Harbour Porpoise

Howth Head, Co. Dublin. (Photo: Dave Wall)

The harbour porpoise is the smallest cetacean in Irish waters and our only porpoise species.

Classification

Class: *Mammalia*

Order: *Cetacea*

Suborder: *Odontoceti*

Family: *Phocoenidae*

Genus: *Phocoena*

Species: *phocoena*

Common names: *Harbour porpoise, Common porpoise, Puffing pig, Herring Hog*

Irish Names: *An mhuc mhara; tóithín,*

Key identification features

Body length: *Up to 1.9m - average 1.5m*

Weight: *Up to 70kg - average 60kg*

Blow: *Rarely seen but can be heard in calm conditions*

Head: *Small, rounded*

Beak: *No forehead or distinct beak*

Dorsal fin: *Small, triangular, slightly curved trailing edge, set halfway along the back.*

Colouration/markings: *Back, flukes, flippers and tail stock are black/brown. They have grey sides, a white belly and 1-3 dark stripes extending from jaw line to flippers.*

http://www.cms.int/reports/small_cetaceans/data/P_phocoena/p_phocoena.htm

Field identification: at sea (behaviour)

Due to their slow, forward rolling movement, they rarely produce splashes and can be quite difficult to see in choppy seas or large swells. In calm conditions they can be detected by the sound of their short, sharp blows, which are generally not visible. Diving gannets and feeding seabirds often associate with foraging porpoises and may point to their whereabouts.

Porpoises typically surface briefly 3-4 times in a row before diving for up to eight minutes, although when not hunting may surface less frequently. Occasionally, they can be quite active with their entire bodies leaving the water creating a splash, although this happens very fast and is quite difficult to observe.

Field identification: on land (strandings)

Harbour porpoises can be identified by their small size, rounded head, absent beak, and 23-28/22-26 unique, spade-shaped teeth on either side of the jaw.

Harbour porpoises are the second most commonly stranded cetacean species in Ireland, having only recently been surpassed by the common dolphins (Delphinus delphis). They have stranded on all coasts but higher concentrations have been documented along the south and east coasts with peaks from December to March. Stranding records have shown a consistent trend with around 30 records per year in Ireland.

Species similar in appearance

The harbour porpoise is much less active on the surface than dolphins and is much smaller. Their appearance and surfacing behaviour give them a unique profile at sea and it would therefore be very difficult to confuse them with any other cetacean in Ireland.

Distribution and abundance

Harbour porpoises occur in continental shelf waters across the North Atlantic from North America to Europe and northwest Africa. They are also found in the Barents Sea, Baltic Sea, the Black Sea, and in the North Pacific from northern California and Japan north to teh Chukchi Sea. They are considered abundant in the central and North Sea and on the continental shelf west of the British Isles. The 2005 SCANS II survey estimated a population of 15,000 individuals in the Irish Sea, with a total of 385,000 setimated to be in Northwest European waters.

Where and when best seen in Ireland

The harbor porpoise is the most frequently reported and widespread species in Ireland and can be seen around the entire coast, although they appear to be most abundant off the southwest coast. They are largely associated with continental shelf waters. In Ireland, they are frequently observed in shallow bays, estuaries, and tidal channels, often occurring in waters <20m deep.

*Most sightings take place inshore between June and September, although this may be due to more observers and better visibility conditions in the summer. There are many locations where they can be observed throughout most of the year including the greater Dublin area from Howth Head, Dun Laoghaire pier, Dalkey Bay, Bray Head and can be regularly seen from the **DART** between Killiney and Dalkey stations.*

Reduced encounter rates between March and June from well-watched sites such as Howth Head, Dublin and the Old Head of Kinsale, Cork suggest that they move offshore in the spring. Where they go is unknown, but the fact that encounter rates begin to increase again in June, which coincides with the first calf sightings, suggests that they move to offshore calving/breeding grounds.

The best places to see them in greater numbers are invariably off headlands and bays along the south, southwest and western seaboard.

Food and feeding

Harbour porpoises use a technique called echolocation to navigate and locate prey by emitting a series of high frequency clicks used to determine the distance of a particular object or land mass. Using this technique, they can locate objects within a 27m range.

Porpoises in Ireland have diet consisting of several species of fish. A study examining the stomach contents of 73 harbour porpoises revealed that 98% of the stomach contained various species of fish such as herring, mackerel, sprat, pollack, hake, sardines, and sand eels. Foraging areas are often associated with strong tidal currents, especially off headlands or between islands.

Spatulate Teeth in Harbour Porpoise

It is thought that pelagic shoaling fish (sand eel, whiting, herring) may concentrate in tidal races, and that the channels are used by the porpoises to herd and catch prey. When prey is captured, porpoises turn their catch head first and swallow them whole in order to prevent the fish's spine from being lodged in their throats. Porpoises have spaded shaped teeth (dolphins' are conical) ideally adapted to their feeding strategy.

Reproduction and Life Cycle

Life expectancy: *Max 20 years - average 10 years*

Age of sexual maturity: *♂3 - 4 years ♀3 years*

Gestation period: *11 months*

Calf length/weight at birth: *0.7 - 0.9m / 6 - 10kg*

Calving frequency: *Every 2 years*

Calves born: *May – Aug with a strong peak in June*

Calves weaned: *Nurse for 8 months*

Social Structure and Communication

Harbour porpoise are usually seen in small groups of up to 8 individuals, although larger feeding aggregations of 50-60 have been observed. There may be sexual segregation with females and calves, and males and juveniles forming separate groups.

As well as being used as a hunting and navigation tool, clicks are also used as a means of communication. A 2005 study revealed that porpoises use specific patterns of clicks to communicate with one another. They were observed demonstrating aggression toward other individuals by producing repetitive clicks accompanied by rapid head movements. The sender of these aggressive clicks was never more than 1.5m away from the intended recipient which supports the idea that they need to be much closer to one another to communicate compared to other cetacean species.

Status and Conservation Issues

IUCN status*: Least Concern*

Conservation status in Ireland: *Good*

Harbour porpoise numbers are stable in Ireland, although they do face a number of potential threats from fisheries interactions (gear entanglement), pollution, and habitat disturbance including acoustic disturbance from human activity.

Bycatch is a significant threat with many porpoises being caught in ***gillnets, trawls and seines*** *each year. However, these bycaught animals can provide us with a unique insight into the health of the wild population. Smyth et al. (2000) biopsied the liver and blubber of twelve bycaught porpoises from Irish waters which confirmed traces of pesticides and polychlorinated biphenyls (PCBs) in the animals. In the long term, pollution is a big threat as potential links have been made suggesting that concentrations of persistent pollutants affect the reproduction and immune systems of these small cetaceans.*

Protection*:*

- *EU Habitats Directive (92/43/EEC) Annex II and IV*
- *Wildlife Act, 1976 and Wildlife (Amendment) Act, 2000*
- *OSPAR List of Threatened and Declining Species and Habitats.*

Ireland is required to designate ***Special Areas of Conservation*** *(SACs) that correspond to the ecological requirements of the species. Two candidate SACs have been listed: Roaringwater Bay, Co. Cork and the Blasket Islands, Co. Kerry. An additional SAC was designated from Rockabill to Dalkey Island, Dublin in 2013.*

Disturbance by users of small craft such as speed-boats and jet skis may also affect porpoises, especially when used in areas which the animals often frequent and/or where calves may be present. Progress is being made, such as the signing of ***ASCOBANS*** *(Agreement on Small Cetaceans of the Baltic and North Seas) by many Northern European countries which provides harbour porpoises with some level of protection from a variety of human activities. Signatories have agreed to work towards reducing bycatch in fisheries, preventing the release of potentially harmful toxic substances, protecting food resources and preventing any additional disturbances. Ireland has not signed up to this agreement.*

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