

4.69

Lough Anillaun, County Galway O.S. L 613 581

Loch an Oileán

O.S. Discovery Sheet 37

**Conservation Designation:** Lough Anillaun cNHA 002694**General description:**

Lough Anillaun is a moderate sized (15ha), **natural sedimentary lagoon** with a cobble barrier and a bridged outlet carrying a road, situated 1km east of Cleggan at the east end of Cleggan Bay, 7km northwest of Clifden, Co. Galway. Salinity appears to be very low most of the time due to the large volume of freshwater running through it, and measured 0-11.1 psu at the time of sampling (7-8/8/02), but it is suspected that large volumes of seawater enter occasionally.

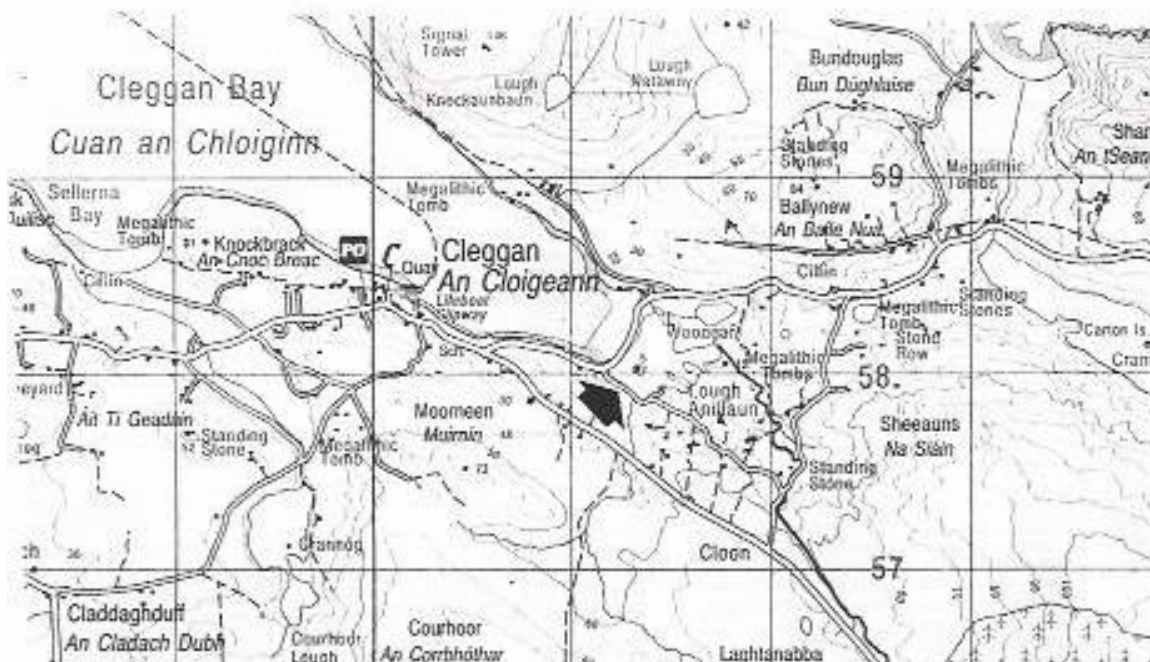


Figure 69.1 Location map of Lough Anillaun.

Lough Anillaun was surveyed in 2002 as part of a PhD study and used in a biological classification of Irish coastal lagoons (Oliver 2005). As part of this study, an additional vegetation survey was carried out by C. Roden in 2003 and 2004 (Roden 2004). Four stations were selected for the sampling of aquatic fauna and flora in 2002 (Figure 69.2, Table 69.1)

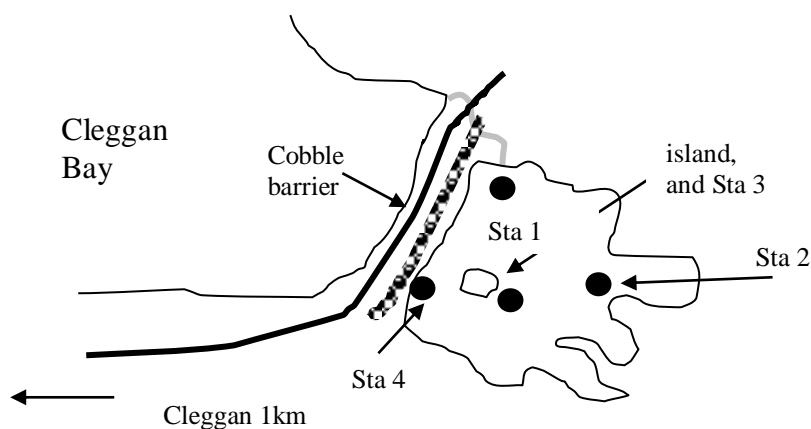


Figure 69.2 Sketch map of sampling stations in Lough Anillaun, 7-8/8/02.

Flora

The western part of the lagoon is a sand plain with a rippled surface in places, the eastern shore consists of rock outcrops and boulders.

The most extraordinary feature of the lagoon is the poverty of vegetation. A little *Chara aspera* was found and scattered plants of *Ruppia maritima* occur. Both species occurred very sparsely and the greater part of the bottom was bare sand or rock.

Table 69.1 Percentage cover of vegetation and bare ground in Lough Anillaun, 7-8/8/02, with salinity, temperature, depth of water and type of substratum. Species in bold text are lagoonal specialists

Taxa	Sampling stations			
	Station 1	Station 2	Station 3	Station 4
Salinity(psu)	10.7	0	1.9	11.1
Temperature	16.8	19.5	17.6	16.3
Depth(cm)	0-100	120	200	0-75
Substratum	Sand	Sand, occasional boulders	Rocks, cobbles, soft silty sand	Cobbles, soft silty sand
Percentage cover:				
Chlorophyta				
<i>Cladophora</i> sp.	5	6	2	5
<i>Enteromorpha</i> sp.	1			
Charophyta				
<i>Chara aspera</i>		2		
<i>Littorella uniflora</i>		1	2	5
<i>Myriophyllum spicatum</i>		2	2	2
<i>Phragmites australis</i>			2	
<i>Potamogeton pectinatus</i>				2
<i>Potamogeton perfoliatus</i>			2	
<i>Ruppia maritima</i>	5	5	1	
<i>Scirpus maritimus</i>	3		1	
<i>Schoenoplectus lacustris</i>	2			
Bare ground	85	85	90	85

No obvious reason for this impoverishment is apparent and it is difficult to understand why very few macrophytes grow on its sandy bottom. Possible reasons include frequent flooding of the lagoon basin with dark peat stained water or rapid and extreme salinity fluctuations.

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. *R. maritima* appears to be the more common of the species and was found at 41 of the lagoons surveyed (47%).

Based on aquatic flora, Lough Anillaun is rated as of **low conservation value**.

Fauna

The aquatic fauna of L. Anillaun, similar to the flora is remarkably species-poor. Only 21 faunal taxa were recorded when surveyed on 7-8/8/02 (Table 69.2), and none of these were particularly abundant.

Table 69.2 Faunal taxa recorded at stations in Lough Anillaun, 7-8/8/02.

SW = mean of 3x 30 second sweeps, L.T. = Light trap, **Ab** = overall abundance of all sampling methods, including visual searches. r = rare, o = occasional, c = common

		Sta 1			Sta 2			Sta 3			Sta 4		
		SW	L.T.	Ab	SW	L.T.	Ab	SW	L.T.	Ab	SW	L.T.	Ab
Turbellaria	<i>Procerodes littoralis</i>				0.3		r						
Crustacea													
	Mysidacea <i>Neomysis integer</i>	4.0	49	o	0.3	14	r		14	r	12.7	8	o
	<i>Praunus flexuosus</i>	0.3		r									
	Isopoda <i>Jaera</i> sp.												c
	Amphipoda indet	1.3		o					o		1.0		o
	<i>Gammarus duebeni</i>								o				
	<i>Gammarus zaddachi</i>	1.3		o							0.7		o
	Decapoda <i>Carcinus maenas</i>	0.3		r									
Insecta													
	Heteroptera Corixidae	0.3		r	1.0	32	o		3	r		1	r
	<i>Hydrometra stagnorum</i>												c
	<i>Sigara dorsalis</i>	0.3		r	1.0	32	o		3	r			
	<i>Velia caprai</i>												o
	Coleoptera <i>Gyrinus paykulli</i>				0.3		r						
	<i>Haliphus ruficollis</i>									o	1.3		o
	<i>Noterus clavicornis</i>							0.3	1	o	1.3	1	o
	Diptera Chironomidae					1	r	0.3		r	0.3		o
	<i>Ischnura elegans</i>	1.3		o				0.3		r	0.3		r
Mollusca													
	<i>Potamopyrgus</i>							288.					
	Gastropoda <i>antipodarum</i>	8.7	75	o	8.0	16	o	3		c	36.7	3	o
Bryozoa	<i>Plumatella repens</i>			o			c						
Pisces	<i>Anguilla anguilla</i>			r									
	<i>Gasterosteus aculeatus</i>				0.3	1	o	1.0	3	o	1.0	1	o
	<i>Pleuronectes flesus</i>						o						
	<i>Salmo trutta</i>						o						

Freshwater species such as the mollusc, *Potamopyrgus antipodarum*, the Bryozoan *Plumatella repens* and the pond skater *Hydrometra stagnorum* were common

at some stations and a small isopod crustacean, *Jaera* sp., not identified to species as only females were found, was common at one sampling station. No species of rarity were found and no lagoonal specialists were found.

Lough Anillaun is remarkable for such a “good-looking” lagoon, with a reasonable measure of salinity (0-11psu), not to have any species of lagoonal specialists whatsoever. Perhaps, as suggested as an explanation for the paucity of aquatic flora, this is a “shock-lagoon”, which suffers from extremes of salinity fluctuations or occasional influxes of dark peat stained water, resulting in conditions that most animals cannot survive.

Based on aquatic fauna, Lough Anillaun is rated as of **low conservation value**.

Summary

Lough Anillaun is a good example of a moderate sized (15ha), **natural sedimentary lagoon** with a cobble barrier. Geomorphologically and scenically it is a very interesting lagoon of high conservation value. However, both fauna and flora are remarkably poor, with only scattered plants of one lagoonal specialist, *Ruppia maritima* and no lagoonal specialist fauna whatsoever. Perhaps this is a “**shock lagoon**” which suffers from extreme and sudden variations in salinity or occasional influxes of dark peat stained water, which most animals and plants are unable to survive. Based on flora and fauna, the lagoon is rated as of very low conservation value. When combined with the high conservation value of geomorphology, overall conservation value is rated as moderate.

Overall Conservation Value = Moderate

Conservation Status Assessment (from Oliver 2007)

Impacts	Poaching by cattle.
Conservation Status	Favourable

Further Information

Listed as a lagoon by Healy *et al.* 1997, and Healy 2003. Surveyed in 2002 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). Vegetation surveyed in 2003 (Roden 2004). Otherwise, no further information available

References:

- 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.
- Oliver, G.A. 2005. *Seasonal changes and Biological Classification of Irish Coastal Lagoons*. PhD Thesis. U.C.D., Dublin. Available on www.irishlagoons.com
- Oliver, G.A. 2007. Conservation status report: Coastal Lagoons (1150). Unpublished report to the National Parks and Wildlife Service, Dublin.
- Roden, C. 2004. *Report on the sub littoral flora and vegetation of nine coastal lagoons..* Dúchas, Dublin.