

# Improving the quality of Scotland's water environment

## North Highland area management plan

### 2010–2015

Supplementary to the river basin management plan for the Scotland  
river basin district



## Executive summary

The purpose of this plan is to maintain and improve the quality of the water environment in the North Highland advisory group area of Scotland. This plan supplements the river basin management plan for the Scotland river basin district<sup>1</sup>, and will help to deliver Water Framework Directive requirements. It focuses on local actions for North Highland and highlights the opportunities for partnership working to ensure that we all benefit from improvements to the water environment.

This plan has been produced in partnership with the North Highland Area Advisory Group. The actions set out here will bring important benefits for many of the economically important activities in the area and the high number of designated sites.

In 2008, 75% of water bodies in North Highland were classified as being at good or high ecological status or potential. This plan aims to maintain this good or high ecological status and to secure continuous improvements in water bodies that are currently below good ecological status. The planned targets for improvement until 2027 are set out in Table 1. These targets are demanding and can only be achieved through partnership working by the North Highland Area Advisory Group and other stakeholders in the area.

**Table 1: Overview of the condition of water bodies throughout the river basin planning cycles in the North Highland area.**

|   | 2008 | 2015 | 2021 | 2027 |
|---|------|------|------|------|
| <b>% of water bodies at good or high ecological status or potential</b> | 75%  | 78%  | 82%  | 98%  |

The most important objectives for the North Highland area management plan are to:

- minimise the impacts of hydropower generation, public water supply, arable farming and whisky production on water abstraction from rivers and lochs;
- reduce the impacts of hydropower generation and public water supply on flow regulation and changes to natural flows in rivers and lochs;
- restore water bodies whose beds and banks have been physically altered by coniferous forestry planting close to the bank side and by channel straightening;
- remove in-stream barriers to migratory fish, or provide adequate mitigation;
- reduce the impacts of nutrient enrichment from diffuse pollution from arable and mixed farming, forestry and sewage disposal;
- manage the presence and risk of invasive non-native species;
- promote and enable catchment-wide improvements.

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<sup>1</sup> The full river basin management plans for the Scotland and the Solway Tweed river basin districts can be found on the SEPA website at:  
[www.sepa.org.uk/water/river\\_basin\\_planning.aspx](http://www.sepa.org.uk/water/river_basin_planning.aspx)

Delivering these improvements will require actions from many partners. The Area Advisory Group will ensure that appropriate networks and stakeholders are involved in this process. The group will also oversee the progress of actions and improvements, and the development of new actions.

The river basin management plan for Scotland and the eight supplementary area management plans describe how we are going to manage and improve our water environment over the next six years. This area management plan will run from 2010 to 2015, when it will be reviewed and the next six year cycle of planning will begin.

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## The North Highland Area Advisory Group

This plan has been produced in partnership with the North Highland Area Advisory Group which is made up of representatives from the following organisations.

- British Waterways
- Cromarty Firth Fisheries Board (representing District Salmon Fishery Boards)
- Forestry Commission Scotland
- Inverness Port Authority (representing British Ports Association)
- Kyle of Sutherland Fisheries Board (representing District Salmon Fishery Boards)
- Moray Council
- Moray Firth Partnership
- National Farmers Union Scotland
- Royal Society for the Protection of Birds
- Scottish Council for Development and Industry
- Scottish Crofting Foundation
- Scottish Environment Protection Agency
- Scottish Government Rural Payments and Inspections Directorate
- Scottish Natural Heritage
- Scottish and Southern Energy
- Scottish Rural Properties and Business Association
- Scottish Water
- Scotch Whisky Association
- The Highland Council

SEPA would like to thank these group members and the other organisations who have worked to prepare this first area management plan for the water environment of North Highland.

## Introduction

### Purpose of this plan

This plan sets out where action needs to be taken to maintain the current good quality of the rivers, lochs, estuaries, coastal waters and groundwater areas in North Highland, and where improvements still need to be made. It is a local action plan which supplements the river basin management plan for the Scotland river basin district ([www.sepa.org.uk/water/river\\_basin\\_planning.aspx](http://www.sepa.org.uk/water/river_basin_planning.aspx)) and will help to deliver Water Framework Directive objectives.

The river basin planning process has to link with, and reflect the requirements of, other plans and processes. These include strategies developed for flood management and climate change. Further detail can be found in Chapter 3 of the river basin management plan for the Scotland river basin district ([www.sepa.org.uk/water/idoc.ashx?docid=fbcdf339-4d78-4ccb-a319-0277f297912d&version=-1](http://www.sepa.org.uk/water/idoc.ashx?docid=fbcdf339-4d78-4ccb-a319-0277f297912d&version=-1)). These links will also be made at a local level, but are not discussed in detail here.

This plan, which has been produced in partnership with the North Highland Area Advisory Group, focuses on local actions for North Highland and highlights the opportunities for partnership working to ensure that we all benefit from improvements to the water environment. This plan runs from 2010 to 2015, when it will be reviewed and the next six year cycle of planning will begin.

Ecological status is divided into five classes: high, good, moderate, poor and bad. This encompasses the spectrum from water bodies in a near natural condition which are at high ecological status, to those whose ecological quality has been severely damaged and which are at bad ecological status. Water bodies which have been significantly altered for human uses (such as for hydropower generation), are known as heavily modified water bodies (HMWBs). They are classified according to the same spectrum of five classes, but by ecological potential instead of status. This is a measure of the extent to which each water body's ecological quality has been maximised, given the limits imposed by the physical modifications necessary for its use. The same assessment applies to artificial water bodies such as canals.

In 2008, 75% of all water bodies in North Highland were classified as being at good or high ecological status or potential. This plan sets out targets for improvement in North Highland and actions that will prevent deterioration in the water environment and secure improvement where it is less than good ecological status or potential.

North Highland is an area of diverse landscape and ecology, which is reflected in the water environment and how it is used. It contains long river systems used for salmon and trout fishing and the production of hydroelectricity, together with the flatter, more fertile areas of Caithness that are farmed for livestock, and the inner Moray Firth which is used for arable farming. The water environment supplies settlements with drinking water and facilitates the disposal of domestic and trade effluent.

This plan describes how the majority of the water environment in North Highland is of good quality, which is a key requirement for many of the economically important activities of the area such as angling, whisky production, fin fish and shellfish farming, water based recreation and tourism. Environmental quality is also reflected

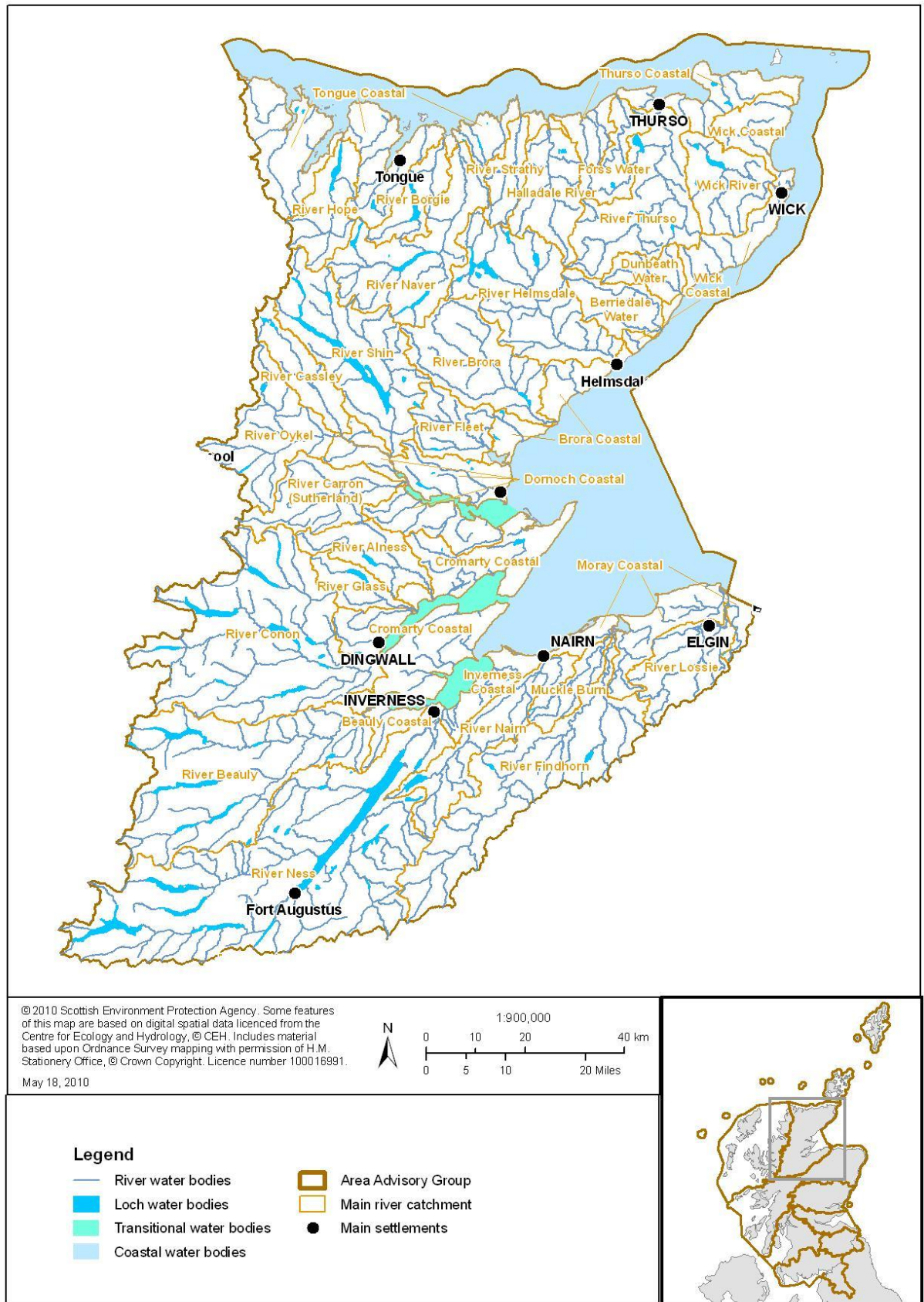
in the high number of sites designated to protect important features such as shellfish growing, freshwater fish, bathing waters, drinking waters and nature conservation.

### **What area does this plan cover?**

The North Highland advisory group area (see Map 1) covers the area that drains to the north and east from Cape Wrath in the far north west of the Scottish mainland to the River Lossie catchment just east of Elgin. The area includes the three large catchments draining into the Dornoch, Cromarty and Beauly Firths, plus estuarine and coastal waters adjacent to the area out to three nautical miles. It also includes groundwater which provides flow in many rivers.

The classification process assesses the current condition of all water bodies over a certain size (rivers with a catchment area of more than 10 km<sup>2</sup> and lochs which have a surface area greater than 0.5 km<sup>2</sup>) and all estuaries and coastal water bodies. These are referred to as baseline water bodies. River and lochs which are smaller than the size threshold (small water bodies) are not classified. However, actions that partners are taking to protect or improve any aspect of the water environment are of interest to the Area Advisory Group.





**Map 1: North Highland advisory group area showing the main catchments**

## How to use this plan

This plan is for the North Highland Area Advisory Group and:

- anyone who manages or uses the water environment;
- anyone who manages activities on land that interacts with the water environment;
- anyone who wants to know more about how our water environment is being protected.

This plan co-ordinates the delivery of the river basin management plan for the Scotland river basin district ([www.sepa.org.uk/water/river\\_basin\\_planning.aspx](http://www.sepa.org.uk/water/river_basin_planning.aspx)) within the North Highland advisory group area. The Scotland river basin district plan also includes several chapters that explain the different parts of the river basin planning process. You may find it helpful to see how the aims and objectives of this area management plan will contribute to what we are trying to achieve on a larger Scotland river basin district scale.

This plan has three key components which are all available on the SEPA website at: [www.sepa.org.uk/water/river\\_basin\\_planning.aspx](http://www.sepa.org.uk/water/river_basin_planning.aspx)

1. **Area management plan summary** (this document) is an overview of the water environment in North Highland advisory group area including classification, objectives, key measures and an outline of the work plan for the area advisory group for the next year.
2. **Catchment profiles** provide information on classification, pressures, measures and objectives for each catchment. More detailed catchment profiles may be produced for some catchments if the Area Advisory Group needs such information to support particular projects.
3. **Action plan** with information about how the North Highland Area Advisory Group will work together to deliver the area management plan and a record of where new measures are being developed. This will be kept as a live document during the first river basin planning cycle.

The organisations that are part of the North Highland Area Advisory Group helped to develop this plan. They are responsible for sharing the information contained in this plan with a wider range of stakeholders, to encourage them to implement the actions that are required in the North Highland advisory group area. SEPA's role in the development of the plan has been to provide information, particularly with regard to classification, and to co-ordinate information and input from others. In this document 'we' refers to all those involved in the production of this plan, not just SEPA.

A wider forum, open to the public, has also been established to provide an opportunity for a wider group of stakeholders to be involved.



## **The water environment and achieving the environmental improvements**

This section summarises the condition of the water environment in North Highland, the improvements we plan to achieve and the key pressures and impacts that we need to address. This information is set out in a more detailed form in the catchment level summaries that are available alongside this document on the SEPA website.

Information on individual water bodies can be accessed through the web based interactive map, also on SEPA's website at:

[www.sepa.org.uk/water/river\\_basin\\_planning.aspx](http://www.sepa.org.uk/water/river_basin_planning.aspx)

Information on the classification, pressures, objectives and measures for the Scotland river basin district, as well as detailed supplementary information on how we classify and how objectives have been set, can be found in the Scotland river basin district plan ([www.sepa.org.uk/water/river\\_basin\\_planning.aspx](http://www.sepa.org.uk/water/river_basin_planning.aspx)).

### **The current condition of the water environment**

The water environment includes all rivers, lochs, estuaries, coastal waters, artificial waters (such as canals and reservoirs) and groundwater. It also includes all the wetlands that depend on surface waters or groundwater for their water needs.

The environmental quality and natural characteristics of surface waters and groundwater vary widely. To reflect this variation, SEPA has divided the water environment into 590 water bodies in North Highland (426 rivers, 5 canals, 80 lochs, 24 coastal and 10 estuarine water bodies) and 45 groundwater bodies. 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 (see Table 2 and Map 2).

The classification of natural surface water bodies (not including groundwaters) describes by how much their condition, or status, differs from near natural conditions. Water bodies in a near natural condition are at high ecological status. Those whose ecological quality been severely damaged are at bad ecological status. The objectives of the Water Framework Directive are to improve any failing water bodies to good or high ecological status and to prevent deterioration of all water bodies. In North Highland 335 (75%) natural surface waters are at good or high ecological status.

In the North Highland area 96 (18%) surface water bodies have been substantially changed in character for important purposes such as hydropower generation, navigation, land drainage or water storage for drinking water supply. These are known as heavily modified water bodies. A further five water bodies (1%) of surface waters are artificial (comprising the Caledonian and Spynie canals). The classification of heavily modified and artificial water bodies describes their ecological potential. This is a measure of the extent to which each water body's ecological quality has been maximised, given the limits imposed by the physical modifications necessary its use. For more information on heavily modified and artificial water bodies see Chapter 4 of the Scotland river basin management plan ([www.sepa.org.uk/water/idoc.ashx?docid=b10ee280-15b9-40b9-a608-bc8187c335f8&version=-1](http://www.sepa.org.uk/water/idoc.ashx?docid=b10ee280-15b9-40b9-a608-bc8187c335f8&version=-1)). In North Highland 68 (71%) heavily modified water bodies and four (80%) artificial water bodies are at good or maximum ecological potential.

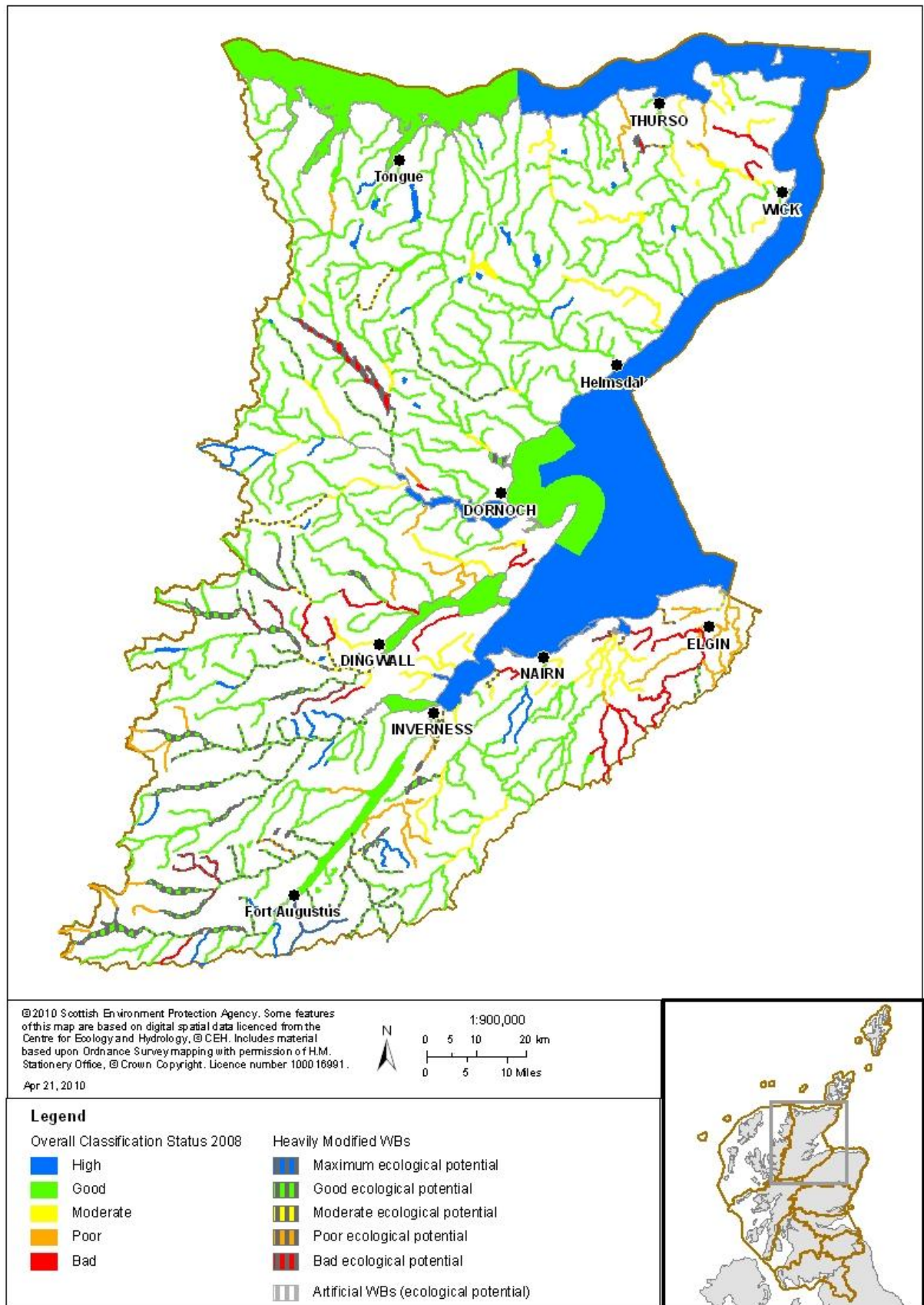
The classification of groundwater describes whether or not it is polluted, and whether or not the volume of any water being abstracted from it is sustainable without significant impacts on rivers or wetlands that depend on the groundwater. Unlike the five status classes applying to surface waters, two classes – good and poor – are used to describe the status of groundwater. In North Highland, 43 (96%) groundwaters are at good status.

**Table 2: Condition of surface waters and groundwater in the North Highland advisory group area in 2008**

| 2008 condition                | Number of water bodies |                |                  |                         |                          |
|-------------------------------|------------------------|----------------|------------------|-------------------------|--------------------------|
|                               | All water bodies       | Surface waters |                  |                         | Groundwater <sup>2</sup> |
|                               |                        | Natural        | Heavily modified | Artificial <sup>3</sup> |                          |
| High/Maximum                  | 64                     | 62             | 2                | 0                       |                          |
| Good                          | 386                    | 273            | 66               | 4                       | 43                       |
| Moderate                      | 60                     | 48             | 11               | 1                       |                          |
| Poor                          | 50                     | 42             | 6                | 0                       | 2                        |
| Bad                           | 30                     | 19             | 11               | 0                       |                          |
| Totals                        | 590                    | 444            | 96               | 5                       | 45                       |
| Proportion good or better (%) | 76                     | 75             | 71               | 80                      | 96                       |

<sup>2</sup> Bodies of groundwater are classed as either good status or poor status.

<sup>3</sup> Artificial water bodies are man-made water bodies, such as many canals.



**Map 2: Overall surface water classification for North Highland advisory group area**

## Pressures and risks

The main reasons for not achieving good ecological status are described as pressures. The key pressures and risks affecting North Highland are:

- abstraction of water from rivers and lochs for use in hydropower generation, public water supply, arable farming and whisky production;
- flow regulation (changing natural flows in rivers and lochs) by hydropower generation and public water supply;
- alterations to beds, banks and shores (“morphology”) through coniferous forestry planting close to the bank side, channel straightening for drainage on land used for livestock and mixed farming and barriers to fish migration;
- nutrient enrichment from diffuse pollution (pollution coming from several dispersed sources) from arable and mixed farming, forestry and sewage disposal;
- the presence or risk posed by invasive non-native species.

This does not include all impacts and there are other issues that will also need to be addressed through river basin management planning. More information on the pressures, actions and targets in each catchment is included in the catchment summaries. Detailed information for each water body is available in the water body information files on the interactive map. Both are available on SEPA’s website at [www.sepa.org.uk/water/river\\_basin\\_planning.aspx](http://www.sepa.org.uk/water/river_basin_planning.aspx)

## Objectives for the water environment

The overall goal of the Scotland river basin district is for 97% of water bodies to be at good or high ecological status by 2027. In the North Highland area we aim to make improvements so that 98% of water bodies are in good or high ecological status by 2027.

Restoring the water environment to good ecological status will take time and therefore improvements have been prioritised over the three river basin planning cycles. For the small proportion (2%) of waters for which achieving good ecological 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.

Table 3 describes how improvements to the water environment will be phased, while Map 3 shows the overall surface water classification for the North Highland area. The phasing has been designed so that the pace of improvement provides the time needed to develop and implement the necessary technical solutions and to make the required investments and adjustments without creating disproportionate financial burdens.

| <b>Table 3: Condition of water bodies throughout the river basin planning cycles in the North Highland area</b> |              |  |   |
|---|--------------|--|---|
|   | <b>Total</b> | <b>Number and proportion of water bodies at good or high ecological status (%)</b> | <b>Number and proportion (%) of water</b> |
|   |              |  |   |

|                                 |     | 2008       | 2015       | 2021       | 2027       | bodies remaining less than good by 2027 |
|---------------------------------|-----|------------|------------|------------|------------|---|
| <b>All water bodies</b>         | 545 | 409<br>75% | 425<br>78% | 447<br>82% | 534<br>98% | 11<br>2%                                |
| <b>Rivers – natural</b>         | 357 | 261<br>73% | 275<br>77% | 286<br>80% | 346<br>97% | 11<br>3%                                |
| <b>Rivers – HMWB</b>            | 69  | 45<br>65%  | 48<br>70%  | 52<br>75%  | 69<br>100% | 0                                       |
| <b>Rivers – artificial</b>      | 5   | 4<br>80%   | 4<br>80%   | 4<br>80%   | 5<br>100%  | 0                                       |
| <b>Lochs – natural</b>          | 54  | 42<br>78%  | 44<br>82%  | 46<br>85%  | 54<br>100% | 0                                       |
| <b>Lochs – HMWB</b>             | 26  | 22<br>85%  | 23<br>89%  | 24<br>92%  | 26<br>100% | 0                                       |
| <b>Estuaries</b>                | 10  | 10<br>100% | 10<br>100% | 10<br>100% | 10<br>100% | 0                                       |
| <b>Coastal waters – natural</b> | 23  | 23<br>100% | 23<br>100% | 23<br>100% | 23<br>100% | 0                                       |
| <b>Coasts – HMWB</b>            | 1   | 1<br>100%  | 1<br>100%  | 1<br>100%  | 1<br>100%  | 0                                       |
| <b>Groundwater</b>              | 45  | 43<br>96%  | 43<br>96%  | 43<br>96%  | 43<br>100% | 0                                       |

### **Lower (less stringent) objectives than good status**

Less stringent objectives have been set for four water bodies in North Highland where we believe that ecological good status cannot be achieved even by 2027.

One water body, the Geddes Burn, has a less stringent objective of moderate ecological status because it is affected by the presence of North American signal crayfish, a non-native invasive species. It is currently infeasible to remove established populations of North American signal crayfish, or to mitigate their impacts sufficiently in order to enable good ecological status to be achieved.

Three water bodies in North Highland (the Blackwater, Rogie Burn and Sleach Water) have less stringent objectives because their water quality is affected by acidification as a result of pollution from acid deposition. The time needed for water bodies affected by acid deposition to recover is difficult to predict but, because of natural conditions, is likely to be beyond 2027.

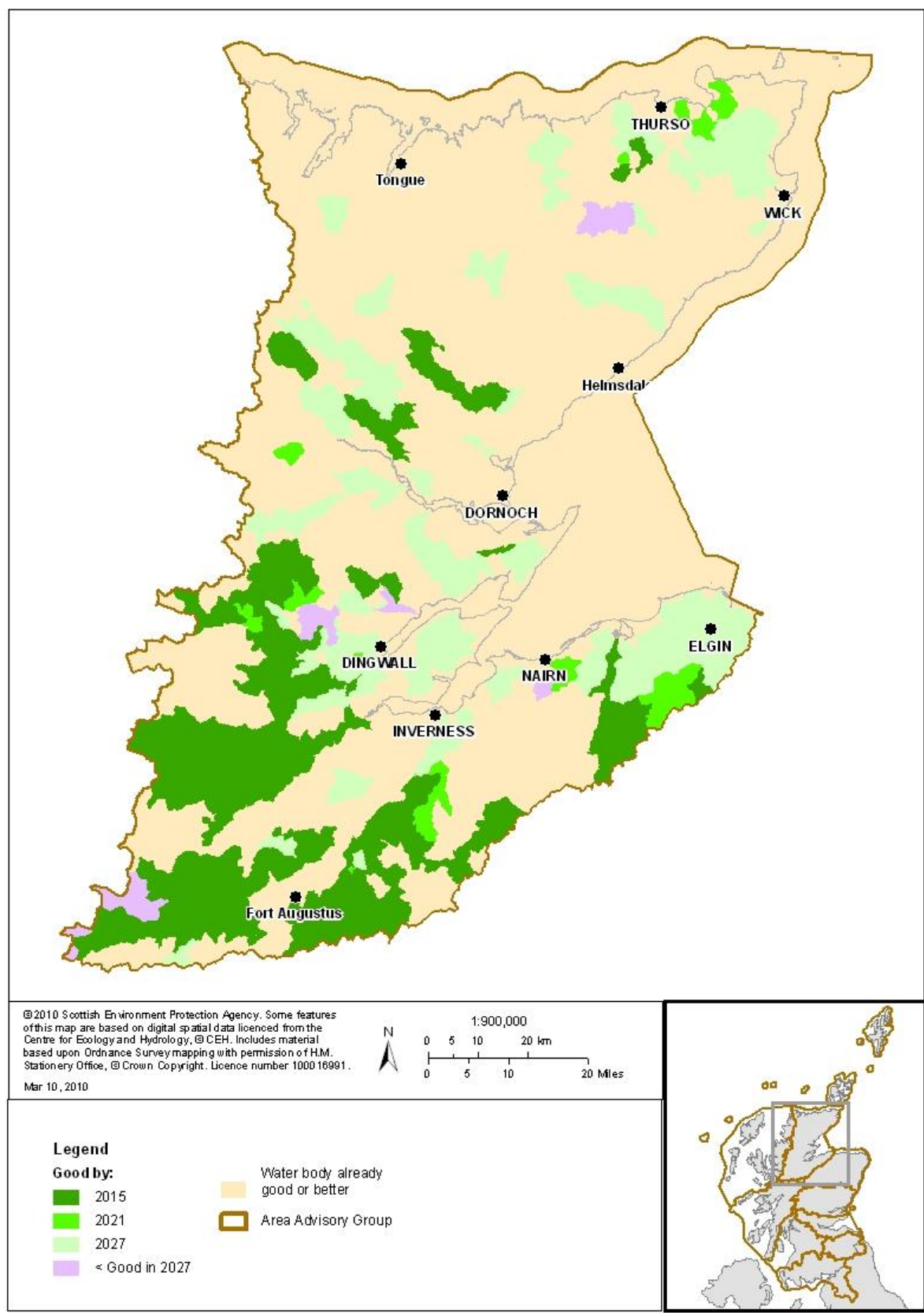
### **Water bodies where deterioration of status has been permitted**

Exemptions from the objective of preventing deterioration in status have been allowed on 10 water bodies in North Highland. These water bodies are on the River Glass, River E, Wester Fearn Burn and in Glendoe. Deterioration has been allowed in order to enable abstraction and impoundment of water for hydropower to benefit sustainable development. All appropriate mitigation is in place and there is not a significantly better environmental option.

The water bodies affected by the hydro-schemes in Glendoe and on the River E have subsequently been designated as heavily modified and are judged to be at good ecological potential.



There are five rivers in the River Ness catchment, all draining into lochs that are used for hydropower (Lochs Cluanie, Loyne and Quoich), that have been classified as poor ecological status because dams on the lochs in question have no provision for fish passage. However, the lochs are designated as heavily modified water bodies (HMWBs) and are therefore deemed to be at good ecological potential because there is negligible habitat for migratory fish upstream of the dams and therefore no requirement for the provision of fish passage. This apparent contradiction arises because the rivers draining into the lochs are not designated as HMWBs, so there is currently no mechanism to classify them as having good ecological potential. SEPA will review the situation and either override the poor ecological status classifications or consider whether the rivers should be designated as HMWBs and classified as being at good ecological potential. In the meantime, no measures are proposed to provide fish passage, so the objectives for the rivers have been left at poor ecological status through to 2027.



**Map 3: Phased improvements in surface water quality over the three planning cycles**

## Protected area objectives

Many water bodies are also part of protected areas identified as requiring special protection because of their sensitivity to pollution or their particular economic, social or environmental importance. A large proportion of North Highland has been designated as a protected area for waters that:

- are used for drinking water supply;
- support economically significant shellfish or freshwater fish stocks;
- are designated as bathing waters;
- support habitats or species of international conservation importance;
- are sensitive to nutrient enrichment.

The objectives for these include any additional protection needed to achieve the purposes for which the protected area was established.

In North Highland, many protected areas are already achieving the goals for which they were established; the objective for these areas is to protect them from deterioration. Further environmental improvements are needed for other areas that are currently not achieving their objectives – planned improvements to such protected areas are summarised in Table 4.

| <b>Table 4: Planned improvements to protected areas in the North Highland area</b>  |                    |   |             |             |             |
|---|--------------------|---|-------------|-------------|-------------|
| <b>Protected area</b>   | <b>Total</b>       | <b>Number and proportion of protected areas achieving the goals for which they were established</b> |             |             |             |
|   |                    | <b>2008</b>   | <b>2015</b> | <b>2021</b> | <b>2027</b> |
| <b>Bathing waters</b>   | 9                  | 7<br>78%  | 9<br>100%   | 9<br>100%   | 9<br>100%   |
| <b>Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) (that are water dependant)</b>  | 30 SACs<br>20 SPAs | 45<br>90%   | 49<br>98%   | 49<br>98%   | 50<br>100%  |
| <b>Note to Table 4</b><br><br>Bathing waters also have an overall aim to increase the number attaining good or excellent classification rather than sufficient status.<br><br>Included within SAC and SPA sites in 'favourable condition' are sites that are 'unfavourable recovering'. This is because some features will take a long time to recover even when all appropriate measures are in place. When a feature is reported as 'unfavourable recovering', everything has been done to allow a feature to recover, but time is needed before it could be reported as being in favourable condition. |                    |   |             |             |             |

In addition:

- in 2008 all four shellfish waters in North Highland met the required mandatory values (Cromarty Bay, Dornoch Firth, Loch Eriboll and Kyle of Tongue);

- all of the 82 currently designated Drinking Water Protected Areas in North Highland (which includes the 45 groundwaters) are meeting their current standards with none at risk of deterioration. Drinking Water Protected Areas are currently under review and any changes to designations will be reflected in updates of this plan. In North Highland there are two groundwaters that are poor status, both of which are also Drinking Water Protected Areas. However, the reason they are poor status (localised abstraction) has no impact on the provision of drinking water;
- North Highland has five Urban Waste Water Treatment Directive Sensitive Areas (Achairn Burn, Easter Fearn Burn, Loch More, Murkle Burn and River Lossie). All of the waste water discharges affecting these have the appropriate level of treatment;
- part of the area designated as the Moray, Aberdeenshire/Banff and Buchan Nitrate Vulnerable Zone (NVZ) falls within the North Highland area (and is shared with the North East Scotland area). An action programme has been established for this NVZ aiming to reduce water pollution caused or induced by nitrates from agricultural sources and to prevent further such pollution;
- mandatory values were achieved for all the 29 waters designated for freshwater fish in North Highland.

For more information on protected areas, see Chapter 5 of the Scotland river basin management plan ([www.sepa.org.uk/water/idec.ashx?docid=af1b20d6-895f-4d0e-b2f6-76f80d8ad112&version=-1](http://www.sepa.org.uk/water/idec.ashx?docid=af1b20d6-895f-4d0e-b2f6-76f80d8ad112&version=-1)).

## **Actions planned to achieve our objectives**

River basin management planning requires us to establish a programme of actions, or measures, to improve water bodies that are not currently at good or high ecological status and to protect all water bodies from deterioration.

This plan will deliver improvements through a combination of regulation, investment, awareness raising and guidance. The measures in the Scotland river basin management plan automatically feed into this area management plan for North Highland. Those most relevant to North Highland are described below and further information on them can be found in Chapter 3 of the Scotland river basin management plan ([www.sepa.org.uk/water/idec.ashx?docid=fbcdf339-4d78-4ccb-a319-0277f297912d&version=-1](http://www.sepa.org.uk/water/idec.ashx?docid=fbcdf339-4d78-4ccb-a319-0277f297912d&version=-1)). Also below are more local measures to tackle North Highland issues that require a partnership approach.

The action plan which accompanies this document summarises measures which will be delivered by a local partnership approach through the North Highland Area Advisory Group. More specific information on the measures being taken in North Highland is included in catchment summaries and, for individual water bodies, on the water body information sheets on the interactive map at: [www.sepa.org.uk/water/river\\_basin\\_planning.aspx](http://www.sepa.org.uk/water/river_basin_planning.aspx)

These will be kept as live documents during the planning cycle and updated as more measures are developed and implemented.

Some of the key national and local measures that will deliver improvements in North Highland are described below.

## **Actions to address changes to flow and/or the amount of water in rivers and lochs**

### **Regulation**

SEPA will work with operators in the hydropower sector, Scottish Water, arable farmers and the whisky industry to reach agreements on how they can provide improved flow to affected rivers by minimising leakage, waste and overflows of abstracted water, changing the pattern of abstraction or reducing net abstraction to meet required standards. SEPA is the lead authority for the Controlled Activities Regulations (CAR)<sup>4</sup> to achieve these measures, but will also work with the Fish and Fisheries Advisory Group<sup>5</sup> and operators to produce guidance on appropriate mitigation measures.

### **Investment**

Scottish Water will minimise the amount of water required to supply customers through efficient management of their water supply systems. Scottish and Southern Energy aims to redistribute flows in sections of rivers within the Conon and Moriston systems in order to achieve good ecological potential in those water bodies by 2015.

### **Planning**

SEPA and Scottish Water will work with local planning authorities to highlight areas where abstraction for drinking water is putting pressure on water bodies and where future development must be constrained or the development impacts mitigated.

## **Action to address changes to beds and banks, and barriers to migratory fish movement**

### **Forestry**

Forestry Commission Scotland are improving water bodies affected by forestry pressures through measures including removal of non-native conifers close to the bank side and establishing well structured native vegetation cover to form buffer zones along banks in compliance with relevant legislation and guidance (including the Forest & Water Guidelines). Forestry Commission Scotland and the Scottish Government are leading on ensuring similar measures can be implemented on privately owned forest estates. In North Highland partners are working together to raise awareness of these guidelines and funding opportunities to forest managers of both estate and private land.

### **Economic incentives and regulation to remove fish barriers**

SEPA's restoration fund can contribute towards the removal of fish barriers from watercourses, while regulation can be used to ensure that the impacts of barriers are mitigated through the use of good design and fish passes. For example, in North Highland, restoration funding will be used to remove fish barriers in the Shin and Conon catchments.

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<sup>4</sup> The Water Environment (Controlled Activities) (Scotland) Regulations 2005

<sup>5</sup> SEPA has created a Fish and Fisheries Advisory Group to provide advice to SEPA within the Scotland and Solway Tweed river basin districts on monitoring and classification of fish populations and the protection of fish populations and fisheries' interests when regulating activities that affect the water environment. More information about the group can be found at: [www.sepa.org.uk/water/river\\_basin\\_planning/fish\\_and\\_fisheries\\_ag.aspx](http://www.sepa.org.uk/water/river_basin_planning/fish_and_fisheries_ag.aspx)



### **Local partnership working**

The North Highland Area Advisory Group has an important role to play in reviewing the local actions required to address these pressures and consider the process for removal or mitigation. This will involve working with landowners, land managers and local authorities to establish what measures can be implemented, and the timescales for implementation. The group will consider options for the restoration of rivers and burns straightened for agriculture while balancing the needs of land managers and the water environment. We will also work together to identify funding for these measures where they are eligible, such as the SEPA restoration fund or the Scottish Rural Development Program (SRDP).

### **Actions to address nutrient enrichment from diffuse pollution from rural land use**

#### **National plan for managing the rural diffuse pollution in Scotland**

A two tier approach to the management of rural diffuse pollution has been developed by a partnership of national organisations called the Diffuse Pollution Management Advisory Group. Further information is available at:

[www.sepa.org.uk/water/river\\_basin\\_planning/diffuse\\_pollution\\_mag.aspx#DP\\_Plan](http://www.sepa.org.uk/water/river_basin_planning/diffuse_pollution_mag.aspx#DP_Plan)

The approach consists of:

- (a) A national awareness raising campaign to improve water bodies affected by diffuse pollution and prevent further deterioration, including promoting the uptake of the diffuse pollution General Binding Rules.
- (b) A targeted approach in 14 priority catchments where the extent of the diffuse pollution pressure on the water environment requires a more focused effort.

#### **Local application of the national awareness campaign**

To ensure there is no deterioration of the water environment in North Highland due to rural diffuse pollution, the Area Advisory Group has a role to play in the local promotion of the national diffuse pollution awareness raising campaign (including both forestry and agricultural sectors).

#### **The targeted approach in North Highland**

None of the 14 priority catchments being focused upon in the first river basin planning cycle (described in (b) above) are in North Highland. However, Wick Coastal, Wick River, Dornoch Coastal, Cromarty coastal, River Nairn, River Lossie and Moray Coastal are candidate priority catchments in cycles two and three. It is particularly important that we raise awareness of the General Binding Rules for diffuse pollution in these catchments.

#### **Research to establish sources of diffuse pollution**

SEPA and the Area Advisory Group can play a role in facilitating the research required to establish the source of diffuse pollution downgrading the water environment and, in particular, in waters protected for shellfish growing. This will allow us to prepare for the targeted approach on priority catchments in future cycles.

### **Action to address the presence and spread of invasive non-native species**

#### **National actions for prevention, control and eradication**

There are several actions being co-ordinated at a national level to manage the risk of invasive non-native species (INNS) to our water environment. These include the prevention and early detection of INNS introductions, rapid action to prevent spread and control, and eradication of established populations. A supplementary plan for INNS management is currently being developed and will be available on the SEPA website.

#### **Local co-ordination of action**

The North Highland Area Advisory Group has a role to play in the co-ordination of INNS management at a local level. Responsibility for management is shared by several of organisations and, as a result, there are several of actions that could usefully be carried out at an area level. These include sharing information on current control and eradication, identifying gaps, encouraging co-ordination of actions and implementation across catchments, raising awareness of nationally produced material, data collection processes and protocols for rapid reaction, encouraging the sharing of good practice and rapid response protocols. Preventing the introduction and spread of invasive non-native species is particularly important in North Highland as we currently have relatively few, relatively recent introductions. Any local co-ordination of action will need to link very closely to the work of the Highland Invasive Species Forum and avoid duplication of work.

#### **Actions to promote and implement a catchment based approach to improving our water environment**

River basin management planning advocates a catchment approach to improving our water environment. In North Highland we will initially focus on the following catchments.

##### **Peffery catchment project**

A project to address the current pressures on the Peffery catchment is being led by the Cromarty Firth Fisheries Trust. It aims to improve the Peffery to good ecological status by co-ordinating a range of organisations' actions, voluntary community effort and several funding sources. The project will be used by the North Highland Area Advisory Group to promote the value of a catchment based approach and share best practice.

##### **Loch Eye catchment study**

A project to gather existing information and research on Loch Eye will be led initially by SEPA. Loch Eye is affected by rural diffuse pollution and is also a Special Protection Area for internationally important populations of geese.

##### **Promote and develop further catchment management approaches**

These will include an initial investigative study of phosphorus loading in relation to land and water management in the Shin catchment and further develop a co-ordinated approach to water resource activities within the Ness catchment.

#### **Putting the plan into action – 2010**

This area management plan identifies the measures to be delivered in the first river basin planning cycle. The Area Advisory Group has also initially identified three key areas of work where a partnership approach to focusing on pressures on the area's water environment will be particularly useful.

The task groups identified below will be set up, comprising relevant Area Advisory Group members and others. The frequency of meetings and permanence of the task groups will depend on the actions to be taken. The Area Advisory Group will retain an overview role and the task groups will report back on progress to the full group. We will work with any existing groups in the area to deliver river basin planning objectives.

#### **Task Group 1: Pressures on beds and banks of natural water bodies including barriers to fish migration**

This task group will review information on pressures on beds and banks of natural water bodies, action and funding required and facilitate discussions to drive these actions forward.

#### **Task Group 2: Invasive non-native species**

This task group will co-ordinate local action to manage the presence and risk from the introduction of invasive non-native species, linking very closely to the work of the Highland Invasive Species Forum.

#### **Task Group 3: Rural diffuse pollution**

This task group will co-ordinate the local delivery of awareness raising, and will facilitate discussion on preparation for action required in future planning cycles.

#### **Catchment groups**

Catchment groups will promote, develop and implement catchment-wide projects, including for the River Peffery and Loch Eye.

A work plan has been developed to guide the work of the Area Advisory Group during the year which will be used to assess progress and will be annually updated.

The work plan can be found at:

[www.sepa.org.uk/water/river\\_basin\\_planning/area\\_advisory\\_groups/north\\_highland.aspx](http://www.sepa.org.uk/water/river_basin_planning/area_advisory_groups/north_highland.aspx)

The Area Advisory Group will have a continued role in monitoring the plan's implementation through an annual report on progress of all actions, informed by an annual classification update.

The group will continue to help to identify actions needed in North Highland and to translate nationally agreed actions into local work. The group will co-ordinate action, identify gaps where key pressures have been identified, but no action agreed, and consider how best to tackle these gaps.