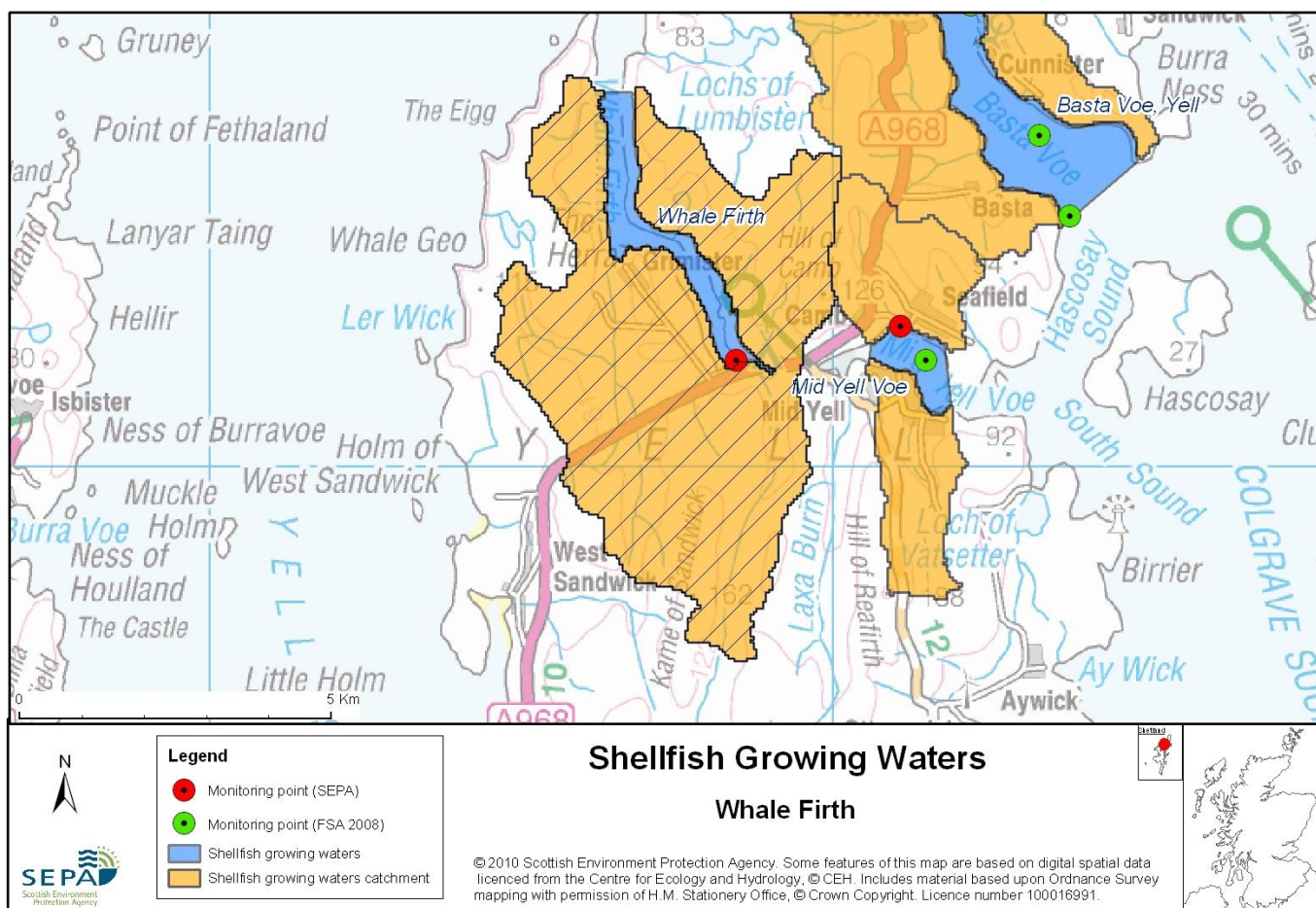


107 Whale Firth



Name	Whale Firth
Report Reference Number	107
WFD Code	UKS79923107
Local Information	An area south of a line drawn between HU4633396000 and HU4677596000, and extending to MHWS
Designated Area (km ²)	2.29
Year of Designation	2002
Sampling Points	Whale Firth Mussel Site (From July 2003) - HU 48465 91700
Commencement of Monitoring	2003

107.1 Commercial Shellfish Interests

Whale Firth was a Food Standards Agency (FSA) Shellfish Harvesting Site for the production of Common mussels (*Mytilus edulis*) but this was declassified in 2008.

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

107.2 Bathymetric Information

Whale Firth is located on Yell in the Shetland Islands and is exposed to north winds with a maximum length of 6.3km. The maximum depth of the loch is 22m and possesses no sills. The catchment area of Whale Firth is 41km² and has a flushing time of 3 days with a salinity reduction of 0.4ppt, suggesting low freshwater influence.

There are no morphological pressures on the waters.

107.3 Conservation Designations

East of this Shellfish Water, on the east coast of Yell is Mid Yell Voe ([UKS79923118](#)) designated Shellfish Water and Food Standards Agency (FSA) designated Shellfish Harvesting Area.

Special Protection Area (SPA) – [Otterswick and Graveland](#)

Designated 31/12/2001 for internationally important bird species (Red-throated diver (*Gavia stellata*))

This is also a **Water Dependent SPA** and **Groundwater Dependent SPA**

Special Area of Conservation (SAC) – [East Mires and Lumbister](#)

Designated 17/03/2005 for habitats – upland blanket bog

This is also a **Water Dependent SAC**

Sites of Special Scientific interest (SSSI) – [East Mires and Lumbister](#)

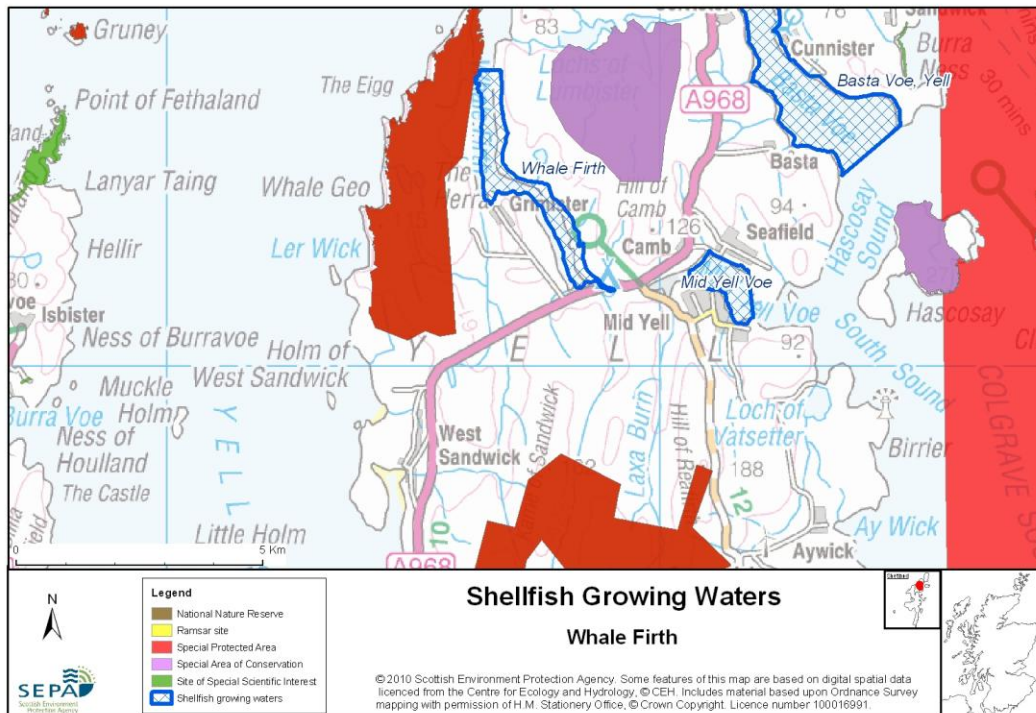
Designated 08/01/1996 for habitat (blanket bog), breeding bird species assemblage

Sites of Special Scientific interest (SSSI) – [Otterswick](#)

Designated 05/12/2000 for aggregations of breeding birds (Red-throated diver (*Gavia stellata*))

Sites of Special Scientific interest (SSSI) – [Graveland](#)

Designated 05/12/2000 for aggregations of breeding birds (Red-throated diver (*Gavia stellata*))



107.4 Topography and Land Use – Potential Diffuse Pollution Sources

The land around Whale Firth and its catchment area is of blanket bog and heather moorland, with small pockets of semi-natural grasslands and of improved pasture.

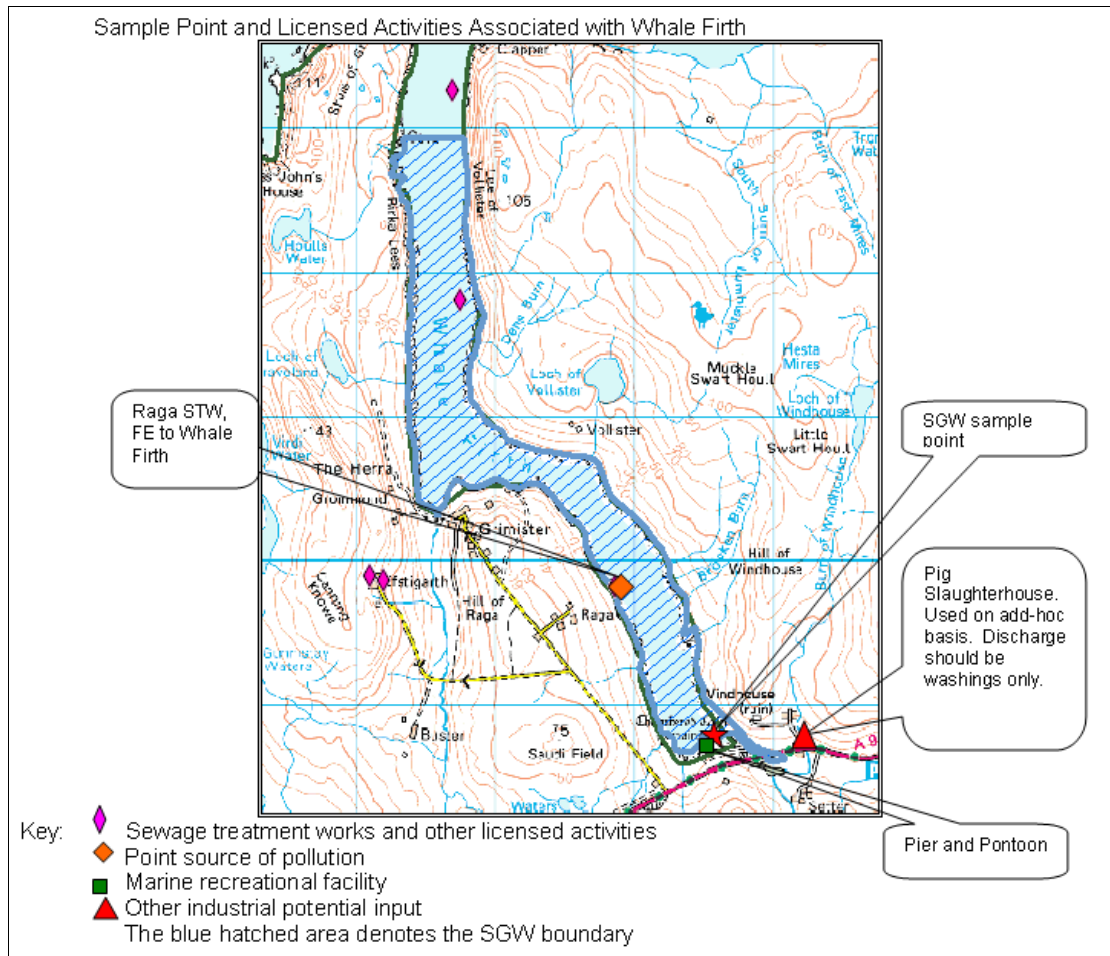
Housing around the Firth is limited to the very small settlements of Grimister and Raga.

There are many short, minor freshwater inputs to the designated area and three more substantial inputs. Burn of Bouster is classified by SEPA as of good quality. The Setter Burn is not monitored by SEPA but is considered to be of at least good quality. Windhouse Burn receives effluent from a small, occasionally operated, slaughter house. All the freshwater inputs receive agricultural run-off, principally from disperse sheep farming.

107.5 Point Source Discharge

There are two consented discharges from Scottish Water sewage effluent drains. Both of these will be upgraded to septic tanks by January 2006 and will serve a combined population of no more than 60 persons. Trade effluent is consented to be discharged from a small slaughterhouse into the designated area via the Windhouse Burn. This discharge is consented specifically for surface run off and includes no blood-related waste.

Type	Name	Treatment	Consent No.	NGR	PE	Additional Information
Scottish Water Asset	Raga, Herra	None	CAR/L/1002288	HU478 928	250	-
	Gremista, Herra	None	CAR/L/1002289	HU467935	250	-
Industrial	Mid Yell Slaughterhouse	Trade Effluent	CAR/L/1003908	HU49248 91610	-	-



107.6 Compliance Monitoring Regime

Site	Current Monitoring	Comments
Whale Firth	<ul style="list-style-type: none"> • Quarterly for Sal, DO, pH, temperature • Quarterly for faecal coliforms in mussels • Once every three years for metals and organohalogens in mussels 	<ul style="list-style-type: none"> • Sampled by SEPA • Sampled by SEPA

107.7 Compliance History

UKS79923107 - Whale Firth				
	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	Pass
2008	Pass	Pass	Pass	No Data
2009	Pass	Pass	Pass	Pass
2010	Pass	Pass	Pass	Pass

Of the six samples analysed for Faecal Coliforms in 2003 and 2004, three gave results above the Guideline standard. The waters failed to comply with the guideline standard in 2005 and 2006 but passed in 2007. No faecal coliform data was available in 2008 and passed in 2009 and 2010.

¹Failure relates to a single result for HCH-G in February 2005 of 20 ng/g which breached the Guideline standard of 10 ng/g but complied with the Imperative standard of 30 ng/g.

107.8 Future Monitoring

The monitoring regime (107.8 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.

Samplers are asked to identify any evidence of visible harm to the shellfish population at the site.

Faecal coliform data is collected by SEPA from many of the shellfish waters to comply with Guideline Standards ($\leq 300/100\text{ml}$ of shellfish flesh and intervalvular fluid). However many shellfish sites are also by FSA, which can often be more frequent. When this occurs FSA data ($\leq 230 E.coli/100\text{g}$ flesh) can be used to infer pass/fail of Guideline Standards for faecal coliforms.

107.9 Improvement Actions

Raga and Grimister sewage outfalls were upgraded as part of Scottish Water's infrastructure and investment programme Quality and Standards II.

Mid Yell Slaughter House will be inspected whenever SEPA officers are in the area, and the discharge is on the SEPA monitoring program.

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 Shellfish Growing Water Standards. The Guideline Shellfish Growing Water Standards are not predicted to pass until the third River Basin Management Plan Cycle in 2027, 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	Fail by 2015	High	Fail by 2021	High	Pass by 2027	Low

107.10 Summary of Actions

Action	Deadline
Raga and Grimister sewage outfalls upgraded under Q&S II.	Done
EPI inspections of Mid Yell Slaughter House and discharge	ongoing