

Department of the Environment
Marine Division

Bathing Water Profile

Newcastle

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	Newcastle Bathing Water
EU bathing water ID number	UKNO3_54300
Location	UK/Northern Ireland/County Down/South Down Coast
Year of identification	1993
Local council area	Newry, Mourne and Down District Council
Bathing Water Operator	Newry, Mourne and Down District Council
Description of bathing beach	Sand, pebbles and stones, approximately 2.5 kilometres in length, contiguous with Murlough Bathing Water
Monitoring Point	Middle of bathing water, J38023150 (Map 2)

A Description of Newcastle bathing water and the surrounding area

Newcastle is a popular tourist destination located on the South Down coast of Northern Ireland.

The beach is comprised of sand, pebbles and larger stones, is approximately 2.5 kilometres in length and is contiguous with Murlough bathing water, giving a total length of approximately 5.5 kilometres. The major part of the bathing water is backed by a promenade and then the seaside town of Newcastle. The exception is the northern section of the bathing water which is backed by sand dunes and a golf course. The beach has a very gentle slope. The inter-tidal distance can be 0.4 km, or more at low tide. The entire area is within the Mournes and Slieve Croob Area of Outstanding Natural Beauty and the Murlough Special Area for Conservation.

The immediate catchment for this bathing area is urban. However further inland the catchment consists of acid grass, improved grassland and dense dwarf shrub heath to the north. The Mourne Mountains lie to the south. The underlying geology of the area is very mixed with the granite mountains to the south and Ordovician geology (Gala Sandstone, Hawick Group) in the Newcastle valley to the north.

There are two rivers which flow across the bathing beach. The Shimna River flows out to sea near the middle of the bathing water having flowed through a rural environment and the town of Newcastle.

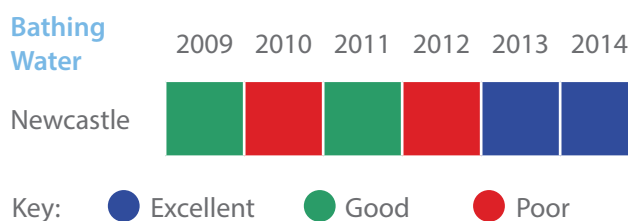
Before entering the bathing water the Shimna River converges with several other rivers which have also flowed through a rural environment and the town of Newcastle. The Shimna may therefore be influenced by rural and urban discharges. The Glen River flows out to sea at the south eastern end of the bathing water having originated in the Mourne Mountains.

The town of Newcastle surrounds the beach and has a winter population of approximately 8,500 which increases during the summer months to around 12,000 due to an influx of holiday makers.

Bathing Water Quality History at Newcastle

Newcastle 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

Newcastle Bathing Water Quality 2009-2014



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/nia/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 Newcastle bathing water is generally Good. However, since 2009 the bathing water has failed the overall mandatory compliance standards of the 1976 Directive on two occasions recording 'Poor' water quality.

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.

Newcastle 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 agriculture and human practices 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 Newcastle beach?

The Newcastle area is served by a combined sewerage system which delivers waste waters to a Waste Water Treatment Works adjacent to the harbour. Waste water receives secondary treatment with bacterial reduction during the bathing season. The treated effluent is discharged some 300m from the shoreline, approximately 1 km south of the bathing water (Map 1).

The bathing water was designated as sensitive under Annex IIa of the Urban Waste Water Treatment Directive in July 2006. As a result of this designation Northern Ireland Water (NIW) has upgraded the Waste Water Treatment Works to provide storm storage and bacterial reduction of the effluent during the bathing season. This work was completed in July 2013. The network is also being upgraded to afford protection to the bathing water.

Are there other risks of pollution from waste water systems?

Newcastle town is a popular seaside location attracting large numbers of 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 pump system. If systems are not designed in that way, then sewers may overflow into residential areas. Within the Newcastle area there are combined sewer overflows (CSO), emergency overflows and sewage pumping stations (SPS) with associated emergency overflows as shown on Map 1.

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 majority of land cover within the catchment area of Newcastle bathing water is acid grass, improved grassland and dense dwarf shrub heath. 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 Newcastle 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.

Newcastle is located in the North Eastern River Basin Management Plan within the South Down local management plan - further details can be found at www.doeni.gov.uk/niea/southdown_lma_actionplan.pdf

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

From 2011-2014 there were thirteen confirmed incidents of water pollution within 3kms of the bathing water. Ten of these incidents occurred during the bathing season, five of which resulted in a deterioration in 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)

Newcastle 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

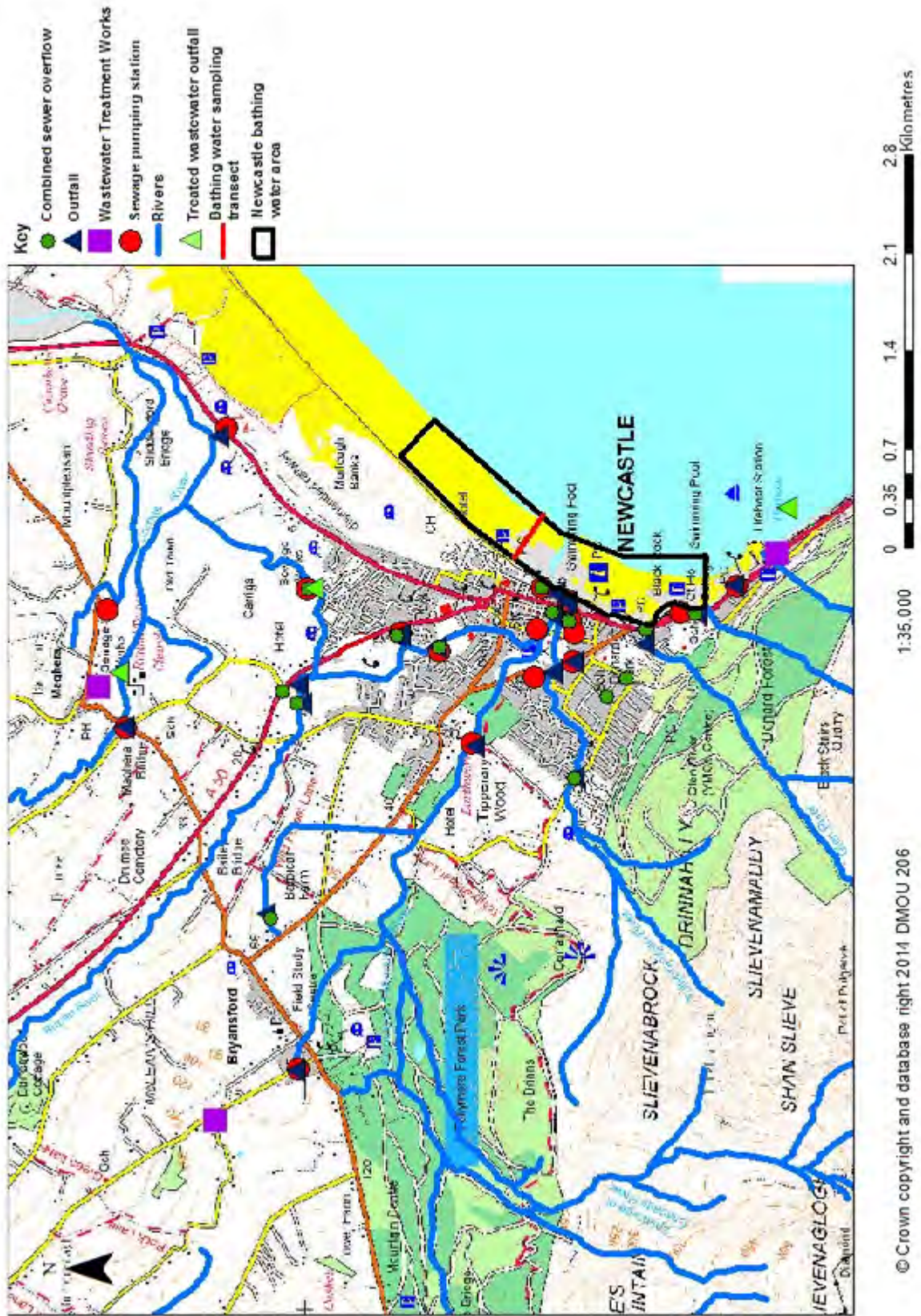
For general information about bathing waters:

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

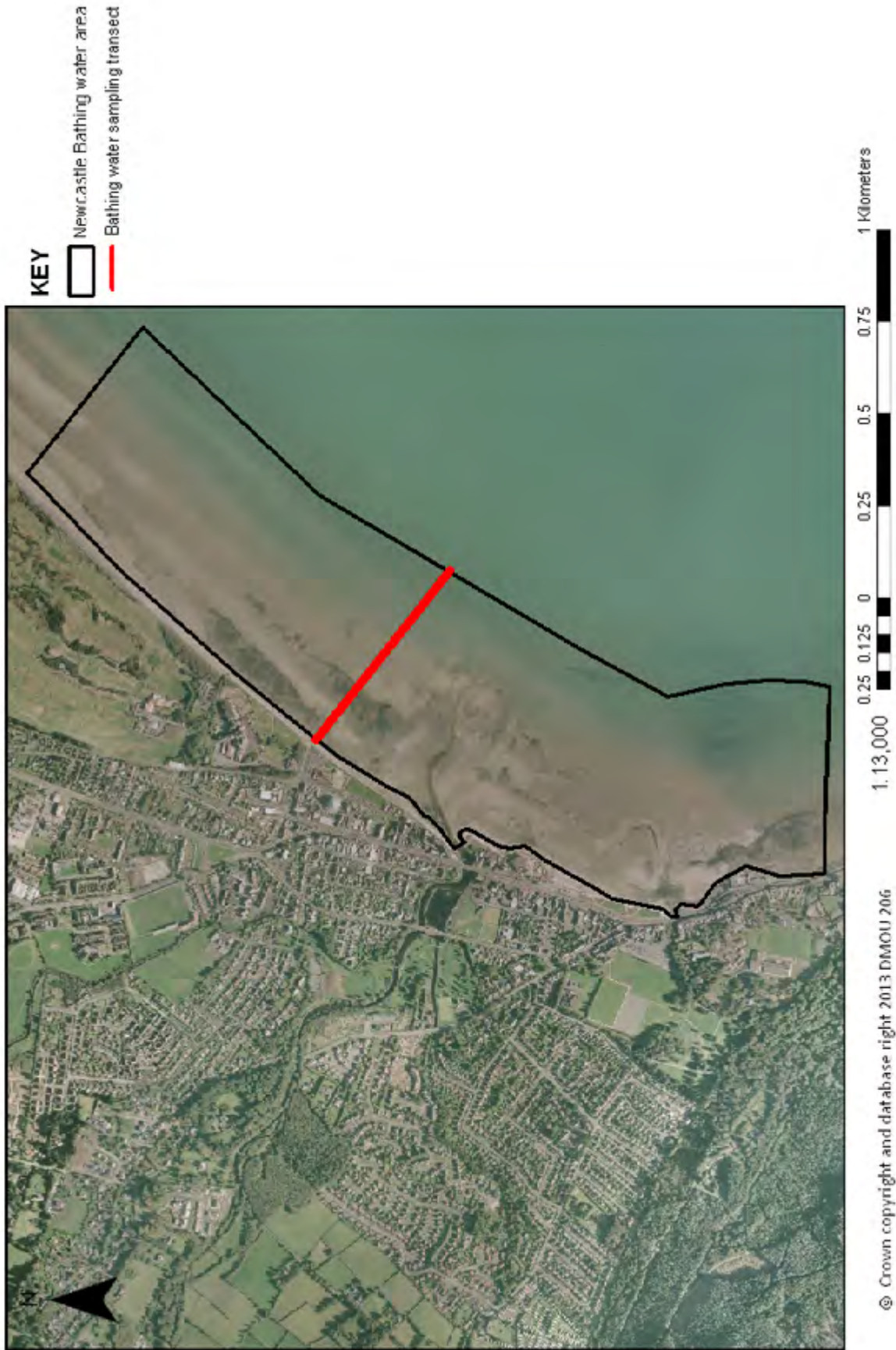
Local Authority Newry, Mourne and Down
District Council
Downpatrick Office
Downshire Civic Centre
Downshire Estate
Ardglass Road
Downpatrick
Co. Down, BT30 6GQ
Phone: 0300 013 2233

Map 1
Newcastle Bathing Water -
Potential Pollution Sources



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Map 2
Newcastle Bathing Water -
EC Bathing Water Sample Location





DOE Marine Division
17 Antrim Road
Tonagh
Lisburn
BT28 3AL

Water Pollution Hotline: 0800 807060
Email: MarineDivision.InfoRequests@doeni.gov.uk