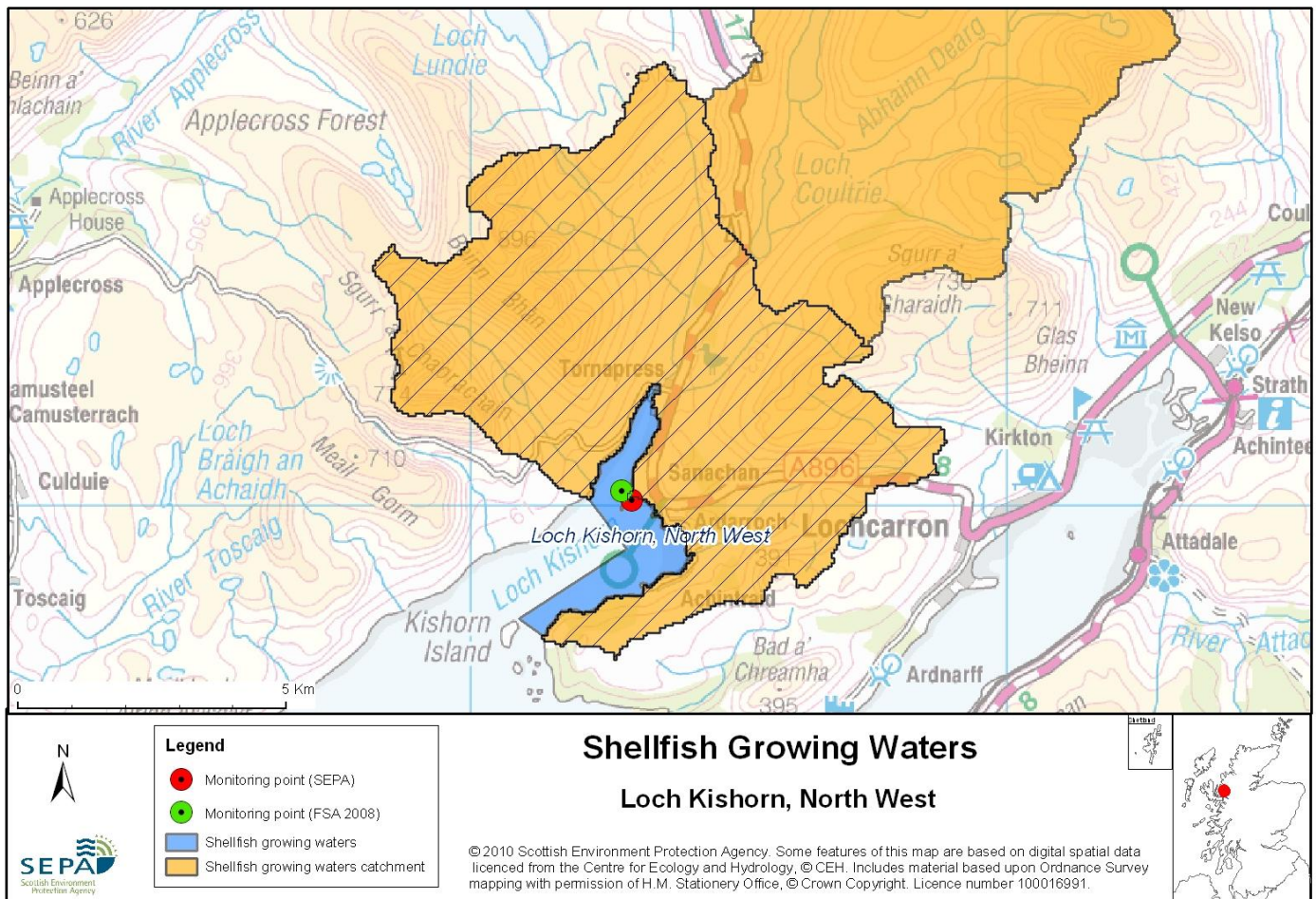


28 Loch Kishorn, North West



Name	Loch Kishorn, North West
Report Reference Number	28
WFD Code	UKS7992328
Local Information	An area inshore of a line drawn between the points NG8133137577 and NG8090037900 and between NG8090037900 and NG8290039200 and between NG8290039200 and NG8221640112, and extending to MHWS.
Designated Area (km²)	3.78
Year of Designation	2000
Sampling Points	Loch Kishorn Mussel Site - NG 83023 40108
Commencement of Monitoring	2000

28.1 Commercial Shellfish Interests

Loch Kishorn is also designated as a Shellfish Harvesting Area (Loch Kishorn North) by the Food Standards Agency (FSA) for the production of Common mussels (*Mytilus edulis*) and Pacific oysters (*Crassostrea gigas*).

Loch Kishorn North (Common mussels)

2011 = A - April & May, October to December

B - June to September

2012 = A - January to March

Loch Kishorn North (Pacific oysters)

2011 = A - April to June, October to December

B - July to September

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 yet to carry out a sanitary survey for Loch Kishorn.

For more information on Food Standards Agency Classification please visit:

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

28.2 Bathymetric Information

Loch Kishorn is a sea loch with a total length of 4.1 km and a catchment area of approximately 66 km². The shellfish water excludes much of the northern shore of the loch. There are no sills in Loch Kishorn and the maximum water depth is 61 m and the flushing time 3 days. Its south west aspect exposes the waters to prevailing winds.

Fresh/tidal flow ratio, which reflects the degree of possible influence of freshwater on the overall salinity, is moderately high (0.3) for the size of the loch. There are no morphological pressures in the area.

28.3 Conservation Designations

A small section of Loch Kishorn Shellfish Water is also designated as a Shellfish Harvesting Area by FSA

Southwest there are two other designated Shellfish Waters - Black Islands, Kyle ([UKS7992336](#)) and Broadford Bay and Kyle Area ([UKS7992311](#)). Part of Broadford Bay is designated by FSA as a Shellfish Harvesting Area.

National Nature Reserve (NNR) – [Rassal Ashwood](#)

Designated 11/04/1967

Special Area of conservation (SAC) – [Beinn Bhan](#)

Designated 17/03/2005 for Acidic scree, Alpine and subalpine heaths, Dry upland heaths, Montane acid grasslands, Plants in crevices on acid rocks, Tall herb communities, Wet heathland with cross-leaved heath

This is also a **Water Dependent SAC** and a **Groundwater Dependent SAC**.

Special Area of conservation (SAC) – [Rassal](#)

Designated 17/03/2005 for internationally important habitats - Alpine and subalpine calcareous grasslands, Base-rich fens, Hard-water springs depositing lime, inland rock (Limestone pavements), Mixed woodland on base-rich soils associated with rocky slopes, Mountain willow scrub, Plants in crevices on base-rich rocks.

Water Dependent SAC and a **Groundwater Dependent SAC**.

Sites of Special Scientific Interest (SSSI) – [Beinn Bhan](#)

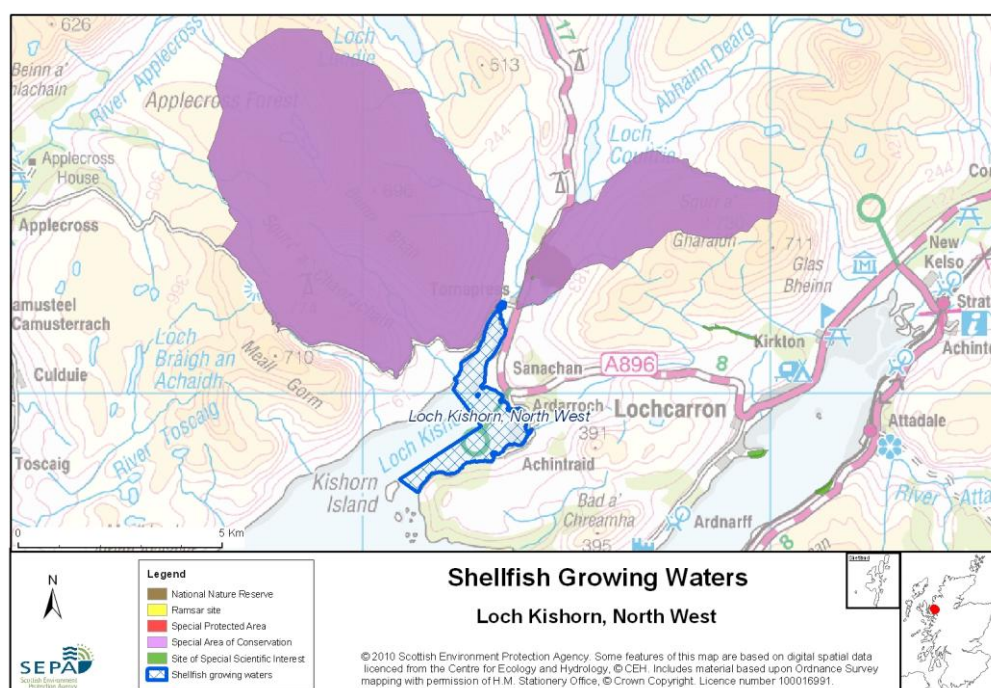
Designated 03/05/1984 for Tall herb ledge and Upland mosaic assemblage

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

Designated 22/08/1985 for flies, inland rock (Limestone pavement), Structural and metamorphic geology (moine), Calcareous grassland (Upland), upland (mosaic) assemblage, Upland mixed ash woodland, Wood pasture and parkland

Sites of Special Scientific Interest (SSSI) – [Allt nan Carnan](#)

Designated 02/07/1986 for Upland birch woodland



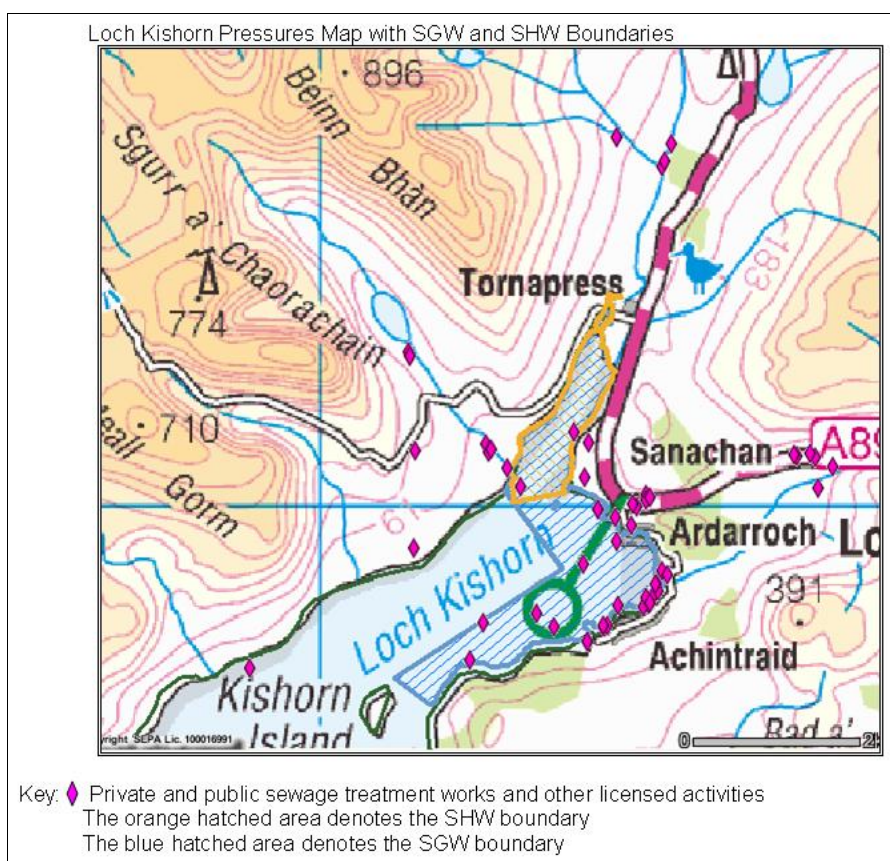
28.4 Topography and Land Use – Potential Diffuse Pollution Sources

The land surrounding the loch comprises a mixture of heather moorland, rough, rocky ground, improved pasture and coniferous forestry. The main freshwater input is the River Kishorn, which flows into the north-east end of the loch. The smaller Russel Burn flows into the north side of the loch. The lower reaches of both these watercourses include licensed freshwater fish hatcheries.

28.5 Point Source Discharge

There are four marine cage salmon fish farms in Loch Kishorn and Loch Carron; only one of which is located within the designated water. The farms have a total consented salmon biomass of approximately 4000 tonnes.

Type	Name	Treatment	Consent No.	NGR	PE	Additional Information
Scottish Water Asset	Kishorn WWTW	Secondary (tertiary by March)	CAR/L/1081363	NG 83570 39930	264	UV to be provided by March 2011
Other	Numerous private household ST	Septic Tanks	-	Various	150	-
Category	Name	Consent No.	NGR	Biomass (t)	Additional Information	
Fish farm	Ardarroch	WPC/N/54178(02)	NG 8310 3920	50	-	
	Camas Doun Point, site 2	CAR/L/1015831	NG 8190 3840	1299		
	Achintraid, site 1	CAR/L/1015867	NG 8270 3860	1299		



28.6 Compliance Monitoring Regime

The following monitoring regime of the designated area was implemented in July 2005.

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

28.7 Compliance History

UKS7992328 - Loch Kishorn, North West				
	Compliance history for Waters and Biota, excluding faecal coliforms data			Compliance history for faecal coliforms
Year	Overall Result	Imperative	Guideline	Guideline
2000	Not monitored	Not monitored	Not monitored	Fail
2001	Not monitored	Not monitored	Not monitored	Pass
2002	Not monitored	Not monitored	Not monitored	Fail
2003	Pass	Pass	Pass	Fail
2004	Pass	Pass	Pass	Pass
2005	Pass	Pass	Pass	Fail
2006	Pass	Pass	Pass	Fail
2007	Pass	Pass	Pass	Fail
2008	Pass	Pass	Pass	Pass
2009	Pass	Pass	Pass	Fail
2010	Pass	Pass	Pass	Pass

Due to the remote location of this water, and lack of sewage pollution sources, the provisions of Article 7(2) of the directive were applied in respect of chemical substances during the period 2000 – 2002, but SEPA did monitor for faecal coliforms in shellfish flesh, as compliance with this standard could not be assumed. To check that application of Article 7(2) is justified, full monitoring commenced late in 2002, with 2003 being the first year for which complete data is available. All parameters have complied with the Imperative and Guideline standards since 2003.

The waters have mainly failed to comply with the Guideline standard for faecal coliforms with them passing in 2001, 2004, 2008 and 2010.

28.8 Future Monitoring

The monitoring regime (85.6 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.

28.9 Improvement Actions

Loch Kishorn and its surrounding areas has been identified for the provision of first time sewerage under Scottish Water's Quality and Standards IIIa programme

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. Due to past failures, the Guideline Shellfish Growing Water Standards are not predicted to pass 2027 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	Fail by 2015	Low	Fail by 2021	Low	Fail by 2027	Low

28.10 Summary of Actions

Action	Deadline
Identified for first time sewerage provision under Q&SIIIa.	March 2011