


## Bathing water profile:

# Leven

<p><b>Bathing water:</b> Leven</p>	
<p><b>EC bathing water ID number:</b> UKS7616074</p>	
<p><b>Location of bathing water:</b> UK/Scotland/Fife (Map1)</p>	
<p><b>Year of designation:</b> 2008</p>	
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<p><b>Bathing water description</b></p> <p>The Leven bathing water is located to the east of the town of Leven in Fife. It is a roughly 2 km long sandy beach (Map 1). The beach is bordered by a promenade and a golf course. It was designated as a bathing water in 2008.</p> <p>During high and low tides the approximate distance to the water's edge can vary from 0–270 metres. The sandy beach slopes gently towards the water. For local tide information see: <a href="http://easytide.ukho.gov.uk/EasyTide/">http://easytide.ukho.gov.uk/EasyTide/</a></p> <p>Our monitoring point for taking water quality samples is located midway between the centre and eastern end of the designated area (Grid Ref NO 39600 01400) as shown on Map 1.</p>	
<p><b>Monitoring water quality</b></p> <p>Please visit our <a href="#">website</a><sup>1</sup> for details of the current EU water quality classification and recent results for this bathing water.</p> <p>During the bathing season (1 June to 15 September), designated bathing waters are monitored by SEPA for faecal indicators (bacteria) and classified according to the levels of these indicators in the water. The European standards used to classify bathing waters arise from recommendations made by the World</p>	

<sup>1</sup> <http://apps.sepa.org.uk/bathingwaters/>

Health Organisation and are linked to human health. More information on bathing water monitoring, health and classification can be found on our [website](#)<sup>2</sup>.

## Risks to water quality

In general, most natural waters will be affected to some extent during and following rainfall as pollutant loads may be increased due to run-off from agricultural or urban land in the catchment. In addition, at some locations waste water discharges from combined sewer overflows, which then drain into the bathing water and can reduce water quality.

Faecal pollutants can come from human sewage, farming activities and livestock (e.g. cattle, sheep), industrial processes, surface water urban drainage, domestic animals (e.g. dogs) and wildlife (e.g. birds) and can enter bathing waters via:

- direct discharges into the marine environment at, or in the vicinity of, the beach;
- the freshwater network draining into a bathing water, which can be prone to elevated bacterial levels as a result of diffuse pollution and/or point source inputs upstream.

The potential relevant pollution sources at, or near, this bathing water are highlighted on Map 1. The River Leven, which discharges into the sea approximately 500 metres to the southwest of the bathing water, has the potential to affect bathing water quality.

The principal risks and source of wet weather-driven short term pollution at this bathing water arise from agricultural run-off and combined sewer overflows on the River Leven. These events are expected to last 1–2 days, depending on the duration of the rainfall, and may result in elevated bacteria levels compared to dry conditions.

Our regulatory and scientific assessment indicates that potential sources of short-term faecal indicator pollution at this bathing water can at times originate from human and animal sources.

## Cyanobacteria (blue-green algae)

Marine waters are not at risk of overproduction of cyanobacteria.

## Algae

Current information suggests that this bathing water is not at risk of excessive growth of macroalgae (seaweed) or phytoplankton.

## Jellyfish

There is a possibility of increased numbers of jellyfish in the water during the summer months. This is a naturally occurring phenomenon. Although there are a few stinging species common to the UK, most are harmless. The Marine Conservation Society advises to 'look but don't touch'.

## Daily water quality forecasts

Leven bathing water is not part of our signage network. Daily water quality predictions are not currently required for this bathing water.

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<sup>2</sup> <http://apps.sepa.org.uk/bathingwaters/SamplingResults.aspx>

Map 1: Leven bathing water

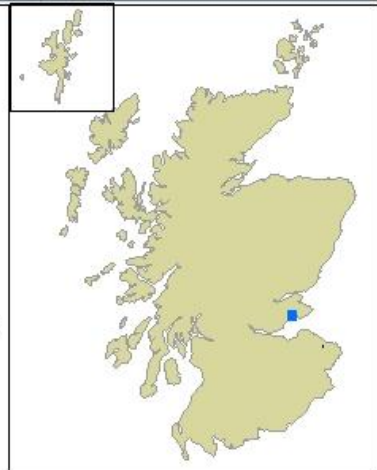


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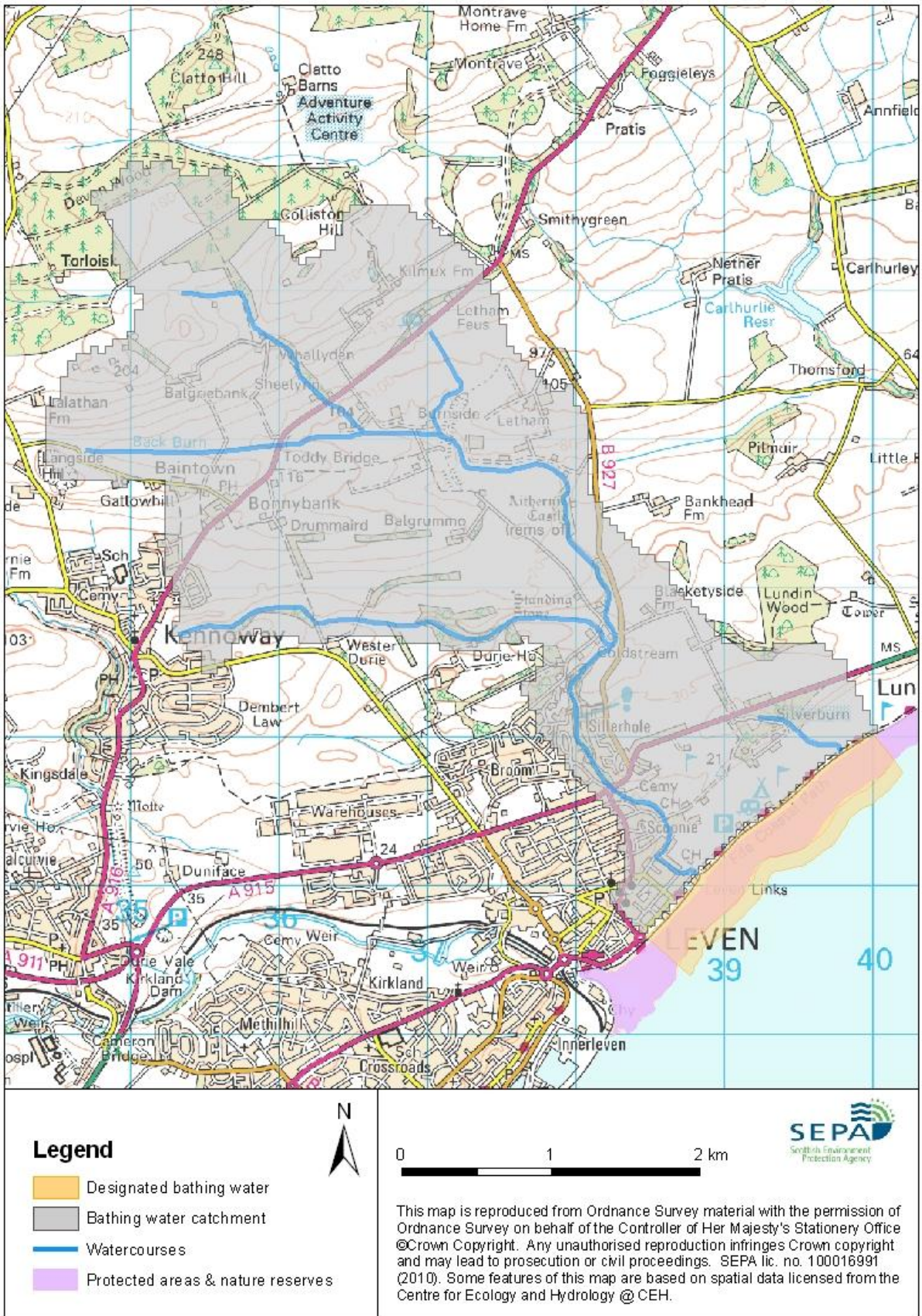


0 200 400 800 m

- Designated bathing water
- Bathing water sampling point
- Bathing water sampling transect
- Combined sewer overflow
- Sewage pumping station
- Watercourses



**Map 2: Catchment draining into Leven bathing water**



## Catchment description

The catchment draining into the Leven bathing water extends to 11.5 km<sup>2</sup>. The area is predominantly rural (94%) with arable agriculture the major land use. Approximately 6% of the bathing water catchment is urban. The main population centres within the catchment are Leven and Kennoway.

Average summer rainfall for the region is 296 mm compared to 331 mm across Scotland as a whole. The main river in the bathing water catchment is the Scoonie Burn.

The Firth of Forth is a designated Site of Special Scientific Interest, a Ramsar site and contains Special Protection Areas due to the internationally important bird populations. See Scottish Natural Heritage's [information service website](#)<sup>3</sup> for more information. Such protected areas can have the potential to influence bathing water quality however this is not thought to be the case at Leven.

The Strathmore and Fife area was designated as a surface water Nitrate Vulnerable Zone in 2002.

## Measures to improve bathing water quality

High quality bathing waters are important so that people can enjoy Scotland's environment safely. They are also important for Scotland's tourism industry.

Recent years have seen considerable improvements in Scotland's bathing water quality, not least due to substantial investment in the sewerage system. SEPA and our partners are fully committed to continuing to improve bathing water quality.

### Improving diffuse pollution from agricultural sources

Diffuse pollution from agricultural sources is normally the result of cumulative inputs of pollutants from several different sources on farms within the catchments draining to the bathing water. Consequently, tackling diffuse agricultural pollution requires concerted action across catchments. We will ensure this by working with farmers to raise awareness about the requirement to prevent and reduce pollution, and to help them identify appropriate actions for doing so.

To help co-ordinate our work to encourage and ensure action, SEPA participate in the [Diffuse Pollution Management Advisory Group](#)<sup>4</sup> (DPMAG), which is a partnership of relevant authorities, land manager representatives and voluntary organisations.

The Scottish Government has also brought together nine public bodies to form [Scotland's Environmental and Rural Services](#)<sup>5</sup> (SEARS). This partnership will contribute to implementing plans for tackling diffuse pollution by providing co-ordinated education and advice to rural land managers.

Additional targeted efforts will be made to improve management of diffuse pollution within catchments identified as 'priority' catchments. These are catchments where the scale of the pollution reduction needed will require planned and targeted actions to be identified and discussed with farmers concerned. Assistance will be given in these areas to identify pollution hotspots, and one-to-one advice will be provided on following the agricultural codes of good practice, which in themselves lead to compliance with these regulations. Action in priority catchments will be phased.

### Improving pollution from sewage and other discharges

Most waste water collection and treatment services in Scotland are provided by Scottish Water. It has invested substantially in waste water collection and treatment provision over recent years to protect public health and the environment. Public investments in the sewerage network and in treatment works will continue to be co-ordinated through the national investment and planning process for Scottish Water, known as 'Quality and Standards'.

Regular sampling by SEPA of the effluent from Levenmouth sewage treatment works since operations began in 2002 shows that the quality of the discharge exceeds the water quality standards required under the Bathing Water Directive. This works provides tertiary treatment during the bathing season. Scottish

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<sup>3</sup> [www.snh.org.uk/snhi](http://www.snh.org.uk/snhi)

<sup>4</sup> <http://www.sepa.org.uk/environment/water/river-basin-management-planning/who-is-involved-with-rbmp/dpmag/>

<sup>5</sup> [www.sears.scotland.gov.uk](http://www.sears.scotland.gov.uk)

Water plans to investigate diffuse pollution inputs to this bathing water in the near future.

Scottish Water had intended to carry out a study at Leven bathing water to identify whether asset improvements were required to meet the requirements of the revised Bathing Waters Directive. As further monitoring data has become available, it was considered likely that the bathing water would achieve the minimum requirements of the new Directive. As such it has been agreed that further improvement to Scottish Water assets is not required at this time.

### **Improving pollution from diffuse urban sources**

Urban diffuse source pollution comes from rainwater falling onto urban areas (roads, pavements, yards and roofs) becoming contaminated with pollutants on those areas, washing into surface water drains and discharging from those drains to the water environment.

Tackling this type of pollution requires substantial changes in the way urban areas are drained, and efforts to reduce the quantity of pollutants deposited on urban surfaces. Since the mid 1990s, Sustainable Urban Drainage Systems (SUDS) have increasingly been used to drain new developments. They are designed to avoid pollution of the water environment and include permeable surfaces that allow infiltration of rainwater into the ground, slowing the rate at which it drains to the water environment and trapping and breaking down pollutants. Artificial ponds or wetlands provide a final stage of treatment. Local authorities, Scottish Water and SEPA are working together to co-ordinate efforts to tackle pollution from diffuse urban sources, incorporating SUDS into local plans and encouraging partner organisations to retrofit SUDS where possible.

### **Responding to pollution incidents**

Although rare, pollution incidents affecting bathing water quality can happen. Pollution incidents tend to be unpredictable, for example a slurry spill or sewage network failure, and can result in elevated levels of faecal indicators.

To report a possible pollution incident please use our 24 hour pollution hotline (0800 807060). In response we will investigate the incident and contact other relevant organisations. That may include Scottish Ministers, Scottish Water, the local authority and the relevant health board. Where necessary measures will be put in place to resolve the problem.

Whenever our routine sampling of bathing waters identifies elevated levels of faecal indicators there is an immediate response to check all relevant potential sources and major discharges in the immediate catchment, as well as our hydrometric information to determine whether the levels may be due to high river flows. Follow-up microbiology sampling is also undertaken of the bathing water and local water courses.

If beach users or bathers are considered to be at risk the local authority will warn the public by erecting signs at the bathing water. Information will also be available on our [website](#)<sup>6</sup>. Other pollutants at the beach may include plastics and litter. Beach users are encouraged to use the bins provided or to take litter home. Beach cleaning and litter clean-up is maintained for this bathing water by Fife Council.

### **Contact details and sources of more information**

#### **SEPA Glenrothes office**

Pentland Court  
The Saltire Centre  
Glenrothes  
KY6 2DA  
01592 776910  
[www.sepa.org.uk](http://www.sepa.org.uk)

#### **Fife Council**

Fife House  
North Street  
Glenrothes  
Fife  
KY7 5LT  
08451 55 00 00  
[fife.council@fife.gov.uk](mailto:fife.council@fife.gov.uk)  
[www.fife.gov.uk](http://www.fife.gov.uk)

#### **Pollution Hotline**

0800 80 70 60  
24 hours per day, 7 days per week

<sup>6</sup> [www.sepa.org.uk/water/bathing\\_waters/bathing\\_water\\_signage.aspx](http://www.sepa.org.uk/water/bathing_waters/bathing_water_signage.aspx)

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Further information about the condition of our water environment and the actions needed to deliver improvement can be found in:

- the Scotland river basin management plan <http://www.sepa.org.uk/environment/water/river-basin-management-planning/>
- the Forth area management plan <http://www.sepa.org.uk/environment/water/river-basin-management-planning/who-is-involved-with-rbmp/area-advisory-groups/forth/>

Good Beach Guide: [www.goodbeachguide.co.uk](http://www.goodbeachguide.co.uk)

Blue Flag and Seaside Awards: [www.keepsotlandbeautiful.org/coastal](http://www.keepsotlandbeautiful.org/coastal)

**Version Control**

<b>Version number:</b>	<b>Date:</b>	<b>Next review due:</b>
1.0	Nov 2010	
1.1	April 2014	
1.2	June 2015	