

# Why do whales strand themselves?

As nearly 400 pilot whales died in Australia's largest mass stranding on record, scientists point to a number of potential reasons which could explain the phenomenon, including navigational errors

## Long-finned pilot whale:

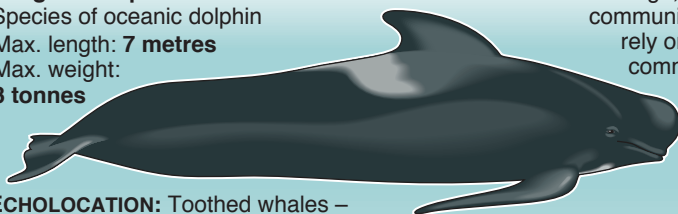
Species of oceanic dolphin

Max. length: **7 metres**

Max. weight:

**3 tonnes**

Travel in large, close-knit communities which rely on constant communication



**ECHOLOCATION:** Toothed whales – including dolphins – use type of bio sonar to navigate and find prey

**1** Sound waves generated by vibration of phonic lips – vocal cord-like membranes – pass through melon – fatty cavity used like sound box

Blowhole

Phonic lips

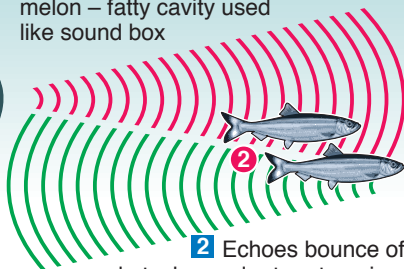
Brain

Melon

Jaw

Nasal passages

Inner ear



**2** Echoes bounce off obstacles and return to animal

**3** Hollow, fat-filled lower jaw receives sounds, which then travel to inner ear to be interpreted by brain



Some theories link strandings to failure of whales' sonar pulses to detect shoreline in shallow waters



Disruptions of Earth's electromagnetic field, caused by solar storms or earthquakes, may disturb navigation



One leading individual – maybe in poor health – could mistakenly lead whole group to shore



There is also strong connection between active sonar – such as naval sonar – and strandings