

A fisher's guide: New Zealand's protected marine mammals

New Zealand has a diverse range of marine mammals and almost half the world's cetaceans live in or visit our waters. All marine mammals are legally protected in New Zealand under the Marine Mammals Protection Act 1978.

This guide will help you identify some of the marine mammals you may encounter at sea and find out more about their distribution, diets and threats.

The accurate identification of protected species encountered in New Zealand waters assists in understanding potential threats to their populations.

The guide includes Fisheries New Zealand reporting codes and the current NZ conservation status for all animals featured.



List of species found in this guide

Pinnipeds

New Zealand fur seal
Arctocephalus forsteri

New Zealand sea lion
Phocarcos hookeri

Leopard seal
Hydrurga leptonyx

Southern elephant seal
Mirounga leonina

Cetaceans

Common dolphin
Delphinus delphis

Dusky dolphin
Lagenorhynchus obscurus

Hector's dolphin
Cephalorhynchus hectori

Māui dolphin
Cephalorhynchus hectori maui

Bottlenose dolphin
Tursiops truncatus

Pilot whale
Globicephala spp.

Killer whale/orca
Orcinus orca

Humpback whale
Megaptera novaeangliae

Species Group:
Pinnipeds

New Zealand fur seal

Arctocephalus forsteri

FNZ species code: FUR



Image: Sabine Bernert



Image: Tui De Roy

Distinguishing characteristics

- Look for pointed nose
- Long whiskers, extending past the ears
- Fur seals are smaller in size than sea lions, with males reaching a maximum length of 2.5 m and 90-150 kg and females 1.5 m and 30-50 kg.
- Fur seals have two coats of fur. Their coat is dark grey-brown on the back and lighter below; when wet, they look almost black. In some animals, the longer upper hairs have white tips which give the animal a silvery appearance.

Can be confused with: New Zealand sea lion, subantarctic fur seal

Feeding and range



- The New Zealand fur seal, or kekeno, feeds mainly on squid and small mid-water fish but also eats larger species such as conger eels, barracuda, jack mackerel and hoki.
- They dive deeper and longer than any other fur seal. Female fur seals on the West Coast are known to (occasionally) dive deeper than 238 m, and for as long as 11 minutes.
- New Zealand fur seals are the most common seals in New Zealand and their population is growing. The last total population estimate of New Zealand fur seals was 200,000 in 2001. It is assumed to be higher now, but the exact figure is unknown.
- Fur seals are found throughout New Zealand, mainly on rocky shores throughout mainland New Zealand, the Chatham Islands and the subantarctic islands as well as in parts of Australia.

Breeding and ecology



- The breeding season takes place from mid-November to mid-January. During this time, females give birth to their pups and then mate.
- Dominant bulls put on displays of glaring, posturing and fighting with other males just prior to the breeding season to gain territories. Fur seals are polygamous breeders; this means that a male may mate with many females in a single breeding season.
- Females mate 6 to 8 days after the birth of their pup, even before their first foraging trip. To ensure that the next pup is born during the warm summer months the following year and not while she is still taking care of her current pup, fur seals use a method called delayed implantation.
- Delayed implantation means the egg is fertilised, but does not implant in the uterine wall for another 3 months. Gestation is therefore about 9 months, even though the female mates 12 months before she gives birth.
- Seals are very good swimmers and weaned pups will sometimes travel great distances. On land, seals have been found in unusual places such as backyards, drains and streets.

Threats



- Although in recovery and no longer on the brink of extinction, there are still numerous threats to the New Zealand fur seal including human impacts. A decline in some colonies on the West Coast of the South Island has been a focus of monitoring for some time.
- Fur seals are the most common marine mammal bycatch in New Zealand. They are commonly bycaught in trawl fisheries for target species such as hoki, but they are also bycaught in line and set net fisheries.
- Other human impacts on seals may be related to tourism, entanglement in marine debris, deliberate harassment, dog attacks, oil and gas exploration, oil spills and potential negative interactions with aquaculture.
- Marine debris, or rubbish that winds up in the sea, such as plastics and discarded nets, can be lethal to seals.
- Great white and sevengill sharks are the main natural predators of seals. New Zealand sea lions may occasionally take juvenile fur seals in locations where these two species overlap. Killer whales (orcas) and leopard seals may also prey on kekeno.

Species Group:
Pinnipeds

New Zealand sea lion

Phocarctos hookeri

FNZ species code: HSL



Image: Andrew Maloney



Image: Danica Stent

Distinguishing characteristics

- Look for blunt nose
- Short moderate whiskers, not extending to the ears
- Sea lion males are between 2.4-3.5 m in length and weigh between 250-400 kg, females are between 1.6-2 m in length and 100-160 kg.
- Adult sea lion males are brown to black in color with well-developed manes reaching to the shoulders. Adult females are lighter in color, predominantly creamy grey with darker pigmentation around their flippers.
- Pups of both sexes are chocolate brown with paler areas around the head. Juvenile males can resemble adult females in colour and size.

Can be confused with: **New Zealand fur seal**

Feeding and range



- New Zealand sea lions, or pakake, are active divers that forage on both benthic (deep sea layer) and pelagic (upper sea layer) prey. Females dive up to 129 m for about 3.9 minutes with some dive depths over 600 m for as long as 14.5 minutes.
- Considered an opportunistic feeder, the majority of their diet consists of cephalopods (such as squid and octopus), crustaceans and many species of fish.
- Adult male sea lions sometimes prey on Antarctic, subantarctic and New Zealand fur seal pups and juveniles, and occasionally penguins.
- The population is considered to be between 5,000 – 20,000 individuals.
- Sea lions are found in Otago and Southland regions of mainland New Zealand, although most of them are found in the subantarctic islands. Nearly 70% of New Zealand sea lions pups are born on the Auckland Islands.

Breeding and ecology



- New Zealand sea lions are the most endangered species of sea lion in the world. The overall rate of decline has slowed, and populations are considered stable or increasing at most breeding locations.
- Annual estimates of pup production from breeding sites in the Auckland Islands have been carried out by DOC since 1994/95.
- Pup production is increasing at both Stewart Island and mainland New Zealand but appears to be approximately stable (i.e. $\pm 10\%$) at both the Auckland Islands and Campbell Island. It is important to note that pup production at the Auckland Islands, while approximately stable since 2008/09, is still $> 40\%$ lower than the peak seen in 1997/98.
- Females form into harems of up to 25 and are attended by a single dominant bull. Other males remain around the periphery and occasionally challenge the dominant bull. These challenges result in aggressive displays and fighting as the dominant bull defends his harem.
- Breeding occurs over the summer months and breeding colonies occupy the same sites every year. Pupping begins in early December and ends by mid-January, when the remaining bulls disperse and the harems break up. Females give birth to a single pup every 1–2 years.
- The females then spend the next year alternating between foraging trips to sea and periods on land suckling their pups. Pups form pods near the periphery of harems for warmth and protection while their mothers are at sea.

Threats



- Disease outbreaks have occurred in New Zealand sea lion colonies in the past and pups have been the age group most impacted. Disease may hinder the ability of the population to recover and may make them more susceptible to other threats.
- The main fisheries that operate within the New Zealand sea lion's foraging range are the squid, scampi and southern blue whiting fisheries. The squid trawl fishery has historically captured the largest number of sea lions, but efforts have been made to reduce the frequency of incidental captures. This fishery operates in the foraging area of the Auckland and Campbell islands shelf between February and May, coinciding with the start of the sea lion nursing period.
- Females have a restricted foraging range while nursing so are more likely to interact with commercial fishing activity. Female sea lions eat about 20% of their body mass – that's up to 80 kg of food per day – when nursing their pups. A decline in prey species due to fishing could lead to poor nutrition in nursing pups and adult sea lions. There is also the concern that females must exert extra energy as they search for prey that becomes sparser.
- Great white sharks are the only known predator of New Zealand sea lions.

Species Group:
Pinnipeds

Leopard seal

Hydrurga leptonyx



Image: A. Wright



Image: Brent Tandy

Distinguishing characteristics

- Look for a long slim body and comparatively large fore-flippers.
- A disproportionately large head, wide jaws, sharp teeth and tremendous gape give it a snake-like appearance.
- Named because of its leopard-like spots, leopard seals can range in colour from almost black to almost blue on the flanks. The muzzle, throat and belly are light grey scattered with dark grey and black spots. The demarcation between dorsal and ventral colouration is distinct but diffuse. Pup appearance is very similar to that of the adults.
- Adult females: length 3.6 m, weight up to 500 kg
Adult males: length 3 m, weight up to 300 kg
- Leopard seals don't walk on their flippers like other seal species, instead they slide on their bellies.

FNZ species code: LEO

Feeding and range



- Leopard seals prey on a variety of species, including krill, penguins, birds, fish, seals and cephalopods. It is likely that they are opportunistic in that they prey on whatever is readily available.
- They are the only seals known to regularly hunt and kill warm-blooded prey, including other seals. Although rare, there are a few records of adult leopard seals attacking humans.
- A population estimate in 1977 put the total number at 222,000-440,000 worldwide.
- Leopard seals primarily inhabit the Antarctic pack ice but, during autumn and winter animals disperse northward throughout the Southern Ocean, sometimes visiting New Zealand.
- Some individuals spend a year or more continuously in New Zealand waters.

Breeding and ecology



- Leopard seals are usually solitary animals. Males are sexually mature at 3-6 years of age and females at 2-7 years. Mating has never been observed in the wild. Adults moult between January and June.
- Leopard seals appear to have low productivity compared to other seals, with only 50-60% pupping annually. Pups are born mainly on the pack ice in November and the reproductive season ends in late December. Lactation lasts for one month. Males are rarely seen near pupping and nursing sites.
- Newborn pups are more than 1m long and may weigh close to 30 kg. Females grow faster than males and very large individuals can weigh up to 450 kg.
- It is thought that leopard seals give birth on non-fast ice and that there is likely a very short period of suckling (around a month), in which the pup puts on weight and protective blubber.
- Pups are born with a soft thick coat, being very similar to the adult coat which is grey coloured and spotted, darker on the back than on the front.
- Leopard seals are known to be very vocal during the breeding season. There are also some regional variations in their calls, which has led to suggestions that there are separate breeding populations with only limited interactions.

Threats



- Leopard seals have never been systematically exploited. Currently they are protected under the Convention for the Conservation for Antarctic Seals (1972).
- Threats include entanglement in marine debris and harassment by the public and dogs.
- While they can look harmless, leopard seals can swivel around very quickly from their resting position to attack and can inflict serious injuries to dogs or people. They can also carry infectious diseases.
- Killer whales are known to occasionally predate upon leopard seals. It is likely that large sharks may also predate on them, although no evidence exists to support this theory.

Species Group:
Pinnipeds

Southern elephant seal

Mirounga leonina

FNZ species code: EPH



Image: Debbie Freeman



Image: Leon Berard

Distinguishing characteristics

- The southern elephant seal is the largest species of seal in the world. They are dark grey immediately after moulting, fading through the year to a rusty greyish brown.
- The elephant seals' most outstanding feature is the inflatable proboscis (snout) which reaches full development in adult males, and is thought to increase the effectiveness of the bull elephant seal's roar.
- Adult males: length 4-5 m, weight 3,600 kg
Adult females: length 2-3 m, weight 900 kg

Can be confused with: New Zealand sea lion

Feeding and range



- Elephant seals feed on animals such as squid, cuttlefish and large fish, including sharks. Elephant seals are deep-sea feeders. At sea, they spend about 90% of their time underwater. Most dives are to depths of between 300 and 800 m and last 20-27 minutes.
- Southern elephant seals range throughout the Southern Ocean around the Antarctic continent and on most subantarctic islands. The New Zealand population is concentrated on the Antipodes Islands and on Campbell Island. In winter, they frequently visit the Auckland, Antipodes and Snares Islands, less often the Chatham Islands and occasionally various mainland locations, from Stewart Island to the Bay of Islands.
- Southern elephant seals haul-out on sand or gravel beaches with easy access as large males in particular find movement on land challenging.

Breeding and ecology



- There has been a long-term, annual decline of 5-11% of elephant seals at most colonies in the southern oceans. The reason for this is unknown, the two major theories being:
 - decline is related to commercial exploitation of prey stocks; and
 - the population is returning to pre-sealing levels after having recovered to abnormally high levels.
- Breeding males arrive at rookeries in August, and pregnant females arrive in September and October. Males do not maintain territories but do establish dominance hierarchies structured primarily by age, secondarily by size, and to some extent, by previous experience. Males threaten each other visually and vocally.
- Males are sexually mature at 3-6 years, but few breed before they are 10 years old. Only the largest two or three males breed in a given year. Many males will never breed with 90% dying before reaching sexual maturity. Females are sexually mature at 2-4 years old and may then give birth annually for 12 years. Breeding males may mate with 100 females in a season.
- Females give birth to a single pup shortly after coming ashore in September or October and will then remain ashore for approximately 23 days nursing her pup. A few weeks later the females mate and then depart, abruptly weaning their pups. Females then remain at sea weaning for 70 days before coming ashore to moult. Pups remain ashore for a period of 50 days before finally going to sea to feed.

Threats



- Leopard seals occasionally attack and kill elephant seal pups, and killer whales may prey on pups and older seals, though neither are believed to have any significant effect on the population.
- The main threat to elephant seals is harassment by humans or dogs while ashore. Seals usually haul out on land to rest, moult or breed and at these times they should be left undisturbed.
- It is also possible that elephant seals are affected by ship-strike and fishing mortality though little information exists on these impacts.

Species Group:
Cetaceans

Common dolphin

Delphinus delphis



Image: Nathan Pettigrew

Distinguishing characteristics

- About 2 m in length.
- Tends to remain a few kilometres from the coast.
- The colouration of common dolphins is very distinctive with a criss-cross or hour-glass type pattern centered on the flanks (sides). Colours include purplish black, grey, white and yellowish tan. The dorsal fin is high with a concave hind edge.
- The head is domed/smooth sloping and they have a prominent beak.

Can be confused with: dusky dolphin, bottlenose dolphin, striped dolphin

FNZ species code: CDD

Feeding and range



- Common dolphins feed on a variety of prey, including surface schooling fish species and small mid-water fish and squid. They are known to dive to depths of 280 m in search of prey and hunt cooperatively within schools. Dives can last up to 8 minutes but are usually between 10 seconds and 2 minutes. These animals are vocal and show a wide range of acrobatic behaviour.
- Found throughout New Zealand but particularly common in the Hauraki Gulf and off Northland.
- This species is abundant but a precise population estimate in New Zealand waters is largely unknown.

Interesting Facts



- Common dolphins are highly vocal and can be heard above the water's surface.

Breeding and ecology



- Common dolphins may form enormous schools of several thousand individuals. They are also known to associate with schools of pilot whales and other dolphin species such as dusky dolphins.
- Females breed every two years and gestation lasts for around 10-11 months.
- Calves suckle for around 6 months.
- Age at sexual maturity is estimated to vary with region but in the Pacific its thought to range from 7-12 years for males and 6-7 years for females.
- Maximum age is estimated to be between 25-30 years.

Threats



- Killer whales are the principal predators of common dolphins. When under threat, individuals can be seen moving closer together. Dolphins have also been spotted with shark-bite scars indicating that sharks may predate on this species.
- Large numbers of common dolphins are bycaught in tuna purse seine fisheries in the eastern tropical Pacific and in set net fisheries around the world. In New Zealand common dolphins common dolphins are occasionally bycaught in trawl fisheries.
- Tourism activities have also been found to affect the normal behaviour of these dolphins and studies have shown them attempting to avoid approaching vessels through the use of evasive behaviours.
- Boat strike is also a threat in areas of high boating activity such as in the Bay of Islands. Again, common sense rules should apply when boating around these dolphins to reduce stress on the animals. Such rules are outlined in the Marine Mammal Protection Regulations (1992).

Species Group:
Cetaceans

Dusky dolphin

Lagenorhynchus obscurus

FNZ species code: DDO



Image: Craig Bullock



Image: Kim Westarov

Distinguishing characteristics

- About 2 m in length.
- Small and robust body shape with a gentle sloping forehead and a short, dark beak.
- Unhooked and blunt dorsal fin.
- Bluish-black colour on back and tail, white on underside of the body.
- Dark patch around eye.
- Pectoral fins are long and pointed and generally darker than the surrounding body area.

Can be confused with: common dolphin, bottlenose dolphin, Hector's dolphin

Feeding and range



- The diet of this species is dominated by anchovies, hake and squid. A variety of other small fish species are also eaten. Dusky dolphins typically feed at night on prey associated with the deep scattering layer.
- Surface feeding activities occur in large groups accompanied by extensive aerial display and acrobatics, which are believed to help synchronize cooperative foraging.
- Dusky dolphins are a coastal species and generally prefer waters less than 2,000 m deep.
- They are typically seen in the cooler, southern waters, no further north than East Cape.

Interesting Facts



- Large groups of several hundred to over 1,000 dusky dolphins are present in Kaikoura all year round with individuals moving north to feed at Admiralty Bay in winter months.

Breeding and ecology



- Sexual maturity is reached at approximately 7-8 years. Calving in New Zealand occurs from November to mid-January. Gestation lasts for around 13 months and weaning occurs in less than 3 years.
- Dusky dolphins are estimated to live to ages of 30 years or more.
- Due to their coastal nature, populations of dusky dolphins around the world are discontinuous and reproductively isolated. Large-scale migrations are known to occur in New Zealand however, and inshore-offshore movements are made both diurnally and seasonally with dolphins moving further offshore in winter.
- Overall, group sizes range from two to over one-thousand. There are thought to be between 12,000 and 20,000 individuals in New Zealand.
- Dusky dolphins interact with a variety of other marine mammals including common dolphins, long-finned pilot whales, bottlenose dolphins, Hector's dolphins, killer whales, New Zealand fur seals, sperm whales, southern right whales and humpback whales.

Threats



- Killer whales and some shark species are the only confirmed predators of dusky dolphins. In order to avoid killer whales, dusky dolphins will move into shallower water and swim closer together.
- Bycatch has been reported in set net, trawl and surface longline fisheries.
- Unknown numbers of dusky dolphins are caught in set nets in New Zealand waters each year. Current catches appear to have decreased from those of the 1970s and 1980s however.
- Dusky dolphins have been found entangled in aquaculture netting and future expansion of aquaculture in New Zealand is likely to have an impact on this species through entanglements, habitat fragmentation and competition for food resources.

Species Group:
Cetaceans

Hector's dolphin

Cephalorhynchus hectori

FNZ species code: HDO



Image: Danica Stént



Image: Dina Engel

Distinguishing characteristics

- Hector's dolphins are among the world's smallest marine dolphins, growing to around 1.5 m in length. They are found only in the inshore waters of Aotearoa/New Zealand.
- Adult Hector's dolphins weigh between 40 and 60 kg. Males are slightly smaller and lighter than females.
- Hector's and Māui dolphins are the only dolphins in New Zealand with a rounded black dorsal fin. Their bodies are a distinctive grey, with white and black markings and a short snout.

Can be confused with: dusky dolphin, common dolphin

Feeding and range



- Like other dolphins, Hector's use echolocation to find their food. They send out high frequency 'clicks' that bounce off surrounding objects and fish, giving the dolphins a detailed picture of their surroundings. They make frequent short dives to find food, such as flounder, red cod, crabs, kahawai, mackerel and squid.
- The population of Hector's dolphins is estimated to be around 15,000 individuals.
- Hector's dolphins are found around the coast of the South Island, but distribution is patchy.

Interesting Facts



- Originally this species was thought to only inhabit waters very close to shore, however aerial surveys have demonstrated that they can be found beyond 20 nm offshore in some areas.

Breeding and ecology



- Hector's dolphins are now thought to be able to live up to 30 years, although most do not exceed 20 years.
- They reach sexual maturity between 5 and 9 years of age.
- They can produce a calf every 2 years. There is some evidence that if a calf is lost in the one year, the mother may then have a calf in the subsequent year.
- Most females only have four or five calves in a lifetime. Calving usually occurs between November and mid-February, and calves stay with their mothers for up to two years.

Threats



- Set net fishing poses a major threat to Hector's dolphins. Like all marine mammals they need to come to the surface regularly to breathe. If they become tangled in set nets, they will hold their breath until they suffocate.
- Because these dolphins occur close inshore, they are at risk of being injured by boats. Newborn dolphins are particularly vulnerable as they swim relatively slowly and close to the surface. Some have been killed by boat propellers when unwary boaties have run them over.
- Another anthropogenic threat to these animals is the disease Toxoplasmosis, which comes from cats. Other diseases, such as Brucellosis are known in these populations, but are seen as part of the natural threats to these animals alongside other diseases and predation.

Species Group:
Cetaceans

Māui dolphin

Cephalorhynchus hectori maui

FNZ species code: HDM



Image: Silvia Scali



Image: DOC

Distinguishing characteristics

- Māui dolphins have distinctive grey, white and black markings and a short snout.
- Small, compact body with large, dark, rounded pectoral and dorsal fins.
- Females grow to 1.7 m long and weigh up to 50 kg. Males are slightly smaller and lighter.
- As Hector's and Māui dolphins look identical, identification at sea is based on the location of the sighting or capture.

Can be confused with: Hector's dolphins, dusky dolphin, common dolphin

Feeding and range



- Māui dolphins feed on a variety of species of fish, such as red cod, āhuru, and sole. They feed throughout the water column, on both bottom-dwelling fish and free swimming prey.
- The population is estimated to be between 57-75 individuals over the age of 1 year.
- Māui dolphins could once be found along most of the west coast of the North Island, from Cook Strait to Ninety Mile Beach. Today, they are considered to range between Maunganui Bluff and Whanganui, and you're most likely to spot one between Manukau Harbour and Port Waikato.

Interesting Facts



- Māui dolphins are a subspecies of Hector's dolphin, the world's smallest dolphin. Together, they are one of the rarest dolphins in the world.

Breeding and ecology



- Māui dolphins tend to stay in small pods consisting of 1-5 dolphins.
- Although pod sizes are small these dolphins have been seen exhibiting very playful behavior among one another.
- Some of these behaviors include blowing bubbles, playing with seaweed, play fighting, chasing each other around all of which are considered important for social development and growing healthy relationships.
- Females have their first calf (baby) between 5-9 years of age.
- They may produce a calf every 2 years.
- With such a small population, recovery for this critically endangered subspecies will be slow, and so reducing threats from all anthropogenic sources is essential.

Threats



- Because Māui dolphins are mostly found close inshore, their habitat overlaps with many coastal activities that people take part in. Activities such as boating and fishing can pose a threat to their survival. The effects of littering and pollution are also an issue.
- A significant number of Māui dolphins have died through accidental entanglement in nets. Set net fishing has likely been the largest source of human caused Māui dolphin mortality. This has prompted a series of set net restrictions where Māui dolphins live. Measures are also in place to limit the potential mortality from trawl fisheries.
- The disease Toxoplasmosis, caused by the parasite *Toxoplasma gondii*, which only sexually reproduces in cats, is responsible for deaths in this population. Whilst there is considerable uncertainty around the level of threat there is from this disease it is being treated as significant. Other diseases, including Brucella, have been implicated in deaths to dolphins and occur naturally in their environment.
- Dolphins are vulnerable to a range of sub-lethal impacts including those from other activities including land-based run-off, disturbance and effects from noise and sedimentation from seismic surveys, minerals exploration, and vessel traffic. Measures have been put in place to mitigate these issues.
- Sharks are thought to be the main predators of Hector's and Māui dolphins. Shark species known to consume these dolphins are great white, blue, and broad-nosed seven-gilled sharks. Orca, mako sharks and bronze whaler sharks may also predate Hector's and Māui dolphin, but there are no known instances of this occurring.

Species Group:
Cetaceans

Bottlenose dolphin

Tursiops truncatus

FNZ species code: BDO



Distinguishing characteristics

- Up to 3.4 m in length.
- Relatively short beak, hooked and prominent dorsal fin.
- Dark or light grey on the back, grading to white on the undersides.
- The belly and lower sides can sometimes be spotted. Subtle dark stripe from the eye to pectoral fin.
- Robust body with rounded forehead and short beak.

Can be confused with: dusky dolphin, common dolphin

Feeding and range



- Individuals living close to the shore feed primarily on a variety of inshore bottom-dwelling fish and invertebrate species. Those offshore feed on mid-water fish species and squid.
- Their dives rarely last longer than 3-4 minutes inshore, but may be longer offshore. Individual feeding appears to be the most prevalent foraging method but individuals are also known to work together to herd schools of fish.
- In New Zealand three main coastal populations exist:
 - Around 450 individuals live in the North Island area, ranging from Doubtless Bay in Northland to Tauranga.
 - 250-300 individuals live in the Fiordland/Stewart Island/Otago region.
 - Another group range from the Marlborough Sounds to Westport.

Breeding and ecology



- Females tend to reach sexual and physical maturity before males, leading to sexual dimorphism in some regions. Females usually reach sexual maturity at 5-13 years with males not maturing until 9-14 years of age. Females breed every 3-5 years and calves suckle for around 2-3 years.
- Calving peaks are known to occur for most populations between spring and summer/autumn. Female bottlenose dolphins can live up to more than 50 years of age, and males can reach as old as 40-45 years.

Threats



- Bottlenose dolphins are seldom bycaught in New Zealand fisheries.
- Sharks are probably the most significant predators of bottlenose dolphins with the numerous shark-bite scars found on as many as half of all bottlenose dolphins providing evidence of such encounters. Killer whales are also likely to be one of the main predators.
- Bottlenose dolphins are particularly susceptible to human impacts due to their coastal nature. In New Zealand, the main threats to this species are likely to be the adverse effects of tourism and other activities that create marine noise, or that degrade their habitat, such as run-off from land. Bottlenose dolphins are the focus for dolphin watching in the Bay of Islands and Fiordland areas.
- Studies have found the presence of boats to interfere with dolphins' normal behaviour and boat strike in areas of high boating activity is always a threat. Common sense rules should therefore apply when boating around dolphins to reduce stress on the animals. Such rules are outlined in the Marine Mammal Protection Regulations (1992). Local boating restrictions are also in place in some regions (e.g. Fiordland and Bay of Islands) to protect the dolphins.

Species Group:
Cetaceans

Pilot whale

Globicephala spp.



Image: Barney Moss



Image: Jochen Zaeschmar

Distinguishing characteristics

- Dark grey, with a lighter “saddle” shape behind the dorsal fin, light grey to white streaks behind the eyes, and a light grey patch on the chest.
- Dorsal fins are sloping and rounded rather like the shape of a breaking wave. Female dorsal fins are more triangular in shape.
- Large bulbous forehead, which protrudes beyond the mouth and small-to-non-existent beak.
- 5-7.5 m in length.

Can be confused with: false killer whale, killer whales, bottlenose dolphins

FNZ species code: PIW

Feeding and range



- There are two species of pilot whales – long finned and short finned. In New Zealand’s waters long-finned pilot whales are more likely to be encountered. They roam throughout the cold temperate waters of the Southern Ocean.
- Short finned pilot whales tend to inhabit more sub-tropical and tropical zones. Although the two species are readily distinguishable by differences in tooth count, flipper length, and skull morphology, it is almost impossible to distinguish between the two species at sea.
- Long-finned pilot whales in New Zealand waters eat mainly arrow squid and common octopus, both of which are commercially harvested in New Zealand.

Interesting Facts



- Despite their name, pilot whales are in fact one of the largest members of the dolphin family.

Breeding and ecology



- Pilot whales prefer areas which are topographically “steep” (high relief), such as submerged banks and the edge of the continental shelf.
- It’s thought that this preference for steep landforms may partially explain their tendency to strand – their sonar may not function so well in the shallow, gently sloping underwater environments that are typical of high-stranding areas such as Golden Bay.
- Pilot whales live in stable family groups, and offspring of both sexes stay in their mother’s pod throughout their lives.
- Males will spend brief periods of time (a few months) with another pod while mating, usually in spring or summer, and a visiting male can father a number of calves.
- Each pod numbers 20-100 whales, though they can congregate in much larger numbers.
- Very little is known about the life history of long-finned pilot whales in the Southern Hemisphere. In the North Atlantic, female long-finned pilot whales reach sexual maturity at 6-8 years and calve every 3-5 years. Males reach sexual maturity at 12-17 years.
- Females can live to about 60 years, and males 35-45 years. Interestingly, although females only calve until 35 years old, they can continue to lactate until 50.

Threats



- Pilot whales are prolific stranders, and the reasons for this are not well understood. There are recordings of individual strandings all over New Zealand, and there are a few mass stranding “hotspots” at Golden Bay, Stewart Island, and the Chatham Islands. The biggest recorded pilot whale stranding was an estimated 1,000 whales at the Chatham Islands in 1918.
- Pilot whales are seldom bycaught in New Zealand fisheries.

Species Group:
Cetaceans

Killer whale/orca

Orcinus orca

FNZ species code: ORC



Image: R. Kinsey

Distinguishing characteristics

- Identified relatively easily by its distinctive black and white markings, white eye patch and a light grey saddle patch behind the dorsal fin.
- Tall, prominent dorsal fin.
- Large and paddle-shaped flippers.
- They can grow up to 9 m in length, with male dorsal fins reaching higher than a metre.
- Females and males differ in that males are longer and bulkier than females and females have smaller, more curved dorsal fins, and smaller flippers.

Can be confused with: pilot whale, false killer whale

Feeding and range



- Orca have an extremely diverse diet including fish, squid, octopus, rays, seabirds and turtles. They are also the only known cetacean that preys upon other marine mammals. Attacks or kills have been documented on more than 35 species, including blue whale.
- While they are found worldwide, New Zealand is home to an estimated 150-200 individuals that travel long distances throughout the country's coastal waters. There are also orca that visit from Antarctica on an occasional basis.

Interesting Facts



- It is considered that there is at least three sub-populations of orca in New Zealand, some only travel around the North Island, some only around the South Island and a population that travels around both islands.
- Other types of orca may visit from Antarctic waters, including Type C and Type D orca.

Breeding and ecology



- Females give birth to their first calf between 11 and 16 years of age and tend to do so every 5 years for their 25-year reproductive life span. The gestation period is 15-18 months and calves are nursed for at least one year.
- Females are known to live up to 80 or 90 years. Males reach physical maturity at about 21 years and live for a maximum of 50-60 years.
- Though orca are formally recognised as one species, there are at least 10 different 'ecotypes' worldwide. Ecotypes are defined as populations with differences in diet, behaviour and vocalisations. The Southern Hemisphere ecotypes are:
 - Antarctic Type A
 - Antarctic Type B (Pack Ice)
 - Antarctic Small Type B (Gerlache)
 - Antarctic Type C (Ross Sea)
 - Subantarctic Type D
- Orca are typically encountered in family groups or pods. Pods are usually formed for life and can result in the development of unique dialects.

Threats



- Historically, orca were targeted by whalers for human consumption but no significant hunting occurs today.
- Nowadays, one of the greatest potential impacts is likely to be disturbance caused by vessel traffic. The presence of boats is known to disrupt the normal behaviour of these animals, particularly resting, and underwater noise may disrupt echolocation signals and other communication.
- As orca are at the top of the food web they are particularly susceptible to pollution via bioaccumulation (the accumulation of toxins through the food chain).
- Orca are rarely bycaught but do interact with longline fisheries and are occasionally entangled in pot and set net lines.
- In comparison to other areas, New Zealand has a high rate of orca strandings including mass-strandings (+/> 3 animals). Strandings may be linked to foraging for rays.

Species Group:
Cetaceans

Humpback whale

Megaptera novaeangliae

FNZ species code: WHB



Image: Andrew Walmsley



Image: Andrew Walmsley

Distinguishing characteristics

- Large black to dark grey body and white underside.
- Very long pectoral fins, dark grey and white, can be up to 6 m in length.
- Low, stubby dorsal fin located towards the back of the body.
- Knobbly protuberances on the head, tip of lower jaw and leading edge of pectoral fins.
- Bushy blow up to 3 m high.
- Adults are between 12-16 m in length, newborns between 4-5 m.

Can be confused with: southern right whale, sperm whale

Feeding and range



- Humpback whales are baleen feeders. Their diet consists of krill and schooling fish (e.g. mackerel and herring).
- They show the most diverse feeding techniques of all baleen whales, including lunging through patches of prey, stunning prey with their flippers and forming “bubble-nets”.
- They are frequent visitors to the coastal waters of New Zealand when they undertake seasonal long distance migrations (approximately 10,000 km/yr) between summer feeding grounds in high latitudes (Antarctica) and winter calving and breeding grounds in tropical or near tropical waters.

Interesting Facts



- The colour pattern and shape of the tail fluke is unique to every animal so can be used to identify individuals.

Breeding and ecology



- Breeding and calving both occur in winter, and gestation lasts around 11 months. Nursing seems to continue until calves are one year old. Both females and males are sexually mature at around 5 years old and females typically give birth every 2 to 3 years.
- During the mating season humpback whales will fast, living off body fat reserves and completely forgo eating.
- The males are known for their complex mating songs. These sounds can be heard many miles away and are heard as a combination of moans, howls and cries among other noises which can go on for hours. All males on a breeding ground sing the same song.

Threats



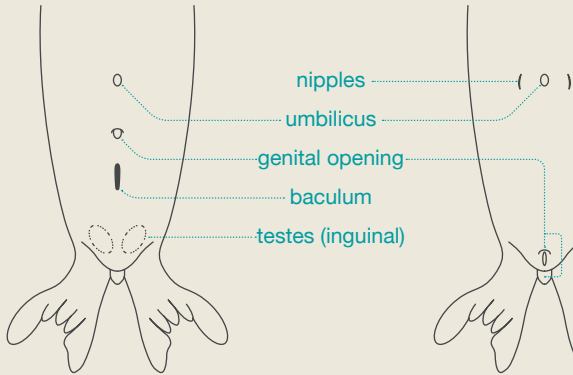
- Teeth mark scars suggest that killer whales commonly attack humpbacks. It is likely however, that only young calves and sick animals suffer fatal attacks.
- Due to their coastal distribution, humpback whales were heavily exploited by the whaling industry, and it is estimated that over 90% of some populations were killed. Most populations now appear to be recovering.
- These whales are known to die from entanglement in fishing gear and collisions with ships. DOC have trained disentanglement staff throughout the country to remove fishing gear such as cray pot lines and buoys from humpback whales.

Guide to identifying the sex of marine mammals



Male

Female



If the animal has an opening higher up, then it's a male.

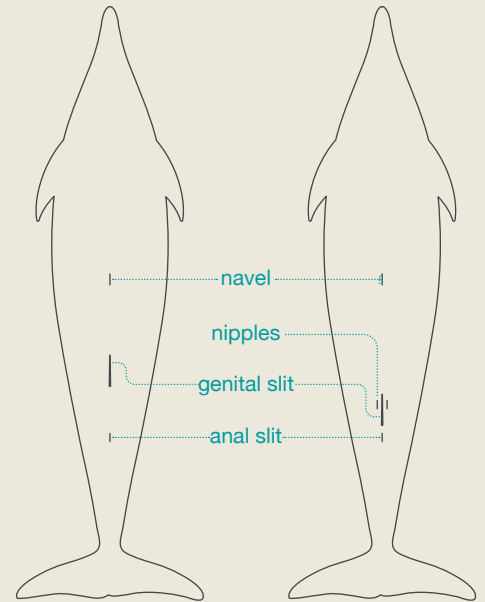
Males have a baculum, which is a bone, that you can feel for, which is located below their genital opening.

If the genital opening is located right above the flippers, then it's a female.

Females have two genital openings.

Male

Female



If you find animals shown in this guide that are sick, stranded, injured, dead, or entangled in rope or fishing line, call the DOC hotline.

0800 DOC HOT
or **0800 362 468**

This and other identification guides published by DOC can be found at:

*[www.doc.govt.nz/our-work/conservation-services-programme/csp-resources-for-fishers/
protected-species-identification-guides/](http://www.doc.govt.nz/our-work/conservation-services-programme/csp-resources-for-fishers/protected-species-identification-guides/)*

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Conservation
Te Papa Atawhai