4.54 **Loch Fhada upper pools (2) Galway** O.S. L 930 300
O.S. Discovery Sheet 45

Conservation Designation: Kilkieran Bay and Islands SAC 002111

General description:

Loch Fhada upper pools are two of a group of lagoons (including L. Fhada itself and L. an Ghadaí), approximately 1 km east of Bealadangan which were included previously as part of the Lough Fhada complex Seawater enters these pools occasionally from high tides flooding through saltmarsh channels in the northwest which flows to the northeast into Loch Fhada then into Loch an Aibhnín. It is possible that seawater also enters the pools from Loch Fhada. The western pool (Sta 1) is very small (<0.5ha), approx. 3m deep, largely stagnant with a salinity of 12.4-29.5 psu., the eastern pool (Sta 2) is slightly larger (0.5ha) but shallower, more like a saltmarsh pool, with a salinity of 18-31.5psu during the sampling period.

Figure 54.1 Location of map of Loch Fhada upper pools.

Loch Fhada upper pools were surveyed in 1998 as part of the Loch Fhada complex, for vegetation (Roden 1999) and aquatic fauna (Oliver 1999). Results of these surveys are summarised by Healy (1999a,b; 2003).

Stations used for faunal sampling are not necessarily the same as those used for vegetation or ecotonal coleoptera.

Flora

Loch Fhada upper pools were surveyed in 1998 by C. Roden and included in the group of lagoons referred to as the Loch Fhada complex (Roden 1999).

Only two floral species were recorded in these pools. The western pool (Sta 1) contained domestic refuse and an abandoned car and was otherwise totally dominated by ***Chaetomorpha linum***. The western pool (Sta 2) was mostly bare mud with patches of *Chaetomorpha* and ***Ruppia* sp**. Both 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.

The ***Ruppia*** was not specifically identified as flowering plants are needed for certain identification, but is assumed to be *R. maritima*, which is a common lagoonal plant

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%). ***R. 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, but is assumed to be *R. maritima*, which is also a common lagoonal plant.

Based on aquatic vegetation, the site is regarded as of **moderate conservation value**.

Fauna

A total of 24 faunal taxa were recorded at Loch Fhada upper pools (Table 54.2), of which 21 were identified to species. Seven of these taxa are regarded as lagoonal specialists and one (*Jaera forsmani*) is an apparently rare species:

Idotea chelipes is a common, lagoonal, isopod crustacean, often found in association with the lagoonal form of *Chaetomorpha linum*. Found at 23 of the 87 (26.4%) lagoons surveyed, mostly at relatively high salinity.

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.

Hydrobia ventrosa. Gastropod mollusc commonly found in brackish lagoons and ditches and generally not on the open coast. Recorded at 18 of the 87 (20.7%) lagoons surveyed up to 2006.

Littorina "tenebrosa" Gastropod mollusc recorded on the North Slob and in a brackish pool close to L. Murree, Co. Clare and at seven lagoons in Co. Galway. These are the only known sites in Ireland. The status of this taxon is still uncertain but specimens appear to be morphologically and ecologically distinct from *L. saxatilis.*

Cerastoderma glaucum Bivalve mollusc. A common lagoonal specialist found at 30 of the 87 lagoons (34.5%) 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.

Jaera forsmani Isopod crustacean recorded at Raffeen and Kilmore L. (Co Cork), Drongawn L. (Kerry) and at L. Fhada, L. Fhada upper pools, and L. an Aibhnín (Connemara). The only other Irish record of the species located is for L. Hyne, Co. Cork (De Grave and Holmes 1998).

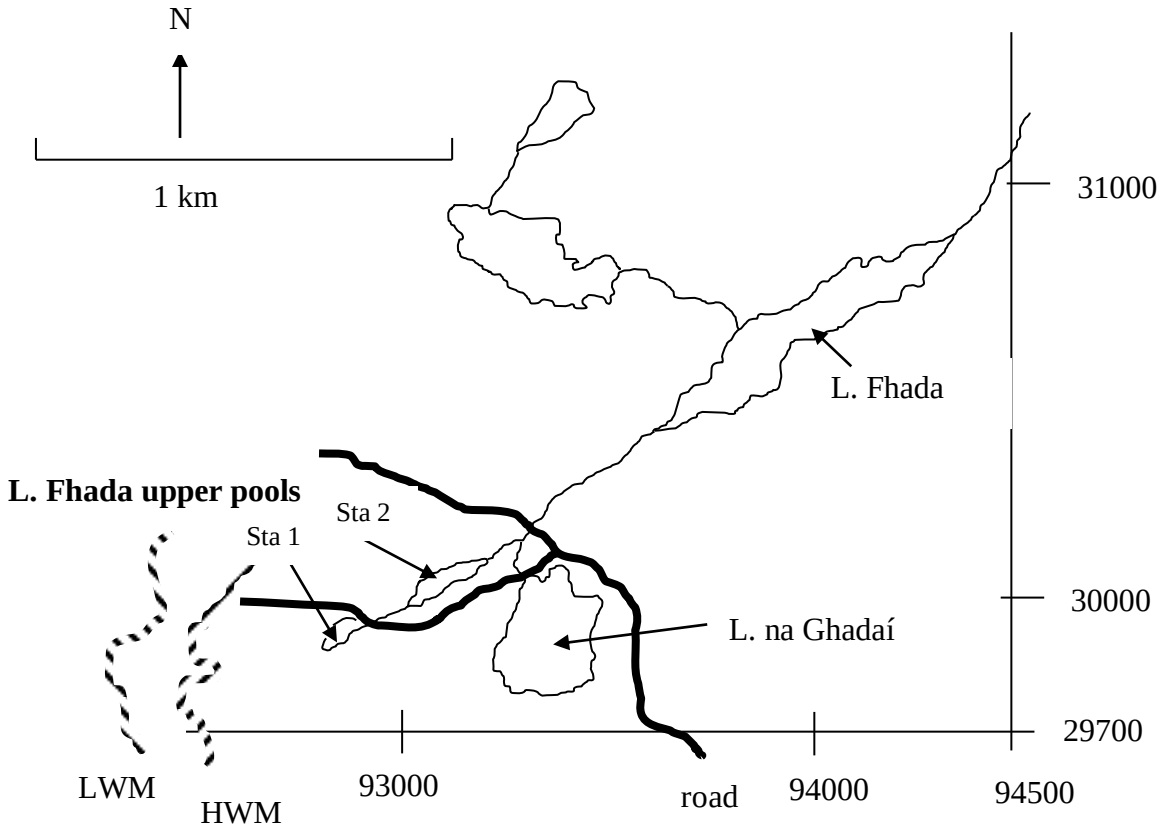

Figure 54.2 Sketch map showing faunal sampling stations in Loch Fhada upper pools.

Table 54.1 Positions of sampling stations in Lough Fhada upper pools, with sampling date, salinity and depth of water, type of substratum and percent cover of vegetation, and bare ground. Species in bold text are "lagoonal specialist" species.

	Sta 1	Sta 2
GPS position	L 92889 29906	L 93177 30090
Sampling date	27/7/98	27/7/98
Salinity (psu) at surface	12.4	18-22.9
Salinity (psu) at depth	29.5	31.5
Depth (cm)	0-300	0-250
Substratum	peat, soft anoxic silt	peat, soft mud, gravel, scattered rocks
Percentage cover		
Chaetomorpha linum	90	20
***Ruppia* sp.**		10
Bare mud		65
Rock		5
Domestic refuse	10	

Table 54.2 Faunal taxa recorded at stations in Loch Fhada upper pools on 27/7/98. L.T. = Light trap, + = present, o = occasional, c = common, a = abundant. Species in bold text are lagoonal specialists or rare species.

			Sta 1 search	L.T.	**Sta 2** search	L.T.
Annelida						
	Polychaeta	*Arenicola marina*			**+**	
		Nereis diversicolor			**o**	
Crustacea						
	Mysidacea	*Praunus flexuosus*	**o**	2	**a**	77
	Isopoda	***Idotea chelipes***	**c**	6	**+**	27
		Jaera forsmani	**o**		**+**	
		Lekanesphaera hookeri			**c**	10
	Amphipoda	*Corophium volutator*			**o**	
		Gammarus zaddachi			**c**	
		Melita palmata	**5**			
		Microdeutopus gryllotalpa		17		2
	Decapoda	*Carcinus maenas*	**c**		**o**	
		Crangon crangon				1
		Palaemonetes varians			**o**	
Insecta						
	Heteroptera	*Gerris* sp.	**+**			
	Diptera	Chironomidae indet.	**+**			
Mollusca						
	Gastropoda	*Hydrobia ulvae*	**c**		**a**	71
		Hydrobia ventrosa	**c**			
		Littorina tenebrosa	**c**			
	Bivalvia	***Cerastoderma glaucum***	**a**		**spat**	
		Mytilus edulis			**o**	
Bryozoa		***Conopeum seurati***	**+**		**+**	
Pisces		*Gasterosteus aculeatus*		1		1
		Mugilidae indet.			**+**	
		Pomatoschistus microps			**c**	

Due to the high number of lagoonal specialists, two of which are rare species, based on aquatic fauna the site is regarded as of **high conservation value**.

Summary

Loch Fhada upper pools are two small lagoons with a relatively high number of lagoonal specialist species (2 floral, 7 faunal), of which two species (*Littorina "tenebrosa"*, *Jaera forsmani*) have been recorded at only a few sites in Ireland previously. The western pool in particular is dominated by typical lagoonal species with dense growths of ***Chaetomorpha linum*** and high numbers of ***Idotea chelipes, Hydrobia ventrosa*** and ***Littorina "tenebrosa".***

Overall Conservation Value = High

Conservation Status Assessment (from Oliver 2007)	
Impacts	Moderate eutrophication from decaying algae in small pool, otherwise adequately flushed by tides. Accumulation of organic material. Urbanisation. Dumping. Silting up.
Conservation Status	Unfavourable-Inadequate

Further Information

Listed as a lagoon by Healy *et al.* 1997. Surveyed in 1998 as part of the Lough Fhada complex for vegetation (Roden 1999) and aquatic fauna (Oliver 1999). Results of these surveys are summarised by Healy (1999a,b; 2003). Included in a biological classification of Irish coastal lagoons (Oliver 2005) and in the Conservation Status Assessment (Oliver 2007).

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