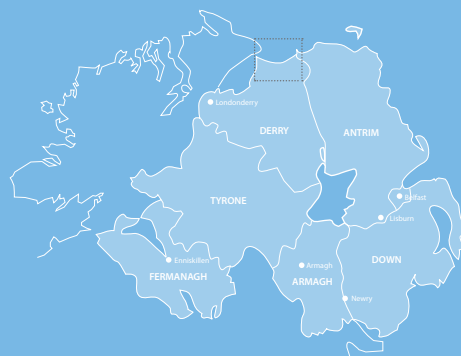


Department of the Environment
Marine Division

Bathing Water Profile

Castlerock

May 2015



Map of Northern Ireland's Bathing Waters 2015



Background to Bathing Water Profiles

This is one of a series of profiles which cover all 23 of Northern Ireland's identified bathing waters. These are the most popular of our bathing areas and have been 'identified' as part of a network of European bathing sites.

The purpose of the bathing water profile is to help the bather to make an informed choice before bathing. The profile gives information on the physical, geographical and hydrological characteristics of the bathing water while assessing the possible pollution risk at the site. Bathing water profiles are a new European requirement, under the 2006 revised Bathing Waters Directive (www.doeni.gov.uk/marine-home). It is our intention to review the profiles annually.

All of our bathing waters are monitored on 20 occasions during the bathing season. In Northern Ireland the season runs between 1st June and 15th September each year. Bathing waters are tested for bacteria which indicate faecal contamination. Results are published weekly to bathing water operators and to the Department of the Environment (DOE) web site. Waters are then classified annually as Excellent, Good or Poor, as defined by the European Bathing Water Directive, 1976.

In effect, this profile reflects a transition from the 1976 Directive to the 2006 Directive which must be fully implemented by 2015.

Key Information

Bathing Water Name	Castlerock Bathing Water
EU bathing water ID number	UKNO4_47900
Location	UK/Northern Ireland/County Londonderry/North Coast
Year of identification	1993
Local council area	Causeway Coast and Glens Borough Council
Bathing Water Operator	Causeway Coast and Glens Borough Council
Description of bathing beach	Sand, approximately 1 kilometre in length
Monitoring Point	Middle of bathing water, C77553638 (Map 2)

A Description of Castlerock bathing water and the surrounding area

Castlerock is a popular seaside resort located on the north coast of Northern Ireland. Castlerock bathing water is approximately one kilometre in length and composed entirely of sand. The beach backs onto a sand dune system and golf course on the eastern side and a promenade area on the western side.

The immediate catchment for this beach is urban. However, the larger catchment consists of improved grassland with neutral grass and arable horticulture. The main geology in the area comprises mainly of Tertiary Basalts with the remainder being underlying Cretaceous and Jurassic rock.

Two un-named rivers flow out across the beach. The first river constantly flows and can be found on the far western side of the beach. The second river is located at the entrance to the beach and only flows occasionally.

The River Bann flows out to sea at the eastern end of the bathing area through the Barmouth (see Map 1). The River Bann flows primarily through rural areas with agriculture being the main land use, draining some 40% of Northern Ireland. However it also flows through several towns including Coleraine, Portglenone and Toome.

The main area of population affecting the bathing area is the town of Castlerock, which is immediately adjacent to the bathing area. This town has a population of approximately 1,300, although during the summer season this number is greatly increased due to the influx of holiday makers. The town of Coleraine (pop. 24,000) is located to the south of the bathing area. The River Bann runs through the town of Coleraine and may indirectly affect the water quality at Castlerock.

Bathing Water Quality History at Castlerock

Castlerock bathing water was identified in 1993. Monitoring and reporting is carried out by DOE Marine Division. Its history of compliance is displayed below and can also be viewed at www.doeni.gov.uk/marine-home

Castlerock Bathing Water Quality 2009-2014



Key: ● Excellent ● Good ● Poor

The 1976 Directive classified bathing waters as Excellent, Good or Poor. In 2006 a new revised Bathing Water Directive replaced the 1976 Directive. Under a new system of bacterial monitoring bathing waters will, from 2015, be judged against more stringent standards and classified as Excellent, Good, Sufficient and Poor. Using the data collated over the past years, predictions have been made of the new water quality classification and can be seen at www.doeni.gov.uk. This new system of classification will become 'live' in 2015. DOE Marine Division will continue to display both classifications up until that time, although the old classification results will be based on equivalence calculations from the new measurement methodologies, agreed at a UK level.

All of Northern Ireland's water quality objectives are set out in River Basin Management Plans (www.doeni.gov.uk/nea/wfd) and detailed management activities are published within Local Management Area Plans (which can be viewed through the same link). These encompass agreed overall objectives for water quality including the quality of identified bathing waters.

Potential sources of pollution and measures to reduce the impact at the bathing water

It should be noted that weekly classification at Castlerock bathing water is generally Good or Excellent.

The potential sources of pollution have been split into three main categories. These are waste water (sewage) treatment works discharges, waste water systems in urban areas and rural source pollution, including agriculture.

Castlerock bathing water was identified as being at risk from likely water pollution based on summary analysis of bathing water results, monitoring of associated rivers and some investigative monitoring. This resulted in a project being initiated by DOE/NIEA to investigate the catchment and inspect possible sources of microbiological contamination inputting to the bathing water. A number of sources of possible contamination were identified. Both rural sources and problems in the urban areas were assessed as being the main risk to the bathing water quality. Many of these sources of microbiological contamination have been identified and resolved, however DOE Marine Division continue to work with NIEA and other Departments to identify and resolve further sources of contamination.

Are there Waste Water Treatment Works in the vicinity of Castlerock beach?

There is a major waste water treatment facility between Portrush and Portstewart with an outfall approximately 1 km off the coast to the east of Portstewart. This treated waste water outfall is approximately 6 km from the Castlerock bathing water. The works treats waste water from wider Portrush, Portstewart, Castlerock and Coleraine area. The waste water receives secondary treatment.

There is one minor waste water treatment works inland from Castlerock approximately 2.5 kilometres from the bathing area. (Map 1)

Are there other risks of pollution from waste water systems?

Castlerock town is a popular seaside location attracting visitors during the summer season. This urbanisation is a potential source of pollution, especially during and after periods of prolonged or heavy rainfall. In the event of very heavy rainfall a collection system may not be able to deal with all

the flow received. A portion of the contents of the collection system may overflow to a waterway under storm conditions. [This is why there is general advice not to bathe during or up to 2 days after such rain.](#)

The municipal collection and treatment of waste water has the potential to cause pollution because all collection systems must be designed to overflow in periods of extreme wet weather or following failure of the system. If systems are not designed in that way, then sewers may overflow into residential areas. Within the Castlerock area there are sewage pumping stations (SPS) with associated emergency overflows as shown on Map 1. NIW has in the past made significant improvements to the sewer system in this area.

In order to reduce the potential for pollution in the water environment from these systems NIEA requires that all current and proposed systems meet the requirements of the Urban Wastewater Treatment Directive (www.doeni.gov.uk/niea/uwwt_gid2_2002.doc) and the Water Framework Directive (WFD) (www.doeni.gov.uk/niea/wfd).

During the expansion of any urban area, there is the potential for misconnections between the sewer system and surface drains, which may allow untreated wastewater to enter the water environment. When these become apparent, NIEA pursues them as pollution incidents.

A further measure in tackling urban pollution is through the use of sustainable urban drainage systems (SUDS), which NIEA encourages through its SUDS Strategy. Other measures include compliance with the Northern Ireland Water Order 1999 and implementation of Pollution Prevention Guidelines (www.doeni.gov.uk/niea/potential-polluters.htm#vehiclewashoperators).

Are there risks from agriculture and rural activities?

Agriculture is a major industry in Northern Ireland and the wider catchment area of Castlerock bathing water has a significant amount of improved grassland containing neutral grass and arable horticulture. Areas within the catchment where agriculture is the dominant land use may be subjected to inputs from chemical fertilisers and organic wastes which can contribute to pollution problems in the surrounding area. Prolonged periods of rainfall can cause surface runoff of these organic wastes, such as animal slurries, contributing to the bacteria content in the water environment.

The Nitrates Action Programme Regulations (Northern Ireland) 2010 (previously the Nitrates Action Programme Regulations (Northern Ireland)

2006) and the Phosphorus (Use in Agriculture) Regulations (Northern Ireland) 2006 were introduced to improve the use of nutrients on farms and as a result improve water quality throughout Northern Ireland. The effectiveness of these regulations is continually reviewed through monitoring, enforcement and education.

Septic tanks also have the potential to cause localised pollution, but there is no evidence to suggest that this is impacting Castlerock bathing water.

Are there other potential sources of pollution?

Other sources of pollution exist in this bathing area, these include;

- Dogs
- Horses
- Litter
- Fly tipping

All issues have been addressed through local signage to ensure that these controllable causes of pollution do not affect the bacteria content of the water.

NIEA have compiled River Basin Management Plans, these take an integrated approach to the protection, improvement and sustainable use of the water environment. Each plan identifies existing pollution reduction programmes and additional measures which could be implemented to maintain or improve the water quality.

Castlerock is located in the North Western River Basin Management Plan within the Roe local management plan - further details can be found at www.doeni.gov.uk/niea/roe_lma_actionplan.pdf

Is there evidence of short term water pollution events at Castlerock?

From 2011-2014 there were twelve confirmed incidents of water pollution in the Castlerock area. Four incidents occurred during the bathing season, but did not result in a deterioration of bathing water quality.

What should I do if I see a pollution incident?

If you see a water pollution incident, you should immediately contact NIEA through the Emergency Water Pollution Hotline, which is operated 24 hours.

Phone: 0800 807060

When a pollution incident is reported or pollution is found to be affecting the water quality of a bathing water, an immediate investigation is instigated. All possible sources of pollution are checked.

In addition, a resample will be collected to monitor whether the beach is still polluted. Bathing waters may be closed (by local authority or controlling body) until the water quality has improved and levels of bacteria are within mandatory standards.

Macro-Algae, Phytoplankton and Cyanobacteria (blue-green algae)

Castlerock bathing water is not at risk of a proliferation of macro-algae, phytoplankton or cyanobacteria (blue/green algae).

Daily water quality forecasts

There is presently no facility to predict bathing water quality on a daily basis. However, the general advice remains: do not bathe during or for up to 2 days after heavy rainfall events.

Contact details

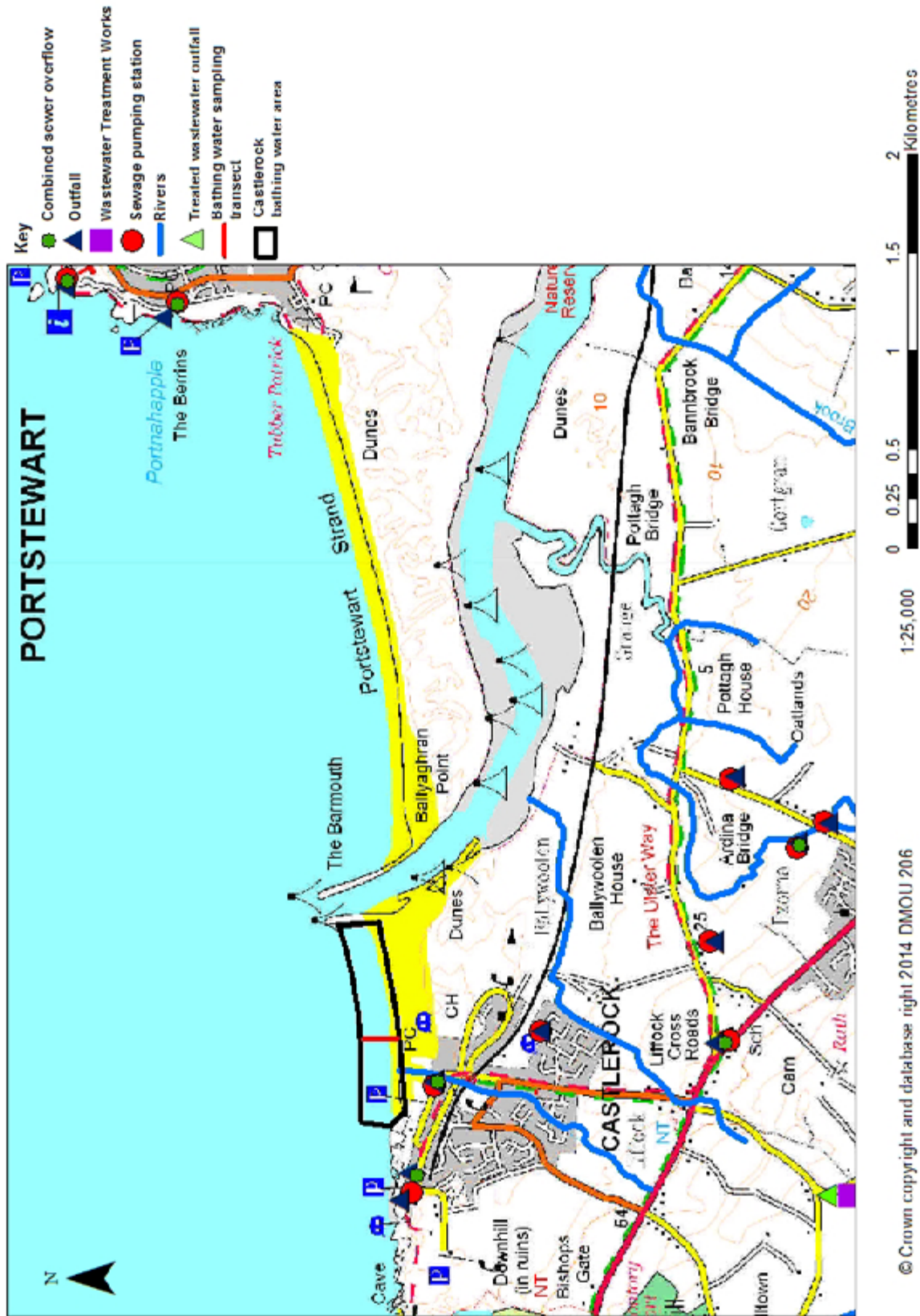
For general information about bathing waters:

DOE Marine Division
17 Antrim Road
Tonagh
Lisburn, BT28 3AL
Email: MarineDivision.InfoRequests@doeni.gov.uk
Phone: 028 9262 3244

Water Pollution 24hr Hotline Phone: 0800 807060

Local Authority Causeway Coast and Glens Borough Council
Cloonavin
66 Portstewart Road
Coleraine
BT52 1EY
Phone: 028 7034 7034

Map 1
Castlerock Bathing Water -
Potential Pollution Sources



Map 2
Castlerock Bathing Water -
EC Bathing Water Sample Location





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17 Antrim Road
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