

A fisher's guide: New Zealand Coastal Seabirds

In this companion guide to New Zealand Seabirds you can learn about more seabirds that you may see in New Zealand's EEZ.

From Australasian gannets to yellow-eyed penguins, this guide details distinguishing characteristics, ecology, range and potential threats to each species. It also provides the current New Zealand conservation status of each species and the MPI species codes to assist fishers in accurately recording species interactions.

Protection of seabirds is provided under the Wildlife Act 1953. Most of the birds in this guide breed only in New Zealand and many face a number of threats, including interacting with commercial and recreational fisheries.



List of seabirds found in this guide

Gannets

Australasian gannet
Morus serrator

Gulls

Black-backed gull (kelp gull)
Larus dominicanus dominicanus

Black-billed gull
Larus bulleri

Red-billed gull (silver gull)
Larus novaehollandiae scopulinus

Terns

Black-fronted tern
Chlidonias albostratus

Caspian tern
Hydroprogne caspia

White-fronted tern
Sterna striata striata

Mid-sized petrels and shearwaters

Cook's petrel
Pterodroma cookii

Pycroft's petrel
Pterodroma pycrofti

Fluttering shearwater
Puffinus gavia

Hutton's shearwater
Puffinus huttoni

North Island little shearwater
Puffinus assimilis haurakiensis

Storm-petrels

Black-bellied storm-petrel
Fregetta tropica

Grey-backed storm-petrel
Garrodia nereis

New Zealand storm-petrel
Fregetta maoriana

New Zealand white-faced storm-petrel
Pelagodroma marina maoriana

Penguins

Little blue penguin
Eudyptula minor

Yellow-eyed penguin
Megadyptes antipodes

Fiordland crested penguin
Eudyptes pachyrhynchus

Shags

Black shag
Phalacrocorax carbo novaehollandiae

Little black shag
Phalacrocorax sulcirostris

Little shag
Phalacrocorax melanoleucos brevirostris

Pied shag
Phalacrocorax varius varius

Pitt Island shag
Stictocarbo featherstoni

Spotted shag
Stictocarbo punctatus

Chatham Island shag
Leucocarbo onslowi

New Zealand king shag
Leucocarbo carunculatus

Foveaux shag
Leucocarbo stewarti

Otago shag
Leucocarbo chalconotus

Species Group:
Gannets

Australasian gannet

Morus serrator

MPI group code: XSU
MPI species code: XGT



Image: DOC



Image: Derek Stokes, Macaulay Library at the Cornell Lab of Ornithology

Distinguishing characteristics

- Large seabird (84-91 cm in length)
- White body with dusty yellow colouring on top of head
- White wings with dark flight feathers
- Wingspan approximately 1.7 – 2 metres
- Long pale grey bill
- Short, thick black legs

Juvenile features: Mottled grey-brown plumage that lightens each year until they reach maturity. Adult plumage takes three years to develop.

Feeding and range



Eats: Fish and squid.

Range: When not breeding, gannets, or takapu, disperse widely over the continental shelf, including harbours, estuaries, bays, and fiords. Juvenile gannets migrate to Australia and are common off eastern and southern Australia ranging as far west as the Indian Ocean.

Interesting Facts



Gannets plunge dive from great heights in pursuit of their prey. When diving they can reach speeds up to 145 km an hour and dive to depths of more than 15 metres.

Gannets are specially adapted for plunge diving. For example, they have air sacs in their lower neck to help cushion the impact when they hit the water.

Breeding and ecology



Breeding sites: Numerous small islands, as well as the mainland in New Zealand. Colonies are found at the Three Kings, Poor Knights and Mokohinau Islands, islands off Great Barrier Island, the Coromandel Peninsula, White Island, west coast of the North Island, Tolaga Bay, Cape Kidnappers and Black Rocks. South Island breeding sites are at Farewell Spit, Marlborough Sounds and Little Solander Island.

New Zealand is the primary breeding location for this species but around 13% of the population breeds in Australia.

Breeding period: Gannets return to their breeding colonies around June/July each year. Both parents take turns protecting first the egg and then the chick.

Frequency of breeding: Annual.

Number of eggs: One egg, but can replace it if the egg is lost.

Nesting: Gannets usually breed in large colonies. Nests are made within close proximity to others. Nest material consists of seaweed and guano.

Threats



At sea

A few gannets are caught in trawl fisheries and by line-fishing techniques such as trolling for kahawai.

Gannets have been found dead on beaches after swallowing fish hooks or becoming entangled in fishing line.

Gannets tend to take non-commercial fish such as pilchards or small size classes of commercial fish stocks. Periodic die-offs of pilchards and other fish appear to increase gannet mortality rates. The largest recorded wreck of gannets on New Zealand beaches occurred in 1995 when 283 gannets died of starvation due to a pilchard die-off event.

On land

The main threat to mainland gannet colonies is disturbance by dogs and humans.

Gannets at mainland colonies can, however, become tolerant of people as long as they keep their distance from the colony itself.

The colony on White Island has to survive periodic volcanic eruptions, and some eggs and chicks are lost in thermal areas.

Species Group:
Gulls

Black-backed gull (kelp gull)

Larus dominicanus dominicanus

MPI group code: XSG
MPI species code: XBG



Distinguishing characteristics

- Very large gull (49-62 cm in length) – largest gull in New Zealand
- White head and body
- Upperwings are black with some white on the tips
- Underwings are white
- Bright yellow bill with a red dot on the lower bill
- Pale greenish-yellow legs and feet

Juvenile features: Although a similar size, juveniles look like a completely different bird, with mottled brown plumage and black bills and feet. Juveniles do not develop full adult plumage until they are about three years old.

Feeding and range



Eats: Black-backed gulls, or karoro, are opportunistic feeders. They scavenge on carcasses of whales, seals, fish and birds. Also feeds on eggs, chicks and adult birds, and catches small fish. Frequently scavenges at landfills.

Range: Gulls disperse over coastal and continental seas, land, lakes and rivers. The same species is common on coasts of temperate and subantarctic landmasses around the southern hemisphere.

Interesting Facts



They open shellfish by picking them up and flying straight up before dropping them on the sand, rocks or asphalt so that the shell will break.

This seabird species is not protected in New Zealand under The Wildlife Act 1953.

Breeding and ecology



Breeding sites: Breeds in loose colonies or individually throughout New Zealand, including on numerous offshore islands.

This species also breeds in eastern and southern Australia, the Antarctic Peninsula, South America and South Africa and many subantarctic islands.

Breeding period: Returns to breeding sites in October. Incubation is completed in 25-30 days and chicks fledge at about 50 days.

Frequency of breeding: Annual.

Number of eggs: Two to three eggs, and can lay up to three clutches if eggs are damaged or lost.

Nesting: Nests on the mainland at beaches, estuaries, sandspits, shellbanks, lake margins, rocky headlands, riverbeds, farmland, roofs of buildings and even on mountain-tops.

Threats



At sea

Black-backed gulls, which often scavenge prey items, are prone to ingesting plastic or getting entangled in plastics.

Has been recorded as bycatch in commercial fisheries.

On land

Mustelids (especially stoats and ferrets) and feral cats take eggs and chicks at mainland colonies. Norway rats may also take eggs and chicks at some colonies. Other possible introduced predators include hedgehogs.

Uncontrolled dogs are a major threat to chicks.

Human disturbance is a primary cause of nest failure. Motorbikes and 4WD vehicles on beaches or riverbeds disturb nesting birds and sometimes destroy nest sites. Dense growth of willows, lupins, broom and gorse on riverbeds has limited the available nesting habitat. This has been exacerbated by hydro-electric dams and water extraction reducing flood events that scour riverbed clear of vegetation.

Hydro lake development has decreased the available habitat for riverbed breeding species.

Extraction of gravel from riverbeds has had a major impact on nesting birds in Southland.

Species Group:
Gulls

Black-billed gull

Larus bulleri

MPI group code: XSG
MPI species code: XBL



Image: © M. P. Pierre



Image: DOC. Photographer Andrew Walmsley

Distinguishing characteristics

- Small gull (35-38 cm in length)
- White head and body
- Long, thin black bill
- Wings are grey on top with narrow black tips and white underneath
- Dark legs and feet
- Similar size and colouring to red-billed gulls, but the black-billed gull is paler, with less black on the wing tips
- Adults are easily distinguished by bill colour

Juvenile features: Similar features, but darker wings, and pale bill and legs.

Feeding and range



Eats: Insects, small fish and will also scavenge.

Range: Breeds only in New Zealand. Black-billed gulls disperse widely in the winter after breeding. Some have been recorded inland over farmland, lakes and rivers but most flock at coastal estuaries and over inshore seas. Birds regularly visit Stewart Island and occasionally the Snares Islands.

Interesting Facts



In New Zealand the black-billed gull, or tarāpuka is considered in serious decline and is vulnerable to predation. For example, over a two-month period in 2006, one cat and a ferret killed hundreds of black-billed gull chicks on the Aparima River in Southland.

Breeding and ecology



Breeding sites: Breeds on both the North Island and South Island. Key South Island strongholds are in Southland (Mataura, Oreti, Aparima and Waiau rivers) and Canterbury (Ashburton, Opihi, and Waiau rivers).

Although the population is in decline, black-billed gulls have been expanding their range northwards in the past 30 years and now nest at the Kaipara and Manukau harbours.

Breeding period: Returns to breeding colonies in September. Incubation is completed in 20-25 days and chicks fledge in about 26 days.

Frequency of breeding: Annual.

Number of eggs: Two to three eggs.

Type of nests: Nests on braided rivers on the South Island. On the North Island, black-billed gulls nest on sandspits, shellbanks, margins of lakes and riverflats, and some geothermal sites.

Threats

At sea

Few known threats at sea.

On land

The most serious threat to gull populations is from mammalian predators such as Norway rats, ship rats, cats, stoats, ferrets, hedgehogs, possums, pigs, and dogs. All these predators take eggs and most are capable of killing adults and chicks.

Farmed or feral stock can impact gulls by trampling nests or increasing erosion.

Recreational activities (e.g. fishing, hunting, swimming or picnicking) near gull nests can cause nest failure or abandonment especially if people spend too much time near the nests. Colonies can be destroyed by off-road vehicles.

Dense growth of willows, lupins, broom and gorse on riverbeds has limited the available nesting habitat. This has been exacerbated by hydro-electric dams and water extraction reducing flood events that scour riverbed clear of vegetation.

Hydro lake development has decreased the available habitat for riverbed breeding species.

Extraction of gravel from riverbeds has had a major impact on nesting birds in Southland.

Species Group:
Gulls

Red-billed gull (silver gull)

Larus novaehollandiae scopulinus



Distinguishing characteristics

- Small gull (36-44 cm in length)
- White head and bodies
- Wings are grey on top with narrow black tips and white underneath
- Red bill as adult
- Orange-red legs and feet

Juvenile features: Similar features, but browner on wings and bills and legs are dull.

MPI group code: XSG
MPI species code: XRB

Feeding and range



Eats: In coastal environments eats plankton, small fish and marine invertebrates. In urban environments will scavenge on refuse.

Range: This subspecies is found only in New Zealand. It is found mainly in coastal areas and on offshore islands, although it is also found at Lake Rotorua in the North Island.

Interesting Facts



One of the few seabird species to be recorded nesting as a yearling. Red-billed gulls and black-billed gulls often breed in the same colonies. They have also been known to interbreed.

Breeding and ecology



Breeding sites: Breeding colonies are found in many coastal areas and offshore islands. One of the largest breeding colonies is found on the Kaikōura Peninsula.

Breeding period: Returns to breeding colonies in October. Incubation is completed in 24-27 days and chicks fledge in about 37 days.

Frequency of breeding: Annual.

Number of eggs: One to three eggs, and can lay up to three clutches if eggs are damaged or lost.

Type of nests: Nests are built out of seaweed and plant material.

Threats



At sea

Few known threats at sea, although has been caught in commercial fisheries.

On land

The most serious threat to gull populations is from mammalian predators such as Norway rats, ship rats, cats, stoats, ferrets, hedgehogs, possums, pigs and dogs. All these predators take eggs and most are capable of killing adults and chicks.

Recreational activities (e.g. fishing, hunting, swimming or picnicking) near gull nests can cause nest failure or abandonment especially if people spend too much time near the nests. Off-road vehicles can destroy colonies on sandspits and shellbanks and in riverbeds.

A few birds are occasionally shot illegally.

Species Group:
Terns

Black-fronted tern

Chlidonias albostratus

MPI group code: XTE



Image: © M. P. Pierre



Image: © M. P. Pierre

Distinguishing characteristics

- Small tern (28-30 cm in length)
- White head with a black cap during breeding
- Yellow-orange bill
- Pale rump contrasts with grey wings
- Tail is forked
- Orange legs and feet

Juvenile features: Similar features as adults, but have only a partial black cap.

Feeding and range



Eats: Insects and small fish.

Range: New Zealand endemic breeding only in the South Island. Birds disperse after breeding to coastal and inshore seas from Stewart Island to southern North Island with a few reaching Hawke's Bay, Bay of Plenty and Kaipara Harbour.

Interesting Facts



The black-fronted tern, or tarapiroe, is in serious decline and is listed as nationally endangered.

Although terns are considered seabirds, black-fronted terns are also frequently seen far inland during their breeding season, and often hawk for insects over pasture and behind ploughs.

Breeding and ecology



Breeding sites: Breeds only in the South Island. Mainly breed on riverbeds in the eastern South Island from Marlborough to Southland, but a few occasionally nest on rivers in Westland.

Breeding period: Begins to return to their breeding colonies in September. Eggs take 22-26 days to incubate and chicks fledge in about 30 days.

Frequency of breeding: Annual.

Number of eggs: Lays one to three eggs. Can lay up to three clutches if eggs are damaged or lost.

Type of nests: Small colonies on riverbeds and shingle banks.

Threats



At sea

Few known threats at sea.

On land

The most serious threat to tern populations is from mammalian predators such as Norway rats, ship rats, cats, stoats, ferrets, hedgehogs, possums, pigs and dogs. All these predators take eggs and most are capable of killing adults and chicks.

Farmed or feral stock can impact terns by trampling nests or increasing erosion.

Recreational activities (e.g. fishing, hunting, swimming or picnicking) near tern nests can cause nest failure or abandonment especially if people spend too much time near the nests. Colonies can be destroyed by off-road vehicles.

Dense growth of willows, lupins, broom and gorse on riverbeds has limited the available nesting habitat. This has been exacerbated by hydro-electric dams and water extraction reducing flood events that scour riverbed clear of vegetation.

Hydro lake development has decreased the available habitat for riverbed breeding species.

Extraction of gravel from riverbeds has had a major impact on nesting birds in Southland.

Species Group:
Terns

Caspian tern

Hydroprogne caspia

MPI group code: XTE
MPI species code: XCT



Distinguishing characteristics

- World's largest tern (47-54 cm in length)
- White body and lower half of head
- Distinctive black cap on top half of head during breeding
- Upperwings silver-grey
- Underwings white with charcoal-grey primary feathers
- Massive, orange-red bill with black tip
- Black legs and feet

Juvenile features: Wings are browner in colour and cap on head is browner, with a streaked forehead.

Feeding and range



Eats: Mainly fish and insects.

Range: In New Zealand, Caspian terns tend to disperse northwards after breeding but can be seen around the entire coastline of New Zealand. A few stragglers have reached the Chatham Islands and Kermadec Islands.

Elsewhere, the species breeds in Australia, Asia, Africa, Madagascar, Europe and North America.

Interesting Facts



Caspian terns, or taranui, are particularly sensitive to disturbance early in the nesting period.

Breeding and ecology



Breeding sites: This species breeds throughout the North and South Islands but mainly in coastal areas in Northland, Auckland, Waikato, Bay of Plenty, Wairarapa, Nelson, Canterbury and Southland regions. Birds nest inland on islands and sandspits at Lake Rotorua and on Canterbury riverbeds.

Breeding period: Spring/summer, incubation is completed in 26-28 days and chicks fledge in 35-45 days.

Frequency of breeding: Annual.

Number of eggs: One to three eggs, and can lay up to three clutches if eggs are damaged or lost.

Type of nests: Caspian terns build nests on the ground. They require sandspits, sandy beaches and shellbanks for their nesting sites. On the coasts they tend to nest in large colonies. Those that breed along rivers are more often solitary nesters.

Threats



At sea

Not known at this time.

On land

Southern black-backed gulls are the main predator of Caspian tern colonies and eggs and chicks are frequently attacked.

Caspian terns are also at risk when nesting on beaches especially at sites where people can drive motorbikes or 4WD vehicles through nesting colonies.

Mammalian predators, such as Norway rats, ship rats, cats, stoats, ferrets, hedgehogs, pigs and uncontrolled dogs are another serious threat. All these predators take eggs, and most are capable of killing adults and chicks.

On the mainland, the planting of coastal margins in marram grass and pine plantations has restricted habitat for Caspian terns.

Species Group:
Terns

White-fronted tern

Sterna striata striata

MPI group code: XTE
MPI species code: XSR



Image: © M. P. Pierre



Image: © M. P. Pierre

Distinguishing characteristics

- Medium-sized tern (35-43 cm in length)
- White body and white throat
- Breeding plumage may include a pink flush on underbody
- Black cap on top of head with white forehead
- Upperwings are pale grey, underwings white with pale grey primary feathers
- Long, deeply forked tail
- Black bill legs and feet

Juvenile features: Mottled upper wing and back and less defined black cap.

Feeding and range



Eats: Fish and sometimes insects.

Range: Breeds mainly in New Zealand. Disperses over coastal waters and the continental shelf. Juveniles and some adults migrate to southern and eastern Australia each winter.

Interesting Facts



The white-fronted tern, or tara, are the most common tern in New Zealand.

Like other terns, white-fronted terns feed near the surface. They make shallow dives into the water in search of prey – mainly small fish.

Breeding and ecology



Breeding sites: Many colonies occur on predator-free offshore islands and stacks. Breeds around the coasts and offshore islands of New Zealand. A few colonies occur inland on riverbeds in the South Island.

Also breeds at the Auckland and Chatham islands and on islands in Bass Strait, Tasmania.

Breeding period: Between October and January, incubation is completed in 20-25 days and chicks fledge in 29-35 days.

Frequency of breeding: Annual.

Number of eggs: One to three eggs, but can lay up to three clutches if eggs are damaged or lost.

Type of nests: Nests in large colonies or in small groups on beaches, shingle banks or rock stacks.

Threats



At sea

White-fronted terns are occasionally caught on fishing lines, especially when recreational fishers are trolling through schools of kahawai.

On land

Introduced predators are a key threat at mainland colonies. Mustelids (especially stoats and ferrets) and feral cats take eggs, chicks and adults. Norway rats may also take eggs and chicks. Other possible introduced predators include hedgehogs and possums.

Uncontrolled dogs are a major threat to eggs and chicks.

Human disturbance is a primary cause of nest failure on the mainland. People driving motorbikes and 4WD vehicles on dunes disturb nesting birds and sometimes destroy nest sites.

People walking, fishing, sunbathing, swimming or picnicking near white-fronted tern nests can cause nest failure or abandonment if people spend too much time near the nests.

Species Group:
Mid-sized petrels
and shearwaters

Cook's petrel

Pterodroma cookii

MPI group code: XPM
MPI species code: XKP



Image: Edin Whitehead



Image: DOC, Photographer Dick Veitch

Distinguishing characteristics

- Small petrel (25-30 cm in length)
- Dusty grey top of head with white near the bill
- Black bill
- White throat, breast and belly
- Dusty grey upperwings and back with a prominent dark 'm' shape extending across the upperwings
- Legs and feet blue
- Narrow wings and pointed tail in flight
- Similar in appearance to pycroft's petrel, but usually has lighter crown

Feeding and range



Eats: Mainly squid, with some crustaceans and small fish.

Range: It is now considered that there are two sub-species of Cook's petrel. *Pterodroma cookii cookii* breeds on Little Barrier Island and Great Barrier Island and *Pterodroma cookii orientalis* breeds on Whenua Hou (Codfish Island). The subspecies are physically, behaviourally and genetically different. Foraging areas do not overlap.

During the breeding season, birds disperse widely in the Tasman Sea and south-west Pacific Ocean over warm subtropical and cool temperate waters. The species migrates in the non-breeding season to the eastern Pacific Ocean between California and Chile. Birds are also regularly reported from the subarctic front in the North Pacific Ocean.

* The classification category 'Relict' has been adopted in the New Zealand Threat Classification System to encompass species that have experienced very large historic range reductions and now exist as remnant populations.

Breeding and ecology



Breeding sites: Little Barrier Island holds the largest population, with smaller breeding populations on Great Barrier and Whenua Hou (Codfish) islands.

Breeding period: Spring/summer.

Frequency of breeding: Annual.

Number of eggs: One.

Type of nests: Colonial nesters that nest in long, deep burrows built in amongst tree roots.

Threats



At sea

Bright vessel lighting may disorient petrels causing them to crash land on deck.

On land

Introduced mammalian predators pose a significant threat to Cook's petrel populations.

Feral cats formerly killed large numbers of Cook's petrels on Little Barrier Island. Pacific rats ate both eggs and chicks. Both cats and Pacific rats have been eradicated from Little Barrier Island.

Feral cats and ship rats are responsible for Cook's petrel being very rare on Great Barrier Island. Feral pigs and goats also have an impact.

Weka killed large numbers of Cook's petrels on Whenua Hou before weka were eradicated in 1985.

Juveniles have been known to crash land or get washed ashore in late March/early April. They may be attracted to the bright lights in towns and cities, especially in foggy conditions.

Species Group:
Mid-sized petrels
and shearwaters

Pycroft's petrel

Pterodroma pycrofti

MPI group code: XPM



Image: Courtesy Phil Swanson



Image: DOC. Photographer Mike Aviss

Distinguishing characteristics

- Small petrel (28 cm in length)
- Grey crown with white forehead
- Dark grey around the eyes
- Grey back and upperwings with a prominent dark 'm' shape extending across the wings
- White underwing with dark tips
- White belly and throat with some grey near the throat
- Blue-grey legs with pink-mauve webbing
- Black bill
- Similar in appearance to cook's petrel, but darker colouring, especially on the crown and around the eyes

Feeding and range



Eats: Mainly squid, crustaceans also. Sea surface feeder with only shallow dives recorded.

Range: Breeds only on a few offshore islands along the north-east coast of New Zealand.

Distribution at sea is poorly understood, but it is believed to migrate to the North Pacific Ocean between April and October.

Interesting Facts



Bone deposits suggest the species once bred on Norfolk and Lord Howe islands.

Breeding and ecology



Breeding sites: Breeds on 11 offshore islands in the Poor Knights, Hen and Chickens, Mercury Islands and Stephenson Island.

Breeding period: Spring/summer.

Frequency of breeding: Annual.

Number of eggs: One.

Type of nests: Colonial nesters that nest in burrows, often amongst other petrel species colonies.

Threats



At sea

Little is known about the possible effects of pollutants such as plastics, chemical contaminants and oil spills. This species, however, migrates to the North Pacific Ocean, so it may be at greater risk from pollutants than some other New Zealand breeding species.

On land

The accidental introduction of mammalian predators to islands with Pycroft's petrels is a potential threat to the species and is managed by strict controls on visitor access to most of these breeding islands. Pacific rats have been shown to have a significant impact on breeding success. Rabbits may have had some impact on Korapuki and Stanley Islands in the past by excavating petrel burrows. Pycroft's petrels may compete for burrows with winter-breeding petrels on some islands (e.g. little shearwater), as breeding seasons overlap.

The burrows are fragile and often occur in very friable soils. These are easily crushed by people visiting or working on these islands.

Fire is also a key potential threat to this species because nesting occurs in summer and all breeding grounds are very dry between December and March.

Species Group:
Mid-sized petrels
and shearwaters

Fluttering shearwater

Puffinus gavia



Image: Edin Whitehead



Image: Edin Whitehead

Distinguishing characteristics

- Small shearwater (32-37 cm in length)
- Dark brown head
- Greyish-brown bill and feet
- White belly and throat, with partial dark collar
- Brown upperwings
- White underwings with brown borders
- Can be confused with the Hutton's shearwater, particularly around the Cook Strait, where the species overlap during breeding. Best separated by paler armpits and less prominent partial collar

MPI group code: XSI
(includes Otago and Foveaux shag).
MPI species code: XFL

Feeding and range



Eats: Small fish and crustaceans, especially krill.

Range: Breeds only in New Zealand. Forages over the continental shelf and inshore waters including sheltered bays and harbours, throughout most of New Zealand.

Fledglings and some adults migrate to eastern and southern Australia in February. Large numbers of birds remain around the New Zealand coast year round.

Interesting Facts



A new colony of fluttering shearwaters, or pakaha, has been established on Maud Island, Marlborough Sounds. Chicks translocated from Long Island to Maud Island in the 1990s have now returned to Maud as adults to breed.

* The classification category 'Relict' has been adopted in the New Zealand Threat Classification System to encompass species that have experienced very large historic range reductions and now exist as remnant populations.

Breeding and ecology



Breeding sites: Breeds on numerous offshore islands between the Three Kings group and the Marlborough Sounds. Colonies can be extremely dense and coexist with other species (e.g. common diving petrels and grey-faced petrels).

Breeding period: Between September and February with the eggs hatching in November and chicks fledging in January/February.

Frequency of breeding: Annual.

Number of eggs: One.

Type of nests: Colonial nester that nests in burrows or between tree roots and rock crevices.

Threats



At sea

Frequently feeds close inshore and dive deeply for food. Consequently, birds have been bycaught by fishers using hand and reel-lines in inshore waters. The birds sometimes swallow hooks or get tangled in the lines.

Flocks of shearwaters are occasionally caught in set nets.

The species may be attracted to bright lighting, especially on foggy nights. This can lead to crash landings on fishing vessels.

Most of the large breeding colonies are situated near active shipping lanes and the main New Zealand oil refinery at Marsden Point. An oil spill near the breeding islands could have a major impact on this diving species.

On land

All breeding colonies are on mammal-free islands or islands that only have Pacific rats present. The breeding populations are quite small on islands with Pacific rats. It is likely that these rats eat eggs and chicks of fluttering shearwaters.

Fires may cause temporary losses in the populations, especially during incubation (September–November).

Nesting colonies on small rodent-free islands are usually in very friable soil. The burrows on these islands are easily collapsed by people moving about the colonies. Visitor access to these sites needs to be strictly limited, especially during the courtship and incubation periods (August to November).

Species Group:
Mid-sized petrels
and shearwaters

Hutton's shearwater

Puffinus huttoni



Image: Courtesy Dennis Buurman Photography



Image: DOC

Distinguishing characteristics

- Small shearwater (36-38 cm in length)
- Brown head with darker plumage around eye and bill
- Long, slender, greyish-brown bill
- Light to dark pink legs with pink feet and black webs
- White belly and throat, with partial dark collar
- Dark brown back and upperwings
- Very similar to fluttering shearwater – darker 'armpits' and more prominent partial collar help distinguish hutton's shearwater

MPI group code: XSI
(includes Otago and Foveaux shag).
MPI species code: XPH

Feeding and range



Eats: Small fish and crustaceans, especially krill.

Range: Breeds only in New Zealand. This species forages over the continental shelf mainly east of the South Island and north of the subtropical convergence. Mostly seen close to Kaikōura.

Most birds migrate to Australian seas between April and August. Some birds reach the Indian Ocean north-west of Western Australia and some stay in the Tasman Sea and off South Australia.

Interesting Facts



The 2016 Kaikōura earthquake caused extensive damage to the breeding colonies of Hutton's shearwater. Slips swept away 20-30% of each colony.

Hutton's shearwater, or tītī, carries the same Māori name as a number of different shearwater species, particularly during the downy chick stage.

Breeding and ecology



Breeding sites: The only known breeding sites are located in the South Island on the Seaward Kaikōura range, 1000 to 1600 metres above sea level. A small translocated colony has been formed closer to sea level within a predator proof area. Only seabird globally known to breed in an alpine environment.

Breeding period: Returns to breeding colonies in late August and spends about two months competing for burrows and mates. Eggs are laid in October or November. Incubation takes about 50 days. Young birds fledge in March or April.

Frequency of breeding: Annual.

Number of eggs: One.

Type of nests: Colonial nesters that nest in burrows.

Threats



At sea

Recorded bycaught in set nets.

This species may be attracted to bright lighting, especially on foggy nights. This can lead to crash landings.

On land

All Hutton's shearwater colonies are on the mainland and therefore are potentially vulnerable to mammalian predators and browsers. Stoats are known to kill adults and chicks and also take eggs.

Feral cats and pigs are normally absent from the upper valleys where the colonies occur but are present in the river catchment below the shearwater colonies. These two species are potentially the greatest threat to the shearwater colonies.

New Zealand falcons and Australasian harriers capture and kill small numbers of adults and kea have been observed digging out Hutton's shearwater chicks from short or shallow burrows, then eating the fat deposits on these chicks.

Fire is a possible threat because the colonies can be very dry in late summer.

Burrows are extremely fragile and easily crushed by people. Care is needed when studying this species because adults are sensitive to handling during incubation.

In some seasons burrows are covered in snow till very late and this delays or prevents breeding. Late summer snowfalls may trap chicks or prevent adults from feeding them.

Bright lighting from buildings can lead to crash landings, resulting in internal injury and death.

Species Group:
Mid-sized petrels
and shearwaters

North Island little shearwater

Puffinus assimilis haurakiensis

MPI group code: XSW

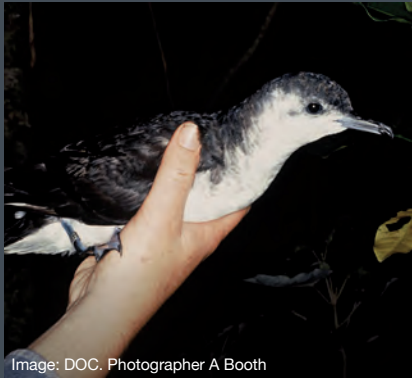


Image: DOC. Photographer A Booth



Image: DOC. Photographer A Booth

Distinguishing characteristics

- Small shearwater (25-30 cm in length)
- Black cap with white face
- Blue-black bill
- White belly and throat with some mottled colouring around eye and edges of throat
- Dark upperwings
- Blue legs, feet blue with pale yellow webbing

Feeding and range



Eats: Small fish and crustaceans, especially krill.

Range: Breeds only in New Zealand. Birds disperse locally in seas off the North Island.

Interesting Facts



One of four little shearwater sub-species found in New Zealand waters.

Often plunge dives for small fish.

Breeding and ecology



Breeding sites: Breeds in the Hauraki Gulf and Bay of Plenty. Populations occur at the Cavalli Islands, Poor Knights, Hen and Chickens Islands, Mokohinau Islands, Mercury Islands, Aldermen Islands, Penguin and Rabbit islands.

Breeding period: June to December. Lay July-August, hatch September-October, chicks fledge November-December.

Frequency of breeding: Annual.

Number of eggs: One.

Type of nests: Colonial nester that nests in burrows, or between tree roots and rock crevices.

Threats



At sea

Few known threats at sea.

On land

Pacific rats have been shown to take eggs and chicks and have a significant impact on breeding success. May compete for burrows with summer-breeding petrels on some islands (e.g. Pycroft's petrel), as breeding seasons overlap.

The introduction of new mammalian predators on breeding islands is a potential risk for this species. North Island little shearwaters are absent from islands where Norway rats, ship rats, feral cats and stoats occur or formerly occurred. Most breeding islands are remote and predators are only likely to reach the islands via boats. Access restrictions and difficulty of landing on these islands help minimise this threat.

Fires may cause temporary losses in the populations, especially during breeding (July to December).

Nesting colonies on small rodent-free islands are usually in very friable soil. The burrows on these islands are easily collapsed by people moving about the colonies. Visitor access to these sites needs to be strictly limited, especially during the courtship and incubation periods (June to September).

Species Group:
Storm-petrels

Black-bellied storm-petrel

Fregatta tropica

MPI group code: XST
MPI species code: XFT



Image: Courtesy Dennis Buurman Photography



Image: Courtesy Brent Stephenson

Distinguishing characteristics

- Small seabird (20 cm in length)
- Black head
- Small black bill
- Black breast and throat
- Black back and upperwings
- White belly with black stripe down middle
- Underwings white with broad brownish-black margins
- White band above dark tail
- Black feet – in flight, legs and feet longer than tail feathers

Feeding and range



Eats: Crustaceans, plankton/krill and squid.

Range: Native to New Zealand. The species disperses widely at sea. In summer, the birds range over Antarctic and subantarctic waters near the breeding colonies, but in winter they move north into subtropical and tropical seas.

Interesting Facts



Very rare to see this species in coastal waters, but common around subantarctic islands and, in winter, near Kermadec Islands. More commonly seen than the related white-bellied storm-petrel which is about the same size and colour, has an all white belly, and has feet that do not extend beyond the tail.

Breeding and ecology



Breeding sites: In New Zealand this species is known to breed at the Auckland Islands (eggs recorded from Adams, Rose and Enderby Islands) and outlying islands in the Antipodes Islands.

Elsewhere, breeds at Kerguelen, Crozet, Prince Edward, South Georgia, South Orkney, Signy, Larson, Laurie, and South Shetland Islands.

Breeding period: Summer/autumn.

Frequency of breeding: Annual.

Number of eggs: One.

Type of nests: Colonial nesters that nest in burrows, rock crevices and amongst tussock.

Threats



At sea

Little is known of their behaviour and distribution at sea. Sometimes seen following vessels.

The species may be attracted to bright lights on fishing boats, especially on foggy nights.

On land

Can only breed in the absence of introduced mammals. The species was probably wiped out from the main Auckland Island by feral cats and pigs and possibly from Campbell Island by Norway rats. The main risk to the species today is the chance introduction of mammalian predators to the breeding islands.

Burrows are easily collapsed by people moving about on colonies because the soil is very friable. Visitor access needs to be strictly limited to protect birds especially during the courtship and incubation periods (January through March).

Fire is a potential risk, especially on Antipodes Island, which can be quite dry during the summer.

Species Group:
Storm-petrels

Grey-backed storm-petrel

Garrodia nereis

MPI group code: XST
MPI species code: XGB



Distinguishing characteristics

- Very small seabird (16-19 cm in length)
- Charcoal-grey to black head, throat and upper parts
- Very small black bill
- White belly
- Charcoal-grey to black upperwings
- White underwings with dark margins
- Black feet – in flight, legs and feet are longer than tail feathers

Feeding and range



Eats: Surface feeders on plankton; known to feed on the larvae of goose barnacles.

Range: Native. Birds disperse over subantarctic waters but occasionally can also be found over warmer subtropical waters.

Interesting Facts



When foraging, petrels face into the wind and use their legs to help them hover over their prey, looking like they are walking on the water. The name 'petrel' is derived from St Peter, referring to walking on the water.

Storm-petrels frequently find shelter on the lee side of ships during storms.

* The classification category 'Relict' has been adopted in the New Zealand Threat Classification System to encompass species that have experienced very large historic range reductions and now exist as remnant populations.

Breeding and ecology



Breeding sites: Breeds at the Chatham Islands, Auckland Islands, Antipodes Islands and Campbell Island.

Elsewhere, the species breeds on Macquarie, Kerguelen, Crozet, Prince Edward, South Georgia, Falkland/Malvinas, and Gough Islands.

Breeding period: August to March.

Frequency of breeding: Annual.

Number of eggs: One.

Type of nests: Colonial nesters that nest amongst vegetation, e.g. tussock and flax.

Threats



At sea

Little is known of their behaviour and distribution at sea. Sometimes seen following vessels and this species has been reported as bycatch in commercial fishing operations.

The species may be attracted to bright lights on fishing boats, especially on foggy nights, and has been recorded crash landing on fishing vessels.

Grey-backed storm petrels have been found with small plastic pellets in their stomachs, but it is unknown how this might affect individuals.

On land

This species is extremely vulnerable to predation by introduced mammalian predators, especially rats and feral cats. Populations on Campbell Island were presumably wiped out by Norway rats (since eradicated).

Small populations on the Chatham Islands and Auckland Island are restricted to sites inaccessible to feral cats.

Browsing mammals also destroy suitable habitat and may crush birds on nests. For example, rabbits and cattle on Enderby Island destroyed tussock grasslands, the preferred nesting habitat of this species.

The main avian predator is the brown skua. Antipodes Island parakeets have been observed killing adult grey-backed storm-petrels on the nest.

Vulnerable to fires causing loss of nesting habitat.

Species Group:
Storm-petrels

New Zealand storm-petrel

Fregatta maoriana

MPI group code: XST



Image: DOC. Photographer Dick Veitch



Image: DOC. Photographer Don Merton

Distinguishing characteristics

- Small seabird
- Dark brown head
- Black bill
- Dark brown throat and upper breast
- Variable dark streaking on white belly help distinguish this species
- Black back
- White band above tail feathers
- Brown to black upperwings with white markings
- Underwings central white patch with dark margins
- Black feet – in flight, legs and feet longer than tail feathers

Feeding and range



Eats: Plankton/krill.

Range: Known from the outer Hauraki Gulf during summer. May travel to Australian waters out of the breeding season. Birds in moult have been seen off Queensland, New South Wales and Victoria.

Interesting Facts



The New Zealand storm-petrel was rediscovered in 2003, over 170 years after the original specimens were collected. They are now regularly seen during pelagic-seabird viewing trips in the outer Hauraki Gulf during summer. The breeding site of this bird was only discovered in 2013. After an intensive at-sea capture programme, birds were tracked to their burrows in the forest on Hauturu/Little Barrier Island.

Breeding and ecology



Breeding sites: Forest floor on Hauturu/Little Barrier Island.

Breeding period: February (egg-laying) through June/July (chick fledging).

Frequency of breeding: Unknown.

Number of eggs: All other storm-petrels lay a single egg. The first New Zealand storm-petrel egg ever found was located in 2014.

Type of nests: Nests in crevice-like burrows in litter-covered ground under forest.

Threats



At sea

No threats currently known.

Like other storm petrels, this species may be attracted to bright lights on vessels at sea especially on foggy nights. This can result in crash landings on to fishing vessels.

On land

The greatest threat to storm-petrels is the introduction of mammalian predators to their breeding colonies. This storm-petrel's known breeding site on Hauturu/Little Barrier Island is currently free from mammalian predators.

New Zealand white-faced storm-petrel

Pelagodroma marina maoriana

Species Group:
Storm-petrels

MPI group code: XST
MPI species code: XWF



Image: DOC. Photographer Gareth Rapley



Image: DOC. Photographer D Garrick

Distinguishing characteristics

- Small seabird (18-21 cm in length)
- The only 'white-faced' storm-petrel found in New Zealand waters
- Light brown cap, white stripe above and below bill with black markings near the eyes
- Black bill
- White throat, breast and belly
- Brown or grey back
- Brown to grey upperwings with dark tips
- Underwings white with dark margins
- Black, slightly forked tail
- Black feet – in flight, legs and feet longer than tail feathers

Feeding and range



Eats: Crustaceans. Like other storm-petrels, white-faced storm-petrels are surface feeders.

Range: Subspecies breeds only in New Zealand. This species usually forages over the continental shelf during the breeding season. In the non-breeding season (April to August), birds disperse to the eastern tropical Pacific, with sightings in Ecuador and the Galapagos Islands.

During the summer breeding season this is the most commonly encountered storm-petrel in coastal waters, particularly near breeding sites, such as north-east of the North Island and near the Chatham Islands.

* The classification category 'Relict' has been adopted in the New Zealand Threat Classification System to encompass species that have experienced very large historic range reductions and now exist as remnant populations.

Breeding and ecology



Breeding sites: Breeds on many islands off North, South, Stewart, Chatham, and Auckland islands. The species often only breeds on one island in an island group.

Breeding period: September to March.

Frequency of breeding: Annual.

Number of eggs: One.

Type of nests: Small burrows in soft soils.

Threats



At sea

Is not known to follow ships, but the species may be attracted to bright lights on fishing boats, especially on foggy nights, and has been recorded crash landing on fishing vessels.

This species has been recorded bycaught in commercial fishing operations.

On land

The species is extremely vulnerable to introduced predators (feral cats, all species of rats, mustelids, dogs, and pigs).

Populations have been lost in the past 50 years when predators have reached islands. For example, the subspecies was wiped out from the David Rocks (Noises group) by Norway rats, Mangere Island by feral cats, and Hamaruru (Cavalli group) by wild pigs.

Visitor access to breeding islands increases the risk of burrows being trampled or fires occurring. The colonies are at greatest risk during the pre-laying courtship and incubation periods (September to January).

Weeds are a problem on some islands, with storm-petrels found entangled in boxthorn. On the Chatham Islands, a naturally occurring larval trematode *Distomum filiferum* picked up at sea sometimes forms shackles on the birds' legs that can cause them to become entangled in vegetation on the breeding grounds. In some seasons, hundreds of birds have died after being caught in vegetation.

Species Group:
Penguins

Little blue penguin

Eudyptula minor



Image: DOC. Photographer Paddy Ryan



Image: © M.P. Pierre

Distinguishing characteristics

- Smallest penguin species in the world – 40-45 cm in length
- Dark blue head
- White belly and dark blue back
- Dark blue upper surface to flippers
- Light pink on the tops of their feet with black on the bottom
- Dark bill

Juvenile features: Brighter blue back and much smaller than adults.

MPI group code: XPG
MPI species code: XLB

Feeding and range



Eats: Mainly eats small shoaling fish such as pilchards and anchovies.

Range: Several subspecies of little blue penguin, or kororā, are found around the mainland coastline of New Zealand and the Chatham Islands. The species mainly forages near the coast but some birds disperse at sea over the continental shelf and slopes.

Little blue penguins are also found in Australia where they are known as fairy penguins.

Interesting Facts



Research using DNA suggests that little blue penguins living around Otago are more closely related to Australian birds than to birds in other parts of New Zealand.

The Australian and Otago populations of these penguins may have split less than 750 years ago.

Breeding and ecology



Breeding sites: Breeds around the New Zealand coastline, many offshore islands and the Chatham Islands. They visit their breeding colonies year-round.

Breeding period: Begins in July, incubation is completed in 33-40 days and chicks fledge in 48-63 days.

Frequency of breeding: Annual.

Number of eggs: One to two, and often rear two chicks.

Type of nests: Nests in isolated burrows or caves, sometimes in large colonies. Also occasionally under or around coastal buildings.

Threats



At sea

Blue penguins have been bycaught in near-shore set nets. Penguins returning to breeding colonies or landing beaches at dusk are vulnerable to near-shore set nets.

Occasionally there are large 'wrecks' of penguins reported on northern beaches. These wrecks appear to be associated with sustained periods of stormy weather. Little blue penguin deaths, however, could also be associated with temperature related changes which cause spawning failure or die-offs of prey species, biotoxins caused by algal blooms or increases in land-based viruses such as avian pox or cholera.

On land

Mustelids are a major land-based threat to little blue penguins. Ferrets (and probably stoats) take eggs and chicks and sometimes attack adult blue penguins.

Unrestrained dogs have wiped out many blue penguin colonies on the mainland because they readily attack and kill adult penguins and chicks. Consequently, blue penguin colonies are lost from areas where people with dogs have easy access to the coast.

Feral cats may kill adult penguins and chicks.

Norway rats could potentially take eggs and small chicks at some colonies.

Rabbits and possums may compete for burrows on mainland colonies. Feral pigs may root out burrows and kill nesting penguins at mainland colonies.

Blue penguins have been killed or injured by vehicles when crossing coastal roads to reach nesting sites.

Species Group:
Penguins

Yellow-eyed penguin

Megadyptes antipodes

MPI group code: XPG
MPI species code: XYP



Image: © M.P. Pierre



Image: © M.P. Pierre

Distinguishing characteristics

- Large, reaching 56-78 cm in length
- Dark head with yellow eyes
- Yellow eye band that outlines the eyes and wraps around the head
- Top of head is sometimes flecked with yellow colouring
- Narrow, red-orange bill
- Charcoal-grey back with a white belly
- Flippers charcoal-grey on top with white edging and white underneath
- Light-pink feet

Juvenile features: Grey eyes and reduced yellow on head

Feeding and range



Eats: Mainly fish and squid.

Range: Breeds only in New Zealand. This species is mainly found around the eastern South Island, Stewart Island and the subantarctic Auckland and Campbell islands. Birds forage over the continental shelf.

Interesting Facts



One of the world's rarest penguin species.

The Māori name for yellow-eyed penguins is hoiho, which means 'noise shouter'.

Breeding and ecology



Breeding sites: Breeds in eastern and southern South Island from Banks Peninsula to Bluff. Also breeds on Stewart Island and islands in Foveaux Strait, Whenua Hou, Auckland Islands and Campbell Island.

Breeding period: Begins in September, incubation is completed in 39-47 days and chicks fledge in 14-16 weeks.

Frequency of breeding: Annual.

Number of eggs: Often lay two eggs, but sometimes the parents are unable to rear both chicks.

Type of nests: Often nest in coastal forests or amongst vegetation near the shore.

Threats



At sea

Yellow-eyed penguins have been recorded bycaught in set nets. Penguins returning to breeding colonies or landing beaches at dusk are vulnerable to near-shore set nets.

Bottom trawling may alter benthic foraging habitat.

On land

Predation by feral cats, ferrets and stoats is the major cause of chick mortality at mainland colonies and ferrets occasionally kill adult penguins at some mainland sites.

Uncontrolled dogs have killed adults and chicks and are a serious threat at some mainland colonies.

Grazing of coastal margins by domestic cattle and sheep has removed much of the available penguin nesting habitat. Cattle also trample nests on the mainland. Fencing of habitats to exclude stock has been beneficial in removing the problem of trampling of nests but the subsequent growth of rank grass has increased predator densities around nest sites.

Fires are a potential hazard. A fire in coastal scrub at Te Rere Reserve in Southland in 1995 killed over 60 adult penguins. The birds are at greatest risk during the moult (January to April) because they are unable to escape to sea.

Recently there have been records of various diseases impacting hoiho colonies (e.g. avian malaria).

Species Group:
Penguins

Fiordland crested penguin

Eudyptes pachyrhynchus

MPI group code: XCR
MPI species code: XFC



Image: DOC. Photographer Andrew Walmsley



Image: DOC. Photographer Andrew Walmsley

Distinguishing characteristics

- Mid-sized penguin – 55 cm in length
- Black head and throat with pronounced yellow eyebrow stripe (crest) and faint white cheek markings
- Thick, orange bill
- Typical ‘tuxedo-like’ appearance with a white belly and black back
- Light pink feet, blackish-brown underfoot

Juvenile features:

- Smaller in size
- Crest reduced to a pale ‘eyebrow’
- Darker bill

Feeding and range



Eats: Squid, crustaceans and fish.

Range: Outside of the breeding season, Fiordland crested penguins, or tawaki, disperse mainly around the South Island and south to the subantarctic islands. This penguin is also a regular vagrant to south-eastern Australia. Except when breeding, Fiordland crested penguins spend most of their time at sea.

Interesting Facts



Listed as nationally vulnerable. There has been a large historical decline in this species since European settlement. This decline is likely to be continuing at some nesting sites.

Like all other penguin species, both parents are involved in feeding and protecting their young.

Breeding and ecology



Breeding sites: Breeds on the South Island mainland and adjacent offshore islands southwards from Bruce Bay. Also nests on Solander Island, Whenua Hou (Codfish Island), and islands off Stewart Island.

Breeding period: Begins in July, incubation is completed in 30-35 days and chicks fledge in 10-11 weeks.

Frequency of breeding: Annual.

Number of eggs: Often lays two eggs, but the parents are rarely able to feed two chicks, and the smaller one usually dies within a week of hatching.

Type of nests: Nests on the ground amongst rocks and vegetation. Less social than other crested penguin species. Fiordland crested penguins tend to nest in small groups within loose colonies.

Threats



At sea

Set netting presents a potential risk to this species. Penguins returning to breeding colonies or landing beaches at dusk are vulnerable to near-shore set nets.

On land

Weka had a marked impact on penguin populations on Whenua Hou (Codfish Island) and still have an impact on penguins nesting on Solander Island and the Open Bay Islands.

Mustelids, especially stoats, are reported to take eggs and chicks on mainland colonies and may occasionally attack adult penguins.

Domestic dogs may kill adult penguins (especially moulting birds) and disturb colonies near human habitation.

Norway, ship and Pacific rats may also be predators of small chicks although there is no direct evidence of predation. Feral cats and pigs are potential predators but appear to be uncommon in areas where penguins currently nest.

There is concern that increased nature tourism in South Westland may disturb breeding birds at some accessible colonies, causing nests to fail. The species is also sensitive to handling and requires care when carrying out research.

Species Group:
Shags

Black shag

Phalacrocorax carbo novaehollandiae



Image: © M. P. Pierre



Image: © M. P. Pierre

Distinguishing characteristics

- Very large shag (80-85 cm in length) – largest species of shag
- Black head with white patch on cheeks when breeding
- Facial skin yellow in breeding season
- During the breeding season, facial skin becomes bright orange and the species displays a small black crest on its neck
- Eyes green
- Black body with white patch on thigh in breeding plumage
- Black wings
- Black feet

MPI group code: XHG
MPI species code: XNO

Feeding and range



Eats: Fish, crustaceans and eels.

Range: Black shags are found on most inland lakes, rivers, streams and larger ponds. They also occur in estuaries, harbours and inshore seas close to the coast.

Black shags are also found in Australia, Asia, Europe and North America.

Interesting Facts



At one time black shags, or kawau pū, were thought to compete with fishermen for trout and other fish. Between 1890 and 1940, acclimatisation societies put a price on shags and many shag colonies were destroyed. Since that time research has shown that shags have very little impact on fish stocks. All shags are now protected.

Breeding and ecology



Breeding sites: In trees near the coast or inland wetlands, but the distribution of colonies is poorly known. Nests in flax (harakeke) around lakes on Chatham Island. The same subspecies also breeds in Australia and Tasmania and occasionally visits New Guinea.

Breeding period: Spring/summer.

Frequency of breeding: Annual.

Number of eggs: Two to five eggs, but can replace clutches if eggs are lost.

Type of nests: Usually breed in colonies in tall trees, but also nest on rocky ledges.

Threats



At sea

Set netting, especially in estuaries, harbours or small bays, presents a potential risk throughout the year.

Shags occasionally swallow fish found on snagged lines. If the lines come free, some of these birds are later found dead with the hook lodged in the gut. Shags can also get tangled up at roost sites by lines, sinkers, or other hooks.

On land

Occasionally birds are still found shot during the duck shooting season.

The species is very sensitive to disturbance by humans. Birds leave nest sites when approached closely by people but return once people have gone. Because shags incubate with their feet placed under their eggs there is an increased risk that eggs and even small chicks may be flicked from nests when the parents are frightened.

Species Group:
Shags

Little black shag

Phalacrocorax sulcirostris

MPI group code: XHG
MPI species code: XBC



Image: Courtesy Phil Swanson



Image: Courtesy Neil Fitzgerald

Distinguishing characteristics

- Small shag (55-65 cm in length)
- Completely black plumage, glossy sheen on back
- Green eyes
- During breeding season some small white flecks may appear on head and neck feathers
- Long, grey, narrow bill separates this species from dark-type little shags
- Black legs and feet

Feeding and range



Eats: Small fish and freshwater crayfish – feeds in both freshwater and marine environments.

Range: Disperse in autumn and winter to coastal areas throughout the North Island and occasionally to the northern half of the South Island. Birds forage mainly over freshwater lakes, ponds, rivers and shallow inshore coastal bays and estuaries.

Elsewhere, the species breeds in Australia, Indonesia and New Guinea and is a vagrant to Lord Howe Island, Norfolk Island and New Caledonia.

Interesting Facts



Little black shags, or kawau tūi, often forage and work together to herd fish into shallow water.

Breeding and ecology



Breeding sites: Breeds in colonies in the North Island.

Breeding period: Spring/summer.

Frequency of breeding: Annual.

Number of eggs: Two to five eggs, and can replace clutches if eggs are lost.

Type of nests: Build large nests in trees, or sometimes on the ground on islands in lakes.

Threats



At sea

Nesting colonies may be disturbed by close approaches from boats.

Set netting, especially in estuaries presents a potential risk to this species. Entanglement in unattended set nets is of particular concern given this species group foraging approach.

On land

Nesting colonies may be disturbed by low-flying aircraft.

The species is susceptible to human disturbance and will abandon nests and chicks temporarily allowing gulls opportunities to take eggs and chicks.

Species Group:
Shags

Little shag

Phalacrocorax melanoleucos brevirostris



Image: © M. P. Pierre



Image: © M. P. Pierre

Distinguishing characteristics

- Small shag (55–65 cm in length) – smallest shag species
- Colouring of underparts variable
- Most adult birds mainly black with just a little white on throat
- Many birds white below and black above
- Some have mottled black and white underparts
- Stubby, yellow bill
- Black feet
- This species best identified by its small size, long tail and short yellow bill

Juvenile features: Juveniles of the ‘white-throated’ morph are completely dark, and all juveniles have dark bills.

MPI group code: XHG
MPI species code: XLS

Feeding and range



Eats: Fish, crustaceans and frogs.

Range: This subspecies breeds only in New Zealand. Colonies are dispersed widely around the North Island, South Island and Stewart Island.

Other subspecies breed in Australia, New Guinea, Indonesia and islands in the south-west Pacific from the Solomons to New Caledonia.

Interesting Facts



Smallest shag found in New Zealand.

Occurs in both freshwater and marine environments.

Breeding and ecology



Breeding sites: Are found on coasts, but also inland near rivers, streams and lakes.

Breeding period: Spring/summer.

Frequency of breeding: Annual.

Number of eggs: Two to five eggs, and can replace clutches if eggs are lost.

Type of nests: Usually builds nests in large trees and lives in large colonies.

Threats



At sea

Set netting, especially in estuaries and inshore bays, presents a potential risk throughout the year.

On land

Little shags are susceptible to human disturbance and will abandon nests and chicks temporarily allowing red-billed gulls and black-backed gulls opportunities to take eggs and chicks.

Species Group:
Shags

Pied shag

Phalacrocorax varius varius



Image: © M. P. Pierre



Image: © M. P. Pierre

Distinguishing characteristics

- Large shag (65–85 cm in length)
- Dark green/black colouring on top of head, back and wings
- White belly, throat and lower half of head
- White extends higher up the neck and head than on Foveaux and Otago shags, king shag or Chatham Island shag
- Blue eye ring with yellow facial skin
- Mottled grey bill
- Black feet

MPI group code: XHG
MPI species code: XPS

Feeding and range



Eats: Fish and eels.

Range: This subspecies breeds only in New Zealand. Mainly found in coastal environments on the northern part of the North Island and the southern part of the South Island. Birds disperse locally over inshore waters feeding mostly in bays, harbours, and estuaries but also in the open sea. Stragglers have reached the Snares Islands.

Elsewhere, a subspecies (*Phalacrocorax varius hypoleucus*) breeds in Australia.

Interesting Facts



Shags do not have waterproof feathers. They are often seen sitting with their wings outstretched to dry after fishing.

Breeding and ecology



Breeding sites: Breeds coastally around New Zealand's mainland and numerous close inshore islands. Also breeds at the Three Kings Islands. There are a few colonies found on freshwater lakes near the sea.

Breeding period: Year round, peaking in winter and summer.

Frequency of breeding: Annual.

Number of eggs: Usually three to four eggs, but can replace clutches if eggs are lost.

Type of nests: Nests in colonies in tall trees close to water.

Threats



At sea

Pied shags have been reported caught in set nets and by inshore longline fisheries.

Extreme weather conditions can impact the ability of shags to obtain sufficient food. For example, in 2008, after a long period of wet, cold weather and rough seas, a number of pied shags died of starvation at the Thames Coast pied shag colony at Tararu.

On land

Pied shags are still persecuted by humans. Members of this species have occasionally been found dead on northern beaches with gunshot wounds. Nesting trees have been felled when guano from colonies creates a health risk near dwellings.

Mustelids, rats and possums may have some impact on mainland colonies but no information is available.

The species is sensitive to disturbance by humans but nest sites are usually in safe locations.

Species Group:
Shags

Pitt Island shag

Stictocarbo featherstoni

MPI group code: XHG
MPI species code: XPF



Image: Courtesy Igor Debski



Image: DOC. Photographer Dick Veitch

Distinguishing characteristics

- Slim, medium-sized shag (63 cm in length)
- Dark head with distinctive black crest in pre-breeding plumage
- Facial skin around eye turns bright green before the breeding season
- Long, mottled yellow bill
- Grey belly and darker grey back with a black spot on each feather
- Dark wings
- Yellow feet
- Similar looking to spotted shag but darker and no white stripe on its neck

Feeding and range



Eats: Small fish and marine invertebrates such as snails and polychaete worms.

Range: Breeds only at the Chatham Islands. The species feeds at sea near the breeding islands and has never been recorded away from the Chatham Islands.

Usually feed deep offshore, but occasionally feed close inshore or in rock pools. Usually feed alone, but often roost in flocks of 10+ birds.

Interesting Facts



The Pitt Island shag was never common and was reported nearly extinct as early as 1905. The population may now be stable.

Breeding and ecology



Breeding sites: Breeds only in the Chatham Islands. Usually nests on cliffs or offshore islands.

Breeding period: Spring/summer.

Frequency of breeding: Annual.

Number of eggs incubated: Usually three eggs, and can replace clutches if eggs are lost.

Type of nests: Nests on cliffs and offshore islands. Nests are made of twigs, seaweed and other vegetation and built on a platform. Breeds in smaller colonies than other Chatham Island shag species, with 5-20 pairs per colony.

Threats



At sea

Pitt Island shags have been reported bycaught in crayfish pots.

Set netting presents a potential risk to this species although this method of fishing is uncommon at the Chatham Islands.

On land

Some mammalian predators (feral cats and rats) take a few eggs, chicks and adult birds.

Weka possibly take eggs or chicks at some colonies on Chatham Island and Pitt Island.

Species Group:
Shags

Spotted shag

Stictocarbo punctatus

MPI group code: XHG
MPI species code: XPP



Image: © M. P. Pierre



Image: © M. P. Pierre

Distinguishing characteristics

- Slim, medium-sized shag (64-74 cm in length)
- Dark grey head with prominent white stripe down side of neck
- Breeding plumage includes a double crest and bright green facial skin
- Lighter colouring on back than other shags
- Body light grey, with black spots on upper parts
- Yellow-orange feet (light pink in juveniles)

Feeding and range



Eats: Mainly small fish.

Range: The spotted shag, or pārekareka, breeds only in New Zealand. There are two subspecies of spotted shag (*S. p. punctatus*) with breeding colonies scattered around the North Island and along the eastern coast of the South Island south to Otago Peninsula; and the blue shag (*S. p. steadi*) with breeding colonies scattered along the western coast of the South Island, in Foveaux Strait and around Stewart Island.

Spotted shags move extensively around coasts of both main islands although most birds are found near breeding colonies. The birds feed in open seas usually within 2-16 km of the coast but they also forage in bays, inlets and estuaries.

Interesting Facts



Seabird scientists have constructed a 'shaggery' complete with fake birds and streaks of guano on the Noises, an island group off the coast of Auckland to try and entice more of these shags back to the Hauraki Gulf.

Breeding and ecology



Breeding sites: Colonies are found around both the North and South Island, as well as in Foveaux Strait and around Stewart Island. Colonies in the Hauraki Gulf have declined considerably and are now only found on Waiheke and Tarahiki Islands.

Breeding period: Spring/summer.

Frequency of breeding: Annual.

Number of eggs: Up to four eggs, and can replace clutches if eggs are lost.

Type of nests: Most spotted shags nest in caves or on rocky ledges and cliffs.

Threats



At sea

Spotted shags have been reported caught in trawl nets (for example, 30 birds were caught in one trawl in 2009). They have also been recorded caught in set nets.

On land

Spotted shags are still persecuted by humans. Birds with gunshot wounds are occasionally found dead on beaches.

Mustelids and rats may have some affect on mainland colonies, but no information is available.

The species is sensitive to disturbance by humans but nest sites are usually in safe locations.

Species Group:
Shags

Chatham Island shag

Leucocarbo onslowi

MPI group code: XHG
MPI species code: XCS



Image: DOC. Photographer Rod Morris



Image: DOC. Photographer Dick Veitch

Distinguishing characteristics

- Medium-sized shag (63 cm in length), bulkier than Pitt Island shag
- Black head with blue around eye and orange above and below bill
- Mottled pink bill
- White on belly and black on back
- Upperwings black with some white markings
- Pink feet
- Similar in appearance to the king shag and pied morph of Foveaux and Otago shags

Feeding and range



Eats: Fish and squid.

Range: Breeds only in the Chatham Islands. The species has not been recorded away from the Chatham Islands.

Usually feed deep offshore, but occasionally feed close inshore. Usually feed alone or in small groups, but often roost in large flocks.

Interesting Facts



The largest colonies of Chatham Island shags occur at predator-free sites.

Shags incubate with their feet placed under their eggs so a sudden scare (from humans or predators) can result in eggs being thrown out of nests as birds become airborne.

Breeding and ecology



Breeding sites: Breeds only in the Chatham Islands.

Breeding period: Spring/summer.

Frequency of breeding: Annual.

Number of eggs: Usually three eggs, and can replace clutches if lost.

Type of nests: Nests on cliffs and offshore islands. Nests are built on platforms and constructed out of twigs, seaweed and other vegetation.

Threats



At sea

Chatham Island shags have been reported bycaught in crayfish pots.

Set netting presents a potential risk to this species although this method of fishing is uncommon at the Chatham Islands.

On land

The largest colonies occur at predator-free sites, but some colonies are still present on Chatham Island and are at risk from feral cats, weka, possums, pigs, sheep, cattle, dogs and people.

Disturbance by sheep, cattle and people can lead to birds stampeding from nests with subsequent breakage of eggs or predation of nest contents by gulls.

Species Group:
Shags

New Zealand king shag

Leucocarbo carunculatus

MPI group code: XHG
MPI species code: XKS



Distinguishing characteristics

- Large shag (76 cm in length)
- Dark head with blue eye ring
- Facial skin turns bright red during the breeding season
- Dark bill with an orange spot at its base
- White throat and belly with dark upper body
- Dark wings with some white bar markings
- Pink feet
- Similar in appearance to Chatham Island shag and pied morph of Foveaux and Otago shags

Feeding and range



Eats: Fish, especially the non-commercial flatfish 'witch'.

Range: Endemic to New Zealand; breeds only in the outer Marlborough Sounds.

Interesting Facts



The population of New Zealand king shag, or kawau pāteketeke, is approximately 840 individuals.

The New Zealand king shag Te Kawau-a-Toru was considered a loyal pet of Kupe who was the first Polynesian to discover New Zealand.

Shag species belong to three groups based on the colour of their feet: Black, yellow or pink. King shags belong to the pink-footed group, which are all entirely marine.

Breeding and ecology



Breeding sites: Breeds only on islands in the Marlborough Sounds, South Island. Colonies occur at Duffers Reef, North Trios, Sentinel Rock and White Rocks.

Breeding period: Winter.

Frequency of breeding: Annual.

Number of eggs: One to three eggs.
Other details of breeding poorly known.

Type of nests: Build nests on rocky cliffs and sheer ledges.

Threats



At sea

Set netting, especially near the breeding colonies, presents a potential risk to this species.

There is a potential risk to this species from fish traps and pot fishing techniques.

Marine farms may pose a potential risk.

On land

Vulnerable to human disturbance and do not tolerate people landing on breeding islands or even the close approach of boats (within 100 m).

Low-flying aircraft disturb breeding king shags.

Species Group:
Shags

Foveaux shag

Leucocarbo stewarti

MPI group code: XSI
MPI species code: XFO



Image: DOC. Photographer Brian Bell



Image: DOC. Photographer Brian Bell

Distinguishing characteristics

- Large shag (around 65 cm in length)
- Pink feet

The Foveaux shag has two very different colour patterns (called morphs). About 50-60% of the species population is pied. These birds are black above and white below, with a white wing bar. The rest of the population is entirely brownish black. The population is estimated at around 2,500.

Distinguishing Foveaux and Otago shags is best done by their range, as some other features that separate them are difficult to observe.

Feeding and range



Eats: Fish.

Range: This species occurs around Stewart Island and Foveaux Strait. Unlike its near relative the Otago shag, the Foveaux shag's distribution has not changed since prehistoric times. It is a coastal species, feeding in waters less than 30 m deep.

Interesting Facts



The Foveaux shag, together with the Otago shag, used to be considered one species – the Stewart Island shag. The species were officially split in 2016.

Breeding and ecology



Breeding sites: Nests on islands and sea cliffs. The same sites are used year to year.

Breeding period: Late winter through spring, late summer.

Frequency of breeding: Annual.

Number of eggs: One to three eggs.

Type of nests: Colonial nesters, with cup-shaped nest platforms made of organic material and droppings.

Threats



At sea

This species may be caught in set nets.

On land

Some nesting areas may be at risk from land-based predators such as mustelids, cats and rodents. Birds are also sensitive to disturbance and will temporarily abandon their nests if disturbed.

Species Group:
Shags

Otago shag

Leucocarbo chalconotus



Image: Courtesy Danilo Hegg



Image: Courtesy Danilo Hegg

Distinguishing characteristics

- Large shag (around 70 cm in length)
- Pink feet

The Otago shag has two very different colour patterns (called morphs). About 20-30% of the species population is pied. These birds are black above and white below, with a white wing bar. The rest of the population is entirely brownish black. There may only be around 2,500 Otago shags remaining today.

Distinguishing Otago and Foveaux shags is best done by their range, as some other features that separate them are difficult to observe.

MPI group code: XSI
MPI species code: XOS

Feeding and range



Eats: Fish.

Range: This species currently occurs around Otago Harbour, Taiaroa Head, Green Island, Aramoana, Oamaru and the Catlins. In pre-human times, this shag was found right along the east coast of the South Island, as far north as Marlborough. Otago shags are truly coastal seabirds. They feed close to shore in waters less than 30 m deep.

Interesting Facts



The Otago shag, together with the Foveaux shag, used to be considered one species – the Stewart Island shag. The species were officially split in 2016.

Breeding and ecology



Breeding sites: Nests on islands and sea cliffs. The same sites are used year to year.

Breeding period: Winter through spring, summer.

Frequency of breeding: Annual.

Number of eggs: One to three eggs.

Type of nests: Colonial nesters, with cup-shaped nest platforms made of organic material and droppings.

Threats



At sea

This species may be caught in set nets.

On land

Nesting colonies may be at risk from land-based predators such as mustelids, cats and rodents. Birds are also sensitive to disturbance and will temporarily abandon their nests if disturbed.

In the past, humans killed around 99% of this species. Therefore, genetic diversity is low in the current population. This could be a threat to their longer term survival.

This and other protected species 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/

