# The river basin management plan for the Solway Tweed river basin district 2009–2015

# Chapter 5 Appendices

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## Appendix A: Public drinking water sources that are at risk of deteriorating

| Protected area ID | Drinking water source that are at risk of deterioration | River catchment | Issue(s) causing risk of deterioration | Catchment activities likely to be the cause of issue(s) | Current/proposed mitigation actions |
|---|---|---|---|---|---|
| GB102076070690 | River Lowther | Eden and Esk | Iron | Industry, manufacturing and other business | Further monitoring required to confirm risk of deterioration |
| GB102076074020 | Old Water | Eden and Esk | Colour | Agriculture and rural land management | Further monitoring required to confirm risk of deterioration<br>Targeted action to address diffuse pollution in the catchment |
| GB30229073 | Haweswater Reservoir | Eden and Esk | Colour | Agriculture and rural land management | Further monitoring required to confirm risk of deterioration |
| GB30228955 | Ullswater | Eden and Esk | Total Organic Carbon | Agriculture and rural land management | Further monitoring required to confirm risk of deterioration |
| GB30228476 | Castle Carrock Reservoir | Eden and Esk | Colour | Agriculture and rural land management | Further monitoring required to confirm risk of deterioration |
| 150166 | Cargen Borehole | Nithdale | Nitrates | Dairy farming | NVZ Action Plan<br>SEPA's Priority Catchment Strategy work to fully characterise issues and partnership working to identify measures |

## Appendix B: Results of shellfish waters assessment for faecal coliforms (2008 and three-year assessment) and target objectives based on current guide value for faecal coliforms

| Protected area ID | Designation name | Assessment against the directive guide value for faecal coliforms | | Target objectives based on current guide value for faecal coliforms | | |
|---|---|---|---|---|---|---|
| | | Annual assessment (2008) | Has the guide value been achieved in each of the three years from 2006 to 2008? | 2015 | 2021 | 2027 |
| UKS799236 | Loch Ryan | Achieved | No | Achieved | Achieved | Achieved |
| 118 | Silloth | Not achieved | No | Not achieved | Achieved | Achieved |
| 119 | Solway | Not achieved | No | Not achieved | Achieved | Achieved |

## Appendix C: Projected classification under Directive 2006/7/EC (based on data from 2005 to 2008) and target objectives for bathing waters

| Protected area ID | Bathing water name | Projected classification under Directive 2006/7/EC | Target objectives based on Directive 2006/7/EC for 2015 |
|---|---|---|---|
| UKS7616050 | Sandyhills | Poor | Sufficient |
| UKS7616010 | Carrick | Poor | Sufficient |
| UKS7616053 | Southerness | Poor | Sufficient |
| UKS7616047 | Rockcliffe | Poor | Sufficient |
| UKS761606 | Brighouse Bay | Poor | Sufficient |
| UKS7616069 | Dhoon Bay | Poor | Sufficient |
| UKS7616080 | Mossyard | Sufficient | Sufficient |
| 03600 | Spittal | Poor | Sufficient |
| 46300 | Silloth | Poor | Sufficient |
| 46500 | Skinburness | Sufficient | Sufficient |

## Appendix D: Site condition assessment, target objectives and site-specific measures for SACs and SPAs currently classed as at unfavourable status

| Protected area ID | Name | SAC / SPA | Species/ habitat of Interest | Estimated cause(s) of unfavourable condition | Planned measures | Target objectives | | | Reason for extended deadline |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2015 | 2021 | 2027 | |
| UK0014778 | Asby Complex | SAC | Calcium-rich, nutrient-poor lakes and ponds<br><br>Purple moor-grass meadows<br><br>Calcium-rich fen dominated by great fen sedge<br><br>Hardwater springs depositing lime<br><br>Calcium-rich springwater-fed fens<br><br>Geyer's whorl snail<br><br>Slender green feather-moss | Water pollution – agriculture/ run-off | Develop pollution action plan (evaluate impacts and apply appropriate solution, eg Catchment Sensitive Farming, Water Protection Zone or control of discharges) | Favourable condition | Favourable condition | Favourable condition | N/A |

| Protected area ID | Name | SAC / SPA | Species/ habitat of Interest | Estimated cause(s) of unfavourable condition | Planned measures | Target objectives | | | Reason for extended deadline |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2015 | 2021 | 2027 | |
| UK0017072 | Berwickshire and North Northumberland Coast | SAC | Grey seal<br><br>Intertidal mudflats and sandflats<br><br>Reefs<br><br>Sea caves<br><br>Shallow inlets and bays | Water pollution – agriculture/ run-off | Develop pollution action plan (evaluate impacts and apply appropriate solution, eg Catchment Sensitive Farming, Water Protection Zone or control of discharges) | Favourable condition | Favourable condition | Favourable condition | N/A |
| | | | | Water pollution – discharge | Discharge/ PPC consent | | | | |
| UK0030362 | Bolton Fell Moss | SAC | Active raised bogs | Inappropriate ditch management | SSSI management agreement | Favourable condition | Favourable condition | Favourable condition | N/A |
| | | | | Peat extraction | Investigation; revoke planning permission | | | | |
| UK0012960 | Lake District High Fells | SAC | Clear-water lakes with aquatic | Drainage | Agri-environment scheme | Favourable condition | Favourable condition | Favourable condition | N/A |

| Protected area ID | Name | SAC / SPA | Species/ habitat of Interest | Estimated cause(s) of unfavourable condition | Planned measures | Target objectives | | | Reason for extended deadline |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2015 | 2021 | 2027 | |
| | | | vegetation and moderate nutrient levels<br><br>Wet heathland with cross-leaved heath<br><br>Blanket bog<br><br>Bog woodland<br><br>Alkaline fen<br><br>Slender green feather-moss | Water pollution – agriculture/ run-off | Develop pollution action plan (evaluate impacts and apply appropriate solution, eg Catchment Sensitive Farming, Water Protection Zone or control of discharges) | | | | |

| Protected area ID | Name | SAC / SPA | Species/ habitat of Interest | Estimated cause(s) of unfavourable condition | Planned measures | Target objectives | | | Reason for extended deadline |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2015 | 2021 | 2027 | |
| UK0030335 | Naddle Forest | SAC | Wet heathland with cross-leaved heath<br><br>Western acidic oak woodland | Water pollution – agriculture/ run-off | Develop pollution action plan (evaluate impacts and apply appropriate solution, eg Catchment Sensitive Farming, Water Protection Zone or control of discharges) | Favourable condition | Favourable condition | Favourable condition | N/A |
| UK0030033 | North Pennine Moors | SAC | Wet heathland with cross-leaved heath<br><br>Blanket bog | Drainage | Agri-environment scheme | Favourable condition | Favourable condition | Favourable condition | N/A |
| | | | | Pesticide/ herbicide use | Agri-environment scheme | | | | |

| Protected area ID | Name | SAC / SPA | Species/ habitat of Interest | Estimated cause(s) of unfavourable condition | Planned measures | Target objectives | | | Reason for extended deadline |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2015 | 2021 | 2027 | |
| | | | Hardwater springs depositing lime<br><br>Calcium-rich springwater-fed fens<br><br>Western acidic oak woodland<br><br>Marsh saxifrage | Water pollution – discharge | Revoke or amend discharge consent | | | | |
| UK0012643 | River Eden | SAC | Clear-water lakes with aquatic vegetation and moderate nutrient levels<br><br>Rivers with floating | Water abstraction | Revoke or amend abstraction licence Implement water company Asset Management Plan scheme | Favourable/ unfavourable recovering condition | Favourable condition | Favourable condition | Invasive freshwater species – technically infeasible: practical constraints of a technical nature |

| Protected area ID | Name | SAC / SPA | Species/ habitat of Interest | Estimated cause(s) of unfavourable condition | Planned measures | Target objectives | | | Reason for extended deadline |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2015 | 2021 | 2027 | |
| | | | | Invasive freshwater species | Invasive Species Control Programme for protected areas | | | | |
| | | | | Inland flood defence works | River Restoration Programme for protected areas | | | | |
| | | | | Water pollution – agriculture/run -off | Develop pollution action plan (evaluate impacts and apply appropriate solution, eg Catchment Sensitive Farming, Water Protection Zone or control of discharges) | | | | |

| Protected area ID | Name | SAC / SPA | Species/ habitat of Interest | Estimated cause(s) of unfavourable condition | Planned measures | Target objectives | | | Reason for extended deadline |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2015 | 2021 | 2027 | |
| | | | | Water pollution – discharge | Revoke or amend discharge consent<br><br>Implement water company Asset Management Plan Scheme | | | | |

| Protected area ID | Name | SAC / SPA | Species/ habitat of Interest | Estimated cause(s) of unfavourable condition | Planned measures | Target objectives | | | Reason for extended deadline |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2015 | 2021 | 2027 | |
| UK0012691 | River Tweed | SAC | Rivers with floating vegetation often dominated by water-crowfoot<br><br>Brook lamprey<br><br>River lamprey<br><br>Sea lamprey<br><br>Atlantic salmon<br>Otter | Combination of unknown pressure and effects of alien species, giant hogweed, Japanese knotweed, Himalayan balsam and North American signal crayfish<br><br>Invasive freshwater species | Research to identify cause and design measures and control of non-native invasive species<br><br>Invasive Species Control Programme for Protected Areas | Unfavourable | Unfavourable | Favourable/ unfavourable recovering | Technical infeasible: improvement delayed because cause of impact unknown so not yet feasible to identify action<br><br>Also no known effective means of control for North American signal crayfish |

| Protected area ID | Name | SAC / SPA | Species/ habitat of Interest | Estimated cause(s) of unfavourable condition | Planned measures | Target objectives | | | Reason for extended deadline |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2015 | 2021 | 2027 | |
| | | | | Inland flood defence works | River Restoration Programme for protected areas | | | | |
| | | | | Water pollution – agriculture/ run-off | Develop pollution action plan (evaluate impacts and apply appropriate solution, eg Catchment Sensitive Farming, Water Protection Zone or control of discharges) | | | | |
| UK0030310 | South Solway Mosses | SAC | Active raised bogs<br><br>Degraded raised bog | Drainage | Agri-environment scheme<br><br>Water level management plan | Favourable condition | Favourable condition | Favourable condition | N/A |

| Protected area ID | Name | SAC / SPA | Species/ habitat of Interest | Estimated cause(s) of unfavourable condition | Planned measures | Target objectives | | | Reason for extended deadline |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2015 | 2021 | 2027 | |
| | | | | Inappropriate ditch management | Agri-environment scheme<br><br>Compulsory management scheme/notice<br><br>Invasive Species Control Programme for protected areas | | | | |
| | | | | Water pollution – agriculture/run-off | Develop pollution action plan (evaluate impacts and apply appropriate solution, eg Catchment Sensitive Farming, Water Protection Zone or control of discharges) | | | | |

| Protected area ID | Name | SAC / SPA | Species/ habitat of Interest | Estimated cause(s) of unfavourable condition | Planned measures | Target objectives | | | Reason for extended deadline |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2015 | 2021 | 2027 | |
| UK9006272 | North Pennine Moors | SPA | Golden plover<br><br>Hen harrier | Drainage | Agri-environment scheme | Favourable condition | Favourable condition | Favourable condition | N/A |
| | | | | Fertiliser use | SSSI management agreement | | | | |
| | | | | Pesticide/ herbicide use | Agri-environment scheme | | | | |
| UK0013025 | Solway Firth | SAC | Atlantic salt meadows | Morphological alterations and effects of alien species, Common cord-grass | Restoration of morphological condition and further research on control measures | Unfavourable | Unfavourable | Favourable/ unfavourable recovering | Technical infeasible: no known effective means of control for this alien species |