Environment Agency

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

Overview

The water environment of the Solway Tweed is important for industry, commerce, recreation and for wildlife. This plan sets out how this vital resource can be protected and where necessary improved.

This plan is not the end of the process but the beginning. Improving the water environment will help safeguard its ability to support current and future generations in a changing climate. It will contribute to sustainable flood management and will protect the Solway Tweed's rich biodiversity for future generations.

River Nith

Introduction

The river basin management plan for the Solway Tweed river basin district: 2009–2015, provides the first comprehensive framework for co-ordinating and integrating the management of the water environment in this area. It covers the next 18 years until 2027 but updated plans, including reviews of progress, will be published in 2015 and 2021.

This plan sets our objectives for the sustainable management of the river basin district's rivers, lochs/lakes, estuaries, coasts and groundwater.

The water environment is a major part of some of the Solway Tweed's best known and loved landscapes, including parts of the Southern Uplands and the Lake District and Northumberland National Parks. The Solway Tweed's water environment supports an enormous diversity of wildlife and habitats, including species and habitats of national or international importance because of their uniqueness or rarity.

This plan is based on the most comprehensive monitoring and assessment programme of the state of the water environment ever undertaken in the Solway Tweed river basin district. The results show that 49% of all water bodies are currently in good condition. We have set a target of 55% of all waters in the Solway Tweed river basin district being in good condition by 2015, increasing to 92% in 2027. This is a challenging and demanding target. Meeting it will require a much more integrated approach to looking after the water environment than has been adopted in the past.

We must all work together to take a source to sea approach and integrate land and water management, because what happens in and around the rivers and lochs/lakes can affect the estuaries and coastal waters.

This will require close co-operation between public bodies, co-ordination of a wide range of different plans (such as local development plans), and the involvement and support of landowners, land managers and industry sectors that use or affect the water environment. To achieve the target we will also need to factor in the effects of climate change and of changing demands for water.

River Esk

This plan is a requirement of the European Union's Water Framework Directive, which will see similar plans being put into place across Europe. It has been jointly developed by the Scottish Environment Protection Agency (SEPA) and the Environment Agency (together referred to as the agencies) because the river basin district includes both Scottish and English water bodies that flow into the Solway and the Tweed estuaries. At each step in the process the guidance of Scottish and English ministers has been followed. A wide range of organisations have been involved, either through the advisory group network set up as part of the river basin planning process, or through open consultation (for example on the draft river basin management plan).

The ambition of the agencies and governments is to make the waters of the Solway Tweed river basin district among the best in Europe. Achieving this aim will require new investment from governments and industry. It will also require the efficient and targeted use of existing sources of funding. For example, investment in the water industry is at a record high and funding is available to carry out physical work to improve river habitats. Stewardship schemes and grants are available to help farmers and land managers follow best practice to minimise environmental impacts.

Everyone has a part to play in helping to protect and improve the water environment and we will all share in the benefits. Many organisations and industry sectors are already working to identify how and where they can deliver improvements. We will build on this existing good practice and collaboration.

Map 1: The Solway Tweed river basin district

The condition of the Solway Tweed's water environment

The water environment includes all the rivers, lochs/lakes, estuaries, coastal waters, groundwater and artificial waters (such as reservoirs) of the Solway Tweed river basin district. It also includes all the wetlands that depend on surface waters or groundwater for their water needs. Groundwater is the water within underground soil and rocks and is an important source of drinking water.

The natural characteristics of these waters vary considerably from the upland streams running over granite rocks to the wide open mud flats of the Solway estuary. The river basin district includes the important salmon rivers of the Tweed, the Eden and those within Dumfries and Galloway. To reflect these differences and to help target actions the river basin district has been split into 653 water bodies. This includes 80 heavily modified or artificial water bodies. These are water bodies that have been substantially modified for purposes such as flood defence or hydropower generation and water bodies that have been created by people, such as canals and some reservoirs.

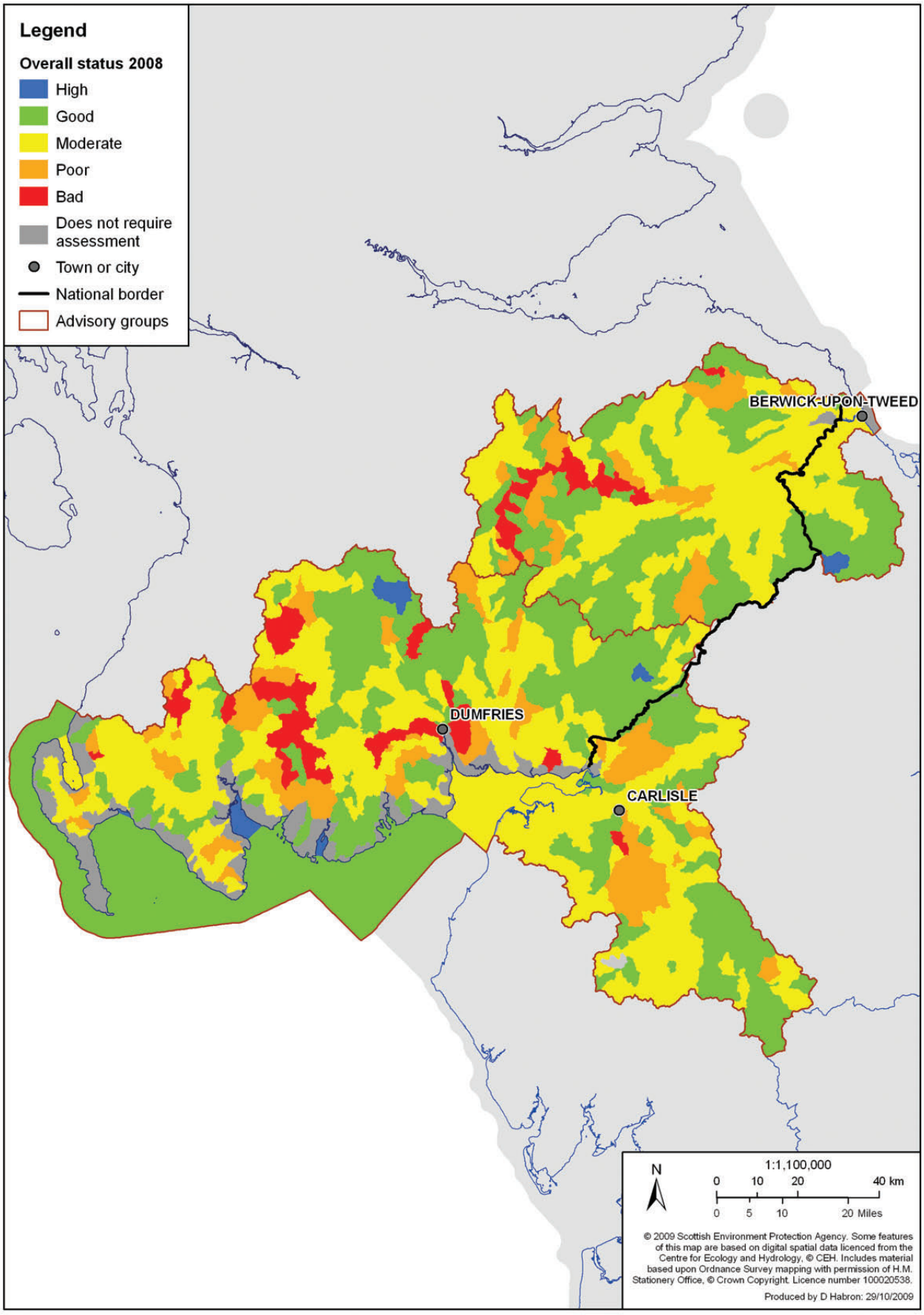
Risk-based monitoring programmes were established in 2006 in preparation for developing this plan. These programmes build on previous monitoring data but take better account of a wider range pressures acting on the water environment. The gathered information includes data on the quality and quantity of water, the condition of the habitats within the water and at its edge, and the plants and animals living in the water environment. This information has been used to determine the condition of the water body through a process called 'classification'. The assessment methods used were developed jointly with the rest of the UK. A number of methods have also been compared with those being used by other European Union countries and all are based on the criteria set out in the Water Framework Directive. Classifying the condition of each water body provides a picture of where the water environment is in good condition and where improvements need to be made. High or good status indicates that water bodies are close to natural conditions while water bodies classed as moderate, poor or bad are increasingly affected by human activities.

The classification results show that just under half (49%) of the water bodies in the Solway Tweed river basin district are currently at good or high status, which means that they meet the Water Framework Directive requirements and are at almost natural conditions. The summary classification results are shown in Table 1 and Map 2.

Table 1: Summary of the current state of the environment in the Solway Tweed river basin district

	Number of water bodies			
		Surface waters		
2008	All water bodies	Natural	Heavily modified or artificial	Groundwater
High/maximum	10	10	n/a	n/a
Good	309	225	24	60
Moderate	243	187	56	n/a
Poor	76	63	n/a	13
Bad	15	15	n/a	n/a
Total	653	500	80	73

Map 2: Status of surface waters in the Solway Tweed river basin district, 2008



Ullswater

These classification results allow actions to be targeted to where the problems are. Using the individual tests that make up each classification means the cause of the problem can be pinpointed more accurately or the combined impact of a number of different problems can be assessed. This allows resources to tackle problems to be used most effectively.

A large amount of detailed information on the water environment has been gathered as part of this plan. This information is now available on the SEPA website so that you can see the condition of the water near to you. The information can also help you identify any actions you can undertake or be involved with to help improve the water environment.

The understanding of the water environment will continue to be further developed as more data is collected and assessment methods are refined.

Protected areas

A large proportion of the water environment in the Solway Tweed river basin district has been identified as requiring special protection because of sensitivity to pollution or particular economic, social or environmental importance. These areas are water bodies or parts of water bodies that are:

- used for the abstraction of water intended for human consumption;
- supporting economically significant shellfish or freshwater fish stocks;
- where a large number of people are expected to bathe;
- supporting habitats or species of international biodiversity conservation importance;
- sensitive to nutrient enrichment.

These areas represent some of the region's most valued natural assets. By protecting them we will help safeguard biodiversity, sustain employment in our rural communities and protect our drinking water sources from pollution.

Many of the district's protected areas are already achieving the goals for which they were established; the objective for such areas is to protect them from deterioration. Table 2 below shows the protected areas where further environmental improvement is required.


Lochar Water

Table 2: Planned improvements to protected areas in the Solway Tweed river basin district

Protected area	Percentage of protected areas achieving the goals for which they were established			
	2008	2015	2021	2027
Economically important shellfish	33	33	100	100
Protected areas for bathing	20	100	n/a	n/a
Protected areas for the conservation of protected habitats and species: Special Areas of Conservation and Special Protection Areas*	76	96	96	100

*Figures represent the proportion of those Special Areas of Conservation and Special Protection Areas dependent on the status of water, where the status of the water environment is sufficiently good to enable the achievement of the areas' conservation objectives

Berwick-upon-Tweed

The targets for the water environment

The overall aim of this plan is for 92% of the water bodies in the Solway Tweed river basin district to be in good condition by 2027, but many improvements will also happen before then. Table 3 below shows the overall improvements anticipated at the end of each of the planning cycles in 2015, 2021 and 2027.

Table 3: Improvements in water bodies over the planning cycles

Number and % reaching good status	2008	2015	2021	2027
Surface waters (all)	259 (45%)	302 (52%)	353 (61%)	536 (92%)
Groundwater	60 (82%)	60 (82%)	63 (86%)	68 (93%)

Preventing the condition of water bodies from deteriorating is an important aim of this river basin management plan. The no deterioration rule applies to all water bodies, not just those currently at good or high status. For example, a water body at moderate status should not be allowed to deteriorate further.

Actions must be put in place to improve moderate, poor or bad water bodies. Some improvements will take time and actions have been prioritised over the three planning cycles. This approach takes account of existing management planning processes such as forestry restructuring or water company investments.

This phasing of improvements will enable the development and implementation of cost-effective solutions. It will also allow time for the necessary investments and changes to be made without causing a disproportionate burden. There are some issues where time is needed to investigate and identify the cause of the problems so that solutions can be identified.

For the small proportion of waters for which achieving good status by 2027 is not feasible, all improvements that can reasonably be achieved will be made. Comprehensive reviews of progress will be undertaken during each period and will be reported in updates of this plan.

Climate change

This river basin management plan will play a key role in ensuring the water environment in the Solway Tweed river basin district is able to adapt to future climate change. A water environment in better condition will be more robust to environmental changes such as increased temperatures and different rainfall patterns.

An assessment of the resilience of the actions required to deliver this plan has been carried out to make sure they are resilient to the expected future climate.

The plans for the second and third cycles will take into account any new or improved evidence as to the impact of climate change and the need to adapt any measures accordingly. Table 4 below shows the main aspects of the water environment that will be impacted by climate change.

Table 4: The main aspects of the water environment that will be impacted by climate change.

Climate change trends	Impacts on the water environment
Increased temperatures	Greater demand in the summer for irrigation water. Changes in soil structure leading to more run-off (run-off is when water runs from land into the surrounding water environment). More favourable conditions for invasive non-native species. Changes in the abundance and distribution of native species and the length of growing season.
Changes in rainfall patterns: • wetter winters; • drier summers; • increased heavy rainfall events; • less snow cover.	More erosion of river banks will lead to degradation of river habitat and bank protection. Changes in river flows will affect water availability and water quality. More flooding, land slides and sediment mobilisation. More combined sewer overflows discharging pollutants. Run-off of diffuse pollutants from both agricultural and urban sources. Changes in the rate that water enters groundwater.
Rising sea levels	Coastal flooding and coastal erosion. Salt water intrusion to groundwater in coastal areas.

Haweswater

Delivering the plan

Delivering the level of improvement established in this plan is a challenging and exciting task. Currently 49% of the water bodies are at good condition. This plan summarises the programme of actions which will bring about the necessary improvements in water bodies currently not meeting good status. There are a wide range of existing mechanisms that can be used to ensure that our actions will protect the water environment.

In the Solway Tweed there are regulatory processes in place which apply to:

- activities liable to cause pollution;
- abstraction of water;
- water impoundment;
- new engineering alterations.

At a UK level, marketing and use restrictions have been introduced to reduce risks of pollution from pesticides, while reducing the use of phosphorus in detergents to reduce phosphorus inputs at source is planned to come into place.

Some organisations have a legal responsibility in helping develop and deliver the river basin management plan as they carry out their duties[1]. Where the work of a public body affects a river basin district, that body has a general duty to have regard to the river basin management plan. In such cases the agencies will work with these organisations to:

- develop good links between river basin planning and other relevant plans and strategies, especially where those plans have a statutory basis such as the Regional Spatial Strategies in England;
- encourage them to include the Water Framework Directive considerations in their plans, policies, guidance, appraisal systems and casework decisions.

Improvements are also carried out by voluntary organisations and this plan recognises the importance of this activity in maintaining and improving the condition of the water environment.

Putting this plan into action will involve detailed discussions to design, plan and implement the tailor-made solutions needed to reduce the pressures causing water bodies to not meet good status. This will involve consulting with all those with interests in the water bodies concerned. The organisations that can help identify these solutions are listed in Table 5.

[1]In Scotland these are defined as responsible authorities.

River Tweed

Table 5: Examples of organisations that can help identify solutions to reduce the pressures impacting on the water environment.

Issue	Organisations that can help identify solutions
Pollution from agriculture	Scotland's Environmental and Rural Services (SEARS), Environment Agency, National Farmers Union, National Farmers Union Scotland and others including conservation agencies, governmental and non-governmental support organisations
Pollution from sewage disposal	Water companies, SEPA, Environment Agency, private owners and individuals
Abstraction and impoundment for drinking water supply	Water companies, SEPA, Environment Agency
Changes to beds, banks and shores	SEARS, Environment Agency, National Farmers Union, National Farmers Union Scotland, Fisheries Trusts, District Salmon Fisheries Board and others including conservation agencies, governmental and non-governmental support organisations

The actions required to deliver this plan vary considerably in scale, from installing a fish-pass at a dam to fencing the side of a river to stop animals from walking in it. Many will also require us to look, in more detail, at whole catchments to ensure action is effective. Many have already started. These actions will be carried out by a range of organisations and individuals and demonstrate the level of commitment to making this plan a success.

Solway coast

Reporting the achievements

The aims of this river basin management plan are ambitious and wide ranging. Achieving all of the individual improvements to water bodies proposed in the plan will require action from a wide range of organisations and people.

SEPA and the Environment Agency will jointly co-ordinate the implementation of this plan and ensure it remains on track.

The advisory group network also has a role in ensuring that the river basin management plan and the actions contained in it are implemented successfully, particularly at the local advisory group level. The advisory groups will help to encourage river basin district-wide action through their sectors, monitor overall progress and prepare for the second cycle of river basin management planning.

The agencies will use their environmental monitoring programmes and, where appropriate, information from others, to review whether work on the ground is achieving the environmental objectives. An updated classification assessment of the water environment will be published annually.

A first review of progress will be published by the end of 2013 and there will be an update on the plan in 2015.

Where to find more information

Details about an individual water body classification and objectives can be found on the interactive map on the SEPA website: www.sepa.org.uk/water/river_basin_planning.aspx

Background information is contained in a series of chapters and annexes that are also available on the SEPA website.

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