

# Solitary Bottlenose Dolphin in an Irish Sea lough

Carlingford Lough dolphin known as “Finn”

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## Introduction

A bottlenose dolphin turned up in Carlingford lough in April 2020 and has remained in the Lough since, and would appear to be yet another solitary bottlenose dolphin around the Irish coast and elsewhere joining Fungi, Dusty and others. It was last reported as present on the 29<sup>th</sup> August 2022 along the shipping channel in the centre of the lough, though there may be many other sightings since that have gone unreported.



## Carlingford Lough Habitat

Carlingford Lough is a drowned glacier-cut valley formed at the end of the last ice age. The mouth of the Lough, the area under study, is relatively shallow (less than 3 metres) due to the deposit of moraine and the decreased erosive force of the glacier meeting the sea, a feature typical of a fjord, while the inner part of the Lough is relatively deep (up to 30 metres) (Baxter, 2009). A shipping channel has been dredged to 8 metres to facilitate access for shipping.

At high water (MHWS) two islands (skerries) remain exposed, Green Island, essentially a shingle bank on dipping limestone, running north to south near Greencastle, and Blockhouse Island, a limestone

reef, running east to west near Haulbowline lighthouse. At low water (MLWS) several reefs of dipping limestone are exposed, along with several individual boulders and outcrops to the west of Blockhouse Island. A large basalt intrusion (The Black Rock) and several smaller ones (eg Earl's rock) are exposed to the north of Greenore Point. Several reefs are also exposed at Mill Bay and further north (eg Carriganean). Extensive sandflats are exposed in this area, consisting of creeks and pans and a deeper channel from which the White Water and Causeway Water delta over the sand and mudflats. Further to the north-west a sandbank, the Killowen Bank, extends out into the Lough bounding a shallow inlet to rock outcrop at Carrigaroan.

On both north and south shores extensive aquaculture is practiced, primarily oyster cultivation using trestles and bags between the high and low water marks. The area is also marked by considerable recreational activity, particularly in the summer, involving swimming, kayaking, sailing, boating, jet skiing, and related activities. Cargo ships regularly pass through the channel to Warrenpoint port and Greenore port, typically with several passes per day in all seasons.

Because the large body of water narrows between Greenore Point and Greencastle, ebb and flow tidal velocities can be significant, reaching 5 knots per hour. The Lough is fed by several rivers; these in turn attract migratory fish such as trout and salmon. Significant numbers of mackerel are regularly caught off Greenore point during the summer.

The benthos consists of a mosaic of habitats including deep holes, tidal rapids supporting biogenic *Modiolus modiolus*, coarse gravel with cobbles and boulders, mud and sand flats, rocky outcrops and other rocky substrates supporting extensive growths of *Laminaria* and *Fucus* species as well as green algae.

According to the JNCC Marine Habitat Classification system, the intertidal rock habitats are dominated by the habitat type "Fucus vesiculosus and barnacle mosaics on moderately exposed mid-eulittoral rock" merging into "Fucus serratus on moderately exposed lower eulittoral rock".

These habitats support a rich ecosystem including red and brown algae, soft corals, hydroids, bryozoans, large sponges, anemones, mussels, brittle stars, crustaceans, and other invertebrates. Fish include pollack, spurdog, flounder, rockling, dogfish, conger, wrass, mackerel, and ray.

The Lough is relatively protected by the mountains to the north and south and is probably in the rain shadow of Slieve Foye, though on occasion squalls can blow up, particularly in easterly airflows. Surface temperatures typically range from about 6 °C to about 17 °C between summer and winter. Water quality is generally good despite the discharge of untreated sewage into the Lough at various locations. According to the AFBI SMILE project "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."

## Designations and Protected Species

The Lough is designated as a Special Protection Area by both the UK and Irish governments and is a Ramsar site. Terns (mainly common terns, historically roseates) breed on Green Island with variable success. Protected habitats on the county Louth shoreline are included in a Special Area of

Conservation and include the sand and mudflats, Atlantic Salt Meadow, Salicornia and Zostera beds, and vegetation of stony banks and drift lines.

The outer part of the lough supports up to 400 common seals breeding and moulting during the summer autumn months with up to 50 pups. A population of up to 80 grey seals is also present, though so far no breeding has been proven.

## Shipping and other Activities on the Lough

Two ports, Greenore and Warrenpoint ensure that there is a constant flow of shipping up and down the lough, Greenore able to handle up to 120,000 tonnes deadweight. In addition to this a ferry crossing between Greenore and Greencastle was completed in 2015. Monitoring of underwater sounds using hydrophones as part of an MMO survey has shown considerable underwater noise in the lough which may be propagated by the loughs shape and dimensions. On occasion noise from a 100,000-tonne dead weight ship berthing in Greenore port, a passing SeaTruck 100 metres away, couples with the ferry along with various water sports craft and fishing vessels can produce significant spikes of sound in the water.

There is also considerable leisure and sports activities on and around the lough including swimming, line fishing, sailing, kayaking, jet skis, water-skis, wind surfing, scuba diving and snorkelling. In addition to this there is a significant mussel bottom culture fishery in the inner part of the lough, and a few lobster boats. Fishing boats anchored at Greencastle also fish the outer parts of the Lough.

## Arrival of Finn

Around the middle of April 2020, the Greenore port pilot noticed a bottlenose dolphin following the pilot boat as it entered the lough along the dredged channel to the north. The pilot, Leo Cunningham, reports that he and his colleagues sometimes observe dolphins around the mouth of the lough where there is considerable upwelling on an outgoing tide but this animal stayed around, mainly following the channel and an area near Blockhouse Island (there is a 25 metre “hole” at this location (personal comm Shane Reenan, diving club). Subsequently the dolphin started to frequent the water around the Greenore ferry slip. At this point in the Lough the tide is very fast exceeding 5 knots. The dolphin was observed to use ferry bollards as cover to catch fish caught on the strong incoming channel. This behaviour was most noticeable on an incoming tide and continued throughout the summer months (pers. comm Ivor Armstrong – ferryman).

Over the summer the dolphin became a bit of a local celebrity. Although not as spectacular as the Dingle bottlenose dolphin Fungi (so named because he was a “fun guy”), he nevertheless entertains crowds at Greenore because he regularly stays within a few metres of the shore, culminating in a competition to name him. Two names were proposed: Bobby and Finn, and perhaps in a sign of the times, Finn won by a considerable margin – as association with Finn McCool, the legendary Irish warrior who has a loose association with the local An Tian legend. At one point the dolphin got a plastic bag caught around its midriff and fin; various attempts were made to remove (pers. comm Shane Reenan) but eventually he got it free by himself (pers. comm Leo Cunningham).



*Figure 1 Distinctive marking of Finn's fin*

Finn often follows jet skis and ribs. At other times the dolphin will follow the ferry, on occasion bow riding, sometimes breaching to the delight of the passengers. On occasion groups of people get into the water to swim and snorkel with Finn, particularly at the Cuttings at Greenore. There have been reports of him bumping some swimmers but no significant incident has been reported to date (June 2021).

Over time the local diving club got to know Finn who would follow them on dives around Blockhouse island, gently investigating their activity. From close-up underwater footage it was possible to confirm Finn as a male. It was also noted that Finn has distinctive white markings on his fin making him easy to recognise. During September and October Finn tended to move around more sometimes absent for a day or two but always returning in particular to the ferry slip at Greenore to the delight of the regular crowd. This may have related to the abundance of prey. The point is known for a very strong run of mackerel from June to September, when the abundance drops off, and fishing may be better at the mouth of the lough.



*Figure 2 Sub aqua shot of Finn confirming male sex*

Finn continued to make appearances at the ferry slip on an incoming tide up to December 2020, though with less frequency and there were concerns that he may have departed the Lough, however from the start of the new year his appearances resumed the same pattern as the previous year.

## Behaviour and Movements

These days a regular pattern of behaviour has been observed. He has been very active here in over the last number of months. Lots of photographic & video evidence of Finn feeding off Greenore beach, which has been fantastic for the public to observe. Particularly in the last few weeks he has been observed hunting and feeding on small “sprat” like fish and more recently catching and playing with mackerel.

Finn has been observed feeding at Greenore port at both the incoming tide and outgoing tide favouring the upper part of the tidal cycle. He has been observed surfacing briefly to take in air and then diving to 20m, hunting for fish. When he returns to the surface, he has either caught small fish or larger mackerel. Video evidence shows him surfacing from depth and spitting out his food and then sucking it back in. Repeating the process several times before he swims away splashing vigorously with the fish. There are visual recordings of him fishing on channel marker 8 closer to the lighthouse, depending on the direction of the tides (up to 4 knots) and he had been sighted out beyond Haulbowline Lighthouse fishing, this sighting has only been witnessed a few times.



Figure 3 Main areas where Finn was observed

To sum up Finn spends most of his time in and round Greenore beach between the new yellow anchor buoy for Greenore port ships and the channel close by. Finn has even been recorded fishing between the ferry terminal fenders, catching fish as they rush through the steel bollards.

It is noted that Finn on occasion becomes very interactive with vessels and people, so much so he has been seen rubbing under RIBS, jumping next to jet skis, and flicking small fish at people on ribs, apparently hoping to interact. These actions are causing him to scratch himself, which is seen by the fresh scratches on his head and back; on one occasion quite a severe cut possibly from a propellor. Nothing that seems too serious but definitely evident. He definitely seems to be bulking out somewhat, a good sign he is getting enough food.

At other times, and particularly once the summer leisure activities have finished, the dolphin tends to fish along the shipping channel, and rest alongside one of the trawlers moored off the coastguard slip at Greenore.

## Conclusion

Finn would appear to be one of several “hermit” dolphins around Ireland (e.g. Fungi in dingle, Dusty in Doolin) and over thirty known worldwide. But the phenomenon is not new, 2,000 years ago, Roman naturalist Pliny the Elder wrote of a dolphin that played with swimmers, carrying them on his back and enjoying their caresses in what is present-day Tunisia. The reason for this behaviour is unknown with various suggestions that they are outcasts, that they are in the process switching pods and get lost, that they are young dolphin whose pod gets killed, that they have lost their mate/pod and are too old to find a new one. My own theory is that they may become deaf making open ocean navigation difficult.

More broadly many mammal species exhibit this hermit-like behaviour. Typical reasons are socio-ecology variables such as food availability, predator pressure, and reproductive strategies may be factors, but human interference, disease and the individual variability may also be significant. Why dolphins seem to redirect their social interaction to people is apparently unique to dolphins.

We do not know what age Finn is, and bottlenose dolphins are notoriously difficult to age, but assuming that he is a full adult male we may assume at least 10 years old. Given that Finn spent 36 years in and around Dingle we may have Finn with us for some time to come.