If you see ORCA please call URGENTLY

0800 SEE ORCA
0800 733 6722

GUIDE TO NEW ZEALAND ORCA

orca research trust
orcaresearch.org

Black & White Fish Publications

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First published on World Ocean's Day,
8 June 2020

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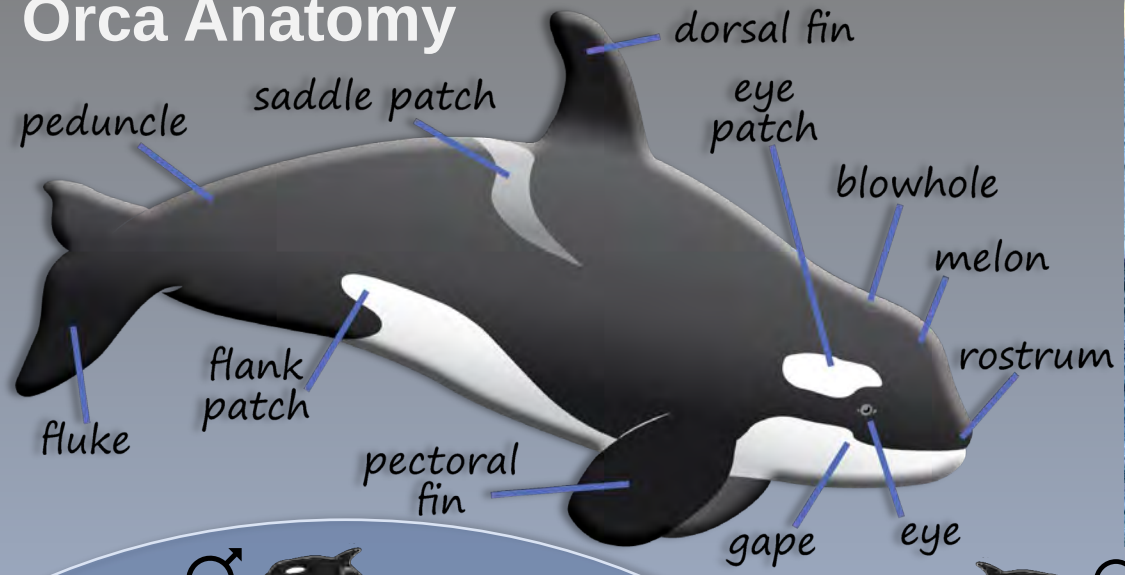
How to cite: Visser I. N. & Cooper T. E. (2020).
Orca Research Trust Guide to New Zealand Orca.
Black & White Fish Publications. Tutukaka.
New Zealand. Pp 36. ISBN. 978-0-9876643-2-7

Available also as an e-publication from:
www.orcaresearch.org

Orca Anatomy



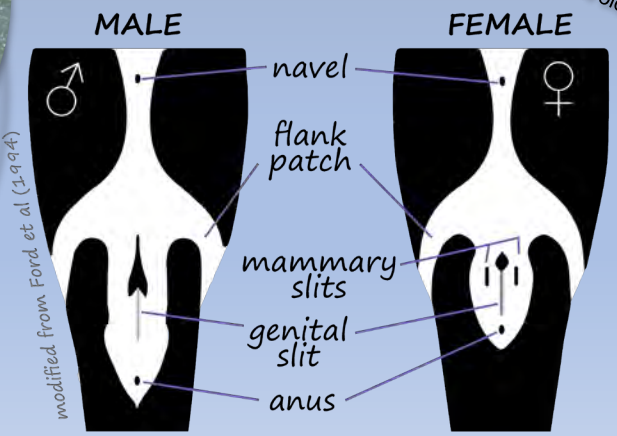
Orca are sexually dimorphic; (adult females are smaller than adult males)

♂

Adult male: 5-9m, 5,600-9,000kg, dorsal fin up to 2m.

♀

Adult female: 4.5-8m, 3,800-8,000kg, dorsal fin is often curved ('falcate').



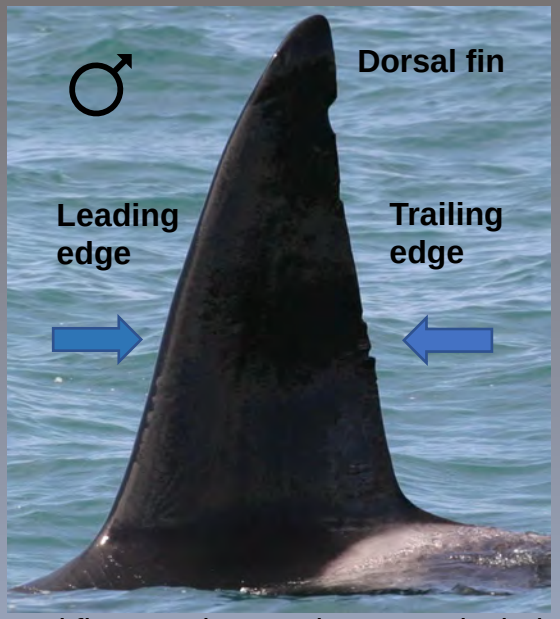
New-born: 2-2.5m, up to 180kg.

Photo Identification (Photo-ID)

Individuals can be identified by their dorsal fin, notches, unique pigmentation and markings.

Over time, the edges of fins or flukes may acquire notches or dents.

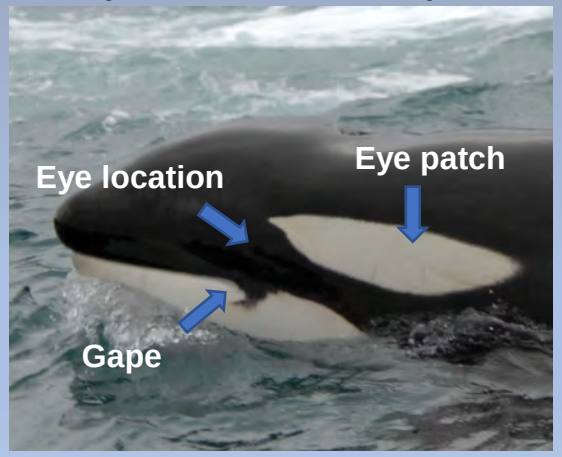
Typically, pigmentation does not change shape although it may fade or intensify over time.



Dorsal fin may change shape, particularly in males as they mature (page 20).

Overall, for each feature look for the shape and size, and then notches, cuts, marks and scars.

Eye Patch & Mouth Gape



The eye patch is just above and anterior to the eye. Each is unique, like a fingerprint (page 6).

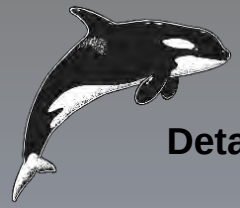
Saddle Patch

Saddle patches develop in the first 6 months after birth and then remain consistent. Acquired scars may fade over time (page 5).

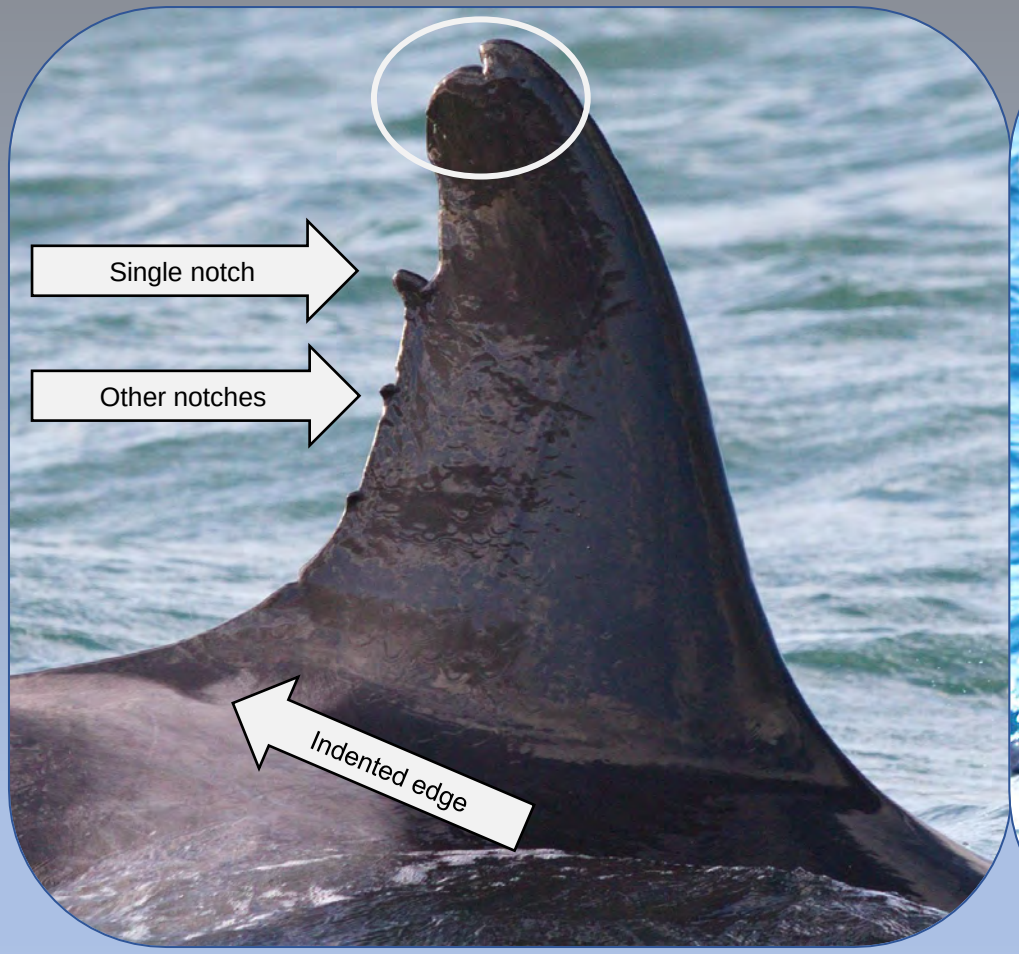
Tail Flukes

Pigmentation varies around margins and occasionally on the flukes. The tips of adult male flukes curl inwards (page 1).

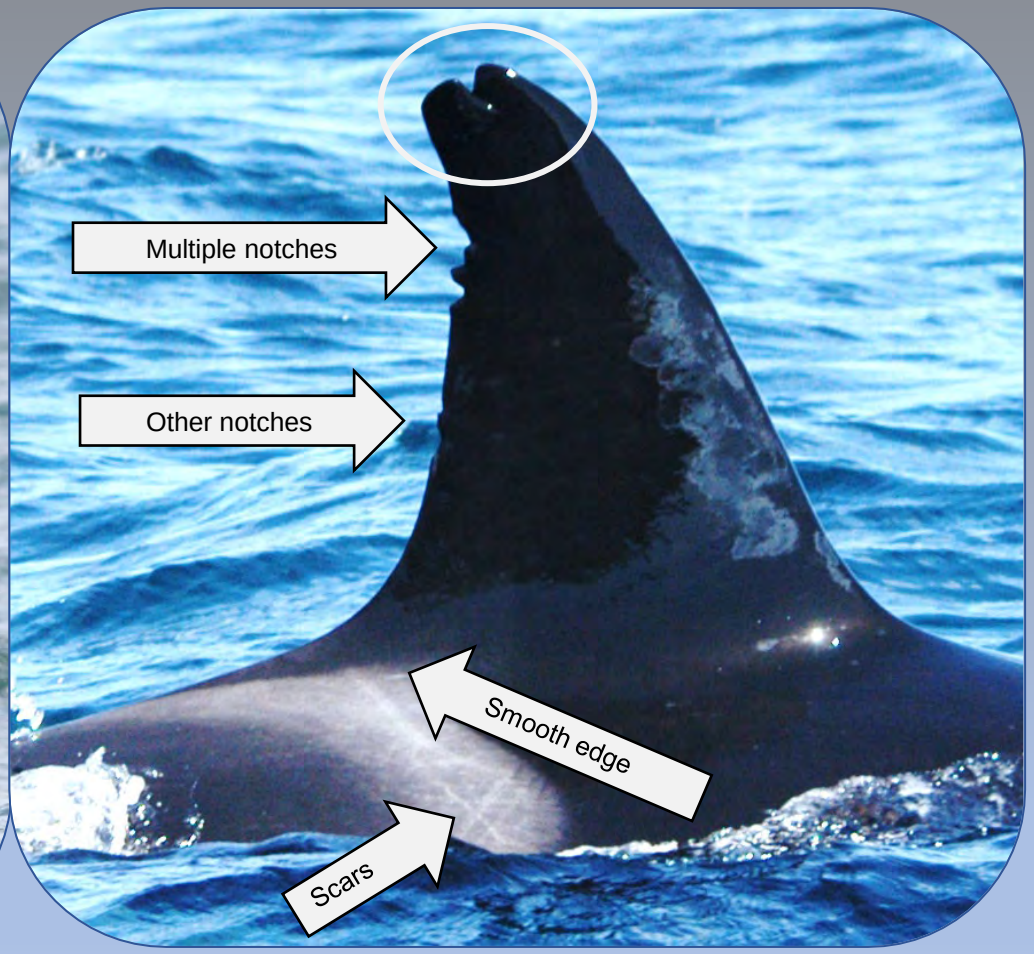
Why Photo-ID?



Individuals can look very similar.
Detailed comparisons can be made.



NZ27 Yin

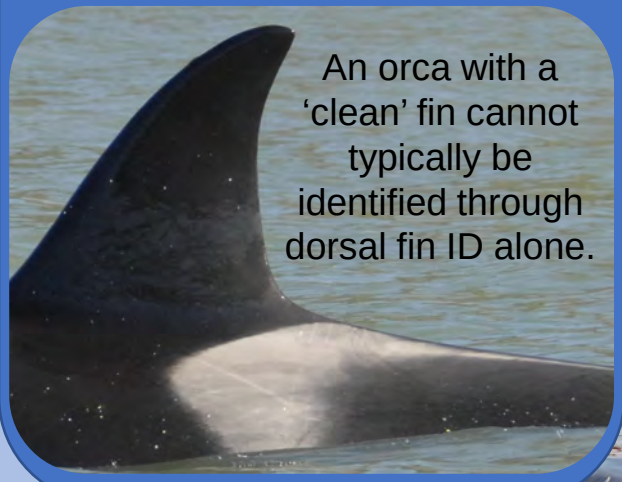


NZ32 Astrid

Why Photo-ID?
continued

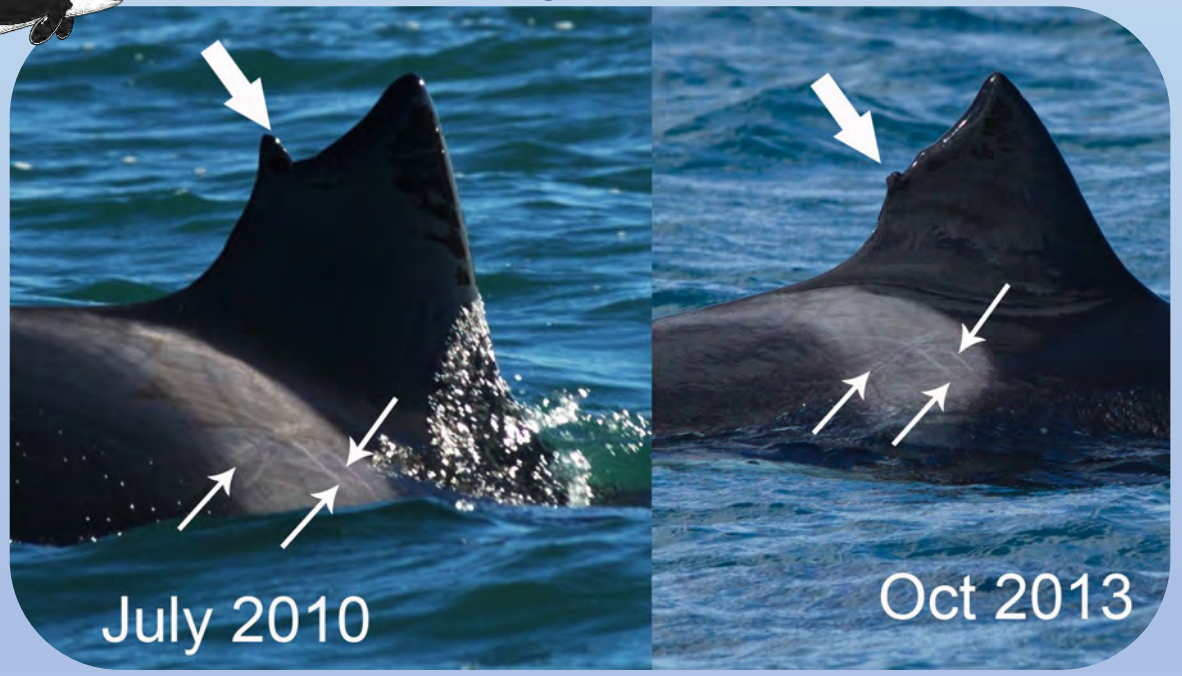
Limited markings on a dorsal fin (termed 'clean') can make it harder to recognise an individual.

Subtle pigmentation variations and scars can help with identification.



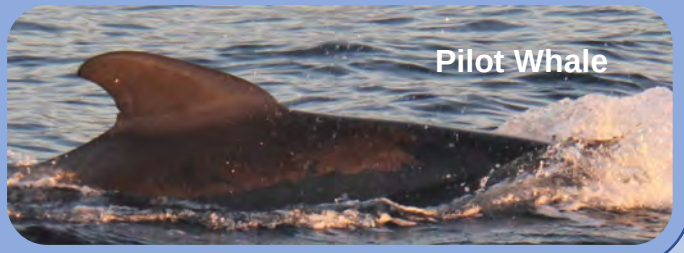
An orca with a 'clean' fin cannot typically be identified through dorsal fin ID alone.

Individuals can change over time.



Between 2010-2013, this female called 'A1', lost a distinctive feature on her fin (which she had since 1977). We could still match her, based on her overall fin shape and the scars on her saddle patch. (Read more about A1 on page 19).

Proof of presence.
Confirms species and individuals over time.



NZ4 Venus

NZ56 Lanky
'Smudged' area under dorsal fin.

NZ132 Xiphosura
Away from spinal ridge, with long narrow 'tail'.

ANT-C-46
Dark area creates slightly 'open' saddle.

Saddle patches can show wide variation across individuals (*above*).

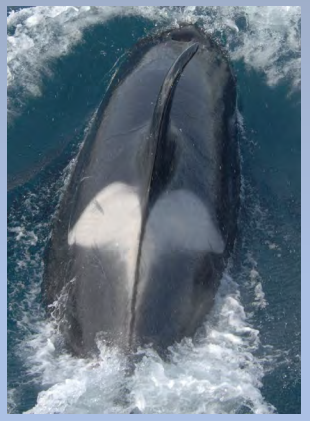
NZ20 Double Dent

The width of a saddle patch can vary from wide (*left, top*) to narrow (*left, bottom*).

Saddle patches

Saddle patches are located just behind the dorsal fin (page 1) and are found in varying intensities of grey.

NZ133 Pickle



Size and shape is typically the same on the left and right sides, but subtle differences can be found (*above; left, middle and box at right*).

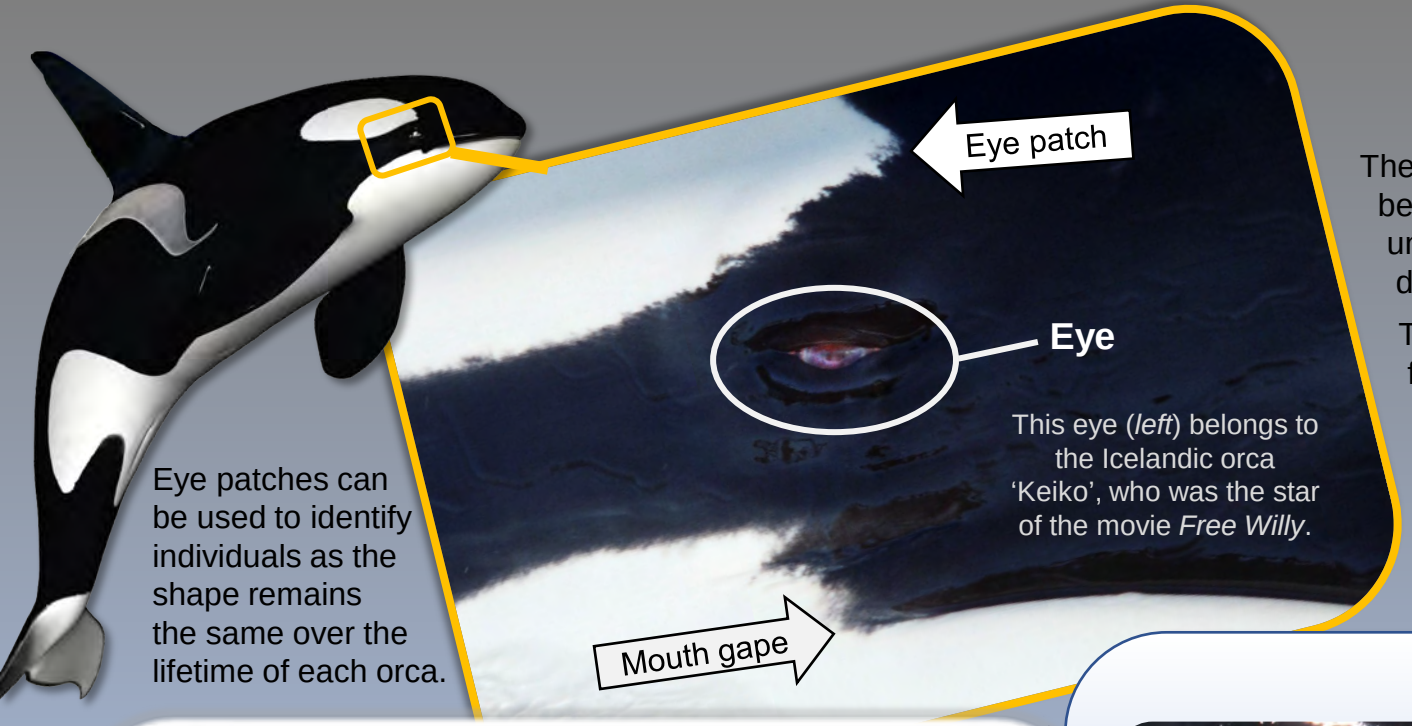
A saddle patch with a dark area 'inside' (*above*) is called an 'open' saddle patch. This female is an Antarctic Type 'A' orca (pages 25-26). Her name, 'Osta', is an acronym from the first letters of **o**pen-**s**addle-**T**ype-**A**.

Eye patches

The eye patch is located above and slightly behind the eye (*left* and page 1). Each is unique in shape and orientation and also differs on each side of the face.

Typically, there is more variation at the front of an eye patch, but subtle variations occur all around the edges and occasionally inside the white pigment.

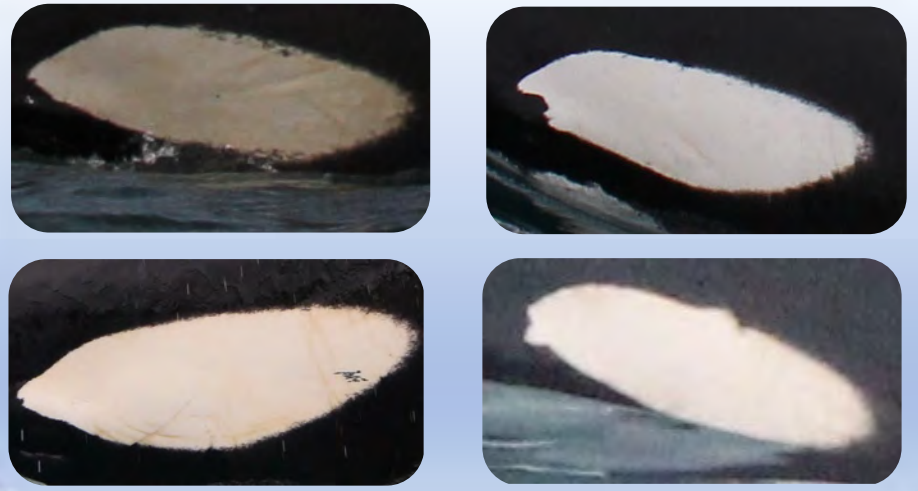
Some common features are ‘hooks’, ‘bumps’, ‘jagged’, ‘indents’ and ‘dots’. Scratches can be frequently seen.



This eye (*left*) belongs to the Icelandic orca ‘Keiko’, who was the star of the movie *Free Willy*.

Eye patches can be used to identify individuals as the shape remains the same over the lifetime of each orca.

LEFT



RIGHT

Some examples of New Zealand Coastal orca eye patches.

ID Guide Key

The orca in this ID Guide are iconic and/or have been recorded ≥10 times.
They are not ordered by catalogue number, rather they are 'clustered' with similar looking individuals, to help you compare and identify who you have seen.

Note: It can be many years between sightings of an individual and some features may have changed.

This orca has featured in a scientific publication.

Page 36 has a link to some of these publications.

Sex (in this case, male).

Sighting location (in this case North + South Islands).

Ecotype colour-coded circle (in this case New Zealand Coastal).

The other two ecotypes in this guide are:

See the next page for more Info.

Pelagic

Antarctic

Catalogue (in this case, New Zealand).

Catalogue number (in this case, 123).

NZ 123

Koru

Name (in this case, Koru).

Individual information

Fin injury (likely from being shot), curled over like a fern frond (Koru). Stranded in 2013 in Kaipara Harbour, North Island (page 31).

Ecotypes

Simply put, an “ecotype” refers to a distinct population of a species. Typically, ecotypes differ in body shape/size as well as behaviour (including hunting and social structure).

Currently, there are an unknown number of orca ecotypes; a few USA scientists have proposed 22 ecotypes worldwide. However, those do not include some of the ecotypes around New Zealand, Argentina, Papua New Guinea and a range of other locations.

New Zealand Pelagic

(pages 23-24)

Occasionally, orca who spend most of their time elsewhere, visit NZ shores. These include the Pelagic (open ocean) (*above*) and Antarctic populations (*below*).

New Zealand Coastal

(pages 9-22)

The most commonly seen orca around New Zealand are those of the Coastal population.

Antarctic (x3 Types)

(pages 25-29)

New Zealand Coastal Orca

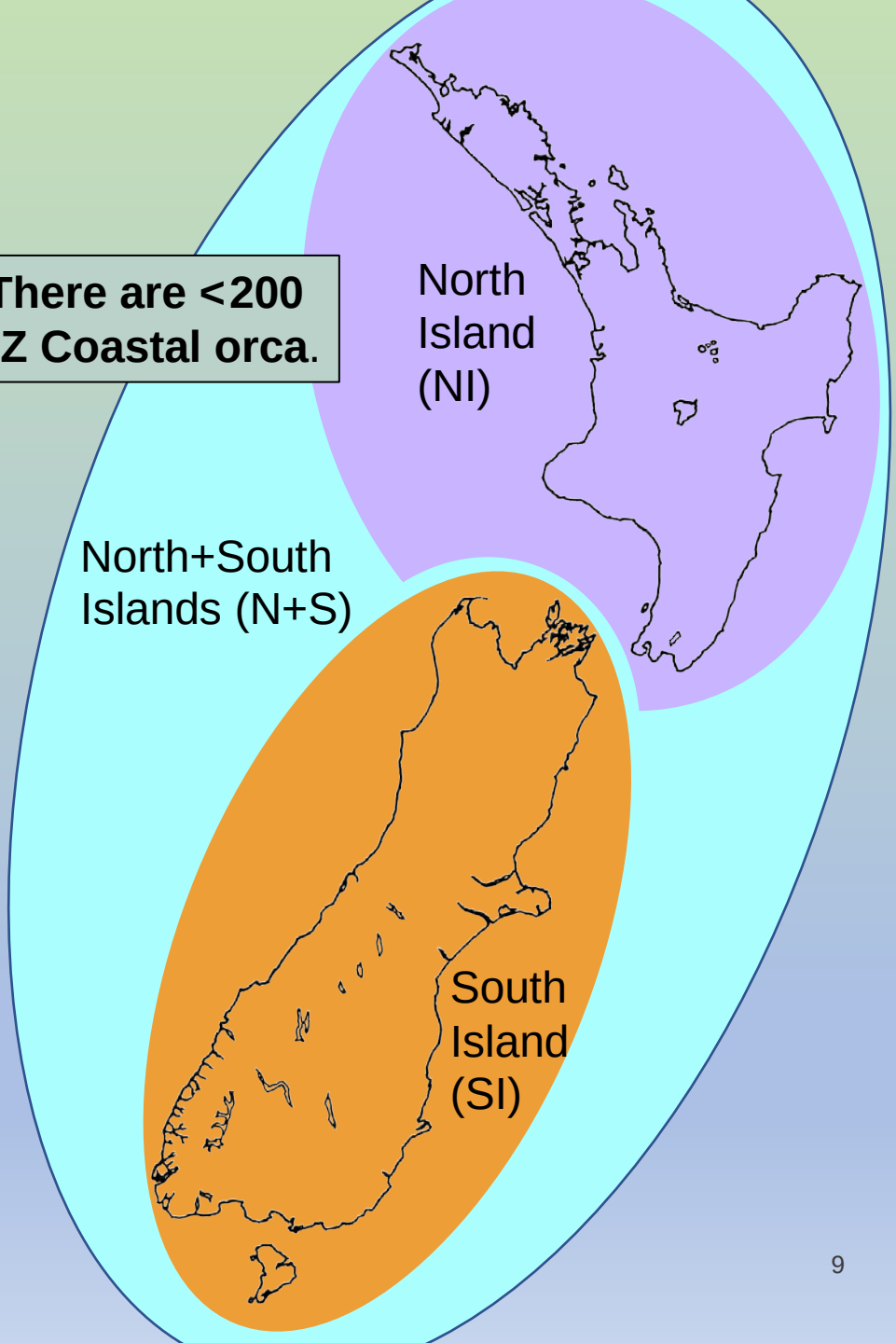
The New Zealand (NZ) Coastal orca ecotype is unique. They are different from the 'Transient', 'Resident' or 'Offshore' ecotypes, as those live in the North Pacific and hunt different prey.

There appears to be three subpopulations within the NZ Coastal orca ecotype. The map (*right*) shows their generalised distribution and is not a reflection of how far offshore they travel.

These orca are one of the few populations in the world known to enter harbours and urban waterways. Occasionally, they can be seen close to the coastline as they hunt (*below*).

NZ THREAT CLASSIFICATION:
Threatened: Nationally Critical.

There are <200 NZ Coastal orca.

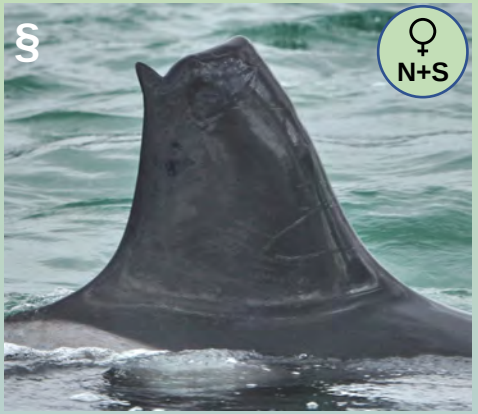


NZ Coastal Orca - females

Photos / video are always appreciated, please submit to orca@orca.org

NZ1 A1

Top of her fin is missing (probably from fishing gear entanglement). 1st orca catalogued in NZ and is >50 years old (page 19).



NZ44 Ragged Top

Top of fin is missing (possibly bitten off or through fishing gear entanglement).

NZ133 Pickle

Top of fin missing from unknown trauma. Presumed younger sister of Funky Monkey (pages 21-22).

NZ34 Jigsaw

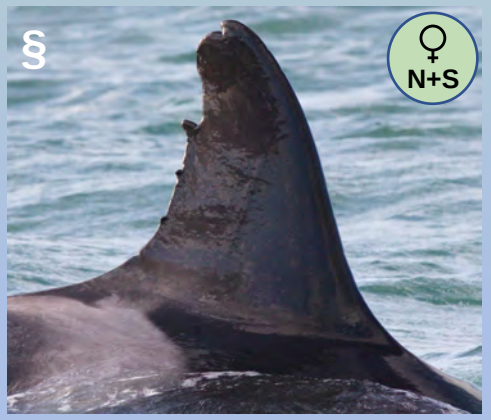
Tip of her fin injured (unknown cause). Looks like part of a jigsaw piece. Usually travels in a small group with Groovy.

NZ25 Prop

Series of very deep cuts in her spinal ridge from a boat propeller. Has notably small dorsal fin with 'hook-like' shape.

NZ142 Striker

Deep cut in the leading edge of the fin and a series of small cuts in her spinal ridge from a boat propeller. Travels with A1 and Rinky Dinky.



NZ27 Yin

Multiple notches in her fin, including at tip. Rounded fin. Presumed mother of Putita and Rua.

NZ32 Astrid

Multiple notches in her fin, including at tip. Travels with Bullet.

NZ Coastal Orca - females

Photos / video are always appreciated, please submit to **orca@orca.org**

NZ4 Venus

Clean fin. 4th orca catalogued in NZ and is likely > 50 years old. Wide saddle patch with 'scratches' in saddle patch.

NZ9 Flean

Small flat zone on leading edge, at tip of fin, otherwise clean. Fin is very large for a female. Saddle patch has multiple dark scars.

NZ56 Lanky

Tall, narrow and rounded fin with scar near base. 'Smudged' area on both saddle patches. > 30 years old.

NZ132 Xiphosura

Clean fin. The shape of her saddle patch resembles a horseshoe crab with its long tail (the species Latin name is Xiphosura).

NZ20 Double Dent

Two dents in leading edge of dorsal fin. Presumed to be the mother of Rudie. Stranded (page 31).

NZ139 Nevus

Small notches in trailing edge of fin. Saddle patch has dark line / scar. Travels with Pseudo Olav.

NZ16 Nicky

Large downward V-shaped nick in trailing edge of fin. Presumed mother of Koru and Niko.

NZ39 Stealth

Rectangle-shaped notch out of trailing edge of fin. Hunts with her group using 'stealth mode'.

NZ Coastal Orca - females

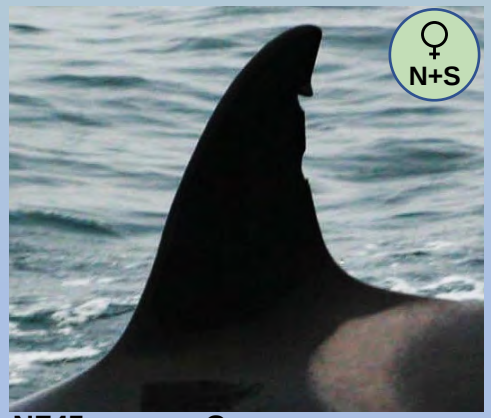
Photos / video are always appreciated, please submit to orca@orca.org

NZ51 Dian

Small dent in tip of fin, otherwise unmarked ('clean'). Cuts in peduncle from entanglement or boat strike. Rescued from cray pot line entanglement in 2014 (page 34). Travels with Miracle and ANZAC. Similar to ANZAC (cuts in peduncle) and Flean (dent in tip of fin).

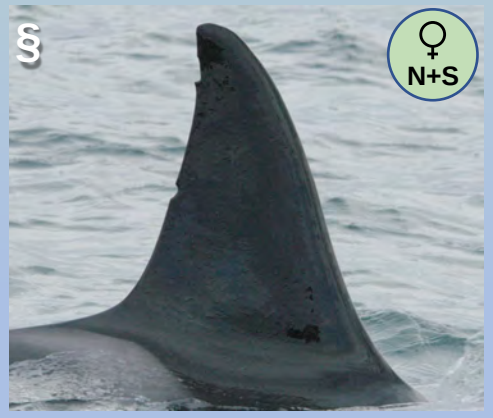
NZ125 Anzac

Observed on ANZAC day (25 April) with open wounds from a boat strike injury. Missing the tip of right tail fluke and has a cut in peduncle. Often tail lobs. Scar on right saddle patch.
Similar to Dian (cuts in peduncle) and Xiphosura (clean fin).



NZ45 Cappy

Notches in trailing edge of fin. Travels with Serpentine and Patu.



NZ60 Porky

Very wide-based fin with multiple notches. Travels with Roundtop.

NZ74 Serpentine

Series of notches in trailing edge of her tall fin. Travels with Looper.

NZ138 Ocean

Has a sickle shaped fin with a large nick near the base, which has a flap of skin.

NZ Coastal Orca - males

Photos / video are always appreciated, please submit to **orca@orca.org**

NZ3 Olav

Top of fin missing (probably from fishing gear entanglement). Notch near fin base. Third orca catalogued in NZ. >50 years old.

NZ137 Pseudo Olav

(also known as False Olav). Top edge of fin missing, very small notches near base of fin. Narrow saddle patch. Travels with Nevus.

NZ151 Patu

Top edge of fin missing. 'Smudged' area on both saddle patches. Travels with Looper.

NZ145 Scallop

Large "scallop" out of fin (unknown cause, possible shark bite). Despite a large section missing, his fin remains upright.

NZ15 Corkscrew

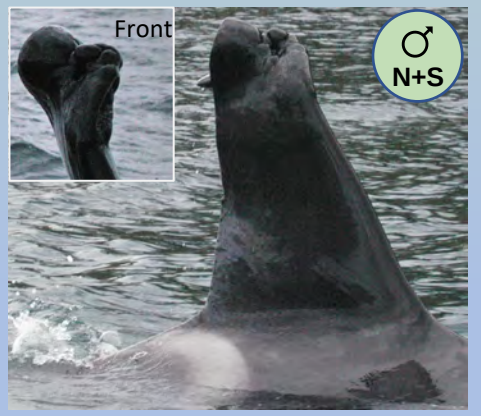
Fin is zig-zag shaped, with large notch in leading edge. Often seen with Nicky and Ragged Top.

NZ68 Funky Monkey

Fin is zig-zag shaped, no notch. Presumed older brother of Pickle.

NZ123 Koru

Fin injury likely from being shot, curled over like a fern frond (Koru). Stranded (page 30).



NZ130 Bullet

Injury to the top of the fin (likely from being shot) resulting in the tip collapsing to his left side. Travels with Flean and A1.

NZ Coastal Orca - males

Photos / video are always appreciated, please submit to **orca@orca.org**

NZ19 Nobby

Small notches and dent in trailing edge of fin. Cut in front base of fin (probably from fishing gear entanglement). Stranded (page 20).

NZ26 Topnotch

Series of notches & marks on trailing edge of fin (some from interaction with another orca). >50 years old.

NZ126 Putita

Series of small notches in trailing edge of fin, many near base. Presumed son of Yin. Stranded multiple times off Northland.

NZ136 Niko

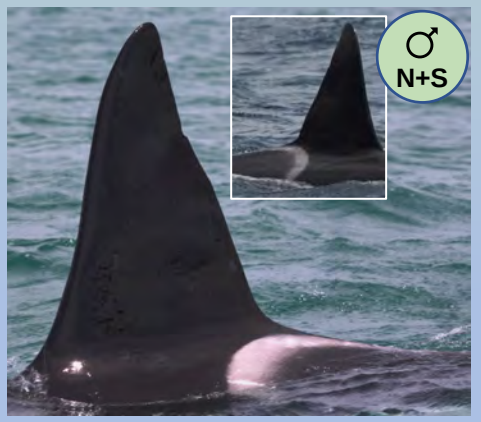
Multiple small notches and marks on the trailing edge of his fin. Presumed to be son of Nicky and younger brother of Koru.

NZ25 Rudie

V-shaped notch and multiple small notches in trailing edge of fin. Stranded (page 31).

NZ37 Groovy

A "groove" shaped notch in trailing edge of his fin. Fin 'leans' backwards. Travels with Jigsaw.



NZ129 Mr 11

Exceptionally broad fin with a small notch in the trailing edge. Very narrow saddle patches.

NZ141 Rinky Dinky

Multiple small notches in trailing edge of fin. Fin 'leans' backwards. Usually travels with A1.

NZ Coastal Orca - males

Photos / video are always appreciated, please submit to orca@orca.org

NZ21 Roundtop

Top of fin is rounded, small series of notches. >50 years old. Travels with Porky. Stranded multiple times in Northland.

NZ147 Looper

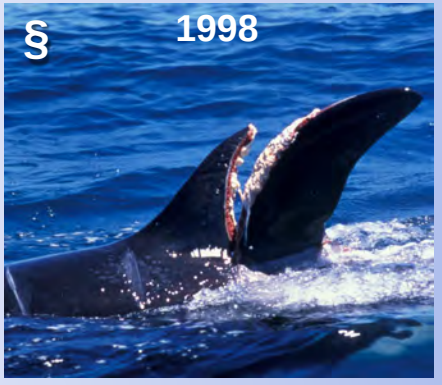
Damage to leading and trailing edge of fin base (probably from fishing gear entanglement). Travels with Serpentine.

NZ29 TJ

Multiple small notches on trailing edge of fin. 'Smudge' on right saddle patch.

NZ91 Rua

Multiple small notches on trailing edge of fin. Stranded (page 31) Presumed older brother of TJ and son of Yin.



NZ101 Ben

In 1998 (when he was approx.16 years old), Ben was run over by a boat. The damage to his dorsal fin was significant and resulted in the posterior portion collapsing. Now, fully mature, his fin drags in the water, causing severe strain and 'tearing' at the base. The white scar at the base of his fin is from a large blister he received during a stranding in 1997 (see Strandings page 31).

Ben and other orca like Prop and Striker (both on page 10), who have been hit by boats, highlight the need to drive responsibly around orca. Please see page 32 for Boat Driving Regulations.

NZ146 Pac-Man

Notches on trailing edge. Damage to leading edge of fin, (probably fishing gear entanglement). Right saddle patch resembles Pac-Man icon.

NZ Coastal Orca - Behaviour

Ray Hunt
Specialise in ray hunting. Often come in very close to the shore.

Shark Hunt
May slam tail down on shark like a ‘karate-chop’, or ram them.

Surf
Surfing behind a boat or on a natural wave.

Travel Tight
Travelling close together, often when sleeping.

Pectoral Wave or Slap
Pectoral fin raised into the air and waving or slapping on the water.

Tail Wave or Lob
Tail raised into the air and waving or slapping on the water.

Play
Play with each other or objects such as seaweed.

Shore Patrol
Patrolling in shallow waters, surf zones, estuaries and harbours.

Breach
Leaping into the air (may come only halfway out of the water).

Spy hop / Face Out
Head out of the water. Not commonly seen in New Zealand.

Porpoise
Swimming fast and leaving the water like a dolphin / porpoise.

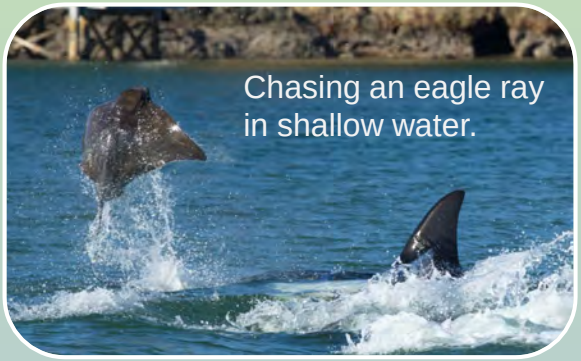
Blow
Exhaling moves surface water away. Warm breath creates mist.

NZ Coastal Orca - Prey Menu

NZ Coastal orca are opportunistic feeders. Their diet is varied; they eat a wide range of prey including but not limited to rays, sharks, fin-fishes, birds and octopus.

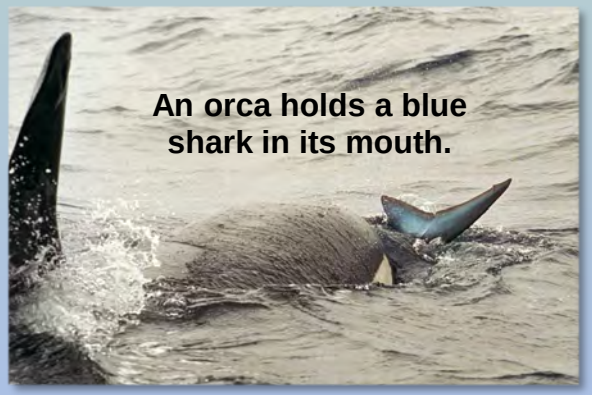
Orca eat 50-130 kg of food/day.

Shark Hunting:
NZ orca have been recorded eating seven species of sharks.



Chasing an eagle ray in shallow water.

Seals and sealions have not been verified as NZ Coastal orca prey.



An orca holds a blue shark in its mouth.

Left : Hunting a broadnose seven-gill shark, both species 'faced off' and displayed their teeth (*top*). The orca won, and ripped open the body cavity of the shark, by pulling on the left pectoral fin (*bottom*), to get at the liver.

Ray Hunting

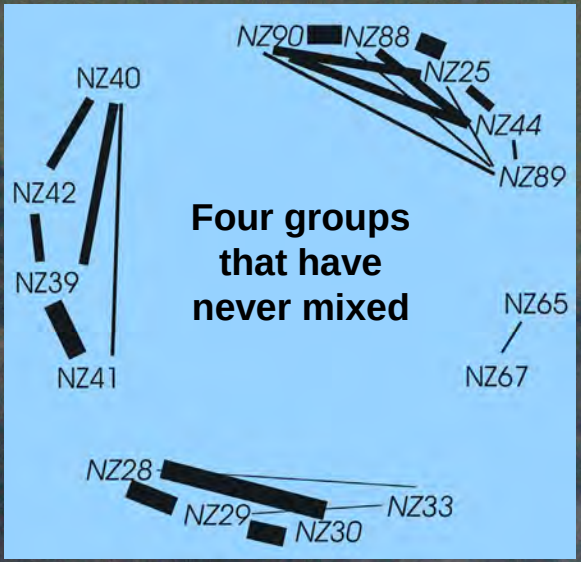
NZ Coastal orca are prolific ray hunters and have been seen taking four species of rays.

They use specialised strategies when they hunt.

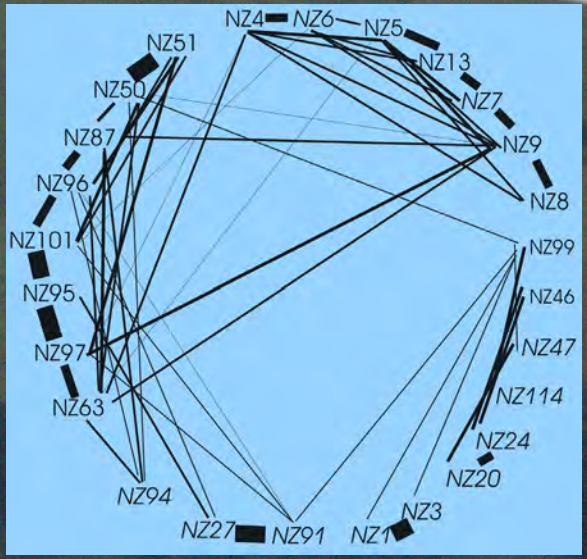
They may chase the ray in shallow water (*left*), hover over a ray who may hide in the seaweed (*right*), and/or pick the ray up by the tail while another orca bites the head.

Hunting for rays can be a dangerous pastime because of the venomous spines and orca have died from this.

Who hangs out with whom?



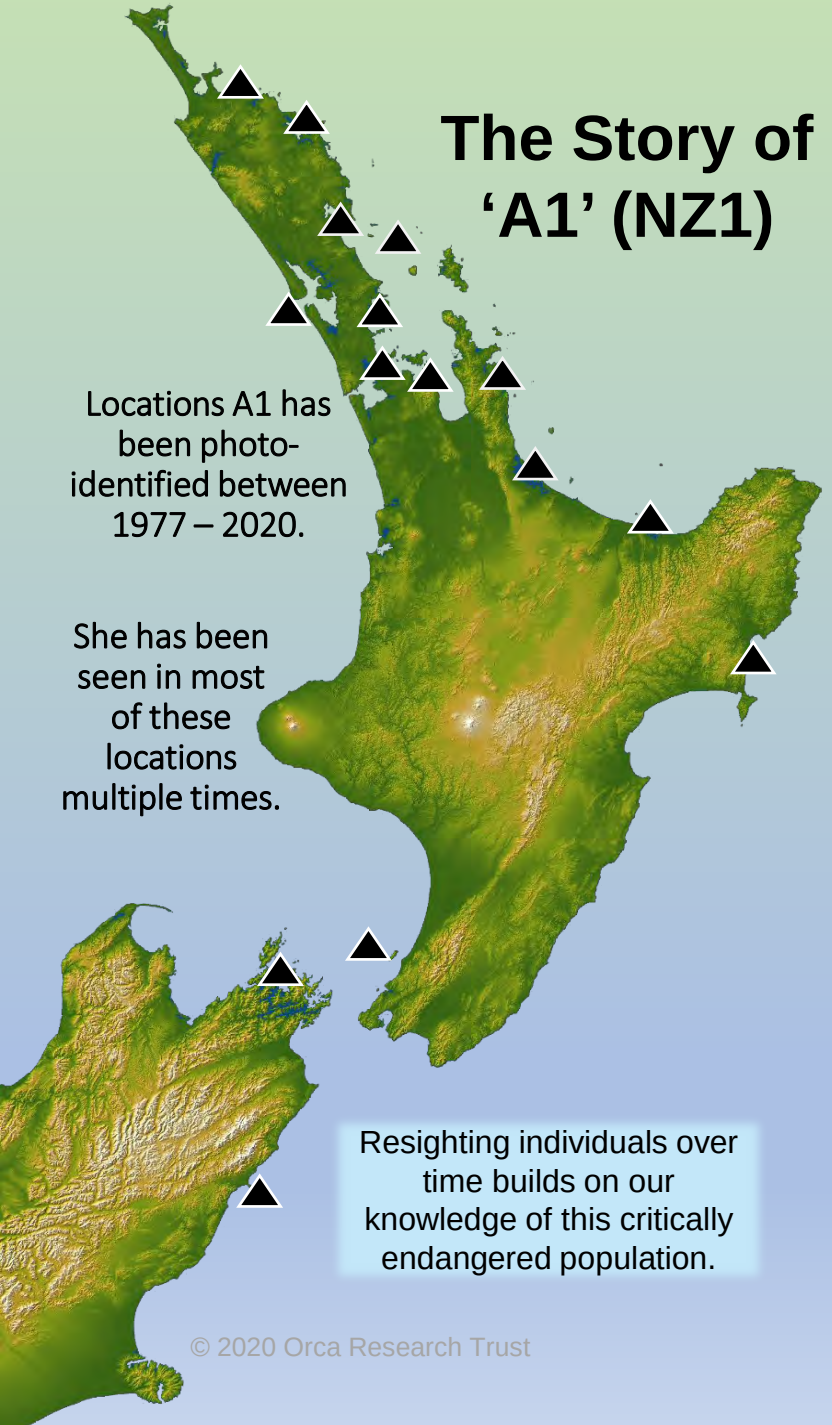
These are ‘circle plots’ to show the associations between orca who have been photographed together at least five times. The thicker the line between the catalogue number, the more times they have been photographed together.



The social network for some NZ Coastal orca can be complex. These 26 orca are all connected to each other.

This data was collected by Dr Ingrid N. Visser, for her PhD study and some associations will likely have changed since then.

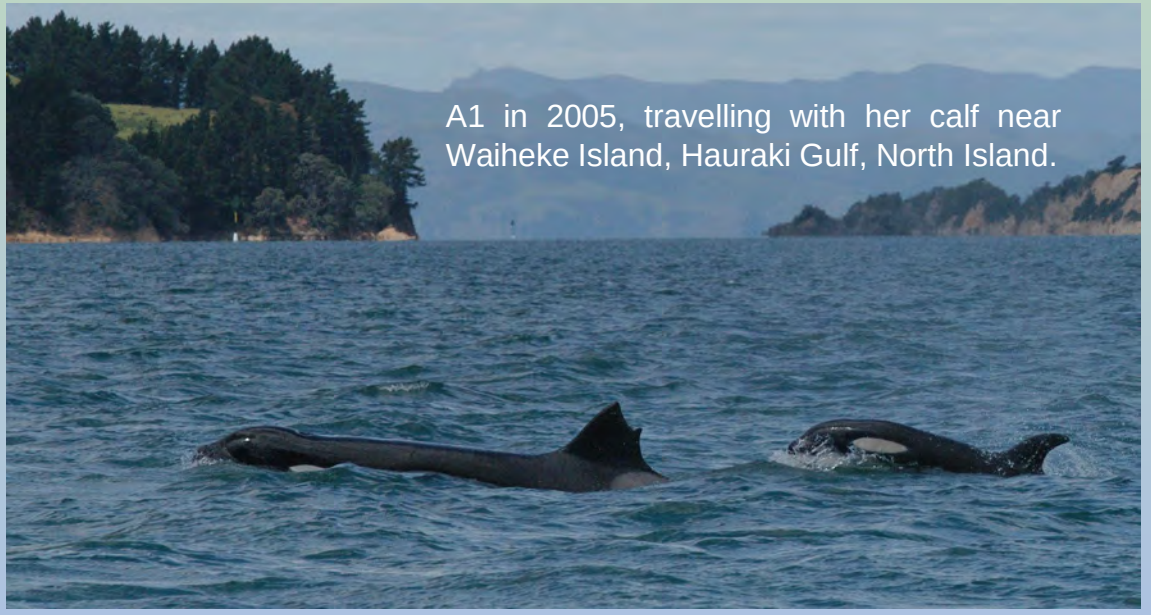
The Story of ‘A1’ (NZ1)



Resighting individuals over time builds on our knowledge of this critically endangered population.

The first orca to be catalogued in NZ waters was NZ1, also known as ‘A1’. Her name is derived from her being in the first group (group A) and that she was the first orca (number 1).

The earliest record of A1 was in 1977, when she was filmed swimming under the Auckland Harbour bridge (North Island). She wasn’t documented again until the summer of 1990/1991 when she was photographed off Kaikoura (South Island). In both instances she was with a male known as Olav (NZ3), but she has also been documented with at least 50 other NZ Coastal orca.

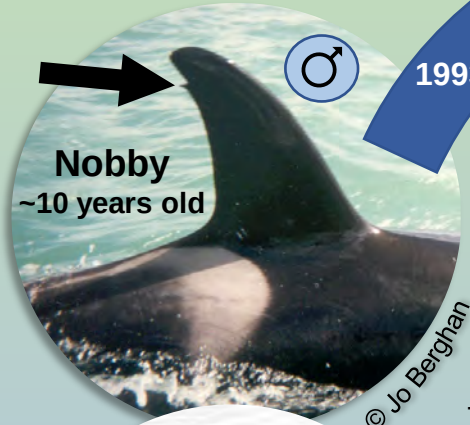


A1 in 2005, travelling with her calf near Waiheke Island, Hauraki Gulf, North Island.

In 1977, A1 was already an adult. The average age an orca reaches sexual maturity is 12-16 years old, so we use 1966 as her year of birth, although she may have been born many years before then. By 2020, A1 was assumed to be at least 54 years old, but that is not old in orca terms. In the Pacific Northwest, there was a female orca known as ‘Granny’, who was calculated to be over 100 years old when she was last photographed.

A1 already had the top of her fin missing when first documented. We believe she lost it due to fishing gear entanglement. Her most recent sighting was in 2020 off Kaikoura.

The Story of Nobby (NZ19)



1993

When Nobby was first photographed in 1993 (*left*), we estimated that he was born in 1983 because of the size of his dorsal fin.

The dorsal fin of an adolescent male orca, like Nobby (*left, top*) can look similar to an adult female (*left*).

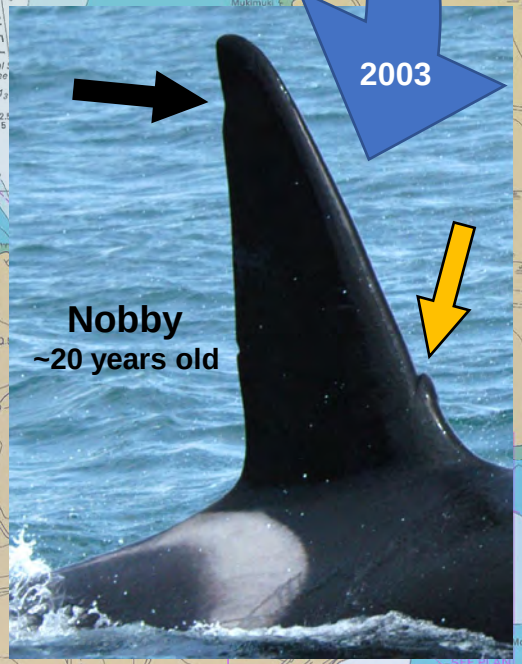
Nobby stranded on Papamoa Beach, North Island, in 2008 and was rescued (*below*).

Nobby was photographed near a landmark called Nobby's Point in the Bay of Islands, North Island. He also had a little 'knobby-bit' sticking out, near the tip of his dorsal fin (*black arrow left*).

Nobby's Point

Over time, as Nobby has grown (*blue arrow, left*), the knob at the tip of his fin has changed so much that by 2003 it had disappeared and now shows up only as a 'dent' (*black arrow, below left*).

2003



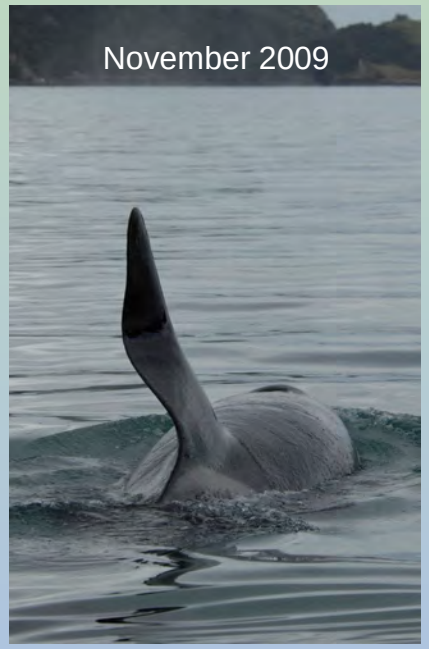
However, Nobby now has another knob at the front of his dorsal fin (*orange arrow, left*), presumably from when he became entangled in fishing gear.

The Story of Funky Monkey (NZ68)

Born in the early 1990's, Funky Monkey gets his name from the unusual and 'funky' shape of his fin.

We are unsure why his fin has grown this way (but see text to *left*). The kinks started to show when he was ~10-12 years old.

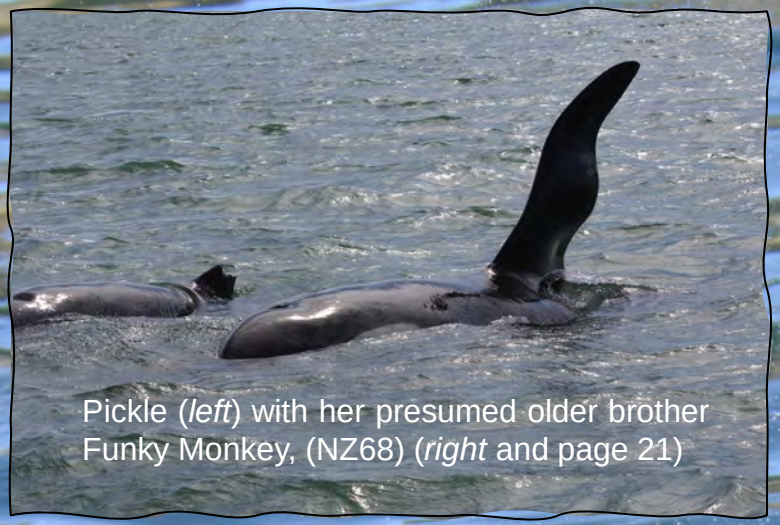
Funky Monkey has a large hollow on his left side, (directly below his dorsal fin; *right,* 2013 and 2020 images). Such a cavity suggests a trauma/spinal injury from when he was young, e.g., being hit by the front of a boat.



As he has grown, the number of kinks in his fin and their degree of severity has increased (time line *above*).

Funky Monkey (*right*), travelling with his presumed mother (*middle*) and his presumed little sister (Pickle, NZ133) (left and page 22)

The Story of Pickle (NZ133)



Pickle (*left*) with her presumed older brother Funky Monkey, (NZ68) (*right* and page 21)

Born in September 2010, Pickle was named by school children.

When she was just a few weeks old, the top of her dorsal fin was injured, from an unknown cause.

Pickle and her family mostly travel around the northern North Island, but they are also occasionally seen off the South Island.

She is often seen in water < 2 m deep when she is hunting.

By the time Pickle was only one year old, she was already catching rays (*above*). She has become a bold and proficient hunter.

New Zealand Pelagic Orca

These orca are typically found in pelagic waters (open ocean) therefore encounters are rare. Occasionally they come close to shore (*right*).
All NZ Pelagic orca have extensive cookie cutter shark bites (oval / circular wounds and scars).

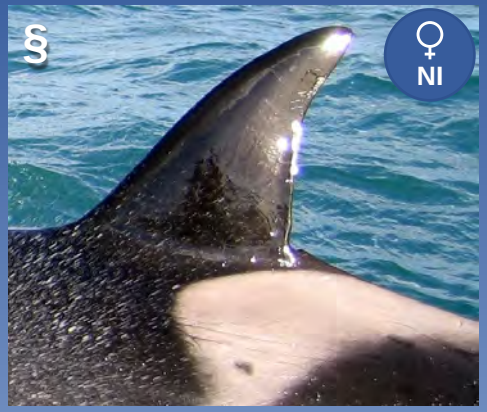

Orca saddle patch with a fresh oval cookie cutter bite.

Above: This Pelagic orca (catalogue # NZOP-007) (page 24) has 17 visible cookie cutter bites. Fifteen wounds are healed scars (numbered in yellow) and two round bite wounds are fresh / open (numbered in red).

Pelagic orca specialise in hunting dolphins or small whales. Here a female orca (catalogue # NZOP-006, page 24), has knocked a *Pseudorca* (false killer whale) high into the air).

NZ Pelagic Orca

Photos / video are always appreciated, please submit to orca@orca.org



NZOP-001
Notch in base of trailing edge of fin. Very light grey saddle patch.

NZOP-003
Notch in base of trailing edge of fin. Scar near saddle patch.

NZOP-005
Clean fin. Cookie cutter bite mark in spinal ridge has left a 'dent'. Dark scars in saddle patch.

NZOP-006
Clean fin. Dark line on saddle patch. See page 23 for picture of Pseudorca attack.

These orca have all been photographed off Northland and associate with each other. Most of them were involved in an attack on *Pseudorca* (false killer whales) in the Bay of Islands (page 23). All have been documented with fresh or healed cookie cutter shark bite marks.

NZOP-007
Clean fin. Dark scars on saddle patch (see more bites on page 23).

NZOP-008
Clean fin. Various cuts on saddle patch including two on spinal ridge (possibly boat strike).

Cookie cutter sharks are typically found in tropical to sub-tropical and deep waters. The southernmost record of one in NZ waters is off Tolaga Bay, North Island.

These sharks are small (42–56 cm in length), however they have impressive teeth (*right*). Once healed, the scars often have a dark and 'puckered' appearance.

Antarctic & Sub-Antarctic Orca

Sightings of orca around our country are not just limited to the NZ populations. Antarctic orca have occasionally been documented travelling past the North Island and have stranded near Wellington (*right*).

DIATOMS (yellow colouring)
Diatoms are single-celled algae which can be free-floating or grow on surfaces. On orca they produce a yellow 'film' that typically increases over summer.

The world's first Antarctic orca catalogue was established in 2000 by the Orca Research Trust.

Type A

Black and white. Similar in appearance to NZ Coastal population.

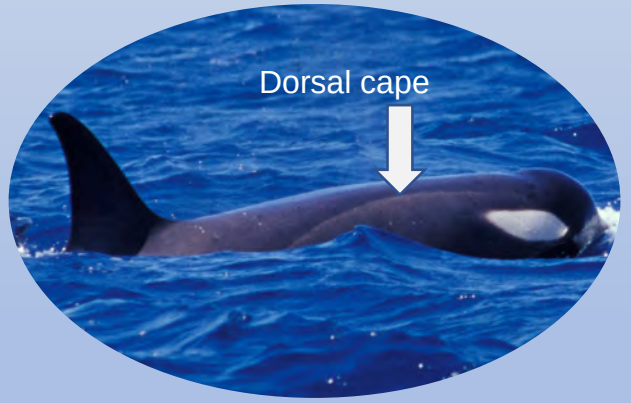
NOTE: Not yet confirmed in NZ waters.

Type B

Grey and white, large eye patches. Dorsal cape. Often has cookie cutter shark bite marks.

Observed in the Bay of Islands in 1997.

Type C



Grey and white, eye patches narrow and angled. Dorsal cape. Often has cookie cutter shark bite marks. Overall, small in body size.

Observed in Northland in multiple years.

Type D

Black & white, very small eye patch, rounded melon. Long body, narrow and pointed dorsal fin.

17 stranded at Papapararumu Beach, North Island, in 1955. All were shot.

Antarctic Type A : NOT YET CONFIRMED IN NZ

Photos / video are always appreciated, please submit to orca@orca.org

ANT-A-10 Solar

Very tall fin with 2 large notches on trailing edge. 1st ID'd during a solar eclipse (Nov 2003).

ANT-A-15 Eclipse

Top of fin is missing (probably from fishing gear entanglement). 1st ID'd during a solar eclipse (Nov 2003).

ANT-A-19 Whisper

Tall clean fin. Cookie cutter shark bite marks and faint 'open' area on saddle patch.

ANT-A-90 Osta

Tall fin with V-shaped notch. Distinctive 'open' saddle patches.

ANT-A-92

Exceptionally tall fin with backward angled slope on leading edge. Small notch in trailing edge.

ANT-A-93 Pachyderm

Small notches near top of fin. Left saddle patch resembles an elephant (old Latin name for the elephant group = Pachyderm).

All these individuals except ANT-A-71 (*below*) are known to associate with each other.

ANT-A-71

Exceptionally tall fin with two large notches in trailing edge. Multiple scars on very wide left saddle patch.

ANTARCTIC KILLER WHALE
Est. 2000
IDENTIFICATION CATALOGUE

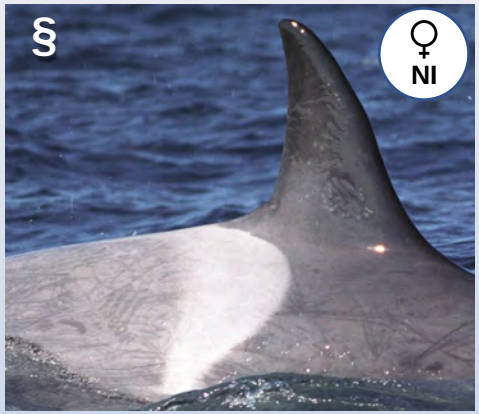
Type A are black, white and grey (like NZ Coastal)

Type A orca (Whisper & friend) swim by a tabular iceberg.

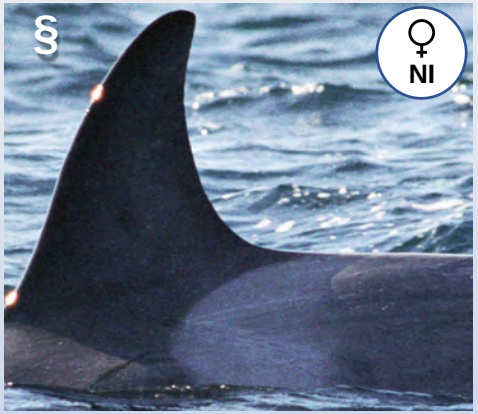
Antarctic Type B

Note that Type B orca can look dark in photographs, depending on where the sun is, exposure etc. The key is their eye patches.

Photos / video are always appreciated, please submit to orca@orca.org



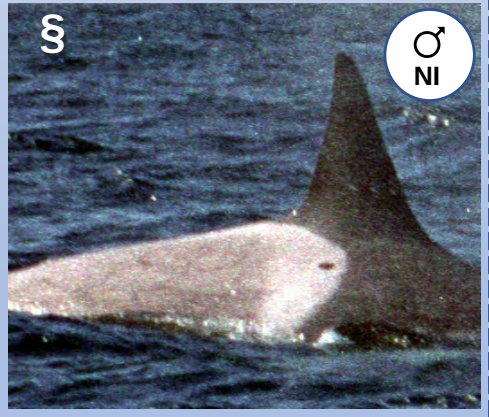
ANT-B-1
Clean fin, multiple rake marks and other scratches.



ANT-B-6
Clean fin, large pale V-shape mark on saddle patch.

These four orca were photographed together off Northland in 1997 and all had cookie cutter shark bite marks.

ANT-B-2
Clean tall fin, dark 'arch' scar on left saddle patch.



ANT-B-3
Clean fin, cookie cutter shark bite mark on saddle patch.

ANT-B-14
Upward facing notch in tip of fin. Photographed only in Antarctica.

ANT-B-25
Rounded notch and small V-shaped notch, lower third of fin. Photographed only in Antarctica.

Antarctic orca likely visit our shores more often than currently recognised. Please report all sightings of orca, including in Antarctic waters.

ANT-B-22 **Hovgaard**
Multiple notches on fin, cookie cutter shark bite mark on saddle patch. Photographed only in Antarctica.

ANTARCTIC KILLER WHALE
Est. 2000
IDENTIFICATION CATALOGUE

Type B are grey & white (like Type C)

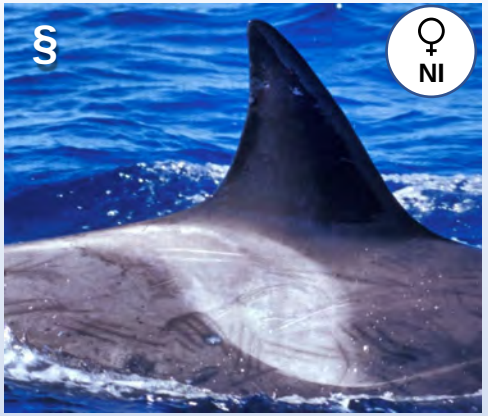
Type B female (ANT-B-6), off Northland, NZ in 1997.

Antarctic Type C

Note that Type C orca can look dark in photographs, depending on where the sun is, exposure etc. The key is their eye patches.

Photos / video are always appreciated, please submit to **orca@orca.org**

ANT-C-8
Clean fin. Matched between Northland and Ross Sea.



ANT-C-12
Two dimples near top centre of fin and tiny notch in trailing edge.

ANT-C-15
Falcate fin with rounded tip. Large, downward notch in trailing edge.

ANT-C-20
Notches on trailing edge of fin. Dark grey area on wide saddle patch.

These orca have been photographed off Northland and all associate with each other (as well as with the males on page 29). Most have been documented with fresh or healed cookie cutter shark bite marks.

ANT-C-46
Clean fin. 'Open' saddle patch with 'layers' of variable grey colour.

ANT-C-63
Clean fin. 'Open' saddle patch.

ANT-C-98 Santi
Extensive damage to tip and trailing edge of fin. Photographed only in the Ross Sea, Antarctica but potential visitor to NZ.

ANTARCTIC KILLER WHALE
Est. 2000
IDENTIFICATION CATALOGUE

Type C have small, angled eye patches

Type C calf off Northland, NZ in 2015.

Antarctic Type C

Note that Type C orca can look dark in photographs, depending on where the sun is, exposure etc. The key is their eye patches.

Photos / video are always appreciated, please submit to orca@orca.org

ANT-C-17
Dent near tip of leading edge of fin. Base of fin wide compared to other male Type C orca.

ANT-C-22
Clean narrow fin. Variable grey colour in saddle patch.

ANT-C-29
Notch in trailing edge of fin. Wide saddle patch.

ANT-C-36
Dent near tip of trailing edge of fin.

Five of these orca have been photographed off Northland and associate with each other (as well as with the females on page 28). Most have been documented with fresh or healed cookie cutter shark bite marks.

ANT-C-58
Clean fin. 'Open' saddle patch with 'layers' of variable grey colour.

ANT-C-1 Woody
Multiple notches in trailing edge of fin. Named after pioneering whale researcher Stephen Leatherwood.

ANT-C-303
Large notches on trailing edge of fin. Documented only in the Ross Sea, Antarctica, but is a potential visitor to NZ.

ANTARCTIC KILLER WHALE
Est. 2000
IDENTIFICATION CATALOGUE

Type C have small, angled eye patches

Type C calf off Northland, NZ in 2015.

Stranding First Response

1. Call for Help;

Department of Conservation
HOTLINE: 0800 362 468

WHALE RESCUE

0800 SAVE WHALE
0800 7283 94253
whale-rescue.org

2. Keep cool & wet (Keep water clear from blowhole);

3. Follow instructions from experts (assess animal(s) etc);

4. Do not push out to sea until experts advise it is okay, as individuals may restrand, away from help.

Right; In 2013, Koru (NZ123) Stranded in the Kaipara Harbour, North Island.

Orca Strandings & Rescues

New Zealand has one of the highest orca stranding and rescue rates in the world.

Rudie

Stranding measurements have enabled a life size replica to be exhibited at Te Papa Museum, Wellington (*right*).

Double Dent

Double Dent stranded with Rudie, her presumed son and her most recent calf (*below*). All three were rescued and continue to be resighted >15 years later.

Rua

When Rua stranded in 2003 (*right*), his pectoral fin was damaged after being folded underneath (*circled*). But, he was successfully refloated and has been resighted multiple times, most recently in 2020.

When swimming, **pectoral fins** are positioned at an approximately 45˚ angle out from the body.

Ben

Ben spent ~21 hours stranded on a Northland beach, before he could be successfully refloated. He has been frequently resighted since his stranding, most recently in 2020.

.

If you find a whale or dolphin in distress call immediately :

DOC HOTLINE: 0800 362 468

WHALE RESCUE: 0800 7283 94253

Reporting sightings of previously stranded individuals contributes not only to our resighting data but also assists our understanding of rescue strategies.

NZ Whale Watching Guidelines

No person shall disturb or harass *any whale or dolphin. You must abandon contact if they become (or show signs of becoming) disturbed or alarmed.*

No rubbish or food *shall be thrown near or around, nor given to any whale or dolphin.*

*When viewing whales and dolphins, please keep in mind the following: "**Whale" means all species commonly known as whales and includes** baleen, sperm, beaked, pilot and **orca**. "Dolphin" means all species commonly known as dolphins; and includes dusky, common, bottlenose, and Hector's dolphins, but does not include the species known as pilot whales or orca.*

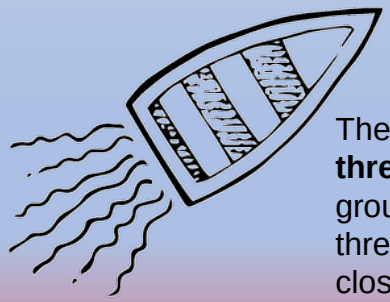
Extracted from the Marine Mammals Protection Regulations 1992 (pursuant to section 28 of the Marine Mammals Protection Act 1978).

You must not cut off their path, or prevent them from leaving.

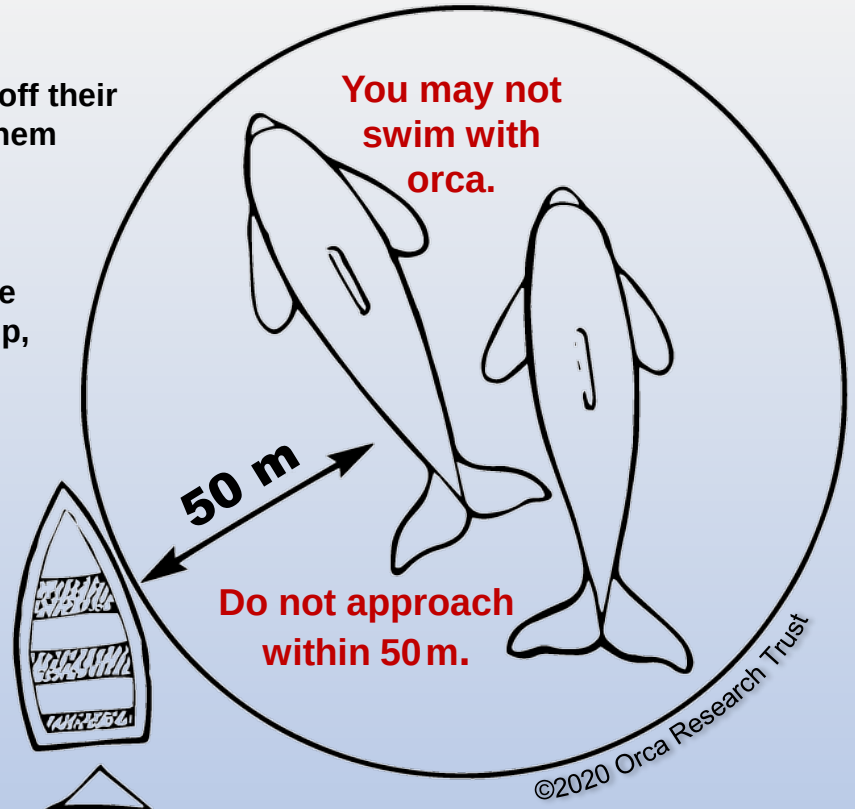
Do not drive through a group, cause any to be separated from their group, or cause any to be scattered.

Do not make sudden or repeated changes in speed or direction.

Approach slightly to the rear and parallel to the animal(s).



There should **not be more than three vessels** around a whale or group of dolphins (if there are three vessels, you should not go closer than 300 m).



At less than 300 m you should **move the vessel at a constant slow speed no faster than the slowest animal, or at idle or "no wake speed"**.

There are at least 10 documented accounts of vessel strike on orca in NZ waters.
PLEASE DRIVE RESPONSIBLY

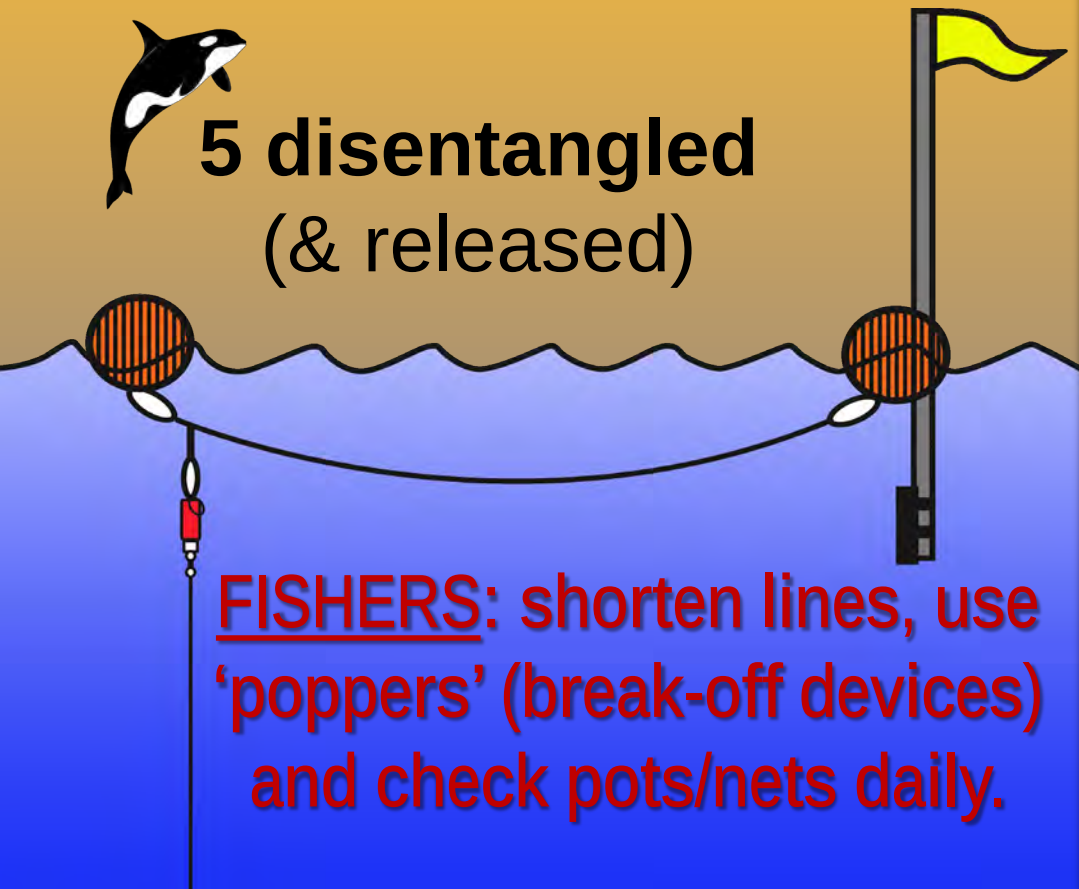
Marine Mammals Protection Regulations 1992: http://www.legislation.govt.nz/regulation/public/1992/0322/latest/whole.html
Marine Mammals Protection Act 1978: http://www.legislation.govt.nz/act/public/1978/0080/latest/DLM25111.html

Entanglements: NZ numbers

>20 orca entangled
(since 1979)

♂ and ♀ adults, juveniles and calves

5 disentangled
(& released)



FISHERS: shorten lines, use 'poppers' (break-off devices) and check pots/nets daily.

confirmed deaths

The others =
unknown fates
(due to poor documentation)

This young orca (*above*) died because;

- the line was too long,
- the pot wasn't checked.

Entanglement: Dian's Story

In 2014, the Orca Research Trust released Dian (NZ51) from a cray pot line entanglement.

During her ordeal, she was supported by her most recent and previous calves (*left*). Without their help she could not surface to breathe.

Dian has been resighted every year since she was disentangled.

~~~~~~~

In NZ waters, entanglements have occurred in both commercial and recreational fisheries gear.

Including;

- long-lines,
- cray pot lines,
- gill and trawl nets,
- rods and/or hand lines.
~~~~~~~

orca research trust
orcaresearch.org

Our mission statement:

To Protect Orca and their Habitat, through Conservation, Education & Scientific Research.

Founded in 1998 by Ingrid N. Visser, the Orca Research Trust (ORT) is an officially registered NGO with the New Zealand Government Charities Commission (# CC10041).

ORT does not receive funding from the Government. We rely solely on donations, so your help definitely makes a difference.

DONATE

Thank you for your support.

www.orcaresearch.org

@OrcaTrust

Orca Research Trust

@OrcaResearchTrust

If you see orca please urgently call 0800 SEE ORCA (0800 733 6722).

Left to Right:
Rua, Yin & Putita

Our research would not be possible without all of the amazing people that contribute by calling and sending sightings reports, photographs and by donating.
You are all orcasome!

THANK YOU

Learn more at:
SCIENTIFIC RESEARCH
www.orcaresearch.org/index.php/research/scientific-articles

Special thanks to Encounter Kaikoura for their orca ID images.

NZ Coastal orca off Kaikoura with dusky dolphins © Dennis Buurman

Thanks for additional photographs by;
Jo Berghan (Nobby),
Robert Bradley (Pelagic orca),
Dennis Buurman (Coastal orca & duskies),
Mike Cunningham (surfing Coastal orca),
Heiko Grimm (Pelagic orca NZOP-007),
Tommy Hatwell (Pelagic orca predation),
Santiago Imberti (Antarctic orca, ANT-C-98),
Cheli Larsen (Antarctic orca, ANT-A-71),
Stephen Leatherwood (Antarctic orca, ANT-C-1),
Michael Miller (cookie cutter shark),
Jo Wixey (Nobby stranding).

Please send photos & video to
orca@orca.org

Right; a young orca travelling along the Northland coast.

Printed in New Zealand,
on 100% recycled paper
& using chlorine free processes
& environmentally friendly
vegetable based inks.

Printed by
CrucialColour

This official guide for New Zealand waters, is packed with information and photographs specific to the orca found around our country.

Right; A juvenile Coastal orca carrying a dead eagle ray.

ISBN 9780987664327

9 780987 664327

Available also as an e-publication from:
www.orcaresearch.org

With sections on behaviour, strandings, entanglements and photo-identification, this guide helps any orca fan learn more about these apex predators.