


Bathing water profile:

Dornoch

<p>Bathing water: Dornoch</p>	
<p>EC bathing water ID number: UKS7616016</p>	
<p>Location of bathing water: UK/Scotland/Highland (Map1)</p>	
<p>Year of designation: 1999</p>	
<p>Bathing water description</p> <p>Dornoch bathing water is located on the Dornoch Firth close to the town of Dornoch and adjacent to Dornoch sands. It is a 4 km long beach which stretches from the rocky outcrops at its northern end to the headland, which juts out into southern end of the Dornoch Firth (Map 1). It was designated as a bathing water in 1999.</p> <p>During high and low tides the approximate distance to the water's edge can vary from 0–600 metres. The sandy beach slopes gently towards the water. For local tide information see: http://easytide.ukho.gov.uk/EasyTide/</p> <p>The beach at Dornoch is a popular destination for visitors and locals. The recreational facilities nearby include a children's play park, a caravan and campsite and a golf course.</p> <p>Our monitoring point for taking water quality samples is located towards the mid-point of the designated area (Grid Ref NH 80500 89400) as shown on Map 1.</p>	
<p>Monitoring water quality</p> <p>Please visit our website¹ 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>	

¹ <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](#)².

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 principal risks and source of wet weather driven short term pollution at this bathing water arise from surface water urban drainage and combined sewer overflows. 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.

Dornoch Bay is internationally important for aggregations of birds. Faecal contamination from birds could potentially affect water quality at Dornoch bathing water.

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 or animal sources.

Cyanobacteria (blue-green algae)

Marine waters are not at risk of excessive production of cyanobacteria.

Algae

Current information suggests that this bathing water is not at risk of excessive production of macroalgae or phytoplankton.

Jellyfish

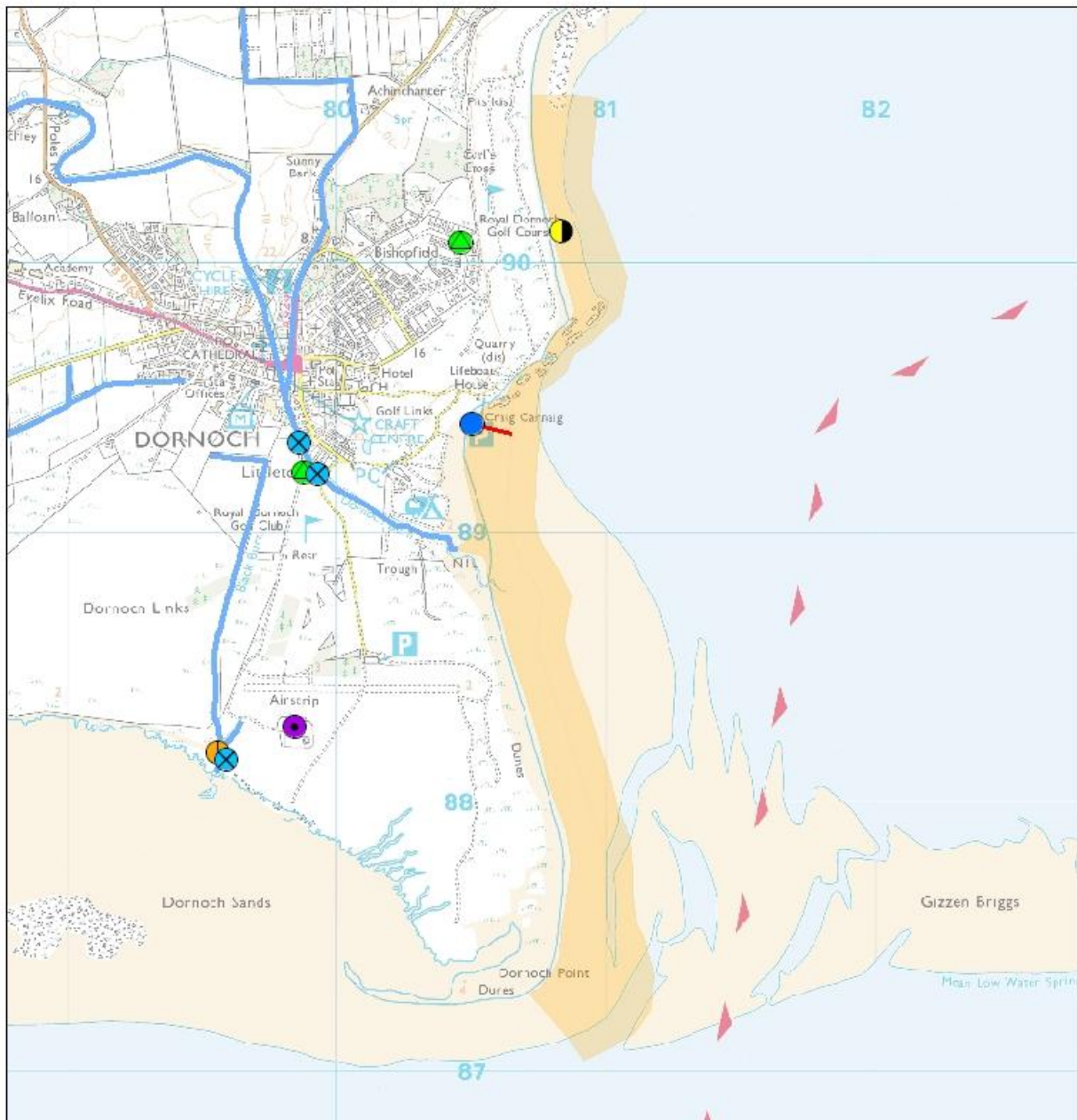
There is a possibility of increased numbers of jellyfish in the water during the summer months. This is a naturally occurring phenomenon. Although there are a few stinging species common to the UK, most are harmless. The Marine Conservation Society advises to 'look but don't touch'.

Daily water quality forecasts










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

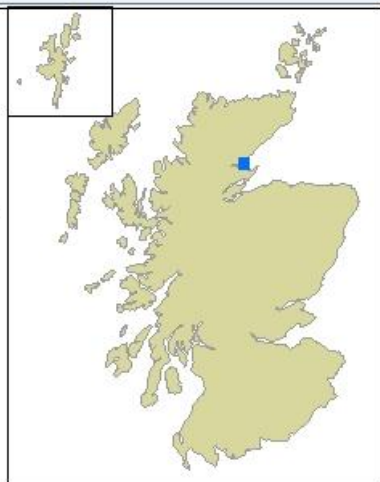
² <http://apps.sepa.org.uk/bathingwaters/SamplingResults.aspx>

Map 1: Dornoch bathing water



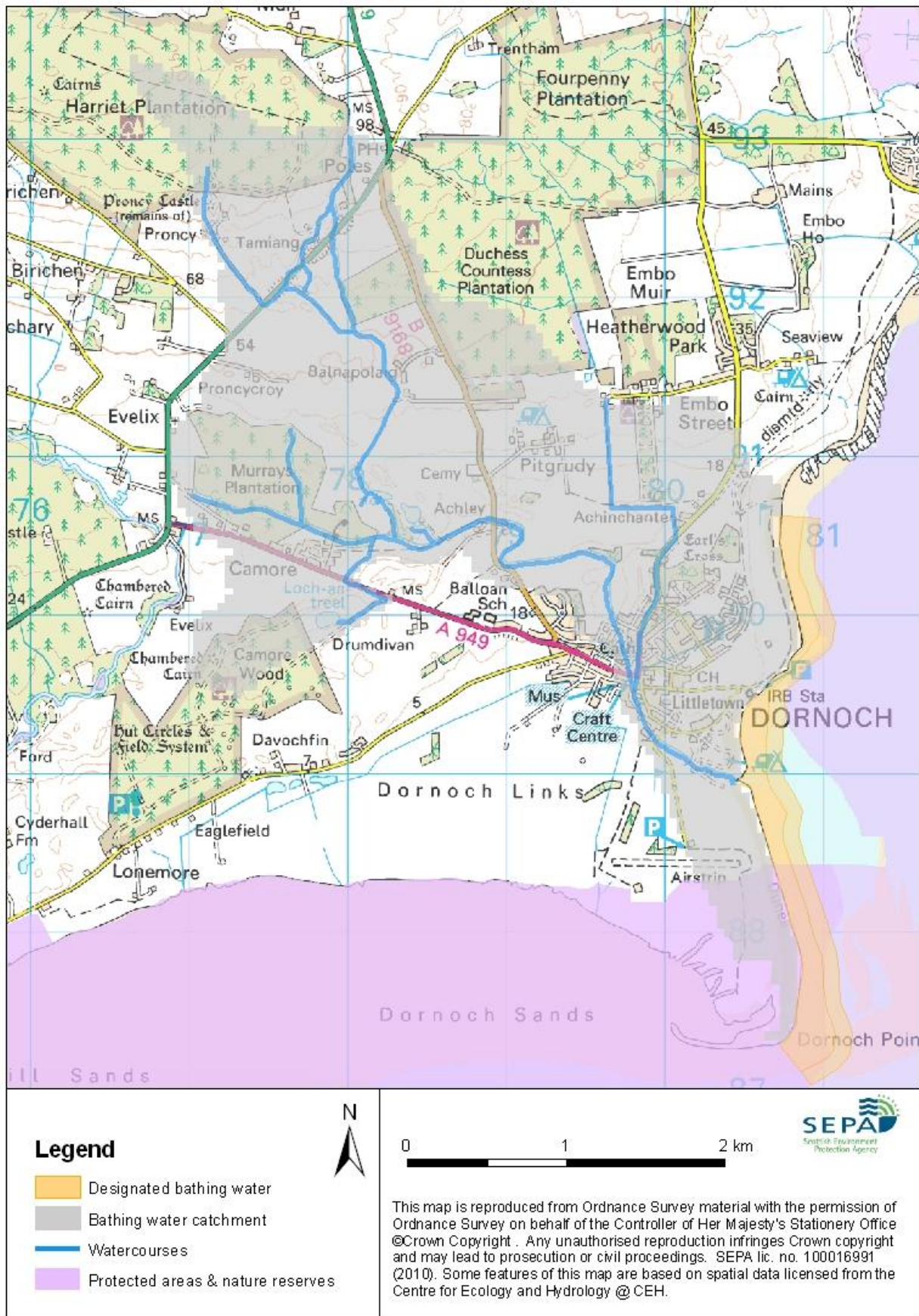
0 200 400 800 m

-  Designated bathing water
-  Bathing water sampling point
-  Bathing water sampling transect
-  Sewage effluent discharge
-  Combined sewer overflow
-  Emergency overflow
-  Sewage pumping station
-  Sewage treatment works
-  Watercourses



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Map 2: Catchment draining into Dornoch bathing water



Catchment description

The catchment draining into the Dornoch bathing water extends to 9 km². The catchment varies in topography from hills (maximum elevation 150 metres) in the west to low-lying plains (average elevation 5 meters) along the coast. Average summer rainfall for the region is 350 mm compared to 331 mm across Scotland as a whole.

The main river in the bathing water catchment is the Dornoch Burn which flows into the bathing water at the mid point of the bay.

The area is predominantly rural (96%) with agriculture the major land use. Of the rural area, 55% is grassland, 24% woodland and 15% arable agriculture. The area supports mixed farming. Approximately 4% of the bathing water catchment is urban. The main population centre is the town of Dornoch, which is situated within 1 km of the bathing water. Population density outside of the town is generally low. The area also includes some intensive and large-scale commercial and industrial activity in Dornoch and Tain (Map 2).

There are a few protected areas partially within the bathing water catchment including two Special Areas of Conservation and a Ramsar site (Map 2). Dornoch Bay is of international importance for aggregations of birds, the faeces from which have the potential to affect water quality at the bathing water. For further information on the protected areas in this catchment see Scottish Natural Heritage's [information service website](#)³.

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](#)⁴ (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](#)⁵ (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.

There are approximately 12 farms in the catchment draining to the Dornoch bathing water, the majority of which support mixed farming. We audited farms in the catchment in 2003 as part of a national project aimed at identifying potential sources of bacterial contamination which could pollute bathing waters. Although agricultural influences on the Dornoch bathing water are considered to be minimal, there is the potential for pollution from agricultural run-off to occur. Any such pollution could affect bathing water quality.

³ www.snh.org.uk/snhi

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

⁵ www.sears.scotland.gov.uk

The catchment draining to Dornoch bathing water is within the Dornoch coastal catchment. Work to address diffuse pollution issues in this catchment is expected to be completed by 2027.

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'.

Improvements to the sewerage system have led to a significant reduction in the level of faecal indicators in the Dornoch bathing water under normal conditions. Dornoch sewage treatment works was commissioned in 1993 and upgraded in 2008 to include ultraviolet disinfection of the effluent prior to discharge.

The Dornoch sewerage network is covered by a network licence and has several intermittent discharges to the Dornoch Burn comprising of CSO's and Emergency Overflows. The burn is not believed to pose a significant risk to bathing water quality under normal conditions. Under wet weather conditions or pumping station malfunction these overflows may discharge and pose a potential risk to the bathing water quality.

There are no other significant discharges within the beach catchment area. The cumulative effects from private septic tanks in the area could potentially affect on the bathing water quality.

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.

The Dornoch Burn is not known to be affected by surface water run-off from the urban area through which it runs.

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](#)⁶.

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 the Highland Council.

⁶ <http://apps.sepa.org.uk/bathingwaters/Predictions.aspx>

Contact details and sources of more information

SEPA Dingwall office

Graesser House
Fodderty Way
Dingwall Business Park
Dingwall
IV15 9XB
01349 862021
www.sepa.org.uk

Highland Council

Glenurquhart Road
Inverness
IV3 5NX
01349 886606
service.point@highland.gov.uk
www.highland.gov.uk

Pollution Hotline

0800 8070 60
24 hours per day, seven days per week

Keep Scotland Beautiful

01786 471333
beach@ksbscotland.org.uk
www.keepsotlandbeautiful.org

Scottish Government

Victoria Quay
Edinburgh
EH6 6QQ
0131 244 0396
egcat@scotland.gsi.gov.uk
www.scotland.gov.uk/Topics/Environment/Water/15561/bathingwaters

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 North Highland area management plan <http://www.sepa.org.uk/environment/water/river-basin-management-planning/who-is-involved-with-rbmp/area-advisory-groups/north-highland/>

Good Beach Guide: www.goodbeachguide.co.uk

Blue Flag and Seaside Awards: www.keepsotlandbeautiful.org/coastal

Version Control

Version number:	Date:	Next review due:
1.0	September 2010	
1.1	May 2014	
1.2	June 2015	