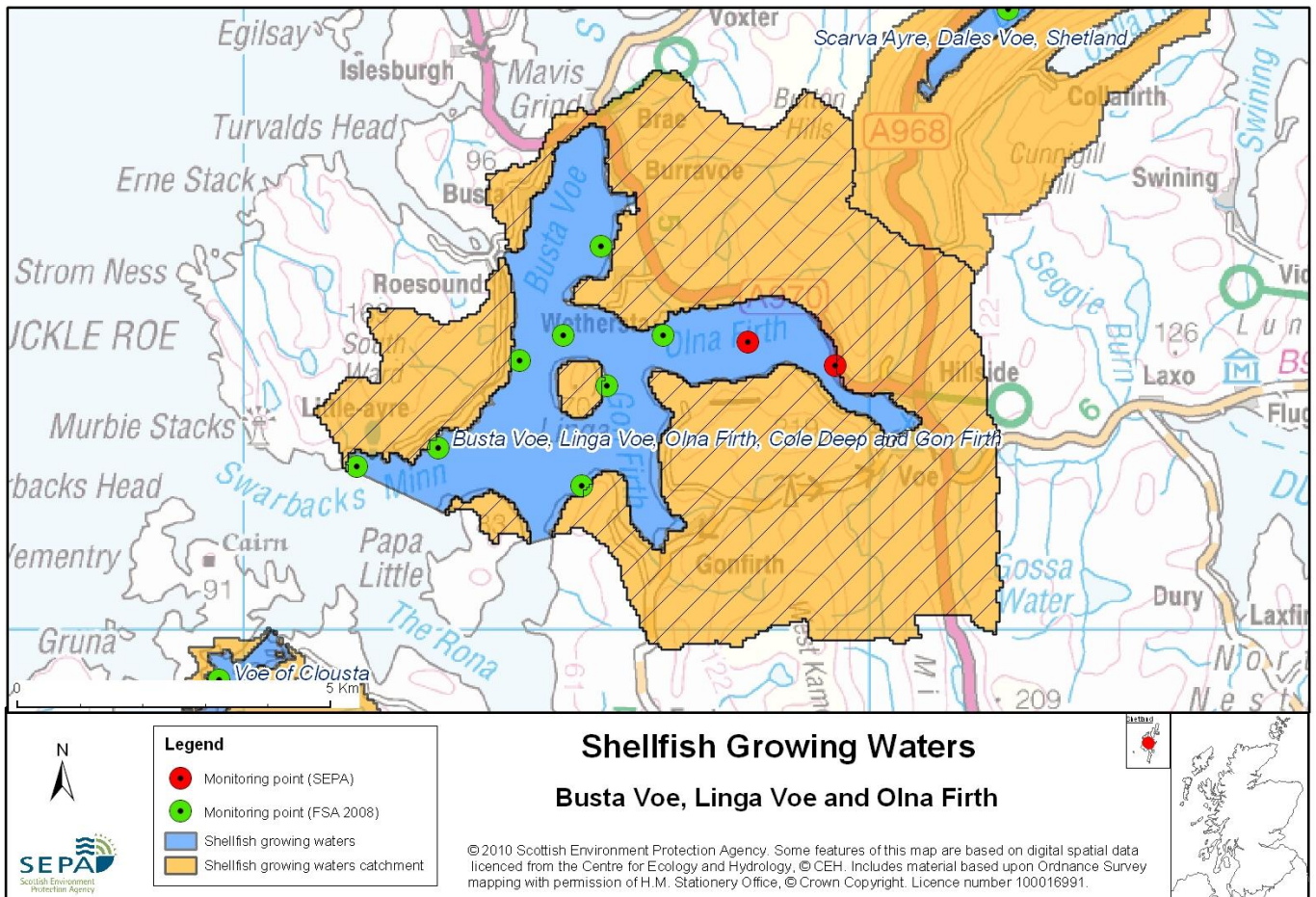


## 119 East of Burki Taing, Muckle Roe



Name	East of Burki Taing, Muckle Roe
Report Reference Number	119
WFD Code	UKS79923119
Local Information	An area north of lines drawn between HU3167062570 (Burki Taing) to HU3320061860 (Papa Little) and HU34590 61386 (Papa Little) to HU34935 61476, and a line drawn between HU3414865951 and HU3419566032 (Roe Sound), and extending to MHWS.
Designated Area (km <sup>2</sup> )	15.86
Year of Designation	2002
Sampling Points	Busta and Linga Voe - HU 35967 66400 Olna Firth Mussel Site - HU 39455 64210
Commencement of Monitoring	2003

Formally site 25 Olna Firth and site 37 Busta Voe and Linga Voe. Modified 2005.  
Modified again in 2009 and changed name from Busta Voe, Linga Voe and Olna Firth

East of Burki Taing, Muckle Roe – UKS79923119

Last Edited – 01/06/11

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### **119.1 Commercial Shellfish Interests**

Within this designated Shellfish Waters there are Shellfish Harvesting Areas, designated by the Food Standards Agency (FSA)

Busta Voe Lee North has five sites (Busta Voe, Busta Vow Lee, Hevden Ness, North of Linga, Wetherstaness) classified for Common mussels (*Mytilus edulis*).

Busta Voe Lee North: All sites (Common mussels)  
2011 = A - April to August  
          B - September to December  
2012 = A - January to March

Busta Voe Lee South has three sites (Buddascord, Greentaing, Linga) classified for Common mussels.

Busta Voe Lee South: All sites (Common mussels)  
2011 = A - April to December  
2012 = A - January to March

Olna Firth has six sites (Clubb of Mulla, Foula Wick, Inner, Outer, Parkgate, Pinchdyke) classified for Common mussels.

Olna Firth: All sites (Common mussels)  
2011 = A - April to December  
2012 = A - January to March

Gon Firth has one site (Cole Ness) classified for Common mussels.

Gon Firth: Cole Ness (Common mussels)  
2011 = A - April & May, September to December  
          B - June to August  
2012 = A - January to March

Category A sites are of the highest standard and means that shellfish can go directly for human consumption however category B requires that shellfish must be deperated, heat-treated or re-laid prior to human consumption.

FSA has carried out any sanitary surveys for Busta Voe Lee North and Gon Firth.

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

### **119.2 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 km<sup>2</sup>. 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 is classed as a sea loch or fjord, a small part of a complex inlet and has a total length of 4.6km which is narrow and west facing. The catchment area is relatively small at 27 km<sup>2</sup>. 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 moderately high freshwater input to the loch.

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

### **119.3 Conservation Designations**

This designated Shellfish Water contains five separate smaller Shellfish Harvesting Areas, designated by the Food Standards Agency (FSA). There are also four other FSA Shellfish Harvesting Areas just outside the Shellfish Water designation.

Southwest of this site is another designated Shellfish Area – Voe of Clousta ([UKS79923102](#)). There are four FSA Shellfish Harvesting Areas sharing this area, or surrounding the Shellfish Water.

#### **Special Area of Conservation (SAC) – [Sullom Voe](#)**

Designated 17/03/2005 for habitat (Inshore marine sublittoral sediment (lagoons), Inshore marine sublittoral sediment (reefs), littoral marine sediment (shallow inlets and bays)

This is also a **Water Dependent SAC**

#### **Sites of Scientific Interest (SSSI) – [Voxter Voe and Valayre Quarry](#)**

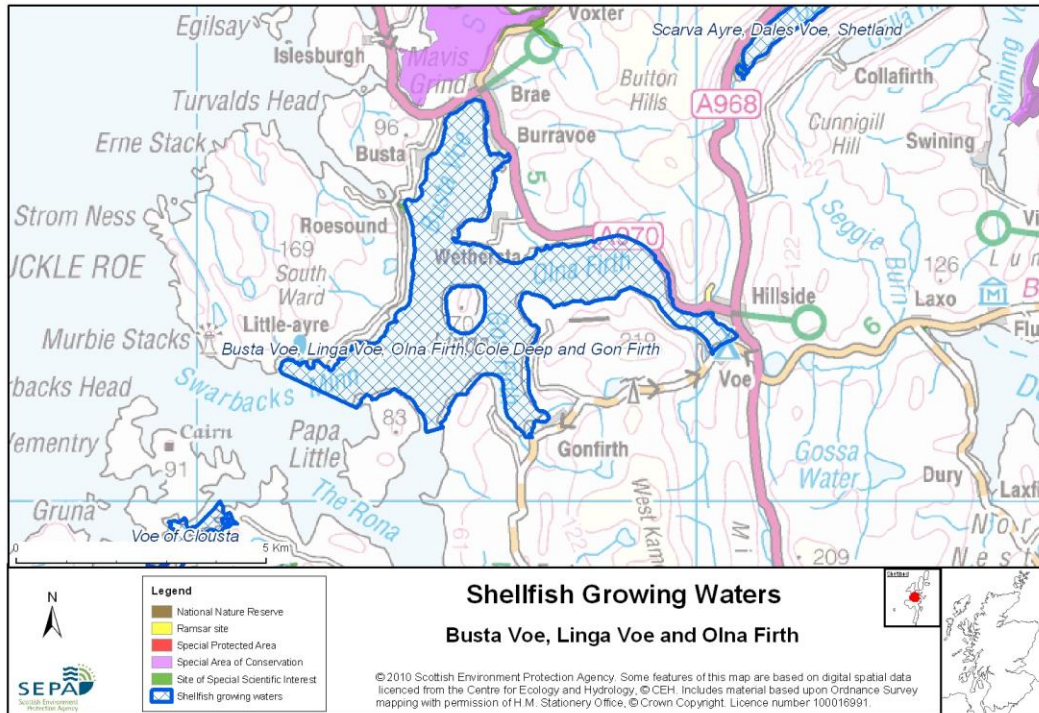
Designated 27/07/1988 for Structural and metamorphic geology (moine)

#### **Sites of Scientific Interest (SSSI) – [Burn of Valayre](#)**

Designated 30/03/1984 for habitat (Broad-leaved, mixed and yew woodland)

#### **Sites of Scientific Interest (SSSI) – [Dales Voe](#)**

Designated 13/02/1989 for Littoral coastal sediment – saltmarsh



#### 119.4 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 (Voe, Tagon and Mulla) 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.

#### 119.5 Point Source Discharge

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.

There are 13 fish farms with the designated shellfish water with a combined biomass of 9691 tones. There are also other fish farms outside the designation.

Type	Name	Treatment	Consent No.	NGR	PE	Additional Information
Scottish Water Asset	Sunnyside, Brae	Septic Tank	CAR/L/1001837	HU 357 675	1000	Improved treatment planned
	Bakka Voe	Septic Tank	CAR/L/1002247	HU 403 636	400	-
	The Lea	Secondary?	CAR/R/1018415	HU 343 651	5	Domestic
	Fograbrek	Septic Tank	CAR/R/1018655	HU 409 646	6	Domestic
	Voe ST (just outside boundary)	ST (discharges to below low water at all tidal stages)	CAR/L/1002247	HU 403 665	300	-
Other	South Town, Muckle Roe	Septic Tank	WPC/N/0070599*	HU 3395 6355	5	-
	Single private household ST's	-	-	-	<5	-
Category	Name	Consent No.	NGR	Biomass (t)	Additional Information	
Fish Farm	Sparl	WPC/N/70240	HU35706630	700	-	
	Cole Deep	CAR/L/1003004-VN1	HU35806317	2178	-	
	Hevden Ness	WPC/N/62097(01)	HU35506500	700	-	
	Coleness	CAR/L/1003005	HU36306250	1000	-	
	South Grobsness	WPC/N/61014	HU36416340	400	-	
	Gonfirth Voe	CAR/L/1008979-VN1	HU36506170	613	-	
	Olnafirth South	CAR/L/1004042	HU37406430	1600	-	
	Olnafirth North	CAR/L/1018553	HU37906510	300	-	
	Bight of Cliffs	WPC/N/62086(01)	HU39306450	500	-	
	Ritness, Papa Little	WPC/N/60786	HU33506230	500	-	
	Buddascord	WPC/N/70534	HU34256375	500	-	
	Muckle Roe East/Heights	CAR/L/1009818	HU34436565	350	-	
	Roe Sound	CAR/L/1009812	HU33506630	350	-	

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

## 119.6 Compliance Monitoring Regime

Site	Current Monitoring	Comments
East of Burki Taing, Muckle Roe (Busta Voe/Linga Voe/Olna Firth)	<ul style="list-style-type: none"> <li>Quarterly for faecal coliforms in mussels</li> <li>Once every three years for metals and organohalogenes in mussels</li> </ul>	<ul style="list-style-type: none"> <li>Sampled by the FSA</li> </ul>

## 119.7 Compliance History

Note – This table refers only to the Olna Firth site (25)				
UKS79923119 - Busta Voe, Linga Voe and Olna Firth				
	Compliance history for Waters and Biota, excluding faecal coliforms data			Compliance history for faecal coliforms
Year	Overall Result	Imperative	Guideline	Guideline
2000	Fail	Fail <sup>1</sup>	<sup>1</sup> Fail	Fail
2001	Fail	Fail <sup>2,3</sup>	<sup>2,3</sup> Fail	Pass
2002	Pass	Pass	Fail	Pass
2003	Pass	Pass	Pass	Fail
2004	Pass	Pass	Pass	Fail
2005	Fail	Fail <sup>4</sup>	Fail <sup>5</sup>	Fail

<sup>1</sup>In 2000 there was a failure to meet the Imperative standard for salinity. This failure, however, was based on a single sample result just over the upper limit, and is not thought to be related to a monitoring error. Monitoring in 2001 and 2002 indicated that the site had observed the Guideline value for salinity.

<sup>2,3</sup>In 2001 there was a failure to meet the I standard for copper. This failure was based on a single result of 8.1 µg l<sup>-1</sup>, compared with the maximum limit of 5 µg l<sup>-1</sup>. There was also a failure to meet the I standard for coloration in 2001. This could be related to a number of factors in relation to shoreline sampling.

<sup>4</sup>Failure applies to a single result for zinc of 15.8 µg l<sup>-1</sup> in July 2005. This failed the Imperative standard of 10.0 µg l<sup>-1</sup>.

<sup>5</sup>Failure applies to a breach in the Guideline standard for HCH-G in 2005 of 23.9 mg/kg mussel flesh. It fails the Guideline standard of 10.00 mg/kg but complies with the Imperative standard of 30.00 mg/kg.

The shellfish waters complied with the Guideline standard for faecal coliforms in 2001 and 2002 but has failed consistently since then. There were no results in 2007.

The designation was modified in 2005 to combine sites 25 Olna Firth and site 37 Busta Voe and Linga Voe. The results for Olna Firth before the modification are displayed in the first Compliance History table (above). From 2006 the results for

Olna Firth, Busta Voe and Linga Voe are combined (second Compliance History table - below)

<b>Note – This table refers to Busta Voe and Linga Voe (37) from 2003-2005. From 2006 onwards the table combines Busta Voe, Linga Voe and Olna Firth Data</b>				
<b>UKS79923119 - Busta Voe, Linga Voe and Olna Firth</b>				
	<b>Compliance history for Waters and Biota, excluding faecal coliforms data</b>			<b>Compliance history for faecal coliforms</b>
<b>Year</b>	<b>Overall Result</b>	<b>Imperative</b>	<b>Guideline</b>	<b>Guideline</b>
2003	Pass	Pass	Pass	Fail
2004	Pass	Pass	Pass	Fail
2005	Fail	Fail <sup>1</sup>	Pass	Fail
2006	Pass	Pass	Pass	Fail
2007	Pass	Pass	Pass	Pass
2008	Pass	Pass	Pass	Pass
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.

Of the four samples analysed for Faecal Coliforms in 2005 only one was compliant with the Guideline standard. 1 Failure 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. The waters failed to comply with the guideline standard for faecal coliforms in 2006. The waters passed from 2007 to 2010.

### **119.8 Future Monitoring**

The monitoring regime (119.6 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.

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.

### 119.9 Improvement Actions

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

A survey into the identification of sources of faecal contaminants has recently been completed and the results should be available in the first quarter of 2008..

### 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 and Guideline Shellfish Growing Water Standards, with high 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	High	Pass by 2021	High	Pass by 2027	High

### 119.10 Summary of Actions

Action	Deadline
Q&SIII proposed investment and improvement, Brae septic tank	2007-2012
Survey into identification of faecal contaminants.	Awaiting results