc

7 Changes in species distributions

Salmon angling and poor salmon survival at sea could have an effect on the salmon population in the SAC. Fluctuation of Char population in Buttermere has been observed. Investigation is underway to identify the cause.

<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>
7A	Implement Derwent Conservation plan including the promotion and education of 'catch and release' for anglers to protect fish populations. Follow up with EA enforcement from byelaws.	£25,000	2014-21	Advice: Education & awareness raising	Staff time	Local partnership	Environment Agency, Derwent Owners Association, Keswick Anglers Association
7B	Investigate poor returning adult salmon numbers	Not yet determined	2017-20	Investigation / Research / Monitoring	Not yet determined	Defra	International Council for the Exploration of the Sea (ICES), North Atlantic Salmon Conservation Organisation (NASCO)

<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>
7C	Control the spread of coarse fish into lakes as part of invasives work, and manage unintentional stocking through live-baiting patrols and promotion of biosecurity. Maintain and develop the work carried out between EA and LDNPA. Introduce bailiffs to the catchment; maintain and develop of the work carried out between EA and LDNPA.	£325,000	2014-21	Enforcement: Other	Environment Agency, Natural England, Heritage Lottery Fund (HLF), Grant in aid, External conservation funding trusts,	Local partnership	Environment Agency, Lake District National Park Authority, Natural England, South Cumbria Rivers Trust, West Cumbria Rivers Trust, Keswick Anglers Association, The Angling Trust
<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>
7D	Assisted natural recovery and 'significant channel restoration' through implementation of the River Restoration Plan and follow up through post-restoration support.	See cost for Action 5A	2014-27	River Restoration Plan: Restoration Project	Environment Agency, LIFE, Natural England, Grant in aid, External conservation funding trusts,, Inter-Reg, Water management funding	Environment Agency	Natural England, Landowner(s), West Cumbria Rivers Trust, Local angling club(s)
<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>
7E	Implement Yearl Weir recommendations once current investigation is complete.	See cost for Action 5B	2015-21	Water Industry Asset Management Plan (AMP): Implement Plan Scheme		Environment Agency	United Utilities Water Plc

<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>
7F	Remove or modify obstructions to fish passage where feasible, for example Branthwaite Weir and Salmon Hall.	See cost for Action 5C	2014-21	Investigation / Research / Monitoring	Environment Agency, LIFE, Natural England, United Utilities	Environment Agency	Natural England

8 Change in land management

Management under agri-environment needs to be continually reviewed to ensure agreements are meeting the scheme objectives. Integrated Site Assessments (ISAs) should identify risks to the SAC through non compliance of scheme rules or poor management practices. New options/ agreements will need to be identified under NELMS.

<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>
8A	Explore opportunities for changes in land management to use marginal land for greater environmental benefit.	Not yet determined	2016-21	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Environment Agency, Natural England, Rural Development Programme (RDPE), New Environmental Land Management Scheme (NELMS)	Natural England	Forestry Commission, Landowner(s)

9 Forestry and woodland management

Poor practice from forestry operations can lead to an increase in siltation and run off into tributaries of the SAC.

<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>
9A	Increase woodland cover and maximise the use of forestry research mapping showing optimal sites to target siltation and diffuse water pollution.	See cost for Action 1L	2015-21	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Rural Development Programme (RDPE), United Utilities, Woodland Trust(s), Carbon off-setting scheme	Forestry Commission	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>
9B	Increase engagement with farmers and landowners to maximise awareness and compliance with cross compliance and SSSI legislation.	Not yet determined	2014-21	Regulation: SSSI Regulation	Rural Payments Agency (RPA)	Rural Payments Agency (RPA)	Environment Agency, Natural England

10 Fisheries: Fish stocking

There is potential for disease and invasives entering the SAC through unlicensed fish stocking affecting many of the notified features.

<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>
10A	Communication strategy with anglers to ensure there is no unlicensed fish stocking.	£50,000	2014-21	Advice: Education & awareness raising	Not yet determined	Natural England	Environment Agency, West Cumbria Rivers Trust

<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>
10B	Control the spread of coarse fish into lakes as part of invasives work, and manage unintentional stocking through live-baiting patrols and promotion of biosecurity. Maintain and develop the work carried out between EA and LDNPA. Introduce bailiffs to the catchment; maintain and develop of the work carried out between EA and LDNPA.	See cost for Action 7C	2014-21	Enforcement: Other	Environment Agency, Natural England, Heritage Lottery Fund (HLF), Grant in aid, External conservation funding trusts,	Local partnership	Environment Agency, Lake District National Park Authority, Natural England, South Cumbria Rivers Trust, West Cumbria Rivers Trust, Keswick Anglers Association, The Angling Trust

11 Hydrological changes

Braithwaite Moss requires specific hydrological management in order to improve habitat for Marsh Fritillary Butterflies.

<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	Investigation into water level/ hydrological management at Braithwaite Moss to improve habitat for Marsh Fritillary butterflies.	£20,000	2016-18	Water Level Management Plan	Not yet determined	Natural England	Environment Agency, Consultant

<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>
11B	Implement Diffuse Water Pollution Plan actions.	See cost for Action 1A	2014-21	Diffuse Water Pollution Plan	Environment Agency, Natural England, Rural Development Programme (RDPE), Water Framework Directive (WFD), New Environmental Land Management Scheme (NELMS), Catchment Sensitive Farming (CSF)	Natural England	West Cumbria Rivers Trust, Environment Agency (CSF)
<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>
11C	Explore how to manage un-regulated land drainage	Not yet determined	2014-21	Regulation: Land Drainage Consent	Not yet determined	Natural England	Environment Agency, Consultant

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

River Derwent & Bassenthwaite Lake SAC

S1065 *Euphydryas (Eurodryas, Hypodryas) aurinia*: Marsh fritillary butterfly

H3130 Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*

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

S1095 *Petromyzon marinus*: Sea lamprey

S1096 *Lampetra planeri*: Brook lamprey

S1099 *Lampetra fluviatilis*: River lamprey

S1106 *Salmo salar*: Atlantic salmon

S1355 *Lutra lutra*: Otter

S1831 *Luronium natans*: Floating water-plantain

Site location and links

River Derwent & Bassenthwaite Lake SAC

Area (ha) 1832.96 Grid reference NY262207 [Map link](#)

Local Authorities Cumbria

Site Conservation Objectives [European Site Conservation Objectives for River Derwent & Bassenthwaite Lake 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 Derwent & Bassenthwaite Lake SAC

River basin	North West	North West RBMP
WFD Management catchment	Derwent (NW)	
WFD Waterbody ID (Cycle 2 draft)	GB112075070330, GB112075070340, GB112075070350, GB112075070360, GB112075070370, GB112075070380, GB112075070390, GB112075070400, GB112075070410, GB112075070420, GB112075070430, GB112075070440, GB112075070450, GB112075070460, GB112075070470, GB112075070490, GB112075070500, GB112075070520, GB112075070530, GB112075070540, GB112075070550, GB112075073561, GB112075073562, GB112075073570, GB112075073580, GB31228847, GB31228965, GB31229000, GB31229052	
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	Proposed total phosphorus targets for Lake Natura 2000 Protected Area Special Areas of Conservation for the updated river basin management plan consultation	

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 Derwent and tributaries SSSI and SAC](#)

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
River Derwent & Bassenthwaite Lake SAC	Braithwaite Moss SSSI
	River Derwent & Tributaries SSSI
	Buttermere SSSI
	Bassenthwaite Lake SSSI
National Nature Reserve (NNR)	
River Derwent & Bassenthwaite Lake SAC	Bassenthwaite Lake NNR
Ramsar	
River Derwent & Bassenthwaite Lake SAC	n/a
Special Areas of Conservation (SAC) and Special Protection Areas (SPA)	
River Derwent & Bassenthwaite Lake SAC	n/a

<i>Version</i>	<i>Date</i>	<i>Comment</i>
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