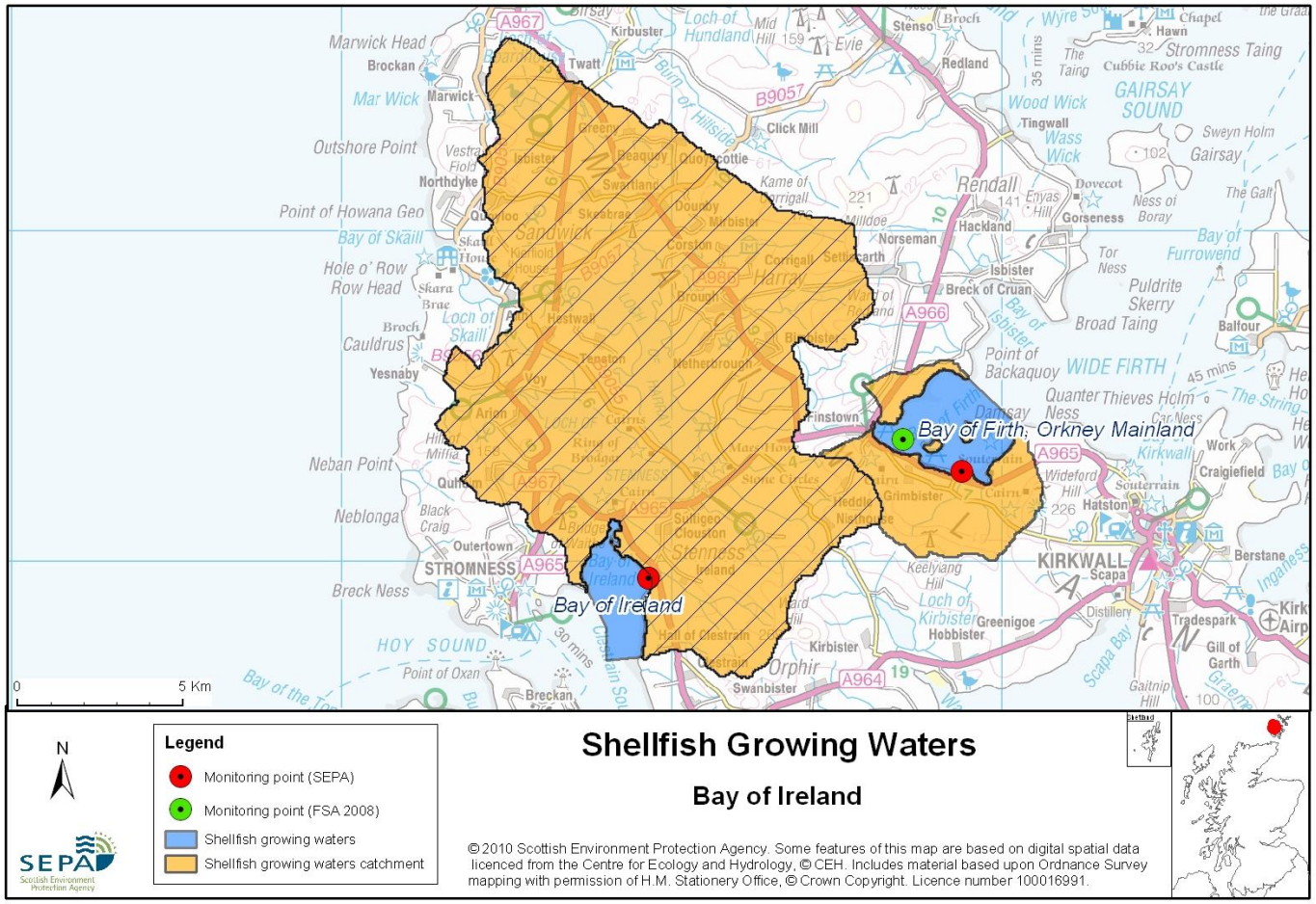
35 Bay of Ireland



Name	Bay of Ireland
Report Reference Number	35
WFD Code	UKS7992335
Local Information	An area inshore of a line drawn between HY 2745309093 (Bu Point) and HY2800008000, between HY2800008000 and HY2800007000 and between HY2800007000 and HY2907807108, with the northern boundary being a line drawn between HY2814411222 and HY2821311255, and extending to MHWS.
Designated Area (km²)	5.04
Year of Designation	2002
Sampling Points	Bay of Ireland - HY 29300 09500
Commencement of Monitoring	2003

35.1 Commercial Shellfish Interests

For more information on Food Standards Agency Classification please visit:
http://www.food.gov.uk/scotland/safetyhygienescot/shellmonitorscot/shellclassesscot/

35.2 Bathymetric Information

The Bay of Ireland is situated on the south west coast of mainland Orkney. The bay opens up into the waters of the Hoy and Clestrain sounds and is located in a sheltered position. It has a maximum water depth of approximately 14m. The total length of the bay is approximately 3.5km.

35.3 Conservation Designations

Bay of Ireland Shellfish Water is situated close to Bay of Firth, Orkney Mainland Shellfish Water (UKS7992323)

Special Protected Areas (SPA) – Orkney Mainland Moors
Designated 07/07/2008 for internationally important bird species (Hen harrier (*Circus cyaneus*), Red-throated diver (*Gavia stellata*) and Short-eared owl (*Asio flammeus*)
This is also a **Water Dependent SPA** and **Groundwater Dependent SPA**

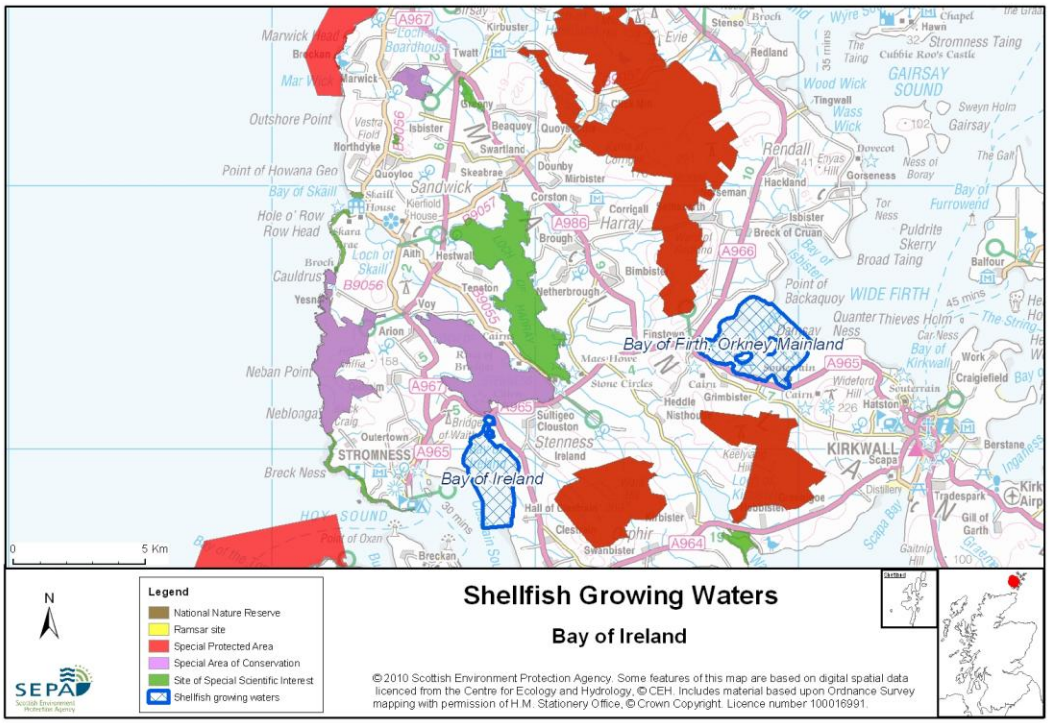
Special Areas of Conservation (SAC) – Stromness Heaths and Coast
Designated 17/03/2005 for internationally important habitats (Fen, marsh and swamp (Upland), Dwarf shrub heath (Upland) and Supralittoral rock (Coast) vegetated sea cliffs.
This is also a **Water Dependent SAC** and **Groundwater Dependent SAC**

Special Areas of Conservation (SAC) – Loch of Stenness
Designated 17/03/2005 for internationally important habitat (Inshore sublittoral marine sediment, lagoons)
This is also a Water Dependent SAC

Sites of Special Scientific Interest – Stromness Heaths and Coast
Designated 11/03/1991 for geology (Coastal Geomorphology of Scotland, Supralittoral rock (Coast), Stratigraphy - Non-marine Devonian) and habitat (Dwarf shrub heath (Upland))

Sites of Special Scientific Interest – Orphir and Stenness Hills
Designated 24/03/1987 for species (breeding bird assemblage including Hen harrier (*Circus cyaneus*).

Sites of Special Scientific Interest – Lochs of Harray and Stenness
Designated 15/07 1985 for species (Caddisfly (*Ylodes reuteri*), Freshwater nerite snail (*Theodoxus fluviatilis*)) Bird Species (Goldeneye (*Bucephala clangula*), Pochard (*Aythya ferina*), Scaup (*Aythya marila*), Tufted duck (*Aythya fuligula*) and Inshore sublittoral Marine sediment – saline lagoon.



35.4 Topography and Land Use – Potential Diffuse Pollution Sources

The land adjacent to the designated area is improved pasture. Most of the catchment area that drains into the designated area is also improved pasture, with some blanket bog and heather moorland. The town of Stromness lies *ca* 3km out with the designated area.

The principal source of diffuse pollution to the area is from agriculture, mainly of cattle farming (Beef and Dairy farming).

Three minor burns provide freshwater input to the designated area, although brackish water also enters the area from the Loch of Stenness.

Diffuse source pollution contribution relative to point source is unquantified and may require source apportionment tracking to verify**.**

35.5 Point Source Discharge

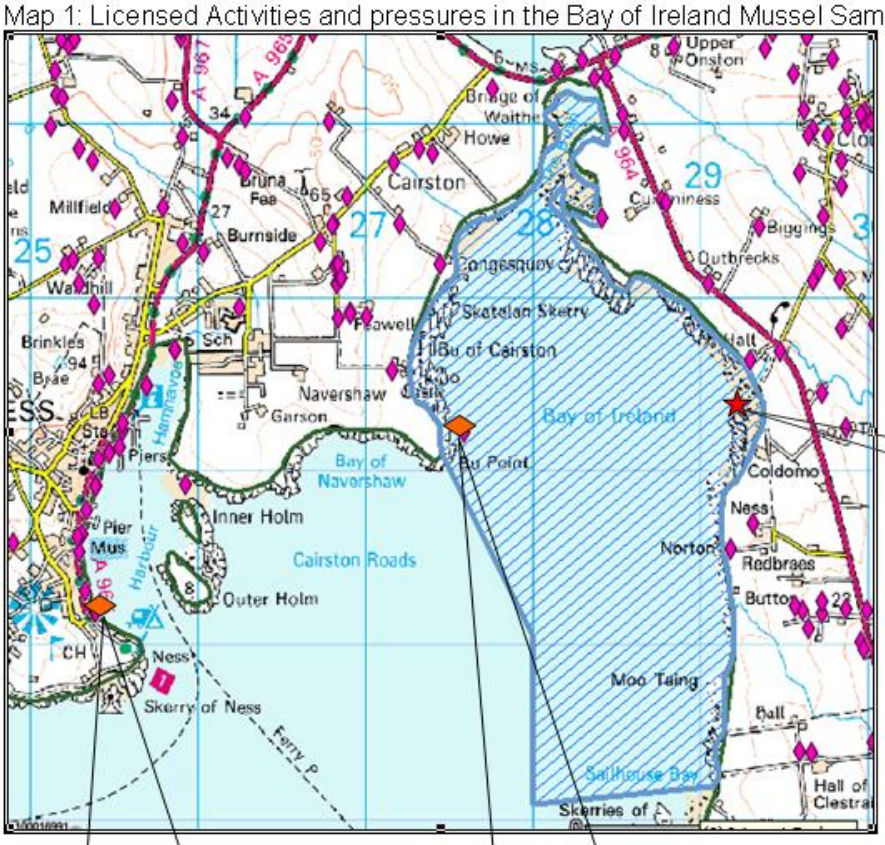
Type	Name	Consent No.	Treatment	NGR	PE	Additional Information
Scottish Water Asset	Stromness Main	CAR/L/1016489	Raw	HY 2750809100	3765	Improvement Planned
	Stromness Wellpark PS, EO to Stromness Harbour, Orkney	CAR/L/1003052	None	HY2538008149	-	Awaiting confirmation of start date for Stromness Phase 3. Scottish Water measure with no assigned dates
	Well Park CSO	CAR/L/1003051	Raw	HY 2539 0815	-	The sewer network will be extended, these PS's will be connected, and effluent will be passed forward to the STW - expected 2011.
	Well Park EO	CAR/L/1003052	Raw	HY 2539 0815	-	
	Double Houses Pier EO	CAR/L/1003050	Raw	HY 2533 0827	-	
	Logins Well CSO	CAR/L/1003048	Raw	HY 2530 0851	-	
	Logins Well EO	CAR/L/1003049	Raw	HY 2530 0851	-	
	Grays Noust EO	CAR/L/1003047	Raw	HY 2534 0876	-	
	Merrimans Noust EO	CAR/L/1003046	Raw	HY 2541 0906	-	
Other	Stromness STW, FE to Bay of Ireland, Bu Point, Stromness	CAR/L/1016489	Secondary	HY2759009220	3765	No measure currently recorded by SEPA

Sewage from the town of Stromness, with a population equivalent of 3765, is pumped into the designated area.

Stromness Harbour lies within 2km of the designated area and is classified as unsatisfactory quality under SEPA's coastal water classification scheme. The unsatisfactory quality of the Harbour is based on visible evidence of sewage waste, oil pollution and discharges from vessels.

There are no fish farms in the designated area, nor within 5km of the area.

Map 1: Licensed Activities and pressures in the Bay of Ireland Mussel Sample Site



Key:

♦ Private and public sewage treatment works and other licensed activities
The blue hatched area denotes the SGW boundary

35.6 Compliance Monitoring Regime

The following monitoring regime was put in place in July 2005.

Year	Monitoring Regime
2005 -	• Quarterly for Sal, DO, pH, temperature, visible oil • Twice yearly for metals in water • Annually for metals and organohalogens in mussels • Quarterly for faecal coliforms in mussels

35.7 Compliance History

UKS7992335 - Bay of Ireland				
	Compliance history for Waters and Biota, excluding faecal coliforms data			Compliance history for faecal coliforms
Year	Overall Result	Imperative	Guideline	Guideline
2003	Pass	Pass	Pass	Fail
2004	Pass	Pass	Pass	Fail
2005	Pass	Pass	Fail[1]	Fail
2006	Pass	Pass	Pass	Fail
2007	Pass	Pass	Pass	Fail
2008	Pass	Pass	Pass	Pass
2009	Pass	Pass	Pass	Fail
2010	Pass	Pass	Pass	Fail

The shellfish waters have consistently failed to comply with the guideline standard for faecal coliforms since 2003, with the exception of 2008 where faecal coliforms passed guideline standards.

1Fail relates to a single result for salinity in March 2005 of 6.68‰ which breaches the Guideline standard of 12-38 ‰. This was most likely due to be due to increased freshwater inputs to the waters from heavy rainfall.

35.8 Future Monitoring

The monitoring regime as described above (section 5.6 Compliance Monitoring Regime) will be followed. In the event of any chemistry parameter failing to meet any EQS, the site will be revisited and resampled for the failed parameter.

35.9 Improvement Actions

The principal cause of high faecal coliform concentrations observed in this area is likely to be due to sewage discharge, with a lesser impact from agricultural run off.

Stromness sewage treatment facility operates a fully operational secondary treatment plant although problems with slat water intrusion have been identified within the sewer network in Stromness which have lead to issues at the STW. Potential sites of salt water intrusion are to be investigated in 2011.

Monitoring and enforcement activities have been identified for improving the environmental quality of Stromness harbour, and this is likely to have a beneficial impact on the designated area. Stromness phase 3 will connect the current raw discharges and extend the sewer network.

WFD Objectives

Under the Water Framework Directive, the target objectives expect this shellfish water to Pass by 2015 (first River Basin Management Plan Cycle) for Imperative Standards with high confidence. The Guideline Shellfish Growing Water Standards are also predicted to Pass by 2015 but with low confidence.

Objective	First Cycle 2015	Confidence	Second Cycle 2021	Confidence	Third Cycle 2027	Confidence
Imperative Shellfish Growing Waters Standard	Pass by 2015	High	Pass by 2021	High	Pass by 2027	High
Guideline Shellfish Growing Waters Standard	Pass by 2015	Low	Pass by 2021	Low	Pass by 2027	Low

35.10 Summary of Actions

Action	Deadline
Upgrade to secondary treatment for Stromness STW	Completed
Monitoring and enforcement activities, Stromness Harbour	Ongoing