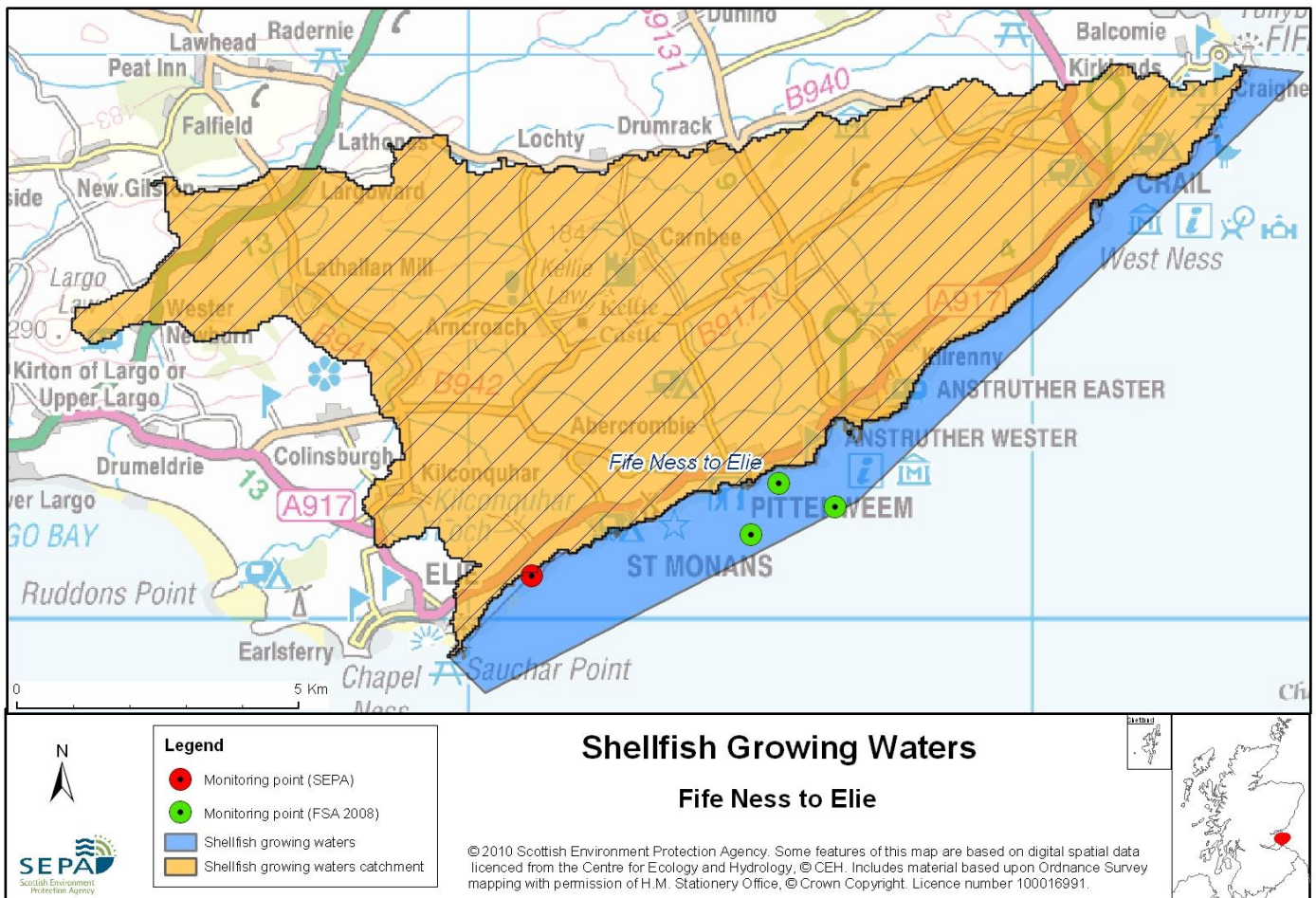


4 Fife Ness to Elie



Name	Fife Ness to Elie
Report Reference Number	4
WFD Code	UKS799234
Local Information	An area bounded by the coast and a line from N06365809814 (Fife Ness) east for 1 km to a point N06480009700 and thence south-west via a point N05690002100 (about 1 km off Billow Ness) to a point NT5030098700 and thence north-west to rejoin the coast NT4967399327 (Elie Ness) and extending to MHWS.
Designated Area (km ²)	16.95
Year of Designation	1998
Sampling Points	Fife Ness to Eli - NO 63300 08700
Commencement of Monitoring	1986

4.1 Commercial Shellfish Interests

There are two areas designated as Shellfish Harvesting Areas by the Food Standards Agency (FSA) that share some of the area with the Fife Ness to Elie Shellfish Water.

The FSA Shellfish Harvesting Area in the Forth Estuary for Surf Clams (*Spisula solida*) and Razors (*Ensis arcuatus*) are as follows:

Forth Estuary: Pittenweem - two sites (Surf Clams)

2011 = B - April to September
A - October to December
2012 = A - January & February
B - March

Forth Estuary: Anstruther (Surf Clams)

2011 = B - April to December
2012 = B - January to March

Forth Estuary: Largo Bay (Razors)

2011 = A - April to September
B - November & December
2012 = B - January & February
A - 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 depurated, heat-treated or re-laid prior to human consumption.

FSA have not conducted sanitary surveys for Anstruther and Largo Bay. FSA have completed a sanitary survey for Pittenweem.

For more information on Food Standards Agency Classification please visit:

<http://www.food.gov.uk/scotland/safetyhygienescot/shellmonitorscot/shellclassesscot/>

4.2 Bathymetric Information

The growing water has a SE facing aspect and a length of 18.1 km. The shore is gently shelving and has maximum depth of 7 m. It is moderately exposed. There is morphological pressure from commercial fishing.

4.3 Conservation Designations

RAMSAR – [Firth of Forth](#)

A small section of the RAMSAR site falls inside the same area as the Shellfish Waters. Designated 31/01/2001 for internationally important bird species (Bar-tailed godwit (*Limosa lapponica*), Goldeneye (*Bucephala clangula*), Knot (*Calidris canutus*), Pink-footed goose (*Anser brachyrhynchus*), Redshank (*Tringa totanus*), Sandwich tern (*Sterna sandvicensis*), Shelduck (*Tadorna tadorna*), Slavonian grebe (*Podiceps auritus*), Turnstone (*Arenaria interpres*) and Waterfowl assemblage

Special Protected Areas (SPA) – [Firth of Forth](#)

A small section of the SPA site falls inside the same area as the Shellfish Waters. Designated 30/10/2001 for internationally important bird species Bar-tailed godwit (*Limosa lapponica*), Common scoter (*Melanitta nigra*), Cormorant (*Phalacrocorax carbo*), Curlew (*Numenius arquata*), Dunlin (*Calidris alpina alpina*), Eider (*Somateria mollissima*), Golden plover (*Pluvialis apricaria*), Goldeneye (*Bucephala clangula*), Great crested grebe (*Podiceps cristatus*), Grey plover (*Pluvialis squatarola*)

Sites of Special Scientific Interest (SSSI) – [Firth of Forth](#)

Designated 15/08/2000 for Palaeontology (Arthropoda (excluding insects and trilobites)), Igneous petrology (Carboniferous - Permian Igneous). Geomorphology and Important species (Beetles, Bar-tailed godwit (*Limosa lapponica*), Common scoter (*Melanitta nigra*), Cormorant (*Phalacrocorax carbo*), Curlew (*Numenius arquata*), Dunlin (*Calidris alpina*))

Sites of Special Scientific Interest (SSSI) – [Barnsmuir Coast](#)

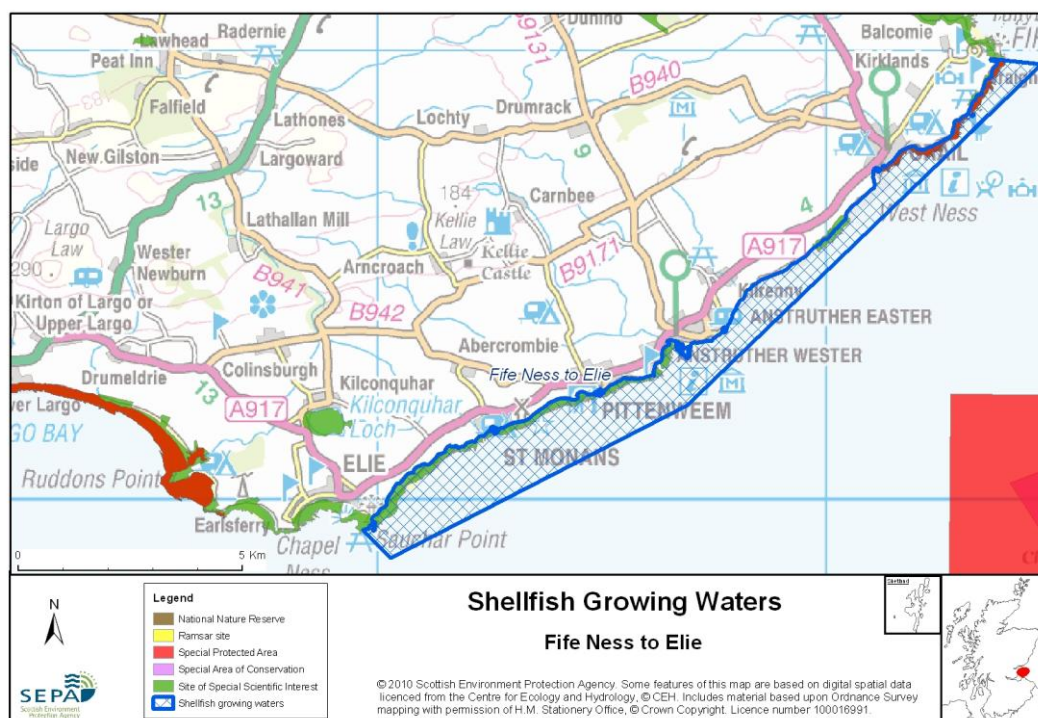
Designated 21/02/1984 for habitat (Maritime cliff, Saltmarsh and shingle)

Sites of Special Scientific Interest (SSSI) – [Fife Ness Coast](#)

Designated 25/03/1987 for Stratigraphy and habitat (maritime cliff and saltmarsh)

Sites of Special Scientific Interest (SSSI) – [Kilconquhar Loch](#)

Designated 21/02/1984 for Eutrophic loch, habitats (Open water transition fen and Wet woodland) and species (Pochard (*Aythya ferina*), Tufted duck (*Aythya fuligula*), and Breeding bird assemblage)



4.4 Topography and Land Use – Potential Diffuse Pollution Sources

The surrounding low-lying land is very fertile and almost exclusively used for arable farming.

There are several freshwater inputs draining to coast between Crail and Elie, unfortunately most of them are impacted by pollution. There is a significant ferruginous discharge direct to the Shellfish Waters on the coast between St Monans and Pittenweem, It is a large discharge of ferruginous groundwater associated with ancient mine workings inland. There is visible deposition/ staining of the rocky foreshore around the outlet.

The Dreel Burn, Balmonth Burn and Kilrenny Burn drain considerable arable agricultural catchments and reach the coast at Anstruther. Balcaskie Estate has in the past couple of years voluntarily undertaken significant measures along the course of the Dreel Burn to reduce diffuse source pollution.

Both suffer from diffuse pollution. Further south, the St Monans Burn suffers from the same problems.

There are a number of communities along this coastline. These include Crail, Anstruther, Pittenweem, St Monans and Elie.

4.5 Point Source Discharge

Type	Name	Treatment	Consent No.	NGR	PE	Additional Information
Scottish Water Asset	Crail STW	6mm Screening	CAR/L/1001337	NO 6339 0854	3000	800 m LSO. Completed in 2000
	Anstruther Cornceres STW	5mm Screening	CAR/L/1001258	NO 5907 0390	4000	1100m LSO
	Elie STW	Septic Tank	CAR/L/1001145	NO 4920 9932	1200	LSO
	St Monans/ Pittenweem STW	6mm Screening	CAR/L/1001063	NO 5380 0170	5000	LSO. Improved screening installed in 2005.
	Billowness STW	5mm Screening	CAR/L/1001330	NO 5650 0208	4000	LSO
	Kirk Wynd PS/CSO	6mm Screening	CAR/L/1000981	NO 6164 0754	-	Outfall to Low Water Mark
	Harbour (Crail) PS/CSO	6mm Screening	CAR/L/1001262	NO 6310 0739	-	Outfall to Low Water Mark
	Kilrenny PS/CSO	12mm Screening	CAR/L/1001260	NO 5827 0436	-	Outfall to MLWST

	Skinfasthaven PS/CSO	10mm Screening	CAR/L/1001496	NO 5768 0370	-	Outfall to MLWST
	Anstruther Esplanade PS/CSO	12mm Screening	WPC/E/6436	NO 5657 0333	-	Outfall to Low Tide Mark
	Bankwell Lane PS/CSO	5mm Screening	CAR/L/1001068	NO 5651 0311	-	Outfall to MLWST
	Mayview PS/CSO	12mm Screening	CAR/L/1001256	NO 5542 0250	-	Outfall to MLWST
	West Shore Pittenweem PS/CSO	-	WPC/E/4006	NO 5470 0220	-	Outfall to Low Water Mark. PS improved including provision of telemetry in 2003.
	East Shore St. Monans PS/CSO	Screening on overflow	WPC/E/4008	NO 5270 0140	-	Outfall to Low Water Mark
Other	Coastguard Station at Fife Ness	Septic Tank	-	NO 6390 0975	<250	Outfall to Low Water Mark
Industrial	Harbours at: Crail Anstruther Pittenweem St. Monans.	-	-	NO 6120 0735 NO 5680 0335 NO 5500 0240 NO 5270 0155	-	-
	Boatyard at St Monans	-	-	NO 5255 0155	-	-

There are no marine cage fish farms within the designated shellfish water

4.6 Compliance Monitoring Regime

Year	Monitoring Regime
1987 -	<ul style="list-style-type: none"> Annually for metals and organohalogens in mussels Quarterly for faecal coliforms in mussels

An initial comprehensive survey of standards in waters showed that there was no risk of failure in respect of any physico-chemical parameter, so the level of monitoring was reduced (in accordance with Article 7) to annual monitoring of contaminants and quarterly monitoring of faecal coliforms in shellfish flesh.

4.7 Compliance History

UKS799234 - Fife Ness to Elie				
	Compliance history for Waters and Biota, excluding faecal coliforms data			Compliance history for faecal coliforms
Year	Overall Result	Imperative	Guideline	Guideline
1998	Pass	Pass	Pass	-
1999	Pass	Pass	Pass	Fail
2000	Pass	Pass	Pass	Fail
2001	Pass	Pass	Pass	Fail
2002	Pass	Pass	Pass	Fail
2003	Pass	Pass	Pass	Fail
2004	Pass	Pass	Pass	Fail
2005	Pass	Pass	Pass	Fail
2006	Pass	Pass	Pass	Fail
2007	Pass	Pass	Fail	Fail
2008	Pass	Pass	Fail	Fail
2009	Pass	Pass	Pass	Fail
2010	Pass	Pass	Fail ²	Fail

All samples have complied with the standards for contaminants in shellfish flesh until 2006 and 2007 when the guideline value for Arsenic of 30mg/kg dry weight was just exceeded. The levels found, 36.6 and 34.1mg/kg dry weight, are however well within the imperative level of 100mg/kg dry weight. This area failed again for Arsenic guideline standard in 2010. It is thought that the source of the Arsenic is the local geology (there is a lot of As in the rock at Burntisland) as there are no point sources of Arsenic in the area of the monitoring site at Ardross.

The waters have consistently failed to comply with the guideline standard for faecal coliforms since 1999 to 2010.

4.8 Future Monitoring

Annual sampling of mussels for organohalogenes and metals will continue.

In the event of any sample failing to comply with any chemical parameter EQS, the site will be revisited and re-sampled for the failed parameter. Samplers are asked to identify any evidence of visible harm to the shellfish population at the site.

Elie to Fife Ness ECSGW will be monitored quarterly for faecal coliforms in mussels.

SEPA will endeavour to identify the cause of continued guideline failure at the Ardross site and work with other organisations to resolve any problems if appropriate.

4.9 Improvement Actions

Crail STW was completed in 2000, with environmental benefits primarily seen after early 2001 when initial commissioning problems were resolved. At the West Shore Pittenweem PS/CSO, the pumping station was improved, including provision of telemetry, in 2003. Improved screening at the St. Monans/ Pittenweem STW LSO was installed in 2005.

Balcaskie Estate has in the past couple of years voluntarily undertaken significant measures along the course of the Dreel Burn aimed at reducing diffuse pollution (e.g. fencing to prevent livestock entering the watercourse, buffer strips and hedge planting). It is anticipated that these measures will be significant in upgrading water quality in the burn as the estate manages a large proportion of the riparian land in the Dreel catchment.

Further work is needed to identify and reduce point source pollution inputs into the Shellfish Waters.

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, with high confidence.

The Guideline Shellfish Growing Water Standards are not predicted to pass until 2027 (third River Basin Management Plan Cycle). This is due to repeated failures of the Guideline faecal coliform standards. Target objectives may be revised after the first River Basin Management Plan Cycle.

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

4.10 Summary of Actions

Action	Deadline
Crail STW completed 2000	Done
Improvement of West Shore Pittenweem PS/CSO, 2003	
Improved screening at St. Monans/Pittenweem STW LSO, 2005	