

## Northern Bottlenose Whales at Broadford Bay, Isle of Skye

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On Thursday 13<sup>th</sup> August 1998 we received a report that two northern bottlenose whales (*Hyperoodon ampullatus*) had been sighted in Broadford Bay at the Isle of Skye (West Scotland). Northern bottlenose whales are a species of cetacean found only in the North Atlantic and are normally recorded in cold, deep waters along or seaward of the continental shelf edge. This was, therefore, a rare opportunity to observe an uncommon and inaccessible species at close range.

On our arrival at Broadford Bay, the two whales were visible, resting motionless at the surface only a few hundred metres from the jetty. This was the most common behaviour we observed in the whales, and was often followed by them disappearing below the surface for up to eight minutes before reappearing some distance away. The whales appeared to rest in

the shallow south-western area of the bay which was only four metres deep in places, moving out to deeper waters of around twenty metres depth during periods of more active behaviour.

Bottlenose whales have a forward-projecting blows that can reach two metres in height and we were often able to detect the whales by their blow as they surfaced. The rounded forehead, bushy blow, indentation around the blowhole and more upright, triangular dorsal fin distinguished their dorsal surface from minke whales which are more frequently recorded in these waters. The apparent colour of the animals varied from chocolate brown to a dark grey depending on the light and weather conditions. Although the whales lacked the heavy scarring sometimes noted in other beaked whale species, several grayish patches were apparent on their bodies.



Northern bottlenose whale spyhopping (C. Weir)

Northern bottlenose whales have a reputation for being inquisitive around vessels, a characteristic that led to their exploitation by North Atlantic whalers. The two whales at Skye also proved curious and regularly approached small vessels heading out from Broadford. During such encounters the whales

often surfaced close to the stern of boats, lifting their heads from the water and rolling on their sides. This behaviour allowed observers to glimpse the bulbous forehead and dolphin-like beak that gives this species its name, along with the two ventral grooves on the throat.

Behavioural activity often increased around vessels, with continuous rolling and faster lunges through the water. The whales frequently engaged in bouts of synchronous tail-slapping which made enough noise to be clearly heard from the jetty.

Periods of activity regularly culminated in spectacular breaching behaviour, with one or both animals leaping clear of the water often in bursts of up to twenty breaches. The whales breached onto their sides, backs and stomachs, churning up water across the bay. Tail-slapping and breaching frequently occurred in the vicinity of vessels, but was also observed when the whales were alone in the bay, suggesting that it was not only a reaction to the presence of boats.

Although the whales were often very active, much of their time was spent in quiet periods of social interaction with each other. Hanging vertically in the water, they would touch each other with their heads and beaks, and roll on their backs to expose the belly and flippers. These behaviours gave rise to several questions concerning the age and sex of the whales. Although one of the animals appeared to be both slightly smaller and lighter in colour than the other, the whales were virtually indistinguishable. Observations of the genital slits as the whales rolled over revealed them both to be females.

Northern bottlenose whales appear to have strong social ties, and there is some evidence from benign field research on resident populations that the closest social bonds form between animals of the same sex. Seasonal sexual segregation has also been documented in migrating animals, and the social interaction observed in the female whales at Broadford may indicate a stable, long-term companionship.

The bottlenose whales remained in Broadford Bay until the 9<sup>th</sup> September, when they disappeared after a stay of over a month. It is unclear why the animals arrived in the bay, what made them stay so long or why they left when they did. Bottlenose whales feed primarily on deep-water squid, with some fish and invertebrates, and it is possible that the waters around Skye did not contain enough food to sustain them. Several people commented that the animals seemed to have become slightly lethargic during their stay, and some weight loss was apparent around the rib

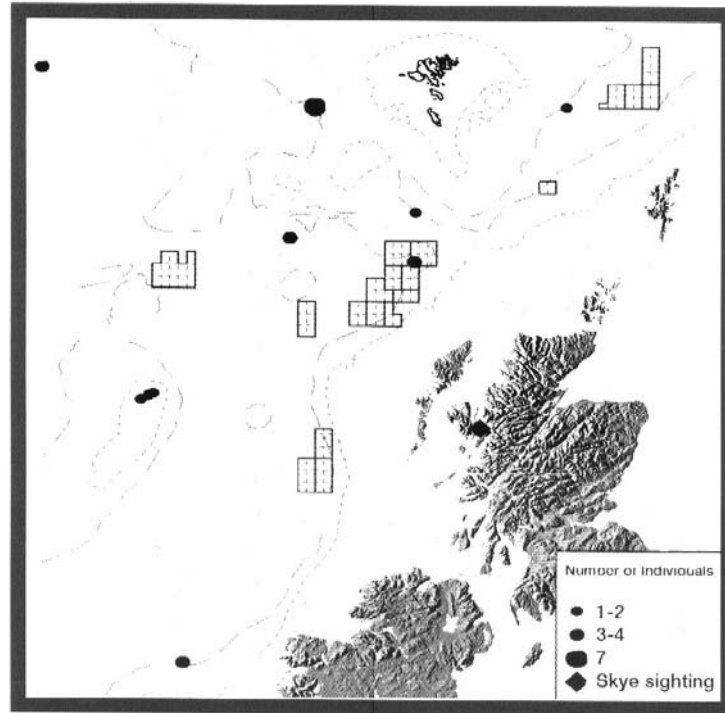
cage and spinal areas. The whales were never sighted outside the confines of the bay, and although it was suggested that they may move into deeper water to feed at night then had always returned to the bay by dawn. The sound of their blowing and tail-slapping through the night also indicates that the whales were not feeding outside of the bay.

It is also possible that the whales left Broadford Bay as a result of increased boat traffic in the area. The animals had been in the bay for about two weeks before their presence became well publicised, and had been largely undisturbed and much more active than later in their stay. During the last few weeks many people travelled to see them, and it was not unusual to find the whales surfacing amongst several vessels.

Although in most instances the whales did not show any apparent avoidance reaction to boats and even deliberately approached them, there were occasions when they were observed moving away from following vessels. At times, the animals were surrounded by several kayaks and small boats, and exhibited frantic bursts of tail-slapping; a behaviour often interpreted as antagonistic in other cetacean species. Although it is difficult to define adverse reactions, it seems likely that this is an unacceptable level of disturbance within a small and shallow bay.

The reaction of the whales to vessels as variable; while they were often observed to approach large, noisy boats there was a consistent movement away from the quieter kayaks and rowing boats. It is possible that the soft hulled, quiet boats were harder to detect in the murky waters of the bay, startling the whales when they surfaced close to them.

Northern bottlenose whales are thought to move southwards from subarctic latitudes in late summer and early autumn, and this may explain their occurrence in coastal waters at this time of year. Whales may move from deep water onto the continental shelf and thus enter the north Minch. During 1997, two bottlenose whales remained for two weeks in Loch Eishort on the south coast of Skye, and a Sea Watch survey during August sighted two whales to the west of Skye. It is not known whether these were repeat sightings of the same animals or represent a movement of several whales through the area.



**Figure 1.** Location of northern bottlenose whale sightings during JNCC surveys between 1979 and 1998. Bathymetry: short dash (200 m isobath); long dash (1,000 m isobath).

Only eleven sightings of northern bottlenose whales have been made by the Joint Nature Conservation Committee (JNCC) in 22,000 hr of surveying since 1979, during seabird and cetacean surveys carried out to the north and west of Scotland (Figure 1). However, the majority of these surveys were undertaken within the 1,000 m isobath, in areas which bottlenose whales do not normally utilise. The

majority of records occurred in deep, offshore waters beyond the 1,000 m isobath, with several sightings also recorded from shallower waters on the Rockall Bank. The distribution and scarcity of sightings mean that most UK cetacean observers will never have the chance to observe bottlenose whales at sea, and the Broadford Bay sighting therefore offered a rare and welcome opportunity.