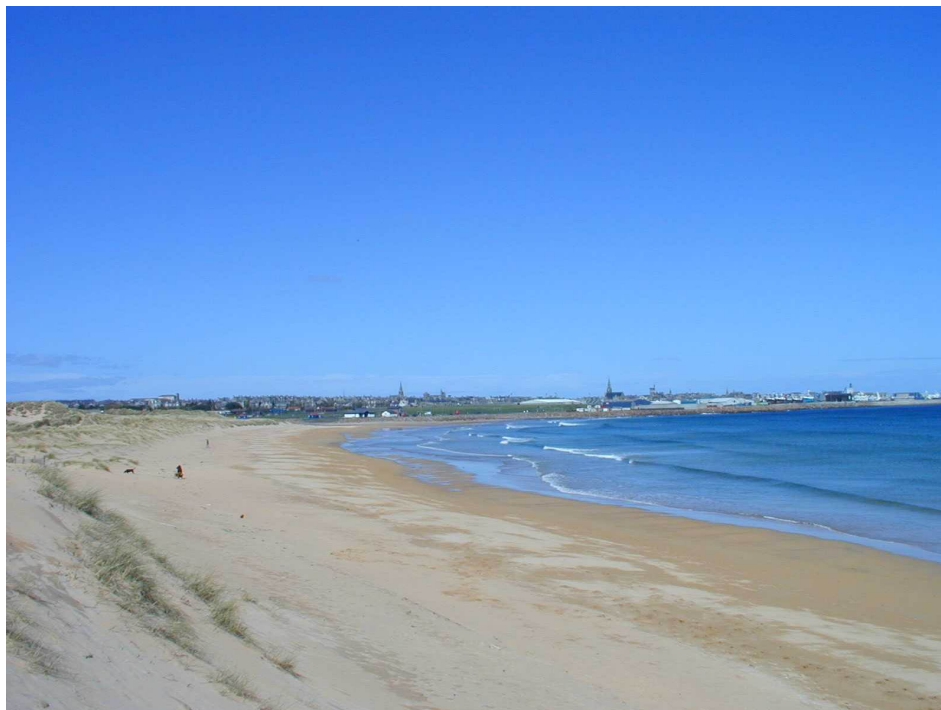


26 Fraserburgh (Tiger Hill)



26.1 Background Information

This sandy beach is backed by an impressive dune system and is very popular with families and tourists. More specifically it is favoured by those pursuing water sports, particularly surfing and walkers. Fraserburgh Bay is approximately 4 km long, and is covered by two separate EC bathing water designations. The area closest to the town is known as the Fraserburgh (Tiger Hill) bathing water, and the other part of the bay known as Fraserburgh (Philorth) bathing water (Fig 26A). Fraserburgh (Tiger Hill) is a Marine Conservation Society recommended beach (2007), a UK award which recognises bathing waters with the highest water quality standards.

Following engineering works along the coastline, car parking and access arrangements to the bathing beach were changed which resulted in a corresponding shift in the main area of the beach used by the public. To reflect this, the sampling point for this bathing water was relocated to the 'Tiger Hill' site prior to the 2003 bathing water season. For the last 6 years Fraserburgh (Tiger Hill) has achieved either good or excellent water quality standards indicating generally low bacteria levels at this site.

Significant upgrading of the local sewerage infrastructure was completed in 2001. A new sewage treatment works was commissioned in Fraserburgh, and became fully operational in late 2001. Prior to this there were twelve untreated sewage discharges in the vicinity of the bathing water. These local discharges are now pumped 3 km west of the bathing water to the new sewage treatment works, where full biological treatment and UV disinfection is provided before discharge through a new outfall to sea off the western side of the town. Bacteriological monitoring of the effluent from the new works has shown that the disinfection treatment is extremely effective.

The Kessock Burn meets the sea at the western end of the bay. This burn has a largely agricultural catchment area, receives septic tank discharges from private dwellings and also receives urban drainage in the lower reaches. A surface water

sewer has in the past been responsible for the discharge of untreated sewage to this burn.

In March 2006 the revised Bathing Water Directive (2006/7/EC) entered into force and was enacted in the UK by Regulations in 2008. Key features are tighter microbiological standards to be met by 2015 and increased provision of public information.

Compliance and pollution improvement required for the designated EU Bathing Waters will be co-ordinated through the Water Framework Directive (WFD) programme of measures which will form part of the river basin management plan. The programme of measures will outline measures (actions) that are being taken to protect and improve the water environment in the river basin district. This EU designated bathing water (protected area) pollution reduction plan will identify measures relevant to this bathing water and associated water bodies that are being undertaken as part of the programme of measures.

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Good	Poor	Good	Good	Poor	Good	Excellent	Good	Excellent	Excellent	Good

Table 26A: Record of Compliance for Fraserburgh, 1997-2007 (results from 2003 onwards are for the current Fraserburgh (Tiger Hill) site, prior to this they are from the former Fraserburgh site).



Figure 26A: Map of Fraserburgh (Tiger Hill) designated bathing beach and surrounding local area.

26.2 Results for 2007

Fraserburgh (Tiger Hill) Results				
Date	Total Coliforms (colonies/100ml)	Faecal Coliforms (colonies/100ml)	Faecal Streptococci (colonies/100ml)	Salinity
24-May-2007	14 (G)	10 (G)	2 (G)	33.6
6-Jun-2007	6 (G)	4 (G)	10 (G)	35
12-Jun-2007	139 (G)	81 (G)	41 (G)	34.2
19-Jun-2007	9 (G)	6 (G)	4 (G)	33.9
27-Jun-2007	58 (G)	36 (G)	6 (G)	34.6
2-Jul-2007	300 (G)	300 (M)	28 (G)	34.6
6-Jul-2007	1300 (M)	400 (M)	15 (G)	-
8-Jul-2007	200 (G)	26 (G)	3 (G)	-
10-Jul-2007	26 (G)	14 (G)	2 (G)	-
20-Jul-2007	6 (G)	<2 (G)	2 (G)	34.8
24-Jul-2007	100 (G)	52 (G)	33 (G)	34
27-Jul-2007	12 (G)	4 (G)	10 (G)	32.7
30-Jul-2007	1200 (M)	400 (M)	68 (G)	31.7
2-Aug-2007	26 (G)	2 (G)	4 (G)	33.3
7-Aug-2007	200 (G)	126 (M)	26 (G)	34.9
8-Aug-2007	900 (M)	900 (M)	190	31.8
15-Aug-2007	22 (G)	12 (G)	1 (G)	33
21-Aug-2007	62 (G)	28 (G)	19 (G)	34.2
28-Aug-2007	42 (G)	34 (G)	18 (G)	33.7
4-Sep-2007	2 (G)	2 (G)	4 (G)	34.8

Table 26B: Microbiological results for Fraserburgh (Tiger Hill) bathing beach, May-Sept 2007.

26.3 Scottish Water Assets

The only remaining consented sewage discharge within the vicinity of the bathing water is any intermittent discharge from Fraserburgh Sudan 2 pumping station via its combined sewer overflow or emergency overflow, which have an outfall at the northern end of the bathing water. These are included within SEPA's monitoring programme to ensure they are operating to the required standard in order to protect the bathing waters. Work has been carried out by Scottish Water to ensure spills are restricted to the maximum permitted by the SEPA consent conditions. Joint inspections between SEPA and Scottish Water have been carried out in the last few years prior to the bathing water season to verify that appropriate measures are in place to protect the bathing water in the event of any spillages. It is expected this exercise will be repeated prior to the start of the 2008 bathing season also.

There are three consented Scottish Water surface water sewers (SWSs) discharging to the Kessock Burn. A blocked foul sewer was found over-spilling to one of these in 2001, and believed responsible for the failure of the bathing water that year. The blockage was cleared and system flushed, and the problem believed to be rectified in 2001. However there have been intermittent problems with the discharge from this SWS in subsequent years, and despite further monitoring and investigations by Scottish Water the root of the intermittent problem has not been entirely resolved. Proposals to identify and rectify misconnections on the sewerage system were put forward for Quality & Standards III, but are unlikely to go ahead due to other prioritised work. Furthermore, there have been no problems with this SWS over the

past year, and bathing water standards have been met at this beach for the last five years.

26.4 Other Discharges

There are no other significant discharges to the bathing water. There are however a number of private septic tank discharges to the Kessock Burn which cumulatively could potentially have an influence on the bathing water quality.

26.5 Agriculture

Audit inspections of farms in the catchment of the Kessock Burn were carried out in 2003 and showed that agricultural pollution is unlikely to have a significant effect on bathing water quality.

Although diffuse pollution from agriculture is not believed to be significant in this catchment, there is some risk to the bathing water quality from run-off from the land particularly during periods of wet weather. SEPA will continue to promote best practices and the PEPFAA code where possible, to help minimise diffuse agricultural pollution. In addition, the Scottish Executive's Four Point Plan for the reduction of agricultural pollution sources should prove helpful in tackling this issue.

The Kessock Burn catchment lies within a designated Groundwater Nitrate Vulnerable Zone (NVZ) under the terms of the European Nitrates Directive 91/676/EEC, which aims to reduce water pollution from agricultural sources. As a result of the Directive, The Action Programme For Nitrate Vulnerable Zones (Scotland) Regulations 2003 came into force in February 2003 and introduce legally binding rules in the form of action programmes for farmers in designated NVZs. Programme measures focus on limiting nitrate input by matching it to crop requirement, and controlling storage and application of certain fertilisers and organic waste to minimise leaching and run-off.

Scottish Government has completed a consultation on General Binding Rules (GBRs) designed to protect the water environment from agricultural diffuse pollution. The proposed GBRs which are part of the Controlled Activities Regulations (CAR) came into force in April 2008. The measures are based on widely accepted standards of good practice such as the Scottish Government's Prevention of Environmental Pollution from Agricultural Activity (PEPFAA) Code, the 4 Point Plan, Farm Soils Plan and the Forestry Commission's Forests and Water Guidelines.

The GBRs will establish basic activities that should be undertaken to reduce pollution risk. They also propose that draining lightly contaminated farmyard water to a Constructed Farm Wetland (CFW), specifically designed for the purpose should be permitted as an alternative to collection and storage of the run-off. These measures will help to protect bathing water quality from agricultural diffuse pollution.

Even with these national GBRs in place, there are likely to still be problems associated with certain pollutants in some catchments. For these areas, it may be necessary – in conjunction with river basin management planning – for the national rules to be supplemented by further localised controls on a particular land use activity within a catchment.

26.6 Hydrometric Network

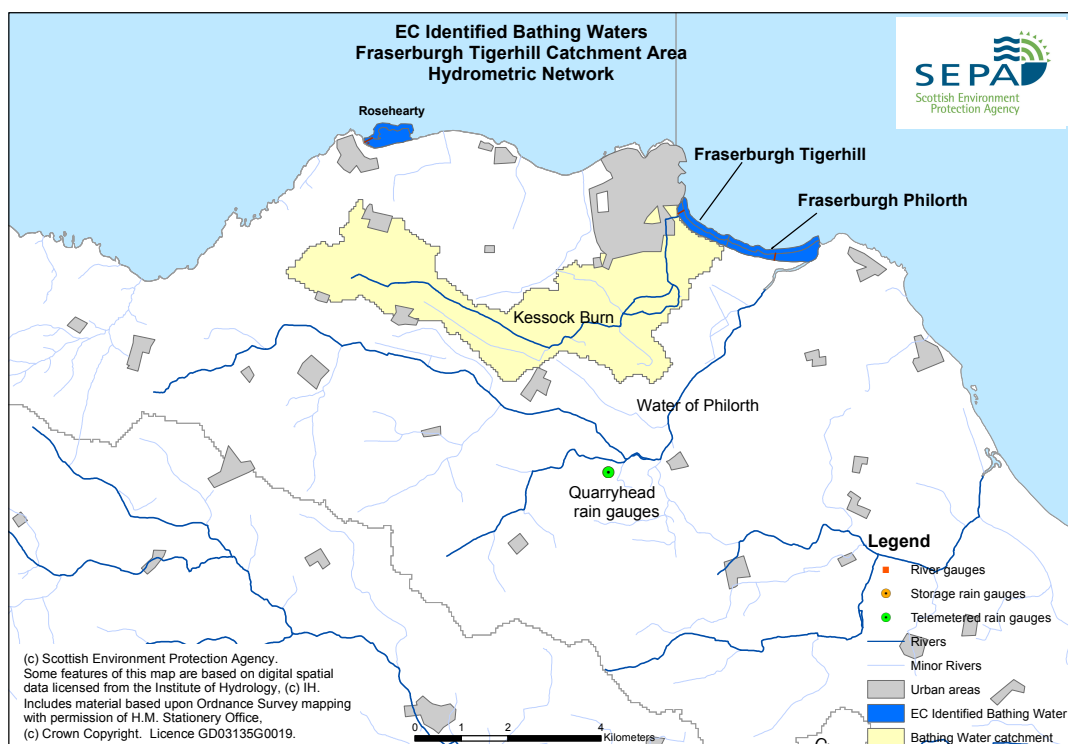


Figure 26B: Hydrometric map of Fraserburgh (Tiger Hill) and surrounding area.

26.7 Further Investigations

Following the failure of the bathing water standards in 2001, investigations designed to assess the effects of diffuse and/or point-source pollution on the bacteriological quality of the Kessock Burn were carried out during 2002 and 2003, in collaboration with Scottish Water. The greatest source of contamination within the burn was found to be downstream of the Kessock Place Industrial Estate SWS and an adjacent housing estate SWS. Diffuse pollution from agricultural run-off and septic tanks further upstream could also impact to some degree on the bathing water quality particularly during wet weather, however no specific problems of this nature were identified as part of the investigations. SEPA have been liaising with Scottish Water over the SWS discharges into the Kessock Burn, to identify and rectify any misconnections on the sewerage system (see above).

26.8 Response to Failure

Fraserburgh (Tiger Hill) beach has been assessed for the 2008 season as at low risk of failing to meet the Directive's standards, following five consecutive years of compliance.

Should there be a mandatory failure, there will be an immediate response to check all the relevant potential sources and major discharges in the catchment area to confirm the reason, e.g. if there has been a failure of the pumping stations and/or whether the failure was due to high river flows, taking account of SEPA's hydrometric information. In addition, immediate follow-up microbiology sampling will be undertaken of the failed beach, and of nearby river inputs where appropriate.

The regional Environmental Quality Unit will co-ordinate a response in conjunction with the local Environmental Protection and Improvement team and Science functions, and post the result of the investigation and actions arising on the SEPA bathing waters internet site.