



Conservation Designation: Drongawn Lough SAC 002187

General description:

Drongawn Lough is a natural **rock lagoon** with a restricted tidal range due to a narrow connection with the sea through a small tidal bay which itself has a narrow connection to the open sea. The lake lies on the south coast of the Ring of Kerry peninsula, 6 km to the east of Sneem. Kenmare Bay lies 300 m to the south of the lake but is separated by a ridge of rock and the inlet to the lake lies in the northeast corner via Coongar Harbour. Very little appears to be known about this lake, other than the fact that a small flock of Whooper swans (*Cygnus cygnus*) is often present in the winter. It is, however, a good example of a completely natural, moderately large, saline lake on the mountainous Kerry coastline in an almost perfect state of preservation.

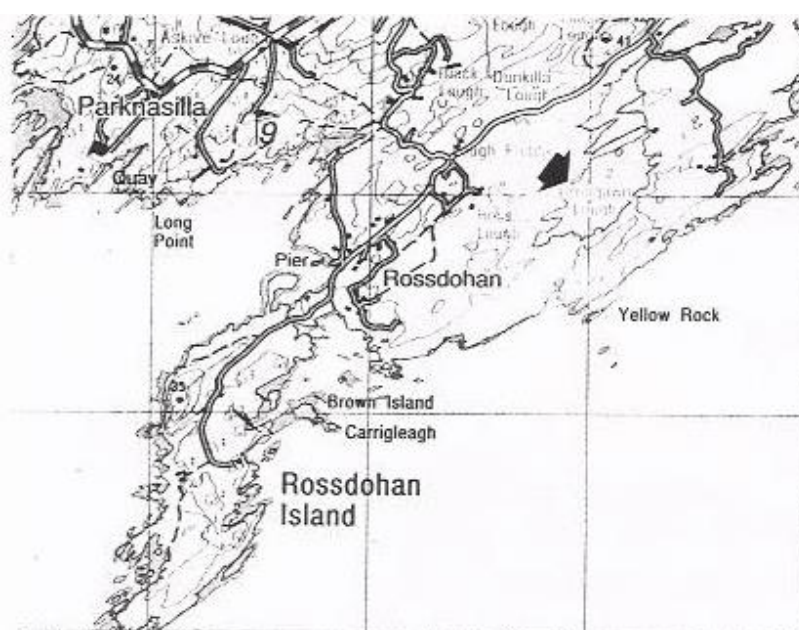


Figure 28.1 Location map of Drongawn Lake.

Drongawn Lough was surveyed in 1996 for vegetation (Hatch 1996, Hatch & Healy 1998), aquatic fauna (Healy & Oliver 1996, Oliver & Healy 1998) and ecotonal coleoptera (Good 1996, Good & Butler 1998). Vegetation was surveyed again briefly in 1998 (Roden 1999). Results of these surveys are summarised by Healy *et al.* (1997a,b,c), Healy & Oliver (1998) and 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 Drongawn Lake was surveyed in 1996 by P. Hatch and briefly in 1998 by C. Roden 1999. A total of 9 floral taxa were recorded in 1996, but no sub-aquatic survey was carried out. Two species recorded are lagoonal specialists (*C. linum*, *R. cirrhosa*).

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. ***Ruppia maritima appears to be the more common of the species and was found at 41 of the lagoons surveyed.

Ruppia 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. *Ruppia cirrhosa* was only identified at 22 lagoons, but species was not determined at 12 sites. ***Ruppia maritima* var *brevirostris*** was only positively identified at two sites (Ballyteige, Co. Wexford and Inch L., Co. Donegal).

Ruppia c.f. cirrhosa is abundant and well distributed. It occurs in dense beds, usually more than ten metres out from the shore, around the whole site with the exception of the outlet area. Dense patches are found in the narrow sheltered bays of the north east. *Zostera* fragments were found washed up on the shore but their origin is unknown.

Marginal vegetation is limited to a *Juncus maritimus* salt tolerant community, typically forming a narrow strip associated with low peat cliffs, with occasional areas of bedrock shore. In 1996, based on vegetation, Drongawn Lough appeared to be a good representative of a tidal, high salinity lagoon. Its *Ruppia* beds are extensive and other interesting aquatic species may be present.

In 1998, underwater observations were only made in the area inside the entrance sill (Roden 1999, Healy 1999b). The lake water was reasonably clear without strong evidence of stratification. Inside the sill the sides of the lake consist of steeply shelving exposed rock. The rocky slope was followed down to at least 6m depth where a gently sloping bare muddy floor was encountered but there was no sign of *Beggiatoa* at this depth as in Loch Fhada. Exposed rock near the surface was covered in red algal communities with *Polyides rotundus*, *Chondrus crispus*, *Codium fragile tomentosum*, *Phyllophora pseudoceranoides* and *Fucus serratus*. At 1m depth on sand or gravel a band of *Ruppia cirrhosa* was found. This band thinned with depth and at 3m gave way to dense stands of *Chaetomorpha linum* and *Cladophora* sp. (not *battersii*). This band in turn gave way to bare mud at about 6m.

As aquatic areas were surveyed almost entirely from the shore due to water depth the site is given a rating of “**potentially valuable**” and a full aquatic survey is recommended.

Fauna

Seven stations were selected for faunal sampling in 1996 (Figure 28.2, Table 28.1)

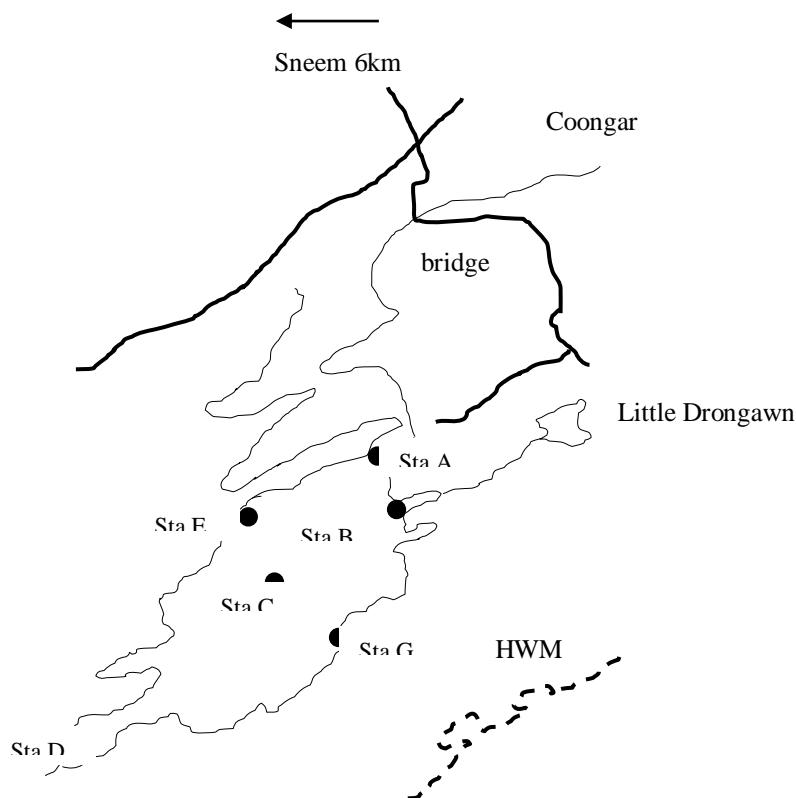


Figure 28.2 Sampling stations used at Drongawn Lough, 8-10/9/96.

Table 28.1 Positions, salinity, temperature, water depth and substratum of sampling stations in Drongawn Lough 8-10/9/96.

	Sta A	Sta B	Sta C	Sta D	Sta E	Sta F	Sta G	Sta H
GPS position	V 7326 6428	V7310 6414		V 7276 6378	V 7302 6419	V 7392 6421	V 7313 6393	
Salinity(psu)	32	30	30	30	30	30	10-28	
Depth(cm)	0-60	0-100	1800	50-200	0-100	15-60	0-100	0-25
Substratum	Bedrock, cobbles, gravel	Boulders, gravel, sand		Stones, peat	Stones, loose peat	Rock, stones, soft peat	Rock, stones, soft peat	Bedrock, stones, mussel reef

A total of 68 faunal taxa were recorded in Drongawn (Table 28.2), of which 60 were identified to species. The fauna was rich and predominantly marine but with 18% of

brackish (poly-euryhaline) species, three of which are recognised as lagoonal specialists (*Cerastoderma glaucum*, *Palaemonetes varians* and *Hydrobia ventrosa*), and two limnic species. The conditions which favour the brackish-water species are the small tidal range coupled with a small, but probably continuous, freshwater inflow from the surrounding peatlands. The corixid and beetle species are normally associated with freshwater and may have been immigrants from a nearby pond. The lake contains a natural population of large oysters.

		Sampling Stations											
		A	L.T.A	B	L.T.B	D	L.T.D	E	L.T.E	F	G	L.T.G	Inlet
Porifera	<i>Halichondria panicea</i>	+		+		+				+			
Cnidaria	<i>Chrysaora hysoscella</i>									+			
	<i>Acanthopleura balli</i>	+		+		+		+		+			+
Nemertea				+									
Annelida	<i>Amphitrite edwardsi</i>												+
	<i>Arenicola marina</i>	+											
	<i>Janua pagenstecheri</i>												+
	Nereidae	+											+
	<i>Platynereis dumerili</i>				+			+					
	<i>Pomatoceros triqueter</i>	+		+		+				+			
	<i>Spirorbis rupestris</i>	+		+		+		+		+	+		+
Crustacea													
	Cirripedia <i>Semibalanus balanoides</i>	+		+									+
	<i>Verruca stroemia</i>			+									
	Mysidacea <i>Hemimysis lamornae</i>						2						
	<i>Neomysis integer</i>								1?				
	<i>Praunus flexuosus</i>	+	250	+	2	o	2	c	65	o	o		
	Isopoda <i>Jaera sp.</i>			+		+		+			+		
	<i>Jaera forsmanni</i>							+			+		
	Amphipoda <i>Ampithoe ramondi</i>			+				+		+		+	
	<i>Caprella acanthifera</i>					+							
	<i>Corophium volutator</i>						+						
	<i>Erichthonius difformis</i>	+		+		+		+				+	
	<i>Gammarus duebeni</i>					+	+				+		
	<i>Lembos longipes</i>			+		+							
	<i>Melita palmata</i>	+		+						+			
	Decapoda <i>Carcinus maenas</i>	+		+		+				+	+		+
	Palaemonidae	a		a		a		a		a	a		a
	<i>Palaemon elegans</i>	+	1	+				o					
	<i>P. serratus</i>	+				o							
	<i>Palaemonetes varians</i>	+				a		a		a	a		
Arachnida	Pycnogonida						+						
Insecta													
	Hemiptera <i>Sigara dorsalis</i>												+
	Coleoptera <i>Haliphus wehnckeii</i>					+							
	Diptera Chironomidae					+				+	+		

Jaera forsmanni was also recorded at Raffeen and Kilmore L. (Co. Cork), 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).

Erichthonius difformis Amphipod crustacean recorded only in Drongawn. Up to, and including, the review of this genus (Myers and McGrath 1984) there was only one positive record of this species in Ireland, at Kinsale, Co. Cork.

Table 28.2 Fauna Recorded in Drongawn Lough, Co. Kerry. July and September 1996. L.T. = light-trap () = records for July, + = present, o = occasional, c = common, a = abundant, F = fyke net. Species in bold text are lagoonal specialists or apparently rare.

	Sampling Stations										
	A	L.T.A	B	L.T.B	D	L.T. D	E	L.T.E	F	G	L.T.G Inlet
Mollusca											
Prosobranchia <i>Bittium reticulatum</i>	+		c		c	5	a	4		+	+
<i>Gibbula umbilicalis</i>	+										
<i>Hydrobia ventrosa</i>					+				+		
<i>Lepidochitona cinerea</i>	+										
<i>Littorina littorea</i>	+		+				+			+	
<i>L. obtusata</i>	+		+				+		+		+
<i>L. saxatilis</i>							+				
<i>Onoba sp.</i>							+				
<i>Patella vulgata</i>	+										
<i>Rissoa membranacea</i>							+				
<i>Rissoa sp.</i>			+								
Opisthobranchia <i>Elysia viridis</i>										+	
<i>Scaphander lignarius</i>			+	24	+		+			+	
Bivalvia <i>Anomia sp.</i>			+								
<i>Cerastoderma glaucum</i>			a		a		+		+	+	
<i>Chlamys varia</i>	+		+		+						
<i>Mytilus edulis</i>	a		a								a
<i>Ostrea edulis</i>	+		+		+		+				
<i>Venerupis sp.</i>										+	
Bryozoa							+				
<i>Bowerbankia sp.</i>							+				
<i>Cryptosula pallasiana</i>	+		+		+		+		+	+	
Echinodermata			+								
<i>Asterias rubens</i>			+		+				+		
<i>Amphipholis squamata</i>											
Tunicata					+		+		+		
<i>Ascididella aspersa</i>					+		+		+		
<i>Clavelina lepadiformis</i>	+		+		+		+		+	+	
<i>Dendrodoa grossularia</i>											
Teleostei											
<i>Anguilla anguilla</i>	+				F, 1				F,4		
<i>Atherina presbyter</i>							+	2	a		
<i>Crenilabrus melops</i>					F,5				F,2		
<i>Gasterosteus aculeatus</i>							+				
<i>Gobius niger</i>					F,1						
<i>Pomatoschistus microps</i>	+		+		+		+	9	+	+	

Lembos longipes Amphipod crustacean recorded at 5 sites on the west coast (Kilmore L, Co. Cork, Drongawn L., Co. Kerry, L. an Aibhnín, Co. Galway, Furnace L., Co. Mayo and Sally's Lough, Co. Donegal). There are only three previous records for Ireland (Costello *et al.* 1989).

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.

***Rissoa membranacea* var.** Gastropod mollusc recorded at eleven of the 87 lagoons surveyed on the west coast from Co. Cork to Co. Galway and also at Castle Espie, Co. Down. These records refer to a ‘lagoonal’ variety of the species, proposed as a lagoonal specialist for Ireland by Oliver and Healy (1998).

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

The lake has a rich and interesting aquatic fauna which includes two rare crustacean species. An interesting feature is the presence of lagoonal and freshwater species in a community dominated by marine species. Further study of the fauna, to include a diving survey of the deeper regions, is recommended

In conclusion, based on aquatic fauna, the richness of the fauna and the presence of four lagoonal specialists and three rare species qualify it to be considered as of national importance. The richness of the site and near pristine conditions qualify Drongawn Lough to be considered as of **high conservation value** and worthy of further study.

Ecotonal Coleoptera

Ten species of staphylinid and six species of carabid beetles were recorded in Drongawn (Good & Butler 1998), none of which is an indicator species. The site was therefore rated as of **low conservation value** based on ecotonal coleoptera.

Summary

Very little is known about this lagoon. There appear to have been no previous studies, or exploitation of the lake, although mariculture might be considered. There is very little disturbance to the site apart from occasional duck shooting and fishing.

Geomorphologically, the lake is not a true lagoon but is a good example of a deep, “silled” lake in pristine condition. It is presumably of glacial origin and is similar to Salt Lake and Lough Hyne and probably resembles the Scottish “obs”. The flora was not surveyed completely, but shows considerable potential, and includes at least two lagoonal specialists. The fauna is rich, and mostly marine, but with four lagoonal specialists, and three apparently rare crustaceans. Based on aquatic fauna and flora and the fact that it is a good example of a “rock lagoon” in near pristine condition, overall it is rated as of **high conservation value**.

Overall Conservation Value = High

Conservation Status Assessment (from Oliver 2007)

Impacts

NO IMPACTS

Conservation Status

Favourable

Further Information

Drongawn Lough was surveyed in 1996 for vegetation (Hatch 1996, Hatch & Healy 1998), aquatic fauna (Healy & Oliver 1996, Oliver & Healy 1998) and ecotonal coleoptera (Good 1996, Good & Butler 1998). Vegetation was surveyed briefly again in 1998 (Roden, 1999). Results of these surveys are summarised by Healy *et al.* (1997a,b,c), Healy & Oliver (1998), and Healy (1999a,b, 2003). Included in a biological classification of Irish coastal lagoons (Oliver 2005) 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.
- Costello, M.J., Holmes, J.M.C., McGrath, D. & Myers, A.A. 1989. A review and catalogue of the Amphipoda (Crustacea) in Ireland. *Irish Fisheries Investigations. Series B (Marine)*, **33**: 3-70.
- De Grave, S. & Holmes, J.M.C. 1998. The distribution of marine Isopoda (Crustacea) in Lough Hyne. *Biology and Environment: Proceedings of the Royal Irish Academy*. **98B**: 23-30.
- Good, J.A. 1996. *Coastal lagoons in the Republic of Ireland: Ecotonal Coleoptera (Staphylinidae and Carabidae)*. Dúchas, Dublin.
- Good, J.A. & Butler, F.T. 1998. Coastal lagoon shores as a habitat for Staphylinidae and Carabidae (Coleoptera) in Ireland. *Bulletin of the Irish Biogeographical Society*. **21**: 22-65.
- Hatch, P. 1996. *A survey of the vegetation of Irish coastal lagoons. 1996*. Unpubl. Report to NPWS. Dublin.
- Hatch, P. & Healy, B. 1998. Aquatic vegetation of Irish coastal lagoons. *Bulletin of the Irish Biogeographical Society*. **21**: 2-21.
- Healy, B. 1999a. *Survey of Irish coastal lagoons. 1996 and 1998. Vol. 1 Part 1. Background, description and summary of the surveys*. Dúchas, Dublin.
- Healy, B. 1999b. *Survey of Irish coastal lagoons. 1996 and 1998. Vol. 1 Part 2. Lagoons surveyed in 1998*. Dúchas, Dublin.
- Healy, B. 2003. Coastal Lagoons. In: *Wetlands of Ireland*. R. Otte (ed). Chapter 4. University College Dublin Press. Dublin. 44-78.
- Healy, B. & G.A. Oliver. 1996. *A survey of Irish coastal lagoons: Aquatic Fauna*. Unpublished report for Dúchas, The Heritage Service. Dublin.
- Healy, B. & Oliver, G.A. 1998. Irish coastal lagoons: summary of a survey. *Bulletin of the Irish Biogeographical Society*. **21**: 116-50.
- Healy, B., Oliver, G.A., Hatch, P. & Good, J.A. 1997a. *Coastal lagoons in the Republic of Ireland. Vol. 1. Background, outline and summary of the survey*. Report to the National Parks and Wildlife Service, Dublin.
- Healy, B., Oliver, G.A., Hatch, P. & Good, J.A. 1997b. *Coastal lagoons in the Republic of Ireland. Vol. 2. Results of site surveys Parts 1-20*. Report to the National Parks and Wildlife Service, Dublin.
- Healy, B., Oliver, G.A., Hatch, P. & Good, J.A. 1997c. *Coastal lagoons in the Republic of Ireland. Vol. 3. Inventory of lagoons and saline lakes*. Report to the National Parks and Wildlife Service, Dublin.
- Myers, A.A. & McGrath, D. 1984. A revision of the north-east atlantic species of *Erichthonius* (Crustacea: Amphipoda). *Journal of the marine biological Association, U.K.* **64**: 379-400.
- Oliver, G.A. 2005. *Seasonal changes and Biological Classification of Irish Coastal Lagoons*. PhD Thesis. U.C.D., Dublin.
- Oliver, G.A. 2007. Conservation status report: Coastal Lagoons (1150). Unpublished report to the National Parks and Wildlife Service, Dublin.
- Oliver, G.A. & B. Healy. 1996. *A survey of Irish coastal lagoons: Aquatic Fauna*. Unpublished report for Dúchas, The Heritage 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.
- Roden, C. 1999. *Irish coastal lagoon survey, 1998. Vol. III, Flora*. Dúchas, Dublin.