

Bathing water profile:

Stonehaven

<p>Bathing water: Stonehaven</p>	
<p>EC bathing water ID number: UKS7616058</p>	
<p>Location of bathing water: UK/Scotland/ Aberdeenshire (Map1)</p>	
<p>Year of designation: 1999</p>	

Bathing water description

Stonehaven bathing water is situated adjacent to the town of Stonehaven in Aberdeenshire. Stonehaven town is fronted by a half-moon bay made up of sandy beaches and a harbour. The designated bathing water encompasses an approximately 1 km stretch of this bay. The designated area is bound by the outflow of the River Carron and the harbour area jetty to the south, and rocky outcrops to the north (Map 1). It was designated as a bathing water in 1999 but has been monitored since the 1980s.

During high and low tides the approximate distance to the water's edge can vary from 0–160 metres. The sandy beach slopes gently towards the water. For local tide information see:

<http://easytide.ukho.gov.uk/EasyTide/>

Stonehaven is a popular coastal resort which is well used for various water sports particularly boating and fishing.

Our monitoring point for taking water quality samples is located at the mid-point of the designated area (Grid Ref NO 87650 85820) as shown on Map 1.

Monitoring water quality

Please visit our [website](#)¹ for details of the current EU water quality classification and recent results for this bathing water.

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

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

European standards used to classify bathing waters arise from recommendations made by the World 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. There are no direct discharges to the bathing water.

The principal risks and source of wet weather driven short term pollution at this bathing water arise from surface water urban drainage, agricultural run-off and combined sewer overflows. There is a gull colony at the bathing water, mainly concentrated at the mouth of the River Carron where gulls roost at low tide. Faecal inputs from these birds, and a raft of mallards that inhabit the mouth of the River Carron, pose a potential threat to the bathing water quality at Stonehaven. Short term pollution 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 or animal sources.

Bathing is not advisable during or following (one or two days after) rainfall. Bathing or swimming after storms, floods or heavy rainfall should be avoided as the risk of illness following short term water pollution is increased.

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 (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

Stonehaven bathing water is part of our daily water quality prediction and signage network.

Throughout the bathing season we display daily water quality predictions on the electronic message sign (Map 1). These water quality predictions are also available on our [website](#)³ or via the Beachline phone number (08452 30 30 98).

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

³ <http://apps.sepa.org.uk/bathingwaters/Predictions.aspx>

Map 1: Stonehaven bathing water



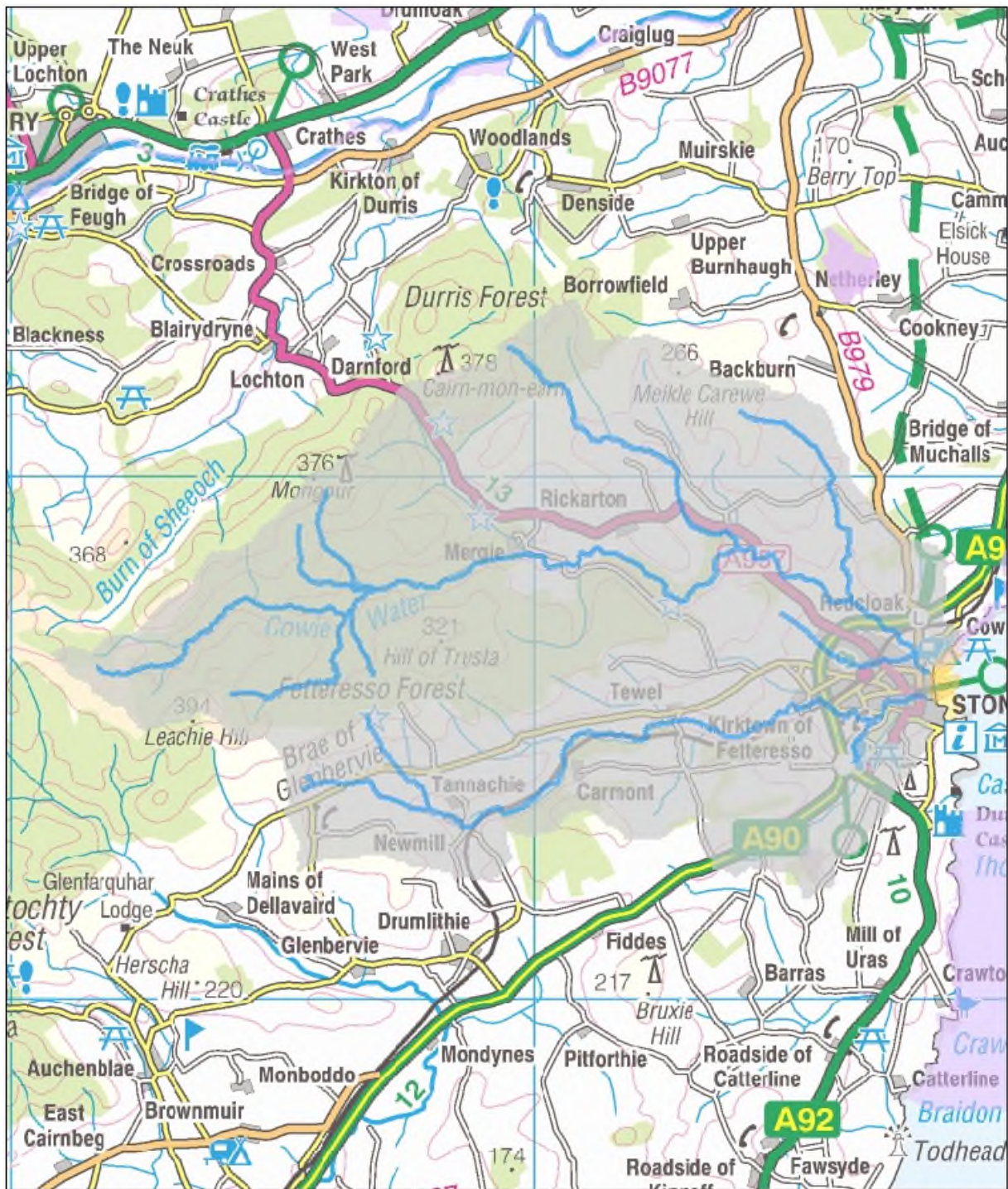
0 75 150 300 m

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- Designated bathing water
- Bathing water sampling point
- Bathing water sampling transect
- SEPA electronic sign
- Combined sewer overflow
- Emergency overflow
- Sewage pumping station
- Watercourses

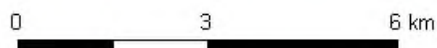


Map 2: Catchment draining into Stonehaven bathing water



Legend

- Watercourses
- Designated bathing water
- Bathing water catchment
- Protected areas & nature reserves



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Catchment description

The catchment draining into the Stonehaven bathing water extends to 117 km². The catchment varies in topography from high ground (maximum elevation 400 metres) in the west to the low-lying areas (average elevation 5 metres) along the coast. Average summer rainfall for the region is 267 mm compared to 331 mm across Scotland as a whole.

The main rivers in the bathing water catchment are the River Carron and River Cowie. These rivers drain into the Stonehaven bathing water. The River Cowie flows into the sea roughly half way along the bay and the River Carron flows to the sea at the southern end of the town and bay.

The area is predominantly rural (97%) with agriculture the major land use. The River Carron catchment is predominantly agricultural with mixed farming whereas the River Cowie catchment is predominantly forested. Approximately 2% of the bathing water catchment is urban, with the main population centre, Stonehaven, within 100 metres of the bathing water. There is some industrial activity next to the lower reaches of the River Cowie (Map 2).

We recently used new DNA tracing techniques to help us identify whether sources of faecal pollution are human or animal. In 2009, this method was used at Stonehaven and at sites in the river catchments which enables us to target further investigations and identify appropriate courses of corrective action. Results indicate that human and animal sources are likely to be affecting bathing water quality. Results also suggested there are generally higher bacterial counts in the River Carron in the southern part of the bathing water compared with the River Cowie in the north.

There is one Site of Scientific Interest partially within the bathing water catchment (Map 2). This designation is not expected to impact on the Stonehaven bathing water quality. For further information on this protected area see Scottish Natural Heritage's [information service website](#)⁴.

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](#)⁵ (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](#)⁶ (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.

Over 60 farms in the Carron and Cowie catchments were visited in 2003 and 2004 as part of a national plan to identify potential sources of bathing water pollution. Some of the farms were revisited to check

⁴ www.snh.org.uk/snhi

⁵ <http://www.sepa.org.uk/environment/water/river-basin-management-planning/who-is-involved-with-rbmp/dpmag/>

⁶ www.sears.scotland.gov.uk

compliance with the measures outlined after the first visits. Although indications are that pollution from agricultural steadings is not significantly affecting bathing water quality at Stonehaven, agricultural run-off is thought to occur in both the River Carron and River Cowie catchments, particularly during periods of wet weather.

Stonehaven bathing water catchment is within the Kincardine and Angus coastal catchment. The Kincardine and Angus coastal catchment has been identified as a 'priority catchment' in the second cycle of Scotland's River Basin Management Plans, which run from 2016 – 2021. A three stage approach will be taken to identify and tackle issues relating to diffuse pollution. The first stage of the process, identifying areas of the catchment that are likely to have an impact on water quality, is under way. Diffuse pollution sources are being identified via modelling, assessment of land use and taking into account local knowledge and observations. The final stage is 1:1 targeted visits. Areas identified as having the highest risk of diffuse pollution will be visited first in 2016.

Work to address diffuse pollution issues in this catchment is expected to be completed by 2021.

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 local sewerage system have led to the removal of continuous sewage discharges in and around the bathing water. Since 2008 sewage effluent from Stonehaven has been connected to the main Aberdeen treatment plant for secondary treatment and disposal via the long sea outfall at Nigg Bay. Prior to this sewage effluent from the Stonehaven works was discharged via an outfall pipe approximately 0.5 km out to sea off the end of the harbour jetty. From 2004 to 2007 a temporary chlorination plant provided additional treatment for the effluent during the bathing season. During wet weather the plant continued to operate, with excess storm flows discharged via the short sea outfall. The appearance of Stonehaven foreshore has been much improved since the removal of the effluent discharge and there is now less sewage-derived litter on the beach.

There are several combined sewer outfalls in Stonehaven town that intermittently discharge into the lower Rivers Carron and Cowie. Improvements have been made to the main combined sewage outfall and screening is now in place. A recent study by Scottish Water, to determine whether asset improvements are required to meet the revised Bathing Waters Directive, has concluded that improvements to Scottish Water assets are not required.

Septic tank inputs may also be contributing to bacteria levels in the water courses and bathing water.

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 River Cowie, which discharges into Stonehaven bathing water, is known to be affected by surface water run-off from urban industrial areas through which it runs. It therefore potentially affects the bathing water quality.

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](#)⁷.

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 Aberdeenshire Council.

Contact details and sources of more information

SEPA Aberdeen office

Inverdee House
Baxter Street
Torry
Aberdeen
AB11 9QA
01224 266600
www.sepa.org.uk

Aberdeenshire Council

Woodhill House
Westburn Road
Aberdeen
Aberdeenshire
AB16 5GB
08456 081207
www.aberdeenshire.gov.uk

Pollution Hotline

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

Scottish Government

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

Keep Scotland Beautiful

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

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

Good Beach Guide: www.goodbeachguide.co.uk

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

Version Control

Version number:	Date:	Next review due:
1.1	April 2013	

⁷ <http://apps.sepa.org.uk/bathingwaters/Predictions.aspx>

1.2	April 2014	
1.3	June 2015	
1.4	May 2016	