

Belfast Lough

Site data

INSERT PICTURE

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

[Salinity](#)

[Temperature](#)

[Turbidity](#)

Site information

Belfast Lough is a shallow semi-enclosed marine bay situated at the mouth of the River Lagan, on the eastern coast of Northern Ireland. Belfast Lough is approximately 130 km² hectares in size and has a catchment of 900 km². The Inner Lough comprises a series of mudflats and lagoons whilst the Outer Lough is composed of mainly rocky shores with some small sandy bays. The lough has been designated as a SSSI and a RAMSAR site. Within the immediate harbour area the designation has been adjusted to take into account permitted port related development and landfill. Marine areas below mean low water are not included.

Activity

Industry is now light, but the lough has a long history of heavy industry and is still is a major commercial port with heavy passenger and freight traffic in addition to a booming leisure industry. Fisheries within the lough include extensive mussel dredging and lobster potting. The sheltered waters of the Lough have hosted national and international sailing events based around the marinas at Bangor and Carrickfergus, and both sporting and nature enthusiasts use the areas cruising, fishing, diving and bird watching attractions.

Waters

The Inner area of the lough has been identified as being hypereutrophic (as a result of anthropogenic impacts), and is subject to eutrophication. The harbour is home to two large sewage treatment works (STWs), discharging into the Inner Lough as well as a fertiliser plant and other substantial port facilities. Industrial sources have been the main contributors of dissolved inorganic nitrogen (DIN) to the water body, with the STWs contributing approximately 30 % of the DIN load. The large mixing capacity of the Inner Lough allows effluent to be dispersed quickly between the Inner and Middle Loughs. Phytoplankton growth in Belfast Harbour and the Inner Lough is rarely limited by nutrients. Diatoms dominate the phytoplankton community and may occasionally bloom when the water column is sufficiently stable leading to SiO₂ and possibly seasonal N limitation.

Characteristics

Volume (millions m ³)	Total area (km ²)	Maximum depth (m)	Catchment area (km ²)	Temperature range (°C)	Mean salinity	Flushing time (days)	Freshwater run-off (millions m ³ y ⁻¹)
1548	130	23	900	2-21	28	1.8	1022

Nutrients

Mean nutrient concentration (μmol l⁻¹)

Ammonium	Nitrate	Phosphorus	Silicate
33	22	2.6	7.75

Nutrient load (ton year⁻¹)

Nitrogen	Phosphorus
7 600	48

Aquaculture

Licensed sites	Total aquaculture area (km ²)	Species
12	7.5	Mussels

Conservation

ASSI - Area of Special Scientific Interest

RAMSAR site

SPA - Special Protection Area