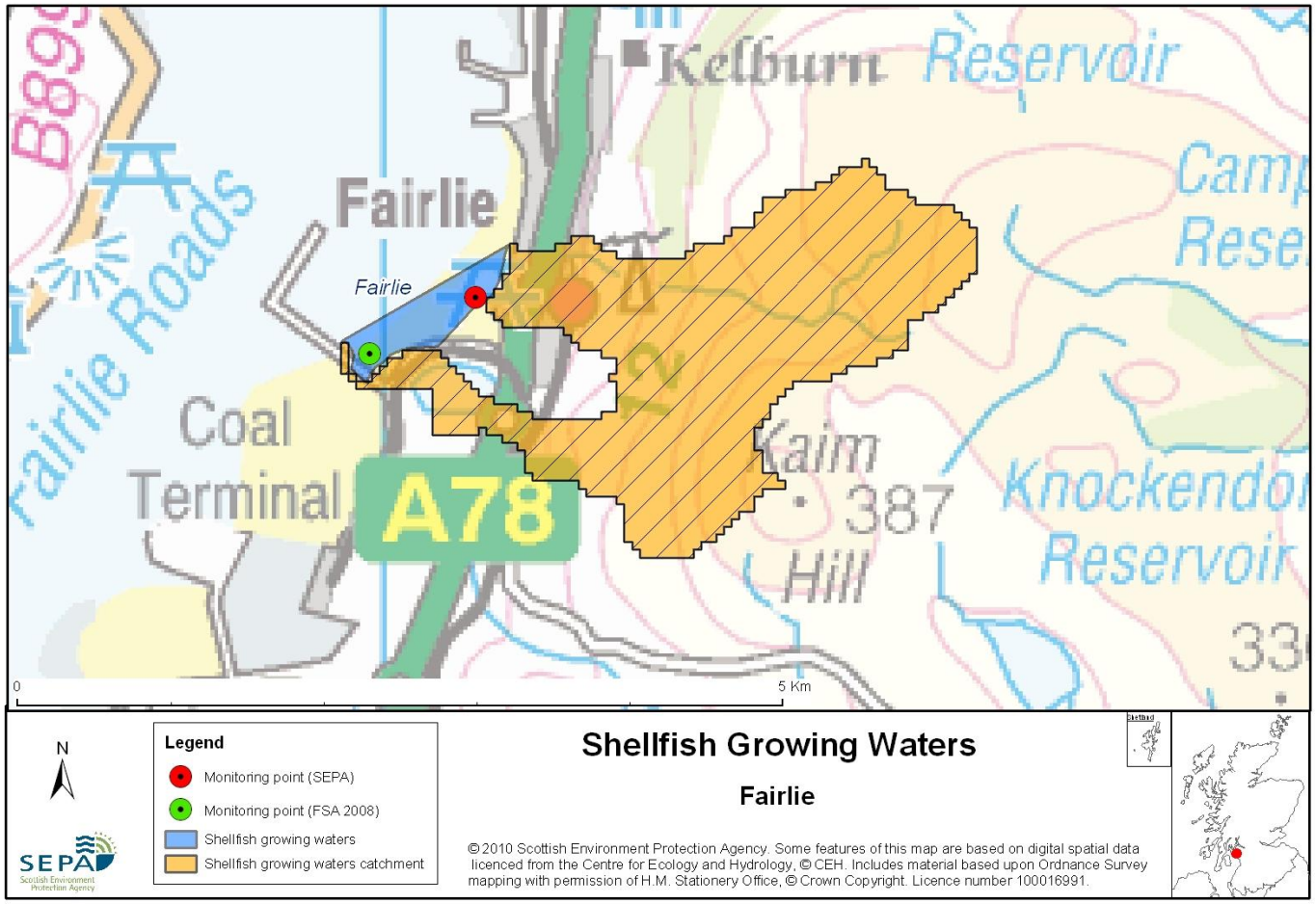
47 Fairlie



Name	Fairlie
Report Reference Number	47
WFD Code	UKS7992347
Local Information	An area bounded by lines drawn between NS2081755010 and NS1972854387 and between NS2061054625 and NS2035954356, and extending to MHWS.
Designated Area (km²)	0.30
Year of Designation	2002
Sampling Points	Fairlie Mussel Site - NS 20610 54674
Commencement of Monitoring	2003

47.1 Commercial Shellfish Interests

Fairlie Shellfish Waters is also designated as a Shellfish Harvesting Area by the Food Standards Agency (FSA), for the production of Pacific oysters (*Crassostrea gigas*) *littorea*).

Fairlie: Southannan Sands (Pacific oysters)
2011 = A - April to July
B - August to December
2012 = B - 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 depurated, heat-treated or re-laid prior to human consumption.

FSA have not carried out a sanitary survey for Fairlie

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

47.2 Bathymetric Information

Fairlie is situated on the west coast of Ayrshire. The shellfish growing area has a west aspect and is sheltered by the Isle of Bute and Cumbrae from the prevailing south west winds. The total length of the growing area is approximately 1km and maximum water depth is approximately 33m. There are morphological pressures from land reclamation at the Hunterston Terminal.

47.3 Conservation Designations

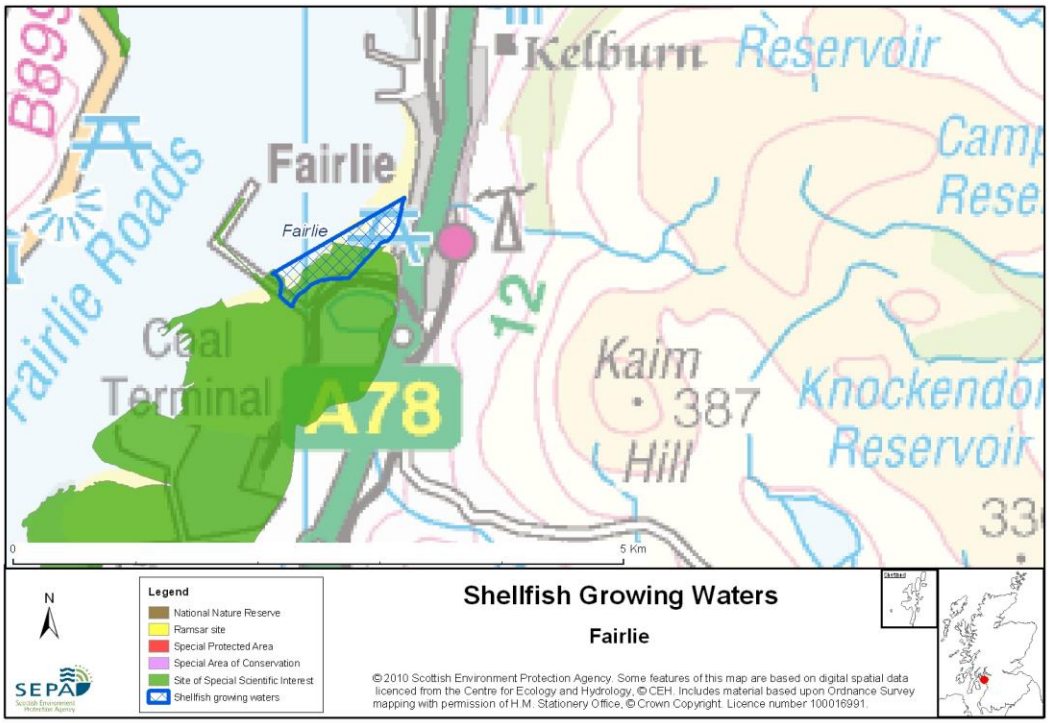
Fairlie Shellfish Waters is also designated as a Shellfish Harvesting Area by the Food Standards Agency (FSA).

Approximately 6km southwest of Fairlie is the Ayrshire Coast (UKS799237) Shellfish Water.

Sites of Special Scientific Interest (SSSI) – Portencross Coast
North of the Shellfish Water. Designated 27/04/1971 for habitat (Sandflat, upland mixed ash woodland) and aggregations of non-breeding birds

Sites of Special Scientific Interest (SSSI) – Kames Bay
Designated 23/05/1985 for littoral marine sediment (sandflat)

Sites of Special Scientific Interest (SSSI) – Ballochmartin Bay
Designated 23/05/1985 for littoral marine sediment (sandflat)



47.4 Topography and Land Use – Potential Diffuse Pollution Sources

Fairlie is a small town to the south of Largs on the south west coast of Scotland. The watercourses that could potentially have an impact on the shellfish area are the Fairlie Burn (and it's largest tributary, the Southannan Burn) and the Glen Burn. Both discharge onto the beach near the shellfish area.

To the south of Fairlie, lies Hunterston, an area of heavy industry including a coal terminal, an oil rig construction yard (currently disused) and a nuclear power station.

Livestock agriculture in the area is limited, with approximately 10 farms draining into the catchment. Livestock farming is the most likely cause of Fairlies past failures to meet shellfish water standards.

47.5 Point Source Discharge

There are no consented discharges from public sewage systems to the designated area, although an emergency outfall from the Fairlie STW is consented to discharge into the Fairlie Burn just before it enters the designated area.

Effluent from the Clydeport settlement lagoons is discharged on the seaward side of the harbour walls, within 2km of the designated area. The Fairlie STW discharges final effluent to the Fairlie Roads, within 2km of the designated area.

There are no fish farms within the designated area. There is a fish farm in Ballochmartin Bay, with biomass of 60 tonnes.

47.6 Compliance Monitoring Regime

The following monitoring regime of the designated area was not fully implemented until the second half of 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

47.7 Compliance History

UKS7992347 - Fairlie				
	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	Fail	Fail[1]	Pass	Pass
2006	Pass	Pass	Pass	Fail
2007	Pass	Pass	Pass	Fail
2008	Pass	Pass	Pass	Pass
2009	Pass	Pass	Pass	Pass
2010	Pass	Pass	Pass	Fail

[1]Failure relates to a single result for zinc in July 2005 of 10.4 µg/l which marginally breaches the Imperative standard of 10.0 µg/l.

Of the six samples analysed for Faecal Coliforms in 2003 and 2004, five gave results above the Guideline standard. There were no failures of the Guideline standard for Faecal Coliforms in 2005. The shellfish waters failed to comply with the guideline standards again in 2006 and 2007.

Eighteen samples were analysed from the Fairlie designation in 2009 by the Food Standards Agency. Fourteen of these passed the guideline standard of 230 E. Coli per 100g of shellfish flesh giving a compliance of 78%. Four samples, collected in February, March, August and September failed to meet this standard with results of 310, 330, 5400 and 1700 E. Coli per 100g flesh respectively.

In 2004, 2005 and 2006 the highest value obtained for faecal coliforms at Fairlie measured by SEPA always occurred in the fourth quarter, with the lowest value always occurring in the second or third quarter. The waters failed again in 2007 and 2010, but passed in 2008 and 2009.

47.8 Future Monitoring

The monitoring regime (47.6 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.

47.9 Improvement Actions

There are currently no improvement actions scheduled for this shellfish water.

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 but the Guideline Shellfish Growing Water Standards is 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

47.10 Summary of Actions

Action	Deadline
No improvement actions currently planned.	N/A