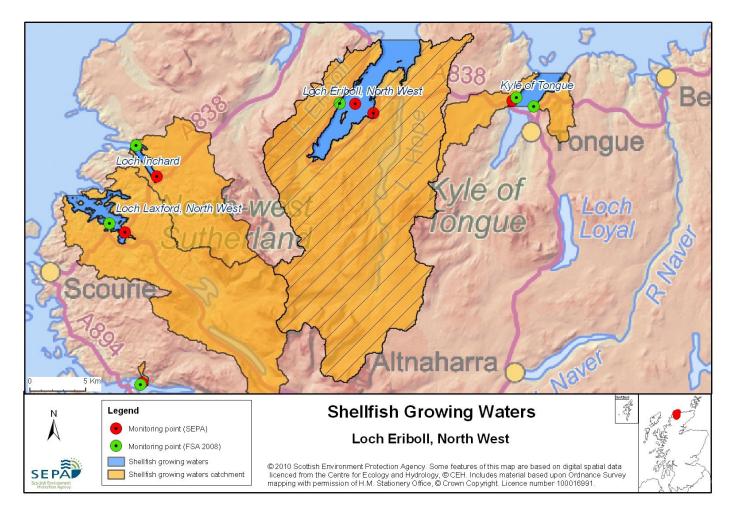
### 26 Loch Eriboll, North West



| Name                               | Loch Eriboll, North West                                                                                 |  |  |
|------------------------------------|----------------------------------------------------------------------------------------------------------|--|--|
| Report Reference Number            | 26                                                                                                       |  |  |
| WFD Code                           | UKS7992326                                                                                               |  |  |
| Local Information                  | An area inshore of a line drawn between the points NC4904465000 and NC4544965000, and extending to MHWS. |  |  |
| Designated Area (km <sup>2</sup> ) | 27.03                                                                                                    |  |  |
| Year of Designation 2000           |                                                                                                          |  |  |
| Sampling Points                    | Loch Eriboll Mussel Site -<br>NC 44911 58396                                                             |  |  |
| Commencement of Monitoring         | g 2000                                                                                                   |  |  |

### **26.1 Commercial Shellfish Interests**

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

Common Mussels are classified at four areas (Loch Eriboll, Loch Eriboll – MacLennan, Loch Eriboll – Mathers, Loch Eriboll – McGowan) all of which are class A as below.

Pacific oysters are classified from two areas (Loch Eriboll, Loch Eriboll – MacLennan) and are both Class B.

Loch Eriboll – (Common Mussels) 2011 = A - April to December 2012 = A - January to March Loch Eriboll – (Pacific Oysters) 2011 = A - April to June B - July 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 conducted sanitary surveys for Loch Eribol

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

### 26.2 Bathymetric Information

Loch Eriboll lies on the north coast of Scotland. Its north east aspect and narrow profile provide shelter from prevailing westerly winds. The loch has a total length of 15.5 km. The growing water is located in the inner area of the loch. One sill is located near the entrance of the loch, south of Rispond Bay. Maximum water depth is 68 m. The average flushing time for the loch is 4 days. Loch Eriboll catchment area is estimated at 107 km2. The fresh/tidal flow ratio, which reflects the degree of possible influence of freshwater on the overall salinity is low (0.1) for the size of the loch. There are no morphological pressures on the area.

### **26.3 Conservation Designations**

Loch Eriboll is designated by FSA as a Shellfish Harvesting area.

East of Loch Eriboll is Kyle of Tongue (designated as Shellfish Water – <u>UKS7992356</u>, and also designated by FSA as a Shellfish Harvesting Area) and Rabbit Island FSA Shellfish Harvesting Area.

### RAMSAR - Caithness and Sutherland Peatlands

Designated 02/02/1999 for internationally important breeding birds (including Dunlin (*Calidris alpina schinzii*) and Greylag goose (*Anser anser*)) and internationally important habitat (upland blanket bog).

### Special Protected Area (SPA) – Caithness and Sutherland Peatlands

Designated 02/02/1999 for internationally important aggregations of breeding birds -Black-throated diver (*Gavia arctica*), Common scoter (*Melanitta nigra*), Dunlin (*Calidris alpina schinzii*), Golden eagle (*Aquila chrysaetos*), Golden plover (Pluvialis apricaria), Greenshank (*Tringa nebularia*), Hen harrier (*Circus cyaneus*), Merlin (*Falco columbarius*), Red-throated diver (*Gavia stellata*), Short-eared owl (*Asio flammeus*)

This is also a Water Dependent SPA and Groundwater Dependent SPA

### Special Protected Area (SPA) - North Sutherland Coastal Islands

Designated 02/02/1999 for aggregations of non-breeding birds - Greenland Barnacle goose (*Branta leucopsis*)

This is also a Water Dependent SPA

#### Special Protected Area (SPA) – Cape Wrath

Designated 25/09/2009 for aggregations of breeding birds - Fulmar (Fulmarus glacialis), Guillemot (Uria aalge), Kittiwake (Rissa tridactyla), Puffin (Fratercula arctica), Razorbill (Alca torda)

This is also a Water Dependent SPA

### Special Protected Area (SPA) – Foinaven

Designated 28/10/2010 for aggregations of internationally important breeding bird species - Golden eagle (*Aquila chrysaetos*)

### Special Area of Conservation (SAC) - Caithness and Sutherland Peatlands

Designated 17/03/2005 for internationally important habitat (Acid peat-stained lakes and ponds, upland blanket bog, Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, bogs - Depressions on peat substrates, Wet heathland with cross-leaved heath) and important species (Marsh saxifrage (*Saxifraga hirculus*), Otter (*Lutra lutra*))

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

### Special Area of Conservation (SAC) - Foinaven

Designated 17/03/2005 for internationally important habitats (Acid peat-stained lakes and ponds, Acidic scree, Alpine and subalpine heaths, upland blanket bog, Depressions on peat substrates, Dwarf shrub heath (Upland), Montane acid grasslands) and internationally important species (Freshwater pearl mussel (*Margaritifera margaritifera*), Otter (*Lutra lutra*))

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

### Special Area of Conservation (SAC) – Durness

Designated 17/03/2005 for habitats (Alpine and subalpine calcareous grasslands, Base-rich fens, Calcium-rich nutrient-poor lakes, lochs and pools, Dry heaths, Dune grassland, Humid dune slacks, Limestone pavements, Shifting dunes with marram, Tall herb communities) and species (Otter (*Lutra lutra*))

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

## Sites of Special Scientific Interest (SSSI) – Foinaven

Designated 08/12/1986 for habitats (upland blanket bogs, Dystrophic and oligotrophic loch types present, Upland birch woodland, Tall herb ledge), Structural and metamorphic geology (moine), assemblages of breeding birds

### Sites of Special Scientific Interest (SSSI) - Durness

Designated 21/02/1990 for Arenig – Llanvirn, Base-rich loch, Cambrian – Tremadoc, Coastal Geomorphology of Scotland, Dryas heath, Limestone pavement, Maritime cliff, Structural and metamorphic geology (moine), sand dunes.

## Sites of Special Scientific Interest (SSSI) - Eriboll

Designated 17/03/1987 for Cambrian Stratigraphy, Calcareous grassland (Upland), Structural and metamorphic geology (moine), Open water transition fen, Quaternary geology and geomorphology, Upland birch woodland

### Sites of Special Scientific Interest (SSSI) – Eilean Hoan

Designated 21/05/1998 for Great black-backed gull (Larus marinus), and Greenland Barnacle goose (Branta leucopsis)

### Sites of Special Scientific Interest (SSSI) – A' Mhoine

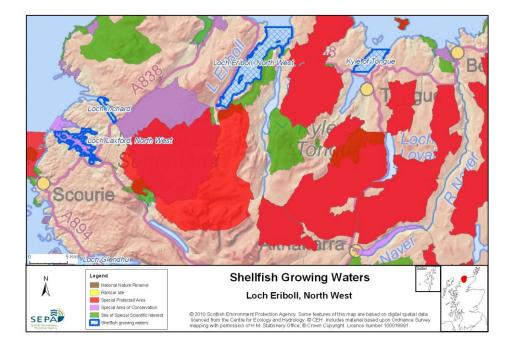
Designated 12/12/1995 for breeding birds (including Dunlin (Calidris alpina schinzii), Golden plover (Pluvialis apricaria), Greenshank (Tringa nebularia)) and upland blanket bog

#### Sites of Special Scientific Interest (SSSI) - Inverhope

Designated 07/11/1986 for Structural and metamorphic geology (Moine) and Upland birch woodland

### Sites of Special Scientific Interest (SSSI) - Ben Hutig

Designated 22/02/1990 for Alpine heath, upland blanket bog and Structural and metamorphic geology (Moine)



# 26.4 Topography and Land Use – Potential Diffuse Pollution Sources

The land bordering Loch Eriboll comprises a mixture of blanket bog and heather moorland. Very little is used for agriculture or forestry. The A838 circuits the loch, but there are no settlements of any significant size.

The main freshwater input to Loch Eriboll is the River Hope, which drains a catchment area of 214 km2 characterised by open moorland and mountain. The quality of the river as it enters the loch is monitored and classified by SEPA as good. Another significant freshwater input is the River Polla, which is also classified as good.

SEPA does not have diffuse source pollution pressures recorded as causing downgrades recorded for this shellfish water.

| Туре                       | Name        | Treatment   | Consent No.    | NGR          | PE             | Additional<br>Information                                                                                      |
|----------------------------|-------------|-------------|----------------|--------------|----------------|----------------------------------------------------------------------------------------------------------------|
| Scottish<br>Water<br>Asset | Port na Con | Septic Tank | WPC/N/60855*   | NC 4270 6040 | 11             | B& B house<br>sleeps 11<br>consent<br>issued t<br>Mrs L Black<br>not a SW<br>asseto                            |
| Category                   | Name        |             | Consent No.    | NGR          | Biomass<br>(t) | Additional<br>Information                                                                                      |
| Fish Farm                  | Sian Bay    |             | CAR/L/1003109- | NC 4457 6247 | 938            | Both of<br>these have<br>been varied<br>so think we<br>should<br>either put<br>VN01 for<br>both or<br>neither- |
|                            | Kempie bay  |             | CAR/L/1003110  | NC 4462 5809 | 400            | -                                                                                                              |

## 26.5 Point Source Discharge

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

There are two marine cage fish farms located within the designated water. These farms have a total consented salmon biomass of 1338 tonnes.

SEPA does not have point source pollution pressures recorded as causing downgrades recorded for this shellfish water.

# 26.6 Compliance Monitoring Regime

This monitoring regime of the designated area was not fully implemented until the second half of 2005.

| Year | Monitoring Regime                                                               |  |  |
|------|---------------------------------------------------------------------------------|--|--|
|      | <ul> <li>Quarterly for Sal, DO, pH, temperature, visible oil</li> </ul>         |  |  |
| 2005 | <ul> <li>Every three years for metals and organohalogens in mussels,</li> </ul> |  |  |
| 2003 | next collection scheduled for 2011                                              |  |  |
|      | Quarterly for faecal coliforms in mussels                                       |  |  |

# 26.7 Compliance History

|      | UKS7992326 - Loch Eriboll, North West |                                               |                   |           |  |
|------|---------------------------------------|-----------------------------------------------|-------------------|-----------|--|
|      | Compliance histo<br>fa                | Compliance<br>history for faecal<br>coliforms |                   |           |  |
| Year | Overall Result                        | Imperative                                    | Guideline         | Guideline |  |
| 2000 | Pass                                  | Pass                                          | Fail              | Pass      |  |
| 2001 | Pass                                  | Pass                                          | Fail              | Pass      |  |
| 2002 | Pass                                  | Pass                                          | Fail <sup>1</sup> | Pass      |  |
| 2003 | Pass                                  | Pass                                          | Pass              | Pass      |  |
| 2004 | Fail                                  | Fail <sup>2</sup>                             | Pass              | Pass      |  |
| 2005 | Pass                                  | Pass                                          | Fail <sup>3</sup> | Pass      |  |
| 2006 | Pass                                  | Pass                                          | Pass              | Pass      |  |
| 2007 | Pass                                  | Pass                                          | Pass              | Pass      |  |
| 2008 | Pass                                  | Pass                                          | Pass              | Pass      |  |
| 2009 | Pass                                  | Pass                                          | Pass              | Pass      |  |
| 2010 | Pass                                  | Pass                                          | Pass              | Pass      |  |

<sup>1</sup>In 2002, two measurements failed to reach G value of 80% dissolved oxygen saturation. However, average values were above 70%, so the I value was met. This indicates that low values were unusual. No harmful consequences for the development of shellfish colonies were observed.

 $^2$ Failure relates to a zinc result of 17.7  $\mu g/l$  in January 2004 which fails the Imperative standard of 10.0  $\mu g/l.$ 

<sup>3</sup>Failure relates to two single fails of arsenic (33.81 and 37.92 mg/kg) found in biota taken in December 2005 which breaches the guideline standard of 30 mg/kg.

The waters have consistently complied with the Guideline standard for faecal coliforms since monitoring began in 2000.

## 26.8 Future Monitoring

The monitoring regime (26.6 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.

### **26.9 Improvement Actions**

There are currently no actions required 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 and Guideline Shellfish Growing Water Standards, with high confidence.

| Objective                                                | First<br>Cycle<br>2015 | Confidence | Second<br>Cycle<br>2021 | Confidence | Third<br>Cycle<br>2027 | Confidence |
|----------------------------------------------------------|------------------------|------------|-------------------------|------------|------------------------|------------|
| Imperative<br>Shellfish<br>Growing<br>Waters<br>Standard | Pass by<br>2015        | High       | Pass by<br>2021         | High       | Pass by<br>2027        | High       |
| Guideline<br>Shellfish<br>Growing<br>Waters<br>Standard  | Pass by<br>2015        | High       | Pass by<br>2021         | High       | Pass by<br>2027        | High       |

### 26.10 Summary of Actions

| Action                                    | Deadline |
|-------------------------------------------|----------|
| No improvement actions currently required | N/A      |