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Loch Cara Fionnla, County Galway O.S. L 963 290

(L. Carafinla)

O.S. Discovery Sheet 45

**Conservation Designation:** Kilkieran Bay and Islands SAC 002111**General description:**

Loch Cara Fionnla is a medium sized (13.5ha), shallow (1-2m) natural **rock/peat lagoon** which drains into the south side of Camus Bay, through a long channel which runs through Kinvarra saltmarsh. At the time of sampling salinity was low, measuring 1.1 –3.5 psu but 24psu was recorded in May 1997. Substrate is mostly granite rocks, coarse sand and gravel with peaty silts in sheltered areas. The lake is bordered by moorland, peat bog and granite rocks.

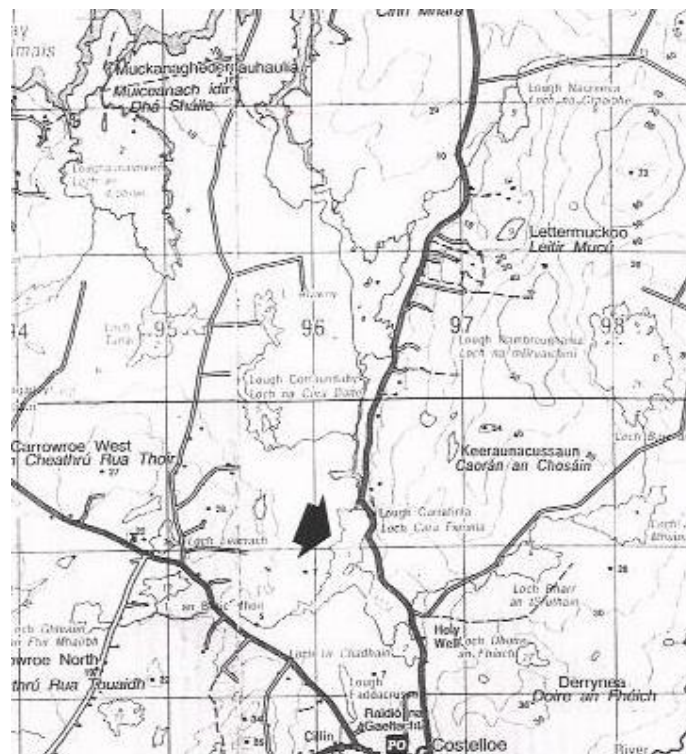


Figure 58.1 Location of map of Loch Cara Fionnla.

Loch Cara Fionnla 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 Carafinla was surveyed in 1998 by Roden (1999).

Visibility was poor on the three occasions the lagoon was surveyed in 1998, suggesting peat-stained freshwater runoff from surrounding moorland. The bed of the lagoon has a flat bottom of fine peaty mud, with occasional granite boulders protruding, and vegetation is very sparse. The rocky sides support dense stands of *Potamogeton pectinatus* and *Fucus ceranoides*.

Small areas of *Chara aspera* were found at the southern end of the lake. The greater part of the lagoon supported communities of *Ruppia* sp. and *P. pectinatus*. *Lamprothamnium papulosum* occurred only in the centre of the lagoon growing sparsely on bare mud or with *Ruppia* sp. at a depth of 1-2m.

Relatively few floral taxa were recorded in Carafinla, but two of these are lagoonal specialists and one (*L. papulosum*) is a rare charophyte:

Lamprothamnium papulosum was known from only three sites in Ireland before 1996 (Hatch and Healy 1998). As a result of the surveys it was relocated at two of these sites (Lady's Island L., Co. Wexford, L. Murree, Co. Clare), but not at Tacumshin L., Co. Wexford. It is also now known from a total of 14 lagoon sites, most of which are clustered in Connemara, but there are also new records from the North Slob, Co. Wexford, L. Bofin, Co. Galway and Maghery, Co. Donegal. This species is listed in the Red Data Book for Britain and Ireland (Stewart and Church 1992). Although recorded from the Baltic to the Mediterranean and Black Sea and also South Africa, it is believed to be declining in Europe. There are only five recent records from the south of England, but there are 12 important sites in the Outer Hebrides (Bamber et al. 2001b). These Irish locations are very important in European terms, and it is especially encouraging to have found new sites.

The *Lamprothamnium* in Carafinla is growing in an unusual habitat, in low salinity water (1-2psu) and at depth. Possibly salinity is normally higher than during the sampling period at this depth.

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. The *Ruppia* in Carafinla was not identified specifically, but is assumed to be *R. maritima* which appears to be the more common of the species and was found at 41 of the lagoons surveyed (47%). *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. *R. cirrhosa* was only identified at 23 lagoons (26%), but species was not determined at 12 sites.

Botanically, Carafinla is rated as of **high conservation value**, simply due to the presence of the rare charophyte, *L. papulosum*.

Fauna

Five sampling stations were selected for faunal sampling in 1998 (Figure 59.2, Table 59.1) (Oliver 1999).

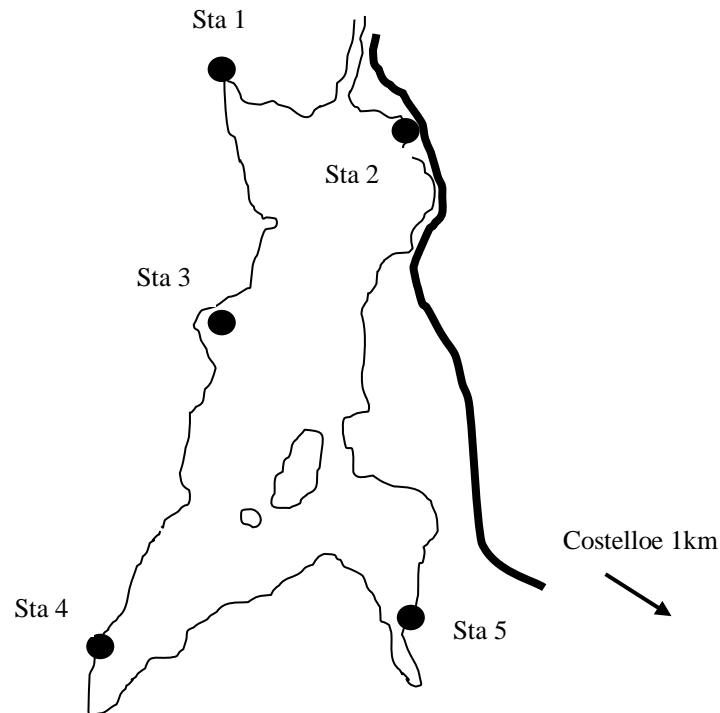


Figure 58.2 Sketch map showing sampling stations used at Loch Cara Fionnla, 7-10/8/98 and 9/9/08.

Table 59.1 Positions of faunal sampling stations in Carafinla, 7-10/8/98 and 9/9/08, with salinity, depth of water and type of substratum.

	Sta 1	Sta 2	Sta 3	Sta 4	Sta 5
GPS position	L 96137 29325	L 96384 29231	L 96153 29004	L 95995 28641	L 96363 28669
Salinity(psu)	0-4-1.4	0.5-3.5	0.5-0.8	0.6-1.3	0-0.6
Depth(cm)	0-100	0-100	0-130	0-150	0-150
Substratum	Granite rocks, stones, gravel, peaty silt	Rocks, stones, gravel, sand	Soft peat, granite stones	Soft peat, granite stones	Soft peat, granite stones

A total of 26 faunal taxa were recorded in Carafinla in 1998, most of which are common low salinity or estuarine animals, but three species are regarded as lagoonal specialists in Britain and one other is a proposed lagoonal specialist for 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).

Lekanesphaera hookeri is a common lagoonal isopod crustacean, found at 37 of the 87 lagoons surveyed (42.5%).

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.

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.

Table 59.2 Aquatic fauna recorded at stations in Loch Cara Fionnla, 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	5	L.T. 5
Crustacea										
Mysidacea <i>Neomysis integer</i>	c	46	o	16	c	35	c	29	o	8
<i>Praunus flexuosus</i>	1									
Isopoda <i>Jaera nordmanni</i>			+							
<i>Lekanesphaera hookeri</i>	+	10	+	22	o	6				
Amphipoda	o	2	+	18	o	7			2	1
<i>Chaetogammarus marinus</i>			1							
<i>Corophium volutator</i>			o	1						
<i>Gammarus duebeni</i>	o	2		8		3				1
<i>G. zaddachi</i>			1							
Decapoda <i>Palaemonetes varians</i>	o		+	2	o			1		
Insecta										
Odonata <i>Sympetra</i> sp							1			
<i>Ischnura elegans</i>			o						o	
Trichoptera	+									
Heteroptera										
Corixidae indet.										
<i>Corixa ?panzeri</i>	o	4							o	1
<i>Gerris lacustris</i>			2		+					
<i>G. odontogaster</i>					+				3	
<i>Hydrometra stagnorum</i>	4						+			
Coleoptera larvae	1	1	o	1	o	3	2		0	
Diptera								4		
Culicidae indet.	+				+					
Chironomidae indet.	+				+		+			
Mollusca <i>Potamopyrgus antipodarum</i>	a	120	c	85	a	150	o	3	c	95
Bryozoa <i>Conopeum seurati</i>										
Pisces										
<i>Anguilla anguilla</i>	F=6				F=5	1			F=4	
<i>Pleuronectes flesus</i>	F=2				F=1		F=1		F=4	
<i>Pomatoschistus microps</i>	o	1				1				
<i>Salmo trutta</i>	F=1									
<i>Gasterosteus aculeatus</i>	o		o	1			+			

The fauna of Carafinla is relatively poor, but includes four lagoonal specialists. Based on aquatic fauna the site is regarded as of moderate **conservation value**.

Ecotonal coleoptera

Three species of carabid and fourteen species of staphylinid beetles were recorded in 1998 by Good & Butler (2000, Healy 1999a, b), one of which is an indicator species (*Stenus lustrator*). Previous to the lagoon surveys there were only three records for this species in Ireland, but was found at eight lagoons in 1996 and 1998. This beetle appears to be characteristic of lagoons and saline lakes with well developed peat shore habitat. Despite the presence of this species, based on ecotonal coleoptera Carafinla is rated as of **low conservation value**.

Summary

Relatively few species were recorded in Carafinla, but several of these are lagoonal specialists (2 floral, 4 faunal), two of which are rare. The main feature of conservation value is the presence of the rare charophyte *Lamprothamnium papulosum*. For this reason alone, the site is rated as of **high conservation value**. Otherwise, it is not a site of particularly high importance but a good example of a type of lagoon, rare in a European context, but characteristic of parts of the west coast of Ireland, especially in Connemara, referred to as **rock/peat lagoons** with restricted tidal influence due to the presence of a “barrier” of bedrock and peat. Overall conservation value is therefore rated as high.

Overall Conservation Value = High

Conservation Status Assessment (from Oliver 2007)

Impacts	No significant impacts.
Conservation Status	Favourable

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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