

4.26

Reenydonegan Lake, County Cork O.S. W 000 514 O.S. Discovery Sheet 85



Conservation Designation: Reenydonegan Lough cNHA 002666

General description:

Situated at the eastern end of Bantry Bay, 2km north of the town of Bantry. A moderate sized (25ha) **natural sedimentary lagoon** with an **artificial unsluiced inlet**. Apparently shallow (<3m) lagoon and very low salinity of <1psu at the time of sampling (6-7/07/02) although it is clear that a certain amount of seawater enters at times.

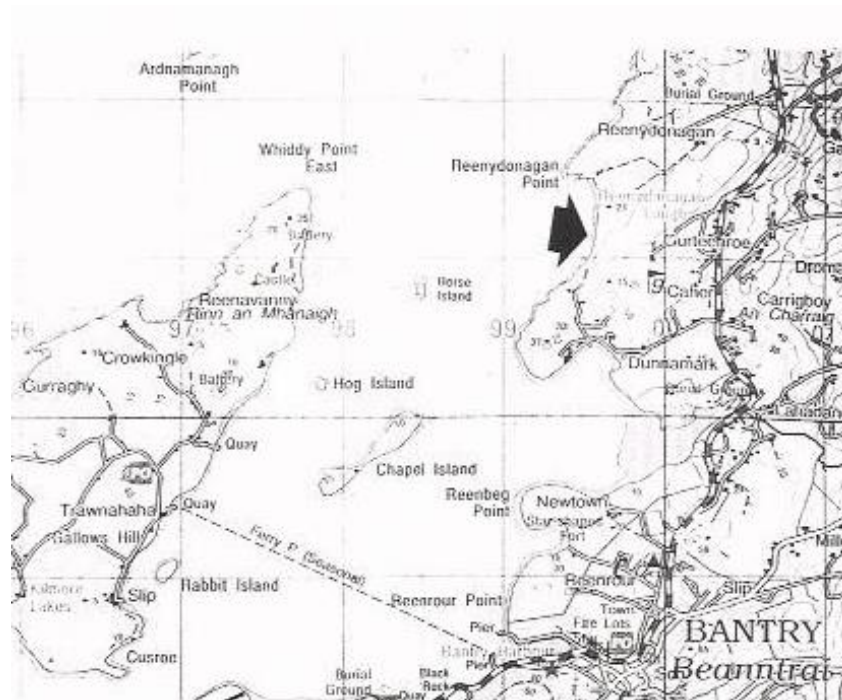


Figure 26.1 Location map of Reenydonegan Lake.

Reenydonegan 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 26.2, Table 26.1)

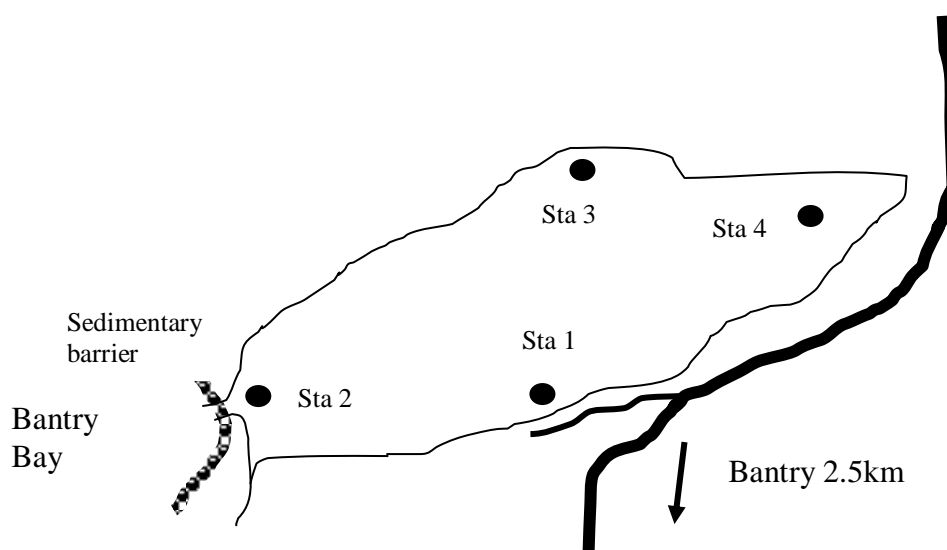


Figure 26.2 Sketch map of sampling stations used at Reenydonegan Lake 6-7/07/02.

Flora

A total of 7 floral taxa were recorded at Reenydonegan Lake (Table 26.1), none of which are lagoonal specialists or rare. This appears to be a generally very low salinity and highly eutrophic lagoon.

Table 26.1 Positions of sampling stations in Reenydonegan Lake, with sampling date, hydrological variables (salinity, temperature and depth of water), type of substratum and percent cover of vegetation, bare ground and rotting vegetation.

	Sampling stations			
	Station 1	Station 2	Station 3	Station 4
Sampling dates	6-7/7/02	6-7/7/02	6-7/7/02	6-7/7/02
GPS position	W 00118 51978	WV 99549 51670	W 00180 52290	W 00443 52411
Salinity(psu)	0.5	0.7	0.6	0.4
Temperature	16.7	16.4	16.9	17.8
Depth(cm)	0-100	0-100	0-100	0-100
Substratum	Stones and soft mud	Stones and soft mud	Stones, soft mud and boulders	Muddy sand
Percentage cover:				
Algae				
Chlorophyta <i>Cladophora</i> sp.	5	30	20	10
<i>Enteromorpha</i> sp.		10	30	5
Angiosperms				
<i>Juncus</i> sp.			5	
<i>Phragmites australis</i>				20
<i>Potamogeton pectinatus</i>	50	40	50	30
<i>Ranunculus baudotii</i>			+	
<i>Scirpus maritimus</i>		5		10
Bare ground	40	20	20	30

The main body of the lagoon is dominated by a virtual monoculture of dense *Potamogeton pectinatus*, with a fringe of *Phragmites* and patches of *Scirpus*, more extensive at the eastern end of the lagoon.

Based on aquatic vegetation, as a lagoon the site is rated as of **low conservation value**.

Fauna

A total of 21 faunal taxa were recorded in Reenydonegan Lake, of which 19 were identified to species (Table 26.2). Six of these species are lagoonal specialists and one appears to be rare in Ireland (*A. pellucida*).

Table 26.2 Faunal taxa recorded at stations in Reenydonegan Lake 6-7/07/02.

SW = mean of 3x 30 second sweeps, Sed = 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 are lagoonal specialist or notable species.

					Sampling stations										
	SW	Sed	L.T.	Ab	SW	Sed	L.T.	Ab	SW	L.T.	Ab	SW	Sed	L.T.	Ab
Crustacea															
Cirripedia <i>Neomysis integer</i>	177.3		3	a	56.7		65	c	141.3	16	c	87. 3		6	a
Isopoda <i>Jaera sp.</i>								o							
<i>Lekanesphaera hookeri</i>	16.0		5	c	34.0		1	c	1.3	4	o				
Amphipoda					0.7			o							
<i>Allomelita pellucida</i>								r							
<i>Gammarus duebeni</i>								o		17	c				
<i>Gammarus zaddachi</i>								o							
Decapoda <i>Palaemonetes varians</i>	349.3		159	a	72.0		4	a	282.7	21	a	126 .0		23	c
Corixidae	78.7		274	a	6.0		95	a	14.7	24	c	1.0		4	c
<i>Sigara stagnalis</i>	78.7		25	a	41.0		7	a	14.7	22	c				
<i>Sigara concinna</i>			19	c	17.0		25	a		24	o				
<i>Notonecta viridis</i>					2.7			o				0.7			r
Diptera Chironomidae	4.0	14	2	c	6.0	6.7		c	3.3		o	0.7	17.3		c
<i>Ischnura elegans</i>	0.7			o				o							
Mollusca <i>Potamopyrgus antipodarum</i>	6.7		3	c	44.0			c				18. 0			c
Bryozoa <i>Conopeum seurati</i>											o				
Pisces <i>Anguilla anguilla</i>											o				
<i>Gasterosteus aculeatus</i>					0.3			r							
<i>Pleuronectes flesus</i>								o							
<i>Pomatoschistus microps</i>								r							
Sprat								r							
Herring								r							
<i>Salmo trutta</i>											r				

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 recently in the River Lee (Cott *et al.* 2007), 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).

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.

Notonecta viridis Hemipteran insect (back-swimmer) recorded on the east coast at Kilcoole, on the south coast at North Slob, Lady's Island L., Tacumshin L., Ballyteige, Clogheen/White's Marsh and Kilkeran L. and also on the west coast at Reenydonegan, Co. Cork and L. Donnell, Co. Clare. A rare brackish water species in Ireland. According to Southwood and Leston (1959), it was recorded only for Wexford and North Kerry. Recorded previously in Lady's Island L (Healy *et al.* 1982) in Lady's Island L. and the North Slob by Galvin (1992) and from the Dingle Peninsula by McCarthy and Walton (1980). *N. viridis* is found at inland sites in the U.K. but appears to be largely restricted to lagoons in Ireland, and was proposed as a lagoonal specialist for Ireland by Oliver and Healy (1998).

Sigara stagnalis Hemipteran insect (water-boatman). A common lagoonal specialist found at 36 of the 87 (41.4%) lagoons surveyed.

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.

For such an apparently low salinity lagoon it was somewhat surprising to find a single specimen of both herring *Clupea harengus* and sprat *Sprattus sprattus* in the fyke nets, but it is clear that a certain amount of seawater can enter the lagoon through the piped inlet at high tides and both species are common in the waters outside the lagoon. The single trout *Salmo trutta* was found dead, floating in the lagoon, as possible evidence of eutrophication and anoxia. Generally the lagoon was dominated by very high numbers of corixids and the isopod crustacean *Lekanesphaera hookeri*, and again somewhat surprisingly, no beetle species were recorded.

Bracken and Murray (1973) reported 20 species of insects in emergence traps, 18 of which were chironomids. Salinity at that time was very similar to that recorded in 2002 although brackish species of insects and crustaceans were said to be present. Apparently the lake used to be stocked with trout, but dense growths of *Potamogeton* made the lake unsuitable for fishing.

Although highly eutrophic and generally of very low salinity, the fauna includes a small suite of lagoonal specialists (6 spp.) and one rare crustacean (*Allomelita pellucida*).

Summary

Geomorphologically, Reenydonegan is a good example of a moderate sized (25ha) **natural sedimentary lagoon** with an **artificial unsluiced inlet**. Floristically, it is dominated by dense growths of *Potamogeton pectinatus* reflecting the generally low salinity of the lagoon, with a fringe of *Phragmites* and with no lagoonal specialists or rare species recorded. Although appearing to be highly eutrophic, the fauna is slightly more interesting, with a low number of species recorded, but 6 lagoonal specialists, one of which appears to be rare in Ireland.

Overall Conservation Value = Moderate

Conservation Status Assessment (from Oliver 2007)	
Impacts	Eutrophication from surrounding farmland. Urbanisation. Accumulation of organic material.
Conservation Status	Unfavourable-BAD

Further Information

Emerging insects surveyed by Bracken & Murray (1973). Listed as a lagoon by Healy *et al.* 1997, and Healy 2003. Surveyed in 2002 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).

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