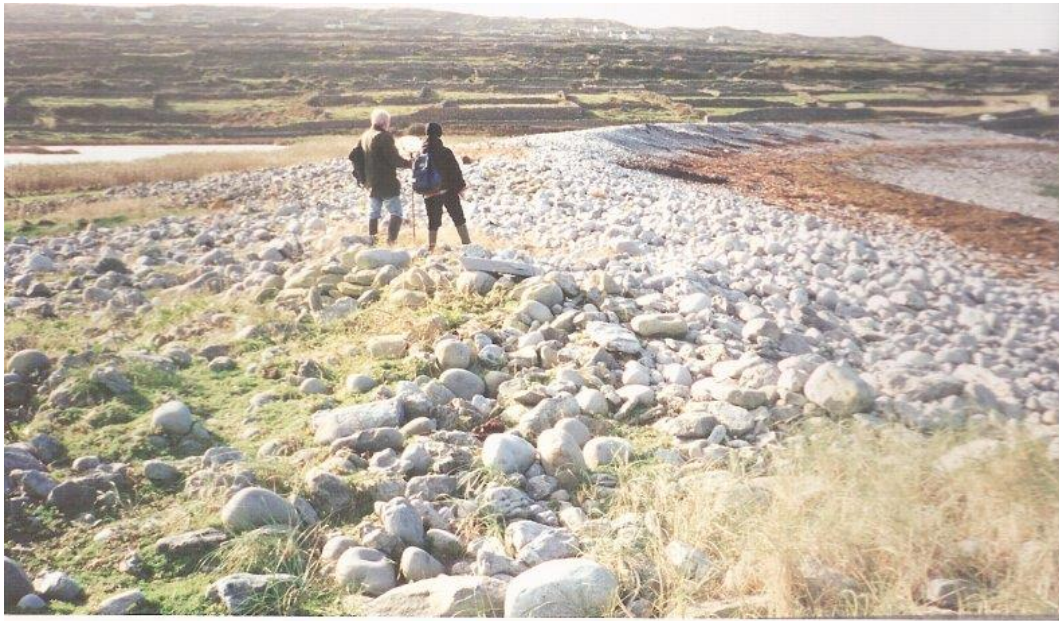


4.43

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.

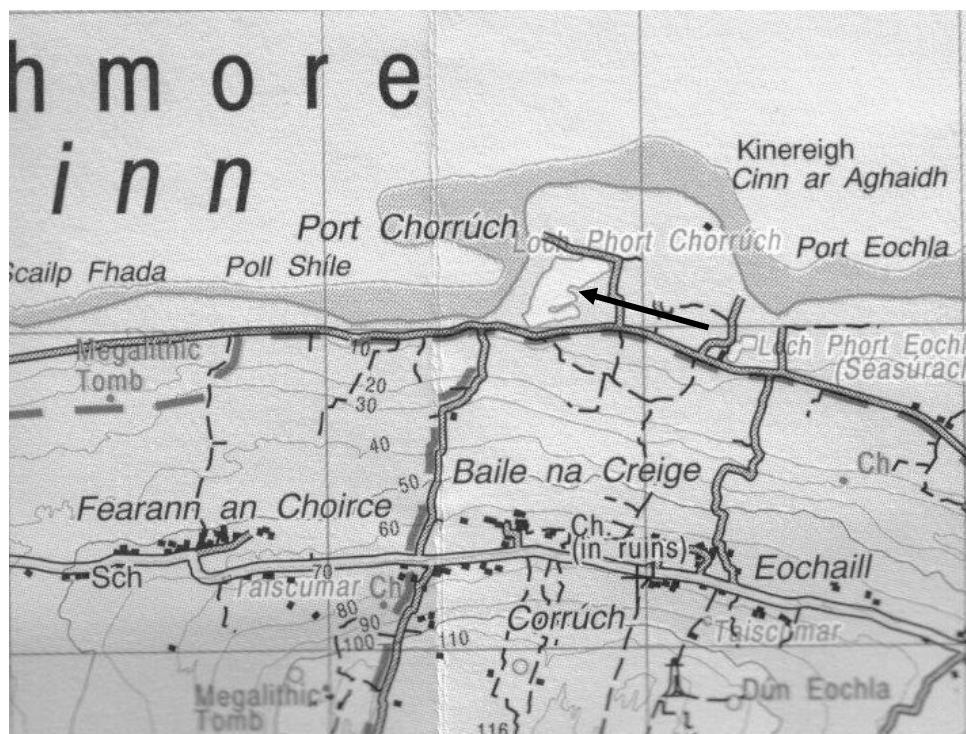


Figure 43.1 Location map of L. Phort Chorrúch.

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 floored 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.

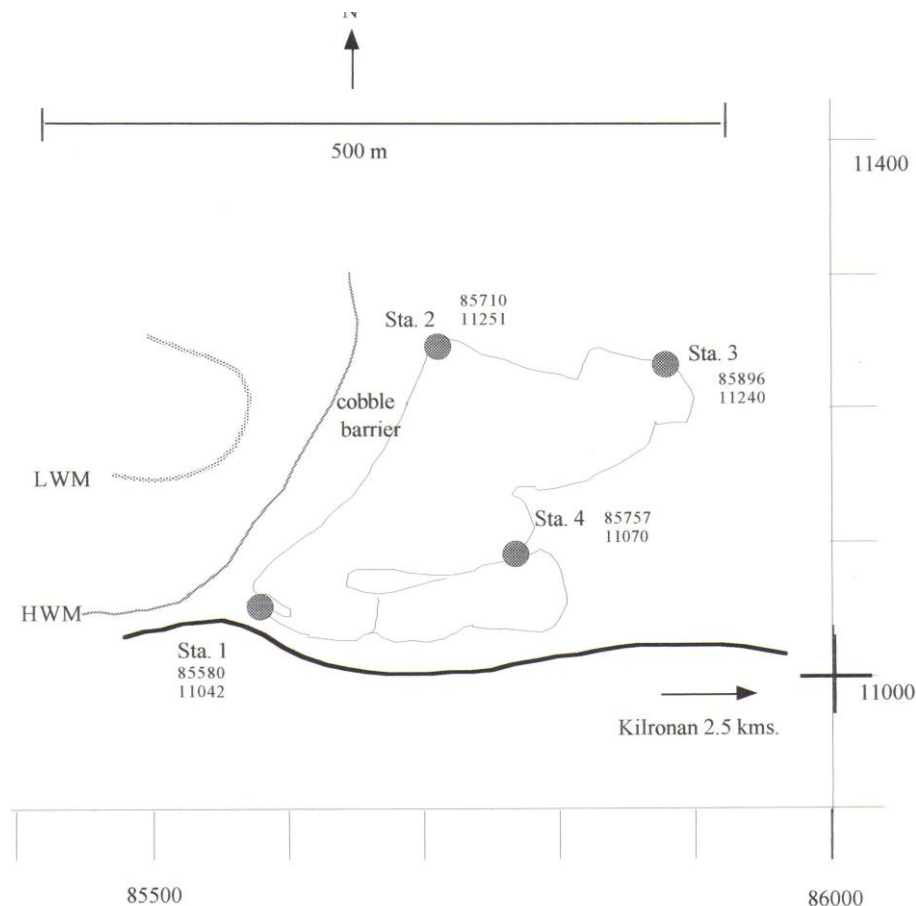


Figure 43.2 Sampling stations used at L. Phort Chorrúch, Arainn.

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
Turbellaria	<i>Procerodes littoralis</i>					+		+	
Crustacea									
	Ostracoda indet.	a	a	a	a	a	a	c	c
	Isopoda <i>Jaera nordmanni</i>		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	
Insecta									
	Odonata <i>Ischnura elegans</i>	0	1	+					
	Heteroptera		1600		700		500		120
	<i>Corixa panzeri</i>						1		
	<i>Sigara stagnalis</i>	a	a	a	a	a	a	c	c
	Coleoptera <i>Enochrus bicolor</i>			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.					+			
Mollusca	<i>Potamopyrgus antipodarum</i>	0		0		0	3	0	+
Bryozoa	<i>Conopeum seurati</i>	+							
Pisces									
	<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 *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).

References:

- Barnes, R.S.K. 1994. *The brackish-water fauna of northwestern Europe: a guide to brackish-water habitats, ecology and macrofauna for field workers, naturalists and students*. Cambridge University Press. 287 pp.
- Good, J.A. 1999. A survey of *Irish coastal lagoons*. *Volt V. Ecotonal Coleoptera (Staphylinidae and Carabidae)*. Dúchas, Dublin.
- Good, J.A. & Butler, F.T. 2000. Coastal lagoon and saline lake shores as a habitat for Staphylinidae, Carabidae and Pselaphidae (Coleoptera) in Ireland. Part 2. *Bulletin of the Irish Biogeographical Society*. **24**: 111-41
- Hayward, P. J. & Ryland, J.S. (eds.) 1995. *Handbook of the Marine Fauna of North-West Europe*. Oxford University Press. PB. 899 pp.
- Healy, B. 1999a. *Survey of Irish coastal lagoons. 1996 and 1998. Vol. 1 Part 1. Background, description and summary of the surveys*. Dúchas, Dublin.
- Healy, B. 1999b. *Survey of Irish coastal lagoons. 1996 and 1998. Vol. 1 Part 2. Lagoons surveyed in 1998*. Dúchas, Dublin.
- Healy, B. 2003. Coastal Lagoons. In: *Wetlands of Ireland*. R. Otte (ed). Chapter 4. University College Dublin Press. Dublin. 44-78.
- Healy, B., Oliver, G.A., Hatch, P. & Good, J.A. 1997. *Coastal lagoons in the Republic of Ireland. Vol. 3. Inventory of lagoons and saline lakes*. Report to the National Parks and Wildlife Service, Dublin.
- Nelson, B., Foster, G., Weyl, R. & Anderson, R. 1998. The distribution of aquatic Coleoptera in Northern Ireland. Part 2: Families Hydraenidae, Helophoridae, Hydrochidae, Hydrophilidae, Elmidae and Dryopidae. *Bulletin of the Irish Biogeographical Society* .**22**: 128-193.
- Oliver, G.A. 1999. *A survey of Irish coastal lagoons. Vol. IV: Aquatic Fauna*. Unpublished report for Dúchas, The Heritage Service. Dublin.
- Oliver, G.A. 2005. *Seasonal changes and Biological Classification of Irish Coastal Lagoons*. PhD Thesis. U.C.D., Dublin. Available on www.irishlagoons.com
- Oliver, G.A. 2007. *Conservation status report: Coastal Lagoons (1150)*. Unpublished report to the National Parks and Wildlife Service, Dublin.
- Oliver, G.A. and Healy, B. 1998. Records of aquatic fauna from coastal lagoons in Ireland. *Bulletin of the Irish Biogeographical Society*. **21**: 66-115.
- Roden, C. 1999. *Irish coastal lagoon survey, 1998. Vol. III, Flora*. Dúchas, Dublin.
- Wyse Jackson, P.N. 1991. Distribution of Irish marine Bryozoa, together with biographical notes relating to the chief researchers in the group. *Bulletin of the Irish Biogeographical Society*. **14**: 129-18.