

A guide for the identification of ERS species in New Zealand fisheries

Ministry of Fisheries New Zealand

Abstract

An example of the guide to be used by fishers to code non-fish and protected species captures, currently under development for New Zealand national fisheries, is attached. Reporting will be linked to catch-effort log-book returns. The draft guide and associated form are provided to facilitate discussion by CCSBT-ERSWG of development of reporting requirements for fishers of non-fish bycatch.

Summary

New reporting requirements are being developed to allow for more robust data collection about non-fish and protected species captures in New Zealand national fisheries. Under New Zealand legislation (Wildlife Act 1953) reporting of non-fish and protected species is required at species level where the species of bycatch is known to the fisher. Where this is not known, a group code (e.g. turtle, seal and albatross) can be used. These group codes are described in the Non-Fish / Protected Species Guide “Which code to use” (Attachment 1).

The appended guide was developed with input from government officials, fishing industry representatives, scientists working on fisheries and bycatch, and non-governmental groups. A strategic decision was made to reduce the level of detail required from fishers, in the interests of gathering accurate, course-grained data about the occurrence of captures in fishing events. More detailed data will be gathered by scientific observers where occurrence of captures of protected or non-fish species was considered a sustainability risk in any particular fishery.

Data about species-level identification of bycatch animals was not considered feasible across all the protected species taxa. 14 groups of animals were identified for reporting. These were:

Seabirds –

- 1) Albatrosses,
- 2) petrels,
- 3) gulls and terns,
- 4) shags,
- 5) gannets and boobies,
- 6) penguins

Marine mammals -

- 7) Seals (with species level information about 4 species commonly found in New Zealand waters)
- 8) Toothed whales and dolphins (with species level information about 5 species)
- 9) Baleen whales

Marine reptiles -

- 10) Sea snakes (species level information about 2 species)
- 11) Sea turtles (species level information about 3 species)

Protected fish species -

- 12) Protected sharks (one species)
- 13) Protected finfish (one species)

Benthic invertebrate species (only some of which are protected) -

- 14) Benthic invertebrates (sponges, corals, bryozoans)

The format and detail of information used in the guide was carefully selected so that the guides would be easy to use and store, and were attractive and accessible to fishers. Information about release and handling of bycatch was included, following the examples developed by CCSBT.

The format of the guide was designed to allow ongoing changes to protected species listings to be incorporated, in anticipation of the listing of more shark and invertebrate species through time. It will be printed on heavy-grade waxed paper, and held together with a ring in the upper left corner, and will have a dimension of 95 x 210 mm.

Noting that these documents are in draft currently, comments from participants of ERSWG 7 are sought on how improve the material to make it practical and easy to use.

The draft guide and form are provided to facilitate discussion by CCSBT-ERSWG of development of reporting requirements for fishers of non-fish bycatch.



Ministry of
Fisheries
Te Tautiaki i nga tini a Tangaroa

DRAFT

WHICH CODE TO USE: GUIDE TO SPECIES GROUPS

For the Non-fish / Protected Species Catch Return



NF-PSCR

The Non-fish / Protected Species Catch Return is for reporting incidental catch.

This guide sets out the codes that fishers need to use when they catch non-fish and protected species during fishing. Animals to report using the Non-fish /Protected Species Catch Return are:

- **Seabirds** (e.g. albatrosses, petrels, penguins)
 - **Marine mammals** (e.g. seals, dolphins, whales)
 - **Marine reptiles** (e.g. turtles, sea snakes)
 - **Corals, sponges or bryozoans** (e.g. black coral)
 - **Protected fish species** (e.g. spotted black grouper, great white shark).
 - Each individual must be reported, whether it is dead or alive.
- If you know what species you have caught, use one of the “Species Codes” listed in the NF/PSCR notes (for example, FUR for a fur seal).
 - If you don’t know what species it is, use one of the “Group Codes” listed in this guide (for example, SEA for a seal).
 - Not every species is shown in this guide, but the images shown here will help you work out which group the animal belongs to.
 - At the end of the guide are some books you can go to for more information and some instructions on how to handle the animals safely.

DRAFT ALBATROSSES:

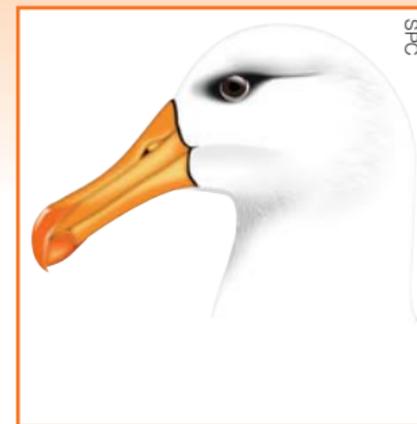
Largest wingspan of all birds (2 - 3.5 m), prominent nostrils, one on each side of the bill, hooked bill tip.

DRAFT ALBATROSSES:

- The group includes albatrosses and mollymawks.
- 16 species of albatross are frequently found throughout New Zealand waters.
- **Albatrosses** have black feathers on the back and the backs of wings, and white underwing and body feathers, except for light-mantled albatrosses, which are grey-brown all over.
- **Juveniles** (less than 1 year old) are the same size as adults, with the same bill shape, but may have different plumage than adults, and dark patches on the bill.



Wandering albatross



Black-browed albatross

DRAFT ALBATROSSES:

XAL



Brent Stephenson

Salvin's albatross



Mfish observer

White-capped albatross



Brent Stephenson

Wandering albatross

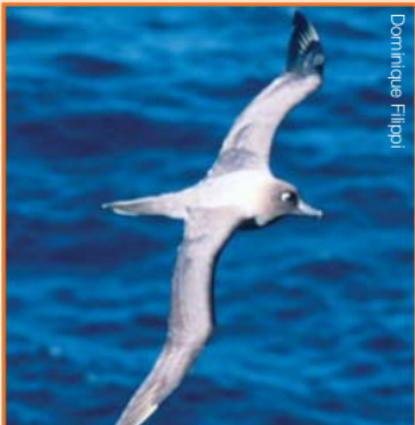


Brent Stephenson

Black-browed albatross

ALBATROSSES

DRAFT ALBATROSSES:



Dominique Filippi

Light mantled albatross



Brent Stephenson

Chatham albatross



Brent Stephenson

Buller's albatross



Brent Stephenson

Northern royal albatross

PETRELS, SHEARWATERS AND PRIONS

DRAFT

XXP

These birds have a hooked bill with prominent nostrils. Most have dark-coloured plumage, with some white or grey feathers on the under-wing.

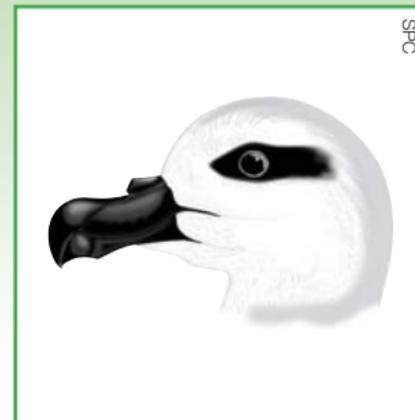
PETRELS, SHEARWATERS
AND PRIONS

PETRELS, SHEARWATERS AND PRIONS

- Includes petrels, giant petrels, prions, shearwaters, storm petrels and diving petrels. There are around 80 species in this group.
- **Petrels, shearwaters, and giant petrels** (nellites) weigh 800 g - 4 kg and have a wingspan of 40 cm - 190 cm.
- **Prions and storm petrels** weigh 30 g – 200 g with a wingspan of 30 cm - 80 cm.



Grey-faced petrel



Cook's petrel

DRAFT

PETRELS, SHEARWATERS AND PRIONS

XXP



PZ

Common diving petrel



Brent Stephenson

Grey petrel



Brent Stephenson

Sooty shearwater



Dominique Filippi

White-chinned petrel

PETRELS, SHEARWATERS
AND PRIONS

DRAFT PETRELS, SHEARWATERS AND PRIONS



PZ

Grey-faced petrel



Dominique Filipp

Southern giant petrel



Brent Stephenson

Fairy prion



Brent Stephenson

Cape pigeon

GULLS AND TERNS, SHAGS, GANNETS AND BOOBIES

Birds in this group come from several different families. They are the smaller seabird species that are not albatrosses, petrels or penguins.

DRAFT GULLS AND TERNS

Gulls (XSG) have short wings, a hooked bill and can hover in flight. The largest species look a bit like small albatrosses, but don't have the prominent nostrils of albatrosses and petrels.

- Gulls of three species are very common in inshore areas of New Zealand. They weigh from 400 g - 1.2 kg.

Terns are lightly-bodied, pale grey in colour and weigh less than 150 g, apart from the 700 g Caspian tern. They have a fork-shaped tail.

- There are several common New Zealand breeding species, all with a grey-white feathers and a cap of black on the head. They are common in coastal waters.



Brent Stephenson

Red-billed gull



Dominique Filippi

Antarctic tern

DRAFT SHAGS

XHG

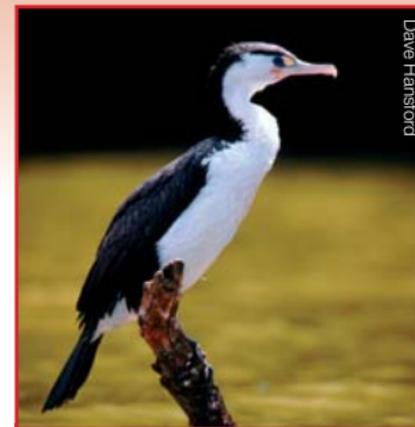
Shags (XHG) have short, rounded wings and, relative to other seabirds, have long necks and a long, thin bill.

- There are 12 shag species in New Zealand waters, weighing between 800 g and 2.5 kg. All common New Zealand species have entirely black wings.
- Two species are entirely black all over (**black shag and little black shag**).
- Two common species have white throats and bellies (**pied shag, little shag**).



Dave Hansford

Black shag



Dave Hansford

Pied shag

SHAGS

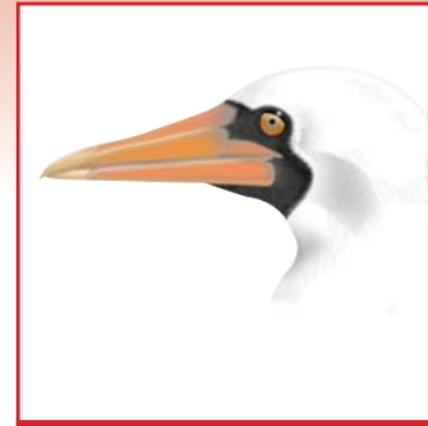
DRAFT GANNETS AND BOOBIES

Gannets and boobies weigh 1 – 2 kg. They have stout, pointed bills and can plunge-dive to feed.

- The **Australasian gannet** (XGT) is common in coastal areas. They have distinctive yellow head feathers. The wingtips are pointed compared to other seabirds. The wings are white on the leading edge with black tips and black trailing edge.
- **Boobies** have the same pointed bill as gannets. Red-footed and masked boobies occur mainly in tropical waters.



Australasian gannet



Masked booby

DRAFT PENGUINS:

Penguins have flipper-like wings, they swim rather than fly. They have very chunky bills and tiny, densely-packed feathers.

DRAFT PENGUINS:

- The **yellow-eyed penguin** is the largest species you might see in New Zealand waters. They weigh up to 5 kg and are up to 70 cm in length.
- The **little blue penguin** weighs around 1kg and is 40 cm in length, with dark blue-grey feathers on the back.



Yellow-eyed penguin



Little blue penguin

DRAFT PENGUINS:

- There are four species of crested penguin common in New Zealand (**Rock-hopper**, **Snares**, **Fiordland** and **Erect-crested**) weighing 3 - 4 kg. They are black on the back and white on the belly, with long yellow feathers in a tuft above the eye.



Rockhopper penguin



Snares crested penguin

DRAFT DOLPHINS AND TOOTHED WHALES:

These marine mammals all have teeth, as opposed to baleen. They come in a range of sizes from the 1.4 m long Hector's dolphin to the huge sperm whale. We have included 6 species.

DRAFT DOLPHINS AND TOOTHED WHALES:

- The **Hector's** (HDO) and **Maui's** (HDM) dolphins are mostly found in water up to 100 m deep. They are less than 1.4 m in length, weighing up to 60 kg. The dorsal fin is rounded at the tip, not pointed like those of other dolphins. Maui's dolphins are found off the west coast of the upper North Island. Hector's dolphins are found around the South Island.
- **Dusky dolphins** (DDO) are dark grey with distinctive two-tone colouring on the dorsal fin. They have white throats and bellies. They are 1.6 - 2 m long and weigh up to 100 kg.



Hector's dolphin



Dusky dolphin

DRAFT DOLPHINS AND TOOTHED WHALES:

- **Bottlenose dolphins** (BDO) are 2 - 4 m in length, weighing up to 650 kg. They are grey-blue all over but paler on the belly, with a long distinctive beak.
- **Common dolphins** (CDD) can weigh up to 135 kg, are 2 - 4 m in length, and have very dark grey upper bodies, with pale markings around the belly and throat.



NFS

Bottlenose dolphin



Brent Stephenson

Common dolphin

DRAFT DOLPHINS AND TOOTHED WHALES:

- **Killer whales** or orca (ORC) weigh up to 6 tonnes and can be up to 10 m long. They have distinctive black and white markings.
- **Pilot whales** (PIW) are black to dark grey, 4 - 7 m in length, and often travel in large groups. They weigh 1 - 3 tonnes. They have a rounded forehead.



DRAFT BALEEN WHALES:

This group includes minke, sei, fin, humpback, right and blue whales. All have baleen instead of teeth.

DRAFT BALEEN WHALES:

- **Humpback whales** (HBW) have a knobby head. They have very long white and/or black flippers, while the body is mainly black or grey. There is a wavy edge on the tail. Adults weigh 25 - 48 tonnes, and are 11 - 19 m long.
- **Minke whales** (MIW) have a streamlined body and smooth skin. The snout is sharply-pointed. They are 7 - 10 m in length and weight 5 - 10 tonnes.
- **Sei** (SEW) and fin whales (FIW) are larger (18 - 22 m for fin whales, 12 - 21 m for sei whales).



Simon McDonald

Humpback whale flukes



Sophie Mormede

Fin whale

DRAFT SEALS AND SEALIONS:

There are four main seal species, all shown here. These are fairly easy to identify to species-level.

DRAFT SEALS AND SEALIONS:

- **New Zealand fur seals** (FUR) have a pointed muzzle with long whiskers and obvious external ears.
- The large fore- and hind-flippers are partially hair-less. The fur is very thick with a dense under-fur.
- Males are up to 150 kg in weight and 1.5 m long, females are up to 40 kg in weight and 1.2 m long.



Dominique Filippi

New Zealand fur seal

DRAFT SEALS AND SEALIONS:

- **New Zealand sea lions** (HSL) have a blunt 'dog-like' face and muzzle, and obvious external ears.
- They have large fore- and hind-flippers that are partially hairless. The fur is made up of a single layer of coarse hair (no distinct underfur).
- Males are up to 410 kg in weight and 3.5 m long, females are up to 160 kg in weight and 2 m long.
- Males are dark brown in colour, and have a conspicuous mane as adults. Females are pale coloured.

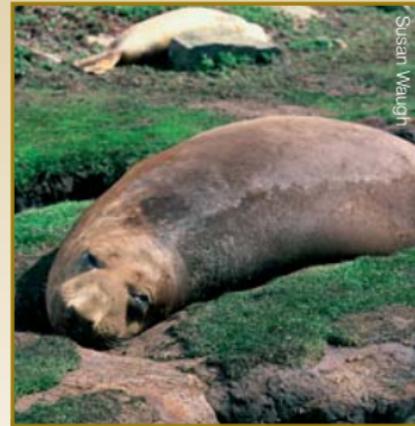


New Zealand sea lion

(females, male and juvenile male, front to back).

DRAFT SEALS AND SEALIONS:

- **Elephant seals** (EPH) have a large, robust body with a thick neck and no external ear.
- They are light to dark silver-grey in colour.
- The fore- and hind-flippers are relatively small and furry.
- Adult males have a large, fleshy nose, are 3 – 5 tonnes in weight and up to 5.8 m long.
- Adult females do not have a large, fleshy nose and can weigh 400 – 800 kg and measure up to 3 m long.



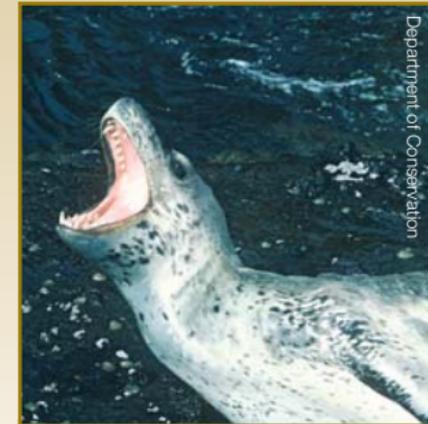
Southern elephant seal
(female)



Southern elephant seal
(juvenile)

DRAFT SEALS AND SEALIONS:

- **Leopard seals** (LEO) are long and sleek with grey fur, dappled all over with darker spots.
- They have a very flexible neck and upper body.
- They have a very large mouth, with impressive teeth.
- Leopard seals have no obvious external ears.
- They measure up to 4 m long and 500 kgs.
- **They can be very aggressive and you shouldn't handle them.**



Department of Conservation

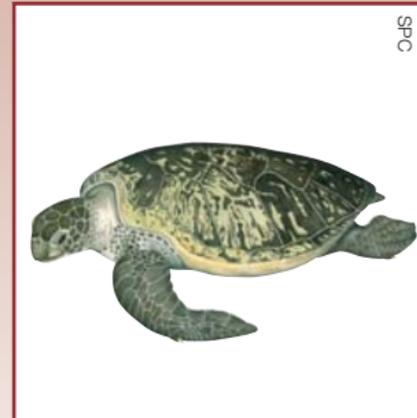
Leopard seal

DRAFT
TURTLES:

Only green and leatherback turtles have been confirmed caught in New Zealand fisheries, but others may occur in New Zealand waters. Sea turtles occur mainly in tropical waters.

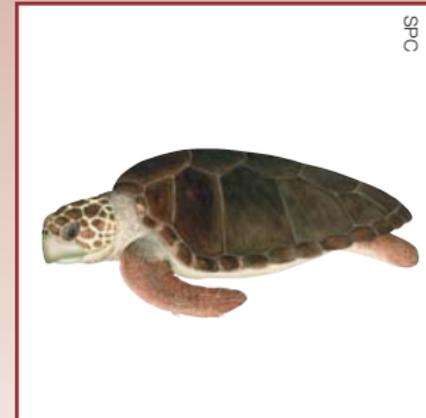
DRAFT TURTLES:

- **Green turtles** (GNT) are up to 1.5 m in length, and weigh up to 200 kg. They have a hard shell of bony scutes (plates), olive green to brown in colour.
- **Loggerhead turtles** (LHT) are around 1 m in length and reddish-brown to orange-brown in colour. They can be up to 100 kg in weight.



SPC

Green turtle



SPC

Loggerhead turtle

TURTLES:

- **Leatherback turtles** (LBT) are up to 2.7 m in length and weigh up to 900 kg. They have 3 prominent ridges running the length of the shell instead of plates. They are dark green to grey in colour with small patches of lighter colour over the body.



Leatherback turtle

DRAFT SEA SNAKES:

Sea snakes are venomous reptiles that live at sea. They have flattened tails to help them swim. They mainly occur in tropical areas.

DRAFT SEA SNAKES:

- **Banded sea snakes** (BSS) have bluish-grey scales above, and yellowish below. They have around 35 bands of dark colour across the body and they can be up to 1.4 m in length.
- **Yellow-bellied sea snakes** (YSS) have a yellow underside, with black on the dorsal side from the head to mid way down the length. The tail is patterned with yellow and black markings. They are up to 1 m in length and have been found as far south as Golden Bay.
- **Sea snakes normally only bite when provoked. However, sea snake venom can be deadly. Fishers have been killed by snake bites when sorting catch, however sea snakes are very rare in New Zealand.**



Banded seasnake



Yellow-bellied seasnake

DRAFT

CORALS, SPONGES AND BRYOZOANS:

CSB

This code includes bottom-dwelling organisms that create structures on the sea-floor. These include corals, sponges, and bryozoans.

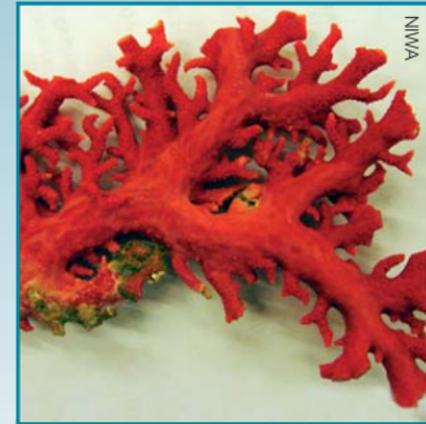
**CORALS, SPONGES AND
BRYOZOANS**

DRAFT CORALS:

- **Corals** (COU) grow in a wide variety of forms and colours. Protected corals include Black Corals, which grow in an erect and bushy way, and Errina Spp, a red coral. Other coral you may see are Bamboo, Golden, and Bubblegum Corals.



Black coral



Errina Spp

DRAFT CORALS:



Golden coral



Hydrocoral



Bamboo coral

DRAFT CORALS:



Bubble-gum coral



Soft coral



Stony coral

DRAFT SPONGES:

- **Sponges** (ONG) come in a large variety of shapes. Some encrust rocks, some are fan-shaped, branching or rounded. Sometimes you can't tell which sponge it is without using a microscope. Some, such as the glass sponge, can be confused with corals.



Floppy tubular sponge



Airy finger sponge



Glass sponge

DRAFT BRYOZOANS:

- **Bryozoans** (COZ) are tiny colony-forming animals and can be confused with small hydrocorals. They have a wide range of forms and sizes.



Lace coral



Bryozoans

DRAFT GREAT WHITE SHARK:

WPS

The White Pointer or Great White shark (WPS) is very large (up to 5 - 6 m in length), with both lobes of its tail roughly even in size. It is a protected species.

GREAT WHITE SHARK

DRAFT GREAT WHITE SHARK

- It has a large conical-shaped snout, five gill slits on each side, and broad triangular serrated teeth in both jaws. The first dorsal fin is large, but the second is relatively small.
- There is a strong keel (vertically flattened ridge) on the tail stock. This shark has a dark-coloured dorsal area, usually dark grey, but sometimes black, bronze or blue, and a white belly with very clear demarcation between colours.



Great white shark

DRAFT SPOTTED BLACK GROUPER:

SBG

The spotted black grouper (SBG) reaches up to 200 cm. It has strong markings on the body in bands, with spots over the body. The fins are edged with black. This is a protected species.

**SPOTTED BLACK
GROUPER**

DRAFT SPOTTED BLACK GROUPER

- **The spotted black grouper** is found around the Kermadec Islands and north-eastern New Zealand, but some have been found as far south as Westport.
- It reaches 100 cm - 200 cm, being larger in the northern part of its range.
- Alive, it has a background body colour of white to brown-black, with five dark bands across the body and a black saddle at the base of the tail.
- There are white spots on the head and body. Fins are edged with black and white.
- When dead, the colours are duller and the bands fade to give an overall brown-black appearance, but the black saddle may still be visible.



Spotted black grouper

HOW TO HANDLE LIVE OR INJURED SEALS AND BIRDS:

Handling animals correctly is safer for you and gives them a better chance of survival.

- **Seals:** Avoid handling seals and sea lions, but try to remove any lines or other fishing gear.
- **Birds:** If a bird is wet or tired (e.g. drooping wings), allow it to recover for up to several hours before releasing it.

RELEASE ANIMAL GENTLY



You need 2 people to handle any bird. Hold the bill still with a gloved hand and gently fold up the wings.



Remove any net or line, avoiding damage to the feathers. Don't try to remove a hook the way it went in, unless you have cut the barb off.



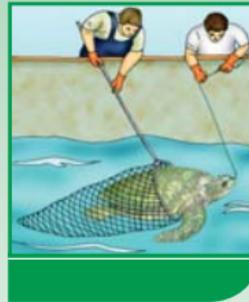
If this is not possible, push the hook through the skin and pull the hook out then remove any line.

HOW TO HANDLE LIVE OR INJURED TURTLES AND SNAKES:

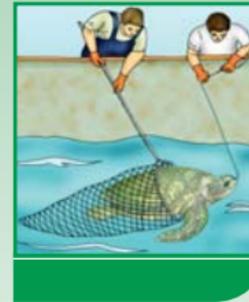
Handling animals correctly is safer for you and gives them a better chance of survival.

- Turtles need to be handled with great care to avoid damaging them.
- Sea snakes are venomous. Don't handle a live animal. To return a live snake to the sea, gently hose it off the deck with water.

RELEASE ANIMAL GENTLY



Gently bring hooked turtles on board with a net.



Place a piece of wood across the mouth to avoid bites. Remove any hook, or lines, cutting off the barb and pulling the hook through to the outside if possible.



Pack up the rear of the turtle to drain it. Keep it moist and shaded while it recovers (4 - 24 hr).

For more information

Albatrosses, Petrels and Shearwaters of the World

(2007) By Onley, D. and Scofield, P., Princeton University Press

A guide to common deepsea invertebrates in NZ waters

(2nd Edition). Available from the Ministry of Fisheries,

PO Box 1020, Wellington, ph 04 470 2600,

comms@fish.govt.nz in CD or book formats.

Marine Turtle Identification Cards

Produced by the Secretariat of the Pacific Community, PB D5,

98848 Noumea Cedex, New Caledonia. www.spc.int

Field Guide to New Zealand Seabirds

Parkinson, B., New Holland Publishers.

Whales and Dolphins. Get to Know the Natural World

(2006) Carwardine, M, Collins Wild Guide. Harper Collins,

Hong Kong.

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GENERIC

SPECIFIC

DRAFT

AL – Albatrosses						
XXP – Petrels, shearwaters and prions						
XLA – Gulls & terns						
XHG – Shags						
XSU – Gannets & Boobies						
XPG – Penguins						
WHT – Dolphins and toothed whales	HDO Hector’s/Maui’s dolphin	DDO dusky dolphin	BDO bottlenose dolphin	CDD common dolphin	ORC killer whale/orca	PIW pilot whale
WHB – Baleen whales	HBW humpback whale	MIW Minke whale	SEW Sei whale	FIN Fin Whale		
SEA – Seals and sealions	FUR fur seal	HSL NZ sea lion	EPH elephant seal	LEO leopard seal		
TLE – Turtles	GNT Green turtles	LHT Loggerhead turtles	LBT Leatherback turtles			
SSN – Sea snakes	BSS Banded sea snake	YSS Yellow-bellied sea snake				
CSB – Sponges, corals and bryozoans	COU Corals	ONG Sponges	COZ Bryozoans			
WPS – Great white						
SBG – Spotted black grouper						