

Improving the quality of Scotland's water environment Argyll and Lochaber area management plan 2009–2015

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



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The Argyll and Lochaber Area Advisory Group

This plan has been produced in partnership with the the Argyll and Lochaber Area Advisory Group, which is made up of representatives from the following organisations.

- Argyll and Bute Council
- Argyll Fisheries Trust
- Association of Scottish Shellfish Growers
- Forestry Commission Scotland
- Highland Council
- Lochaber District Salmon Fishery Board
- Lochaber District Salmon Fisheries Trust
- Loch Lomond and the Trossachs National Park
- Scotch Whisky Association
- National Farmers Union Scotland
- Riotinto Alcan
- Royal Society for the Protection of Birds
- Scottish Environment Protection Agency
- Scottish Government Rural Payments and Inspections Department
- Scottish Natural Heritage
- Scottish Salmon Producers' Association
- Scottish and Southern Energy
- Scottish Rural Property and Business Association
- Scottish Water

SEPA would like to thank these group members and the other organisations who have worked to prepare this first area management plan for Argyll and Lochaber.

Introduction

Purpose

The Argyll and Lochaber area management plan aims to maintain and improve the quality of the rivers, lochs, estuaries, coastal waters and groundwaters in the area (shown on Map 1). This plan supplements the river basin management plan (RBMP) for the Scotland river basin district (www.sepa.org.uk/water/river_basin_planning.aspx) and will help to deliver Water Framework Directive requirements of improving all water bodies to good ecological status and preventing any deterioration. The river basin planning process must link to, and reflect the requirements of, other plans and processes including 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. Such links will also be made at a local level, but are not discussed in detail here.

The Argyll and Lochaber area management plan, which has been produced in partnership with Argyll and Lochaber Area Advisory Group members, focuses on local actions and highlights the opportunities for partnership working to ensure that we all benefit from improvements to the water environment. The advisory group expect river basin planning to maintain and improve water quality and water habitats in the area, including more native plants and animals living in natural habitats along water edges. This plan will run from 2009 to 2015, after which it will be reviewed and the next six year cycle of planning will begin.

Delivering improvements will require actions from many partners. The Area Advisory Group will ensure the appropriate networks and stakeholders are involved in this process. The group will also oversee the development of new actions and monitor progress. How this will work is outlined in the 'putting the plan into action' section of this document.

The work of the Argyll and Lochaber Area Advisory Group can be found on SEPA's website:
www.sepa.org.uk/water/river_basin_planning/area_advisory_groups/argyll.aspx

The current condition of the environment section (page 8) gives more information how ecological status is measured and targets set, but in 2008, the majority – almost three quarters – of all water bodies in the Argyll and Lochaber advisory group area were classified as being at good or high ecological status/potential. This 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 key features such as shellfish growing, freshwater fish, bathing waters, drinking waters and nature conservation.

This plan aims to maintain this positive position by protecting the water bodies at good and high ecological status/potential, preventing deterioration in all water bodies and securing continuous improvement in those that are currently at less than good ecological status/potential. The planned improvement targets until 2027 are set out in Table 1.

Table 1: Overview of planned improvements in the Argyll and Lochaber advisory group area, 2010–2027

	2008	2015	2021	2027
Total number of all water bodies (surface and groundwaters)	384 (100%)			
Number and % of surface water bodies at good or high ecological status/potential	260 71%	273 75%	296 81%	351 96%
Number and % of groundwaters at good status	20 100%	20 100%	20 100%	20 100%
Number and % of all water bodies at good or high ecological status/potential	280 73%	293 76%	316 82%	371 96%

The number of water bodies at high or good ecological status/potential in Table 1 is higher than in the draft area management plan published in December 2008. This is because since then we have gathered more improved data and have had been able to make fewer assumptions about water body status, giving a better and more accurate picture. For further information on the 4% of water bodies which will not reach good or high ecological potential/status by 2027, please see Tables 4 and 5 later in this document.

What area does this plan cover?

The Argyll and Lochaber advisory group area (Map 1) extends to the north into Lochaber as far as Loch Lochy, south to include the Mull of Kintyre and to the western seaboard including the Islands of Mull, Coll, Tiree, Jura, Islay, Colonsay, Gigha and the smaller islands in the area. It also includes the coastal and transitional waters adjacent to this area out to three nautical miles as well as groundwater, which provides flow in many rivers. The area covers over 18,611 km² and is extremely varied in terms of landscape, geography, population, land use and the range of uses of the water environment. The Cowal Peninsula and the Isle of Bute are covered by the Clyde area management plan:

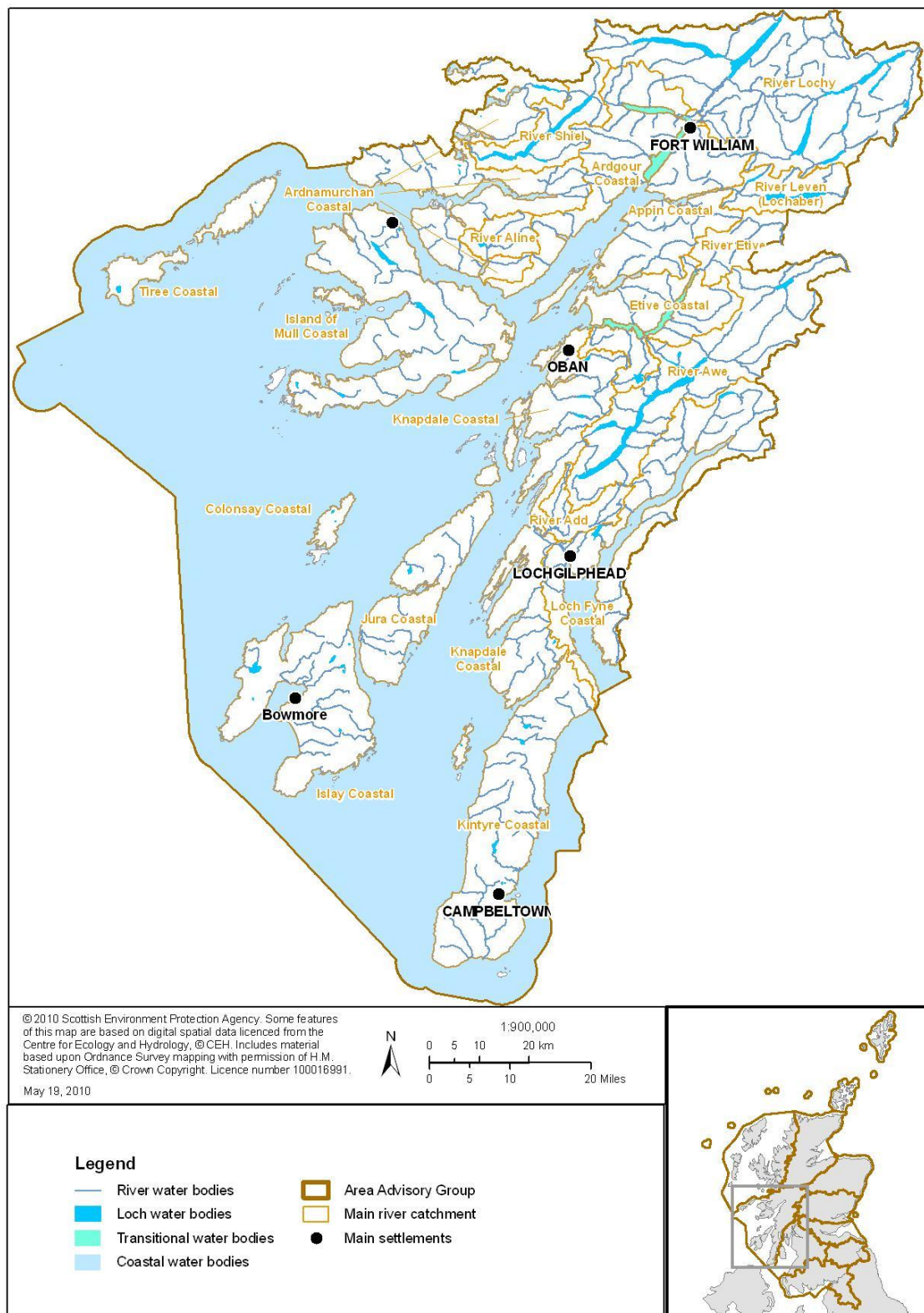
www.sepa.org.uk/water/river_basin_planning/area_advisory_groups/clyde.aspx

The following catchments are in the Argyll and Lochaber area.

- Appin coastal
- Ardgour coastal
- Ardnamurchan coastal
- Easdale coastal
- Etive coastal
- Fort William coastal
- Gigha coastal
- Island of Mull coastal
- Iona coastal
- Islay coastal
- Luing coastal
- Jura coastal
- Kintyre coastal
- Knapdale coastal
- Kerrera coastal
- Lismore coastal
- Loch Linnhe coastal
- Loch Fyne coastal
- River Add
- River Aline
- River Awe
- River Etive
- River Leven (Lochaber)
- River Lochy
- River Sheil
- Seil coastal
- Tiree coastal
- Colonsay coastal
- Ulva and Gometra coastal

Each coastal catchment consists of a series of freshwater water bodies that drain catchments with an area of less than 100 km²; catchments which are larger than 100 km² (eg the River Lochy catchment) are identified separately.

The sea surrounding the islands and the coast are separate water bodies. There are 73 coastal water bodies and three transitional water bodies in Argyll and Lochaber which are not part of a catchment. So for example, the Island of Mull coastal catchment includes the freshwater water bodies on Mull but the Sound of Mull is a separate coastal water body. In the catchment summaries coastal and transitional water bodies are discussed with their neighbouring land catchments.



Map 1: Argyll and Lochaber advisory group area showing main catchments

How to use the Argyll and Lochaber area management plan

This plan is for the Argyll and Lochaber 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 is to co-ordinate the delivery of the river basin management plan for the Scotland river basin district within the Argyll and Lochaber advisory group area. 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. The Scotland river basin management plan also includes chapters explaining the different parts of the river basin planning process.

This plan has three key components which are all available on the SEPA website at: www.sepa.org.uk/water/river_basin_planning.aspx:

1. **Area management plan summary** (this document) is an overview of the Argyll and Lochaber advisory group area including classification, pressures, objectives, key measures and an outline of the work plan for the Argyll and Lochaber Area Advisory Group for the next year.
2. **Catchment profiles** provide information on classification, pressures, measures and objectives for each catchment and the neighbouring coastal and transitional water bodies. They will be kept as live documents during this first river basin planning cycle.
3. **Action plan** with information about how the Area Advisory Group will work together to deliver the area management plan and a record of where new actions are being developed. This will also be kept as a live document during the first river basin planning cycle.

The environmental quality and natural characteristics of surface waters and groundwater vary widely. To reflect this variation SEPA has divided the water environment into water bodies. Detailed information for individual water bodies (whether they are part of the coast, groundwater, rivers, lochs or estuaries) is held in the web-based interactive map available on the SEPA website at: www.sepa.org.uk/water/river_basin_planning.aspx

The organisations that are part of the Argyll and Lochaber Area Advisory Group helped to develop this plan. The advisory group is responsible for sharing the information contained in this plan with a wider range of stakeholders to encourage them to implement the actions required in the Argyll and Lochaber 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 has also been established. The forum is open to the public and provides an opportunity for a wider group of stakeholders to be involved in river basin planning developments.

The water environment and achieving the environmental improvements

This section summarises the condition of the water environment in the Argyll and Lochaber area, the improvements we plan to achieve and the key pressures and impacts that we need to address. Catchment summaries of the condition of the water environment, the improvements we plan to achieve and the key pressures and impacts that we need to address are available alongside this document on the SEPA website.

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

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.

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 classification process assesses the current condition of all water bodies over a certain size (rivers with a catchment area of more than 10 km² and lochs which have a surface area greater than 0.5 km²) and all estuaries and coastal water bodies regardless of size. These are referred to as baseline water bodies. River and lochs 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.

SEPA has divided waters in the Argyll and Lochaber advisory group area into 364 surface water bodies (244 rivers, 6 canals, 38 loch water bodies, 73 coastal and 3 estuarine water bodies) and 20 groundwaters. 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.

For surface water bodies, 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, eg for hydropower generation, are known as 'heavily modified'. 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 the water bodies' ecological quality has been maximised given the limits imposed by the physical modifications (eg a dam) necessary for the bodies' use. The same assessment applies to artificial water bodies such as canals. For more information on heavily modified and artificial water bodies see Chapter 4 of the Scotland river basin district plan.

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 are used to describe the status of groundwater, good and poor.

The objectives of the Water Framework Directive are to improve any failing water bodies to good or high status and to prevent deterioration of those already at good or high.

The results show a positive picture in the Argyll and Lochaber area as 73% of all water bodies are at good or high ecological status or potential (Table 2 and Map 2).

Due to the generally rural, undeveloped nature of the area there are whole catchments where all the water bodies are at good or high ecological potential/status. The 384 water bodies in Argyll and Lochaber fall into 28 catchments. Of these, the following eight catchments, which contain a total of 19 water bodies, have no pressures and are already at good or high ecological status/potential:

- Fort William coastal;
- Loch Linnhe coastal;
- River Aline;
- River Etive;
- Gigha coastal;
- Iona coastal;
- Luing coastal;
- Easdale coastal.

Sixty coastal and three estuarine water bodies are also already at high or good ecological status/potential. The objective for these water bodies is to not deteriorate from good ecological status/potential.

Of surface waters in the area, 53 (14%) have been substantially changed in character for important social and economic purposes such as flood protection, hydropower generation, land drainage or water storage for drinking water supply. These are known as heavily modified water bodies. Twenty-eight of these are at good ecological potential. Another 14 (4%) of surface waters are artificial: six canal water bodies (the Crinan and Caledonian Canals are split into separate sections) and eight coastal lagoons. All of these are at good ecological potential.

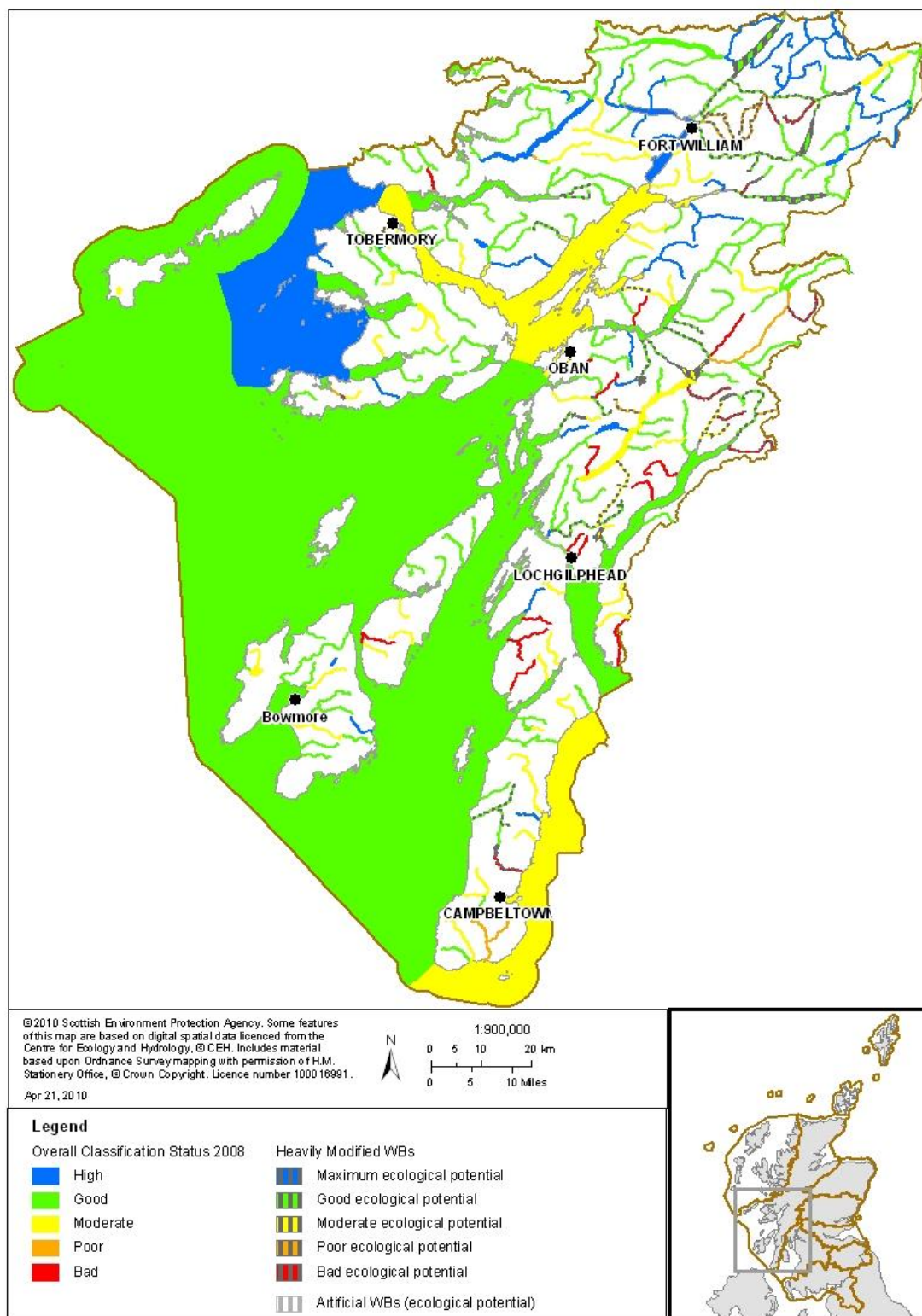
In Argyll and Lochaber 100% of the groundwaters are at good status.

Table 2: Condition of surface waters and groundwater in the Argyll and Lochaber advisory group area in 2008

2008 condition	Number of water bodies				
	All water bodies	Surface waters			Groundwater ¹
		Natural	Heavily modified	Artificial ²	
High/Maximum	47	47	0	0	
Good	233	171	28	14	20
Moderate	68	58	10	0	
Poor	10	5	5	0	0
Bad	26	16	10	0	
Totals	384	297	53	14	20
Number and proportion good or better (%)	280 73%	218 73%	28 53%	14 100%	20 100%

¹ Bodies of groundwater are classed as either good status or poor status

² Artificial water bodies are man-made water bodies, such as many canals



Map 2: Overall surface water classification for the Argyll and Lochaber advisory group area 2008

Pressures and risks

The main reasons for water bodies not achieving good status are:

- flow regulation and abstraction (changes to the natural flow and/or amount of water in rivers and lochs) caused by hydropower generation and, to a much smaller extent, public water supply provision;
- alterations to beds, banks and shores (morphology) caused by forestry pressures (mainly due to planting close to water bodies), channel straightening (for drainage on land used for mixed farming which affects only a small number), and creation of barriers to fish movement by hydropower generation, road transport and aquaculture;
- diffuse pollution (pollution coming from a number of dispersed sources) from phosphorus or organic inputs causing nutrient enrichment or acidification;
- point source pollution (pollution coming from one identifiable source such as an outfall pipe) from freshwater aquaculture and sewage disposal causing nutrient enrichment (only a small number);
- invasive non-native species - the risk posed by introduction and expansion of water related invasive non-native species.

This assessment has mainly been based on assessments against standards to give a broad understanding of the main pressures across the area. There may be cases, in particular for diffuse source pollution, where there are several similar pressures on one water body and some apportionment work is required to establish the source. The above list does not include all impacts and there are other issues that will also need to be addressed through river basin management planning. Diffuse pollution also presents a risk to protected shellfish growing waters and actions to investigate these impacts are included below.

Annex 1 gives an overview of the distribution of pressures across the area by showing the number of water bodies in each catchment affected by each pressure. Please note that some water bodies may be counted twice in these tables, because one water body may be affected by more than one pressure. Detailed information on impacts in each catchment, including the water bodies affected, measures and objectives, is included in the catchment profiles and in the water body information files, both available on SEPA's website at:

www.sepa.org.uk/water/river_basin_planning.aspx

Objectives for the water environment

As Table 2 shows, the majority of Argyll and Lochaber's water environment is in a very good condition. The task now is to improve the remaining failing water bodies to good ecological status by 2015 (or, if that is not feasible, over the first three river basin planning cycles) at the same time as ensuring no deterioration of any water bodies.

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 Argyll and Lochaber area we aim to have 371 surface water bodies (96%) at good or high ecological status by 2027. To achieve that, water bodies currently at good or high ecological status will be protected from deterioration, and action will be taken to enhance and restore others. Protecting the status of a water body does not just mean preventing deterioration of its overall status, because its status depends on the condition of the different elements such as the plant community, fish populations and water quality etc.

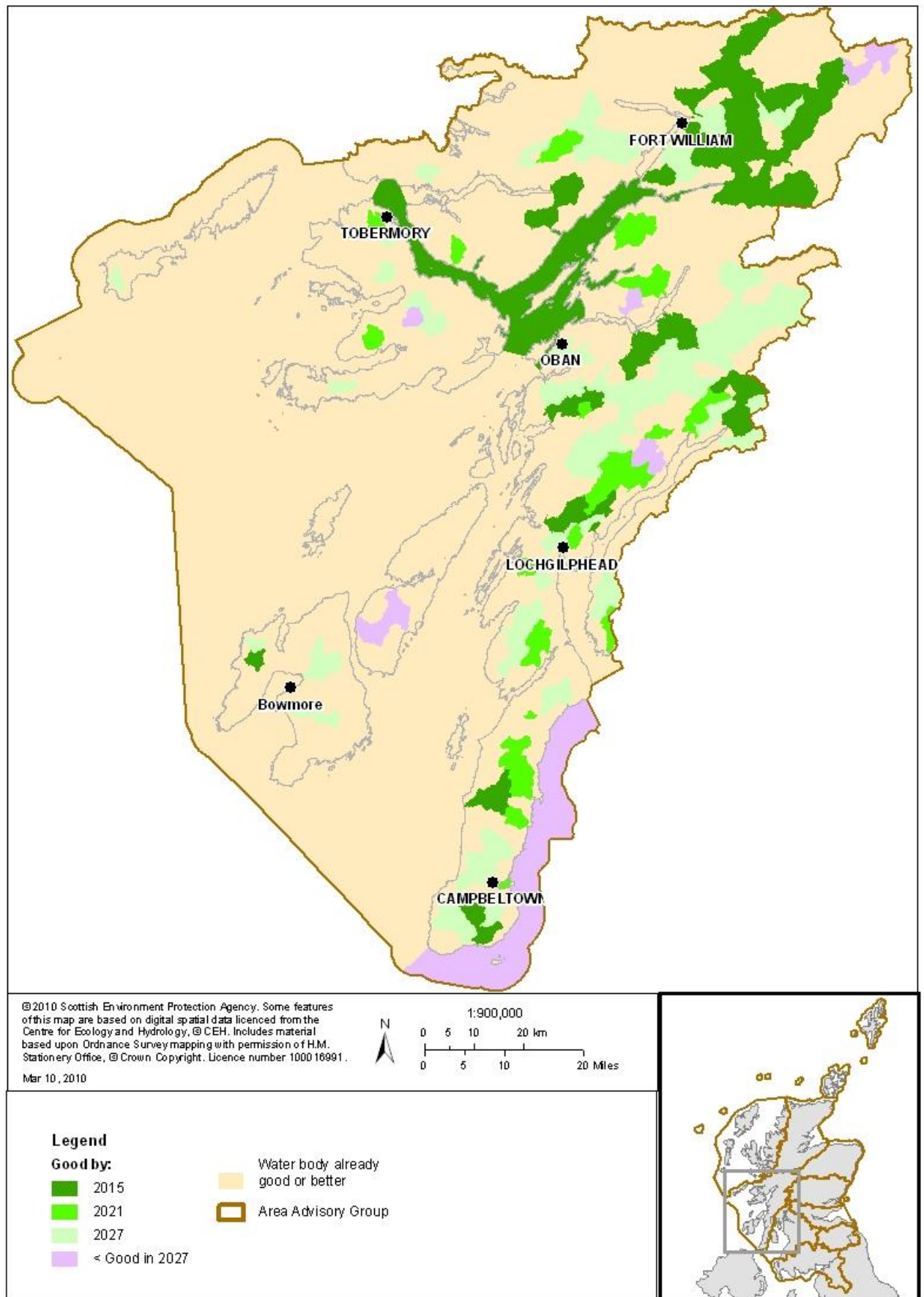
Restoring the water environment to good ecological status will take time, so improvements have been prioritised over the three river basin planning cycles. For the small proportion of waters for which achieving good ecological status by 2027 is not feasible³, all reasonably achievable improvements will be made. Comprehensive progress reviews 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 and Map 3 shows the location of improvements. 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.

Table 3: Condition of water bodies throughout the river basin planning cycles in the Argyll and Lochaber area						
	Total	Number and proportion of water bodies at good or high ecological status/potential (%)				Number and proportion (%) of water bodies remaining less than good by 2027
		2008	2015	2021	2027	
All water bodies	384	280 73%	293 76%	316 82%	368 96%	16 4%
Rivers – natural	203	144 71%	143 70%	161 79%	190 94%	13 6%
Rivers – HMWB	41	21 51%	23 56%	28 68%	41 100%	0
Rivers – artificial	6	6 100%	6 100%	6 100%	6 100%	0
Lochs – natural	26	19 23%	20 77%	20 77%	25 96%	1 4%
Lochs –	12	7	8	8	12	0

³ These waters include water bodies that are recovering from acidification (diffuse pollution), caused by the burning of fossil fuels in power stations, buildings and vehicles which, as shown in Table 4, can only recover in the longer term

HMWB		58%	67%	67%	100%	
Estuaries	3	3 100%	3 100%	3 100%	3 100%	0
Coastal waters – natural	65	52 80%	62 95%	63 97%	63 97%	2 3%
Coasts – artificial	8	8 100%	8 100%	8 100%	8 100%	0
Groundw ater	20	20 100%	20 100%	20 100%	20 100%	0



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

Lower (less stringent) objectives than good status

Lower (less stringent) objectives have been set for eight water bodies in the Argyll and Lochaber advisory group area where we believe that good ecological status cannot be achieved even by 2027. Table 4 lists these and the reasons for the less stringent objectives.

Table 4: Water bodies with less stringent objectives		
Water body status: current and by 2027	Water body name	Reason for less stringent objective
Moderate, remaining moderate	River Clachaig Abhainn Gleann Lubharnadeal Corran River Glenbatrick River	Water quality is affected by acid deposition. The time needed to recover is difficult to predict but, because of natural conditions, is likely to be beyond 2027.
	Loch Laggan	Loch Laggan is connected to Lower Loch Laggan by the River Spean and both water bodies are affected by hydropower pressures. Lower Loch Laggan is a Heavily Modified Water body (HMWB) at good ecological potential. As Loch Laggan is affected by the same pressures it will be assessed whether it too should be a HMWB. This will be done in the first river basin planning cycle and its classification and objective reviewed to aim for an improvement.
	Kilbrannan Sound	These are part of a larger group of water bodies in the Firth of Clyde that are downgraded to moderate status due to benthic (sea bed) invertebrate results. Most monitoring points on which this classification is based are further out in the Firth of Clyde eg round Ailsa Craig, but there is one point which is closer to the Argyll side. Trawling pressures may be responsible for benthic impacts in this area, but more monitoring and
	Mull of Kintyre – South East	

		investigation is required to determine the reasons for the impacts. As this means no pressures have been identified, no environmental improvement targets could be set in this case. Therefore the water bodies will default to moderate status until 2027 until a pressure and solution has been identified.
Bad, improving to moderate	Abhainn na h-Uainaire/Abhainn a Chnuic Bhri	Water quality is affected by acid deposition. The time needed 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

We have allowed exemptions from the objective of preventing deterioration in status for eight water bodies in the Argyll and Lochaber advisory group area, for the reasons shown in Table 5.

Table 5: Water bodies where deterioration in status has been permitted and reasons		
Water body status current and by 2027	Water body name	Reason for less stringent objective
High to moderate	An Dubh Uisge	For abstraction and impoundment for hydropower to benefit sustainable development. All appropriate mitigation measures in place and there are not significantly better environmental options.
High to poor	North Garvan River	
High to bad	River Esragan	
Good to poor	River Callop	
	Abhainn Shlatach	
	River Finnan	
Good to bad	Rannoch River	
	Douglas Water	

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. Some water bodies in Argyll and Lochaber have been designated as protected areas because they:

- support economically important shellfish or freshwater fish stocks;
- have been designated as bathing waters;
- provide water for human consumption;
- support species or habitats identified as requiring special protection under European legislation.

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

In Argyll and Lochaber, many protected areas are already achieving the goals for which they were established. The objective for such areas is to protect them from deterioration. Further environmental improvements are needed for other areas that are currently not meeting their objectives. Planned improvements to these protected areas are summarised in Table 6.

Further detail on water dependent protected areas is available in Chapter 5 of the Scotland river basin management plan and in the Argyll and Lochaber catchment summaries.

Table 6: Planned improvements to protected areas in the Argyll and Lochaber AAG area						
Protected area	Number and proportion (%) of protected areas achieving the goals for which they were established					Number and proportion not achieving goals by 2027
	Total	2008	2015	2021	2027	
Conservation of habitats and species (Special Areas of Conservation and Special Protection Areas) *	41	34 83%	37 90%	39 95%	41 100%	0
Bathing waters	2	Machrihanish (excellent) Ganavan (sufficient)	Machrihanish (excellent) Ganavan (sufficient)	Machrihanish (excellent) Ganavan (sufficient)	Machrihanish (excellent) Ganavan (sufficient)	0
Economically important shellfish	28	14 50%	14 50%	17 61%	28 100%	0
<p>Note to Table 6</p> <p>The projected improvements in protected areas for economically important shellfish refer to objectives for bacteria that can contaminate shellfish flesh and prevent harvested shellfish being marketed unless first treated in a purification centre. All the water quality conditions required to support shellfish life and growth are already being achieved.</p> <p>Loch Ailort was designated as a protected shellfish water in 2009 so no classification information is yet available. It may therefore reach good status before 2027.</p> <p>Figures are given for SACs and SPAs that have water dependant features and where these features are affected by water related pressures. Included within sites in “favourable condition” are sites that are “unfavourable but 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 but recovering”, everything has been done to allow a feature to recover, but more time is needed before it could be reported as being in favourable condition.</p> <p>Bathing waters also have an overall aim to increase the proportion attaining good or excellent classification rather than sufficient status.</p>						

In addition:

- all 80 drinking water protected areas (which include the 20 ground waters) in Argyll and Lochaber 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;

- there is one nutrient sensitive protected area established under the Urban Waste Water Treatment Directive. These are not assessed against an environmental standard: instead, compliance is measured in terms of measures taken, such as improvements to sewage treatment works;
- all 13 protected areas for economically important freshwater fish (salmonid and cyprinid) in this area are currently complying with the required standards for water quality.

Shellfish growing waters and diffuse pollution

In most cases the reasons for the current shellfish waters failures are not clear. Further research, including a review of the Food Standards Agency Sanitary Surveys and possibly source tracking studies, is required to establish the pressures on these protected areas and therefore the measures required to improve and achieve the required standards. This work will be done as part of the planned diffuse pollution actions which are outlined below.

Actions planned to achieve our objectives

River basin management planning requires us to establish a programme of actions, or measures, to protect water bodies currently at good or high ecological status and to restore water bodies that are below good ecological status. The programme for Scotland includes the latest investment planning work for Scottish Water, working with landowners to reduce pollution and tackling pressures from drinking water supply, hydropower generation and flood protection. The measures in the Scotland river basin district plan automatically feed into this area management plan.

Some key measures to achieve the priorities for the Argyll and Lochaber area and how they link to national processes are described below. Further information can be found in Chapter 3 of the Scotland river basin district plan.

The action plan which accompanies this document summarises measures which will be delivered by a local partnership approach through the Argyll and Lochaber Area Advisory Group. Some of the measures carried out locally will contribute to protecting or improving water body status in a less direct way, for example through awareness raising and education, while others involve long-term projects and multiple partners.

More specific information on the measures that the Argyll and Lochaber Area Advisory Group members will take forward is included in catchment summaries and on the water body sheets on the interactive map. These will be kept as live documents during the planning cycle and will be updated as more measures are developed and implemented.

Flow regulation and abstraction

National actions

To reduce the number of water bodies affected by changes to natural flow and the amount of water in rivers and lochs, SEPA is working closely with Scottish Water and hydropower operators to reach agreements on how they can provide improved flow to affected rivers by amending the operation of schemes to optimise river flows, change abstraction pattern or reduce net abstraction to meet required standards. SEPA is the lead authority on using the Controlled Activities Regulations (CAR) to achieve these measures, but will also work with the Fish and Fisheries Advisory Group to produce guidance on appropriate mitigation measures.

Local actions

The Argyll and Lochaber Area Advisory Group can review water bodies where this pressure is identified in order to assess any possible contribution they could make locally to mitigation measures. Local fisheries trusts have already been working with operators in the area to discuss appropriate mitigation measures. The group could also deliver water efficiency awareness raising campaigns. More information is included in the catchment summaries.

Alterations to beds, banks and shores

Forestry pressures

National actions

Forestry Commission Scotland and SEPA are working together to achieve the objectives of good ecological status for water bodies affected by forestry pressures, through measures including removal of non-native conifers from banks and shores,

establishing well structured vegetation cover to form buffer zones along banks and shores (eg native species planting) in compliance with relevant legislation and guidance (including the [Forest & Water Guidelines](#)). The Forestry Commission Scotland and the Scottish Government are leading on ensuring similar measures can be implemented on privately owned forest estates. There will also be continued work to ensure best operational practice is employed to ensure no deterioration of water bodies.

Local actions

Close partnership working with the Forestry Commission Scotland will continue through the Argyll and Lochaber Area Advisory Group. Many local forestry measures, particularly to restructure and fell forests ahead of the original schedule, to establish buffer strips and to plant native species have already been committed to. We will investigate the establishment of a sub-group to raise awareness of forestry pressures and measures, particularly to facilitate discussions with the private forestry sector. Forestry measures will also be considered in the development of the Carradale catchment management plan. Please see the Kintyre coastal catchment summary for more information.

Other pressures on beds, banks and shores

National actions

There are many actions available to improve water bodies affected by pressures on beds, banks and shores, including those which affect fish passage, from agriculture, hydropower and transport as in this area. These include passive or low level intervention such as fencing off water courses to allow natural recovery and also using the Controlled Activities Regulations to ensure fish passes are installed and the use of restoration funds to remove redundant fish barriers. There is also a national program for fish barrier removal which is led by SEPA.

Local actions

Potential actions which are required to fix the channelisation and fish barrier pressures in the area have been included in the Scotland river basin district plan and in this area management plan. However, other actions have not been discussed in detail or agreed with those involved.

The Argyll and Lochaber Area Advisory Group has a key role to play in reviewing the local actions required to fix these pressures. The group will consider options for the restoration of straightened rivers and burns, balancing land managers' needs with those of the water environment. This will involve working with landowners, and with Argyll and Bute Council for two road culvert pressures, to establish what measures can be implemented and the timescales for them. We will also work together to identify funding for these measures such as the SEPA restoration fund or the Scottish Rural Development Program (SRDP).

Diffuse pollution

National actions

There is a national rural diffuse pollution plan for Scotland, developed by the Diffuse Pollution Management Advisory Group. This group is a partnership of national organisations which can play a role in managing diffuse pollution. Further information is available at:

www.sepa.org.uk/water/river_basin_planning/diffuse_pollution_mag.aspx#DP_Plan

The approach is based on a two tiered strategy:

- 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;
- a targeted approach in catchments where the extent of the diffuse pollution pressure on the water environment requires a more focused effort. Whilst focusing on these catchments for diffuse pollution, the mitigation of other impacts on the water environment will also be considered, such as changes to beds and banks, abstractions, flooding and invasive non-native species.

Fourteen diffuse pollution priority catchments have been selected across Scotland for inclusion in the first river basin planning cycle. Although none of the priority catchments for the first cycle are in the Argyll and Lochaber area, further candidate diffuse pollution priority catchments have been prioritised for the Argyll and Lochaber area in future cycles (see local actions below).

More information is available on SEPA's website at:

www.sepa.org.uk/water/river_basin_planning/dp_priority_catchments.aspx

Local actions

The diffuse pollution pressure from production of non-renewable energy refers to acidification of water bodies from fossil fuel burning. These water bodies will only recover in the longer term. Some local measures, such as appropriate native forestry planting, may help some water bodies recover.

To tackle the local diffuse pollution pressures and to ensure no deterioration in ecological potential/status, the Argyll and Lochaber Area Advisory Group will help promote the national diffuse pollution awareness raising campaign locally. This will help ensure that diffuse pollution General Binding Rules under the Controlled Activities Regulations (and other best practice) is being adhered to in forestry and farming operations.

In addition, the Argyll and Lochaber area contains the following candidate priority catchments for diffuse pollution in subsequent river basin planning cycles:

- 2021 cycle - Etive coastal
- 2027 cycle - Appin coastal
- 2027 cycle - Ardgour coastal
- 2027 cycle - Colonsay coastal
- 2027 cycle - Islay coastal
- 2027 cycle - Jura coastal
- 2027 cycle - Kintyre coastal
- 2027 cycle - Kerrara coastal
- 2027 cycle - Knapdale coastal
- 2027 cycle - Seil coastal
- 2027 cycle - Island of Mull coastal
- 2027 cycle - Lismore coastal
- 2027 cycle - Ulva and Gometra coastal

Most of these diffuse pollution priority catchments contain or have neighbouring protected shellfish growing waters. As mentioned above, the reasons for the current shellfish growing water failures are not clear in most cases.

SEPA and the Area Advisory Group can play a key role in facilitating the research which is required to establish the source of the pollution that is downgrading these protected areas and therefore the measures required to improve them. This will allow us to prepare for the diffuse pollution priority catchment work in future cycles and to carefully target the necessary actions. Raising awareness of good practice to reduce diffuse pollution will also be a key action in catchments that influence the quality of shellfish waters. Once the source of pollutants is understood better, resources for more focused work can be reassessed. This will be reviewed for the second river basin management plan which will be published in 2015.

Point source pollution

National actions

The main national action to control point source pollution is under SEPA's remit through the Controlled Activities Regulations (CAR) and the General Binding Rules and authorisations included by the regulations.

Local actions

SEPA is working locally to review CAR licences which are causing point source pressures.

Invasive non-native species

National actions

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 the management of INNS is currently being developed and will be available on the SEPA website.

Local actions

The Argyll and Lochaber Area Advisory Group has a key role to play in the co-ordination of INNS management, through recording the presence of invasive non-native species and implementing the national work outlined in the INNS implementation plan at a local level. Management responsibility is shared by several organisations and, as a result, there are many actions that could usefully be carried out at a local 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 and encouraging the sharing of good practice and rapid response protocols. Preventing the introduction and spread of invasive non-native species is particularly important in Argyll and Lochaber, as the area currently has relatively few introductions – none of which are currently causing water bodies to fail to reach good ecological status.

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

Argyll and Lochaber Area Advisory Group members have a role to play in developing catchment projects, where appropriate, to address pressures such as the proposal for a catchment management plan for the Carradale Water. Further information will be available in the catchment summaries and action plan as they are developed.

Putting the plan into action: 2010

This section outlines the work plan for the Argyll and Lochaber Area Advisory Group during 2010. The work plan will be updated annually and further information, including links to the work of other groups, will be added as they become available.

The work plan for the Argyll and Lochaber Area Advisory Group can be found on SEPA's website at:

www.sepa.org.uk/water/river_basin_planning/area_advisory_groups/argyll.aspx

Detailed information about measures can be found on the web based interactive map at: www.sepa.org.uk/water/river_basin_planning.aspx

The Argyll and Lochaber Area Advisory Group will have a number of roles in developing the actions required to deliver river basin planning at an area level. The group will help to identify actions needed in the area and to translate nationally agreed actions into local work as outlined above. The group will co-ordinate action and identify gaps where key pressures have been identified but no action agreed, and consider how best to tackle such gaps.

This approach is designed to ensure that:

- the Scotland river basin district plan and national strategies are followed;
- actions carried out at an area level are focused on pressures in that area;
- leads and partners are identified;
- timing of actions with each cycle is efficient and co-ordinated;
- the role of the AAG is identified to help formulate a work programme for the AAG (and co-ordinator);
- there is flexibility to develop new measures throughout the cycle while ensuring main aims are followed;
- it allows for annual monitoring of progress against an annually agreed work programme as well as against the main aims of the area management plan.

There are therefore four key areas of work for the Argyll and Lochaber Area Advisory Group to develop by December 2010.

Alterations to beds, banks and shores

1. Investigate establishing a sub-group to raise awareness of forestry pressures and actions, particularly to facilitate discussions with the private forestry sector.
2. Work on a catchment basis to further develop and facilitate the implementation of local actions required in the area. The catchment summaries will be available to inform these discussions and SEPA, in consultation with Area Advisory Group members, will suggest a structure and order to work through these, potentially using sub-groups. These sub-groups will report back to the Area Advisory Group which will retain the overview role and will continue to meet twice a year.

Diffuse pollution

3. Develop a research program to investigate pressures causing protected shellfish waters to fail, in preparation for the priority catchment work in later cycles (include data from Food Standards Agency in this research).

Communications

4. Investigate establishing a sub-group to develop a programme of events and improve public engagement with river basin planning. This group will also discuss the future role and meetings of the Argyll and Lochaber Forum.

Annex 1

Please note that, as one water body may be affected by more than one pressure, some water bodies may be counted twice in these tables.

Table 1a: Number of water bodies affected by abstraction pressures in each catchment

Pressure type	Industry sector	Appin coastal, River Leven (Lochaber) and River Lochy	Ardgour coastal, Ardnamurchan coastal and River Shiel	Etive Coastal	Mull Coastal	Islay Coastal	Jura Coastal	Kintyre Coastal	Knapdale Coastal	Loch Fyne Coastal	River Add	River Awe	Tiree Coastal	Coastal water bodies
Abstraction	Production of renewable electricity (NB nuclear and pumped hydro are not renewable forms of electricity generation)	7 (2 in River Leven and 5 in River Lochy)	1 (Ardnamurchan coastal)	1			1	1	7	5		6		
	Water collection, purification and distribution	1 (Appin coastal)			2	1		1	2	1		1		
	Whisky production	1 (River Lochy)			1									

Table 1b: Number of water bodies affected by flow regulation pressures in each catchment

Pressure type	Industry sector	Appin coastal, River Leven (Lochaber) and River Lochy	Ardgour coastal, Ardnamurchan coastal and River Shiel	Etive Coastal	Mull Coastal	Islay Coastal	Jura Coastal	Kintyre Coastal	Knapdale Coastal	Loch Fyne Coastal	River Add	River Awe	Tiree Coastal	Coastal water bodies
Flow regulation	Production of renewable electricity (NB nuclear and pumped hydro are not renewable forms of electricity generation)	6 (2 River Leven and 4 River Lochy)	1 (Ardnamurchan coastal catchment)	1			1	1	4	4		5		
	Water collection, purification and distribution	1 (Appin coastal)			2	1				1				
	Whisky production				1									

Table 1c: Number of water bodies affected by morphological pressures in each catchment

Pressure type	Industry sector	Appin coastal, River Leven (Lochaber) and River Lochy	Ardgour coastal, Ardnarmurchan coastal and River Shiel	Etive Coastal	Mull Coastal	Islay Coastal	Jura Coastal	Kintyre Coastal	Knapdale Coastal	Loch Fyne Coastal	River Add	River Awe	Tiree Coastal	Coastal water bodies
Morphological alterations	Aquaculture		1							1				
	Forestry	3 (in Appin coastal)	2 (1 in Ardnarmurchan coastal and 1 in River Shiel)	3	4			5	5	14	1	4		
	Mixed farming					2		1						
	Production of renewable electricity (NB nuclear and pumped hydro are not renewable forms of electricity generation)		1 (River Shiel)						3					
	Road transport							2						
		1 (River Lochy)						1	2					

Table 1d: Number of water bodies affected by diffuse pressures in each catchment

Pressure type	Industry sector	Appin coastal, River Leven (Lochaber) and River Lochy	Ardgour coastal, Ardnamurchan coastal and River Shiel	Etive Coastal	Mull Coastal	Islay Coastal	Jura Coastal	Kintyre Coastal	Knapdale Coastal	Loch Fyne Coastal	River Add	River Awe	Tiree Coastal	Coastal water bodies
Diffuse source pollution	Forestry							1		2				
	Livestock farming				1	1								
	Production of non-renewable electricity (eg by coal, gas, nuclear or pumped hydro)				1		4							
	Sewage disposal				1									
			1 (Ardgour)		1							1		

Table 1e: Number of water bodies affected by point source pollution pressures in each catchment

Pressure type	Industry sector	Appin coastal, River Leven (Lochaber) and River Lochy	Ardgour coastal, Ardnamurchan coastal and River Shiel	Etive Coastal	Island of Mull Coastal	Islay Coastal	Jura Coastal	Kintyre Coastal	Knapdale Coastal	Loch Fyne Coastal	River Add	River Awe	Tiree Coastal	Coastal water bodies
Point source pollution	Aquaculture											2		
	Other manufacturing													1
	Sewage disposal													1
	Water collection, purification and distribution												1 (requires further investigation)	