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Shannon Airport Lagoon, County Clare O.S. R 350 620
O.S. Discovery Sheet 58



Conservation Designation: Lower River Shannon SAC 002165,
SPA 004077, pNHA 002048

General description:

Situated only a few hundred metres southwest of Shannon Airport. A small (2ha) **artificial lagoon** with a sluiced inlet, formed behind a coastal embankment. There has been considerable debate and controversy in relation to this lagoon, and the possible safety threat of waterbirds colliding with aircraft. When visited briefly in 1996, salinity measured 13psu and water depth was approximately 1m, but when sampled in 2002, a large part of the lagoon was dry and salinity measured 0psu.

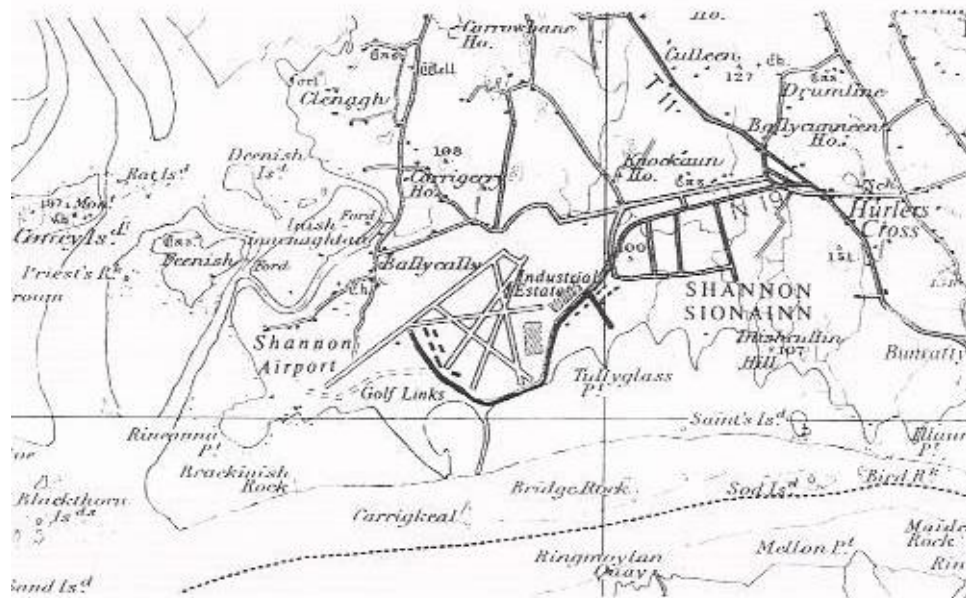


Figure 32.1 Location map of Shannon Airport Lagoon.

Shannon Airport lagoon was visited briefly in 1996 and surveyed in 2002 as part of a PhD study (Oliver 2005) and used in a biological classification of Irish coastal lagoons. As part of this study, an additional vegetation survey was carried out by C. Roden in 2003 (Roden 2004). Four stations were selected for the sampling of aquatic fauna and flora (Figure 32.2, Table 32.1.)

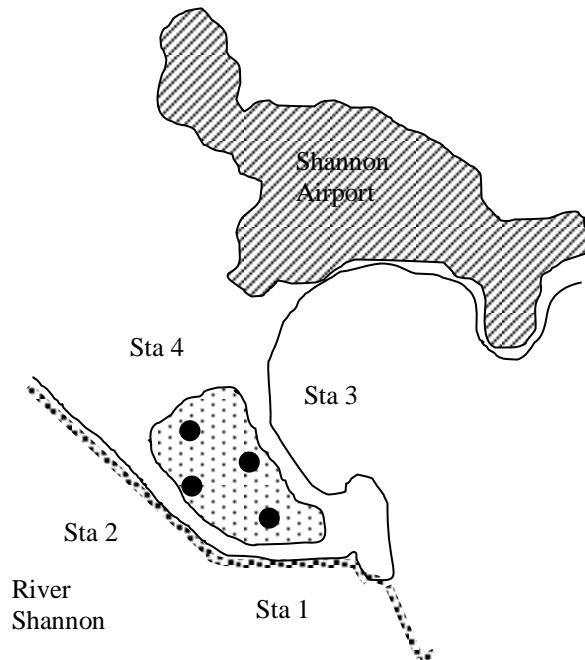


Figure 32.2 Sampling stations used at Shannon Airport lagoon from 22-23/8/02.

Flora

In 1996 two rare charophytes (*Chara canescens*, *Chara connivens*) were reported at this site by Healy *et al.* 1997. Both of these two species are rare and both are regarded as lagoonal specialists.

In 2002 only 9 floral taxa were recorded in the lagoon (Table 32.1), but one of these species may have been the rare charophyte, *C. ?connivens* which is a lagoonal specialist. None of the other species are of particular note.

When visited in 2003 water covering the muddy bottom was only a few centimetres deep and the only charophytes recorded appeared to be *Chara aspera* (Roden 2004).

Chara ?connivens. During the lagoon surveys by C. Roden (1999, 2004) a spineless *Chara* species was collected from the North Slob but it lacked any reproductive organs and its identity could not be established. An attempt to collect fertile material in September 2003 had to be abandoned as a dense algal bloom reduced visibility to a few cm. The identity of the form should be investigated as soon as possible. Similarly this “vague” record from Shannon airport lagoon is unlikely to be verified if water levels are maintained at such low levels.

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.

Table 32.1 Percentage cover of vegetation and bare ground in Shannon Airport lagoon on 22-23/8/02, with salinity, depth of water and type of substratum.

	Station 1	Station 2	Station 3	Station 4	
Sampling dates	22-23/8/02	22-23/8/02	22-23/8/02	22-23/8/02	
Salinity(psu)	0	0	0	0	
Depth(cm)	15-25	0-30	30	10	
Substratum	soft mud	very soft mud	sand	sand	
Percentage cover:					
Chlorophyta	<i>Cladophora</i> sp.	60	30	10	
	<i>Enteromorpha</i> sp.	2	2	5	
Charophyta	<i>Chara polyacantha</i>	2	2	2	
	<i>Chara</i> sp 2 (?<i>connivens</i>)	0	1	1	
Angiosperms	<i>Myriophyllum spicatum</i>	5	2	2	
	<i>Phragmites australis</i>	10	5	5	
	<i>Potamogeton pectinatus</i>	70	10	10	2
	<i>Scirpus maritimus</i>	10	5	5	
	<i>Zannichellia palustris</i>	5	2	2	2
Bare ground	20	60	70	90	

Unfortunately, no more information is available concerning the possibility of either of these rare species being present in the Shannon Airport lagoon and if they ever did occur in the past, they would be unlikely to survive if water levels in the lagoon are not increased.

Based on aquatic vegetation, as a lagoon conservation value of the lagoon must therefore be regarded as **low, but potentially high conservation value**.

Fauna

The lagoon fauna was poor in 2002, with only 13 taxa recorded, and only 9 of these identified to species (Table 32.2). Of the limited fauna, none are particularly abundant apart from Ostracoda. Species such as *Neomysis integer*, *Lekanesphaera hookeri*, corixids and the two of the fish species (*G. aculeatus*, *P. microps*) are often found in very high numbers in lagoons but were found only in relatively low numbers at this particular site. Two species are lagoonal specialists, but both are relatively common in lagoonal habitats in Ireland.

Lekanesphaera hookeri is a common lagoonal isopod crustacean, found at 37 of the 87 lagoons surveyed (42.5%).

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

The 10-spined Stickleback, *Pungitius pungitius* has only previously been recorded in two other lagoons, both in Wexford (Lady's Island Lake and Tacumshin). In Shannon Airport lagoon in 2002 it was quite common, outnumbering *G. aculeatus* but is described in the Irish Red Data Book (Whilde 1993) as "a near threatened species needing to be closely monitored".

Table 32.2 Faunal taxa recorded at stations in Shannon Airport lagoon 22-23/8/02.

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 specialists or otherwise notable species.

		Sta 1			Sta 2			Sta 3				
		SW	Sed	L.T.	Ab	SW	Sed	L.T.	Ab	SW	L.T.	Ab
Annelida	<i>Tubifex</i> sp.		2.7		c		1.7		c			
Crustacea	Ostracoda			7	a			45	c			
	Mysidacea <i>Neomysis integer</i>	1.0		2	o			1	r	1.3	42	o
	<i>Lekanesphaera hookeri</i>	1.3		22	o	3.3			o	3.3	11	o
	Amphipoda indet									2.0	1	o
	<i>Gammarus zaddachi</i>	0.3		13	o	0.3			r	2.0	1	o
	Heteroptera Corixidae	49.3		12	c	126.7		18	c	14.3	31	c
	<i>Gerris</i> sp.								o			
	<i>Sigara lateralis</i>	6.0			o	6.7		1	o	6.7		o
	<i>Sigara stagnalis</i>	35.0		12	c	1.0		15	c	9.0	31	c
	Diptera Chironomidae		8.0		c		16.3		c			
Mollusca	<i>Potamopyrgus antipodarum</i>	0.3			r	4.3			o			
Pisces	<i>Gasterosteus aculeatus</i>	2.0		12	c	0.7			o	0.7	2	o
	<i>Pomatoschistus microps</i>									2.3	2	o
	<i>Pungitius pungitius</i>	0.3		6	o	1.0		1	o	0.3	25	o

Based on this aquatic fauna, the site is regarded as of **low conservation value** as a lagoon.

Summary

Shannon Airport lagoon is a small artificial lagoon. The flora, at least in 1996 and 2002, was potentially extremely interesting with possibly 2 very rare charophytes (*C. canescens* and *C. ?connivens*), both of which are lagoonal specialists. Unfortunately both of these have still to be confirmed and when the site was visited by a botanist in 2003 neither of these charophyte species were found. Two faunal species are lagoonal specialists, but neither is particularly rare. Generally, the fauna of the site is poor and does not appear at this stage to include any rare or threatened species, except possibly *Pungitius pungitius*. Shannon Airport lagoon may have been of greater conservation value in the past, but as a result of recent drainage, conservation value is considered to be low.

Overall Conservation Value = Low

Conservation Status Assessment (from Oliver 2007)

Impacts	Eutrophication from airport effluents. Deliberate drainage to discourage waterfowl which pose potential threat to safety of aircraft. Ind/commercial activities. Modification of hydrology.
Conservation Status	Unfavourable-BAD

Further Information

Visited briefly in 1996. Listed as a lagoon by Healy *et al.* 1997, and Healy 2003. Surveyed in 2002/2003 as part of a PhD study, with an additional vegetation survey in 2003 (Roden 2004) and used in a biological classification of Irish coastal lagoons (Oliver 2005) and in the Conservation Status Assessment (Oliver 2007).

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