

- A gem worth preserving



LOUGH CARRA CATCHMENT ASSOCIATION

Reg. Charity No. 20206138

In early 2018 the association was formed by local people who agreed the goal

To restore, protect and conserve the ecological integrity of Lough Carra and its lakeshore habitats and to ensure the quality of drinking water from the Lough by:



- Promoting and encouraging truly sustainable and environmentally sensitive land use practices in the catchment
- Seeking and promoting ways of reducing the nutrient inputs to the Lough from all sources, including agriculture, forestry and septic tanks
- Pursuing methods to prevent any form of pollution of the Lough
- Raising awareness of the unique values of the Lough and promoting the enjoyment of its environment by all sectors of society

See page 52 for more information about the LCCA

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INTRODUCTION

The Corrib system comprises three great freshwater bodies

They are Lough Carra, Lough Mask and Lough Corrib

Together these three Great Lakes are the well providing drinking water for thousands of people in Mayo, Galway and Roscommon

Lough Carra alone is a source of drinking water for more than 1.000 households

The restoration and protection of water quality in Lough Carra is a core objective of the Lough Carra Catchment Association

On the 1610 map by cartographer John Speed, the lake is named Fin Lough Garogh In 1937 in 'The Way that I Went' the naturalist Robert Lloyd Praeger referred to it as 'Lough Carra (Fionnloch Ceara, fair lake of Ceara)' These names probably refer to the pale colour of the marl lake bed and the Barony of Carra LOUGH CARRA—A GEM WORTH PRESERVING Lough Carra is a limestone lake (marl) of 4,000 acres (16km²)

Lough Carra lies along the western edge of the plains of Mayo

Between Ballinrobe to the south and Castlebar to the north

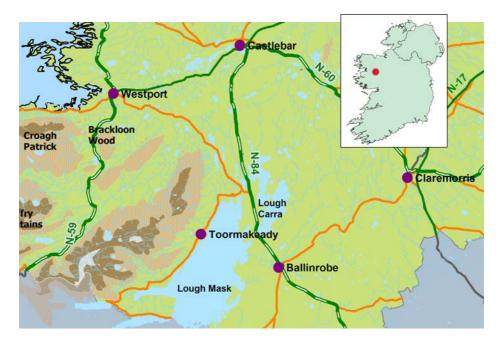
The Lough's catchment covers 115km²

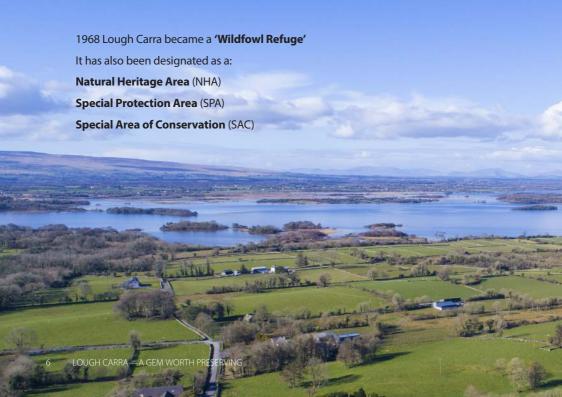
Water from this catchment drains into the lake

A shallow channel joins the north and south basins

Maximum depth is around 19 metres (60 feet)

Average depth is around 1.75 metres (6 feet)





Carra empties into Lough Mask via the Keel river

There is a weir and sluice on the Keel river

There are around 73 islands

Some island names are: Hog, Castle, Otter, Cow etc

Previously some of the islands were grazed by livestock

Wild ducks and gulls breed on some of the islands



GEOLOGY

The lake and its catchment lie on a bed of grey Carboniferous limestone

This was formed about 350 million years ago from corals

The limestone contains fossilized remains of corals, molluscs and other marine creatures

Carra's water is satured with calcium carbonatethe main component of limestone

The drumlins in the catchment are made up of clays and gravels deposited by glacial action

In some places the limestone contains chert nodules. These are flint-like quartz appearing smooth and black





Erosion of the limestone by cyanobacteria causes little holes in the rock known as 'egg-box pitting'



Another type of erosion is 'tube karren' which looks like small tapering tubes

ARCHAEOLOGY

The Moytura Project (1987-1992) surveyed and documented sites of interest

Evidence of Bronze Age habitation:
Doon Peninsula Promontory Fort
Crannogs e.g Lady Island
Standing Stones
Ancient cooking sites fulachta fiadh



Dug out canoe found off Castle Island

Two Bronze Age timber causeways were found near Kilkeeran

The remains are visible on the lake bed as lines of wooden stumps in shallow water

Queen's University Belfast date the stumps at about 1,570BC through dendrochronology



Church Island has probably been occupied for 3,000 years

St Finian is said to have founded a church there in the 6th century

There is a restored 14th century church on the island

It is owned by Ballintubber Abbey since 1992



HISTORY

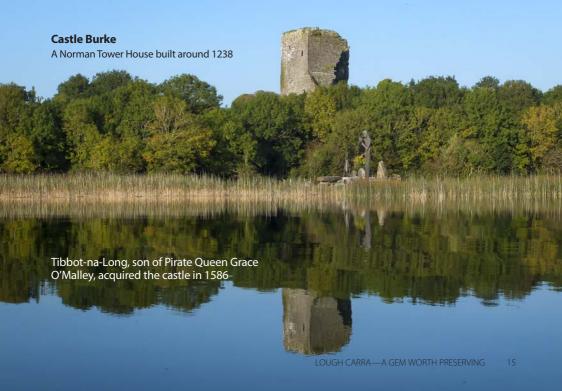
In the 13th century there were several castles and other stone buildings constructed in the Carra Catchment, for example:

Ballintubber Abbey in 1216 by King Cathal Crovderg O'Connor

Castle Carra by Anglo-norman Adam de Staunton in 1230

Burriscarra Friary by Adam de Staunton in 1298. Initially home to Carmelite and later Augustinian 'mendicants' who devoted themselves to a life of poverty





In the 17th, 18th, and 19th centuries several grand houses were built, including:



Partry House built by the Lynch family in the 17th century

Cloonee House

built as a hunting lodge in 1757 by the Brownes of Westport. Later owned by the Ruttledges who also owned Cornfield House

Moore Hall Built in 1796 by George Moore, the grandfather of the well-known author **George Augustus Moore**





In 2010

ART & LITERATURE



"The Lough Carra Fisherman" 0208 www.abcnotation.com/tunes

Painting by Deirdre Walsh

George Augustus Moore's, description of Lough Carra in "The Lake" 1921

"The Lake lay like a mirror that somebody had breathed upon, the brown islands showing through the mist faintly, with gray shadows falling into the water, blurred at the edges

The ducks were talking in the reeds, the reeds themselves were talking, and the water lapping softly about the smooth limestone shingle"

LAKESHORE HABITATS

Mixed natural deciduous woodlands, such as Derrinrush and Doon

Oak, Ash, Hazel, Aspen, Holly, Downy Birch, are the main tree species found

Some plant species, such as Bird's Nest Orchid, Wood Sorrel and Wood Anemone, are indicators of 'ancient woodland'





FEN, MARSH AND REEDSWAMP HABITAT

These areas rely on annual flooding when the water level rises and submerges the vegetation

Fen is formed when a layer of peat builds up on an alkaline bed such as the marl lakebed

Reedswamps are dominated by the Common Reed

Devil's Bit Scabious, food plant of the caterpillar, one of Ireland's rarest butterflies, the Marsh Fritillary, occurs in Fen

Cladium Fen is an EU Conservation Priority Habitat because it is in grave decline. It occurs in several locations around the shores of Lough Carra and is dominated by the Great Fen Sedge *Cladium mariscus*

LIMESTONE PAVEMENT

The grikes of limestone pavement are home to many stunted shrubs, herb species and to the Broad leaved Helleborine (an orchid species)

Limestone pavement is an area of calcareous rock which was exposed during the scouring action of moving ice sheets during the last ice age revealing the 'clints', 'grykes' and blocks of limestone

Limestone pavement is classified as an EU Conservation Priority Habitat



LICHENS

Lichens are plant-like growths

They are made up of microscopic alga and fungus

Many species of Lichen occur only on limestone

They appear as white, yellow and black growths on the rocks around Lough Carra



LOUGH CARRA







■ This map does not show the large number of islands scattered throughout the lough. The OSI Discovery map (No 38) or OS six-inch map provide further detail.

NATURAL GRASSLAND



Natural 'unimproved' grassland is rich in wildflowers, grasses and sedges

Some of the richest flora occurs in these grasslands including several types of wild orchid and the Spring Gentian

Flower rich grassland provides food for pollinators like bees



FARMLAND

Much of the farmland around the lake and in the catchment is of 'improved' grassland

It has been ploughed and resown with perennial rye-grass for grazing livestock

Fields of perennial rye-grass have virtually no value for pollinator species such as bees and butterflies

FLORA

There are over 400 species of trees and plants

There are several rare plant species such as the Yellow Bird's Nest and Dense-flowered Orchid

There are 19 wild orchid species



Spring Gentian



Early Marsh Orchid



Bee Orchid



Lesser butterfly Orchid

FAUNA

Red Squirrels occur in several woodlands

Otters, Pine Marten, Stoats and Badgers are found throughout

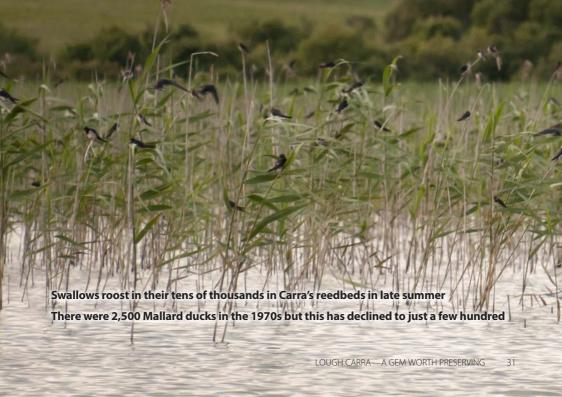
Carra has eight of the nine bat species that occur in Ireland

Bank Voles have arrived in the catchment in recent years

Hedgehogs, pygmy shrews and wood mice are widespread in the catchment



Rare Lesser Horseshoe Bat



25 species of butterfly can be found in the catchment

This includes the rare Marsh Fritillary, Grayling and Dingy Skipper

Butterflies depend on high-quality terrestrial habitat

Over 200 moth species have been recorded but more research is needed

Many beetle species occur including the very rare Crucifix Ground Beetle



Marsh Fritillary



Transparent Burnet Moth

15 species of dragonfly occur in the catchment

The most special of Lough Carra's dragonflies is the Black-tailed Skimmer

Dragonflies depend on high-quality aquatic habitat



Black-tailed Skimmer



Emerald Damselfly

UNDERWATER ENVIRONMENT

Lough Carra is a very important example of a shallow marl lake

The marl lake bed consists of calcium carbonate (lime)

There are underwater plants called 'stoneworts' which feel crispy to the touch because they are encrusted with lime



Boulders on the lake bed are coated with a layer of 'krustenstein'

This is a layer of cyanophyte crust

It is sensitive to the increased pollution in the lake

It is now breaking down in some places where water quality has declined



DECLINE OF UNDERWATER ENVIRONMENT

Carra's aquatic environment was very high quality in the past

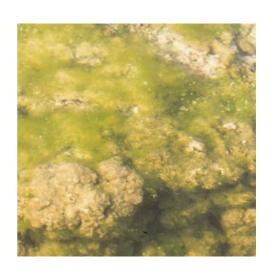
It had crystal-clear water and white marl on the lake bed

The marl on the lake bed is no longer white in most places

It has been declining over recent decades

The decline is a result of increased nutrients such as nitrogen and phosphorous that cause algae to grow faster than the lake can handle

Green algae are now found across the lake bed





In 2002 Trinity College Dublin analysed the marl

They extracted a core from the lake bed

It showed huge increases in nutrient levels since 1960

Nutrient pollution is caused by an excess of nitrogen and phosphorous

Human activities are the main cause of nutrient pollution







LAND DRAINAGE

Converting natural habitats and draining wetlands results in increased nutrient enrichment of the lake



AQUATIC LIFE

In the past Carra was famous for its Mayfly

They are sensitive to increased nutrients

The Mayfly population has dramatically declined





LEISURE

Guided Nature Walks with the LCCA

Birdwatching at Moorehall

Kayaking from Castle Burke, Brownstown and Moorehall — see page 46 regarding kayak bio-security

Walking at Moorehall Recreation Area — see Coillte website for map and details

Cycling at Moorehall

Angling for Trout, Pike and Perch—see page 47 regarding boat bio-security

Swimming from Moorehall and Brownstown — please take care due to presence of sink hole off Moorehall beach





WE CAN ALL HELP THE LAKE



Join or support the Lough Carra Catchment Association, see page 52

Adhere to 'Leave No Trace' practices-don't litter!

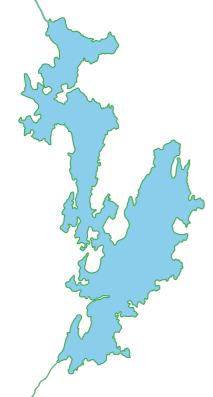
Householders-help reduce nutrient inputs into the water

Ensure proper maintenance of septic tanks

Limit the use of detergents and bleaches in the home

Use eco-friendly cleaning products

Kayaks/Paddleboards — before using on Lough Carra Clean, Dry and Check your equipment to stop Zebra Mussel, Crayfish Plague and other invasive alien species getting into Lough Carra



Boatmen — clean your boat before putting it into the lake to prevent Zebra Mussel, Crayfish Plague and other invasive alien species getting into Lough Carra

Don't bring in boats from other lakes, borrow or rent a boat already on the lake

Farmers could use environmentally friendly farming practices

- Reduce nutrient input
- Plant native trees
- Leave buffer zones on field margins where wild flowers can grow and birds can nest
- Sign-up to Lough Carra LIFE agri-environment scheme or a Dept. of Agriculture agrienvironment scheme







In Oct 2021, following several year's work by the LCCA, funding for the Lough Carra LIFE Project was granted by the European Commission LIFE Programme.

The total budget for the Project is €5m, with 60% funded by the European Commission, and the remainder funded by the project partners;

- Mayo County Council
- Dept. of Agriculture Food and the Marine
- National Parks and Wildlife Service
- Geological Survey Ireland
- Coillte
- Lough Carra Catchment Association





The project will run for 5 years, until Oct 2026, and will involve a variety of actions to improve ecosystem resilience and reduce nutrient pollution of Lough Carra.

Actions include:

- A Groundwater study of the Lough Carra catchment
- Purchase and/or Lease of land for the purposes of demonstration and conservation activities, including wetland construction, habitat restoration, and associated workshops and training courses
- An Agri-environment Scheme with local farmers
- Restoration and management of woodlands, wetlands, and drains in the catchment.
- Habitat enhancement for key species, and control of invasive species
- A monitoring programme of the project impacts
- Knowledge exchange, public outreach, and awareness campaign

In 2022, the Project recruited the Project Team, set up the Project Office in Belcarra Community Centre, and started to implement some of the key project actions.

For more information see www.loughcarralife.ie

JOIN OR SUPPORT THE LOUGH CARRA CATCHMENT ASSOCIATION

The Lough Carra Catchment Association (LCCA) usually meets once every two months

Everyone is welcome to attend the monthly meetings

Notification of meetings is posted on **www.loughcarra.org** and on facebook

There is no fee for membership but donations towards our work are welcome

The LCCA is a registered charity, all work is carried out on a voluntary basis. Projects are funded from grants and donations. If you'd like to make a donation contact us by email loughcarraCA@gmail.com

All proceeds go towards the protection of Lough Carra



MORE INFORMATION

www.loughcarra.org

www.loughcarralife.ie

www.leavenotraceireland.org

www.catchments.ie

www.fisheriesireland.ie

www.npws.ie

www.teagasc.ie/environment/water-quality/

farming-for-water-quality-assap/assap-in-detail/

www.epa.ie

Visit the Lough Carra Catchment Association's Youtube Channel





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