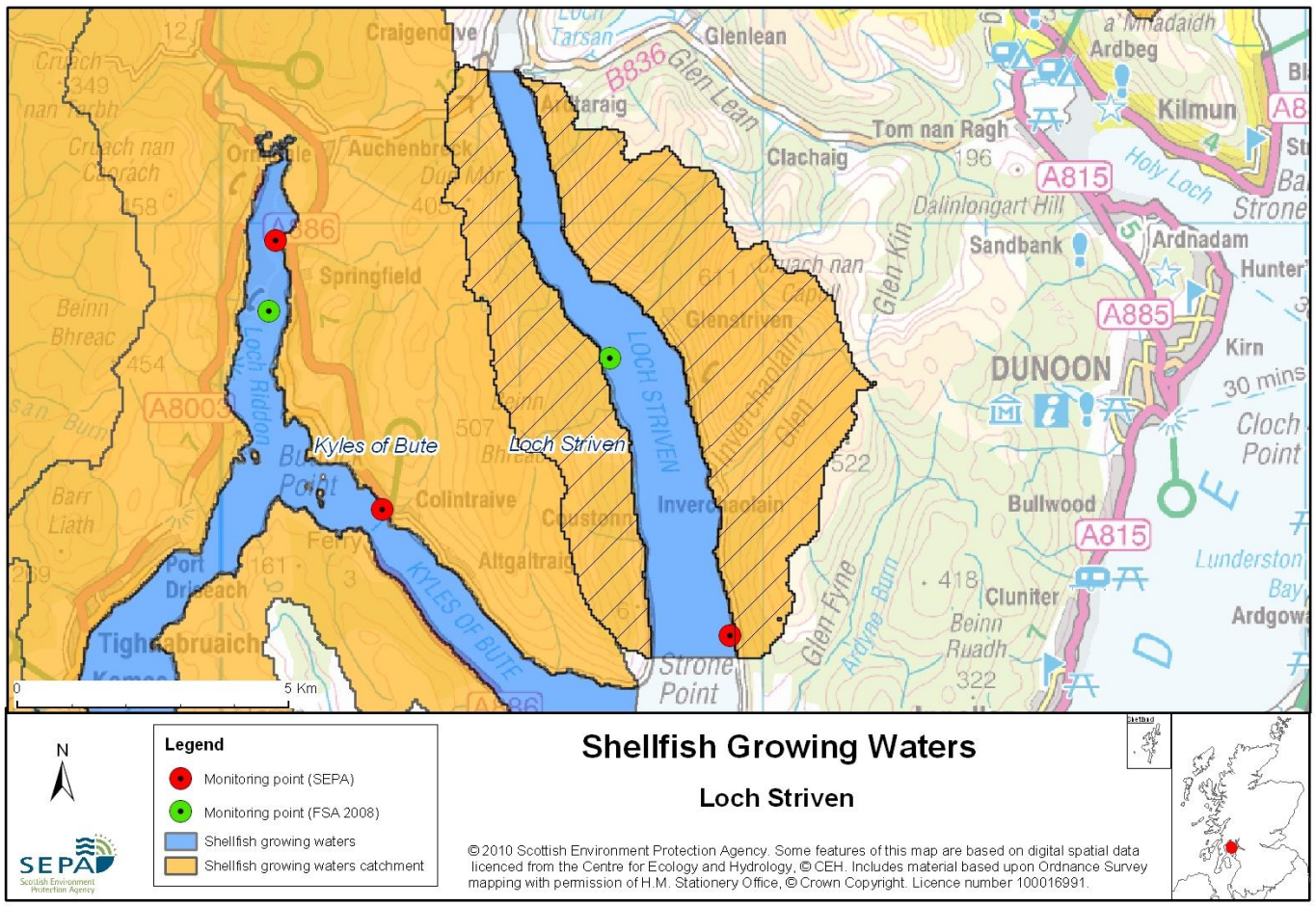
89 Loch Striven



Name	Loch Striven
Report Reference Number	89
WFD Code	UKS7992389
Local Information	An area bounded by lines drawn between NS0493382800 and NS0542482797 and NS0794172000 and NS0948972000, and extending to MHWS.
Designated Area (km²)	12.35
Year of Designation	2002
Sampling Points	Loch Striven Mussel Site - NS 09400 72400
Commencement of Monitoring	2003

89.1 Commercial Shellfish Interests

Part of Loch Striven is designated as a Shellfish Harvesting Area by the Food Standards Agency (FSA) for the production of Common mussels (), from two sites (Loch Striven and Troustan)

Loch Striven: All sites (Common mussels)
2011 = A - April to August
B – September to December
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 depurated, heat-treated or re-laid prior to human consumption.

FSA have not carried out a sanitary survey for Loch Striven.

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

89.2 Bathymetric Information

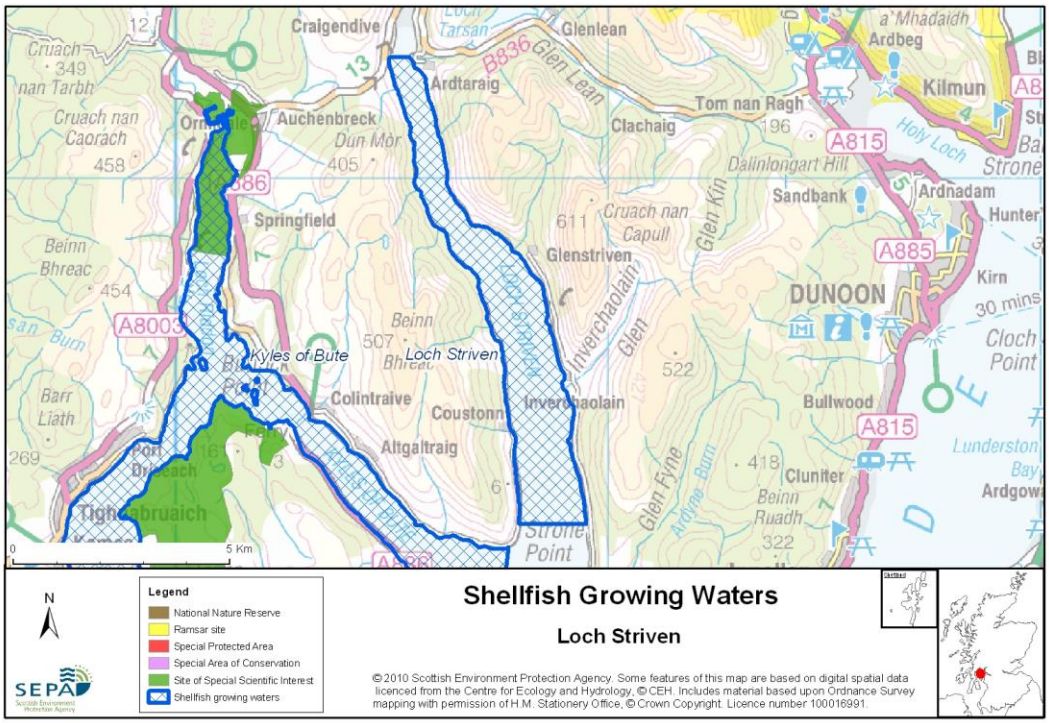
This loch is situated in a sheltered position east of Dunoon. It has a fresh/tidal flow ratio of 9 and a salinity reduction of 0.3ppt, indicative of a low fresh water input with little variation in salinity. It is very slow to flush taking 12 days and has a length of 12.9km and a maximum depth of 69m. The catchment area is 80km2 and there are no sills in the loch.

There are no morphological pressures on the waters.

89.3 Conservation Designations

To the west of Loch Striven is Kyles of Bute designated Shellfish Waters (UKS799238), a small area within the Kyles is also designated as a Shellfish Harvesting Area by FSA.

Sites of Special Scientific Interest (SSSI) – Ruel Estuary
Designated 30/09/1986 for habitat (Fen meadow, Flood-plain fen, Saltmarsh, Upland oak woodland)



89.4 Topography and Land Use – Potential Diffuse Pollution Sources

There are two major freshwater inputs to Loch Striven, the Glentarsan Burn and the Baliemore Burn, although both flow into Loch Striven up-loch of the designated area. Both rivers are considered to be of at least good quality, although neither is monitored by SEPA. There are many minor freshwater inputs directly to the designated area. Again none of these are monitored by SEPA, but they are all considered to be of at least good quality. Loch Striven receives water from a catchment area of approximately 68 square kilometres. Approximately 23 square kilometres of the land is in managed forestry or woodland whilst the remainder is steeply sloping rough hill land rising to 600 metres.

Any agriculture is limited to extensive livestock production. The most likely reason for guideline faecal coliform failures (see 89.7 Compliance History below) is diffuse source pollution from livestock farming.

There are no significant communities within the catchment area and it is sparsely populated.

89.5 Point Source Discharge

There are no consented discharges from public sewage systems or from private septic tanks into the designated area. There are a small number of consents for discharges from septic tanks that serve individual houses within the catchment. There is one consented discharge directly into the designated area, for the discharge of waters from a freshwater hatchery.

There are two marine cage fish farms within the designated water, with a combined consented biomass of 750 tonnes. There is a third fish farm within 2km of the designated area, with a consented biomass of 1000 tonnes.

Type	Name	Treatment	Consent No.	NGR	PE	Additional Information
Industrial	No.5 Aquascot	Trade effluent	CAR/L/1003707	NS 056 827	-	Land Tanks discharging to marine or freshwater

Category	Name	Consent No.	NGR	Biomass (t)	Additional Information
Marine Cage Fish Farm	Ardtaraig	CAR/L/1000614	NS 056 822	250	-
	Strone Point	CAR/L/1003718	NS 0812 7245	500	-

89.6 Compliance Monitoring Regime

This monitoring regime of the designated area was implemented in July 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

89.7 Compliance History

UKS7992389 - Loch Striven				
	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	Pass
2005	Pass	Pass	Pass	Fail
2006	Pass	Pass	Pass	Fail
2007	Pass	Pass	Pass	Pass
2008	Pass	Pass	Pass	Pass
2009	Pass	Pass	Pass	Fail
2010	Pass	Pass	Pass	Pass

Of the six samples analysed for Faecal Coliforms in 2003 and 2004, two gave results above the Guideline standard. In 2005, two samples gave results above the Guideline standard. The waters passed the guideline standard in 2007, 2008 and 2010 but then failed in 2009.

89.8 Future Monitoring

The monitoring regime (89.6 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.

89.9 Improvement Actions

There are currently no improvement actions planned for this designated 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. The Guideline Shellfish Growing Water Standards are 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

89.10 Summary of Actions

Action	Deadline
No improvement actions currently planned	N/A