

## Carlingford Lough

### Site data



Click on one of the following links to launch the data archive application. (Note: the application opens in a new browser window.)

### Carlingford Lough North

[Chl a concentration](#)

[Salinity](#)

[Temperature](#)

### Carlingford Lough South

[Chl a concentration](#)

[Salinity](#)

[Temperature](#)

### Site information

Carlingford Lough is a sea lough at the mouth of the Newry (or Clanrye) River on the east coast of Ireland with a total area of approximately 51 km<sup>2</sup>. The lough borders both the Irish Republic (county Louth) and Northern Ireland (counties Down and Armagh) and has a catchment of approximately 474 km<sup>2</sup>. Carlingford lough is generally shallow with depths between 2 and 5 meters, but depths within the narrow navigable channel can extend to 25 meters with a deepest point in the lough of 36 meters. The upper reaches of the lough are shallow and dominated by fine muddy sand beds and intertidal (>14 km<sup>2</sup>) mud-flats, whilst the seaward entrance to the lough is a mixture of boulder, cobble and bedrock forming numerous small islands and reefs. The Lough lies within an area of Outstanding Natural Beauty, and qualifies as a RAMSAR site and a Special Protection Area (SPA), being an over-wintering site for Brent Geese (*Branta bernicla hrota*) and a home to common seals. Land use within the catchment is mixed, and contains narrow belts of pasture, coniferous and mixed forests, natural grasslands, moors and heathlands. Two moored instrument packages are located within the lough – one inside the northern basin around Killowen, and the other at the seaward entrance to the lough.

## Activity

Industry is minimal around Carlingford Lough but Greenore and Warrenpoint are significant commercial freight ports. Traditional commercial fisheries of herring (*Clupea harengus*) and oyster (*Ostrea edulis*) collapsed in the 19th century, but the cultivation of pacific oyster (*Crassostrea gigas*) and edible mussel (*Mytilus edulis*) amongst other species have created a new growth industry exporting largely to the European market. Extensive crab (*Cancer pagarus*) and lobster (*Homarus gammarus*) potting also occurs in the lough and on the adjacent outer coast. A booming leisure industry (as can be seen across Ireland) is resulting in increased use by the public for a number of activities - both sporting and nature enthusiasts use the area for a variety of watersports, fishing and bird/nature watching.

## Waters

The waters of Carlingford Lough are home not only to species with aquaculture potential, but also to noteworthy species such as beds of sea-pens (*Virgularia mirabilis*). Freshwater inputs from the Newry (Clanrye) river are relatively small and generally do not significantly affect the salinity of the Lough - the water seems to be well mixed and turned over due to the small input and the large tidal influence. The major sewage treatment works for Newry, Warrenpoint, Carlingford and Cranfield discharge to the Lough after primary (or in some cases secondary treatment) but many smaller outfalls discharge untreated effluent. Organic-rich anoxic sediments with a high sulphide content can be found in the waters near the tidal limit, but water quality within the main lough is good and it is not thought to be eutrophic. Nitrogen inputs associated with fresh water (concentrations of N decline seawards down the Lough) can feed or limit the algal growth within the lough. Nutrient enrichment and algal bloom development within the lough are low compared with some other coastal sites, and it has been suggested that plankton blooms are associated with localised enrichments, and a net export to the Irish Sea occurs with the ebbing tides.

## Characteristics

Volume (millions m <sup>3</sup> )	Total area (km <sup>2</sup> )	Maximum depth (m)	Catchment area (km <sup>2</sup> )	Temperature range (°C)	Mean salinity	Flushing time (days)	Tidal prism volume (millions m <sup>3</sup> )
460	49	25	474	3-20	32.5	3.17	146

## Nutrients

Mean nutrient concentration (μmol l<sup>-1</sup>)

Ammonium	Nitrate	Phosphorus	Silicate
7.5	50	2	23

Nutrient load (ton year-1)

Nitrogen	Phosphorus
1 311	57

Aquaculture

Licensed sites	Total aquaculture area (km2)	Species
8	26.4	Mussels, oysters, scallops and clams