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Loch Mór, Inish Oírr. County Galway O.S. L 989 019

O.S. Discovery Sheet 51



Conservation Designation: Inisheer Island SAC 001275, pNHA 001275

General description:

An Loch Mór is situated in the northwest of Inis Oírr, approximately 1 km west of the harbour. The lake is a small (6.6ha), very deep (approx 25m) natural **karst lagoon** with limestone cliffs along much of the shoreline. The main body of the lake has a uniform salinity of 5 psu between 1 and 5 m depth with lower salinity water over parts of the surface (0-3 psu). Seawater enters from a tidal pool to the northeast of the lake from which diluted seawater (up to 20ppt) runs into the lake through limestone fissures. Much of the shoreline and substrate of the shallow parts of the lake are limestone pavement and stones.

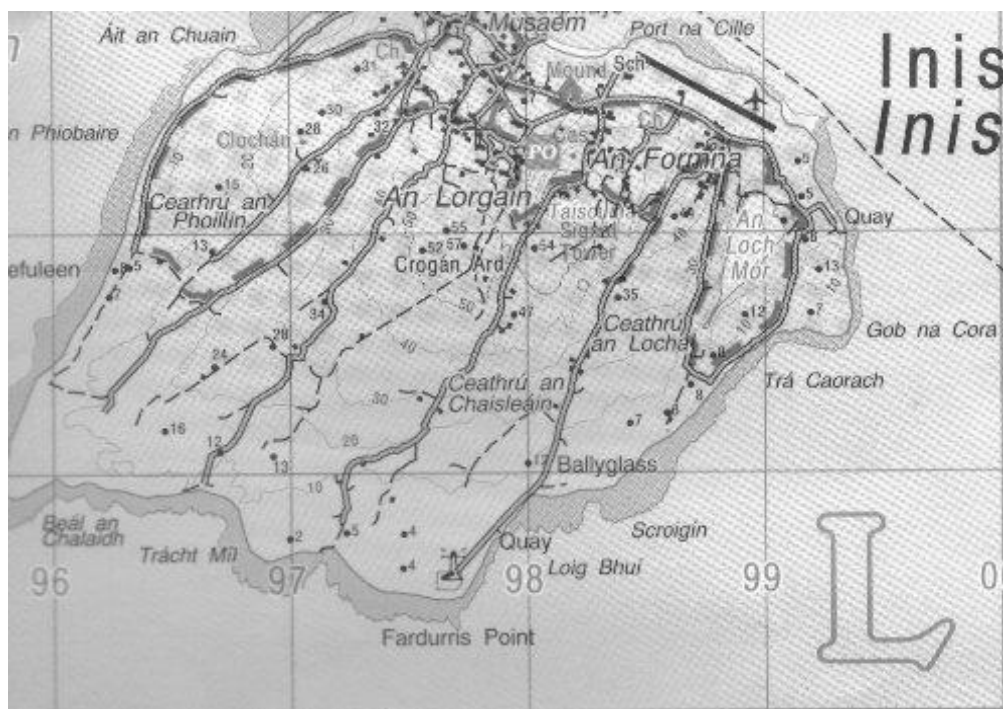


Figure 40.1 Location map of Loch Mór, Inish Oírr.

Loch Mór 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

An Loch Mór was surveyed by C. Roden in 1998 (Roden 1998). Benthic vegetation was extremely uniform consisting of *Enteromorpha* and dense beds of *Potamogeton pectinatus*, below which is a zone of “hard calcareous algal nodules. The turbid water reduces light intensity and bare rock was found below about 5m. Marginal vegetation consists of *Phragmites australis*, *Schoenoplectus lacustris* and *Scirpus maritimus*. No unusual plants were found, and no lagoonal specialists, and floristically the lagoon was rated of **low conservation value**.

However, following palaeoecological studies by M. O’Connell *et al.* (1997) the site may become of great importance in helping to understand the historical development of saline lakes on the west coast of Ireland.

Fauna

Five stations were selected for faunal sampling in 1998 (Oliver 1998, Healy 1999a,b) (Figure 40.1, Table 40.1).

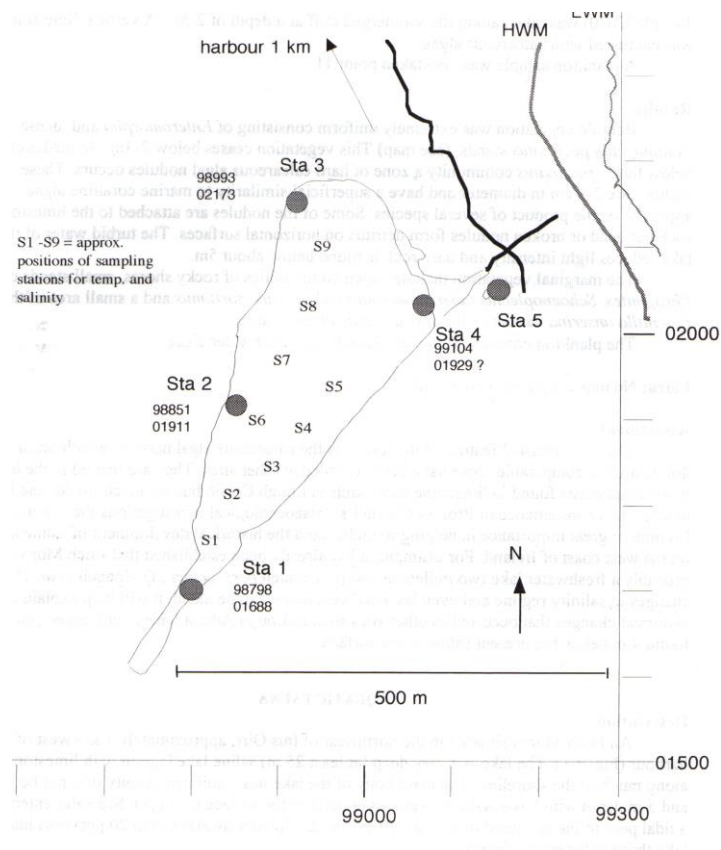


Figure 40.2 Sampling stations used at Loch Mór, Inish Oírr

Table 40.1 Positions of faunal sampling stations in Loch Mór, 24-26/8/98, with salinity, water depth and type of substratum.

	Sta 1	Sta 2	Sta 3	Sta 4	Sta 5
GPS position	L 98798 01688	L 98851 01911	L 98993 02173	L 99104 01929	
Salinity(psu)	2.5-4.9	4.8	4.8	4.7	20
Depth(cm)	0-100	0-100	0-100	0-100	0-200
Substratum	Limestone pavement, rock, silt	Limestone pavement, rock, silt	Limestone pavement.	Limestone pavement, rock.	Limestone pavement, boulders

Remarkably few taxa (15) were recorded in Loch Mór (Table 40.2) and only 10 were identified to species. Two are regarded as lagoonal specialists in Britain, although one (*Sigara concinna*) is of doubtful value as an indicator in Ireland. One species (*Jaera nordmanni*) is a proposed specialist in Ireland.

Table 40.2 Aquatic fauna recorded at stations in An Loch Mór, Inis Oírr, Co. Galway, 1998. F = Fyke net; L.T. = light trap; + = present, o = occasional. c = common, a = abundant. Species in bold text are lagoonal specialists or notable species.

Taxa	Stations									
	1	L.T. 1	2	L.T. 2	3	L.T. 3	4	L.T. 4	5	
Turbellaria <i>Procerodes littoralis</i>					c		a	140		
Annelida <i>Lumbricillus sp.</i>										c
Crustacea										
Isopoda <i>Jaera nordmanni</i>	c						c			c
Amphipoda	a	120	a	150	a	120	a	1000		c
<i>Gammarus duebeni</i>	a	47	a	27		36	a	33		o
Insecta										
Odonata <i>Ischnura elegans</i>			o	1						
Trichoptera indet.								cases		
Heteroptera <i>Corixa panzeri</i>	a	100	c	60	o	20	o	25		
<i>Sigara concinna</i>			o	7			o	5		
<i>Notonecta ?glaucum</i>	o		o	1			o			
Coleoptera indet.								+		
Diptera Chironomidae indet					o	4				
Mollusca <i>Potamopyrgus antipodarum</i>	c	1	a	700	c	30	c	21		
<i>Littorina saxatilis</i>										c
Bryozoa <i>Conopeum seurati</i>								+		
Teleostei <i>Anguilla anguilla</i>								F = 3		

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).

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.

Sigara concinna is listed as a lagoonal specialist in Britain (Barnes 1989, Bamber 1997). It has been recorded in 8 of 87 lagoons (9.2%) in Ireland, surveyed up to 2006, but it is also found at inland sites and appears to be less characteristic of lagoons in Ireland than in Britain.

The fauna of the lagoon is remarkably poor despite the apparently stable and uniform conditions in the lagoon. Presumably this is due to the “island effect” and the problems of colonisation. Based on aquatic fauna, L. Mór is rated as of low **conservation value**.

Ecotonal coleoptera

This site was surveyed for ecotonal coleoptera by Good & Butler in 1998, but none were found after turning over 100 stones. It is therefore rated as of **no conservation value**.

Summary

Both the fauna and flora of the lagoon are poor, although some species are lagoonal specialists and one is potentially interesting and an interesting form of bacterial mat was found by the botanist at depth. However, geomorphologically, the lake is very unusual, and well deserving of protection.

Overall Conservation Value = Moderate

Conservation Status Assessment (from Oliver 2007)

Impacts

Natural deep lagoon. Stratified.

Conservation Status

Favourable

Further Information

Palaeoecological studies have been carried out by N.U.I.G. (O’Connell *et al.* 1997) 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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