

4.17 **Clogheen/White's Marsh, County Cork O.S. W 398 394**
 O.S. Discovery Sheet 89



Conservation Designation: Clonakilty Bay SAC 000091,
 SPA 004081, pNHA 000091

General description:
 Situated 2km south of Clonakilty. Two small **artificial lagoons** connected by a drainage channel, covering approximately 3ha, ranging in salinity at time of sampling (8-9/10/03) from almost fresh (0.1-6.2 psu) at the southern end of Clogheen Marsh to 27.7psu where tidal water enters White's Marsh. Formed behind coastal embankments on reclaimed tidal flats.

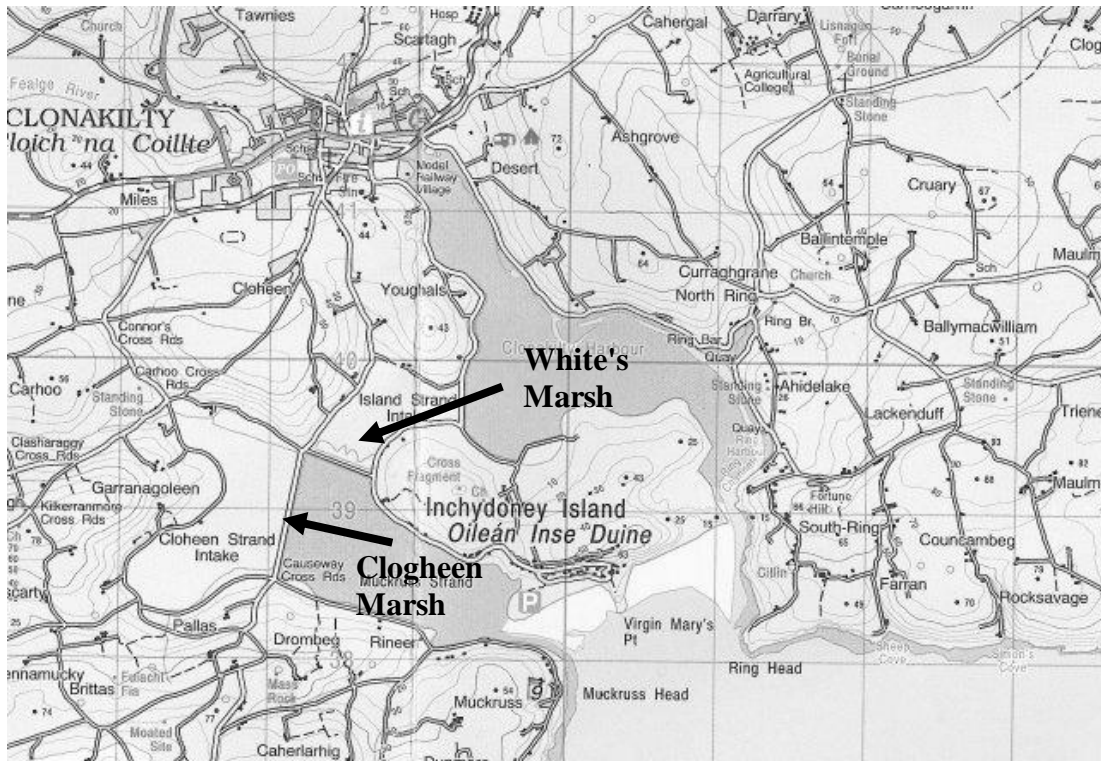


Figure 17.1 Location map of Clogheen and White's Marsh lagoons.

Clogheen and White's Marsh lagoons were 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 17.2, Table 17.1).

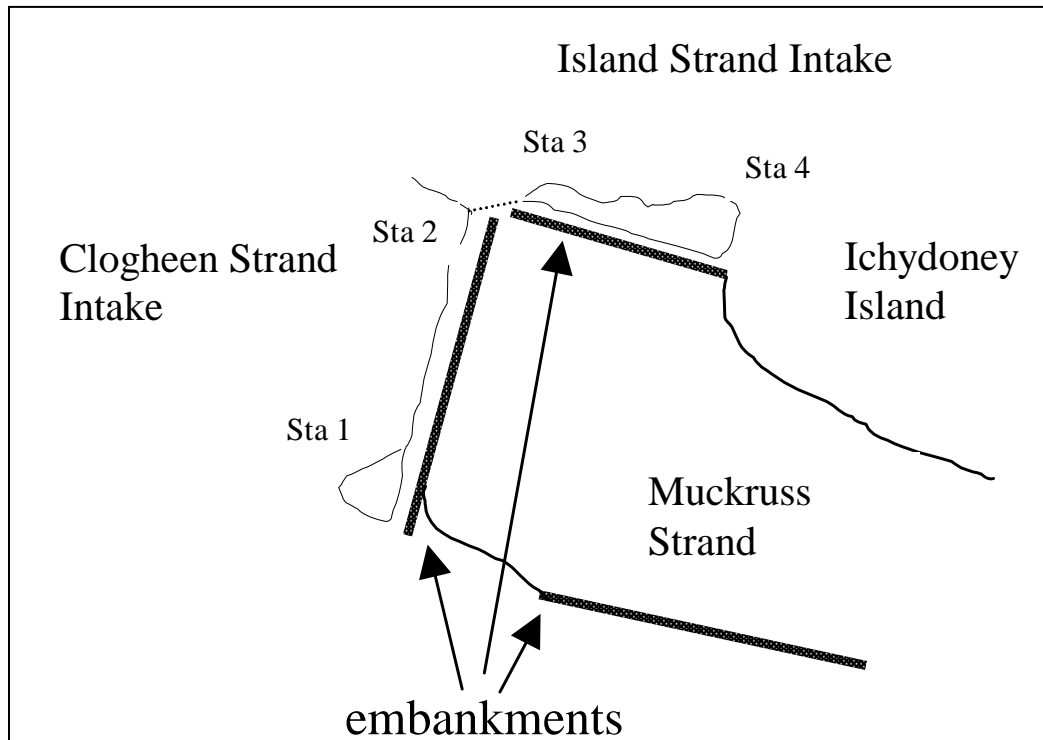


Figure 17.2 Sampling stations used at Clogheen/White's Marsh on 8-9/10/03.

Flora

A total of 12 floral taxa were recorded at Clogheen/White's Marsh, of which 6 were identified to species (Table 17.1). Two of these taxa are regarded as lagoonal specialists:

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.

The *Ruppia* at Clogheen was not identified specifically, but it is assumed to be *R. maritima* which appears to be the more common of the species and was found at 41 of the lagoons surveyed.

None of the other plants recorded are of any special interest. Based on aquatic vegetation, as a lagoon Clogheen/White's Marsh lagoons are regarded as of **low conservation value**.

Table 17.1 Positions of sampling stations in Clogheen/White's Marsh lagoons, with sampling date, hydrological variables (salinity, temperature and depth of water), type of substratum and percent cover of vegetation, bare ground and rotting vegetation. Species in bold text are lagoonal specialist or rare species.

	Station 1	Station 2	Station 3	Station 4	
Sampling dates			9.10.03	9.10.03	
Salinity (psu)	0.1-6.2	12.4	27.7	23.6	
Temperature (°C)	20.2-17.4	17.3	17.8	16.7	
Depth (cm)	0-200	<30	<30	<30	
Substratum	soft mud, occ. stones; sandy in places	soft deep mud in channel; muddy sand & shells	mud, occ. stones	as in 2 plus shells	
	% cover	% cover	% cover	% cover	
BARE - mineral	50	70	95	95	
BARE - rotting vegetation	10	10	0	0	
ALGAE					
Chlorophyta	<i>Chaetomorpha linum</i>	0	+	1	0
	<i>Cladophora sp.</i>	10	5	+	+
	<i>Enteromorpha sp.</i>	5	5	1	+
	<i>Ulva sp.</i>	+	10	+	0
Rhodophyta	? <i>Gymnograngus griffithsia</i>	0	0	+	+
Xanthophyta	<i>Vaucheria sp.</i>	+	0	+	0
ANGIOSPERMS	<i>Lemna minor</i>	2	0	0	0
	<i>Phragmites australis</i>	+	+	0	0
	<i>Potamogeton pectinatus</i>	20	0	0	0
	<i>Ruppia sp.</i>	20	+	0	0
	<i>Schoenoplectus</i>	+	+	0	+
	<i>Scirpus maritimus</i>	5	10	5	5
Total % cover	122	110	102	100	

Fauna

A total of 42 faunal taxa were recorded at Clogheen/White's Marsh, of which 35 were identified to species (Table 17.2). Five of these taxa are regarded as lagoonal specialists:

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.

Notonecta viridis Hemipteran insect (back-swimmer) recorded on the east coast at Kilcoole, on the south coast at North Slob, Lady's Island L., Tacumshin L., Ballyteige, Clogheen/White's Marsh and Kilkeran L. and also on the west coast at Reenydonegan, Co. Cork and L. Donnell, Co. Clare. A rare brackish water species in Ireland. According to Southwood and Leston (1959), it was recorded only for Wexford and North Kerry. Recorded previously in Lady's Island L (Healy *et al.* 1982) in Lady's Island L. and the North Slob by Galvin (1992) and from the Dingle Peninsula by McCarthy and Walton (1980). *N. viridis* is found at inland sites in the U.K. but appears

to be largely restricted to lagoons in Ireland, and was proposed as a lagoonal specialist for Ireland by Oliver and Healy (1998).

Table 17.2 Faunal taxa recorded at stations in Clogheen/White's Marsh lagoons
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 specialist or rare species.

		Station 1				Station 2				Station 3				Station 4			
		SWm	Sedm	L.T.	Ab	SWm	Sedm	L.T.	Ab	SWm	Sedm	L.T.	Ab	SWm	Sedm	L.T.	Ab
Cnidaria	<i>Obelia dichotoma</i>												c				
Annelida	Polychaeta <i>Arenicola agg</i>								o								
	<i>Hediste diversicolor</i>				o								o	1.7	10.0		c
	Hirudinea <i>? Helobdella stagnalis</i>	0.3			o												
Crustacea	Cirripedia <i>Elminius modestus</i>												o				
	Mysidacea <i>Neomysis integer</i>	1.0			o									0.3			o
	<i>Praunus flexuosus</i>									1.3			2	1.7			o
	Isopoda <i>Jaera sp.</i>												r				
	Amphipoda <i>Corophium volutator</i>					0.7	1.0	6	o				o	37.0	26.3	30	c
	<i>Gammarus duebeni</i>				o	0.7	0.7	3	o								
	<i>G. locusta</i>													0.3			r
	<i>G. salinus</i>									3.3			7	c			
	<i>G. zaddachi</i>					0.3	0.3	3	o								
	<i>Melita palmata</i>																o
	Decapoda <i>Carcinus maenas</i>								o				o				
	<i>Palaemon elegans</i>									5.3			70	c	0.7		o
	<i>P. serratus</i>									5.0			10	c	0.7		6
	<i>Palaemonetes varians</i>	16.7		25.0	c	21.3		2	c	5.7			37	c	11.3		36
Insecta	Odonata <i>Ischnura elegans</i>	1.7		3.0	o				o								
	Heteroptera Corixidae	33.7		22.0	c										3.0		90
	<i>Corixa punctata/iberica</i>	0.3		1.0	o			1	r								
	<i>Callicorixa praeusta</i>	0.3			o												
	<i>Hydrometra sp.</i>								o								
	<i>Hesperocorixa linnaei</i>	1.0		1.0	o												
	<i>Hesperocorixa sahlbergi</i>	1.7		2.0	o												
	<i>Notonecta viridis</i>	0.3		1.0	o												
	<i>S. dorsalis</i>	0.7		1.0	o												
	<i>S. stagnalis</i>	9.3		1.0	c										0.7		34
	Coleoptera <i>Anacaena lutescens</i>								r								
	<i>Enochrus bicolor</i>	0.3			r												
	<i>Haliphus ruficollis</i>	0.3		2.0	o												
	<i>Hygrotus inaequalis</i>	0.3			r	1.3		2	o								
	<i>Limnebius truncatellus</i>								r								
	<i>Noterus clavicornis</i>	3.0		1.0	c	11.3		7	a								
	<i>Ochthebius marinus</i>					0.3			r								
	Diptera Chironomidae	0.7	22.0		c	1.0	4.3	0	o					3.7	7.3		o
	<i>Ephydra riparia</i>								r								
Mollusca	Prosobranchia <i>Hydrobia ulvae</i>																o
	<i>Potamopyrgus antipodarum</i>	0.3			o												
	Pulmonata <i>Lymnaea peregra</i>	5.3		2.0	o												
	Bivalvia <i>Mytilus edulis</i>																c
Pisces	<i>Gasterosteus aculeatus</i>	3.3		163.0	c			32	c								11
	Mugilidae																

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

Enochrus bicolor Water-beetle recorded at 12 lagoons of the 87 surveyed, from the southern half of the country from Co. Wicklow to Connemara including the Aran Islands. There are only two recent records from N. Ireland (Nelson *et al.* 1998).

Ochthebius marinus Water-beetle identified from Tacumshin L. in 1996, by Galvin from Lady's Island and Tacumshin in 1991, and at Clogheen/White's Marsh, Co. Cork in 2003. Only recorded from one 10-km square in Ireland by Foster *et al.* (1992). Four recent records from Co. Down (Nelson *et al.* 1998).

The aquatic fauna of the lagoon habitat is surprisingly rich, reflecting the range in salinities, but also including a small suite of lagoonal specialists with an apparently rare water beetle (*O. marinus*). Based on aquatic fauna, as a lagoon habitat the site is regarded as of **moderate conservation value**.

Summary

The lagoons at Clogheen/White's Marsh are small but they are an interesting series of pools with differing salinity regimes, and with a relatively large number of faunal taxa (42) comprising both freshwater species such as the beetles and corixids together with more typically estuarine species and a small suite of typically lagoonal species, with 2 floral and 5 faunal lagoonal specialist species and three relatively rare insects.

Overall Conservation Value = Moderate

Conservation Status Assessment (from Oliver 2007)

Impacts/Threats	Moderate eutrophication from surrounding farmland but significant tidal flushing.
Conservation Status	Unfavourable-Inadequate

Further Information

Listed as a lagoon by Healy *et al.* 1997, and Healy 2003. Surveyed in 2002/2003 as part of a PhD study (Oliver 2005) and used in a biological classification of Irish coastal lagoons and 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. 1989. Coastal lagoons of Britain: an overview and conservation appraisal. *Biological Conservation* **49**: 295–313.
- Foster, G.N., Nelson, B.H., Bilton, D.T., Lott, D.A., Merritt, R., Weyl, R.S. & Eyre, M.D. 1992. A classification and evaluation of Irish water beetle assemblages. *Aquatic Conservation: Marine and Freshwater Ecosystems*, **2**: 185-208.
- Galvin, P. 1992. *The ecology of the brackish-water lagoons of Wexford and east Cork*. MSc thesis, University College, Dublin.
- 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., Bates, R. & McGrath, D. 1982. Marine Fauna of Co. Wexford - 5. Lady's Island Lake. *Irish Naturalists' Journal* **20**: 509-560.
- 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.
- McCarthy, T.K. & Walton, G.A. 1980. *Sigara selecta* (Fieb.) (Heteroptera: Corixidae) new to Ireland, with notes on water bugs recorded from the Dingle Peninsula. *Irish Naturalists' Journal* **20**: 64-6.
- Nelson, B., Foster, G., Weyl, R. & Anderson, R. 1998. The distribution of aquatic Coleoptera in Northern Ireland. Part 2: Families Hydraenidae, Helophoridae, Hydrochidae, Hydrophilidae, Elmidae and Dryopidae. *Bulletin of the Irish Biogeographical Society* **22**: 128-193.
- Oliver, G.A. 2005. *Seasonal changes and Biological Classification of Irish Coastal Lagoons*. PhD Thesis. U.C.D., Dublin. Available on www.irishlagoons.com

IL017 Clogheen-White's Marsh

- Oliver, G.A. 2007. *Conservation status report: Coastal Lagoons (1150)*. Unpublished report to the National Parks and Wildlife Service, Dublin.
- Oliver, G.A. and Healy, B. 1998 Records of aquatic fauna from coastal lagoons in Ireland. *Bulletin of the Irish Biogeographical Society*. **21**: 66-115.
- Southwood, T.R.E. & Leston, D. 1959. *Land and water bugs of the British Isles*. Wayside and Woodland Series. Warne & Co. London. 436 pp.