



Delivering the actions in the first River Basin Management Plan

A progress report for the Solway Tweed River Basin District 2012



Contents

	Executive summary.....	3
1	Introduction.....	4
2	Overall measure status figures.....	5
3	Managing pressures on water quality	5
3.1	Impacts from agricultural activities	6
3.2	Impacts from forestry activities.....	6
3.3	Impacts from wastewater	7
4	Managing pressures on water flows and levels.....	7
4.1	Managing pressures on water flows and levels from hydropower generation.....	7
4.2	Impacts from public water supplies.....	8
4.3	Managing water use in reduced flow conditions Impacts from agricultural activities on water quantity.....	8
5	Removing barriers to fish migration and managing pressures on beds, banks and shores.....	9
5.1	Fish barriers	9
5.2	Beds, banks and shores	10
6	Managing the risks posed by invasive and non native species.....	10
7	Conclusion	11

Executive summary

The Solway Tweed river basin district has seen good progress in the implementation of measures identified in the first river basin management plan to achieve environmental objectives for 2015. These measures have been delivered by a wide range of people and organisations including the Scottish Environment Protection Agency (SEPA), the Environment Agency, other public bodies, and partners using a suite of mechanisms such as policy, legal and financial tools, and voluntary actions.

In conjunction with standard legislative requirements, SEPA and the Environment Agency have set proportionate and risk-based controls on pressures causing impacts to water quality; water flow and water levels, as well as activities to mitigate barriers to fish migration.

Over 160 measures owned and delivered in partnership with public, private and third parties have been implemented. The vast majority of these have been completed and there are no concerns to be reported across the plan. Any measures which have been recorded as 'on going' generally relate to activities such as promotion and education; environmental investigations; continued agricultural advisory services; licence reviews and moves to partnership delivery. All results will be evaluated during the development of the next river basin plan.

The main successes to report are the direct actions and projects delivered by partnership activities, such as:

- targeted work within some catchments to engage with land managers, working with them to reduce the impact of their activities on the water environment;
- continuing the catchment based approach, e.g. Tweed Forum, and learning from the River Eden pilot catchment;
- river restoration projects including habitat improvements, mitigation or removals of fish barriers, which have been scoped and/or implemented through partnership working;
- local and basin scale actions to protect against and manage invasive non native species;
- multi-benefit projects to deliver on biodiversity, flood management, improved water quality and fisheries.

We are moving in the right direction. However, momentum must be maintained and in some areas improved, in order to meet the objectives set out in this and subsequent cycles and to ensure our use of the water environment is sustainable.

1. Introduction

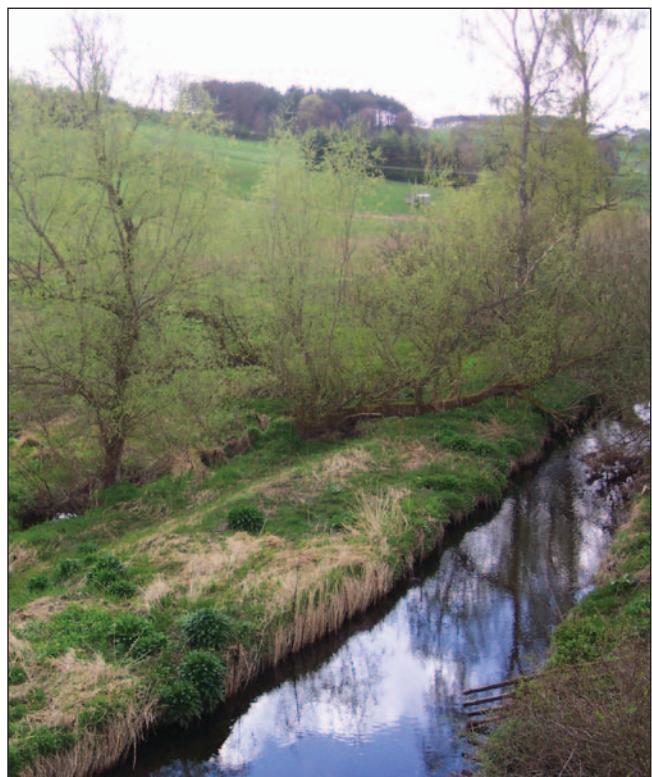
The first river basin management plan (RBMP) for the Solway Tweed river basin district was published in 2009¹. It set out targets for the protection and improvement of the water environment within the district, and described how we planned to achieve those targets through implementing measures to protect water bodies currently at good ecological status or better from deterioration, and to restore water bodies not at good status. The plan also includes the targets and measures to improve and protect areas designated because of their importance for conservation of international rare or endangered species, and for human health (drinking waters, bathing waters and shellfish waters²).

The task to implement these measures is the responsibility of a wide range of stakeholders across the Solway Tweed river basin district including Defra³, the Scottish Government, SEPA; the Environment Agency, responsible authorities and other public bodies. Other organisations on the area advisory groups⁴ have also contributed by delivering measures.

A range of approaches including legislation, economic incentives and provision of advice have been used to deliver the plans targets.

There is a growing recognition that measures for river basin planning can be delivered through projects designed to have multiple aims, for example, better flood protection and prevention or to meet biodiversity targets. Several innovative Solway Tweed measures are important multiple benefit projects.

We are also beginning to see the wider application of catchment scale approaches with catchment working ongoing in the Tweed (incorporating the Till), areas of the north Solway, and the River Eden, which is a Defra pilot catchment lead by Eden Rivers Trust. Learning from these approaches can be applied across the whole river basin.



¹ Link to Solway Tweed RBMP www.sepa.org.uk/water/river_basin_planning.aspx

² The Shellfish Directive will be revoked in 2013 and the same level of protection will be afforded by the Water Framework Directive.

³ Department for Environment, Food and Rural Affairs www.defra.gov.uk

⁴ Area Advisory Group membership can be found here www.sepa.org.uk/water/river_basin_planning.aspx

The plan includes actions to address pressures from:

- diffuse and point source pollution on water quality;
- abstraction and flow regulation of water affecting water flows and levels;
- dams, weirs and engineering works affecting fish migration and beds, banks and shores;
- invasive non native species.

This report provides an update on the implementation status of the measures required to address these pressures by 2015. The appraisal of measure status presented here will feed into the forthcoming assessment of current condition and the identification of future challenges which is to be produced in 2013. This in turn will inform the development of the second Solway Tweed river basin plan due in draft form in 2014 and due to be published by 22 December 2015.

2. Assessment of the programme of measures

The status of the implementation of measures required to be in place by 2015 is required to be reported to the European Commission at the end of 2012 (as required under the Water Framework Directive). SEPA and the Environment Agency have collated this information over the past 12 months.

There are over 160 measures owned and delivered in partnership with public, private and third parties across the Solway Tweed river basin district. This figure consists of measures implemented across different scales; some measures are implemented across the entire basin, some upon just one water body.

The vast majority of measures required to be in place by 2015 have been completed (69% based on numbers of measures). Of the remainder, 29% are on going and these generally relate to activities such as promotion and education, environmental investigations, continued agricultural advisory services and moves to partnership delivery such as scoping exercises. A few measures (2%) have not started. This is due to more up to date data showing there is no pressure, or duplication occurred and the measure is no longer required.

The remainder of this report describes how the programme of measures has been put in place to tackle the pressures on our water environment in more detail.

3. Managing pressures on water quality

Good water quality is essential for the overall health of the water environment, ensuring that wildlife can thrive. Factors influencing water quality include increased nutrients, acidification, sediment and chemicals arising from a range of sources.

A UK wide ban in phosphates in laundry cleaning products was brought in by The Detergents Regulations 2012 which ban the use of phosphate or inorganic phosphate from 1 January 2015. This will benefit the water quality of the Solway Tweed basin by reducing both point and diffuse source pollution at source.

Pressures from rural land use management activities linked to agriculture and forestry alongside pressures from wastewater treatment were identified as particular pressures in this basin.

3.1 Impacts from agricultural activities

In Scotland, the national General Binding Rules (GBRs) set out in The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR), have been implemented along side a national diffuse pollution supplementary plan to promote awareness of best practice to land managers. This covers approximately 48% of total basin area. In addition, the Galloway and Stewartry coastal priority catchment areas have been targeted by SEPA's specialist diffuse pollution staff who engaged with landowners and carried out catchment walks to gather an evidence base of the exact nature and location of diffuse pollution pressures. In Galloway, 629 km was walked and 107 farm units visited, while in Stewartry coastal, 286 km was walked with farm unit visits planned for early 2013.

In addition, targeted support from the Tweed Forums Collaborative Action Project Officer, from the Galloway Fisheries Trust and the local district salmon fisheries boards, means that across the Scottish side of the basin, land managers are being made aware of their duties and improvement measures put in place where possible.

Scottish Water has developed a Best Practice Incentive Scheme⁵, for the protection of drinking water sources from rural diffuse pollution within five catchments in Scotland; one of these is the Dumfries aquifer. Land managers, owners and tenants in this area can apply to the scheme for assistance in financing measures aimed at contributing to the improvement and protection of water sources within the catchment, over and above regulatory compliance. Through this approach drinking water quality will be protected and improved to meet the required standards, public health will be protected and the most sustainable approach to treatment of drinking waters will be achieved.

In England, the Catchment Sensitive Farming Programme, a joint partnership between the Environment Agency and Natural England, funded by Defra and the Rural Development Programme for England, has delivered agricultural advice across 4692 km² (27% of total basin area). Key catchments include the Till, Aln, Coquet and many catchments within the River Eden, e.g. River Leith and Dacre Beck.

Other agriculture related measures in England include the Defra Demonstration Test Catchments, focussing on Morland Beck and Dacre Beck near Penrith and Pow Beck near Dalston, which is examining to what extent it is possible to produce food on farms and have clean water in our rivers. The Eden Rivers Trust has implemented actions on the River Petteril (part of the award winning Evidence and Measures Project), resulting in riverside fencing installation and tree planting (see section 6).

3.2 Impacts from forestry activities

The *Forest and Water Guidelines* are the strongest measure available to ensure the reduction and prevention of diffuse pollution impacts from forestry activities and have been recently updated in the new UK Forest Standard '*Woodlands for Water*'⁶.

From April 2012 recipients of Scotland Rural Development Programme (SRDP)⁷ funding require a forest plan and it is expected that forest plan coverage will increase significantly in these areas of the basin.

Galloway Fisheries Trust secured funding from Scotland's Water Environment Fund for a two year project to investigate potential measures that may help in reducing the recovery time in water bodies affected by acidification. This project involves applying limestone to increase the pH, loosening and cleaning the gravel bed and managing the bank side habitats to reduce conifer cover. Monitoring the treatments and a control area for pH analyses and electro-fishing surveys is also underway. There are over 220 km of rivers that are not meeting good status due to acidification within the Solway Area Advisory Group area and if the measures are successful it may be possible to extend the approach to other rivers.

⁵ www.scottishwater.co.uk/about-us/corporate-responsibility/sustainable-land-management

⁶ Joint publication from Forestry Commission, Environment Agency, SEPA, Scottish Natural Heritage, Countryside Council for Wales and Natural England) www.forestry.gov.uk/ukfs

⁷ www.scotland.gov.uk/Topics/farmingrural/SRDP

3.3 Impacts from wastewater

Major investment by Scottish Water, United Utilities and Northumbrian Water continues to ensure that the impact of wastewater is reduced and/or removed with the majority of measures required by 2015 found to be either ongoing or complete.

Key actions in England include phosphate removal at a number of wastewater treatment works including Shap, Brampton, Carlisle, Dalston, Kirkby Stephen and Langwathby, and improvements to combined sewer overflows in Penrith discharging to the River Eamont.

A package of improvements has been delivered within the River Leith catchment including significant improvements to Shap Wastewater Treatment Works and first time rural sewerage schemes in small villages to replace rural septic tanks. These schemes will lead to a significant reduction in phosphate inputs to the catchment and complement the work undertaken to address phosphate inputs from agriculture, e.g. via catchment sensitive farming and work by Eden Rivers Trust. This combination of actions is demonstrating the benefits of taking a catchment based approach.

In Scotland, the Solway area has three measures ongoing or planned by Scottish Water which aim to improve the associated shellfish and bathing waters. Loch Ryan sewage scheme is being constructed and planning is underway for measures at Southerness and Rockcliffe.

4. Managing pressures on water flows and levels

There has been good progress with the implementation of regulated measures for these pressures, particularly in Scotland as SEPA continues to introduce any necessary conditions by reviewing abstraction and impoundment licences set following the introduction of CAR in 2005.

Pressures linked to hydropower generation and public water supply were identified as requiring action during the first cycle and SEPA has also developed a draft approach to be employed when water resources become scarce.

4.1 Managing pressures on water flows and levels from hydropower generation

SEPA has been working closely with Scottish Power on the major hydropower scheme in the Dee catchment to agree appropriate mitigation flows downstream of the dam on the Black Water of Dee (Pullaugh Burn to Loch Ken) and the Pullaugh Burn, which are currently assessed as being at bad ecological potential. As a result of this review, a compensation flow is expected to be delivered from the dam to improve conditions in the river downstream.

Work on additional pressures and multiple benefits have been introduced: diffuse source pollution impacts are being addressed and Scottish Power has worked in partnership with Galloway Fisheries Trust to provide assisted passage for eels, and has also been a driving force for invasive non native species control (see section 6) in the area.

4.2 Impacts from public water supplies

Following the introduction of CAR in 2005, SEPA has reviewed over 15 Scottish Water licences to control abstraction and improve flow with around nine reviews on going.

Scottish Water, United Utilities and Northumbrian Water also now have water efficiency campaigns so that across the basin customer's awareness of water usage is improving⁸.



Recent investigations have suggested that the existing public water supply abstractions are impacting on the surface water, and on overall resource availability in the Fell Sandstone aquifer. This groundwater also fails due to nitrates and this may mean it is at risk of failing drinking water tests too. In addition, Spittal Beach, located just south of the Tweed estuary, is a priority bathing water and has failed the standards set under the revised Bathing Water Directive.

A holistic approach is required to deal with these issues in an efficient and effective way, so the Environment Agency, with other partners, has established the Water Efficiency Tweed (WET) project to tackle the existing issues with water resource and water quality, with the aim of improving the whole water environment.

The project area covers the Till Fell Sandstone groundwater body from Berwick-upon-Tweed to Felkington. Also included are areas off the Till Fell Sandstone that may be contributing faecal matter to surface waters and therefore might be impacting on bathing waters.

4.3 Managing water use in reduced flow conditions

Scotland's *National Water Deficit Plan* will be out for consultation during the early part of 2013. Consultation responses will be used to formulate sub plans with geographical or sector focus during 2013 to enable local or sector based measures to be developed. SEPA also have plans to improve prediction tools (using Met Office data and other information) and place up to date information online.

The impact of climate change on water availability will also be examined in the development of the second river basin management plan and its lead in documents.

⁸ www.scottishwater.co.uk/savewater
www.unitedutilities.com/save-water-money.aspx
www.nwl.co.uk/your-home/using-water-wisely.aspx?

5. Removing barriers to fish migration and managing pressures on beds, banks and shores

Improving and protecting fish passage, and healthy river and loch beds, banks and shores, is a complex challenge requiring action on existing and historic activities. To make measures cost effective action is often required on a catchment scale, using a coordinated approach involving multiple stakeholders.

We are beginning to see the development and implementation of innovative, progressive measures to tackle these pressures and the large scale implementation of prioritisation principles and sequencing of projects.

Since 2009, SEPA has been encouraging delivery of voluntary projects to address such pressures by providing funding support from money identified by Scottish Ministers for supporting restoration initiatives (£1 million per year). For the first programme of measures, this work has focused on supporting action to restore fish passage at man made barriers to fish migration.

Guidance on the information needed to ensure efficient sequencing of implementation is beginning to be developed. Principles set out in the Scotland-wide draft supplementary plan '*Improving the physical condition of Scotland's water environment*'⁹ will help inform future works in the Scottish parts of the basin. Similarly, the Till Restoration Strategy (led by Natural England with the Tweed Forum and the Environment Agency in the Till Site of Special of Scientific Interest and Special Area of Conservation) aims to restore morphological habitat, whilst considering Water Framework Directive and flood management objectives.

Towards the west of the basin, the River Eden Restoration Strategy, a partnership between Eden Rivers Trust, West Cumbria Rivers Trust, the Wild Trout Trust, Natural England and the Environment Agency, is also underway.

5.1 Fish barriers

Work to remove 12 barriers to fish movement and migration, have been completed across the basin with works ongoing on a further three. In Scotland, this includes barrier removal at Skinworks cauld (Gala Water) in Tweed and on the Clauchrie Burn in Galloway (Black Clauchrie weirs and dam). A further four water bodies are subject to further scoping in a Scotland wide project being lead by the Rivers and Fisheries Trust for Scotland (RAFTS); the Cross Water of Luce, Laggan Burn, Rule Water and Tarff. One barrier has been removed by Scottish Water through the CAR review process.

⁹ www.sepa.org.uk/about_us/consultations.aspx

5.2 Beds, banks and shores

An impressive suite of measures which improve riparian condition and achieve other benefits are already ongoing or complete at sites across the basin. These multiple benefit projects aim to deliver biodiversity targets, improved fisheries, natural flood management, improved water quality and the mitigation of the effects of climate change in upland catchments. Just a few of the examples of these actions across the basin are listed below:

- The Eddleston Water Project
www.tweedforum.org/projects/current-projects/eddleston
- Bowmont Glen catchment
- Eden – STREAM
<http://trust.edenriverstrust.org.uk/wetland-discovery-trail-what-you-need.html>
- Eden Rivers Trust – River Petteril Project
<http://trust.edenriverstrust.org.uk/wetland-discovery-trail-sample-day.html>
- Eden Rivers Trust – Trout Beck improvements
<http://trust.edenriverstrust.org.uk/our-work-trout-beck-2.html>
- Cheviot Futures
www.cheviotfutures.co.uk/



6. Managing the risks posed by invasive and non native species

The good communication and dialogue across the catchment and basin to raise awareness, and exchange knowledge of the risks posed by invasive non natives, has continued and been strengthened with many partners involved in a variety of measures, e.g. campaigns, information gathering and delivery of action.

There are established programmes for the control of various riparian invasive non native plant species in parts of the basin. The CIRB project (Controlling invasive priority non native species and restoring native biodiversity) is an EU Interreg funded initiative with five partners (Galloway Fisheries Trust, the Rivers and Fisheries Trusts of Scotland, the Ayrshire Rivers Trust, Argyll Fisheries Trust and Tweed Forum), which aims to control, and if possible eradicate, on a catchment scale, various alien riverbank plants¹⁰. Similar, separate projects on the Annan and Nith catchments also have targeted resources for riparian species control.

Another key measure has been the development and publication of biosecurity plans for the basin. In the Scottish parts of the basin, this process is led by RAFTS¹¹ with support from [Scottish Natural Heritage](#) (SNH), the [Esmée Fairbairn Foundation](#), SEPA and the [Scottish Government](#), has led to the development of rapid response protocols, better databases, awareness raising and training. By nature these plans have cross border, national aspects and international aspects. The Tweed Biosecurity Plan and Cumbria Freshwater Biosecurity Plan¹² are available, with plans in preparation for other parts of the basin.

¹⁰ www.gallowayfisheriestrust.org/CIRB-invasive-non-native-plant-species.asp

¹¹ www.rafts.org.uk/bio-security-and-invasive-non-native-species/

¹² www.scert.co.uk/biosecurity/cumbria-freshwater-biosecurity-plan

7. Conclusion

Good progress has been made on implementing the measures set out in first river basin management plan with the majority of our key measures required by 2015 in progress. A wide array of sectors and partners are contributing to delivery.

Many of the measures completed so far have delivered multiple benefits including sustainable flood management, biodiversity enhancement and improved water quality and fisheries. This approach is one which should be encouraged.

Whilst implementation is moving in the right direction, momentum must be maintained and in some areas, for example, habitat restoration and diffuse pollution control action must be increased if targets beyond 2015 are to be reached.

Work to assess the effectiveness of these measures through ongoing assessment and classification is currently underway. Over the next year there will be an update of the characterisation and risk assessment processes required for the second Solway Tweed river basin management plan (published as the *Current Condition and Challenges for the Future* report due 22 December 2013). There is also the requirement to review the significant water management issues faced in the basin which were first identified in 2007. This review will take account of the experience gained in implementing the first programme of measures and will help to develop the draft second river basin management plan. The draft plan is where options for adding to, changing and/or improving approaches and objectives can be considered.

Efficient and effective delivery of the objectives set for 2015 and beyond will be achieved through continued partnership working. SEPA and the Environment Agency are currently running a consultation on how the second cycle river basin plans should be developed. This "Getting Involved" consultation is the first step towards writing the second plan so it is an opportunity for stakeholders to shape the plan, the way it is delivered and how improvements to the water environment are prioritised. The consultation will be open until 28 February 2013.