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DOLPHIN STRANDING DUE TO KILLER WHALES

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This note describes an episode of behavioural interaction between dolphins and orcas in southern Tasmania, and subsequent human intervention to avoid an anticipated mass dolphin stranding.

Large schools of dolphins are often observed in waters around Tasmania. While often mistakenly called porpoises, bottlenosed and common dolphins are the most prevalent species. Both have a cosmopolitan distribution in temperate and tropical waters. Orcas or killer whales also have a world-wide distribution, extending into polar seas, and are probably more common in Tasmanian waters than human sightings indicate. The three species all belong to an order of mammals known as toothed whales or odontoceti. Filter feeding or baleen whales are in the order mysticeti, and marine mammals belonging to these two orders are collectively known as cetaceans.

On May 11th 1991 a large school of dolphins was seen hunting mackerel and other seasonally abundant fish in the southern portion of Adventure Bay, Bruny Island. Estimates of dolphin numbers ranged from 300 to 1000, not an unusual

school size in Tasmanian waters. Bottlenosed dolphins (*Tursiops truncatus*) up to 3.5 metres in length were most numerous, with common dolphins (*Delphinus delphis*) to two metres also present. Dolphins were observed at about 10 a.m. leaping clear of the water and occasionally closely approaching the shore; normal behaviour for actively feeding dolphins.

Between 2 and 3 p.m. 20 dolphins suddenly stranded. At about this time a juvenile and three adult female killer whales or orcas (*Orcina orca*) were first seen on the seaward side of the dolphins. Some observers reported a flurry of activity and surmised that a dolphin may have been taken. Observers returned the stranded animals to deep water where they rejoined the school.

For some hours following the stranding the orcas were observed patrolling the mouth of the bay. Dolphins were reported by observers as darting out to sea trying to escape. Although two small groups apparently escaped in this way, most turned back into the confines of the crowded bay.

Wildlife authorities were contacted by concerned members of the public during the afternoon and around 5 p.m. two rangers arrived by boat. After consultation with the author, a cetacean biologist, it was decided to intervene in the most humane way available in order to prevent a mass stranding. At first the boat was interposed between the adversaries but this served only in apparently arousing the curiosity of the orcas. Seal crackers were then used and had an immediate response as the orcas moved out some distance, allowing the dolphins an escape route. Neither the orcas nor the dolphins were seen in the immediate area again over following days, with most dolphins having apparently escaped.

Although wildlife managers would not usually intervene in a natural predation incident, it was decided that the likelihood of a mass stranding under difficult conditions and the relative inaccessibility to rescuers and equipment justified the action taken. The seal crackers, normally used to deter seals from fish farms, were not used at a range of less than 50 metres and were considered to be innocuous in the prevailing conditions. Whales and dolphins do not have the exposed eardrums of most other mammals and in this respect are sturdier than seals.

Incidents like this are rare. Tasmanian wildlife biologists know of only one proven stranding in local waters; in 1983 three orcas were seen chasing a school of common dolphins at the mouth of Ralphs Bay and next day 15 dolphins were found stranded (McManus *et. al.*, 1984). A stranding of 109 dolphins in the D'Entrecasteaux Channel in 1975 appeared symptomatic of orca pursuit although no direct evidence of this was found at the time (Guiler, 1978).

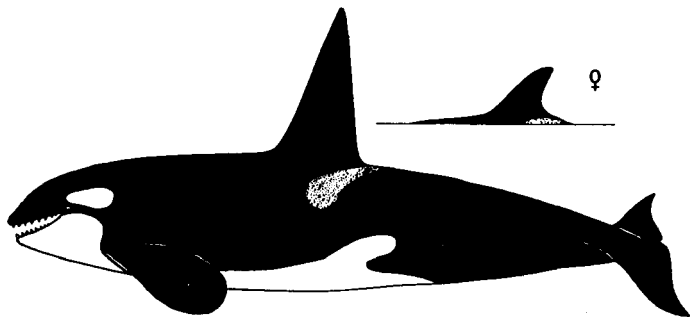
Orcas are adapted for preying on large vertebrate prey with their size, speed and, particularly, their robust muscular jaws with few large, conical teeth. Their cooperative hunting is sophisticated amongst mammals and is often directed towards schooling prey. Seals, fish including large tuna and trevalla, baleen

whales, and large squid are amongst their known prey items (Baker, 1983). Dolphins are known to exhibit a versatile behaviour upon hearing orca vocalisations, usually fleeing silently (Evans, 1987).

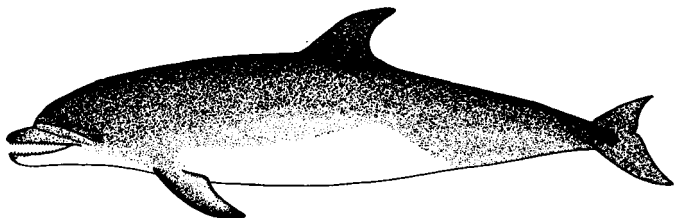
Causes of cetacean strandings are both diverse and often difficult to explain. The incident described here indicates that predation by orcas may be implicated in at least some stranding events.

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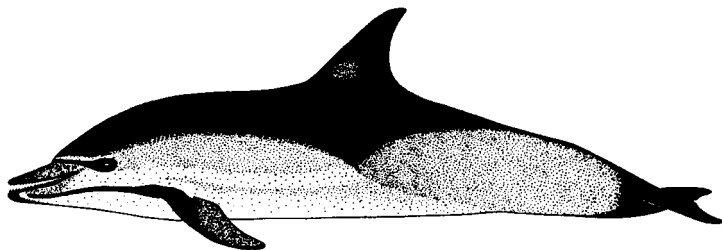
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Killer Whale (*Orcinus orca*)



Bottlenose Dolphin (*Tursiops truncatus*)



Common Dolphin (*Delphinus delphis*)

Illustrations from Baker (1983), courtesy of Victoria University Press,
Wellington, New Zealand.