4.25	**Kilmore Lake, Whiddy Island, County Cork** O.S. V 958 489 O.S. Discovery Sheet 85

Conservation Designation: Kilmore Lake cNHA 002784

General description:

Kilmore Lake is a natural sedimentary lagoon with a low cobble barrier.

The lagoon is situated on the west coast of Whiddy Island, Bantry Bay, approximately 2 km to the west of the harbour. Seawater enters by percolation and by overflowing the low central part of the barrier, even on high water neap tides. The lagoon is small (c. 6 ha) and shallow (up to 3m) and with regular tidal flushing, salinity remains close to that of seawater, probably throughout the year, although 26 ppt was recorded near the barrier on 8/7/98 and salinity is always slightly lower at the northeast end where a small stream enters. Most of the central part of the lake consists of fine, muddy sand sediments with very little fauna.

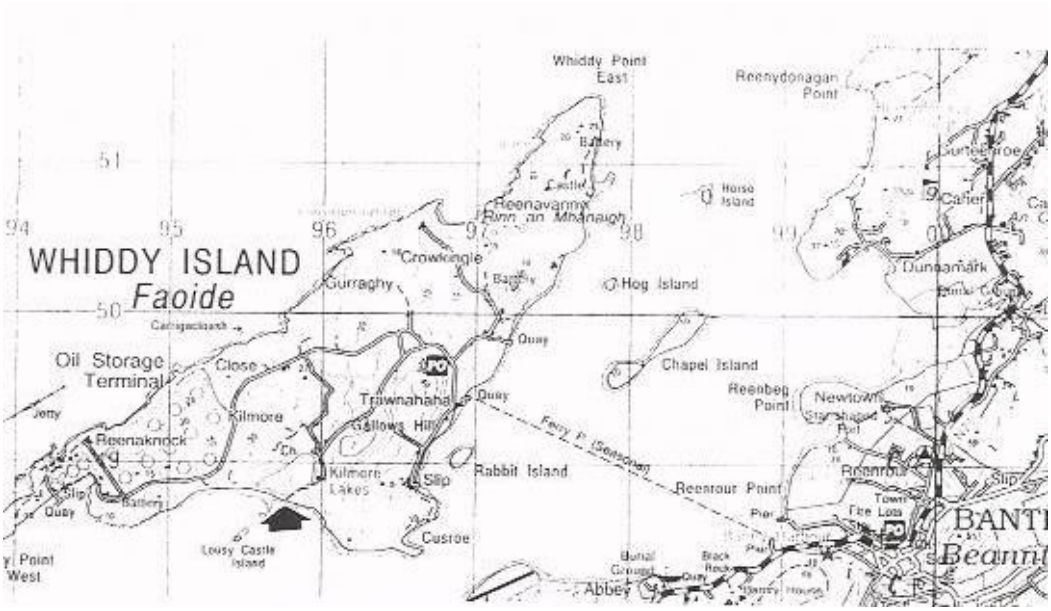

Figure 25.1 Location of map of Kilmore Lake.

Kilmore Lake was surveyed in 1998 for vegetation (Roden 1999), aquatic fauna (Oliver 1999) and ecotonal coleoptera (Good 1998, Good & Butler 2000). 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

The vegetation of Kilmore Lake was surveyed by C. Roden on 1/10/98 (Roden 1999).

From underwater observations, visibility was described as good, but macrophytes were rare, with only a few plants of *Gracilaria* in the centre of the lake. A more diverse algal community was found along the cobble barrier, but many of the barrier cobbles were clean, suggesting recent disturbance or scouring.

Plants of note include a single plant of *Cutleria multifida* and occasional plants of *Cystoseira foeniculaceus, Cystoseira baccata* and *Fucus ceranoides* but "given the extreme floral poverty of the site and the possibility of recent storm damage", it was not possible to classify the sublittoral vegetation of the lagoon.

A number of indicators suggest that the site had suffered storm damage shortly before the survey. These included dead stands of *Phragmites australis,* the absence of a benthic flora, and the absence of plant growth on most of the sub littoral barrier cobbles, even though abundant growth was seen in a few places. The disturbed vegetation and the small species list made the site (in 1998) of little **conservation interest.**

Fauna

Four stations were selected for faunal sampling in 1998 (Figure 25.2, Table 25.1)

In contrast to the flora of the lagoon, the fauna was surprisingly rich. A total of 116 taxa were recorded in the lagoon, of which 103 were identified to species. This is the highest species number of all lagoons surveyed between 1996 and 2006. Some of these are interesting species but only one lagoonal specialist on the British list was recorded (***Cerastoderma glaucum***) and one possible from the proposed Irish list (***Jaera nordmanni***). The fauna is almost totally marine or marine/polyhaline in nature. The central part of the lagoon consists of soft, unstable sediments and the rich fauna is generally restricted to the area near the tidal inlet and a relatively narrow belt of shoreline.

Several species are considered interesting or rare:

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

The tunicates ***Phallusia mammillata*** and ***Styela clava*** both have a very restricted range. The latter found only along the southern coast and the former apparently restricted to Bantry Bay.

Jaera nordmanni. Isopod crustacean recorded at 24 of the 87 lagoons surveyed (27.6%) and may occur at others where it was not recorded due to the fact that only adult males are easily identified. This species may occur in freshwater, as in L. Errol, Cape Clear, Co. Cork. Described in northwest Europe as occurring in streams flowing down the shoreline, on south and west coasts only (Barnes 1994, Hayward and Ryland 1995). All records in Ireland are from West Cork to Donegal. Proposed as a lagoonal specialist for Ireland by Oliver and Healy (1998).

Jaera forsmani was recorded at Raffeen and Kilmore L. (Co. Cork), Drongawn L. (Kerry), Aibhnín, L. Fhada and L. Fhada upper pools (Connemara). The only previous record for this, probably under-recorded species was for L. Hyne, Co. Cork in De Grave and Holmes (1998).*Lembos longipes* was also recorded at L. an Aibhnín and possibly Sally's L. during this survey and at Drongawn L. and Furnace L. during the 1996 survey. There are only 3 previous records for Ireland (Costello *et al.* 1989).

Cercyon littoralis was previously recorded at Bridge L. and Mill L. in 1996 (Oliver and Healy, 1998) and at L. an Aibhnín and Kilmore Lake in 1998. ***C. depressus*** was only recorded on this site during the surveys. Both are driftline species with few recent records.

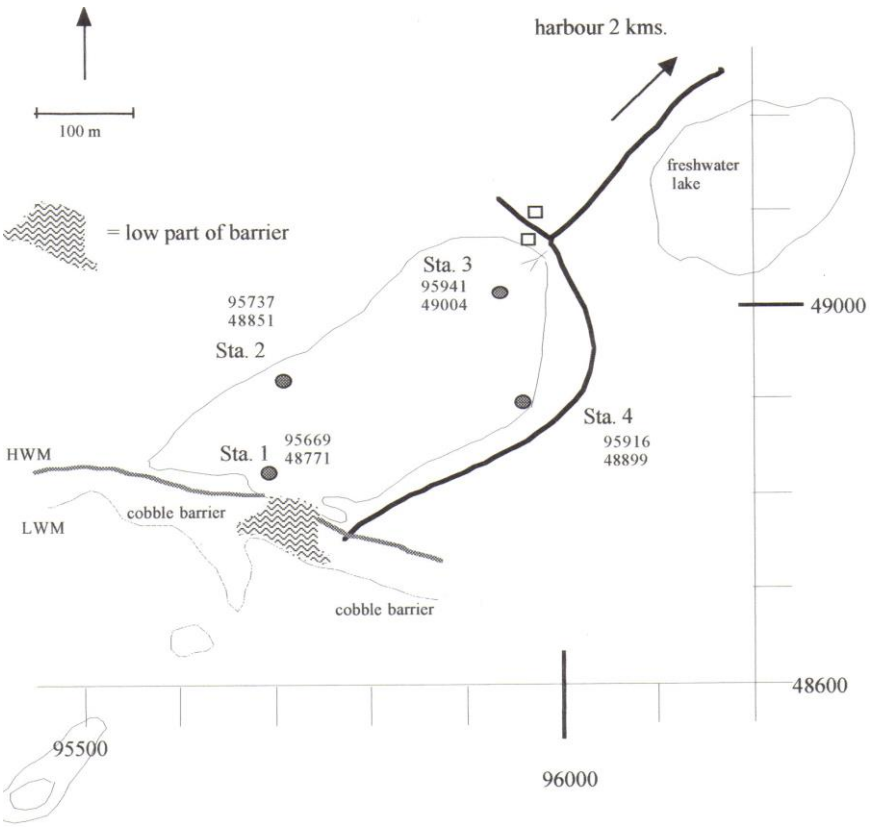

Figure 25.2 Faunal sampling stations used at Kilmore Lake.

Table 25.1 Positions of faunal sampling stations in Kilmore Lake, 24-25/7/98 and 1/10/98, with salinity, depth of water and type of substratum.

	Sta 1	Sta 2	Sta 3	Sta 4
GPS position	V 95669 48771	V 95737 48851	V 95941 49004	V 95916 48899
Depth(cm)	0-100	0-100	0-100	0-150
Salinity(psu)	33	32	32	32
Substratum	Cobbles and sand	Rocks, stones, muddy silt	Cobbles, gravel, fine sand	Rock

Table 25.2 Aquatic fauna recorded in Kilmore Lake, Whiddy Island, Co. Cork. 1998. F = Fyke net; L.T. = light trap. + = present, o = occasional, c = common, a = abundant. Species in bold text are lagoonal specialists or rare species.

		Sampling Stations							
Taxa		1	L.T. 1	2	L.T. 2	3	L.T. 3	4	L.T.4
Porifera	*Halichondria panicea*					+			
	Hymeniacidon perleve	+							
	Leucoselenia botryoides	+							
	L. complicata	+							
	Suberites ficus			+					
Cnidaria	*Anthopleura ballii*	+		+		+		+	
	Chrysaora hysoscella	+							
	Sagartiogeton undatus			o					
	Sarcodictyon roseum	+							
Turbellaria	planarian indet	+							
Nemertea	indet.							+	
Annelida									
Polychaeta	*Arenicola marina*	+		+					
	Autolytus prolifer					1		3	
	Eupolymnia nebulosa	+		+					
	Exogone hebes	+							
	Harmothoë impar	+		+					
	Myxicola infundibulum	+							
	Nereis zonata			+					
	Perinereis cultrifera			+					
	Platynereis dumerili	+		+	2		4	+	4
	Polynoë scolopendrina	+		+					
	Polyophthalmus pictus	+	6	+	25	+	29	+	111
	Pomatoceros lamarcki	+						+	
	P. triqueter	+				a		+	
	Sabella pavonina	1							
	Typosillis hyalina	+							
Oligochaeta	*Heterochaeta costata*	+							
	Tubificidae indet	+							
Entoprocta	*Pedicellina hispida*	+							
Crustacea									
Ostracoda				+					
Copepoda				+			a		
	Ascidicola rosea	+		+		+		+	
	Caligus sp.				2				
	Doropygus pulex	+							
	Notodelphus allmani	+							
Cirripedia	*Elminius modestus*	+		+		+		+	
	Balanus balanus	+		+				+	
	B. crenatus	+				+		+	
	B. ?improvisus					+			
	Semibalanus balanoides	+		+				+	
	Verruca stroemia	+						+	
Cumacea	*Bodotria scorpioides*				1				1
Tanaidacea	*Tanais dulongi*				+			+	
Mysidacea	*Mysidopsis gibbosa*		4		11		2		2
	Praunus flexuosus	o	10	o	9	c	2	+	2
	Siriella armata			1					
Isopoda	*Idotea pelagica*				5				
	Jaera forsmani			+		+			
	J. nordmanni			+		a			
	Limnoria quadripunctata						15		1
Amphipoda	Amphipoda indet	+	30	+	250	+	c70	+	c70
	Ampithoe ramondi		3						2
	Corophium volutator	1							
	Gammarus duebeni	2							
	G. zaddachi	2	3	3	50	136	44	1	40
	Lembos ?longipes		12				4		18
	Melita palmata					1		10	
	Microprotopus maculatus	a	a	a	a	a	a	a	a
	Phtisica marina			2	2		1		

Table 25.2 cont. Aquatic fauna recorded in Kilmore Lake, Whiddy Island, Co. Cork. 1998. F = Fyke net; L.T. = light trap. + = present, o = occasional, c = common, a = abundant. Species in bold text are lagoonal specialists or rare species.

Taxa		1	L.T. 1	2	L.T. 2	3	L.T. 3	4	L.T.4
Decapoda	*Cancer pagurus*	1							
	Carcinus maenas	F=80		F=160					
	Crangon crangon		2		6		1		1
	Liocarcinus depurator	F=2		+					
	Pagurus bernhardus	+			+				
	Palaemon elegans	+	4		1	a	+	+	
	Palaemon serratus	+		+	1	a	1	+	2
	Porcellana platycheles	1							
Coleoptera	***Cercyon depressus***	2				4			
	C. littoralis					1			
Mollusca									
Polyplacophora	*Lepidochitona cinereus*	+		+					
Prosobranchia	*Bittium reticulatum*	1							
	Cerithiopsis tubercularis		1						
	Gibbula cineraria	+						+	
	G. umbilicalis	+						+	
	Hydrobia ulvae	+		+					
	Littorina littorea	+				c			
	L. obtusata	+							
	L. saxatilis	+		+		+			
	Monodonta lineata	+		+				+	
	Nucella lapillus	+							
	Patella vulgata	+				o		+	
	Rissoa parva	+							
	Rissostomia membranacea	+							
	Skeneopsis planorbis	+							
Opisthobranchia	*Archidoris ?*	+						+	
Bivalvia	*Anomia ephippium*			+		+			
	Cerastoderma glaucum	+		+					
	Chlamys varia	+		+		+		+	
	Hiatella arctica	+		1					
	Modiolarca tumida	1							
	Mytilus edulis	+				+			
	Ostrea edulis			+				+	
	Tapes decussata	+		+		+			
Echinodermata	*Amphipholis squamata*	+				+		+	
	Asterias rubens	+						+	
	Paracentrotus lividus	+						+	
	Psammechinus miliaris	+							
Bryozoa	*Alcyonidium gelatinosum*	+							
	Bowerbankia gracilis	+							
	Celleporella hyalina	+							
	Cryptosula pallasiana	+							
Tunicata	*Ascidia mentula*	+							
	Ascidiella aspersa	+		+		+		+	
	A. scabra	+							
	Botryllus schlosseri	+						+	
	Ciona intestinalis	o							
	Phallusia mammillata	c		c				+	
	Styela clava	+		+					
Pisces	*Anguilla anguilla*			F=3					
	Atherina presbyter	o						o	
	Ciliata mustela			F=2					
	Gobiosculus flavescens	+							
	Mugilidae indet.	+		+					
	Taurulus bubalis	1							
	Pomatoschistus microps	+	1	+		+		+	
	Pollachius virens			F=2					
	Pleuronectes flesus			+					

Ecotonal Coleoptera

Three species of carabid and eleven species of staphylinid beetles were recorded in 1998 (Good & Butler 1999, 2000; Healy 1999 a,b). One of these species (*Aepes marinus*) is an indicator species, but based on ecotonal coleoptera, the site is regarded as of **low conservation value**.

Summary

Geomorphologically, Kilmore Lake is a good example of a **sedimentary lagoon** with a **cobble barrier**. At the time of sampling (1998) the vegetation was poor but the fauna was surprisingly rich, with the highest species list of all lagoons surveyed (116 taxa), including some interesting species, but only 2 lagoonal specialists. According to local information the lake was fresh some 50 years ago but during construction of the oil terminal, the barrier was used as a road for heavy machinery and the sea has invaded the lake as a result. It is possible that the lagoonal characteristics of the lake could be restored by rebuilding the barrier.

Overall Conservation Value = Moderate

Conservation Status Assessment (from Oliver 2007)	
Impacts	Natural eutrophication from decaying seaweed. Weakening of barrier by machinery from oil terminal aggravated by storms. Erosion. Ind/commercial activities. Accumulation of organic material.
Conservation Status	Unfavourable-Inadequate

Further Information

Surveys of Bantry Bay in relation to the oil terminal were carried out by Crapp (1973), O'Sullivan (1975 a,b), Baker *et al.* (1981). Listed as a lagoon by Healy *et al.* 1997. Surveyed in 1998 for vegetation (Roden 1999), aquatic fauna (Oliver 1999) and ecotonal coleoptera (Good 1998, Good & Butler 2000). 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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