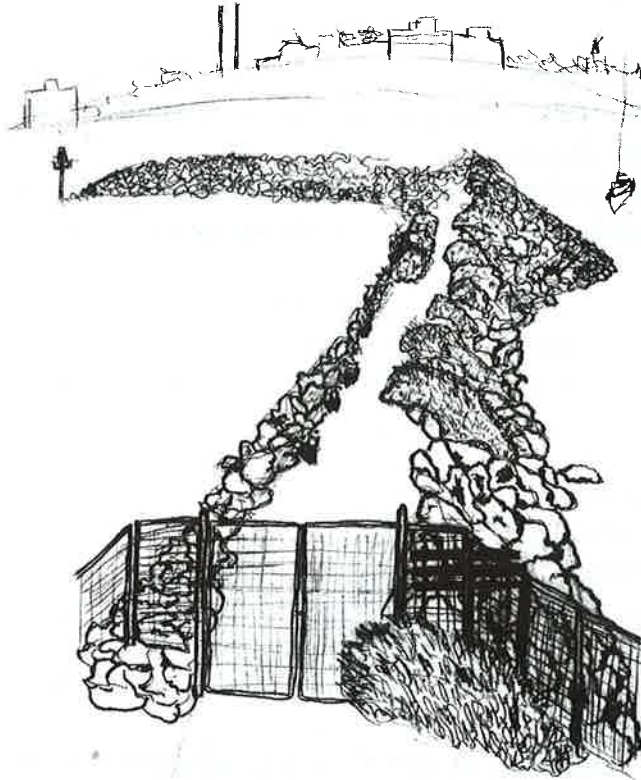


THE ST KILDA PENGUINS



The St Kilda Penguins



Written, Illustrated & Designed
by Alison Strachan

Dedicated to The Late Professor Mike Cullen and Neil
Blake, without whom none of this would be possible

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Introduction

The Little Penguin, is a small, flightless marine bird, formerly known as the Fairy Penguin. Penguins have adapted to the life of the sea, they fly through water instead of air! They have a blue coat with a white front, and stand about 34cm high on land.

Little penguins scientific name is *Spheniscidae Eudyptula minor*.

They live in Southern Australia and New Zealand's cool coastal waters. There is a colony living in urban St Kilda...

History

The first penguins were heard in 1956, not long after the breakwater was completed for the Melbourne Olympic Games. However, it was not until 1974 that two nesting couples were officially recorded. Scientists believe that the first penguins to arrive at St Kilda came from the large colony at Phillip Island. The top of Port Phillip Bay has high numbers of anchovies and pilchards. It is thought that this, plus the good shelter amongst the rocks, may have attracted the visiting penguins to make the St Kilda breakwater home.

Penguin research at the St Kilda breakwater began in 1986 when the City of St Kilda's Council asked Professor Mike Cullen to assess the importance of the breakwater's colony of Little Penguins. Professor Cullen was Monash University's Ecology and Evolutionary Biology Department's penguin and seabird expert. With St Kilda Ranger Neil Blake, he began a voluntary ongoing independent study of the colony.

In 1989 Earthcare St Kilda was formed, mainly to campaign for the protection of the penguins, as well as a range of other community environmental



causes. Earthcare was active in addressing the threats the penguins faced such as litter, providing local plant varieties along the breakwater for nesting materials, lobbying government agencies on behalf of the birds, providing volunteers, organising an oil spill response plan and its funding, and creating community awareness. In the same year, 107 adults had been banded and the last two-thirds of the breakwater fenced off to help protect the Little Penguins. This area has since been a 'Wildlife Management Co-operative Area' to add further protection, as a result of Earthcare's campaign.

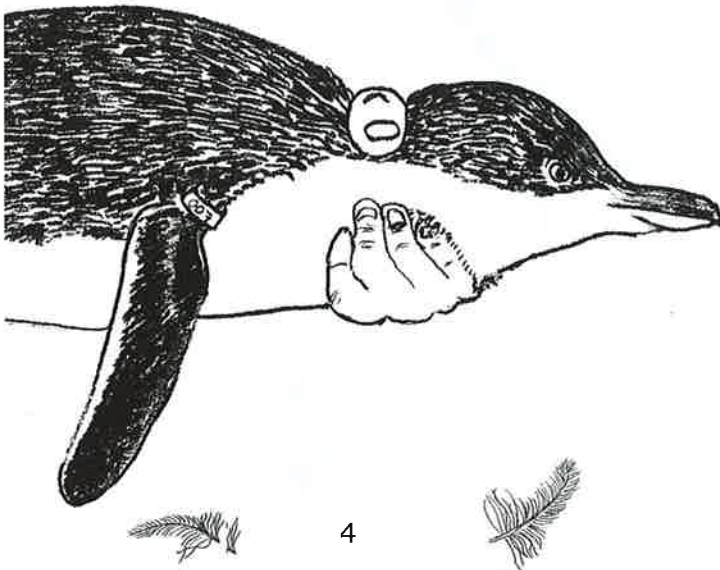
In 2001 the Little Penguin population at St Kilda breakwater was approximately two hundred.



The St Kilda Penguin Research Group, managed by Earthcare, meets once a month just after sunset at St Kilda pier. The timing allows the adult penguins to clamber up the rocks to their burrow undisturbed. Not all the birds come home to their nest each night.

The research group walks along the rocks, torches at the ready, spotting penguins and carefully taking them from the nest. Sometimes the penguins dart to the back of the nest, tantalisingly out of reach. When this happens the leader of the group calls out the scribe (note-taker) a code that describes where the nest is located and how many birds can be seen, and if eggs are present.

At the St Kilda colony the nest or burrow is usually a space behind or underneath the rocks that make up the breakwater, sometimes underneath the path itself or under a bush. The nest is often lined with plant matter for temperature insulation and comfort. The Little Penguin is sensitive to heat exposure,



which can be fatal in temperatures over 35C, so part of the function of burrows appears to be protection from heat.

When the research group catches a penguin, it is carried up to the path on top of the breakwater and the band number on the right flipper is read and the scribe records



this number. Each band has a unique number that enables each bird to be identified and later data-matched to its own history. All Little Penguins caught in Victoria used to have a small metal ring placed at the base of their right flipper, with a number for identification, called a band. The bands cause no discomfort or restriction of movement, and allow scientists to get a greater understanding of penguin movement and lifestyle. The bands are now being replaced by microchips similar to those used to trace domestic cats and dogs.

The Penguin is then weighed by placing it head first in a cloth bag attached to some scales, and this is also recorded as well as any unusual marks on the



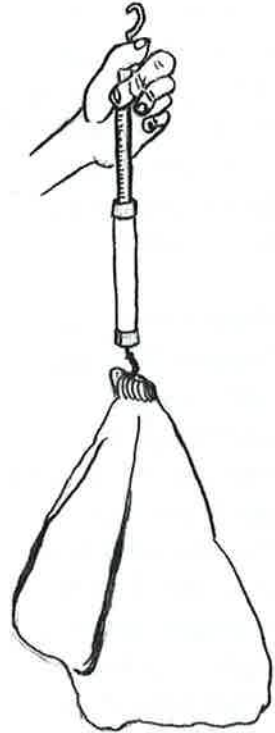
penguin's blue coat or flippers. The penguins sometimes have scars from narrow escapes from predators like dolphins or sharks, or man-made objects like fishing hooks and lines.

The sex of the birds is decided by an ingenious method. It was discovered that adult male penguins have a thicker beak from top to bottom than females. A template has been devised that is placed over the closed beak. If it slides all the way down to the base of the beak, the bird is female.

Once these tasks are completed, the penguin is placed carefully back where it was found, and the group moves on. This procedure is repeated over and over, for the entire length of the breakwater. Everyone in the Penguin Study Group takes care to make as little impact on the penguins as possible.

This research allows us to get a better understanding of the Little Penguin's life and behaviour, as well as keeping an eye on the colony's general health, and indeed the health of the top of Port Phillip Bay. This information is then used to help protect the penguins from possible present or future problems, as well as being able to compare information with other colonies.

Spring and early summer is the breeding season for the Little Penguin. They produce

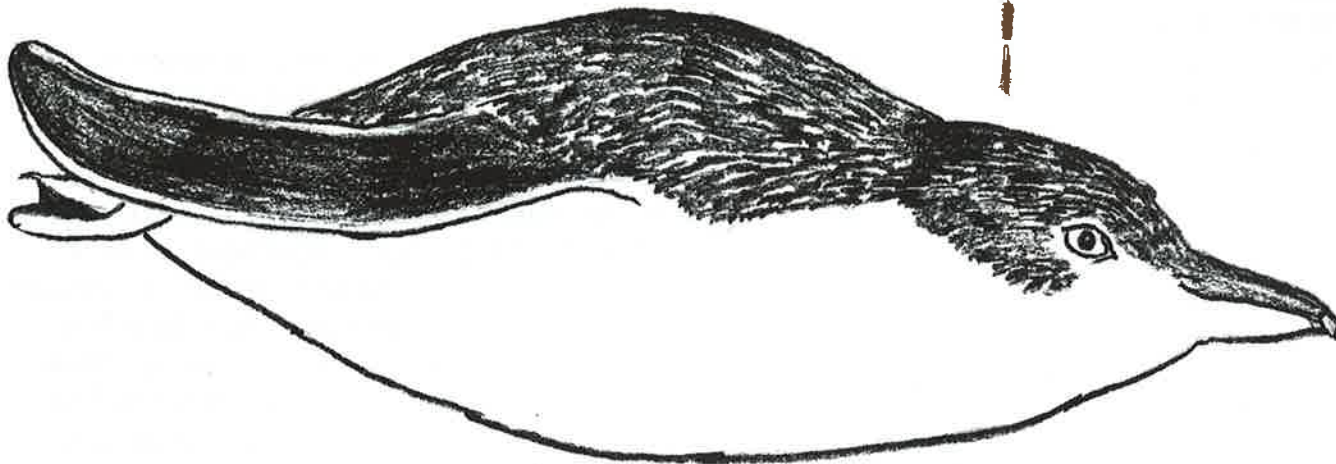


one or two white eggs about the size of chicken's eggs. The eggs hatch in 33 to 37 days, with both parents involved with the incubation and rearing of the chicks. The chicks grow at a staggering rate, reaching adult weight at about four to five weeks. The adults bring in semi-digested fish and regurgitate this to feed their chicks.

From birth the hatchlings or chicks are covered with downy feathers that are not waterproof, keeping the young birds dependent on their parents until they fledge. After a month the chicks start to lose this coat and gain the adult feathers. The adult penguin has three to four times as many feathers as most flying birds of similar size. These feathers are short and lance shaped and are contoured to follow the shape of the bird. The feathers also have at their base a downy section that traps air to provide insulation from the cold seawater. The Little Penguin's feathers are thickly coated with an oily substance secreted from a preen gland at the base of their backs. It is this oily coating that makes the



penguin's plumage waterproof. When the coating is damaged from an encounter with an oil spill, water seeps in and makes the birds vulnerable to the cold of the oceans and bays, as well as their ability to float, the combination, in serious cases can causing their death.



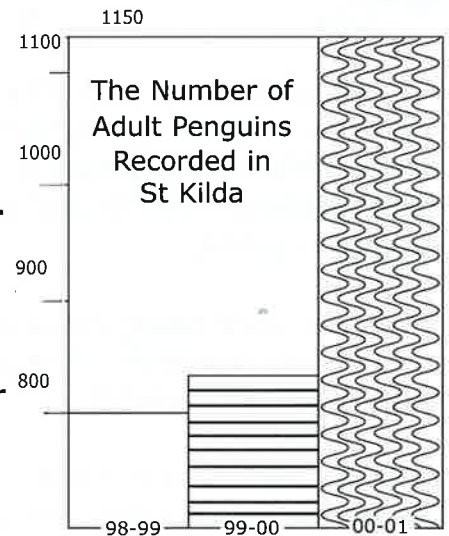
from the cold water temperatures. To protect themselves from this they can have partial moults when needed, but have only one full moult a year, where every feather is replaced by a new one. While this is taking place the birds cannot go to sea, so they have to feed heavily beforehand, often doubling their body weight. One penguin reached over two kilos during this period, compared to the usual weight about 1050 kilos for females and 1150 kilos for males.

Moult usually takes about two to three weeks and it is a very risky time for Little Penguins. To grow a new set of feathers uses a lot of energy. They lose about 50 grams a day, and are totally land-bound. When the penguins return to the sea after moult, they are often weak, and are more likely to die than at any other time of the year.

When penguin chicks have a covering of at least ten per cent of the 'blue' adult feathers, they are ready to be banded, although they are too young for their sex to be known. At this stage they are very close to leaving the nest and going out to sea as independent birds. The chicks leave the nest at eight to ten weeks, usually not returning to the colony until they are ready to breed at one to three years of age.

After the breeding season has finished (normally by about mid-January at the St Kilda colony), the birds then feed up in preparation for their annual full moult. It is very important for penguins to have their feathers in top condition, or they could die

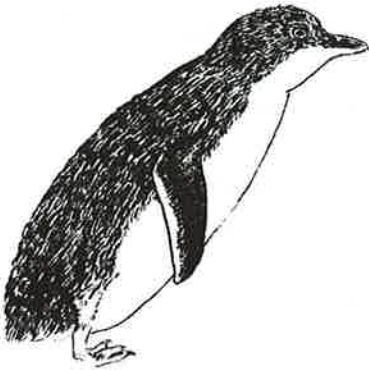
Despite all the risk involved in the Little Penguins lifestyle, the St Kilda Penguin colony appears to be growing at a steady rate. We cannot afford to take this for granted, and must continue to keep their homes (our seas and Bays) free from pollution and litter and leave them to live in peace along side us.



The Little Penguin

* is a small flightless marine bird.

*their scientific name is Spheniscidae Eudyptula minor, Spheniscidae being the scientific family name of all penguins (spheniscus means wedge shaped), Eudyptula minor being the species name for the Little Penguin (Eudyptula comes from the Greek language and means 'good little diver').



*is also sometimes commonly known as the Fairy Penguin.

*The penguin family diverged from other birds about 65 million years ago. The family they are most closely related to contains albatross, petrels and shearwaters (mutton birds).

* grow to about 32 to 34 cm from beak tip to tail tip, with the females being slightly smaller. The males weigh on average about 1170 grams, and the females 1050 grams. This makes them the smallest of the penguin family.

* have a dark body, head and flippers with a white breast and stomach. The colouring is the same for both male and female.

* have flippers in the place of wings and 'fly through the water' using their webbed feet to steer.

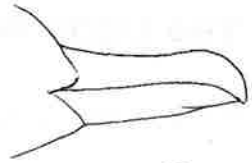


*beaks differ between the sexes

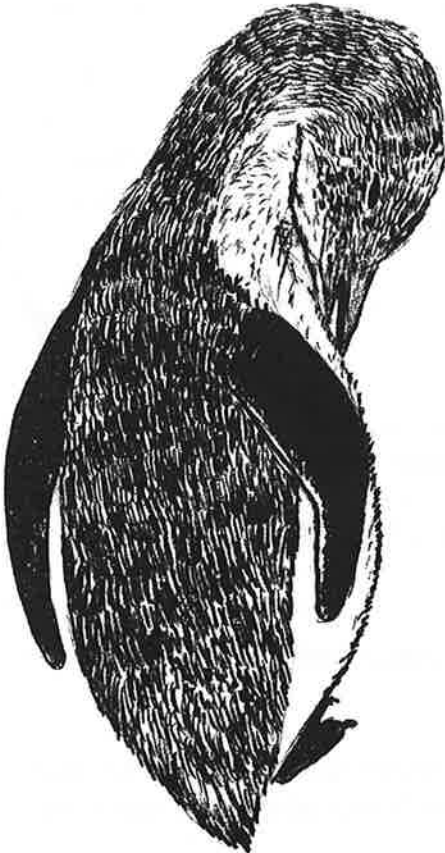
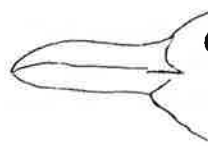
* have sharp beaks but no teeth.
They swallow their prey whole, some-
times fish up to 20 cm long, more
than half their body length.

* have a salt gland above their eye
socket to rid themselves of too
much salt from their diet.

BOY



GIRL



* have the ability to
jump their own height,
and have been observed
measuring a 'jump' with
their bill.

* have three to four
times as many feathers
as most flying birds of
their size. This helps to
keep them warm and
dry.

* have an oil gland at
the base of their spine,
that through preening
provides a waterproof
coating for their feathers.

* live for about six or
seven years, although
the oldest penguin
known is about 25 years.



The Little Penguin

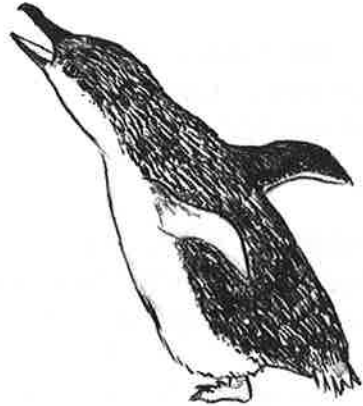
- * start breeding at one to three years old.
- * at St Kilda breakwater nest in burrows underneath or behind rocks, unlike the penguins at Phillip Island, who make burrows in the sand.
- * don't have to come ashore every night, being able to sleep at sea.
- * are found in Southern Australia and New Zealand.
- * are not found in water colder than five degrees Celcius.
- * eat fish, choosing whatever small fish is locally available, with anchovies and pilchards believed to be St Kilda penguins' favourite food.
- * are the most able to adapt to changing conditions than any other of the penguin family.
- * can dive up to 60 metres deep, although usually less than 10 metres.
- * can hold their breath for approximately 55 seconds under water.
- * can swim underwater at approximately two to four kilometres per hour, with six kilometres per hour the top speed.



* from St Kilda live close to a rich source of food. They have to travel smaller distances than Phillip Island penguins in search of food.

* are very social birds, using a range of sounds to communicate with each other, possibly because they are on land mainly at night, making visual communication displays less effective.

* 'song' starts on a low note, gradually rising in pitch and volume until at full cry.



* have the greatest range of sounds of all the family of penguins.

* have the same diversity of pairbonding as St Kilda's human population. Some bond for life, some for several years.

* start breeding in August - September, with some breeding as early as May. The peak in the number of chicks is in November.

* lay a clutch of one or two white eggs about the size of chickens' eggs (approx. 55 grams). The eggs take a bit over a month to hatch, with both parents involved in the incubation and feeding.

* can produce more than one clutch a season if there is plenty of food nearby. This is called double-brooding. Triple-brooding can happen, but is rare.

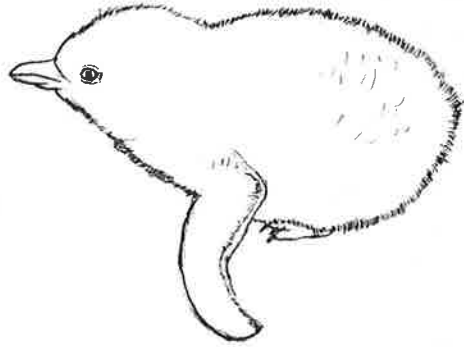


Little Penguins

* chicks grow very quickly, often weighing more than a parent at one month old.

* chicks eat fish regurgitated by their parents.

*chicks have soft downy feathers that are light brown for the first four to five weeks.



*start to grow their adult 'blue' feathers at four to five weeks old. They leave the nest at about eight weeks and go to sea.

* are ready to go to sea, independent of their parents, when they have all their adult feathers.

* stay mostly at sea until they are ready to breed.



How You Can Help the Penguins

Don't leave any rubbish around, particularly any that can be washed down a drain and out to sea. This could make a penguin sick.

Help Earthcare plant on the breakwater. Earthcare has an annual planting day, sometime between June and September. For details please check Earthcare's web page: www.earthcareskilda.org.au

Don't take your dogs out on the breakwater, or anywhere that you know penguins live.

If you go fishing always make sure you take all your fishing line and hooks home with you when you have finished. One penguin died from lead poisoning from swallowing a fishing sinker, and the most common cause of penguin injury that Earthcare volunteers are called to attend is penguins entangled in fishing lines.

If you find a sick or injured bird please call Earthcare on 0500 832 789, and try to protect it from further threats. Please do not touch or move the bird, unless to protect it from further attack.

Join the Penguin Study Group.

Join Earthcare, or your local environment group.

Become a zoologist specialising in Little Penguins!

Remember **Only** People with a permit to handle Wildlife are allowed to handle them.



Acknowledgements

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