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## Cara na gCaorach, County Galway O.S. L 964 305

O.S. Discovery Sheet 45



**Conservation Designation:** Kinvarra Saltmarsh SAC 002111, pNHA 002075

**General description:**

Cara na gCaorach is not named on the 1:50,000 OS map, but is the name used by Robinson (1997?) for a large (30ha), mostly shallow (1-2m) natural **rock/peat lagoon** 2.5km south of Kinvarra, Co. Galway, which drains into the south side of Camus Bay, through a long channel which runs through Kinvarra saltmarsh. Salinity probably varies considerably and ranged from 0.9-13.9 psu but 24psu at the time of sampling (15-16/10/06). Substrate is mostly soft peaty silts with outcrops of granite bedrock and rocks. The lagoon is bordered by moorland, peat bog and granite rocks.

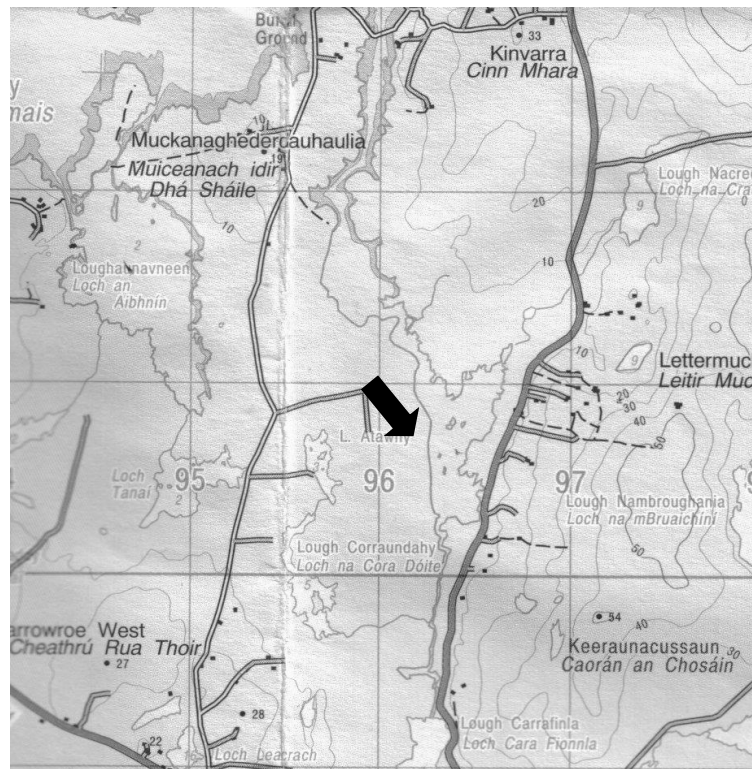


Figure 60.1 Location map of L. Cara na gCaorach.

L. Cara na gCaorach was surveyed on 15-16/10/06 for aquatic fauna and flora. Six stations were selected for sampling at this time (Figure 60.2, Table 60.1)

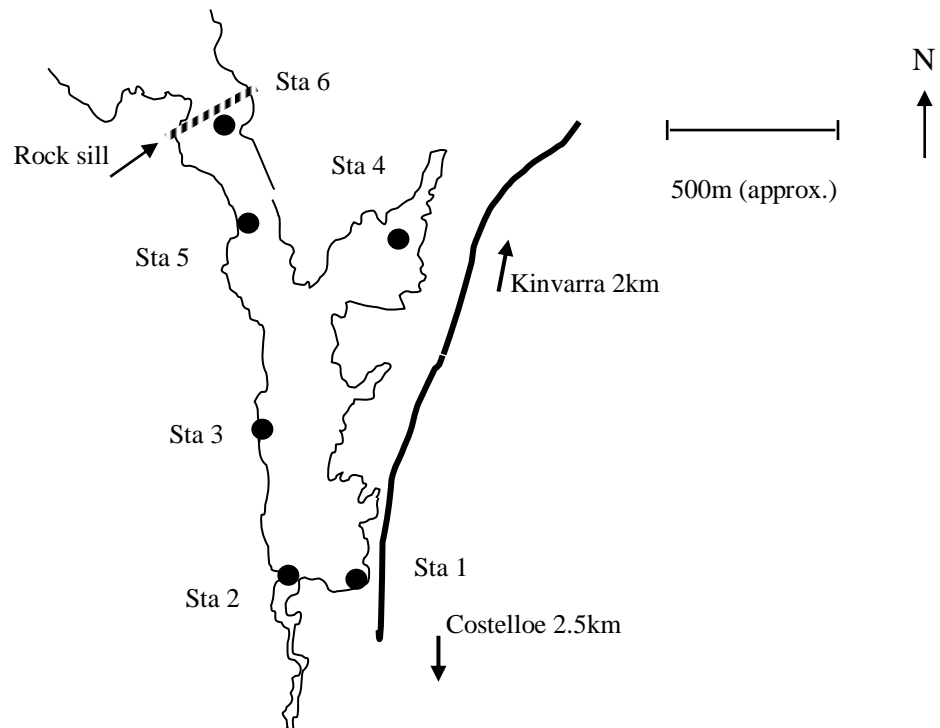


Figure 60.2 Sketch map of sampling stations used in Cara na gCaorach, 15-16/10/06

### Flora

The vegetation of Cara na gCaorach was surveyed by C. Roden in 1998 (Roden 1999, Healy 1999a, b) and by Oliver in 2006. The following is a summary of both years. A total of 15 floral taxa were recorded at Cara na gCaorach (Table 60.1), three of which are regarded as lagoonal specialists. Two species are rare:

***Lamprothamnion 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. 2001). These Irish locations are very important in European terms, and it is especially encouraging to have found new sites

***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%).

*Zostera angustifolia* was recorded only from this site and the North Slob during the lagoon surveys.

Table 60.1 Positions of sampling stations in Cara na gCaorach, with sampling date, hydrological variables (salinity, temperature and depth of water) type of substratum and percent cover of vegetation, bare ground and rotting vegetation. Species in bold text are lagoonal specialists or rare species. + = species present

Name of site	Cara na gCaorach					
Date of survey	15/10/2006	15/10/2006	15/10/2006	15/10/2006	16/10/2006	16/10/2006
	Sta 1	Sta 2	Sta 3	Sta 4	Sta 5	Sta 6
GPS position	L 96524	L 96306	L 96282	L 96578	L 96237	L 96142
	30318	30255	30737	31052	31166	31347
Salinity (psu) at surface	9.1	3.6	3.8	0.9	4.9	5.1
Salinity at depth		13.9		7.1	5.3	
Temperature at surface	20	13.2	12.0	11.4	13.0	13.1
Temperature at depth		13.8		12.1	12.9	
Depth (cm)	0-40	0-200	0-0.5	0-100	0-200	0-50
Substratum	peaty mud, stones	peaty mud, stones	peaty mud, stones	peaty mud, stones	peaty mud, bedrock	peaty mud, bedrock
<b>Percentage cover</b>						
<b>Algae</b>						
Chlorophyceae						
<i>Chaetomorpha linum</i>	<b>50</b>	<b>80</b>	<b>60</b>	<b>50</b>	<b>20</b>	
<i>Cladophora</i> sp.	<b>40</b>	<b>30</b>	<b>20</b>	<b>20</b>	<b>30</b>	
<i>Cladophora rupestris</i>					+	+
<i>Enteromorpha</i> sp.	+	+	+	+		
Phaeophyceae						
<i>Ascophyllum nodosum</i>	+	+	+	+		<b>5</b>
<i>Fucus ?ceranoides</i>		<b>5</b>	+	+	?	?
<i>Fucus serratus</i>				drift		<b>60</b>
<i>Fucus vesiculosus</i>					<b>10</b>	<b>10</b>
<i>Pelvetia canaliculata</i>						<b>5</b>
Rhodophyceae						
<i>Ceramium</i> sp.						+
<i>Gracilaria verrucosa</i>					+	+
<i>Polysiphonia</i> sp.						+
Charophyceae indet.						
<i>Lamprothamnion papulosum</i>	+	+	+	+		
<b>Angiosperms</b>						
<i>Ruppia maritima</i>	<b>20</b>	<b>20</b>	<b>80</b>	<b>50</b>	<b>10</b>	
<i>Zostera angustifolia</i>	?	?	?	?		
<b>Bare mud</b>	<b>10</b>		<b>10</b>		<b>30</b>	
<b>Stones</b>	<b>30</b>	+	+	+	<b>40</b>	<b>30</b>

This is a large site with four lagoonal specialist plants, one of which is rare in Ireland (*L. papulosum*). Based on this vegetation, Cara na gCaorach is regarded as of **high conservation value** as a coastal lagoon.

## Fauna

The fauna of Cara na gCaorach is not particularly rich, which is quite characteristic of many lagoons. Only 28 faunal taxa were recorded in 2006 (Table 60.2), but five species are lagoonal specialists and two additional species appear to be rare in Ireland:

*Idotea chelipes* is a common, lagoonal, isopod crustacean, often found in association with the lagoonal form of *Chaetomorpha linum*. Found at 23 of the 87 (26.4%) lagoons surveyed, mostly at relatively high salinity.

*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.

*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.

*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.

*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).

?*Heterotanais oerstedii* Tanaid crustacean only recorded in Cara na gCaorach during the lagoon surveys. Apparently occurs throughout northwestern Europe. Little is known about its biology or range, doubtless because of its small size, but its distribution does genuinely appear to be patchy (Barnes 1994).

Table 60.2 Aquatic fauna recorded at Cara na gCaorach, Co. Galway. 15-16/10/06.

L.T. = light trap, + = present, o = occasional. c = common, a = abundant, F = Fyke net; Species in bold text are lagoonal specialist or rare species.

			Sta 1	Sta 2	Sta 3	Sta 4	Sta 5	Sta 6
<b>Protozoa</b>	Foraminifera	indet.		o		o	o	
<b>Nematoda</b>		indet.					o	
<b>Annelida</b>	Polychaeta	Spionid indet.			r	r		
	Oligochaeta	Tubificidae indet.			o		o	
<b>Crustacea</b>	Ostracoda	indet.		o		o		
	Copepoda	<i>Harpacticoida</i> indet.	o	o	r	o	o	o
	Tanaidacea	? <i>Heterotanais oerstedii</i>	c	c	o	c	c	c
	Mysidacea	<i>Neomysis integer</i>	o	r	o	o	o	
		<i>Praunus flexuosus</i>			r		c	c
	Isopoda	<i>Idotea chelipes</i>	o	r	o	o	c	o
		<i>Jaera ischiosetosa</i>	c	c	o	o	o	a
		<i>Lekanesphaera hookeri</i>	a	o	o	c	c	c
	Amphipoda	<i>Corophium volutator</i>		o	c	o	o	
		<i>Gammarus ?zaddachi</i>	o	c	o	o	o	a
		<i>Microdeutopus</i> sp.		r				
	Decapoda	<i>Carcinus maenas</i>					o	o
		<i>Crangon crangon</i>	r					
		<i>Palaemonetes varians</i>	c	o	a	o	o	o
<b>Acarina</b>		indet.	r					
<b>Insecta</b>	Diptera	Chironomidae indet.	o	o	c	c	c	o
<b>Mollusca</b>	Gastropoda	<i>Hydrobia ulvae</i>	c	c		o	o	o
		<i>Hydrobia ventrosa</i>		o	r		o	o
		<i>Potamopyrgus antipodarum</i>	c	c	o	c	o	o
	Bivalvia	<i>Mya arenaria</i>	r					
<b>Bryozoa</b>		<i>Conopeum seurati</i>	o	o	o	a	a	c
<b>Pisces</b>		<i>Gasterosteus aculeatus</i>		o	c	c		
		<i>Gobius niger</i>						o
		<i>Pomatoschistus microps</i>			o	o	o	

The aquatic fauna of Cara na gCaorach is not rich, but is typically lagoonal with five lagoonal specialists, and two other apparently rare species. Based on aquatic fauna, the site is therefore rated as of **moderate conservation value**.

### Ecotonal coleoptera

Only one species of carabid and six species of staphylinid beetles were recorded in 1998 by Good & Butler (2000, Healy 1999a, b), although one species, *Stenus lustrator*, is an indicator species. Previous to the lagoon surveys there were only three records for this species in Ireland, but it 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. However, despite the presence of this species, based on ecotonal coleoptera Cara na gCaorach is rated as of **low conservation value**.

#### Summary

Relatively few species were recorded in Cara na gCaorach, but several of these are lagoonal specialists (3 floral, 5 faunal), one of which is rare. The main feature of conservation value is the presence of the rare charophyte *Lamprothamnium papulosum*. For this reason alone, the site would be rated as of high conservation value. Faunistically, it is typically lagoonal, but also contains two apparently rare crustaceans. It is also a good example of a **rock/peat** lagoon, which is a rare lagoon type in Europe in an area of scenic value, which should be regarded as an important gradation of a lagoonal habitat from Cara Fionnla to the open sea of Camus Bay. 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, Healy 2003 and Oliver 2005. Surveyed in 1998 for vegetation (Roden 1999) and ecotonal coleoptera (Good & Butler 2000) and partially for aquatic fauna (Oliver 1999). Results of the 1998 survey were summarised by Healy (1999a, b). Surveyed again for aquatic fauna and flora by Oliver in 2006 and included in the Conservation Status report (Oliver 2007).

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