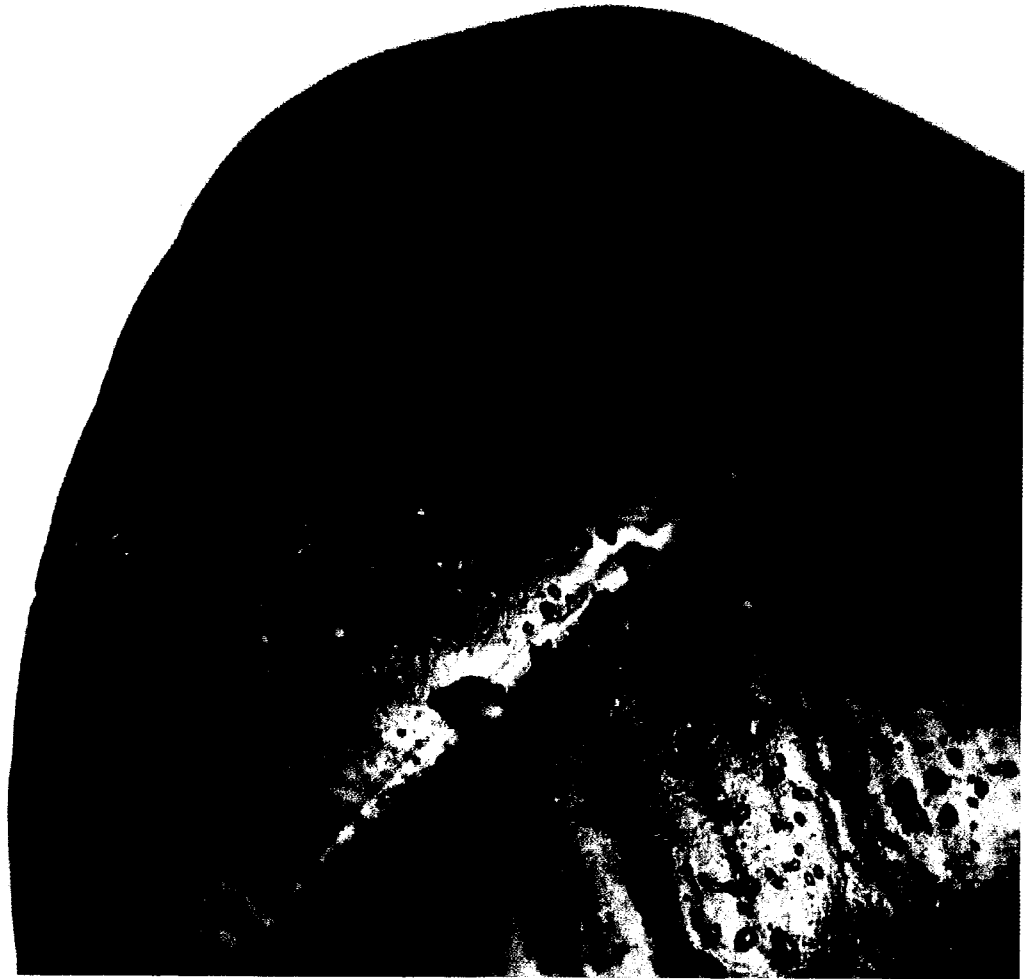
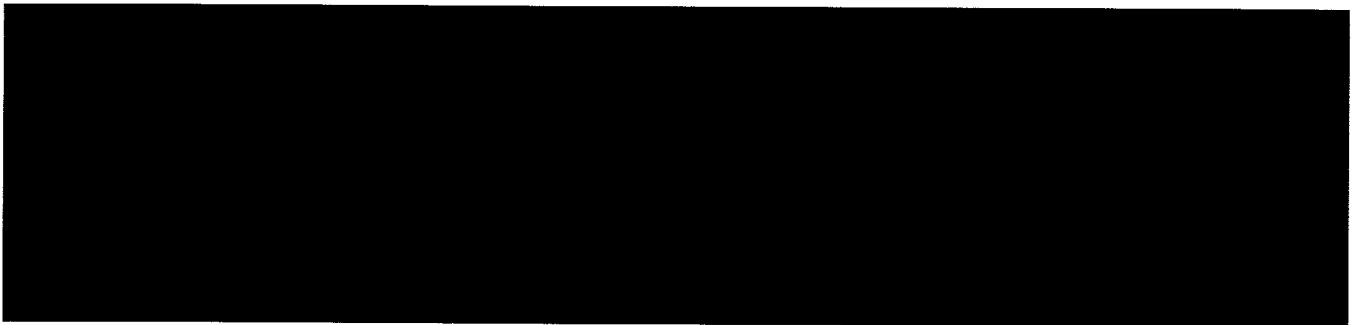


# Summary



Scotland has made mixed progress against environmental targets.



## Introduction

**1.** The environment is one of Scotland's greatest assets. Ensuring that it is protected and improved is central to sustainable development and meeting the Scottish Government's aim of achieving sustainable economic growth. One recent estimate suggested that Scotland's environment was worth £17.2 billion per year and supported 242,000 jobs.<sup>1</sup> Key Scottish industries such as food and drink and agriculture and tourism are dependent on the quality of the environment.

**2.** In 2006, the Scottish Environment Protection Agency (SEPA) published *State of Scotland's Environment*.<sup>2</sup> It concluded that the Scottish environment is generally of good quality but identified certain areas where further progress is needed. This study reflects these areas and provides an overview of the Scottish public sector's performance against targets for:

- improving air quality (Part 1)
- protecting and improving the water environment (Part 2)<sup>3</sup>
- protecting and improving biodiversity (Part 3)
- improving waste management (Part 4).

**3.** We have tried to minimise the use of technical language, but in some instances this is unavoidable and we have therefore included a glossary of terms at Appendix 1. The terms included in the glossary are highlighted in bold the first time they are used in the report.

**4.** The four areas identified above are not independent of each other. This can make it hard to identify simple cause and effect. For example, improving air quality may improve the water environment by making it less acidic, and this in turn may help to improve biodiversity.

**5.** Climate change is likely to affect Scotland's environment as temperatures rise, patterns and timing of rainfall change and storminess increases. The Climate Change (Scotland) Act 2009 sets a target of reducing greenhouse gas emissions by 80 per cent by 2050. The Scottish Government has, for the first time, prepared an assessment of the impacts of its planned spending on greenhouse gas emissions.<sup>4</sup> This study did not consider the Scottish public sector's performance in understanding and reducing greenhouse gas emissions or adapting to climate change, as the Scottish Parliament was considering the Climate Change (Scotland) Bill during 2009 when this study was undertaken. Climate change will be a focus for future work by Audit Scotland.

**6.** In addition to the long-term risk of failing to protect and improve the environment, there are more immediate financial risks. Many of Scotland's environmental laws and targets come from Europe. The European Court of Justice can fine member states if European laws are not implemented and its targets are not met. The United Kingdom (UK) is a member state. As part of the UK, if Scotland was responsible for failing to meet targets, it would have to pay the fine. These fines could potentially be up to £127 million each year.<sup>5</sup> To date, the Scottish Government has successfully managed this risk and has not had to pay any fines in relation to European environmental laws and targets.

## The overall quality of Scotland's environment is good but there is a risk that some targets will not be met

**7.** Protecting and improving the environment contributes to all five of the Scottish Government's strategic objectives (wealthier and fairer, smarter, healthier, safer and stronger, and greener) and directly to three of its national outcomes. There are three national indicators in the Scottish Government's national performance framework that relate to the areas covered in this study. Two relate to biodiversity and one to waste management (Exhibit 1, overleaf).

**8.** Several public bodies are involved at a national level in protecting and improving the environment and councils play a key role at a local level (Appendix 2). Councils' single outcome agreements (SOAs) with the Scottish Government contain indicators reflecting local and national priorities. These indicators reflect councils' central role in the management of waste. All 32 councils include an indicator relating to waste management in their SOA. Councils' SOAs have less focus on the other three areas addressed by this study. Nineteen councils have an indicator relating to biodiversity, ten have an indicator specifically about air quality and seven have an indicator about protecting and improving the water environment.

**9.** Despite the overall good quality of the Scottish environment a number of targets have not been met or are at risk of not being met in the future (Exhibit 1, overleaf). Improving the environment further and meeting European and Scottish targets will be challenging and, in some cases, will require different behaviours and approaches to those that have been

<sup>1</sup> *The Economic Impact of Scotland's Natural Environment*, Scottish Natural Heritage Commissioned Report No. 304, RPA and Cambridge Econometrics, 2008.

<sup>2</sup> *State of Scotland's Environment 2006*, Scottish Environment Protection Agency, 2006.

<sup>3</sup> This study did not consider the marine environment, as the Scottish Parliament was considering the Marine (Scotland) Bill during 2009 when this study was undertaken.




<sup>4</sup> *Carbon Assessment of the 2010-11 Draft Budget*, Scottish Government, 2009.

<sup>5</sup> *Handling EU obligations: a guide for Scottish Government officials*, Scottish Government, June 2009.

**Exhibit 1**

**Summary of performance against environmental targets**

There has been mixed progress against environmental targets.

<b>Outcomes</b>	To value and enjoy our built and natural environment and protect it and enhance it for future generations.		To reduce the local and global environmental impact of our consumption and production.	We live in well-designed, sustainable places where we are able to access the amenities and services we need.
				
<b>National indicators</b>	Air quality	Water environment	Biodiversity	Waste
	Increase to 95 per cent the proportion of protected nature sites in favourable condition by 2010  Increase the index of abundance of terrestrial breeding birds	Reduce to 1.32 million tonnes biodegradable municipal waste sent to landfill by 2010	Increase to 95 per cent the proportion of protected nature sites in favourable condition by 2010	Increase the index of abundance of terrestrial breeding birds
<b>Other key indicators and targets</b>	Air quality (see Part 1)	Water environment (see Part 2)	Biodiversity (see Part 3)	Waste (see Part 4)
	PM10	All water bodies to reach good ecological status by 2027	Halt the loss of biodiversity by 2010	Increase the amount of municipal waste being recycled to 40 per cent by 2010
	PM2.5			
	Nitrogen dioxide			
	Lead			
	Carbon dioxide			
	Average of 2005-2008	All bathing waters to meet European standards by 2015	17 Scottish biodiversity indicators  7 indicators 3 indicators 4 indicators 3 indicators*	Stop growth in the amount of municipal waste by 2010
	Average of 2005-2008			
	Percentage of bathing waters			
	Percentage of bathing waters			
Percentage of bathing waters				
Percentage of bathing waters	All shellfish waters to meet minimum standards by 2012			
Percentage of bathing waters				
Percentage of bathing waters				
Percentage of bathing waters				

<b>Key</b>		
	Target being met	
	Target at risk of not being met	
	Plans in place to meet target	
	Target not met	
* Data not available		

Source: Audit Scotland

adopted in the past. For example, controlling sources of pollution from industry has been successful in improving air quality and the water environment. However, to improve air quality further, the amount of pollution that comes from road transport needs to be reduced. To improve the water environment, a greater focus on **diffuse pollution** and on restoring the natural form of water bodies (eg, rivers, lochs and coastal waters) is needed.

**10.** Tackling these issues will require improved coordination and joint working across different policy areas. In some areas this is already taking place. For example, the Scottish Government has provided guidance for policymakers across a wide range of different areas, including energy, planning, tourism and agriculture, about how they can contribute to improving the water environment.<sup>6</sup> In other areas, for example, air quality and transport policy, there is less coordination.

**11.** To protect and improve the environment, and meet European and Scottish targets, public bodies must promote cultural and behavioural change. For example, SEPA and Scottish Natural Heritage (SNH) must continue to work in partnership with land managers to tackle diffuse pollution from agriculture and improve biodiversity. In some cases, public bodies do not have control over all the factors that could protect and improve the environment (eg, engine standards are reserved to the European Union).

**12.** Several of the targets for protecting and improving the environment extend well into the future. For example, the Scottish Government aims to raise the

standard of most Scottish waters to **good ecological status** by 2027 and to recycle or compost 70 per cent of all **municipal waste** produced by 2025. Strong leadership and commitment are needed to ensure these long-term targets are met, particularly during a period of financial constraints when there may be pressures to divert funds to more immediate targets.

**13.** In some cases, Scottish environmental targets are more ambitious than European targets. For example, Scotland aims to recycle 60 per cent of its municipal waste by 2020 compared to the European target of 50 per cent. Scotland has tighter limits for three air pollutants than elsewhere in the UK or Europe. The costs of going beyond the required European targets were not estimated when these targets were set.

**Better coordination of environmental and transport policies is needed to improve air quality**

**14.** Air quality in Scotland is generally very good. However, in 12 council areas (38 per cent), there are 21 locations where air quality is poor and there is a risk of not meeting European targets. This compares with 59 per cent of councils in England with poor air quality, 42 per cent in Northern Ireland and 36 per cent in Wales.

**15.** In 19 of the Scottish locations where there is poor air quality, improving the quality of air is dependent on reducing the level of pollution from road transport. Improving air quality in these locations requires better integration of environmental and transport policy at both a national and local level. As the level of emissions coming from industry has reduced, the

relative importance of road transport as a cause of poor air quality has increased.

**Scotland's water environment is good quality but new European targets mean it is now assessed differently**

**16.** In the past, work to improve the water environment has tended to focus on improving the quality of the water itself. In 2000, 73 per cent of Scottish rivers were either excellent or good quality. By 2006, this had increased to 87 per cent. In particular, Scottish Water has invested significantly in new infrastructure and facilities (£593 million between 2003/04 and 2008/09) to improve the quality of the water environment. This investment has often focused on improving the quality of discharges into water bodies, for example from sewage treatment works.

**17.** In 2000, the European Union (EU) introduced a law that required member states to improve all European water bodies to meet a minimum standard of good ecological status by 2027. Good ecological status goes beyond just the quality of the water. It also looks at how far the natural shape and structure of a body of water has been altered by human activity and how the water is used. This broader definition of the water environment means that 65 per cent of Scotland's waters currently meet the European target.<sup>7</sup> This compares with an average of 29 per cent in England and Wales.<sup>8</sup> This does not mean that there has been any fall in the quality of Scotland's waters, rather they are now being judged against a broader range of criteria. The Scottish Government's plans will increase the number of waters with good ecological status to 72 per cent by 2015 and 97 per cent by 2027.

6 *Implementing the Water Environment and Water Services (Scotland) Act 2003: Promoting an Integrated Approach – A Policy Statement*, Scottish Government, 2008.

7 See Part 2 for further details. This value applies to the Scotland river basin district. In the cross-border Solway/Tweed river basin district, 49 per cent of waters currently meet the European target.

8 Department for Environment, Food and Rural Affairs.

**18.** Achieving these targets will require more focus on aspects of the water environment which have historically been less of a priority. These areas include:

- diffuse pollution
- how water is used for purposes such as hydro-electric power generation, agriculture and the supply of drinking water
- how the shape and structure of water bodies have been altered by human activity.

**19.** How land is used and managed has an effect on the water environment and on biodiversity. Two major Scottish Government funding schemes for land managers (the Single Farm Payments system and the Scotland Rural Development Programme) contribute to the protection and improvement of the water environment and also to biodiversity (see Parts 2 and 3). This study did not consider these schemes in detail but they represent a significant source of funding for land managers and contribute to the protection and improvement of the environment (see Appendix 3 for more details). In addition, forests and woodlands are important for biodiversity and can affect air quality and the water environment.

### **There is mixed progress in protecting and improving biodiversity**

**20.** Scotland has many plant and animal species. These species and the places they live make up Scotland's biodiversity. The Scottish Biodiversity Strategy aims to halt the loss of biodiversity by 2010. This reflects a Europe-wide aim to stop the loss of biodiversity on the same timescale.

**21.** The goal to stop the loss of biodiversity across Europe by 2010 will not be achieved.<sup>9</sup> In Scotland, there has been mixed progress against the 17 different indicators of the condition of Scotland's biodiversity. In 2009, seven indicators showed improvement, three showed deterioration, and for the remaining seven there was no clear trend or long-term data were not available.

**22.** Nearly a fifth of Scotland's land area is identified as being important for the protection of biodiversity in the form of protected areas. The Scottish Government's target is for 95 per cent of these areas to be in **favourable condition** by 2010. In 2009, 79 per cent of protected areas were in favourable condition and the target is at risk of not being met. The main reasons for the poor condition of the remaining protected areas are overgrazing and the presence of species that are not native to Scotland.

**23.** All Scottish public bodies have a duty to further the conservation of biodiversity. The existence of this duty is having limited effect due to the lack of sufficient guidance to public bodies on how to implement the duty and the absence of any monitoring or reporting system to enforce it.

### **Councils' plans for waste management after 2010 are insufficient to meet European targets**

**24.** Over the last decade, Scotland has made significant progress in improving its waste management. In 1998, Scotland recycled four per cent of its municipal waste.<sup>10</sup> Ten years later, in 2008/09, Scotland recycled or composted 34 per cent of its municipal waste. This is in line with the rest of the UK – 34 per cent in England, 33 per cent in Wales and 29 per cent in Northern Ireland. Scotland has succeeded in reducing the total amount of municipal waste sent to **landfill** by a third, from three million tonnes in 1998 to two million tonnes in 2008/09.<sup>11</sup>

**25.** Audit Scotland published a report on *Sustainable waste management* in 2007.<sup>12</sup> Since then, the Scottish Government has changed its overall approach to waste management and has already met the European target to reduce the amount of **biodegradable municipal waste** sent to landfill by 2010. It plans to improve waste management further through its Zero Waste Plan, which will set out targets for waste management until 2025. Meeting these targets will be challenging and will require investment by councils in waste management facilities and further changes in public behaviour.

**26.** Councils' SOAs include targets to reduce the amount of municipal waste sent to landfill. However, collectively, the current targets in the 32 SOAs are not enough to meet European targets for the amount of waste that is sent to landfill after 2010.

<sup>9</sup> *The Message from Athens*, European Commission, April 2009.

<sup>10</sup> *Waste Data Digest 1*, Scottish Environment Protection Agency, 2001.

<sup>11</sup> *Ibid* and *Landfill Allowance Scheme Reports*, Scottish Environment Protection Agency.

<sup>12</sup> *Sustainable Waste Management*, Audit Scotland, September 2007.