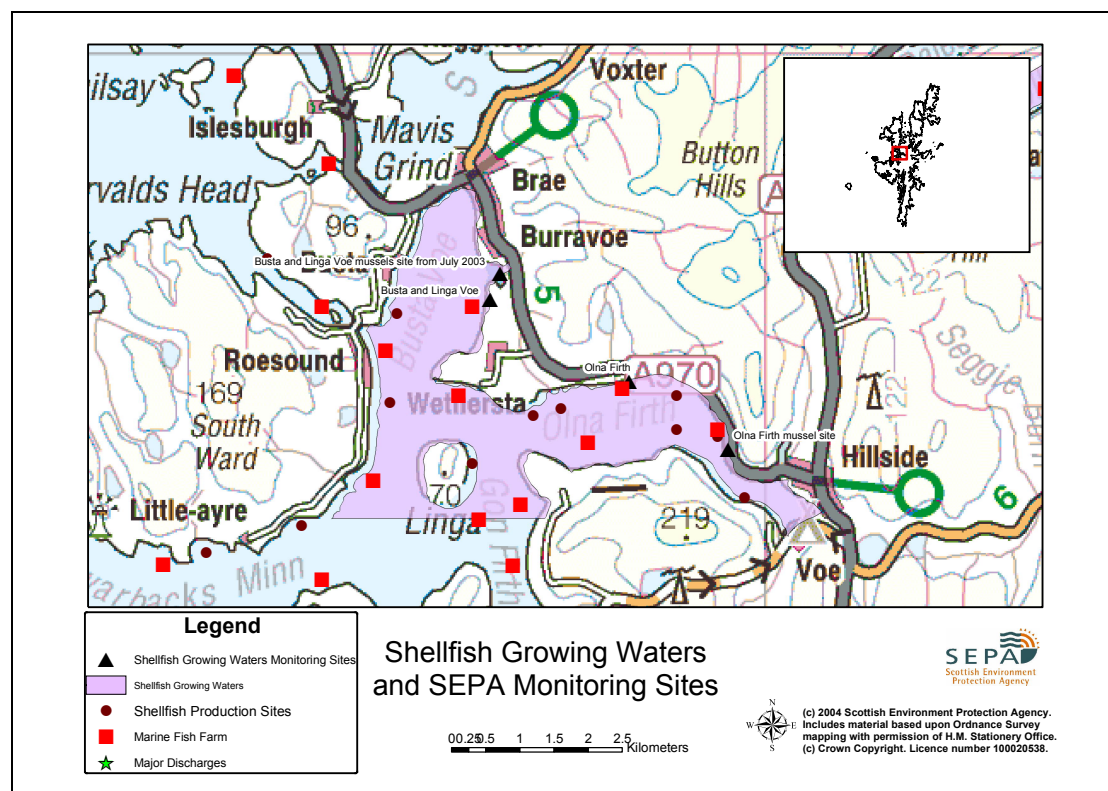


37 Busta Voe and Linga Voe



Report Reference No.	37	
Name	Busta Voe and Linga Voe	
Location Information	An area north of a line drawn between HU 335 632 (Pobies Geo) and HU 368 632 and extending to MLWS.	
Designated Area (Km²)	7.1	
Year of Designation	2002	
Sampling Points	Busta and Linga Voe	HU 360 664
	Busta and Linga Voe Mussel Site	HU 3611 6679
Commencement of Monitoring	2003	

37.1 Commercial Shellfish Interests

The growing waters are also classified for commercial shellfish production. There is good agreement between the boundaries of the two designations. Currently there is commercial production for mussels at three farms. The FSA has classified the waters as A from July to May inclusive and B for June only for harvesting of mussels. There is good agreement between the designated growing waters and the harvesting waters.

37.2 Bathymetric Information

Busta Voe and Linga Voe are situated on the west coast of mainland Shetland. The water bodies in this area are Busta Voe, Cole Deep and Olna Firth. The shellfish growing area from Pobies Geo to Busta Voe is approximately 5.5km. From Cole Ness to Olna Firth is approximately 5.5km. It favours a moderately sheltered area. Maximum water depths for Busta Voe are 39m, Cole Deep 66m and Olna Firth 42m.

Busta Voe has a total length of 3km and a catchment area of 12 km². There are no basins in this Voe and it takes 5 days to flush. Fresh/tidal flow ratio indicates a salinity reduction of 0.1 ppt, indicating a low freshwater input to the loch.

Olna Firth has a total length of 4.6km and a catchment area of 27 km². There are no basins in this Voe and it takes 10 days to flush. Fresh/tidal flow ratio indicates a salinity reduction of 0.3 ppt, indicating a low freshwater input to the loch.

There are morphological pressures from commercial fishing in Busta Voe and Olna Firth.

37.3 Conservation Designations

The Muckle Roe Meadow SSSI borders the designated area. Sullom Voe SAC extends to within 1km of the designated area, across a land strip dividing it from Busta Voe and Linga Voe. A Recreational Water area is designated for Brae boating club at the head of Busta Voe.

For further information on the above sites click on the links below.

<http://hti04.snh.gov.uk/ssidata/1208cit.htm>

<http://www.jncc.gov.uk/ProtectedSites/SACselection/sac.asp?EUCode=UK0030273>

37.4 Topography And Land Use – Potential Diffuse Pollution Sources

The land surrounding the designated area is given to a mixture of heather moorland, improved pasture and grassland. It is skirted along its northern bay by the A970 road. A series of small settlements combine along the road, with their focus in Brae at the head of Busta Voe. The minor freshwater inputs are considered to be of good quality by SEPA, although they are not monitored. Diffuse pollution is primarily from agricultural run off and from boating. There is a small industrial estate at Wethersta.

37.5 Point Source Discharges

The designated water receives the sewage input from the surrounding settlements, primarily through Scottish Water's Brae septic tank, but also via individual house septic tanks and soak aways. A hotel also discharges sewage into the designated area.

Type	Name	CAR authorisation	Treatment	NGR	PE	Additional Information
Scottish Water Asset	Brae	CAR/L/1001837	ST	HU357 675	1000	Improved treatment planned
Other	South Town, Muckle Roe	WPC/N/0070599*	ST	HU339 56355	5	

* There is no CAR authorisation for this site at present.

There are seven fish farms within the designated area with a combined consented biomass of 4000 tonnes. A further 17 fishfarms are situated in adjacent waters, six of which are within 2km of the designated area.

Name	Category	CAR authorisation	NGR	Biomass (t)
Sparl	Fish farm	WPC/N/0070240 *	HU35706630	700
Heights, Muckle Roe E	Fish farm	CAR/L/1009818	HU34436565	350
Hevden Ness	Fish farm	WPC/N/0062097 *	HU35506500	700
North Knowes	Fish farm	WPC/N/0070513 *	HU34606420	350
Buddascord, Scarfataing	Fish farm	WPC/N/0070534 *	HU34256375	500
South Grobsness	Fish farm	WPC/N/0061014 *	HU36416340	400
Cole Deep	Fish farm	CAR/L/1003004	HU3580063180	1000

* There are no CAR authorisations for these sites at present.

37.6 Compliance Monitoring Regime

Year	Monitoring Regime
2005 -	<ul style="list-style-type: none"> • 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

This monitoring regime of the designated area was not fully implemented until the second half of 2005.

37.7 Compliance History

Year	Compliance History for Waters and Biota, Excluding Faecal Coliforms Data			Compliance History for Faecal Coliforms
	Overall Result	Imperative	Guideline	Guideline
2003	Pass	Pass	Pass	Fail
2004	Pass	Pass	Pass	Fail
2005	Fail	Fail ¹	Pass	Fail

Of the six samples analysed for Faecal Coliforms in 2003 and 2004, three gave results above the Guideline standard.

Of the four samples analysed for Faecal Coliforms in 2005 only one was compliant with the Guideline standard. ¹Failure relates to a result for HCH-G of 54.70 ng/g wet weight in February 2005 which breached the Imperative standard of 30 ng/g wet weight.

37.8 Future Monitoring Recommendations

The monitoring regime as described in section 6 will be followed. In the event of any chemistry parameter failing to meet any EQS, the site will be revisited and re-sampled for the failed parameter.

37.9 Improvement Actions

Human sewage, animal husbandry and wildlife may all contribute to the overall levels of faecal coliforms observed in the designated area, and it is not always possible to apportion the relative importance of each source. Despite this uncertainty, the microbial quality of the water will certainly be improved by providing appropriate sewage treatment. SEPA works closely with Scottish Water and the Scottish Executive to ensure that spending of the annual budget available for upgrading wastewater treatment infrastructure is prioritised to maximise improvement to the environment.

Scottish Water have included upgrading of sewage treatment provided by the Brae septic tank in their capital investment plans for the period 2007-2012.

SEPA is proposing to participate with FSAS in a joint research program to determine how environmental, anthropogenic and natural factors impact on the faecal coliform concentrations measured in mussels. This will help to identify appropriate improvement action to the designated area, if action is deemed necessary.

SEPA will work with farmers in the catchment area to encourage best practice and the minimisation of diffuse pollution from sheep farming.

37.10 Summary of Actions

Action	Deadline
Q&SIII proposed investment and improvement, Brae septic tank	2007-2012
Joint research program with FSAS to determine effect of external factors on shellfish	Ongoing
Best agricultural practice to minimise diffuse pollution	Ongoing