

4.39

Rossalia, County Clare O.S. M 310 116

O.S. Discovery Sheet 51



Conservation Designation: Galway Bay complex SAC 000268, pNHA 000268

General description:

Situated 8.5km west of Kinvarra, Co. Galway. A small (3ha), shallow (<2m) **artificial lagoon** formed behind a coastal embankment, ranging in salinity at the time of sampling (19/10/06) from 29 to 31psu.

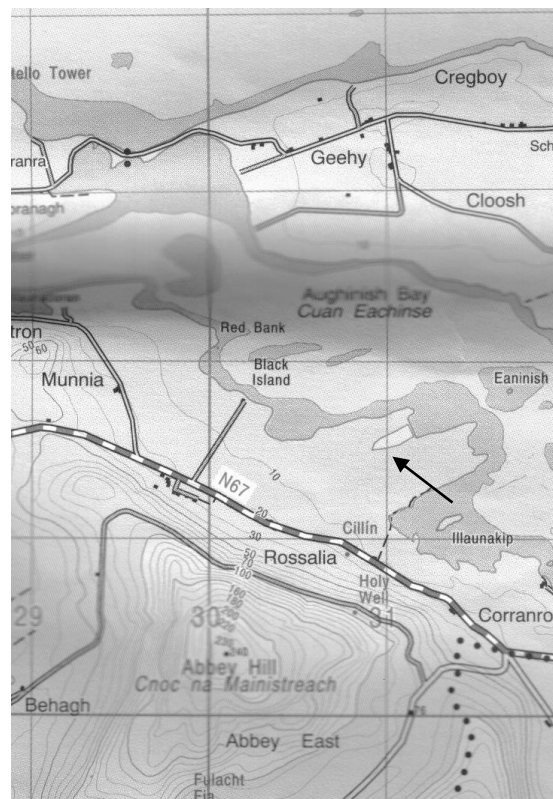


Figure 39.1 Location map of Rossalia lagoon.

Rossalia lagoon was surveyed on 19/10/06 for aquatic fauna and flora. Three stations were selected for sampling at this time (Figure 39.2, Table 39.1)

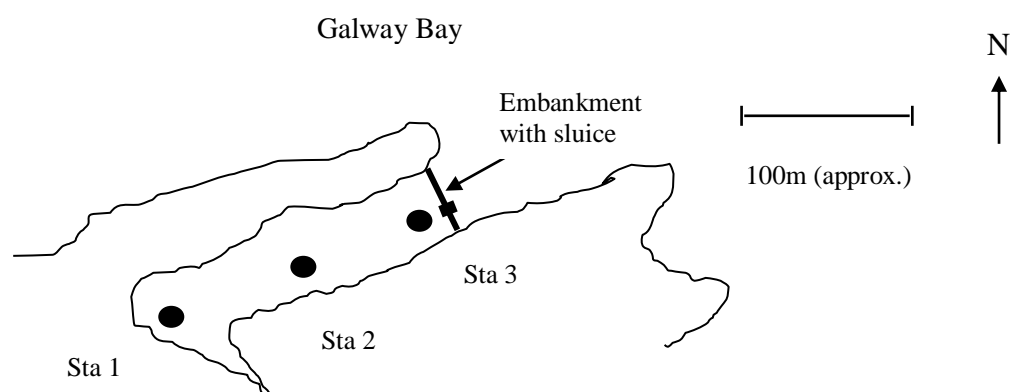


Figure 39.2 Sampling stations used at Rossalia lagoon 19/10/06.

Flora

Rossalia is an artificial “estuarine” lagoon, and most of the bed of the lagoon was bare mud (Table 39.1), except long the embankment. Only 11 floral taxa were recorded, of which 6 were identified to species. Most of the taxa are common marine algal, but a small amount of *Ruppia maritima* was found at the southern end.

Table 39.1 Aquatic flora, salinity, temperature, water depth and substratum at Rossalia lagoon, Co Clare 19/10/06. Species in bold text are lagoonal specialists.

Taxa	Sampling Stations		
	Sta 1	Sta 2	Sta 3
GPS position	M 30905	M 31108	M 31136
	11471	11543	11613
Salinity (psu)	29.8	31.1	31.5
Temperature	13.8	14.5	13.5
Depth (cm)	0-30	0-50	0-100
Substratum	muddy sand	fine muddy sand	stones, muddy sand
Percentage cover			
Algae			
Chlorophyceae			
<i>Cladophora</i> sp.	10	10	10
<i>Enteromorpha</i> sp.	5	10	10
<i>Ulva</i> sp.	+		
Phaeophyceae			
<i>Ascophyllum nodosum</i>		2	10
<i>Fucus serratus</i>			10
<i>Fucus vesiculosus</i>		2	10
Rhodophyceae			
<i>Chondrus crispus</i>			+
<i>Ceramium</i> sp.	+	+	+
<i>Gracilaria verrucosa</i>	+		
Angiosperms			
<i>Ruppia maritima</i>	+		
<i>Salicornia</i> sp.	5	5	
Bare muddy sand	90	80	60
Stones			10

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 87 lagoons surveyed. None of the other plants recorded are of any special interest.

Based on aquatic vegetation, Rossalia lagoon is regarded as of **low conservation value** as a coastal lagoon.

Fauna

A total of 31 faunal taxa were recorded at Rossalia in 2006 (Table 39.2). Only two species are lagoonal specialists, but one of these (unconfirmed) is a rare species.

Table 39.2 Aquatic fauna recorded at sampling stations in Rossalia lagoon, Co. Clare 19/10/06. c = common; o = occasional; r = rare. Species in bold text are lagoonal specialists.

Taxa		Sampling Stations		
		Sta 1	Sta 2	Sta 3
Porifera	<i>Halichondria panicea</i>			drift ?
Cnidaria	<i>Gonothyrea loveni</i>	o	o	
	<i>Hydractinia echinata</i>		r	o
Nematoda	indet.		o	
Annelida				
	Polychaeta			
	<i>Arenicola</i> agg.		c	c
	<i>Janua pagenstecheri</i>	o	c	c
	<i>Nereis diversicolor</i>	o	r	o
	<i>Playnereis dumerili</i>		r	o
	Oligochaeta			
	Tubificidae indet.	o	o	
Crustacea				
	Tanaidacea			
	<i>Tanais dulongi</i>	r		
	Mysidacea			
	<i>Neomysis integer</i>	c	c	
	<i>Praunus flexuosus</i>		o	c
	Isopoda			
	<i>Idotea chelipes</i>	o	o	
	Amphipoda			
	<i>Gammarus duebeni</i>	o	c	c
	<i>Microdeutopus gryllotalpa</i>	c	c	c
	<i>Stenothoe monoculoides</i>	o	o	
	Decapoda			
	<i>Carcinus maenas</i>	o	o	o
	<i>Pagurus bernhardus</i>		r	c
	<i>Palaemon elegans</i>		c	c
Mollusca				
	Gastropoda			
	<i>Hydrobia ulvae</i>		o	o
	<i>Littorina littorea</i>			o
	<i>Littorina obtusata</i>			o
	Opisthobranchia			
	indet.			r
	Bivalvia			
	<i>Tapes decussata</i>	o		
Bryozoa				
	<i>Alcyonidium gelatinosum</i>			o
	<i>Bowerbankia gracilis</i>		o	c
	<i>Cryptosula pallasiana</i>			o
Tunicata				
	<i>Asciella aspersa</i>	o	o	c
	<i>Ciona intestinalis</i>			c
Pisces				
	<i>Pomatoschistus microps</i>			c

Gonothyrea loveni. Hydroid listed as a lagoonal specialist in Britain by Downie (1996) and JNCC (1996). Recorded only at L. an Aibhnín and an unconfirmed

record from Rossalia, Co. Clare. There is a record of its occurrence in the Belmullet Canal, Co. Mayo from material collected by P. Hayward in 1971 (B. Picton *pers comm.*) but there appear to be no other records of its occurrence in Ireland other than a record (as *G. hyalina*) in Co. Louth by Duerden (1894).

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.

The aquatic fauna of Rossalia is interesting with a relatively high number of species recorded for such a small site. Only two lagoonal specialists were recorded, but one (unconfirmed) of these (*G. loveni*) is a rare species. Otherwise the fauna is unusual with colonies of the tunicate *Ciona intestinalis* and the hydroid *Hydractinia echinata* on hermit crab shells. Based on this fauna, the site is regarded as of **moderate conservation value** as a coastal lagoon.

Summary

Rossalia is a small **artificial "estuarine", lagoon**, but a small amount of *Ruppia* was recorded and the fauna is interesting with only two lagoonal specialists, but one (unconfirmed) of these (*G. loveni*) is a rare species. Otherwise the fauna is unusual with colonies of the tunicate *Ciona intestinalis* and the hydroid *Hydractinia echinata* on hermit crab shells.

Overall Conservation Value = Moderate

Conservation Status Assessment (from Oliver 2007)

Impacts	Moderate eutrophication in shallow lagoon but significant tidal flushing. Poaching by cattle. Silting up.
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:

- Downie, A.J. 1996. Saline lagoons and lagoon-like saline ponds in England. *English Nature Science Series*, No. 29.
- Duerden, J.E. 1894. Hydroids and Polzoa collected between Laytown and the mouth of the Boyne. *Irish Naturalist* **3** (8): 169-170.
- JNCC. 1996. *Guidelines for selection of biological SSSIs: intertidal marine habitats and saline lagoons*. Peterborough: Joint Nature Conservation Committee.
- Healy, B. 2003. Coastal Lagoons. In: *Wetlands of Ireland*. R. Otte (ed). Chapter 4. University College Dublin Press. Dublin. 44-78.
- Healy, B., Oliver, G.A., Hatch, P. & Good, J.A. 1997. *Coastal lagoons in the Republic of Ireland. Vol. 3. Inventory of lagoons and saline lakes*. Report to the National Parks and Wildlife Service, Dublin.
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