

4.78

Tanrego lagoon, County Sligo O.S. G 615 298

O.S. Discovery Sheet 25

**Conservation Designation: Ballysadare Bay SAC 000622**

SPA 004129, pNHA 000622

General description:

A small (2.5ha) **artificial lagoon** formed on reclaimed land behind a coastal embankment and situated 7km west of Ballysadare, County Sligo on the shoreline of Ballysadare Bay. The lagoon receives freshwater from drainage ditches which drain through a sluice in the embankment. Salinity probably varies but is presumably mesohaline most of the time and ranged from 11.5 – 21.2psu at the time of sampling (20-21/8/03).

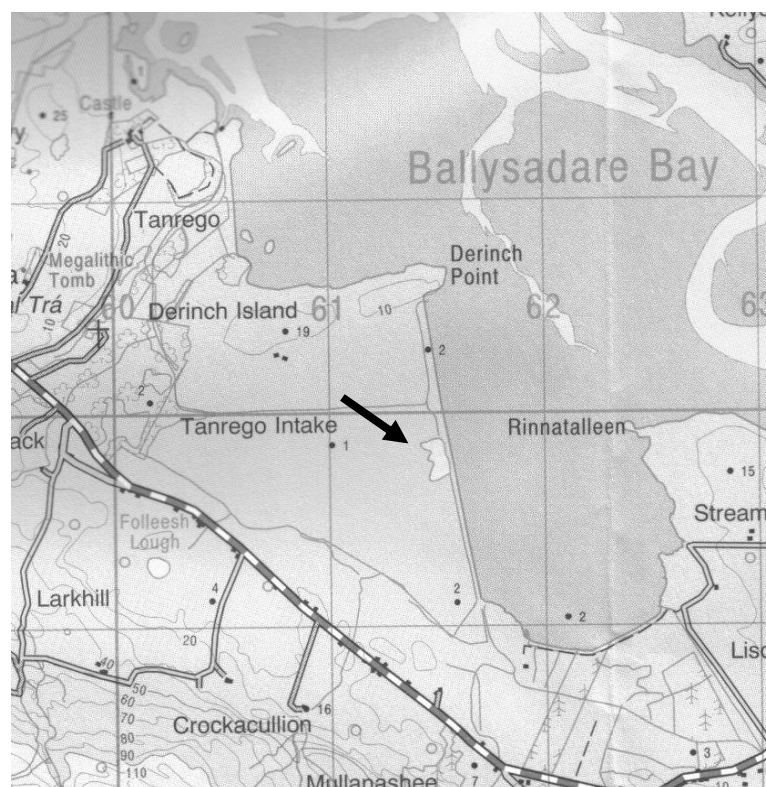


Figure 78.1 Location map of Tanrego lagoon.

Tanrego lagoon was surveyed in 2003 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 78.2, Table 78.1)

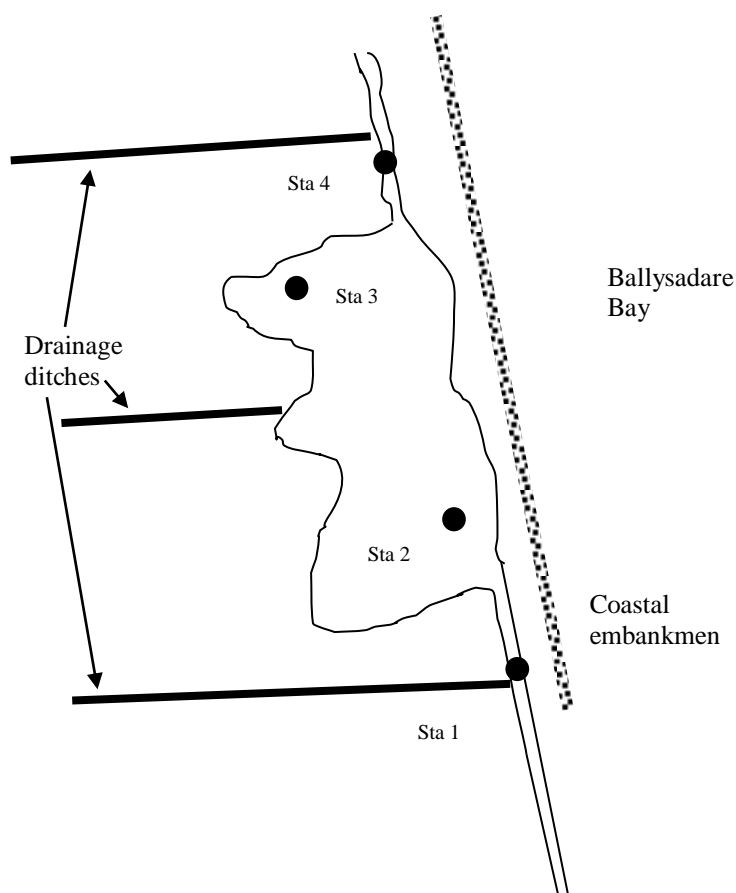


Figure 78.2 Sampling stations used at Tanrego lagoon from 20-21/8/03.

Flora

A total of 11 floral taxa were recorded at Tanrego lagoon on 20-21/8/03, of which at least 3 species, possibly four, are lagoonal specialists (Table 78.1). The lagoon during this sampling period was dominated by dense growths of a mixture of *Potamogeton pectinatus* and *Ruppia cirrhosa*, together with at least one rare charophyte, *Chara canescens* and small fragments of one other unidentified charophyte, which resembled *Chara ?baltica*. The latter was never verified and the site should be revisited to investigate these charophytes more fully. Small patches of another lagoonal specialist, *Chaetomorpha linum*, were found in the drainage ditch running inside the embankment at stations 1 and 2.

Chara canescens was recorded in **eight lagoons** during the surveys - North Slob, Lady's Island L., and Tacumshin L., Co. Wexford, L. Gill, Co. Kerry, L. Murree, Co. Clare, Tanrego, Co. Sligo and Durnesh L. and Inch L., Co. Donegal (Hatch & Healy, 1998; Roden, 1999; Roden 2004). It was also recorded at Shannon Lagoon in 1996 (Hatch and Healy 1998), but not refound at that site in 2003 (Roden 2004). This species is listed in the Red Data Book for Britain and Ireland (Stewart and Church 1992). Although recorded from several European countries it is believed to be declining. It is believed to be extinct in Holland, and there are only a few records from the U.K. since 1960. 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%). **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.

Table 78.1 Positions of sampling stations in Tanrego lagoon, 20-21/8/03, with salinity, temperature and depth of water, type of substratum and percentage cover of vegetation and bare ground. Species in bold text are lagoonal specialists.

	Station 1	Station 2	Station 3	Station 4
GPS Position	G 61550 30192	G 61513 30373	G 61410 30538	G 61411 30664
Dates	2-21/8/3	2-21/8/3	2-21/8/3	2-21/8/3
Salinity(psu)	11.5	13.4	12.9	15.6-21.2
Temperature	21.6	17.6	18.9	17.4
Depth(cm)	20	40-100	0-40	20
Substratum	soft sandy mud	sandy mud - gravel. Occ. stones	muddy sand	muddy sand, occ. stones
Percentage cover:				
Algae				
Chlorophyta				
	<i>Chaetomorpha linum</i>	5		10
	<i>Cladophora</i> sp.	5	15	5
	<i>Enteromorpha</i> sp.	+	+	5
	<i>Ulva lactuca</i>			+
Phaeophyta	<i>Fucus ?ceranoides</i>			5
Charophytes	<i>Chara canescens</i>	1	5	
	<i>Chara 2 (?baltica)</i>		2	
Angiosperms	<i>Potamogeton pectinatus</i>	25	30	25
	<i>Ruppia cirrhosa</i>	25	30	25
	<i>Schoenoplectus lacustris</i>		+	+
	<i>Scirpus maritimus</i>	5	+	5
Bare ground	40	30	50	80

Based on aquatic flora, Tanrego is rated as of **high conservation value**, due to the presence of the rare charophyte, *Chara canescens*, plus two other lagoonal specialists, ***R. cirrhosa*** and ***C. linum***.

Fauna

A total of 28 faunal taxa were recorded at Tanrego lagoon (Table 78.2) of which five species are regarded as lagoonal specialists.

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. 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).

Table 78.2 Faunal taxa recorded at stations in Tanrego lagoon, 20-21/8/03.

(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 specialists.

	Sta 1				Sta 2				Sta 3				Sta 4			
	SW	Sed	L.T.	Ab	SW	Sed	L.T.	Ab	SW	Sed	L.T.	Ab	SW	Sed	L.T.	Ab
Annelida																
Oligochaete indet.	0.3			r										19.0		c
Polychaeta <i>Nereis diversicolor</i>	0.7			o	2.7			o	1.0			o		6.0		c
Crustacea																
Isopoda <i>Jaera nordmanni</i>	0.3			r				o								o
<i>Lekanesphaera hookeri</i>	9.0			c	3.3		1.0	o	5.0		8.0	o	19.0	11.0		c
Amphipoda indet	0.3			o					0.3			c	88.3			a
<i>Corophium volutator</i>		0.3		o	0.7	5.3		o					1.3	55.0		a
<i>Gammarus duebeni</i>	0.3			o					0.3							
<i>Gammarus zaddachi</i>									0.3			c	88.3			a
Decapoda <i>Crangon crangon</i>													1.0		r	1.0
<i>Palaemonetes varians</i>	1.3			o	22.7		3.0	c	2.3		4.0	o				
<i>Carcinus maenas</i>								r								
Insecta																
Odonata <i>Ischnura elegans</i>	1.0			o												
Heteroptera Corixidae	4.7			c	1.7			o								
<i>Gerris</i> sp.	0.7			o	1.7			o					0.3			o
<i>Hydrometra</i> sp.				r												
<i>Nepa cinerea</i>								r								
<i>Sigara stagnalis</i>	4.7			c	1.7			o								
Coleoptera	0.7			o									0.7			o
<i>Cercyon impressus</i>	0.3			r												
<i>Dryops luridus</i>				r												
<i>Elmis aenea</i>													0.3			r
<i>Haliplus sibiricus</i>	0.3			r												
Diptera Chironomidae	3.0	0.3		o	0.7			o	2.0		2.0					
<i>Ephydra riparia</i>								o								
Mollusca																
Prosobranchia <i>Potamopyrgus antipodarum</i>	0.7			o				o					6.7			o
Pulmonata <i>Lymnaea peregra</i>	0.3			r									0.7			o
Bryozoa <i>Conopeum seurati</i>								o								
Pisces																
<i>Gasterosteus aculeatus</i>	3.3			o	1.3		3.0	o	1.0		2.0		1.7		1.0	o
<i>Pomatoschistus microps</i>									0.3		1.0	r				

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.

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.

None of the fauna recorded at Tanrego are particularly rare and the lagoonal specialists are all relatively common in lagoonal habitats in Ireland, but the community is interesting with 5 lagoonal specialists and a typically mesohaline lagoon mixture of both crustaceans and insects. Based on aquatic fauna the site is rated as of **moderate conservation value**.

Summary

Tanrego lagoon is a small **artificial lagoon** with an interesting lagoonal community and a relatively high number of lagoonal specialists (3 floral, 5 faunal) for such a small area, which includes a rare charophyte, *Chara canescens*. Based on the presence of this charophyte alone the site is rated as of high conservation value, but it is also of interest as a good example of a mesohaline lagoon with *R. cirrhosa*, *C. linum* and a mixture of both insect and crustacean fauna.

Overall Conservation Value = High

Conservation Status Assessment (from Oliver 2007)

Impacts	Significant eutrophication from surrounding farmland in small lagoon. Accumulation of organic material. Poaching by cattle. Silting up.
Conservation Status	Unfavourable-Inadequate

Further Information

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

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