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Cuskinny Lake, County Cork O.S. W 839 674

O.S. Discovery Sheet 81



Conservation Designation: Cuskinny Marsh pNHA 001987

General description:

Situated on Great Island, north of Cork Harbour, 1.5km east of Cobh. A small (4ha) **artificial lagoon** formed behind a coastal embankment carrying a road. (The barrier, however, is composed of shingle and this may have been a natural lagoon originally, but is now embanked with a bridged inlet. Salinity at the time of sampling (27-28/7/02) from almost fresh (1.2 psu) at the inner most part, up to 32.6 psu near the tidal inlet



Figure 11.1 Location map of Cuskinny Lake.

Cuskinny Lake was surveyed in 2002 as part of a PhD study (Oliver 2005) and used in a biological classification of Irish coastal lagoons. Four stations were selected for the sampling of aquatic fauna and flora (Figure 11.2, Table 11.1).

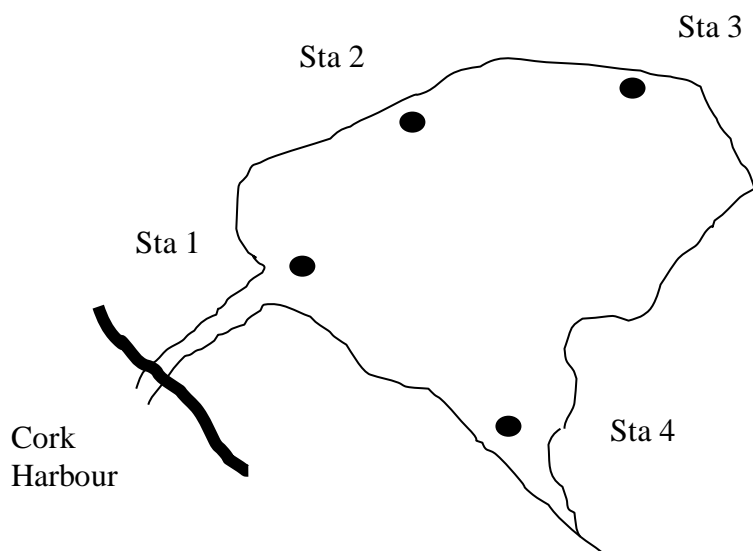


Figure 11.2 Sampling stations used at Cuskinny Lake from 27-28/07/02

Flora

Table 11.1 Positions of sampling stations in Cuskinny Lake, with sampling date, hydrological variables (salinity, temperature and depth of water), type of substratum, and percent cover of vegetation and bare ground.

	Sampling stations			
	Station 1	Station 2	Station 3	Station 4
Sampling dates	27-28/07/02	27-28/07/02	27-28/07/02	27-28/07/02
Salinity(psu)	18.6	13.2	13.9	18
Temperature	21	19.5	17.9	18.4
Depth	0-50	0-50	0-30	0-50
Substrate	gravel, soft mud	gravel, soft mud	soft mud	gravel, soft mud
Percentage cover:				
Chlorophyta				
<i>Enteromorpha</i> sp.	10	5	5	5
<i>Ulva</i> sp.	1			2
<i>Cladophora</i> sp.	5	10	5	5
Rhodophyta				
<i>Gracilaria verrucosa</i>	5			2
Angiosperms				
<i>Phragmites australis</i>	10		30	10
<i>Scirpus maritimus</i>	20			20
Bare mud	55	85	60	60

Cuskinny Lake is an “estuarine” lagoon, the bed of which is largely bare, soft mud. Only 6 floral taxa were recorded, of which 3 were identified to species (Table 11.1). None of these taxa are regarded as lagoonal specialists and none are particularly noteworthy.

Based on aquatic flora, Cuskinny Lake is regarded as of low **conservation value**.

Fauna

A total of 21 faunal taxa were recorded at Cuskinny Lake, of which 19 were identified to species (Table 11.2). Four of these taxa are regarded as lagoonal specialists in Britain, one of which (*C. insidiosum*) has only recently been recorded in Ireland. Two others (*L. pilosus*, *A. pellucida*) appear to be rare in Ireland and are proposed specialists for Ireland.

Table 11.2 Faunal taxa recorded at stations in Cuskinny Lake 27-28/07/02. (SWm = mean of 3x 30 second sweeps, Sedm = mean of 3 x 0.005m² diameter sediment cores, L.T. = Light trap, **Ab** = overall abundance of all sampling methods, including visual searches). r = rare, o = occasional, c = common, a = abundant. Species in bold text in bold are lagoonal specialists or notable species.

	Sta 1		Sta 2			Sta 3		Sta 4				
	SWm	Sedm	Ab	SWm	Sedm	L.T.	Ab	Sedm	Ab	SWm	L.T.	Ab
Annelida												
Polychaeta <i>Nereis diversicolor</i>		6.0	c		1.0		o	1.3		o		o
Crustacea												
<i>Elminius modestus</i>			o									
Mysidacea <i>Neomysis integer</i>	1413.3		a	485.0		1250	a		c	1383.3	1500	a
Isopoda <i>Lekanesphaera hookeri</i>	19.3		c	14.7		110	c		c	5.0	150	o
Amphipoda Indet												
Amphipods	2.7	0.3	c									o
<i>Corophium insidiosum</i>	0.3		r									
<i>Corophium voluator</i>	1.3	35.0	c	1.7	2.3	3	o	2.7	o	0.7	1	o
<i>Gammarus duebeni</i>												r
<i>Gammarus zaddachi</i>	6.0	0.3	c									o
<i>Leptocheirus pilosus</i>	0.3		r									o
<i>Allomelita pellucida</i>												r
Decapoda <i>Carcinus maenas</i>			o									
<i>Crangon crangon</i>	0.3		r									
<i>Palaemonetes varians</i>	21.7		c			5	o				8	o
Insecta												
Diptera Chironomidae		0.7	o	0.7			o	7.7	c			o
Mollusca												
Prosobranchia <i>Hydrobia ulvae</i>	6.0		o	0.3			r		o			
<i>Potamopyrgus antipodarum</i>												o
Bryozoa <i>Conopeum seurati</i>			o						o			o
Pisces <i>Anguilla anguilla</i>									o			
<i>Gasterosteus aculeatus</i>	4.0		c			1	r				2	
Mugilidae			c						c			c
<i>Pleuronectes flesus</i>			c						c			c

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

Allomelita pellucida. Amphipod crustacean recorded at Kilcoole, Co. Wicklow, six sites in Cork (Cuskinny, L. Beg, Kilkeran, Lissagriffin, Farranamanagh,

Reenydonegan) and in Furnace L., Co. Mayo. There are also 2 unconfirmed records for Ballyvodock (Co Cork) and Muckinish (Co. Clare). The only previous records are for L. Hyne and Glengarriff in Co. Cork and Furnace L. (Costello *et al.* 1989). Proposed as a lagoonal specialist for Ireland by Oliver and Healy (1998).

Corophium insidiosum Amphipod crustacean recorded for the first time in Ireland (Oliver *et al.* 2007) at three lagoons in Co. Cork (Rostellan, Cuskinny, Rosscarbery), following Pinkster's prediction (1978) that it would be found in Ireland. Recent unconfirmed record from Raffeen (Co. Cork). Regarded as a lagoonal specialist in England but possibly an introduced invasive species in Ireland.

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.

Most of the faunal species recorded in Cuskinny Lake are common estuarine species, but six are lagoonal specialists, three of which are rare species. Based on aquatic fauna, as a lagoon the site is regarded as of **high conservation value**.

Summary

Cuskinny Lake is a small (4ha) "**estuarine**", **artificial lagoon** with a relatively low number of taxa (6 floral, 21 faunal) most of which are typically estuarine species but with a small suite of typically lagoonal species, with 6 faunal lagoonal specialists, three of which are rare in Ireland.

Overall Conservation Value = Moderate

Conservation Status Assessment (from Oliver 2007)

Impacts	Moderate eutrophication from surrounding farmland and domestic housing but significant tidal flushing
Conservation Status	Unfavourable-Inadequate

Further Information

Lagoonal flora and fauna surveyed by Galvin (1992). Listed as a lagoon by Healy *et al.* 1997, and Healy 2003. Surveyed in 2002/2003 as part of a PhD study (Oliver 2005) and used in a biological classification of Irish coastal lagoons and in the Conservation Status Assessment (Oliver 2007).

References:

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