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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).

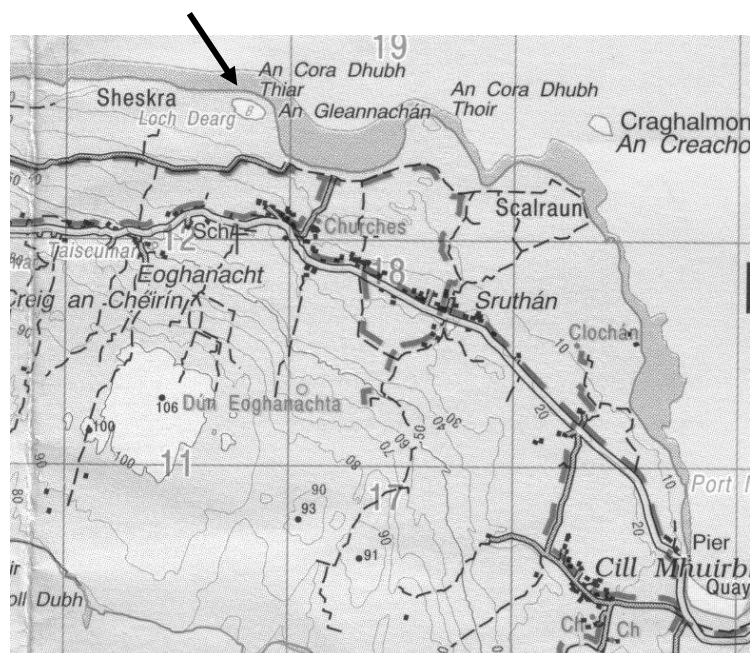


Figure 45.1 Location map of Loch Dearg, Inishmore.

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.

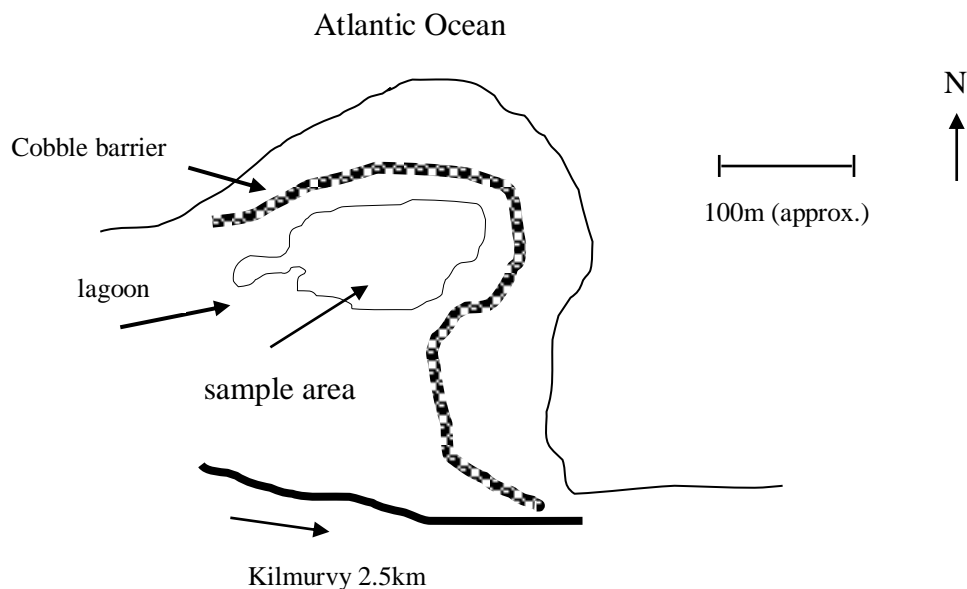


Figure 45.2 Sketch map of Loch Dearg, Inishmore.

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	
Percentage cover:		
Chlorophyceae		
	<i>Chaetomorpha linum</i>	20
	<i>Cladophora</i> sp.	20
	<i>Enteromorpha</i> sp.	5
Phaeophyceae		
	<i>Fucus vesiculosus</i>	5
	<i>Sphacelaria</i> sp.	10
Rhodophyceae		
	<i>Ceramium strictum</i> agg.	+
	<i>Gracilaria verrucosa</i>	5
Angiosperms		
	<i>Ruppia maritima</i>	20
Bare soft mud		20
Stones and sand		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			
Cnidaria		<i>Anthopleura ballii</i>	r
		<i>Sagartia ?ornata</i>	o
Nemertea		<i>Lineus ?viridis</i>	c
Annelida	Polychaeta	<i>Arenicola</i> agg.	
		<i>Janua pagenstecheri</i>	a
		<i>Nereis pelagica</i>	r
		<i>Pomatoceros triqueter</i>	r
	Oligochaeta	Tubificidae indet.	o
	Crustacea	Tanaidacea	<i>Tanais dulongi</i>
Mysidacea		<i>Praunus flexuosus</i>	c
Isopoda		<i>Idotea baltica</i>	o
		<i>Jaera</i> sp.	o
Amphipoda		<i>Gammarus duebeni</i>	o
		?Leptocheirus pilosus	
		<i>Melita palmata</i>	o
Decapoda		<i>Carcinus maenas</i>	o
		<i>Palaemon elegans</i>	r
Insecta			
Diptera	Chironomidae indet.	a	
Mollusca	Polyplacophora	<i>Lepidochitona cinerea</i>	c
	Gastropoda	Hydrobia ?ventrosa	a
		<i>Littorina saxatilis</i>	o
		Rissoa membranacea var.	o
	Bivalvia	Cerastoderma glaucum	c
		<i>Mytilus edulis</i>	c
?Onoba aculeus		c	
Pisces	<i>Gasterosteus aculeatus</i>	c	
	<i>Gobius niger</i>	c	
	<i>Pomatoschistus microps</i>	c	

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. Natural accumulation of organic material.
Conservation Status	Unfavourable-Inadequate

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:

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