

# EDITORIAL.

This month Nature Notes publishes details of some follow-up work on the Mutton Bird carried out by children attending the Flinders Island District High School, right in the heart of 'Mutton Bird Country'. Two articles written by Mr. Bull during 1977 prompted children from the school to carry the work further. If you have been interested by the series of articles on the Mutton Bird and indeed the work of the children from the Flinders Island School, perhaps you could share any research you might carry out with children from the school. The address is: Flinders Island Area School, P.O.Box 9, WHITEMARK. 7255. FLINDERS ISLAND.

We have received many letters in recent weeks as a result of an appeal for letters in Vol.15 No: 1. We intend to begin printing these next issue. As the staff at Nature Notes is small, please bare with us if it takes some time before your letter is acknowledged. We are always pleased to hear from our readers. If you haven't written to Nature Notes - write soon!

Did you happen to find two identical leaves? I assure you that it is a difficult task. As some types of trees drop their leaves, perhaps you could investigate the various leaves you collect...classify them according to leaf structure, colour... Start a collection now. Let us know how many different varieties you find.

Loch Ard Gorge is this year celebrating its centenary. Do you know the date when the wreck of the Loch Ard occurred? How many survivors were there? This month Mr. Bull tells you something of this unique spot on Victoria's coastline. Loch Ard Gorge is well worth a visit.

L. Mchibald Editor. By the time I get help i'll be the only survivor!



NATURE NOTES MAY 1978

### 1 11 is of fair quality but does not compare with that of the northern or



Controversy over the real effects of seals on the fishing industry in Victorian waters led to a comprehensive study being undertaken by the Fisheries and Wildlife Division of the Ministry of Conservation. Since 1966, a team of Research Officers led by Mr. R. Warneke has been investigating the movements of the Australian Fur Seal in an effort to form some concrete evidence as to the real nature of the seal's effect in his environment. Much of the material in this article comes from articles Mr. Warneke has written for the Fisheries and Wildlife Division.

Seal Rocks, two small islands situated about 12 km. off the southwestern tip of Phillip Island at the entrance to Western-port Bay, are the home of a breeding rookery of the Fur Seal (Arctocephalus doriferus). It is one of the otariids (eared seals) which are able to use their hind flippers to walk on land. The phocids or 'true' seals have no ears and cannot use their hind flippers in this way. The fur A A WAY WARE GATHER AND A

Alaska fur seal from the Pribiloff Islands which provides the main source of seal fur used commercially in the manufacture of clothing.

\*It is widely held that the local fur seal is a voracious (greedy) and wasteful predator of fish and consequently it has been claimed that more fish would be available if seals were drastically reduced in numbers or exterminated. Naturally the Fisheries and Wildlife Division cannot and would not consider the second of these two alternatives. Thus, in view of the lack of information available on the habits of the local species, detailed research is being carried out in order that a more informed approach to the problem can be arrived at. A survey of the problems experienced by fishermen is of course a necessary feature of the program. It is hoped to obtain full information on where the seals are most active, the extent and frequency of damage to nets, the

extent of the loss of fish and the species of fish involved. Some 7,500(1970) have been individually marked for identification purposes and so that migratory movements can be traced.

From the writings of the early explorers and those engaged in sealing in Australian waters during the early 1800's, it appears that fur seals were abundant throughout Bass Strait As a result of exploitation by man, seal rookeries in the area were almost wiped out until the collapse of the industry about 1850. The fur seal was first given legal protection in Victorian waters in 1890 and since then has increased in numbers to the point where all the main rookeries appear to be fully occupied in the breeding season. It would be a worthwhile classroom exercise to discuss the issues raised in this article.



Distribution of fur seals (Arctocephalus spp.) in south eastern Australian waters. Legend: occupied site A breeding colony 5 status unknown

vacant site o (old sealing ground)

## MUTTON BIRDS.



This impression of the Mutton Bird was drawn by a student of Flinder's School.

taken'.... March/April every year. However some of the islands in the area are sanctuaries and only available for lease.. others remain totally free of European animals and are inhabited only by snakes and smaller marsupials and birds.

The 'Mutton Birding' Industry: The people who live on the islands in Bass Strait carry on a local industry known as Mutton Birding. They capture the fledglings before they leave the nest. It is important to note however that strict laws are enforced to ensure that the mutton birds are not exterminated as they were on Norfolk Island around 1800. Offices of the C.S.I.R.O and the Tasmanian Fuana Board keep a close watch on the situation.

In the Mutton Bird Industry nearly every part of the mutton bird's carcass is used. The oil from its crop is used as an ingredient in medicines and the feathers of the bird are used for stuffing pillows and chairs. The meat is sold for food in Tasmania and New Zealand. Canned mutton bird flesh is known as 'Tasmanian Squab'.

<u>Burrows:</u> "Most 'bird' rookeries are found on the outer islands. Their names are Big Dog and Little Dog Islands in Franklin Sound: Babel Island off the East Coast, Chappel, Goose, Green, Badger and Kangaroo Island off the west coast of Flinders Island. Each burrow goes down into the earth for a distance of about 1 metre. Usually they are found in soft, sandy ground amongst golden tossocks."

Eggs: "Only one egg per breeding pair is laid, usually in the period from late September to early May. The egg takes about 53 days to hatch. The shells are white in colour and are about the size of a large hen's egg. The parent birds take turns in incubating the egg."

History records that in Feb.1797 the survivors of the wreck of \*B the <u>Sydney Cove</u>, after having d made camp near the burrows of c the Sooty Petrel found that the flesh was edible after drying in u smoke. The birds could be easily of caught by thrusting an arm, up 1 to the shoulder into the burrow u and seizing the bird. Some c burrows contained snakes and care

to be taken. Essentially, the same method of catching the birds is used today in the season in which the birds can be legally \*The map shown here outfines the area in which most breeding of the Mutton Bird takes place.

\*Below is a detailed chart drawn up by one of the children. It names the various types of shearwater and tells something of their breeding habits. Is this list complete? What further information could you add to extend the value of such a chart?



<u>To help in your investigations</u>, these texts may be of assistance: <u>Birds in Bass Strait</u>, by Ken Simpson; <u>Bass Strait</u>, <u>Australia's Last</u> <u>Frontier</u>, by the A.B.C.; <u>Moonbird People</u>, by Patsy Ann Smith.

| Common names               | Scientific names         | Colour and size   | Nesting  |
|----------------------------|--------------------------|---|--|
| Short-tailed<br>shearwater | Puffinus<br>tenuirostris | size 600 mm long<br>Coloui, brown to black all over.  | Breeds in summer. Late September<br>to early May. Nestsin burrow.<br>I white egg per burrow.                 |
| Sooty<br>Shearwater        | Puffinus<br>griseus      | size aso mm long<br>colour. Dork brown all over except for<br>pale silver area under wings                                      | Breeds Sophember to April.<br>Nests in burrow where soil is<br>soft. 1 egg (while) per burrow                |
| Flesh-footed<br>Shearwater | Puffinus<br>carnelpes    | size aso min long<br>colour, dark brown almost black all<br>over.   | Breeds late September to May.<br>Nests in very deep burrow also<br>in soft soil. I white egg per<br>burrow   |
| Flettering<br>Shenr water  | Puffinus<br>gavia.       | size. 330 mm long<br>colour upper parts very dark brown<br>When fresh but fadrag to warmer brown<br>with wear                   | Breed August - March. Nests in<br>burrow dug in soft soil Lined<br>with feathers, dry plants and matter.     |
| Huttons<br>shearwater      | Puffinus                 | size, 35cmm, long<br>colour, upper parts white sides of<br>neck clusty; leaving a narrow white<br>stee of throat                | Breed August to April. Lined with<br>snowgrassiand roots. I white egg<br>per burrow.                         |
| Wedge-tailed<br>Shearwater | Puffinus<br>pacificus    | Size. 450 mm long<br>colour, Crown and nape dark grey-brow,<br>shading to poler grey on rump and<br>back. Jail dark grey-brown. | Breeds September to May.<br>Nest a burrow in a dense colony.<br>1 white egg per burrow.                      |
| Buller's<br>Shearwater     | Puffinus<br>bulleri      | size 430 mm long<br>colour. Entinely block-brown.   | Breeds September to April. Nest<br>is usually in a burrow, but on<br>some tropical islands on surface, under |
| Little<br>Shearwater       | Puffinus<br>assimilis    | size. 290 mm long<br>colour upper parts black under parts<br>chalky white.  | Breeds (does not say. Nests in a<br>burrow or among rockes. , where<br>egg per burrow.                       |

### GANNETS AND BOOBIES

bese big birds of the seasare found in the shallower coastal waters of Australia. There are four species of this family, the name "gannet" is given to those living in the southerly seas of Australia. The name "boobies" is used for the other three Uspecies which are found in sub tropical zones. The gannet is a handsome and striking bird, noted for their plummeting dives from great heights, from as high as 30 metres into the sea. These birds have air sacs under the skin of the head and neck, Uwhich fill with air before a dive, their long pointed bills cutting the water; cushioning the impact as the bird hits the surface. They dive beneath the surface, perhaps to a depth of 9 metres, the wings are used as paddles while the bird Wrises again, the fish is swallowed underwater. Sometimes a flock of gannets will hunt a school of fish and will "round them up" into a concentrated formation ready for diving for their meal. The fish they catch includes mackerel, barracouta and pilchards. All four species raise only one chick even if two eggs are laid.

### FRIGATEBIRDS

These large birds are common in tropical seas, the north-west, the north-east, and the southern parts of Australia. They have very long slender wings and consequently they are gracefull in the air. Their flight is fast and full of turns, they can glide for hours over the sea. Because they spend the majority of their life in the air, their "land-legs" are not very well developed. The frigatebirds frequently steal food from gulls and terns harassing and pursuing until they are forced to drop their prey. They do not have very "waterproofed" feathers, so they hever settle on the water for any great length of time. They feed mainly on flying fish, catching them in Athe air. They nest in colonies, the nests being about 30cm in diameter and from 10cm to 20cm in height.

### SOUTHERN GIANT PETREL

This heavily-built bird is one of the largest sea birds inhabiting our coasts. It is a scavenger cleaning out refuse in many bird and seal rookeries. They are also predators attacking other birds and penguins during the breeding season. The main breeding grounds of this bird are on sub-Antartic islands, where it lays one white egg in a hollow cone shaped nest. The giant petrel is approximately 90cm in length. They come ashore only to nest M and to raise their young. Hazards arise through their inability to adapt on land making them easy prey for predators. These difficulties are overcome by nesting in out of way places and in most cases, visiting their nests only at night-time. 62:00

How many other sea birds can you find? Have a look at the Australian bird books in your school library. 0%

Frigatebird

Gannet

Nature Notes

- Red

throat sac

Gannet diving

Frigatebird Red throat

1:----

sac inflated

100

Gannet in flight

BY

W. PROHASKY.

Giant Petrel

FOOD CHAINS





APOGONOPS ANOMALIIS



MYCTIPHANES.

Another possible name for a 'food chain' is a Survival Chain. The term perhaps best sums up what is meant by 'food chain. For living things to thrive food is fundamental. At all levels of existence a food or survival chain can be drawn up to illustrate the importance of food as a life support system. Here we have chosen one beginning with minute sea organisms which make up plankton.

Plankton generally consists of tiny microscopic plants and animals which drift around at the direction of the ocean currents. The diatoms, which are the plants in the plankton, build up their food from the minerals in the

MACKEREL

Sea 758 The

sea water by using the energy in sunlight. These minerals will have been washed down from the land by the rivers or could have come from the decaying matter in the ocean. The Nyctiphanes larva (plankton) which feeds on the diatoms, in turn is eaten by the Apogonops anomalus and that is eaten by the adult Nyctiphanes. The adult Nyctiphanes is eaten by the young Mackerel and that by the Cucumber Fish which is eaten by the Tiger Flathead which in turn is the basic diet for the shark.

FLATHEAD

Many other sea creatures can be connected with each stage of this food chain and it may be called a good web. If your library has Australian SeaShores by W.J. Dakin, you will be able to find more information about these'webs'.

CUCUMBER FISH

The largest of all animals, the Blue Whale depends

SHARK

directly and entirely on plankton and so does the biggest species of shark ... 11 the harmless Basking Shark.

# LOCH ARD GORGE.

As some of you may be aware, the Loch Ard Gorge has been in the news recently. It was just 100 years ago that this magnificent piece of Mother Nature's handiwork was given its name..tragically after the loss of 52 people in the wreck of the ship, Loch Ard. which had ventured too close to shore. It had collided with the sheer cliffs of Mutton Bird Island, just outside the entrance to the Gorge and had sunk almost immediately.

However we are not looking at the history of the Gorge but at the natural setting of the area. With the May holidays 'just round the corner' perhaps some of you could visit the area as it is well within a day's drive from Melbourne.

Millions of years ago much of Australia was under water In particular, the areas known as the Nullabor Plain and most of Victoria. With the passing of time the ocean floor built up layers of sediment, decaying matter skeletons and natural rubbish. Some of these layer were hundreds of metres thick. Parts of the ocean floor are now parts of Australia; and these layers





# ~C. Bull.





of sediment are known as limestone. Perhaps you could investigate how the ocean floor came to be land. Once the layers of sediment were exposed to the elements of wind, rain and the continuous rolling of the waves, erosion set in. The waves acted like sandpaper, wearing away the limestone. So with the sea as Mother Nature's tool, the limestone was moulded into the caves, gorges, blowholes, arches and pillars that can be seen in the area of Loch Ard Gorge today.

Although much of the limestone was made from sediment, many harder substances were also to be found in it. Perhaps you could suggest what these 'other substances' were? They resisted erosion longer. It is these areas of harder rock that withstand the action of erosion and thus form the magnificent formations. The erosion continues around them and makes the formations even more spectacular. Port Campbell is an example of one of the most spectacular examples of this kind of erosion. (You could compare it with the Grand Canyon in the United States of America.)

The Loch Ard Gorge and the Twelve Apostles are the best known of the many features found along this part of Victoria's coastline. Some of the others are: Mutton Bird Island, London Bridge( two spans), Island Arch, The Grotto Bay of Islands, and the Blowhole. 13

The Legend Of The Echidna,



One day a woman was badly hurt while cutting some wood, and her husband went away to find



But when she heard Piggiebillah runnung the woman was afraid, and crawled back to her camp.



He told his friends to hide in the bushes until the evil man appeared; but when Piggiebillah came along to kill the wounded woman they sprang out and hurled their spears into his body.



Then an evil man, whose name was Piggiebillah saw the woman and ran for a spear to kill her.



Her husband knew that Piggiebillah would follow her, and so he quickly prepared to trap



Piggiebillah jumped into a hole to hide and at once changed into an animal called the echidna. But even now the spears are still in his body, and he is still afraid to leave his hole except at night.

## SOMETHING FISHY ....

Here are some interesting pictures and questions which might get you started on "fishing" for some more facts about these strange creatures .....





there that have the name of another animal as part of their own name? How is this fish different in the way it defends itself to the fish below? Because of the

many other fish are

way the Dugong sits up, sailors used to think it was a mermaid. As you can see. they were in for a big shock as they got closer!

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Perhaps some of you may have trodden on this next slipperv customer whilst swimming! Why does the Flounder have both eyes on the same side of the head?

Luckily, Electric Eels aren't common. Where do they get their electric power from?(Batteries!?)

## Reconstruction PUZZLES Spzzuel Reconstruction



### T-e-l-e-Words.

In this puzzle you will find a lot of things associated with the Loch Ard. See if you can find out about each of them. When you have found all the words, the letters remaining will tell you something about Port Campbell National Park.

BASS STRAIT, BLOWHOLE, CAPE OTWAY, CAPT.-GIBB, CARMICHAEL, CLIPPER, EVA, GIBSON, GLENAMPLE, HUGH, JANE, LOCH ARD, LOCH LINE, MUTTON BIRD ISLAND, SHIELDS,

> S.S.NAPIER, TOM PEARCE, TWELVE APOSTLES.

You will need these Roman Numerals.. M = 1000, D = 500, C = 100, L = 50 $X = 10, V = 5, \tilde{1} = 1.$ 



Thanks Tara For your riddle.

This month's riddle comes from Tara Edgley of Templestowe.

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16. : ISINGH YOU CLOSS & LOUMLE WITH & PRAYING MARLES? Nature Notes.. P.O Box 28, RINGWOOD EAST, 3135. Phone: 879 1263.