

G. Oliver Report on Lough Atalia and Renmore Lagoon for the NPWS (2007)

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Lough Atalia, County Galway O.S. M 308 251

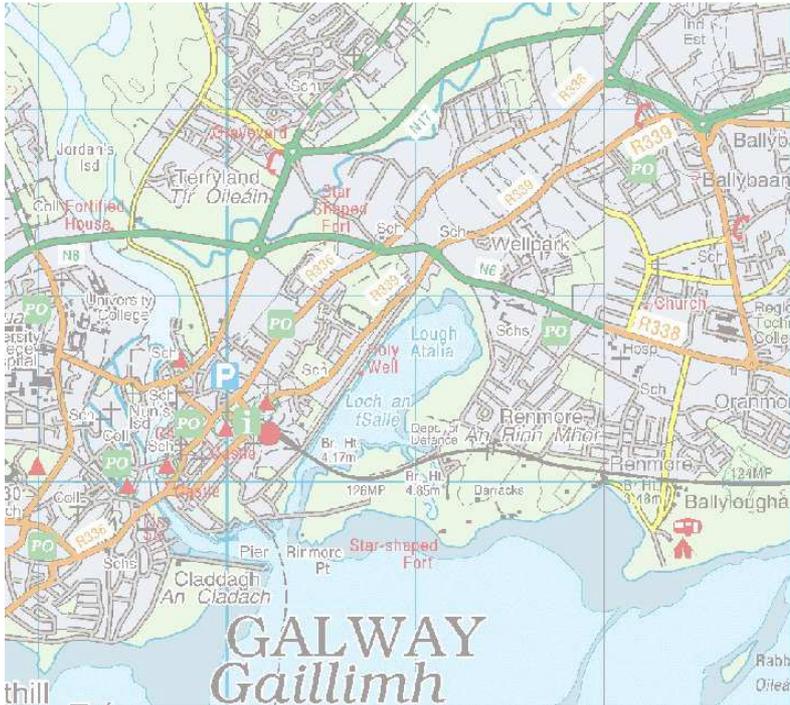
O.S. Discovery Sheet 44



**Conservation Designation:** Galway Bay complex SAC 000268, pNHA 000268

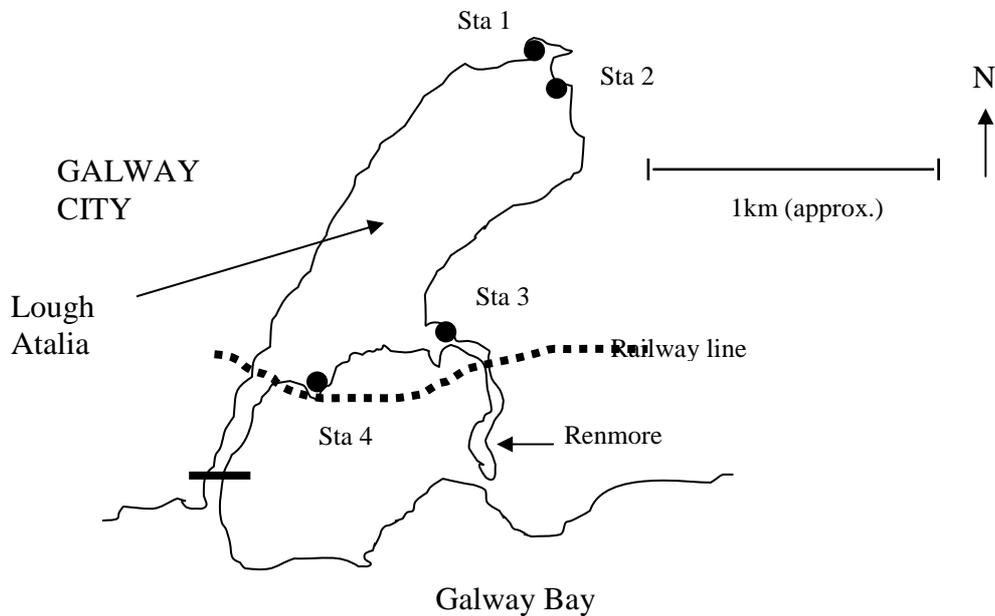
**General description:**

Lough Atalia is a large (50ha) “**estuarine**” **lagoon**, on the east side of Galway City. It appears to be entirely natural with a shallow sill at the inlet and approximately 80% of the area remains inundated at low tide. Being “estuarine”, salinity probably varies considerably, and measured from 13.4 to 28.3 when sampled in 2006. The lagoon appears to be heavily impacted by industrial and domestic effluents from the city and large areas consist of bare anoxic mud. N.B. A small lagoon referred to as Renmore L. is an extension of L. Atalia in the southeast, and was not surveyed due to problems of access through an Army Barracks.



Location map of L. Atalia.

Lough Atalia was surveyed on 17/8/06 and 18/10/06 for aquatic fauna and flora. Four stations were selected for sampling at this time. This is a difficult site to survey using normal methods, due to depth of water, strong tidal currents and very soft mud. For health and safety reasons only a cursory survey was carried out.



Sketch map showing sampling stations used at Lough Atalia, Galway City on 17/8/06 and 18/10/06.

## Flora

Being "estuarine", much of the bed of the lagoon consists of bare, soft mud, except in a bay in the inner part of the lagoon (Sta 2), where rafts of *Enteromorpha* sp. and the lagoonal alga *Chaetomorpha linum* had accumulated. Otherwise, only occasional fucoids and small areas of *Vaucheria* sp. were recorded.

There is some doubt about the taxonomic status of the unattached lagoonal form of *Chaetomorpha linum*, 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.

Lough Atalia is an "estuarine" lagoon and most of the bed of the lagoon appears to be bare, soft mud. It is also highly polluted, so that even on hard surfaces very few algal plants were found. Based on aquatic vegetation, the site is regarded as of **no conservation value** as a coastal lagoon.

Positions of sampling stations in Lough Atalia, Galway City, on 17/8/06 and 18/10/06, with hydrological variables (salinity, temperature and depth of water), type of substratum and percentage cover of vegetation and bare ground. Species in bold text are lagoonal specialists.

	Sta 1	Sta 2	Sta 3	Sta 4
GPS position	M 31281 25900	M 31314 25810	M 31089 25189	M 30654 25069
Salinity (psu)	28.3	28.1	13.4	14.2
Temperature	22.8	19.3	15.3	13.8
Depth (cm)	0-30	0-60		
Substratum	very soft deep mud	very soft deep mud, with stones, pier	mud, gravel, broken crockery	soft deep mud
<b>Percentage cover</b>				
<b>Algae</b>				
Chlorophyceae				
<b>Chaetomorpha linum</b>		30		
<i>Enteromorpha</i> sp.	10	30	10	5
Phaeophyceae				
<i>Fucus serratus</i>			2	
<i>Fucus spiralis</i>		5		
<i>Fucus vesiculosus</i>		5	10	10
<i>Pelvetia canaliculata</i>		5		5
Xanthophyceae				
<i>Vaucheria</i> sp.	10			
<b>Bare soft mud</b>	80	15	70	70
<b>Stones</b>		10	10	20

## Fauna

Only 15 faunal taxa were recorded in 2006, all of which are common estuarine animals, and none of which were abundant. A few specimens of the only lagoonal specialist recorded (*Palaemonetes varians*) were found at Station 4, but this "lagoonal prawn" is often abundant in estuaries.

*Palaemonetes varians* is a 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.

Generally, the fauna of the lagoon is extremely poor, presumably due to contamination from industrial effluents. More species are likely to be recorded if more time was spent here, but nothing is likely to change the impression that the site is of **no conservation value** as a coastal lagoon.

Faunal taxa recorded at stations in Lough Atalia, Galway City on 17<sup>th</sup> August and 18<sup>th</sup> October 2006. r = rare, o = occasional, c = common, a = abundant. Species in bold text are lagoonal specialists.

		Sta 1	Sta 2	Sta 3	Sta 4
<b>Nematoda</b>	indet.	<b>o</b>	<b>o</b>	<b>o</b>	<b>o</b>
<b>Annelida</b>	Polychaeta	<b>r</b>	<b>o</b>	<b>o</b>	<b>o</b>
	Oligochaeta	<b>o</b>	<b>o</b>	<b>o</b>	<b>r</b>
<b>Crustacea</b>	Copepoda	<b>o</b>	<b>o</b>	<b>r</b>	
	Cirripedia		<b>o</b>	<b>o</b>	
	Mysidacea		<b>o</b>	<b>o</b>	<b>r</b>
		<b>o</b>	<b>r</b>	<b>r</b>	<b>o</b>
	Isopoda		<b>r</b>		<b>r</b>
	Amphipoda	<b>o</b>	<b>o</b>	<b>o</b>	<b>o</b>
	Decapoda		<b>r</b>		<b>o</b>
					<b>r</b>
<b>Acarina</b>	indet.		<b>r</b>	<b>r</b>	
<b>Insecta</b>	Diptera	<b>o</b>	<b>o</b>	<b>o</b>	<b>o</b>
<b>Mollusca</b>	Pulmonata		<b>o</b>	<b>o</b>	<b>o</b>
<b>Bryozoa</b>				<b>o</b>	<b>o</b>
					<b>o</b>
<b>Pisces</b>		<b>c</b>			
				<b>o</b>	<b>o</b>
		<b>o</b>	<b>c</b>	<b>r</b>	<b>o</b>

### Summary

Lough Atalia is a large (50ha) "estuarine" lagoon which appears to be heavily impacted by industrial and domestic effluents from Galway City. Very few floral or faunal species were recorded during a survey in 2006, most of which are common estuarine species, and none were abundant. Only two lagoonal specialists were recorded, both of which are common in lagoonal habitats in Ireland. Overall, Lough Atalia is regarded as grossly polluted and of no conservation value.

**Overall Conservation Value = NONE**

### Conservation Status Assessment (from Oliver 2007)

Impacts	Eutrophication and pollution from city effluents. Urbanisation. Ind/commercial activities. Dumping. Silting up.
Conservation Status	<b>Unfavourable-BAD</b>

### 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:

- Bamber, R.N. 1997. Assessment of saline lagoons within Special Areas of Conservation. *English Nature Research Reports* No. 235.
- Barnes, R.S.K. 1989a. Coastal lagoons of Britain: an overview and conservation appraisal. *Biological Conservation* **49**: 295–313.
- Hatch, P. & Healy, B. 1998. Aquatic vegetation of Irish coastal lagoons. *Bulletin of the Irish Biogeographical Society*. 21: 2-21.
- 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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- Oliver, G.A. 2007. *Conservation status report: Coastal Lagoons (1150)*. Unpublished report to the National Parks and Wildlife Service, Dublin.