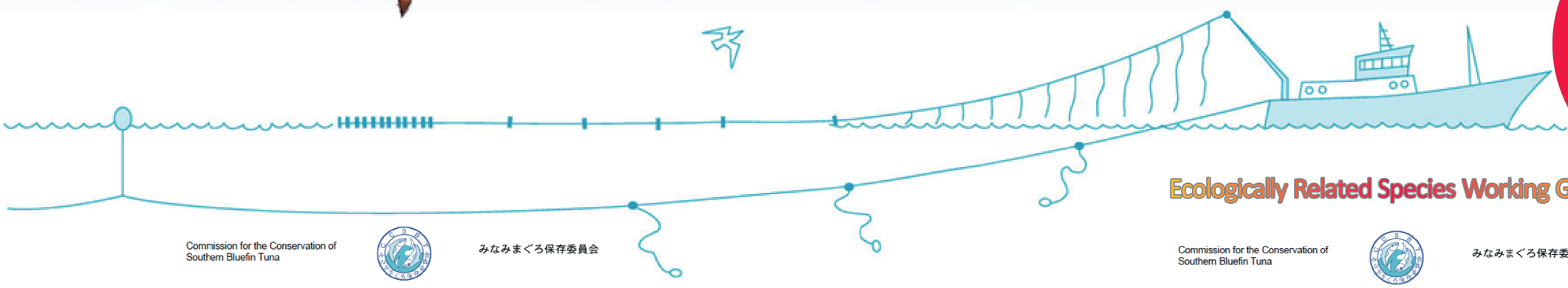
Building a Seabird Friendly Southern Bluefin Tuna Fishery

A GUIDE TO REDUCING THE INCIDENTAL CATCH OF SEABIRDS IN LONGLINE FISHERIES

2ND EDITION

For all Southern Bluefin Tuna Fishers



Ecologically Related Species Working Group

Commission for the Conservation of Southern Bluefin Tuna

みなみまぐろ保存委員会

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Ecologically Related Species Working Group,
Commission for the Conservation of Southern Bluefin Tuna

A Guide to Reduce the Incidental Catch of Seabirds in Longline Fisheries

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Q1

How long can some seabirds live?

Some seabirds such as Wandering albatross and Royal albatross categorised as Large Albatrosses can live over 60 years.

Q2

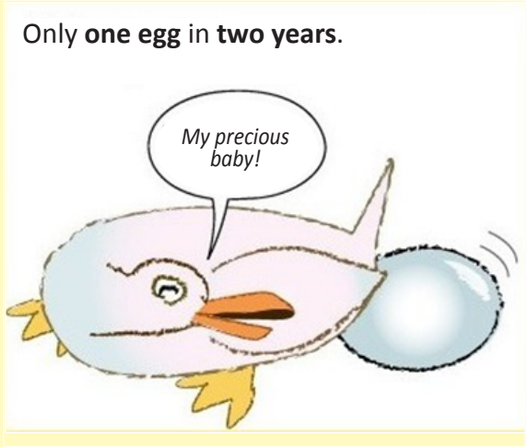
How long does an albatross egg take to hatch?

About 70 days.

Q3

How many eggs does an albatross, a petrel or a shearwater lay?

One each year and for some species, like the Wandering albatross, only one every two years.



Introduction

Seabirds are being incidentally caught in various commercial longline fisheries in the world, and concerns are arising about the impact of this incidental catch. The specific concern is that longline fishing is a known significant sources of mortality for some species of seabirds and that the level of mortality may be the primary cause of the observed decline in some seabird populations. Whilst efforts have been made all over the world to conserve seabird populations by taking various measures such as protection of nesting areas and control of alien species which are harmful to seabirds, more action is required. Fisheries, catching seabirds incidentally, need to address the issue with a view to conserving the seabird populations by reducing the incidental catch of seabirds. Unless fishing practices are changed to minimise seabird captures, the survival of some seabird populations is doubtful.

When baits are removed from hooks by seabirds, those hooks will not catch fish. Operators can make changes to their fishing gear and its use, which will allow fewer or no birds to be caught and improve fish catch rates to maximise profits.

Practices shown to be effective include:

- using a correctly made and set bird line,
- weighting branch lines,
- setting gear at night,
- reducing lighting,
- thawing bait,
- colouring bait
- using bait casting machines,
- haul mitigation,
- paying close attention to wind and setting course,
- retaining offal, and
- an aware crew.

Brief explanations of these mitigation measures are given in the "How to reduce bait loss (and seabird deaths)"section of this pamphlet.

Q4

At what age dose an albatross chick fly for the first time ?

Between four and nine months.

Q6

How deep do birds dive ?

Most albatross can dive up to about five meters, however other birds like shearwaters can bring bait to the surface where bigger birds like albatross may seize it. Shearwaters may dive up to 70 meters.

Q5

How long can an albatross stay at sea without once visiting land ?

After leaving the nest, five years may go by before the bird will return to land again.

Q & A on Seabirds

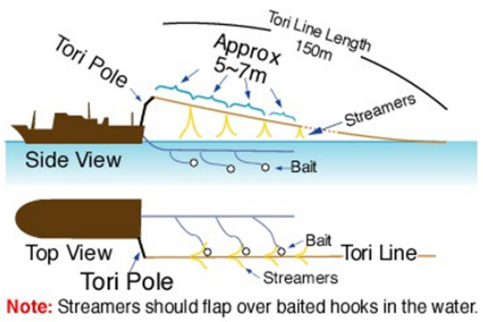
How to reduce bait loss (and seabird deaths)

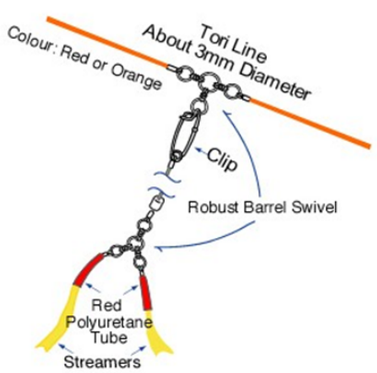
In most cases, it is necessary to use multiple mitigation measures in combination to successfully minimise seabird bycatch.

Using a correctly made and set Bird scaring line/Tori line

A bird scaring line (also called a tori line) is simply used to scare seabirds from the bait. It consists of a line with attached streamers towed astern directly above the area in which baits enter the water. Baits can be taken by a bird immediately after they are thrown from the vessel and before they have had time to sink. All Southern Bluefin Tuna vessels should be using a bird line as standard practice. They are inexpensive, easy to construct and set and if they are used correctly, they will serve to not only reduce seabird deaths, but will also help fishermen avoid considerable bait loss.

CCSBT has adopted "A Guideline for the Deployment of Tori Lines" as follows.





Weighting branch lines

Obviously with more weight on branch lines, baits will sink faster and out of reach of seabirds. The amount and position of weights on the branch-line is particularly important to increase the sink rate of the bait. Less weight is required if placed close to the hook. If not weighted correctly, particular ocean currents may also cause branch lines to rise to the water surface. If this happens, your line will not be set at a depth to target fish and bait can be taken by birds at the surface. Birds still alive on hooks, which haven't been caught during hauling, can indicate that the set line has been lying close to the surface. When using weighted lines however, crew members must be careful about their safety when handling the line.

Setting gear at night

Line setting at night can minimise bait loss and seabird deaths during longline fishing, since albatrosses feed mostly during day time. But during a full moon, albatrosses will sometimes take baited hooks set at night. Also, some smaller species of seabirds such as Grey petrels, White-chinned petrels and shearwaters search for baits behind vessels at any time, day or night. As a result certain birds may continue to be caught regardless of night setting. However, lines set at night are still far less likely to catch birds than lines which are set partly or wholly in the daylight. Night setting should be combined with the use of a good bird line, particularly on moonlit nights, and with appropriate combinations of other methods.

Reducing lighting

Birds rely on their eyes to see baits in order to take them, so floodlights which brightly illuminate a large area astern assist them to do this. Where it does not compromise safety on board, operators can reduce seabird catches by reducing lighting.

Bait quality

Baits that are frozen or bait which have air in their swim bladders are likely to be taken by birds. Both are more likely to float, or to sink slower, making them easy pickings for birds. Use fully thawed baits and avoid bait types that have a high incidence of air retained in swim bladder.

Colouring bait

Blue dyed bait is less visible in the water and shows some promise as another way to reduce incidental captures of seabirds without reducing target fish catch.

Using bait casting machines

Bait casting machines, if used carefully, can aid placement of hooks within the protection afforded by bird scaring lines and away from propeller turbulence to help increase sink rates.

Haul mitigation

Seabirds can also be caught during hauling, especially if branch lines are recovered too slowly. The use of a branchline hauler can speed up the hauling process making it more difficult for birds to catch bait. Bird curtains are also effective at deterring birds from approaching the hauling hatch. Water cannons or fire hoses have the potential to deter birds from feeding on baited hooks.

Paying close attention to wind and setting course

It is important that the mainline is set such that it is never pulled taut by the motion of the vessel. This requires careful attention to line shooter or drum speed, especially when setting gear in downwind conditions. If the line does pull tight astern, bait immediately becomes more available to birds.

Retaining offal

Discarding any edible materials from your vessel during line setting or line hauling only increases the number of birds following the vessel and encourages them to search intensively for baits. Retaining offal and used baits during fishing operations and discharging them once each night when not setting or hauling fishing gear will reduce the number of birds feeding behind your vessel.

An aware crew

It is important that crew members understand the actions needed to reduce capture of seabirds.

Request to fishers

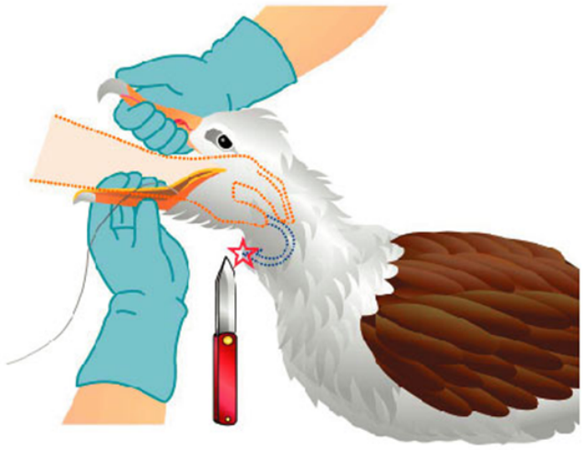
Some of the above-mentioned mitigation measures (such as colouring bait) are under development or are in the improvement stage. We would therefore appreciate any feedback from fishers on the measures including their effectiveness and any effects on fishing activities observed as a result of using the measures.

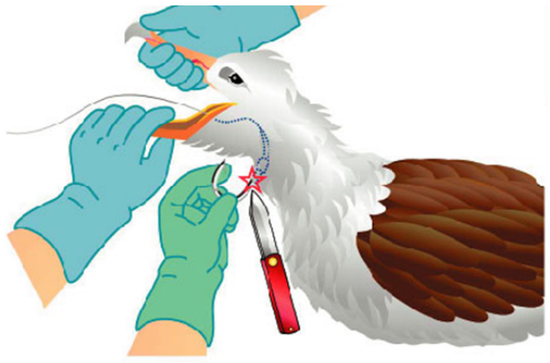
Care for live seabirds on hooks

Often hooks can be easily removed from wings, legs or bill tips but if the hook has been swallowed the bird may not survive long unless the hook is removed. The following procedure is recommended when the position of the hook can be found.

1 Get the bird aboard as gently as possible and hold it by the bill immediately. Albatrosses are powerful and have very sharp bill edges.

2 Restrain the bird as in the illustration (two hands for this). A second person can now find the hook position externally by feeling along the neck or internally by following the line to the hook.





3 Reach down the bird's throat and hold the hook. Gently force the tip of the hook so that it bulges under the skin of the bird then make a small cut to allow the hook to pass through the skin and be removed. Never try and extract a hook backwards as considerably more damage will be caused.

Images: Global Guardian Trust (GGT), Japan

Important

- Never try and extract a hook backwards as considerably more damage will be caused.
- If removing an internally embedded hook will cause further damage to the bird, just cut the line as close as possible to the hook, and leave it in place.
- For further advice, if you have an injured or dead bird or if you come across a banded bird, contact your local authorities.

A Comparative Table in Five Languages on Names of Seabirds Caught Incidentally in SBT Fisheries

Classification	ID No.	Scientific Name	English	Japanese	Korean	Mandarin	Indonesian
Albarosses Diomededidae							
Large Albatrosses	1	*Diomedea exulans*	Wandering albatross	ワタリアホウドリ	큰신천옹	漂泊信天翁	Elang laut penjelajah
		Diomedea antipodensis	Antipodean albatross	アンティポデスワタリアホウドリ	앤티퍼디신천옹	安提波地信天翁	Elang laut Antipodean
		Diomedea amsterdamensis	Amsterdam albatross	アムステルダムアホウドリ	암스테르담신천옹	阿姆斯特丹島信天翁	-
		Diomedea dabbenena	Tristan albatross	ゴウワタリアホウドリ	트리스턴신천옹	崔斯坦信天翁	-
	2	*Diomedea epomophora*	Southern Royal albatross	ミナミシロアホウドリ	남부흰신천옹	南方皇家信天翁	Elang laut royal selatan
		Diomedea sanfordi	Northern Royal albatross	キタシロアホウドリ	북부흰신천옹	北方皇家信天翁	Elang laut royal utara
Dark-colored Albatrosses	3	*Phoebetria fusca*	Sooty albatross	ススイロアホウドリ	검은머리신천옹	烏信天翁	-
	4	*Phoebetria palpebrata*	Light-mantled sooty albatross	ハイイロアホウドリ	회색등검은머리신천옹	灰背烏信天翁	Elang laut kelabu tua
Other Albatrosses	5	*Thalassarche melanophrys*	Black-browed albatross	マユグロアホウドリ	검은눈섭신천옹	黑眉信天翁	Elang laut beralis hitam
		Thalassarche impavida	Campbell albatross	キャンベルアホウドリ	캠벨검은눈섭신천옹	坎培爾信天翁	Elang laut Campbell
	6	*Thalassarche cauta*	Shy albatross	タスマニアアホウドリ	노랑부리검은눈섭신천옹	羞怯信天翁	-
		Thalassarche steadi	White-capped albatross	オークランドハジロアホウドリ	흰머리검은눈섭신천옹	白頭信天翁	Elang laut berkepala putih
		Thalassarche eremita	Chatham albatross	チャタムアホウドリ	채텀신천옹	查島信天翁	Elang laut Chatham
		Thalassarche salvini	Salvin's albatross	サルビンアホウドリ	샐빈신천옹	薩氏信天翁	Elang laut Salvin
	7	*Thalassarche bulleri*	Buller's albatross	ミナミニュージーランドアホウドリ	불러신천옹	布氏信天翁	Elang laut buller
	8	*Thalassarche chrysostoma*	Grey-headed albatross	ハイガシラアホウドリ	회색머리신천옹	灰頭信天翁	Elang laut berkepala kelabu
	9	*Thalassarche chlororhynchos*	Atlantic yellow-nosed albatross	ニシキバナアホウドリ	대서양노랑코신천옹	大西洋黃鼻信天翁	-
		Thalassarche carteri	Indian Yellow-nosed albatross	ヒガシキバナアホウドリ	인도양노랑코신천옹	印度洋黃鼻信天翁	-
Petrels Procellaridae							
Giant Petrels	10	*Macronectes giganteus*	Southern giant petrel	オオフルマカモメ	남방큰바다제비	南方巨鷊	Burung petrel raksasa selatan
	11	*Macronectes halli*	Northern giant petrel	キタオオフルマカモメ	북방큰바다제비	北方巨鷊	Burung petrel raksasa utara
Fulmars	12	*Daption capense*	Cape petrel	マダラフルマカモメ	바다비둘기	海角鷊	Burung petrel tanjung
Petrels	13	*Puffinus carneipes*	Flesh-footed shearwater	アカアシミズナギドリ	붉은발슴새	肉足水薙鳥	Burung penciduk berkaki merah-daging
	14	*Puffinus griseus*	Sooty shearwater	ハイイロミズナギドリ	검정슴새	烏水薙鳥	Burung penciduk hitam
	15	*Pterodroma macroptera*	Great-winged petrel	ハネナガミズナギドリ	큰날개슴새	大翅鷊	Burung petrel muka kelabu
	16	*Procellaria aequinoctialis*	White-chinned petrel	ノドジロクロミズナギドリ	흰턱바다제비	白頦鷊	Burung petrel paruh putih
	17	*Procellaria parkinsoni*	Black petrel	クロミズナギドリ	흑바다제비	黑風鷊	Burung petrel hitam
	18	*Procellaria westlandica*	Westland petrel	ウエストランドクロミズナギドリ	습지바다제비	西地鷊	Burung petrel Westland
	19	*Procellaria cinerea*	Grey petrel	オオハイイロミズナギドリ	회색바다제비	灰風鷊	Burung petrel kelabu

Note: Due to difficulties in distinguishing species within some seabirds complexes (ID No. 1,2,5,6 and 9) by illustrations, only typical species' illustrations are placed in this guide.

IDENTIFICATION SHEET OF SEABIRD SPECIES INCIDENTALLY CAUGHT IN SBT LONGLINE FISHERIES

Large Albatrosses

Large albatrosses have big pinkish bills. Under-wing mostly white with white leading edge (wing span 3 m).

1) **Wandering albatross:** Bill with pink cutting edges. Juveniles have dark brown plumage on body and head. Tail dark tipped.

Juvenile Back Side | **Adult Back Side** | **Adult Abdomen Side** | **Adult Head**

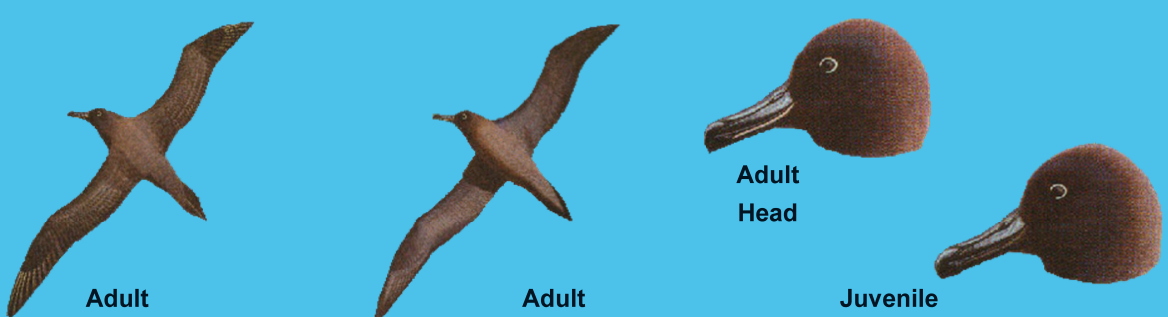
2) **Royal albatross:** Distinctive black cutting edges to bill. Body and head whitish in adults and juveniles. Tail all white.

Juvenile Back Side | **Adult Back Side** | **Adult Back Side** | **Adult Head**

Dark-coloured Albatrosses

Dark coloured albatross with black slender bill and long tail (wing span 1.9 - 2.1 m).

3) **Sooty albatross:** Whole body is blackish-brown. Adults have orange stripe on bill.



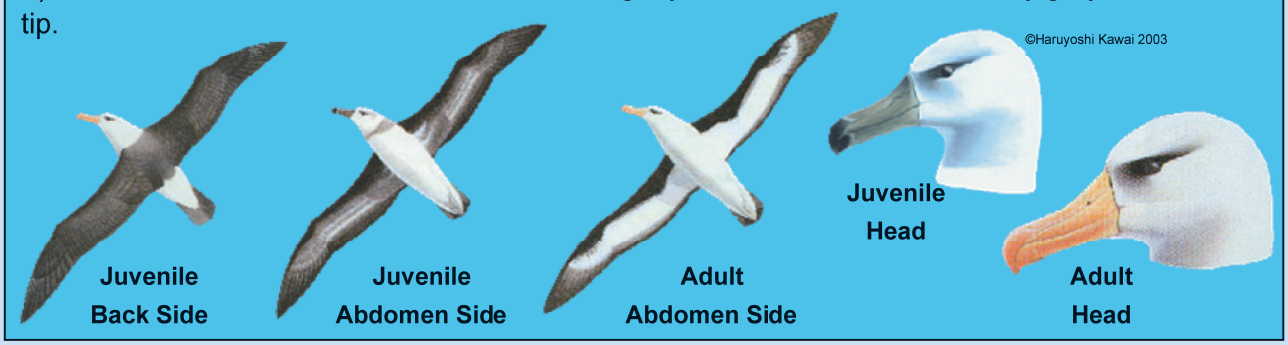
Adult Back Side | **Adult Abdomen Side** | **Adult Head** | **Juvenile Head**

4) **Light-mantled sooty albatross:** Light-grey body with dark head. Adults have bluish stripe on bill.

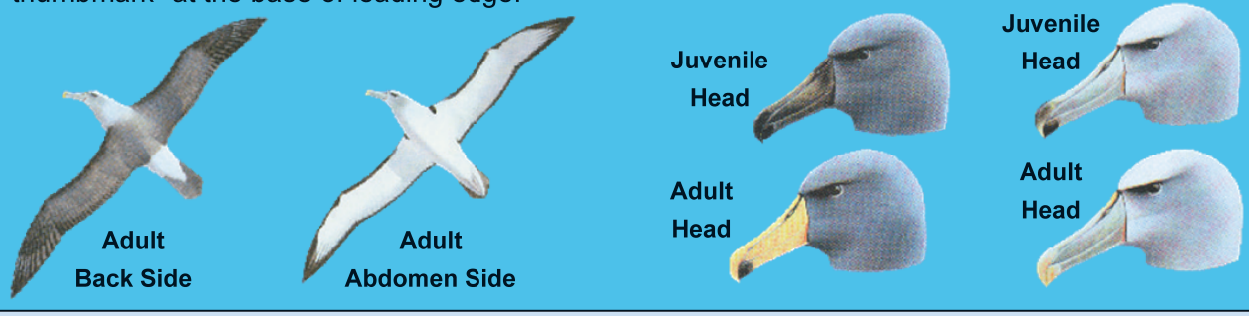
Other Albatrosses

Small or medium sized albatrosses (wing span 1.9 - 2.5 m)

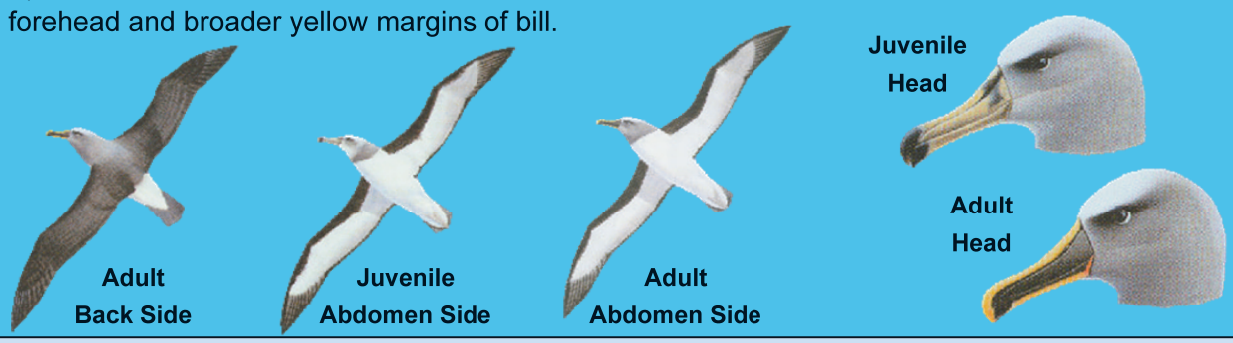
5) **Black-browed albatross:** Adult's bill is bright yellow. Juvenile's bill is dusky grey with blackish tip.



6) **Shy albatross:** White underwing with very narrow black margins and with distinctive "thumbmark" at the base of leading edge.



7) **Buller's albatross:** Resembles grey-headed albatross, but differs by having whitish forehead and broader yellow margins of bill.



8) **Grey-headed albatross:** Upper and lower margins of adult's bill are yellow with reddish bill tip. Juvenile's bill is glossy black with lighter-coloured lower margins.

Adult
Back Side

Juvenile
Abdomen Side

Adult
Abdomen Side

Juvenile
Head

Adult
Head

9) **Yellow-nosed albatross:** Small albatross with slender bill. Adult's bill has yellow upper margin with reddish tip.

Adult
Back Side

Juvenile
Abdomen Side

Adult
Abdomen Side

Juvenile
Head

Adult
Head

Giant Petrels

Juvenile resembles dark coloured albatrosses, but has robust yellowish bill with distinct nostril.

10) **Southern giant petrel:** Bill has pale greenish tip.

Juvenile
Abdomen Side

Adult
Abdomen Side

Adult
Back Side

Adult
Head

11) **Northern giant petrel:** Bill has reddish tip.

Juvenile
Abdomen Side

Adult
Abdomen Side

Adult
Back Side

Adult
Head

Fulmars

12) **Cape petrel:**

Whitish fulmar with distinct chequered black and white pulmage on the back.

Adult Abdomen Side

Adult Back Side

Petrels

13) **Flesh-footed shearwater:**

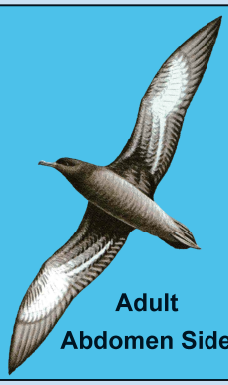
Blackish-brown shearwater with dark tipped pale pinkish-white bill and pink legs.

Adult Abdomen Side

Adult Back Side

14) **Sooty shearwater:**

Completely dark brown or black shearwater with silvery white on underwings and dark/longer bill.



Adult Abdomen Side

Adult Back Side

15) **Great-winged petrel:**

Completely dark with some pale feathers around base of bill & throat. Endemic to NZ(often called Gray-faced petrel) has wider white area around base of bill & throat.

Adult Abdomen Side

Adult Abdomen Side (NZ Endemic)

Adult Back Side (NZ Endemic)

Adult Head (NZ Endemic)

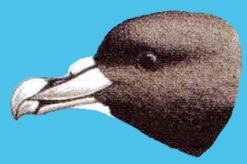
Petrels (cont.)

16) **White-chinned petrel:**

Dark blackish-brown petrel with variable white feathers at chin and yellowish bill with pale tip.

Adult
Abdomen Side

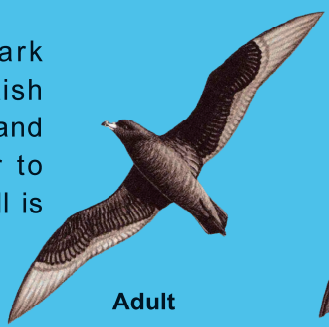
Adult
Back Side



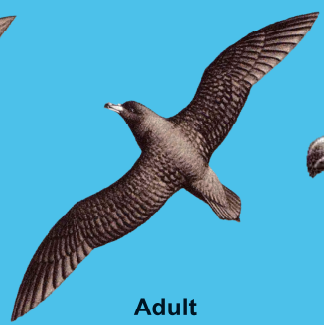
Adult
Head

17) **Black petrel:**

Completely sooty or dark brown/black petrel, whitish yellow bill with dark tip, and black legs. Very similar to Westland petrel but its bill is shorter than 45mm.



Adult
Abdomen Side



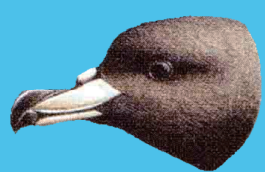
Adult
Back Side

Adult
Head

18) **Westland petrel:**

Completely sooty or brownish-dark petrel with a blackish tip of bill. Very similar to Black petrel but its bill is longer than 44mm.

Adult
Abdomen Side



Adult
Head

19) **Grey petrel:**

Large petrel with grey back and white ventral plumage.

Adult
Abdomen Side

Adult
Back Side