ABOUT THESE RESOURCE BOOKS

This coastal resource book is one of two books; the other is Canterbury's Marine and Coastal Animals. This book is divided into three broad regional sections; north, central and south Canterbury. Canterbury's Marine and Coastal Animals is not divided into regional sections — instead it identifies Canterbury's different coastal environments and the animals that live in those areas.

These books are designed to be used together, but can be used individually. The visual links between the two resource books are a series of symbols. Wherever there is a symbol, there is corresponding information in the other resource book. Below are the symbols you will see in these resource books.

CANTERBURY'S MARINE AND COASTAL ANIMALS

- You will find additional coastal information in the North Canterbury section of Canterbury's Spectacular Coast.
- You will find additional coastal information in the Central Canterbury section of Canterbury's Spectacular Coast.
- You will find additional coastal information in the South Canterbury section of Canterbury's Spectacular Coast.

CANTERBURY'S SPECTACULAR COAST

- You will find additional marine and coastal animal information in the Canterbury's Marine & Coastal Animals book.

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Revised and updated 2009. Paper used for these resource is acid free and elemental chlorine free.
New Zealand is an island nation surrounded by expansive oceans. It is fitting that we have a rich and diverse coastal fauna. Our inshore waters are home to a variety of seabirds, mammals, invertebrates (insects) and crustaceans. Many of them are unique to our country. Some of them have specific habitat and environmental requirements and are found only in localised areas; others are more tolerant and are found in many places along our immense coastline.

Contents

MARINE MAMMALS 2

COASTAL SEABIRDS 5

SEABIRDS AND FISHING 7

ESTUARY AND LAGOON LIFE 8

SPIDERS AND REPTILES 11

MARINE PROTECTED AREAS 12
MAORI & MARINE MAMMALS

For Ngai Tahu, a seafaring people, marine mammals play significant roles in creation, migration and settlement traditions. Whales and dolphins also feature as kaitaki (guardians) or taniwha (monsters) in local legends linking ancestors to the coastal environment of the South Island (Te Wai Pounamu). As kaitaki, marine mammals were called upon to assist and protect voyagers during storms at sea. The karakia (prayer) used to invoke such help contributed to the rich body of traditional beliefs that reflect Ngai Tahu’s close relationship with the sea and its inhabitants.

Associated customary practices and vast knowledge of the coastal environment were handed down from generation to generation, becoming part of the traditions that continue to shape the identity of Ngai Tahu.

These traditions bind Ngai Tahu and marine mammals in a relationship that acknowledges the mauri (life force) shared by all the elements of the natural world, living and inanimate. Ngai Tahu therefore endorses and supports the special protective status given to marine mammals in the waters of Banks Peninsula/Horomaka.

DUSKY DOLPHIN

Dusky dolphins are relatively small (up to two metres) and are found in pods (family groups) ranging in size from a few dozen individuals to several hundred. They are commonly seen off the Kaikoura coast. They feed mostly at night on mid-water fish and spend the day mainly resting and socialising. They are true ocean acrobats, extremely sociable and provide much entertainment and enjoyment to the many observers that take to the coastal waters of Kaikoura each year.

ORCA

Orca, also known as ‘killer whales’, are sometimes seen along the Canterbury coast. They are the largest of the dolphin family. They can swim extremely fast, reaching speeds of up to 25 knots. Like other toothed whales they communicate vocally, but each orca pod has its own set of calls or dialect.

They feed on a wide range of prey including other dolphins, seals and seabirds, and have even been known to attack large whales. Orca have broad home ranges and each pod’s range may overlap with another. They patrol much of the New Zealand coast following regular routes in search of prey.

HECTOR’S DOLPHIN

Hector’s dolphins are the smallest marine dolphins in the world (maximum length 146 cm long). They are extremely rare with probably only a little over 7000 of these playful mammals surviving in New Zealand coastal waters today – mostly in the South Island. Their closest relative, the Maui dolphin (subspecies of the Hector’s dolphin) is the rarest marine mammal in the world with only 111 individuals.

Pod sizes appear to be small (less than eight individuals) but sometimes groups over 20 animals have been seen. They also have small and distinct home ranges (average alongshore range is 30 km). Less than 1200 Hector’s dolphins live in Canterbury waters, with 900 of these living around Banks Peninsula/Horomaka. This endangered species relies on safe protected waters, like harbours and bays around the peninsula, to bear its young. Unfortunately the needs of the dolphins and human activities carried out in harbours, such as fishing and boating, are sometimes in conflict.

The importance of Banks Peninsula as a habitat for Hector’s dolphins was recognised through the establishment of the Banks Peninsula Marine Mammal Sanctuary in 1988. Recently, protection for Hector’s dolphins has increased on a national scale and the sanctuary has tripled in size. There is now a ban on commercial set-netting throughout most of the east coast of the South Island.
The protection extends to four nautical miles offshore, and other fishing restrictions are also in place to help protect the dolphins.

Research work is currently being undertaken on the impacts of tourism in Akaroa Harbour, to help manage any potential effects of the tourism industry on Hector's dolphins. Further research is also underway to help understand the impacts of commercial fishing on Hector's dolphins.

There is a ban on all set-netting in the marine protection area, refer to Marine Protected Areas section (pg 12).

**SOUTHERN RIGHT WHALE - TOHORA**

These slow-travelling, coastal-living whales were once abundant around New Zealand, but were hunted extensively from the early 1800s. Southern right whales are baleen whales. They have no teeth but are filter feeders and strain their food through two baleen plates (filters) which separate the food from the water. They often enter shallow water, sometimes resting on the bottom with their blowholes above the surface.

Southern right whales range from temperate to sub-Antarctic seas, and can be seen several times a year off the Canterbury coast. At certain times of the year they hang around the Kaikoura coast where they frequent the deep marine canyons, searching for krill and plankton to eat. These canyons are highly productive areas for nutrients and marine life. The canyons attract a variety of marine mammals including whales, dolphins and seals.

Whalers considered them the 'right' whale, because they were easy to catch, were often found close to the shore, produced a high oil yield, had long and valuable baleen plates and stayed afloat after being killed.

Southern right whales were on the verge of extinction when they were finally protected in 1936. Numbers worldwide are now slowly rebuilding. A breeding group of 100 or more gather each winter at the Campbell and Auckland islands, south of New Zealand.

**HUMPBACK WHALE - PAIKEA**

Humpback whales are easy to identify and are well known for their spectacular breaching displays and beautiful complex songs. Humpback whales are named after the distinctive hump they have just in front of their small dorsal fin. Their tail flukes are wide and have black and white patterning, unique to each individual, making animals easy to identify. They are a large whale with adult size between 11.5 and 15 metres long. They are baleen feeders and catch krill and schooling fish such as mackerel. They display the most diverse feeding techniques of any of the baleen whales and are well know for their 'bubble-net' technique.

Humpbacks have wide-ranging but distinctly seasonal distributions. Southern Ocean humpbacks migrate thousands of kilometres (710,000 km/yr) between summer feeding grounds around the Pacific Islands, and winter breeding and calving grounds in the Sub-Antarctic.

The humpback whale population was reduced by 90% and was brought close to extinction in the Southern Hemisphere during the twentieth century due to extensive whaling. Whaling ceased in 1964, but it has taken many years for the numbers to increase to a level where whales once again travel through Cook Strait during their annual migration. They are listed as an endangered species by the International Union for Conservation of Nature (IUCN).

**Whale communication**

Whales are known to be excellent communicators and they need to be as they live in large oceans where visibility can be poor, especially on a deep dive. Toothed whales such as orca and dolphins use echolocation to speak with each other. Echolocation is where whales send out high-pitched sounds (usually clicks) and the sounds bounce off objects and back to the whale, which can recognise from the returned echo, the size, movement, density and direction of the object.

Baleen whales do not use echolocation for communication. The sounds they make are varied and include low-frequency (20-200 Hz) moans, grunts, thumps and knocks; and higher-frequency (above 1000 Hz) chirps, cries, and whistles. It is not known exactly where they make the sounds from, but they can communicate over several hundreds of kilometres. Humpback whales are capable of making the loudest natural sounds on earth. During the mating season humpback whales 'sing' to attract mates. These songs have fascinated researchers for generations as the whales copy songs from each other and each whale's song changes every year.
NEW ZEALAND FUR SEALS
- KEKENO

New Zealand fur seals are the most common seals in New Zealand waters. After being hunted close to extinction in the early nineteenth century, they were given protection in 1894. The last seal hunt took place in 1945 and since then they have been making a comeback. They inhabit coastal waters both around New Zealand and the sub-Antarctic islands. They are present along the Canterbury coast, with the highest numbers found around Banks Peninsula, and along the North Canterbury and the Kaikoura coastlines with each area having over 5000 seals. The large seal colonies are a great attraction in the area, where seals can be observed feeding, breeding and sunbathing.

New Zealand fur seals have a deep brown, thick coat, visible external ears, a pointed snout and long, pale whiskers. They dive longer and deeper than any other fur seals. They dive to depths greater than 22 metres and feed mainly offshore at night. They feed mainly on squid and small mid-water fish but also take larger species such as conger eels, barracuda and hoki. Scientific studies show they are not an economic threat to existing commercial fisheries.

Large sharks and orca are the main predators of fur seals.

LEOPARD SEALS

Leopard seals only occasionally visit the Canterbury coast, where they may be found resting on beaches or the rocky shore. They have long slim bodies, a disproportionately large snake-like head and large teeth. Their prey includes tiny krill, fish and seabirds, and they are the only seals known to regularly hunt and kill other seals.

ELEPHANT SEAL
- HUPUKU

Elephant seals are only occasionally seen along the Canterbury coast. They are the largest species of seal, with adult males weighing up to 3.6 tonnes and having an inflatable snout. If you see one ashore it is probably young and on land to moult, or rest. Sometimes they stay in one location for several months.
Coastal Seabirds

Seabirds are an important part of New Zealand’s marine ecosystems and our waters are home to a large number of unique seabirds. More than a third of the 80 or so species are endemic (occur only in New Zealand).

The reason for the high number of seabird species is the vast and productive oceans that surround us and the more than 330 offshore islands that provide breeding habitat for many different species. Around the Canterbury coast the variety of habitats provide opportunities for many seabirds; those that breed on tall coastal cliffs and those on the mixed sand and gravel beaches.

Seabirds are under increasing pressure and face many threats. Introduced predators (rats, cats, stoats, ferrets, pigs and dogs) and domestic livestock threaten their habitats and survival. These threats, combined with coastal development and other human disturbance, mean many species are now confined to offshore islands.

Ocean pollutants, like heavy metals such as lead and mercury, and chemicals created through human activity, can contaminate the oceans. These pollutants accumulate in the marine food chain passing to top-order predators like seabirds. Increased sea-surface temperatures and toxic algal blooms can lead to catastrophic changes also affecting marine food chains. Birds such as penguins and shags that feed close to shore are particularly susceptible to changes caused by algal blooms.

Rubbish, like plastic, is hazardous for seabirds, causing many deaths each year. Birds can pick up and swallow small items of plastic, mistaking them for food. Some birds get plastic caught around their neck, head, wings and feet causing entanglement and drowning.

Among the biggest threats to oceanic birds are fishing practices including drift netting and long-line fishing. The Department of Conservation continues to work closely with the fishing industry to reduce the numbers of seabirds caught during fishing operations in New Zealand’s seas.

PENGUINS

New Zealand is sometimes known as the penguin capital of the world as 13 species breed or visit here. There are only 16 known species in the Southern Hemisphere. Penguins are flightless, stocky, robust seabirds ranging in height from 1.15 m (emperor penguin) to 0.4 m (blue penguin). They are covered with a waterproof coat of dense, short, flattened feathers. Their "wings" are powerful flippers, capable of propelling them rapidly through the water while using their feet for steering.

Penguins moult once a year. Moult takes place after breeding and is a very stressful time for them. They come ashore, often look scruffy and can be weak. A lot of energy is required to moult as they need to replace all their old feathers with new.

Introduced predators, farming, urbanization and clearance of vegetation from nesting sites have combined to reduce breeding and roosting habitat for penguins. Stock can be particularly devastating for burrowing penguins as they trample burrows.

Because penguins spend a considerable amount of time on the surface of the sea, they are also vulnerable to plastic rubbish, set-nets and oil slicks.

BLUE PENGUINS

Blue penguins are the smallest penguins in the world – only 30 cm tall. The sexes look similar, but the males are slightly larger. They have slate-blue plumage and a bright white belly. They breed from July to December, usually underground in burrows or natural holes; however, they are an adaptable bird and make use of any man-made cavity, even nesting under buildings. Nests can be more than 500 metres inland and 200 metres up hillsides and a pair can have two clutches of eggs a year. Blue penguins are found on headlands around Oamaru, Timaru, and the Kaka Point peninsula. Sadly, today their breeding sites are often confined to inaccessible headlands, caves and rock jumbies.

Penguins in Canterbury

Penguins found in Canterbury today are remnants of what were once far more abundant populations. Dramatic drops in numbers have occurred within the last 100 years. The white-flippered penguin/korora is the most common penguin seen around the Canterbury coast. Three types of penguin live in Canterbury, the blue penguin, the white-flippered penguin and the yellow-eyed penguin.

Introduced predators, such as ferrets, are the main reason for the decline of white-flippered penguin on Banks Peninsula. Monitoring of white-flippered penguin colonies on Banks Peninsula over the last 25 years found a reduction of 83% of nests.
WHITE-FLIPPERED

White-flippered penguins are a sub-species of blue penguins. It is difficult to tell blue and white-flippered penguins apart, but to the experienced eye, the white-flippered is slightly larger, lighter in colour and has a broader white band at the front of its flipper. It also has a different call and breeding period. They breed from September to January and lay only one clutch of eggs. If the eggs are lost, the adults don’t lay again. The Department of Conservation has listed white-flippered penguins as ‘nationally vulnerable’, the third highest threat category.

The stronghold for the species is the protected Motunau Island in North Canterbury, which supports approximately half the world’s breeding population. The Department of Conservation undertook a survey of Banks Peninsula between 2000 and 2001 and found another 2,112 scattered pairs. Most of these are in small colonies on the south-east side of the peninsula. The largest (717 pairs) is at Flea Bay where committed landowners, in conjunction with the Department of Conservation, Environment Canterbury and the Josef Langer Trust, carry out extensive predator control in the bay. When surveyed in 2008 the number of pairs had risen to 1,003, a remarkable increase, which demonstrates how severe predators impact on penguin-breeding success and survival.

Communities and other agencies now protect a number of nesting sites around the peninsula, and there is good predator control around most colonies from the eastern side of Akaroa Harbour to Le Bons Bay.

YELLOW-EYED - HOIHO

The yellow-eyed penguin gets its name from the pale yellow band of feathers around its head and its yellow eye. It is much larger than the blue penguin. Its breeding season is from August to May. Eggs are laid in late September/early October, with a long fledging period of 16 weeks. Unlike the blue penguins, these penguins are not burrowers and rear their young on the surface amongst thick vegetation. To breed successfully they need areas of coastal forest or flax.

They are found mainly in Otago and Southland but are occasionally seen on Banks Peninsula. While they used to be abundant on the east coast of the South Island, today the distribution is much reduced. There are a number of possible reasons why the birds no longer breed successfully in Canterbury. The reduction in suitable breeding habitat, higher temperatures and increased predator numbers all may have contributed to their decline.

HUTTON’S SHEARWATER - TITI

Hutton’s shearwater feeds along the coast and breeds high up in the snowline of the Kaikoura mountains. Its unusual breeding habitat and threatened survival have inspired much research. Breeding adults, eggs and chicks are all vulnerable to predation by stoats.

SOOTY SHEARWATER - TITI

Often referred to as the muttonbird, these large brown petrels once bred in large colonies along the Canterbury coast and as far inland as Oxford. Today, a small colony survives on Banks Peninsula and on Motunau Island. Motunau Island is their stronghold in Canterbury and is an important nature reserve and sanctuary for a variety of seabird species, including the white-faced storm petrel. Sooty shearwaters, like all burrowing petrels, are vulnerable to predation from introduced predators and loss of habitat brought about by human activities.
SHAGS AND CORMORANTS

Shags and cormorants look very similar and in New Zealand most people refer to all the different species as ‘shags’. In fact most ‘shags’ are actually cormorants. Shags live strictly in the marine environment. Cormorants are found in freshwater and coastal habitats.

A quick way to tell them apart is by their feet. Cormorants always have black feet and shags have coloured feet.

These diving birds can often be seen hunting for fish in estuaries and lowland waterways, or drying their wings in the sun. Their feathers are not waterproof and therefore need to be dry before they can fly. Shags roost on buoys, poles and jetties and are very easily observed. They feed on mullet, flounder and eels.

SEABIRDS AND FISHING

The incidental capture of seabirds in long-line fisheries is one of today’s most pressing marine conservation issues, calling for international co-operation from all involved. In New Zealand, seabirds have been recorded caught in long-lines, trawls, set nets and pots.

Long-lining is one of the world’s major fishing methods used to catch a variety of fish species. There are different types of long-lines, some designed to lie on or near the seabed and others to float in the water column. All long-lines have a mainline and side lines, with a baited hook at the end of each side line. The number of hooks on a line can vary from 800 to 35,000, depending on the type of long-line and the fishery. Albatrosses/tora and some petrels are vulnerable to being caught on long-lines because of their ability to dive beneath the surface. They dive to take the bait while long-lines are being set. They become hooked while eating the bait or become tangled in the lines and drown. It is estimated that tens of thousands of seabirds are killed each year in the Southern Ocean alone.

Historically, attention has been focused on long-lining as the main contributor to seabird deaths, but it is now known that trawling and set-netting also cause seabirds mortality. Seabirds collide with trawl equipment such as the cables that hold the net (trawl warps). While trying to feed they also become entangled in the nets, both as they are set and when they are brought to the surface, as they are hauled in. Most seabird captures in set-net fisheries are of diving species, which most often get caught in the nets when diving for prey.

Because albatrosses and petrels are slow breeders (only one chick every one or two years) these adult deaths really affect population numbers.

WHAT IS BEING DONE?

Some of the world’s richest fishing grounds and most diverse seabird populations occur within New Zealand’s economic zone, and this means that seabirds come into contact with fishing boats. Because of this, New Zealand has had to become a world leader in developing techniques to help prevent seabirds being caught and killed in fishing equipment. The Department of Conservation and the Ministry of Fisheries are working with the New Zealand fishing industry to research the problems and find solutions.

Devices designed to prevent the capture and killing of seabirds have been regulated in some fisheries, while other fisheries operate under voluntary codes of practice. In long-line fisheries, the use of bird scaring devices, weighted lines and night setting reduces the likelihood of seabirds getting caught and drowned on baited hooks.

In trawl fisheries, bird-scaring lines are also used, and boats avoid throwing away fish waste while fishing gear is in the water. Research in this area continues as new ways to better protect seabirds are still needed. The Department of Conservation works collaboratively with the fishing industry to monitor seabird by-catch (birds caught and killed during fishing activities) and to trial new protection devices.

Sadly, many seabirds still die each year, caught in fishing equipment.

INTERNATIONAL ACTION

New Zealand encourages a global approach to reduce the by-catch of seabirds because unless all fleets fishing beyond New Zealand’s waters adopt preventative techniques, the threat to seabirds breeding in New Zealand will remain. Seabirds are wide-ranging and are caught on foreign fishing vessels far from New Zealand. They are unaware which waters are managed by New Zealand and which fishing boats use preventative devices, so a local approach isn’t enough.

New Zealand is party to an international treaty on the Conservation of Albatrosses and Petrels. This is a multi-country agreement which seeks to protect albatrosses and petrels through a coordinated approach to managing threats to their survival. There is also an international plan which urges countries involved in long-line fishing to assess their fishery impact on seabirds and develop action plans. If seabird by-catch is a problem, New Zealand has completed the assessment and has developed a national plan for seabirds.

WHAT YOU CAN DO

Tell as many people as possible about the by-catch of seabirds and how it is affecting the populations of so many species. Encourage people to find out the methods of fishing used to catch their favourite eating fish...are birds being caught as a result of this industry?
CRABS, INVERTEBRATES, FISH AND WADING BIRDS

Estuaries and coastal lagoons are important coastal habitats. Estuary mudflats are home to many creatures. Many-handed crabs, mud snails, wedge shells, whelks and microscopic creatures all live within the mud and are part of the ecosystem and food-chain. They provide food for young fish and wading birds. Small marine worms can live in very high densities sometimes exceeding 20,000 worms per square metre!

Both lagoons and estuaries are unique areas on which many wading birds rely. The bird population and combination of species are constantly changing. Few birds actually reside all year round. Most undertake an annual migration which results in the changing population. Lakes Te Waihora/Ellersmere, Wairewa/Forsyth and the Wainono Lagoon are some of the larger wetland areas in the region. Both Wainono and Te Waihora are internationally recognized for their diversity of birdlife. The Avon-Heathcote Estuary and oxidation ponds are also important wetland habitats. In the past 150 years, 113 bird species have been recorded in the estuary.

Flocks of geese, swans, New Zealand shoveler/kuruwhengu, grey teal/tate, ducks, oystercatchers/torea, godwits/kuaka, banded dotterels/tur/whatu, plovers, pied stilt/koaka, herons/matuku and royal spoonbill/kotuku-ngutupapa are among the many birds that can be found in the estuary during late summer-autumn.

The majority of the birds are internal migrants, breeding somewhere else within the South Island, i.e. along braided rivers, but congregating at coastal wetlands during the non-breeding season. Inter-island migrants use the wetlands as stopovers as they move from their South Island breeding grounds to their wintering grounds in the North Island. The international migrants can be divided into two groups: those that travel from Australia and the southwest Pacific and those that travel all the way from the Arctic.

From top to bottom:
Pied stilt, White-faced heron, Canada goose, Banded dotterel
Left; Black swans
Photos courtesy of DOC
INTERNATIONAL MIGRANTS
Eastern bar-tailed godwits/kuaka are one of Canterbury’s international migrants. They breed during the Arctic summer in Eastern Siberia and Alaska, and when the ground starts to freeze and their food supply of insects decreases they journey 10,000 kilometres to New Zealand. They are in New Zealand over the summer months.

In 2007 scientists were astounded to discover just how miraculous godwits are. A female named “E7” was fitted with a satellite transmitter in New Zealand, and shortly after made a non-stop flight to the Yellow Sea in China...a huge 11,500 kilometres! She did not stop to feed or perhaps even sleep en route, and this amazing feat is now the longest known non-stop flight of any bird.

ESTUARY AND INSHORE FISH
Estuaries are important places as they provide nursery habitat for many species of young fish.

FLOUNDER - PATIKI
Thousands of young flounder use estuaries as a feeding ground in their first year. Adults spawn in two areas in Canterbury: one off the mouth of the Waimakariri River and the other near the Waitaki River, south of Timaru. After the eggs hatch, the young move into estuary areas. Young flounder look like ordinary fish. As they begin living on the estuary bottom, their head changes shape and they grow to resemble a flounder. The first four months are dangerous for the young fish; they risk being eaten by wading or diving birds. Of the millions that arrive at the estuary, only a few survive.

EELS - TUNA
There are three species of eel in New Zealand, the longfin, shortfin and spotted eel. Only the longfin and shortfin are present in Canterbury. Although both the longfin and shortfin eel can occur together in the same habitat, long

fin eels are more common in inland waters whereas short fin eels are found more often near the coast.

The easiest way to tell long and short fin eels apart is by looking at their fins. Eels have a dorsal fin (on their back) and an anal fin (on their belly). The dorsal fin on the longfin eel is noticeably longer than the anal fin. The two fins on the shortfin eel are almost the same length. The longfin eel is one of the largest in the world, growing to more than two metres in length and weighing in at more than 50 kilograms. Some have been estimated to be 80 years old.

Eels live very interesting lives. When they are mature they migrate from rivers and travel huge distances across the Pacific Ocean to breed. When they reach the breeding grounds they spawn (females lay their eggs and males fertilise the eggs) and then die. When the eggs hatch, baby leaf-like eels drift back to New Zealand on the ocean currents. Offshore they change into tiny, transparent 'glass eels' and migrate into the estuaries and rivers. They continue to move upstream in search of a place to live. As they feed they develop into greyish brown eels, eating insects that live on the river bottom. As they grow they eat larger prey such as native and introduced fish species. When they are mature the cycle begins again and as autumn approaches they begin the journey to the Pacific Islands.

Eels have been caught by Ngai Tahu for generations and are a prized traditional food. The commercial fishing of eels occurs at Te Wahora/Lake Ellesmere.

WHITEBAIT - INANGA
Whitebait are the young of several different species of native fish (galaxiids). They are 50 mm long, very slender and transparent. The adult fish live in swamps, rivers and lakes. In autumn, they travel down to the river’s tidal mouth to breed. Timing is critical as they need to spawn (females lay eggs and males fertilize them) when the high spring tides occur. The
BULLIES

There are a number of species of bully but the one most often seen in the wetlands and coastal areas of Canterbury is the common bully. It is highly camouflaged and moves quickly in the water. The males are very territorial and fiercely defend their territories especially during the breeding season. During the breeding season males encourage females to lay eggs within their territory. Once a female has laid several thousand eggs she leaves. After fertilizing the eggs, the male defends the developing offspring, fighting off other bullies and removing egg-stealing insects from the nest site.

Once hatched the young bullies are on their own. Many species move downstream and out to sea, feeding on plankton, before returning to freshwater and life as an adult.

ELEPHANT FISH

Elephant fish are typically found in shallow coastal waters and are common along the Canterbury coastline. They are an unusual looking fish with a very sensitive hump-shaped snout used for finding prey such as shellfish. They are a relative of sharks and rays, and, like these cousins, have a skeleton made from cartilage rather than bone. They can grow up to 1.25 metres long and are caught as a commercial species around Banks Peninsula.

When walking along Canterbury beaches keep your eyes out for their distinctive egg cases. The used egg cases look like opened oblong pieces of seaweed.

EAGLE RAYS - WHAI KEO

Eagle rays are like underwater birds, flying through the water and over sandy shallows close to shore, where they like to bask. They are olive-green to yellow-brown with pale blue or grey markings and can grow up to two metres wide. They have plate-like teeth which crush their prey of crabs and crustaceans.

LARGE-BELLED SEAHORSE - MANAIA

The large or pot-bellied seahorse is the only seahorse species in New Zealand. It lives in estuaries and rocky-shore habitat below the low-tide zone. These remarkable and delicate species are poor swimmers and use their grasping tails to hold tight to seaweed so they don’t get washed away. From this position they wait for their food (tiny crustaceans) to swim or float by. The male is also a very active parent. After the female lays up to 500 eggs in his pouch, this dad incubates the eggs for a month before they hatch.
SPIDERS New Zealand's only native poisonous animal is a shy inhabitant of the coastal environment. The katipo spider spins its web at the base of grasses and sedges and under driftwood, in areas which are not too densely vegetated. Kaitorete Spit provides some good habitat and is home to a number of spiders. Sadly, the numbers of katipo living in Pegasus Bay have declined markedly and this is most likely to be due to the decline in habitat. Coastal modifications, invasive plants such as iceplant, marram grass and lupins, and lack of driftwood on the beach may be contributing factors as katipo are slow to recover from loss or disturbances to their habitat.

An introduced, look-alike South African spider, the black cobweb spider, is also found in dune habitats. It is sometimes known as the false katipo. This spider may be displacing the katipo as it is better at taking over newly vacant sites.

Another big problem for the katipo is the inappropriate use of its fragile habitat by off-road vehicles such as quad bikes and four-wheel drives. Sadly, katipo numbers are likely to continue to decline as their habitat is continually disturbed.

LIZARDS Canterbury is home to geckos and skinks which live in a variety of habitats. Geckos and skinks are lizards, but they are different from each other and can be easily identified. Geckos have broad triangular heads, large bulging eyes, defined necks and soft velvety-looking loose skin. Skinks on the other hand are more snake-like with smooth shiny skin, slender bodies and small legs. Skinks also have eyelids and can blink whereas geckos have no eyelids and must clean their eyes with their tongues, just like frogs! All New Zealand geckos and skinks (except one species) give birth to live young. This is most unusual as most lizards lay eggs. Their most common food is insects, but they also eat berries, seeds and nectar from flowers.

The jewelled and common geckos were once known in dune areas, but today you are more likely to see them in the Port Hills area of Christchurch and Banks Peninsula.

The common gecko is dull grey or brown with varied patterns on its back and a light-coloured underside with no pattern. It is found under rocks and logs and on rock faces, and is active at night—when they hunt and feed.

The jewelled gecko is usually found on the outer branches of scrub areas around Christchurch, the Port Hills and Banks Peninsula. The female has distinctive, bright green colouring and the male is brown or grey.

Skink species are still present in Canterbury; the most often seen is the common skink. Its patterns vary in colour and shape, but all animals have a yellow belly and cream-coloured throat. Common skinks are found mainly in dense vegetation and shrub, and are often seen basking in the sun. The spotted skink prefers to live in open habitats and has declined on the mainland. It has markings of pale green spots on a brown or green background, with a pink or red belly and a grey throat. Spotted skinks can grow to 220 mm in length.

Unfortunately lizard numbers are declining because of the loss of natural habitat and the introduction of predators, including cats, rats, ferrets and stoats. Mice have also been known to eat lizard young. Motunau Island is a safe refuge as it is predator-free.

If you find one, leave the animal where you found it—it is illegal to collect lizards from the wild to keep as pets. All New Zealand lizards are protected by the Wildlife Act.
MARINE PROTECTED AREAS
The ocean is a finely balanced system, which loses its balance and is threatened if too many fish, plants (seaweed), sand or rocks are removed. This balance is also affected when too much sewage and chemical wastes are put into it. It is not possible to protect all areas of the ocean or coasts from these threats but we can protect some areas. Marine reserves are one way to protect marine ecosystems. Marine sanctuaries are another form of protection.

A marine reserve is an area set aside for protection in the hope that we have some naturally functioning marine areas in the future. It is like a marine national park—a place totally protected from pollution, fishing and other forms of mistreatment. It enables fish, shellfish, seaweed and other marine species to flourish, and degraded areas to recover.

Because marine reserves are important, activities which cause harm to reserves, like fishing, are not allowed.

POHATU MARINE RESERVE
Pohatu is the only marine reserve on the east coast of the South Island and it is situated in Canterbury. The 218-hectare reserve lies just east of the entrance to Akaroa Harbour, Banks Peninsula and is centred on Plesa Bay. Pohatu Marine Reserve is also part of a marine mammal sanctuary.

This sanctuary provides protection for the endangered Hector's dolphin. To ensure their protection, set-netting is banned along the Canterbury coastline with exemptions in the upper reaches of Lyttelton Harbour, Akaroa Harbour, Port Levy and Pigeon Bay from 1 April to 30 September. Although there are restrictions on human activities in marine reserves, because the areas are protected there is often a lot more to see. To really appreciate the reserve it is best to get into the water. With a wetsuit, mask and snorkel you can explore the rocks around the shore, and scuba gear will allow you to dive further out. A variety of sea life such as trepang, lumpfish, moki, butterfish/merari, spotlies, banded wrasse, blue cod/kopukopu, leather jackets/kokiri, crayfish/koura, paua and rockfish/taumaka can be found.

BANKS PENINSULA SHOWING MARINE MAMMAL SANCTUARY & POHATU MARINE RESERVE
"The oceans are the planet’s last great living wilderness, man’s only remaining frontier on earth, and perhaps his last chance to prove himself a rational species.”

JOHN L CULLINEY
WILDERNESS CONSERVATION
SEPTEMBER - OCTOBER 1990