

NPWS

Inishmore Island SAC  
(site code: 213)

**Conservation objectives supporting document-  
Coastal lagoons**

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## Contents

|   |   |
|---|---|
| 1. Introduction .....                                       | 2 |
| 1.1 Inishmore Island SAC .....                              | 2 |
| 1.2 Conservation objectives .....                           | 2 |
| 2. Area.....  | 3 |
| 3. Range .....  | 3 |
| 4. Structure and functions .....                            | 3 |
| 4.1 Salinity regime .....                                   | 3 |
| 4.2 Hydrological regime .....                               | 4 |
| 4.3 Barrier: connectivity between lagoon and sea .....      | 4 |
| 4.4 Water quality- Chlorophyll a .....                      | 4 |
| 4.5 Water quality- Molybdate reactive phosphorus (MRP)..... | 5 |
| 4.6 Water quality- Dissolved inorganic nitrogen (DIN).....  | 5 |
| 4.7 Depth of macrophyte colonisation .....                  | 5 |
| 4.8 Typical plant species .....                             | 5 |
| 4.9 Typical animal species.....                             | 5 |
| 4.10 Negative indicator species .....                       | 5 |
| 5. References.....  | 7 |
| Appendix 1 Lagoon distribution map .....                    | 8 |
| Appendix 2 Site reports .....                               | 9 |

## 1. Introduction

### 1.1 Inishmore Island SAC

Inishmore Island is the largest of the three Aran Islands, situated approximately 8km off the south coast of Co. Galway. Geologically an extension of the Burren, Co. Clare, the island is formed of Upper Carboniferous limestone strata, interleaved with layers of shale and clay. In places along the coast, spectacular cliffs rise to 90m. A thin cover of rendzina occurs in pockets between blocks of bare limestone. This is combined with a mixture of sand and seaweed to form a partially man-made soil cover, built up over the centuries.

This SAC is selected for sixteen habitats listed on Annex I of the Habitats Directive and one species in Annex II.

“Coastal lagoons” (habitat code 1150) is a priority habitat in Annex I of the Habitats Directive. A coastal lagoon is a lake or pond that is fully or partially separated from the sea by a permeable barrier that can be entirely natural such as shingle, or can be an artificial embankment. Salinity varies depending on such factors such as freshwater inputs and barrier permeability. Lagoons support unique assemblages of flora and fauna, particularly invertebrates. In Ireland, coastal lagoons are considered to be in bad conservation status due to issues such as drainage and water pollution (NPWS, 2013).

Four coastal lagoons are listed for this SAC (Oliver, 2007). The table below gives the conservation status assessment of these lagoons as outlined in that report. See map in Appendix 1 and Appendix 2 for accounts of each site (from Oliver, 2007).

| Code <sup>1</sup> | Name                 | County | Conservation Assessment |
|-------------------|----------------------|--------|-------------------------|
| IL042             | Loch an tSáile       | Galway | Unfavourable-Inadequate |
| IL043             | Lough Phort Chorrúch | Galway | Unfavourable-Inadequate |
| IL044             | Loch an Chara        | Galway | Unfavourable-Inadequate |
| IL045             | Loch Dearg           | Galway | Unfavourable-Inadequate |

<sup>1</sup> Codes are those used in Oliver, 2007.

### 1.2 Conservation objectives

A site-specific conservation objective aims to define the favourable conservation condition of a habitat or species at site level. The maintenance of habitats and species within sites at favourable condition will contribute to the maintenance of favourable conservation status of those habitats and species at a national level.

Conservation objectives are defined using attributes and targets that are based on parameters as set out in the Habitats Directive for defining favourable status, namely area, range, and structure and functions.

Provisional reference conditions for Irish lagoons are proposed by Roden and Oliver (2013). Reference conditions aim to define ecological status prior to human impacts (i.e. “natural” conditions). The targets for the water quality attributes given below are based on reference values given by Roden and Oliver (2013).

Attributes and targets may change/become more refined as further information becomes available.

## 2. Area

The target for habitat area is: stable or increasing, subject to natural processes. Favourable reference area for the mapped lagoons is 7.98ha- see table below.

| Code <sup>1</sup> | Name                 | Area (Ha) <sup>2</sup> |
|-------------------|----------------------|------------------------|
| IL042             | Loch an tSáile       | 0.44                   |
| IL043             | Lough Phort Chorrúch | 3.15                   |
| IL044             | Loch an Chara        | 3.39                   |
| IL045             | Loch Dearg           | 1.00                   |
|                   | <b>Total</b>         | <b>7.98</b>            |

<sup>1</sup> Codes are those used in Oliver, 2007.

<sup>2</sup> Areas are calculated from spatial data derived from Oliver (2007).

## 3. Range

The known distribution of lagoon habitat in Inishmore Island SAC is shown in Appendix 1.

The target for the habitat distribution attribute is: no decline, subject to natural processes.

## 4. Structure and functions

Structure and functions relates to the physical components of a habitat (“structure”) and the ecological processes that drive it (“functions”). For lagoons these include attributes such as salinity, hydrology and various water quality attributes.

### 4.1 Salinity regime

Lagoons can vary considerably in salinity both within and between sites depending on the volume and timing of inflowing and outflowing fresh and seawater. Salinity is probably the most important variable in the classification of lagoon types (Roden and Oliver, 2013).

The target for the salinity regime attribute is: median annual salinity and temporal variation within natural range.

The salinity regimes within the lagoons in the SAC vary. Loch an tSáile appears to be flooded by all tides with the salinity ranging from 16 to 34psu. In Lough Phort Chorrúch the salinity is low, ranging from 0 to 4.5psu. Within Loch an Chara salinities range from 6 to 20psu and in Loch Dearg salinity is close to that of seawater, measured at 33.5psu. Using information from Oliver (2007), the following table gives the salinity class for each lagoon listed. See Roden and Oliver (2013) for further information on salinity classes and Appendix 2 for individual lagoon reports.

| Code  | Name           | Salinity              |
|-------|----------------|-----------------------|
| IL042 | Loch an tSáile | Mesohaline-euhaline   |
| IL043 | Phort Chorrúch | Oligohaline           |
| IL044 | Loch an Chara  | Mesohaline-polyhaline |
| IL045 | Loch Dearg     | Euhaline              |

## 4.2 Hydrological regime

Fluctuations in water depth are a natural feature of lagoon hydrology. However, if water levels fluctuate beyond their natural values due to issues such as drainage, the condition of the habitat can deteriorate.

The target for hydrological regime is: annual water level fluctuations and minima within natural ranges.

Lagoons that are 2m or less in depth can be regarded as shallow and in such cases, even small changes in water depth can cause significant losses in habitat area. The four lagoons identified within Inishmore Island SAC can be classified as shallow; three Loch an tSáile, Lough Phort Chorrúch and Loch an Chara have a water depth of <1m and Loch Dearg is <2m. Further information is required to investigate historic fluctuations to enable more specific targets to be set. See Appendix 2 for individual site reports.

## 4.3 Barrier: connectivity between lagoon and sea

The morphology of the barrier between a lagoon and sea determines how it functions ecologically. Changes to the barrier can be due to natural processes such as storms, but they can also be modified through human intervention. Active management is sometimes necessary, particularly if the lagoon is artificial.

The target for the attribute barriers: connectivity between lagoon and sea is: appropriate hydrological connections between lagoons and sea, including where necessary, appropriate management.

All four lagoons listed for the site are karst lagoons with sea water presumed to percolate through fissures in the limestone. Lough Phort Chorrúch also has an unbroken cobble barrier through which sea water percolates while Loch an Chara has a leaking artificial sluice. The barrier types for the lagoons are summarised in the following table (after Oliver, 2007). See also site accounts in Appendix 2.

| Code  | Name           | Barrier Type                        |
|-------|----------------|-------------------------------------|
| IL042 | Loch an tSáile | Estuarine karst                     |
| IL043 | Phort Chorrúch | Karst with cobble barrier           |
| IL044 | Loch an Chara  | Karst with artificial sluiced inlet |
| IL045 | Loch Dearg     | Karst with cobble barrier           |

## 4.4 Water quality- Chlorophyll a

This attribute indicates the level of phytoplankton in the water column. Roden and Oliver (2013) make the assumption that, for shallow lagoons in “natural” condition, primary productivity is dominated by the benthos rather than the plankton. Phytoplankton tends to increase in density in response to increasing nutrient levels. Excessive shading from phytoplankton can reduce submergent macrophyte colonisation of the littoral zone of lagoons.

The target for the attribute water quality- Chlorophyll a is: annual median chlorophyll a within natural ranges and less than 5µg/L. Target based on Roden and Oliver (2013).

#### **4.5 Water quality- Molybdate reactive phosphorus (MRP)**

The target for the attribute water quality- Molybdate Reactive Phosphorus (MRP) is: annual median MRP within natural ranges and less than 0.1mg/L. The target is based on Roden and Oliver (2013).

This limit is required to ensure that excessive shading from phytoplankton does not reduce submergent colonisation of the littoral zone.

#### **4.6 Water quality- Dissolved inorganic nitrogen (DIN)**

The target for the attribute water quality- Dissolved Inorganic Nitrogen (DIN) is: annual median DIN within natural ranges and less than 0.15mg/L. The target is based on Roden and Oliver (2013).

As for phosphorus, the limit for set nitrogen is to ensure that excessive shading from phytoplankton does not reduce submergent colonisation.

#### **4.7 Depth of macrophyte colonisation**

All of the lagoons within the Inishmore Island SAC have been identified as shallow, thus, it is expected that macrophytes extend down to their full depths.

The target for the attribute depth of macrophyte colonisation is: macrophyte colonisation to maximum depth of lagoons.

#### **4.8 Typical plant species**

As lagoon specialist species do not easily recolonise, their presence is one of the indicators of long term continuity of quality.

The target for the attribute typical plant species is: maintain number and extent of listed lagoonal specialists, subject to natural variation.

The plant species recorded in each lagoon is summarised in Oliver (2007). Species considered to be lagoonal specialists include *Chaetomorpha linum*, *Ruppia cirrhosa* and *Ruppia maritima*. See Appendix 2 for individual site reports.

#### **4.9 Typical animal species**

Some invertebrate species are regarded as lagoonal specialists and their presence can indicate long term quality. As species found within each lagoon can vary considerably, depending on other attributes such as salinity, the target is based on site-specific species lists.

The target for the attribute typical animal species is: maintain listed lagoon specialists, subject to natural variation.

Within the four lagoons the following lagoonal specialists were recorded: the decapod *Palaemonetes varians*, the isopods *Jaera ischiosetosa* and *J. nordmanni*, the hemipterans *Sigara stagnali* and *S. selecta*, the water beetles *Enochrus bicolor* and *Ochthebius punctatus* and the bryozoan *Conopeum seurati*. The species occurrence per lagoon is summarised in Oliver (2007). See Appendix 2 for site reports.

#### **4.10 Negative indicator species**

Negative indicator species include non-native alien species as well as those that are not typical of the habitat. For example, accelerated encroachment by reedbeds can be caused by low salinity, shallow water and elevated nutrient levels.

The target for the attribute negative indicator species is: negative indicator species absent or under control.

## 5. References

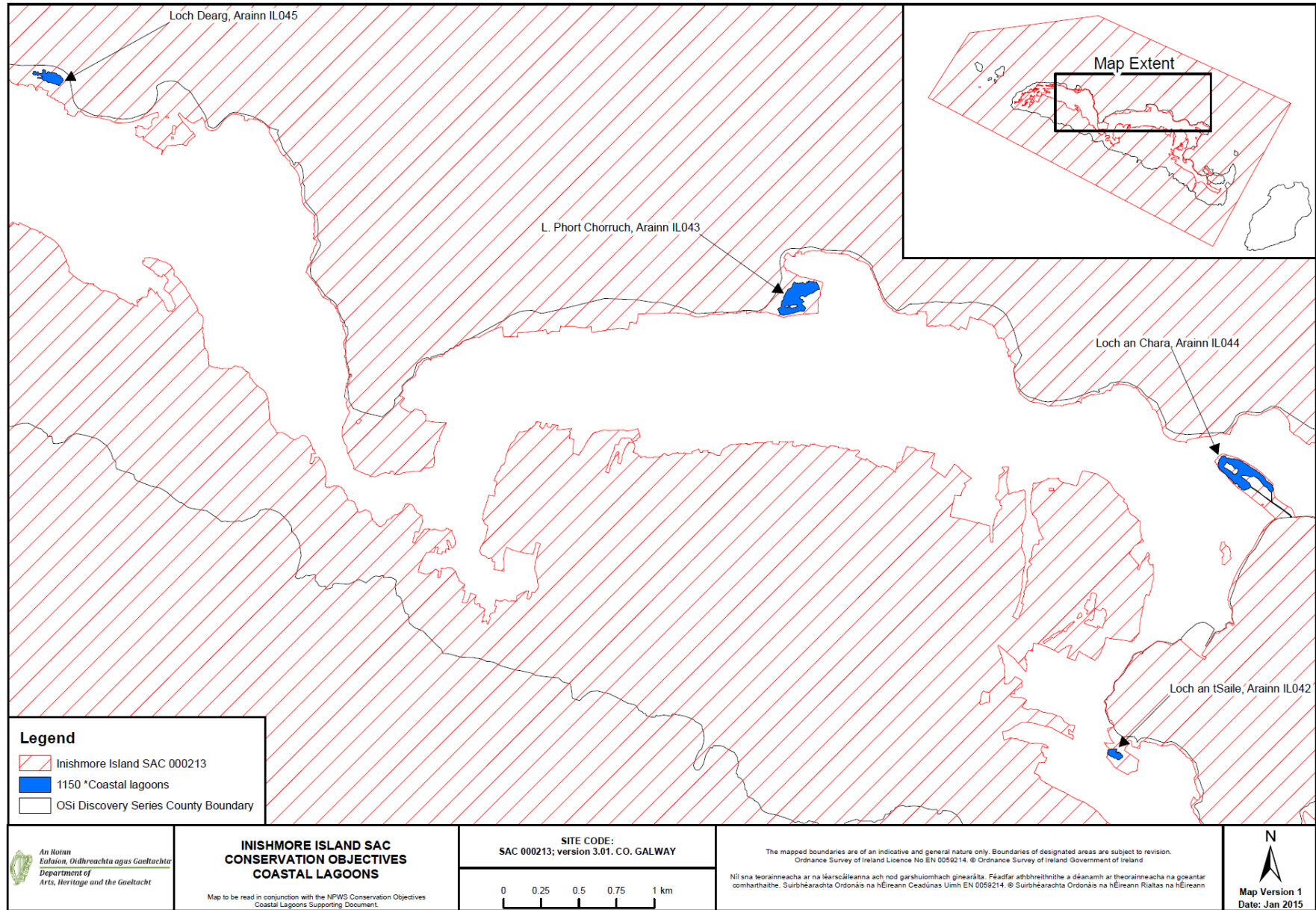
NPWS (2013) The status of EU protected habitats and species in Ireland. Unpublished report, NPWS. Department of Arts, Heritage and the Gaeltacht, Dublin.

Oliver, G. (2007) Inventory of Irish coastal lagoons (version 2). Unpublished report to the National Parks and Wildlife Service.

Roden, C.M. and Oliver, G. (2013) Monitoring and assessment of Irish lagoons for the purpose of the EU Water framework Directive. Unpublished report to the Environmental Protection Agency.



# Appendix 1 Lagoon distribution map



## Appendix 2 Site reports

The following are site accounts from Oliver (2007)

| <b>Code<sup>1</sup></b> | <b>Name</b>          |
|-------------------------|----------------------|
| IL042                   | Loch an tSáile       |
| IL043                   | Lough Phort Chorrúch |
| IL044                   | Loch an Chara        |
| IL045                   | Loch Dearg           |

<sup>1</sup> Codes are those used in Oliver, 2007.

4.42

**Loch an tSáile, Árann, Aran Islands O.S. L 878 081**  
(Loch an tSáile, Inishmore)

O.S. Discovery Sheet 51



**Conservation Designation:** Inishmore Island SAC 000213, pNHA 000213

**General description:**

Situated 1.5km south of Kilronan on the largest of the Aran Islands. A very small (0.5ha) “estuarine” karst lagoon, which appears to be flooded by all tides but retains shallow water (<1m). Salinity at the time of sampling (08/08/2006) was high (33psu) but measured 16-34psu when visited briefly in 1998.



Figure 42.1 Location map of Loch an tSáile, Inishmore.

Loch an tSáile was surveyed on 08/08/2006 for aquatic fauna and flora. The lagoon is a very small lagoon and the entire lagoon was regarded as one sampling station at this time (Figure 45.2, Table 45.1)

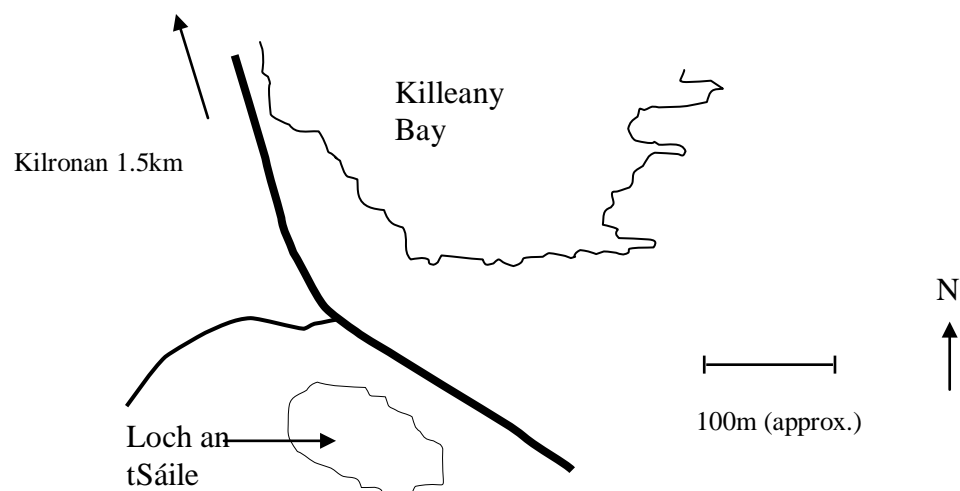


Figure 42.2 Sketch map of Loch an tSáile, Inishmore.

### Flora

Loch an tSáile is an “estuarine” lagoon and much of the bed of the lagoon is covered by bare, soft mud (Table 42.1). Only 6 floral taxa were recorded, most of which are common green, or fucoid algae, but one species (*Chaetomorpha linum*) is a lagoonal specialist.

Table 42.1 Aquatic flora, salinity, temperature, water depth and substratum and recorded at Loch an tSáile, Inishmore 08/08/2006

|                             |  |
|-----------------------------|--|
| Salinity (psu)              | 33.3   |
| Temperature                 | 17.5   |
| Depth (cm)                  | 0-50   |
| Substratum                  | soft mud over limestone pavement.<br>Occasional stones |
| <b>Percentage cover</b>     |  |
| <b>Algae</b>                |  |
| <b>Chlorophyceae</b>        |  |
| <i>Chaetomorpha linum</i>   | 20   |
| <i>Cladophora rupestris</i> | 2  |
| <i>Cladophora</i> sp.       | 10   |
| <i>Enteromorpha</i> sp.     | 3  |
| <b>Phaeophyceae</b>         |  |
| <i>Ascophyllum nodosum</i>  | 5  |
| <i>Fucus vesiculosus</i>    | 5  |
| <b>Bare soft mud</b>        | 60   |
| <b>Rock, stones</b>         | 10   |

*Chaetomorpha linum*. There is some doubt about the taxonomic status of the unattached lagoonal form of this species, and it was recorded by Hatch and Healy (1998) as *C. mediterranea*. It is a common, characteristic alga of semi-isolated Irish lagoons, recorded at 49 of the 87 (56.3%) lagoons surveyed.

None of the other plants recorded are of any special interest. Based on aquatic vegetation Loch an tSáile is regarded as of **low conservation value** as a coastal lagoon.

### Fauna

The fauna of the lagoon is very poor. Only 15 taxa were recorded and most of these are common estuarine species. Only one lagoonal specialist was recorded (*Palaemonetes varians*), which is perhaps the most common of all lagoonal specialists, but one isopod crustacean (*Jaera ischiosetosa*) appears to be rare, but this species is small and easily overlooked.

Table 42.2 Aquatic fauna recorded in Loch an tSáile, Inishmore 8/8/06

a = abundant; c = common; o = occasional; r = rare. Species in bold text are lagoonal specialists or rare species.

| Taxa             |                                    | Sampling Stations |
|------------------|------------------------------------|-------------------|
|                  |                                    | Sta 1             |
| <b>Protozoa</b>  | Foraminifera indet.                | <b>o</b>          |
| <b>Cnidaria</b>  | <i>Actinia equina</i>              | <b>c</b>          |
| <b>Annelida</b>  |                                    |                   |
|                  | Polychaeta                         |                   |
|                  | <i>Malacocerus fuliginosus</i>     | <b>o</b>          |
|                  | <i>Nereis diversicolor</i>         | <b>o</b>          |
|                  | Oligochaeta                        |                   |
|                  | Tubificidae indet.                 | <b>a</b>          |
| <b>Crustacea</b> |                                    |                   |
|                  | Isopoda                            |                   |
|                  | <i>Idotea baltica</i>              | <b>a</b>          |
|                  | <b><i>Jaera ischiosetosa</i></b>   | <b>o</b>          |
|                  | Amphipoda                          |                   |
|                  | <i>Corophium volutator</i>         | <b>a</b>          |
|                  | ? <i>Gammarus salinus</i>          | <b>o</b>          |
|                  | <i>Marinogammarus obtusatus</i>    | <b>a</b>          |
|                  | <i>Melita palmata</i>              | <b>a</b>          |
|                  | Decapoda                           |                   |
|                  | <i>Palaemon elegans</i>            | <b>o</b>          |
|                  | <b><i>Palaemonetes varians</i></b> | <b>r</b>          |
|                  | Diptera                            |                   |
|                  | Chironomidae indet.                | <b>c</b>          |
| <b>Mollusca</b>  |                                    |                   |
|                  | Gastropoda                         |                   |
|                  | <i>Hydrobia ulvae</i>              | <b>o</b>          |
|                  | <i>Littorina saxatilis</i>         | <b>o</b>          |

***Palaemonetes varians*** Decapod crustacean listed as a lagoonal specialist in the U.K. by Barnes (1989) and Bamber (1997), but apparently is no longer regarded as such. Although found in estuaries, this species appears to be far more characteristic of lagoons in Ireland, found in 64 of the 87 lagoons surveyed (73.6%) and may require a lagoonal environment for reproduction. Therefore, it remains on the proposed list of lagoonal specialists for Ireland.

***Jaera ischiosetosa*** Isopod crustacean recorded at 12 sites from West Cork to Donegal. The only previous record appears to be for L. Hyne. Co. Cork (Goss Custard *et al.* 1979).

None of the other aquatic animals recorded are of any special interest. Based on this fauna Loch an tSáile is regarded as of **low conservation value** as a coastal lagoon.

**Summary**

Loch an tSáile, is a karst lagoon, which is an unusual lagoon type in Europe, but it is very small, with very few species of animals or plants, only two of which are lagoonal specialists, and both of these are relatively common. One apparently rare species (*Jaera ischiosetosa*) was recorded, but this animal is small and easily overlooked. Overall it is rated as of **low conservation value**.

**Overall Conservation Value = Low**

**Conservation Status Assessment (from Oliver 2007)**

|                     |  |
|---------------------|--|
| Impacts             | Very shallow. Mild eutrophication but significant tidal flushing.<br>Urbanisation. Silting up. |
| Conservation Status | <b>Unfavourable-Inadequate</b>   |

**Further Information**

Listed as a lagoon by Healy *et al.* 1997, Healy 2003 and Oliver 2005 and included in the Conservation Status Assessment (Oliver 2007).

**References:**

- Bamber, R.N. 1997. Assessment of saline lagoons within Special Areas of Conservation. *English Nature Research Reports* No. 235.
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- Oliver, G.A. 2007. *Conservation status report: Coastal Lagoons (1150)*. Unpublished report to the National Parks and Wildlife Service, Dublin.



4.43

**L. Phort Chorrúch, Árann Galway O.S. L857 112**  
O.S. Discovery Sheet 51



**Conservation Designation:** Inishmore Island SAC 000213, pNHA 000213

**General description:**

Loch Phort Chorrúch is a natural **karst lagoon** with a long, unbroken cobble barrier on the north coast of Inishmore, 2.5 km west of Kilronan. Seawater enters by percolation through the barrier and presumably through limestone fissures and overtopping the barrier during storms. The lagoon is small (4ha), shallow (1m) and low salinity, measuring 0 - 4.5psu at the time of sampling (19-23/8/98). However, water levels were exceptionally high during the sampling period due to heavy rainfall the previous day and salinity may be higher under normal circumstances.

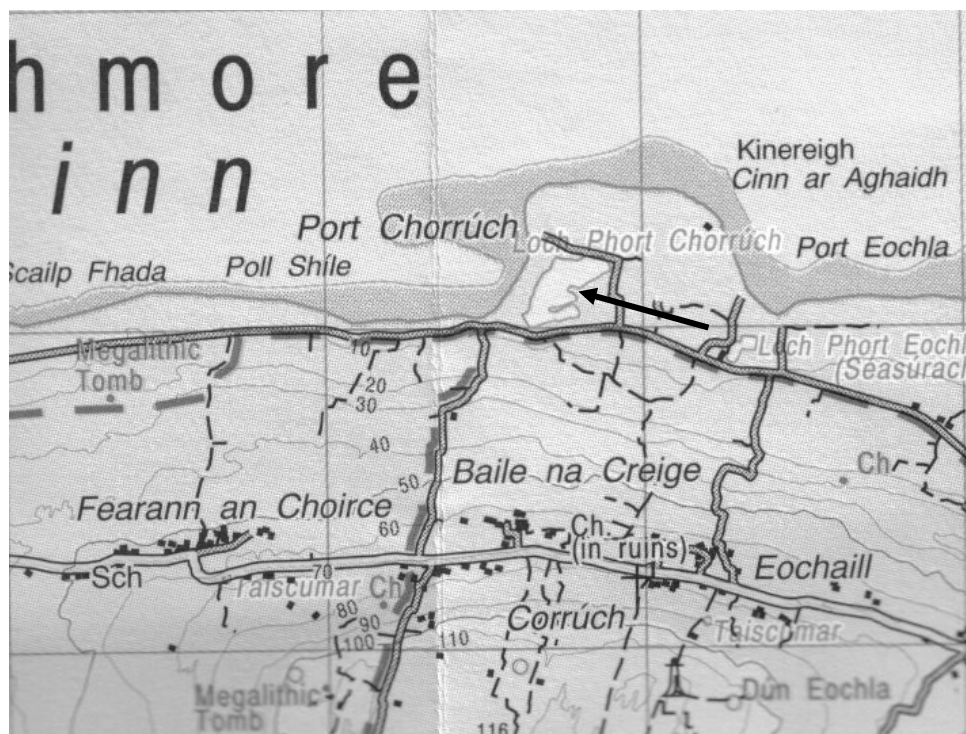


Figure 43.1 Location map of L. Phort Chorrúch.

Loch Phort Chorrúch was surveyed in 1998 for vegetation (Roden 1999), aquatic fauna (Oliver 1999) and ecotonal coleoptera (Good 1998, Good & Butler 2000). Results of these surveys are summarised by Healy (1999a,b; 2003).

Stations used for faunal sampling are not necessarily the same as those used for vegetation or ecotonal coleoptera.

## Flora

The vegetation of the lagoon was surveyed by C. Roden in 1998 (Roden 1999), who states that “The lake is very shallow with no part exceeding 1.5m depth. The western section adjoining the *Phragmites* scraw consists of fine semi-liquid mud. In the centre of the lake a dense growth of *Ruppia cirrhosa* occurs, the eastern part is flooded by submerged limestone karst.”

A total of 9 floral taxa were recorded which includes both *Ruppia cirrhosa* and *Ruppia maritima*, both of which are lagoonal specialists. The *Ruppia* grow on sandy mud, while *Potamogeton pectinatus* grows in the limestone grykes. *Enteromorpha intestinalis* covers outcropping limestone rocks.

*Ruppia spp.* are the most characteristic aquatic plant taxa of Irish coastal lagoons. The species are hard to distinguish when not flowering, and remain uncertain at some sites, but *Ruppia* of one species or the other (*R. maritima*, *R. maritima* var *brevirostris*, *R. cirrhosa*) was found at 62 of the 87 lagoons (71.3%) surveyed, and is one of the most useful indicators of coastal lagoon status. *Ruppia maritima* appears to be the more common of the species and was found at 41 of the lagoons surveyed. *Ruppia cirrhosa* is believed to tolerate higher salinities than the former species and to be less common, but neither of these statements is clearly supported in Irish lagoons and the two species were often found growing together. *Ruppia cirrhosa* was only identified at 23 lagoons, but species was not determined at 12 sites.

It is curious that *R. cirrhosa* is growing at this site in such apparently low salinity.

Due to the presence of the two species of *Ruppia*, which are both lagoonal specialists, based on aquatic vegetation, the site is regarded as of moderate **conservation value**.

## Fauna

Four stations were selected for faunal sampling in 1998 (Figure 43.2, Table 43.1)(Oliver 1999).

Table 43.1 Positions of faunal sampling stations 19-23/8/98, with salinity, depth of water and type of substratum.

|               | Sta 1  | Sta 2                                   | Sta 3                   | Sta 4  |
|---------------|--|---|-------------------------|--|
| GPS position  | L 85580 11042                                | L 85710 11251                           | L 85896 11240           | L 85687 11070                                      |
| Salinity(psu) | 2  | 4.5                                     | 0.6                     | 2.3-2.9  |
| Depth(cm)     | 20-30  | 0-50                                    | 0-100                   | 0-100  |
| Substratum    | Cobbles with thick layer of fine organic mud | Limestone pavement, stones and fine mud | Bare limestone pavement | Limestone pavement, stones and fine mud in grykes. |

A total of 20 taxa were recorded, of which 13 were identified to species (Table 43.2). Three species are regarded as lagoonal specialists in Britain and one additional species is possibly a lagoonal specialist in Ireland.



***Jaera nordmanni***. Isopod crustacean recorded at 24 of the 87 lagoons surveyed (27.6%) and may occur at others where it was not recorded due to the fact that only adult males are easily identified. This species may occur in freshwater, as in L. Errol, Cape Clear, Co. Cork. Described in England (Barnes 1994, Hayward and Ryland 1995) as occurring in streams flowing down the shoreline, on south and west coasts only. All records in Ireland are from West Cork to Donegal. Proposed as a lagoonal specialist for Ireland by Oliver and Healy (1998).

***Sigara stagnalis*** Hemipteran insect (water-boatman). A common lagoonal specialist found at 36 of the 87 (41.4%) lagoons surveyed.

***Enochrus bicolor*** Water beetle recorded at 12 lagoons of the 87 surveyed, from the southern half of the country from Co. Wicklow to Connemara including the Aran Islands. There are only two recent records from N. Ireland (Nelson *et al.* 1998).

***Conopeum seurati*** Bryozoan recorded at 49 of the 87 lagoons surveyed (56.3%), but is not listed in a recent review of Irish marine Bryozoa (Wyse Jackson 1991). Either the species is under-recorded or is truly a lagoonal specialist.

The number of taxa is very low and would be even lower without the relatively high number of Dipteran groups.

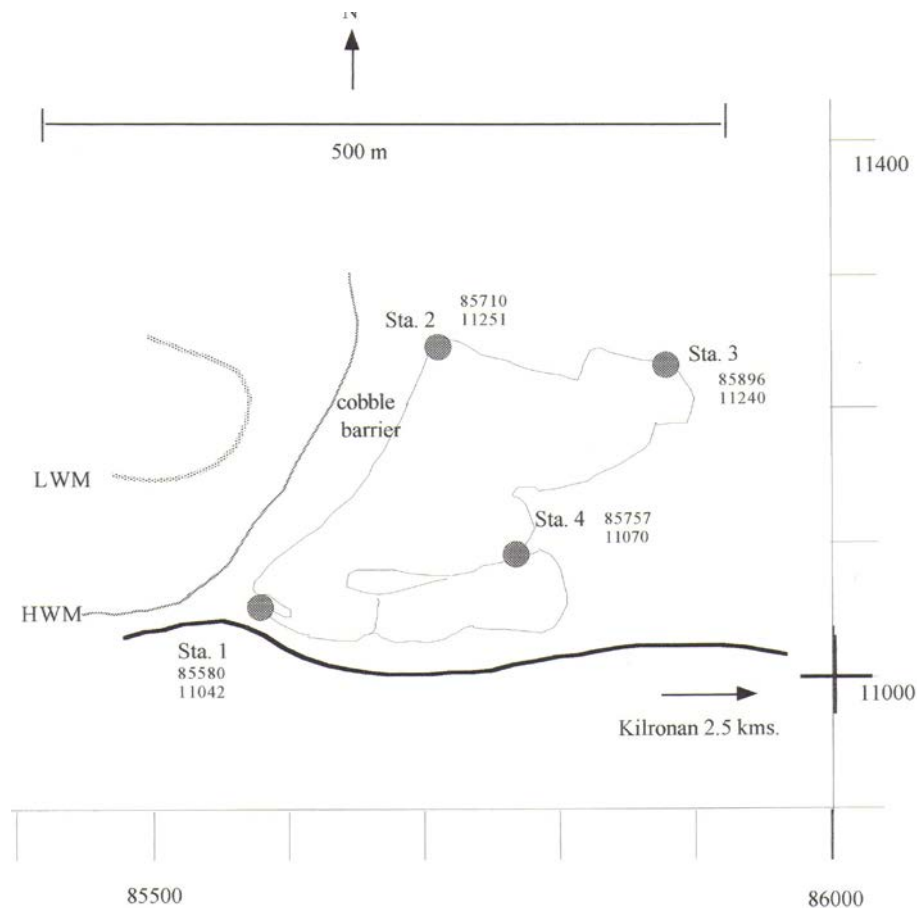


Figure 43.2 Sampling stations used at L. Phort Chorrúch, Arainn.

It is interesting to compare the fauna of this lagoon with the nearby lagoonal habitat of Loch an Chara (Section 44) which although not geomorphologically very interesting has a far richer fauna of both lagoonal and rare species. *Gasterosteus aculeatus* is extremely abundant at this site but does not occur in L. an Chara whereas on the other hand, *Palaemonetes varians* is extremely abundant in L. an Chara but does not occur at this site. It is difficult to imagine why both species have not colonised both

lagoons. Possibly this is due to the fact that neither of these karstic lagoons have a direct communication with the sea.

Table 43.2 Aquatic fauna recorded in Loch Phort Chorrúch, Arainn, Co. Galway. 1998. F = Fyke net; L.T. = light trap; + = present, o = occasional. c = common, a = abundant. Species in bold text are lagoonal specialists.

| Taxa:   | Sampling Stations |        |       |        |   |        |     |        |
|---|-------------------|--------|-------|--------|---|--------|-----|--------|
|   | 1                 | L.T. 1 | 2     | L.T. 2 | 3 | L.T. 3 | 4   | L.T. 4 |
| <b>Turbellaria</b> <i>Procerodes littoralis</i> |                   |        |       |        | + |        | +   |        |
| <b>Crustacea</b>                                |                   |        |       |        |   |        |     |        |
| Ostracoda indet.                                | a                 | a      | a     | a      | a | a      | c   | c      |
| Isopoda <b><i>Jaera nordmanni</i></b>           |                   | 1      |       |        | a | 1      | c   |        |
| Amphipoda                                       | c                 | 10     | a     | 160    | a | 100    | a   | 75     |
| <i>Gammarus duebeni</i>                         | c                 | 10     | 26    | 59     | 5 | 54     | 26  |        |
| <i>G. locusta</i>                               |                   |        |       |        |   |        | 2   |        |
| <b>Insecta</b>                                  |                   |        |       |        |   |        |     |        |
| Odonata <i>Ischnura elegans</i>                 | 0                 | 1      | +     |        |   |        |     |        |
| Heteroptera                                     |                   | 1600   |       | 700    |   | 500    |     | 120    |
| <i>Corixa panzeri</i>                           |                   |        |       |        |   | 1      |     |        |
| <b><i>Sigara stagnalis</i></b>                  | a                 | a      | a     | a      | a | a      | c   | c      |
| Coleoptera <b><i>Enochrus bicolor</i></b>       |                   |        | 7     |        | 1 |        |     |        |
| <i>Ochthebius dilatatus</i>                     | 1                 |        |       |        |   |        |     |        |
| Trichoptera indet                               |                   |        | cases |        |   |        |     |        |
| Diptera Chironomidae indet.                     | +                 | 1      | +     |        | + | +      | +   |        |
| Dipt. larvae                                    |                   | 2      |       |        |   |        |     |        |
| Ephydriidae indet.                              | c                 |        | c     |        |   |        |     |        |
| Syrphidae indet.                                | c                 |        |       |        |   |        |     |        |
| Culicidae indet.                                |                   |        |       |        | + |        |     |        |
| <b>Mollusca</b> <i>Potamopyrgus antipodarum</i> | 0                 |        | 0     |        | 0 | 3      | 0   | +      |
| <b>Bryozoa</b> <i>Conopeum seurati</i>          | +                 |        |       |        |   |        |     |        |
| <b>Pisces</b>                                   |                   |        |       |        |   |        |     |        |
| <i>Gasterosteus aculeatus</i>                   | a                 | 400    | a     | 310    | c | 7      | a   | 174    |
| <i>Anguilla anguilla</i>                        |                   |        | F=6   |        |   |        | F=5 |        |

### Ecotonal coleoptera

Four species of carabid and twenty eight species of staphylinid were recorded by Good & Butler (2000, Healy 1999), of which two species were regarded as indicator species (*Brundinia meridionalis*, *Heterothrops binotatus*) and is regarded as of **significant conservation value**.

### Summary

Loch Phort Chorrúch is a fine example of a sedimentary lagoon with an impressive cobble barrier and is a good example of a karstic lagoon.

However, both the fauna and flora are disappointing and might be expected to be higher. It is possible that eutrophication and resulting anoxia limit the biotic richness of the site. A total of six lagoonal specialists was recorded (2 floral, 4 faunal) and it is interesting to find both *R. cirrhosa* and *R. maritima* growing together with *Potamogeton pectinatus* but none of the specialists are particularly rare in lagoonal habitats. Overall conservation value is regarded as moderate.

**Overall Conservation Value = Moderate**

| Conservation Status Assessment (from Oliver 2007) |   |
|---|---|
| Impacts   | Moderate eutrophication in small, shallow lagoon. Poaching by cattle in some areas. Accumulation of organic material. |
| Conservation Status                               | Unfavourable-Inadequate   |

| Further Information  |
|--|
| Listed as a lagoon by Healy <i>et al.</i> 1997. Surveyed in 1998 for vegetation (Roden 1999), aquatic fauna (Oliver 1999) and ecotonal coleoptera (Good 1998, Good & Butler 2000). Results of these surveys are summarised by Healy (1999a,b; 2003). Included in a biological classification of Irish coastal lagoons (Oliver 2005) and in the Conservation Status Assessment (Oliver 2007). |

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4.44

**Loch an Chara, Árainn, County Galway O.S. L 887 099**  
O.S. Discovery Sheet 51



**Conservation Designation:** Inishmore Island SAC 000213, pNHA 000213

**General description:**

Loch an Chara is a small (4ha), shallow (<1m) karst **lagoon** with an artificial sluiced inlet, situated on the north coast of Inishmore, approximately 1 km north of Kilronan. The lagoon appears to receive seawater from an underground fissure in the limestone bedrock at the north end of the lake and from a leaking sluice at the south end. According to Robinson (1986) the lake was open to the sea until the last century when land reclamation resulted in the present situation. Salinity ranged from 6 to 20psu at the time of sampling (20-22/8/98).



Figure 44.1 Location map of Loch an Chara, Árainn.

Loch an Chara was surveyed in 1998 for vegetation (Roden 1999), aquatic fauna (Oliver 1999) and ecotonal coleoptera (Good 1998, Good & Butler 2000). Results of these surveys are summarised by Healy (1999a,b; 2003).

Stations used for faunal sampling are not necessarily the same as those used for vegetation or ecotonal coleoptera.

### Flora

The vegetation of L. an Chara was surveyed by C. Roden on 22<sup>nd</sup> June and 20<sup>th</sup> August 1998 (Roden 1999). Both *Ruppia cirrhosa* and *Ruppia maritima* were recorded, both of which are lagoonal specialists, with *R. maritima* more common in water less than 50cm depth, and *R. cirrhosa* mainly in deeper water. *Potamogeton pectinatus* occurred occasionally in deeper water. A sample of *Cladophora vagabunda* was identified by C. Van den Hoek. Marginal vegetation is dominated by extensive stands of *Scirpus maritimus* and a *Potentilla anserina* variant of the *Juncus gerardii* association, also recorded at this site by Wymer (1984).

*Ruppia* spp. are the most characteristic aquatic plant taxa of Irish coastal lagoons. The species are hard to distinguish when not flowering, and remain uncertain at some sites, but *Ruppia* of one species or the other (*R. maritima*, *R. maritima* var *brevirostris*, *R. cirrhosa*) was found at 62 of the 87 lagoons (71.3%) surveyed, and is one of the most useful indicators of coastal lagoon status. *Ruppia maritima* appears to be the more common of the species and was found at 41 of the lagoons surveyed. *Ruppia cirrhosa* is believed to tolerate higher salinities than the former species and to be less common, but neither of these statements is clearly supported in Irish lagoons and the two species were often found growing together. *Ruppia cirrhosa* was only identified at 23 lagoons, but species was not determined at 12 sites.

*Cladophora vagabunda* was recorded at 10 sites from Galway to Donegal.

Based on aquatic vegetation, the site is regarded as of **moderate conservation value**.

### Fauna

Six stations were selected for faunal sampling in 1998 (Oliver 1999, Figure 44.2, Table 44.2).

Table 44.1 Positions of faunal sampling stations in Loch an Chara, 20-22/8/98, with salinity, temperature, depth of water and type of substratum.

|               | Sta 1               | Sta 2               | Sta 3  | Sta 4  | Sta 5                      | Sta 6            |
|---------------|---------------------|---------------------|--|--|----------------------------|------------------|
| GPS position  | L 88603<br>10029    | L 88704<br>10032    | L 88805<br>09944                             | L 88910<br>09830                                 | L 8892 ?0980               | L 88672<br>09916 |
| Salinity(psu) | 13.1-15.5           | 12.9-14.5           | 13.5-14.9                                    | 14.5-15.3  | 26-31                      | 11.2             |
| Depth(cm)     | 0-50                | 0-50                | 0-100  | 0-50   | 0-30                       | 0-30             |
| Substratum    | Soft organic<br>mud | Sand, muddy<br>silt | Shelly sand,<br>mud,<br>occasional<br>stones | Muddy sand,<br>deep mud,<br>occasional<br>stones | Fine soft<br>sand and silt | Fine soft mud    |

A total of 21 taxa were recorded in Loch an Chara in 1998, of which 17 were identified to species (Table 44.2). Six of these are lagoonal specialists in Britain and 2 additional species are possible lagoonal specialists in Ireland.

*Jaera nordmanni*. Isopod crustacean recorded at 24 of the 87 lagoons surveyed (27.6%) and may occur at others where it was not recorded due to the fact that only adult males are easily identified. This species may occur in freshwater, as in L. Errol, Cape Clear, Co. Cork. Described in England (Barnes 1994, Hayward and Ryland 1995) as occurring in streams flowing down the shoreline, on south and west coasts only. All records in Ireland are



from West Cork to Donegal. Proposed as a lagoonal specialist for Ireland by Oliver and Healy (1998).

***Jaera ischiosetosa*** Isopod crustacean recorded at 12 sites from West Cork to Donegal. The only previous record appears to be for L. Hyne, Co. Cork (Goss Custard *et al.* 1979).

***Palaemonetes varians*** Decapod crustacean listed as a lagoonal specialist in the U.K. by Barnes (1989) and Bamber (1997), but apparently is no longer regarded as such. Although found in estuaries, this species appears to be far more characteristic of lagoons in Ireland, found in 64 of the 87 lagoons surveyed (73.6%) and may require a lagoonal environment for reproduction. Therefore, it remains on the proposed list of lagoonal specialists for Ireland.

***Sigara selecta*** Hemipteran insect (water-boatman) abundant in L. an Chara in 1998. Previously recorded only from Ventry on the Dingle peninsula (McCarthy and Walton 1980). This species is listed as a lagoonal specialist in Britain, where it tolerates higher salinities than *S. stagnalis* (Scudder 1976). The previous record from Ventry was regarded by McCarthy and Walton as “difficult to explain since it has not previously been found at other brackish water sites recently investigated along the south coast”. The large population of this rare lagoonal specialist at this site is very significant for conservation purposes. A few specimens recorded recently at Port na Cora in the Aran islands.

***Sigara stagnalis*** Hemipteran insect (water-boatman). A common lagoonal specialist found at 36 of the 87 (41.4%) lagoons surveyed.

***Enochrus bicolor*** Water-beetle recorded at 12 lagoons of the 87 surveyed, from the southern half of the country from Co. Wicklow to Connemara including the Aran Islands. There are only two recent records from N. Ireland (Nelson *et al.* 1998).

***Ochthebius punctatus*** Water-beetle recorded at L. an Chara, Inishmore and Ballyconneely, Co. Galway. Listed as a lagoonal specialist in Britain but was only recorded at these two sites during the lagoon surveys. Since 1988, recorded at seven brackish sites in Antrim and Down (Nelson *et al.* 1998).

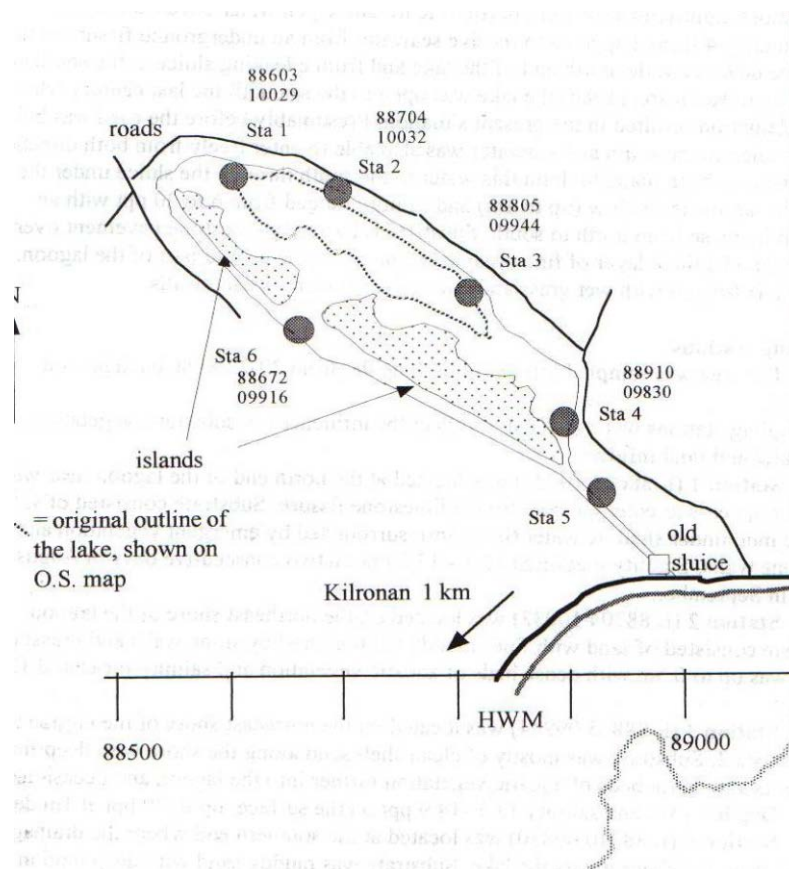


Figure 44.2 Faunal sampling stations used at Loch an Chara, Árainn.

Table 44.2 Aquatic fauna recorded in Loch an Chara, Arainn, Co. Galway. 1998.

L.T. = light trap; + = present, o = occasional. c = common, a = abundant, ( ) = previous record. Species in bold text are lagoonal specialist or rare species.

| Taxa             | Sampling Stations                               |        |   |        |   |        |   |        |   |   |
|------------------|---|--------|---|--------|---|--------|---|--------|---|---|
|                  | 1   | L.T. 1 | 2 | L.T. 2 | 3 | L.T. 3 | 4 | L.T. 4 | 5 | 6 |
| <b>Annelida</b>  |   |        |   |        |   |        |   |        |   |   |
|                  | Cirratulidae indet.                             |        |   |        |   |        |   |        |   |   |
|                  | <i>Hediste diversicolor</i>                     |        |   |        |   |        |   |        |   |   |
| <b>Crustacea</b> |   |        |   |        |   |        |   |        |   |   |
|                  | Copepoda <i>Eurytemora</i> sp.                  |        |   |        |   |        |   |        |   |   |
|                  | Ostracoda <i>Cytherura gibba</i>                |        |   |        |   |        |   |        |   |   |
|                  | Isopoda <b><i>Jaera nordmanni</i></b>           |        |   |        |   |        |   |        |   |   |
|                  | <b><i>Jaera ischiosetosa</i></b>                |        |   |        |   |        |   |        |   |   |
|                  | Amphipoda                                       |        |   |        |   |        |   |        |   |   |
|                  | <i>Gammarus duebeni</i>                         |        |   |        |   |        |   |        |   |   |
|                  | <i>Melita palmata</i>                           |        |   |        |   |        |   |        |   |   |
|                  | Decapoda <b><i>Palaemonetes varians</i></b>     |        |   |        |   |        |   |        |   |   |
| <b>Insecta</b>   |   |        |   |        |   |        |   |        |   |   |
|                  | Trichoptera (cases)                             |        |   |        |   |        |   |        |   |   |
|                  | Heteroptera                                     |        |   |        |   |        |   |        |   |   |
|                  | Corixidae sp.                                   |        |   |        |   |        |   |        |   |   |
|                  | <i>Corixa ?panzeri</i>                          |        |   |        |   |        |   |        |   |   |
|                  | <i>Gerris</i> sp.                               |        |   |        |   |        |   |        |   |   |
|                  | <b><i>Sigara selecta</i></b>                    |        |   |        |   |        |   |        |   |   |
|                  | <b><i>S. stagnalis</i></b>                      |        |   |        |   |        |   |        |   |   |
|                  | Coleoptera                                      |        |   |        |   |        |   |        |   |   |
|                  | <b><i>Enochrus bicolor</i></b>                  |        |   |        |   |        |   |        |   |   |
|                  | <i>Megasternum obscurum</i>                     |        |   |        |   |        |   |        |   |   |
|                  | <b><i>Ochthebius punctatus</i></b>              |        |   |        |   |        |   |        |   |   |
|                  | <i>O. dilatatus</i>                             |        |   |        |   |        |   |        |   |   |
|                  | Diptera   |        |   |        |   |        |   |        |   |   |
|                  | Chironomidae indet.                             |        |   |        |   |        |   |        |   |   |
| <b>Mollusca</b>  |   |        |   |        |   |        |   |        |   |   |
|                  | Prosobranchia Hydrobiidae                       |        |   |        |   |        |   |        |   |   |
|                  | <b><i>Hydrobia ventrosa</i></b>                 |        |   |        |   |        |   |        |   |   |
|                  | <i>(Littorina saxatilis)</i>                    |        |   |        |   |        |   |        |   |   |
|                  | <i>(Potamopyrgus antipodarum)</i>               |        |   |        |   |        |   |        |   |   |
|                  | Bivalvia ( <b><i>Cerastoderma glaucum</i></b> ) |        |   |        |   |        |   |        |   |   |
| <b>Pisces</b>    | <i>Anguilla anguilla</i>                        |        |   |        |   |        |   |        |   |   |

***Hydrobia ventrosa***. Gastropod mollusc commonly found in brackish lagoons and ditches and generally not on the open coast. Recorded at 18 of the 87 (20.7%) lagoons surveyed up to 2006.

***Cerastoderma glaucum*** Bivalve mollusc. A common lagoonal specialist found at 30 of the 87 lagoons (34.5%) surveyed, which probably occurs in the lagoon periodically, at least as spat, judging by the number of spat shells which presumably do not survive for many years.

*Littorina saxatilis*, *Cerastoderma glaucum* and *Potamopyrgus antipodarum* were not recorded alive during the sampling period but have been recorded in the recent past (M. O'Connell *pers comm*). Several large corixid nymphs and females were assumed to be *C. panzeri*.

For such a small lagoon, a remarkably high number of lagoonal specialists were recorded, and several rare species, including one (*S. selecta*) which has only been recorded (in very low numbers) at one other site in Ireland. Based on aquatic fauna the site is regarded as of **high conservation value**.

### Ecotonal coleoptera

A total of five species of carabid and eleven species of staphylinid beetles were recorded in 1998 (Good 1999, Good & Butler 2000), but none are regarded as indicator species, and based on ecotonal coleoptera, the site is regarded as of **no conservation value**.

#### Summary

Although geomorphologically the site is not particularly striking, it is an interesting type of karstic lagoon which appears to be rare in a European context.

The species list is low but contains a large number of lagoonal specialists and 5 rare species. This site could easily be disregarded as of no significance based on morphology but is the best example of a lagoonal community in the Aran Islands and should be protected for this reason.

**Overall Conservation Value = High**

#### Conservation Status Assessment (from Oliver 2007)

|                     |   |
|---------------------|---|
| Impacts             | Moderate eutrophication in small, shallow lagoon. Poaching by cattle in some areas. Urbanisation. Silting up. |
| Conservation Status | <b>Unfavourable-Inadequate</b>  |

#### Further Information

Listed as a lagoon by Healy *et al.* 1997. Surveyed in 1998 for vegetation (Roden 1999), aquatic fauna (Oliver 1999) and ecotonal coleoptera (Good 1998, Good & Butler 2000). Results of these surveys are summarised by Healy (1999a,b; 2003). Included in a biological classification of Irish coastal lagoons (Oliver 2005) and in the Conservation Status Assessment (Oliver 2007).

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4.45

**Loch Dearg, Árainn, Aran Islands O.S. L 808 126**  
 (Loch Dearg, Inishmore, Aran Islands) O.S. Discovery Sheet 51



**Conservation Designation:** Inishmore Island SAC 000213, pNHA 000213

**General description:**

Situated on the northwest coast of Inishmore, 2.5km northwest of the town of Kilmurvy (Cill Mhuirbhígh). A small (4ha), shallow (<2m) natural **karst lagoon** with a cobble barrier. The bed of the lagoon is mostly limestone pavement and stones, with soft mud in the centre and cobbles along the barrier. Seawater presumably percolates through the cobble barrier but also through limestone fissures. Salinity is close to that of seawater and measured 33.5psu at the time of sampling (8/8/2006).

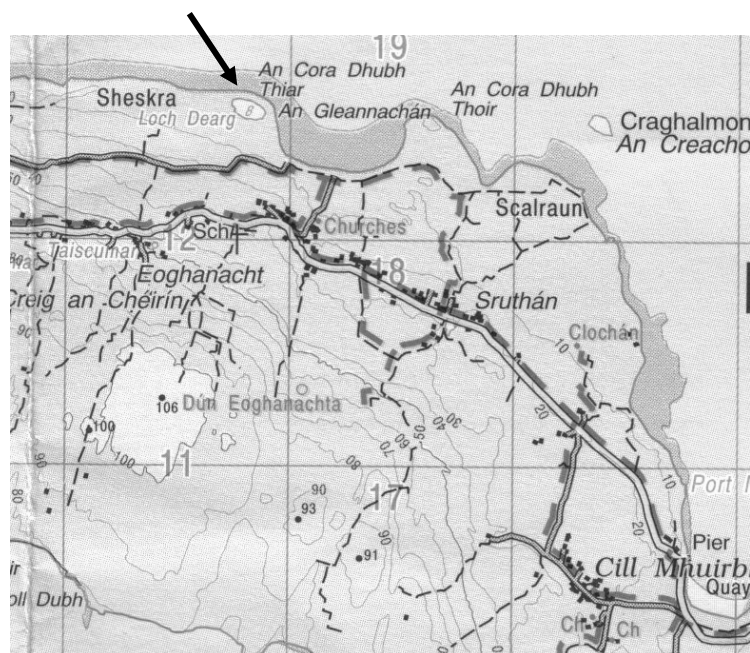


Figure 45.1 Location map of Loch Dearg, Inishmore.

Loch Dearg was surveyed on 8/8/06 for aquatic fauna and flora. This is a small lagoon and was sampled as a single sampling station along the southern shore of the lagoon (Figure 45.2, Table 45.1)

This part of the lagoon is quite homogeneous, comprised of limestone pavement and stones, with soft mud in central areas. The northern shore is a relatively steep mobile bank of cobbles with no apparent vegetation and very little fauna.

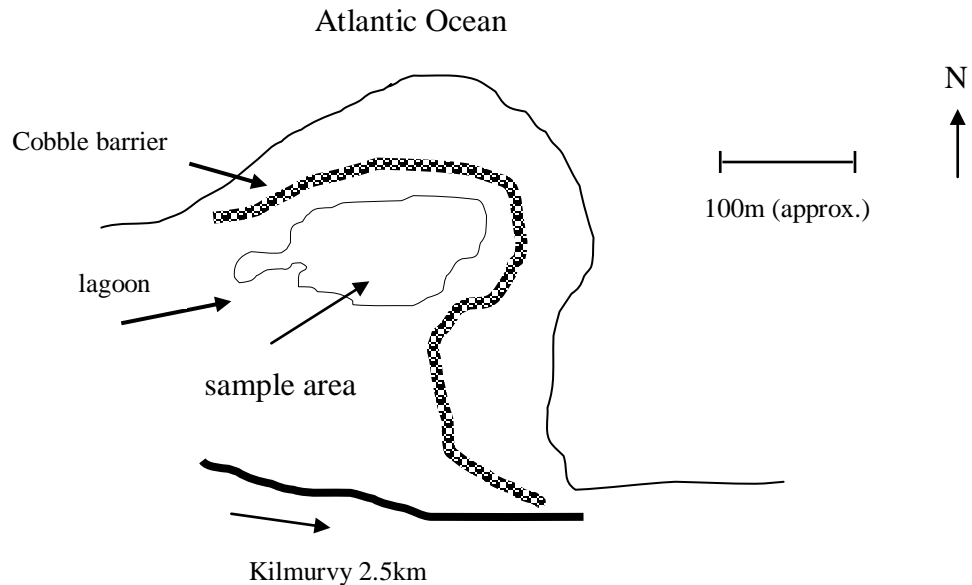


Figure 45.2 Sketch map of Loch Dearg, Inishmore.

## Flora

Approximately 40% of the lagoon consisted of bare mud, sand, stones and limestone bedrock when sampled on 8/8/06 (Table 45.1).

Vegetation was dominated by two lagoonal specialist plants, *Chaetomorpha linum* and *Ruppia maritima* with a coating of *Cladophora* on plants and hard surfaces. Apart from these plants, only five other taxa were recorded, all of which are common coastal algae.

***Chaetomorpha linum***. There is some doubt about the taxonomic status of the unattached lagoonal form of this species, and it was recorded by Hatch and Healy (1998) as *C. mediterranea*. It is a common, characteristic alga of semi-isolated Irish lagoons, recorded at 49 of the 87 (56.3%) lagoons surveyed.

***Ruppia spp.*** are the most characteristic aquatic plant taxa of Irish coastal lagoons. The species are hard to distinguish when not flowering, and remain uncertain at some sites, but *Ruppia* of one species or the other (*R. maritima*, *R. maritima* var *brevirostris*, *R. cirrhosa*) was found at 62 of the 87 lagoons (71.3%) surveyed, and is one of the most useful indicators of coastal lagoon status. *Ruppia maritima* appears to be the more common of the species and was found at 41 of the lagoons surveyed (47%).

The vegetation of Loch Dearg is dominated by two characteristic lagoonal specialist species. Neither are rare in lagoonal habitats in Ireland, but are relatively rare in any other habitat. Based on this vegetation, the site is regarded as of **moderate conservation value** as a coastal lagoon.

Table 45.1 Percentage cover of floral taxa and bare ground in sample area of Loch Dearg, Inishmore on 8/8/06. With salinity, temperature, depth of water, and type of substratum. Species in bold text are lagoonal specialists or rare species.

|                          |  |    |
|--------------------------|--|----|
| GPS position             | L 80849 12535                                |    |
| Salinity (psu)           | 33.5   |    |
| Temperature(C)           | 18   |    |
| Depth (cm)               | 0-100  |    |
| Substratum               | soft mud, sand, stones on limestone pavement |    |
| <b>Percentage cover:</b> |  |    |
| <b>Chlorophyceae</b>     |  |    |
|                          | <i>Chaetomorpha linum</i>                    | 20 |
|                          | <i>Cladophora</i> sp.                        | 20 |
|                          | <i>Enteromorpha</i> sp.                      | 5  |
| <b>Phaeophyceae</b>      |  |    |
|                          | <i>Fucus vesiculosus</i>                     | 5  |
|                          | <i>Sphacelaria</i> sp.                       | 10 |
| <b>Rhodophyceae</b>      |  |    |
|                          | <i>Ceramium strictum</i> agg.                | +  |
|                          | <i>Gracilaria verrucosa</i>                  | 5  |
| <b>Angiosperms</b>       |  |    |
|                          | <i>Ruppia maritima</i>                       | 20 |
| <b>Bare soft mud</b>     |  | 20 |
| <b>Stones and sand</b>   |  | 20 |

## Fauna

The flora of Loch Dearg is characteristically lagoonal but the fauna is less so. A total of 28 taxa were recorded (Table 45.2), but most of these are common marine species. The most noticeable species are the anemones *Anthopleura ballii* and the species of *Sagartia* believed to be *S. ornata*. Unfortunately, three of the potentially more interesting species, two molluscs (*Hydrobia ventrosa*, *Onoba aculeus*) and one crustacean (*Leptocheirus pilosus*), all of which are lagoonal specialists, remain unconfirmed. At present, it is possible that a total of 5 lagoonal specialists were recorded, one of which is relatively rare (*L. pilosus*). If these species are confirmed the site may increase in conservation value, but at present, based on aquatic fauna Loch Dearg is rated only as of **moderate conservation value**.

*Leptocheirus pilosus* Amphipod crustacean recorded at three lagoons in Co. Cork (Rostellan, Cuskinny, and Rosscarbery) in association with *C. insidiosum* and possibly Raffeen (unconfirmed), and also at L. Athola, Co. Galway and Furnace L., Co. Mayo. The only other known Irish localities are the south side of Wexford Harbour (Costello *et al.* 1989) and on the North Slob, Co. Wexford (Galvin 1992). Proposed as a lagoonal specialist for Ireland by Oliver and Healy (1998).

*Hydrobia ventrosa*. Gastropod mollusc commonly found in brackish lagoons and ditches and generally not on the open coast. Recorded at 18 of the 87 (20.7%) lagoons surveyed up to 2006.

*Onoba aculeus* Gastropod mollusc recorded at Greenore Golf course, Co. Louth, Lettermullen Pool, L. an Aibhnín, and L. Athola, Co. Galway and Sally's Lake, Co. Donegal, and recently (unconfirmed) from L. Dearg in the Aran islands.

*Rissoa membranacea* var. Gastropod mollusc recorded at eleven of the 87 lagoons surveyed on the west coast from Co. Cork to Co. Galway and also at Castle Espie, Co. Down. These records refer to a 'lagoonal' variety of the species, proposed as a lagoonal specialist for Ireland by Oliver and Healy (1998).

*Cerastoderma glaucum* Bivalve mollusc. A common lagoonal specialist found at 30 of the 87 lagoons (34.5%) surveyed.

Table 45.2 Aquatic fauna recorded at sampling stations in Loch Dearg, Arainn, Co. Galway 8/8/06. (a = abundant; c = common; o = occasional; r = rare) Species in bold text are lagoonal specialist or rare species.

| Taxa            |                              |                                       |                       |
|-----------------|------------------------------|---------------------------------------|-----------------------|
| <b>Cnidaria</b> |                              | <i>Anthopleura ballii</i>             | <b>r</b>              |
|                 |                              | <i>Sagartia ?ornata</i>               | <b>o</b>              |
| <b>Nemertea</b> |                              | <i>Lineus ?viridis</i>                | <b>c</b>              |
| <b>Annelida</b> | Polychaeta                   | <i>Arenicola</i> agg.                 |                       |
|                 |                              | <i>Janua pagenstecheri</i>            | <b>a</b>              |
|                 |                              | <i>Nereis pelagica</i>                | <b>r</b>              |
|                 |                              | <i>Pomatoceros triqueter</i>          | <b>r</b>              |
|                 | Oligochaeta                  | Tubificidae indet.                    | <b>o</b>              |
|                 | <b>Crustacea</b>             | Tanaidacea                            | <i>Tanais dulongi</i> |
| Mysidacea       |                              | <i>Praunus flexuosus</i>              | <b>c</b>              |
| Isopoda         |                              | <i>Idotea baltica</i>                 | <b>o</b>              |
|                 |                              | <i>Jaera</i> sp.                      | <b>o</b>              |
| Amphipoda       |                              | <i>Gammarus duebeni</i>               | <b>o</b>              |
|                 |                              | <b>?Leptocheirus pilosus</b>          |                       |
|                 |                              | <i>Melita palmata</i>                 | <b>o</b>              |
| Decapoda        |                              | <i>Carcinus maenas</i>                | <b>o</b>              |
|                 |                              | <i>Palaemon elegans</i>               | <b>r</b>              |
| <b>Insecta</b>  |                              | Diptera                               | Chironomidae indet.   |
| <b>Mollusca</b> | Polyplacophora               | <i>Lepidochitona cinerea</i>          | <b>c</b>              |
|                 | Gastropoda                   | <b><i>Hydrobia ?ventrosa</i></b>      | <b>a</b>              |
|                 |                              | <i>Littorina saxatilis</i>            | <b>o</b>              |
|                 |                              | <b><i>Rissoa membranacea</i> var.</b> | <b>o</b>              |
|                 | Bivalvia                     | <b><i>Cerastoderma glaucum</i></b>    | <b>c</b>              |
|                 |                              | <i>Mytilus edulis</i>                 | <b>c</b>              |
|                 | <b>?<i>Onoba aculeus</i></b> | <b>c</b>                              |                       |
| <b>Pisces</b>   |                              | <i>Gasterosteus aculeatus</i>         | <b>c</b>              |
|                 |                              | <i>Gobius niger</i>                   | <b>c</b>              |
|                 |                              | <i>Pomatoschistus microps</i>         | <b>c</b>              |

### Summary

Loch Dearg is a natural **karst lagoon** with a **sedimentary cobble barrier**. Geomorphologically it is a good example of a relatively rare lagoon type in Europe. The vegetation is characteristically lagoonal, largely dominated by two lagoonal specialists (*C. linum*, *R. maritima*), but the fauna appears less interesting. However, several of the faunal species remain unconfirmed and this site may prove to be of greater value than appreciated at present. Overall, conservation value as a coastal lagoon (at present) is rated as moderate.

**Overall Conservation Value = Moderate**

### Conservation Status Assessment (from Oliver 2007)

|                     |  |
|---------------------|--|
| Impacts             | Natural damage to cobble barrier may destroy lagoon habitat. Erosion.<br>Natural accumulation of organic material. |
| Conservation Status | <b>Unfavourable-Inadequate</b>   |

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**Further Information**


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Listed as a lagoon by Healy *et al.* 1997, Healy 2003 and Oliver 2005 and included in the Conservation Status Assessment (Oliver 2007).

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