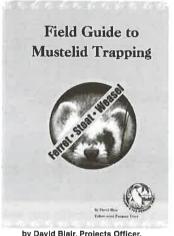


Number 26 May 2002

Yellow-eyed Penguin News

Trust launches two new books



by David Blair, Projects Officer, Yellow-eyed Penguin Trust

The current hot topic in conservation circles is the severe predation of New Zealand's rare and endangered species.

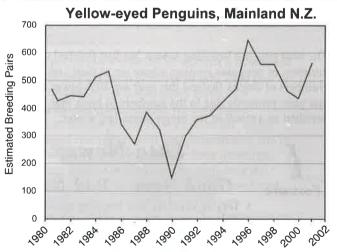
In February the Trust published the 'Field Guide to Mustelid Trapping', and copies are selling rapidly as various groups hear about its value to their work.

Promotion of the book has been greatly assisted by the Ron Greenwood Environmental Trust who have fully endorsed it.

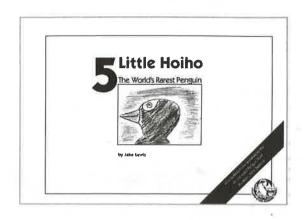
The book is the result of a practical workshop hosted by the Trust on mustelid control techniques in August 2000. This A5-sized booklet outlines the biology of the mustelids (stoats, ferrets and weasels) including reproduction, diet, range and signal the implications of predator guild relationships. Placement of traps (when, where, how many), technical aspects of trapping and types of traps are all discussed. Sample data recording sheets and explanations to the importance of accuracy of records, including recognising nil returns. The legal obligations under the Animal Welfare Act are also included in this booklet.

Aimed at both amateur and experienced trappers, the Trust hopes it will assist in the practical eradication of these vicious killers of NZ's rare and endangered birds.

See attached order form to obtain your copy.



NB: Increase in numbers possibly due in part to new areas surveyed and more intense surveying of existing areas.





The Trust has published this delightful children's book which Jake Lewis wrote and illustrated when he was 10 years old as part of a home school project which grew out of his interest in conservation and the plight of Hoiho (the yellow-eyed penguin). Jake has kindly donated all proceeds from the sale of this book to the Yellow-eyed Penguin Trust to help save this unique bird.

Thank you Jake!

On the Kids Page there is more information about this book, images of the book launch, and TVNZ Holmes Programme item.

See attached order form to obtain your own copy of this gem!.

Population estimates of Yellow-eyed Penguin *Megadyptes antipodes* on Campbell Island, 1987-98

By Peter Moore, Science & Research Unit, Department of Conservation, P.O. Box 10-420, Wellington. Email: pmoore@doc.govt.nz

Campbell Island is an isolated subantarctic island nature reserve, 660 km south of New Zealand, and is one of the strongholds of the yellow-eyed penguin population. They were first found on the island in the mid-1800s and were thought to be "fairly numerous" but 100 years later it was thought there might be less than 200 pairs. Although this was not derived from a census, it was the only estimate available for the island.

continued on page six

HABITAT REPORTS

Tavora

Work has continued throughout the past year at Tavora, our North Otago reserve, with some emphasis on developing the biodiversity of the reserve. Dune restoration work is currently being undertaken – the marram grass which has taken over the dune system is being sprayed, and being replaced by the planting of golden sedge, pingao. Rare plants such as *Euphorbia glauca* (sea spurge) and *Lepidium oleraceum* (Cooks Scurvy grass) are being reintroduced to the dune area. Members of the public enjoyed learning more about these and other plants at a recent open day as part of Seaweek.

Okia

Recently new signs were erected on the upgraded track to the beach. Work continues on stabilising the slopes below the "Margaret Hazel" area, with many more trees and shrubs planned to be planted into both the slope and the MH area this winter. Remember this reserve is open to the public – with a gentle flat walk through farmland to the reserve, past the Pyramids, then following a well marked track to the spectacular Victory Beach. The return trip takes about an hour and a half from the car park.

Otapahi

Penguin numbers have increased in this area during the last breeding season, and several juveniles have also been sited. Carpet has been laid in several places to try and minimise the growth of the rank grasses thought to inhibit the access way for the penguins. Once decomposition of the carpets has begun, a variety of trees and shrubs are planted, including the lovely silver tussock.





Stage one of the \$1.3 million development at the Oamaru Blue Penguin Colony has been completed with the opening of the new visitor centre on Dec 27th.

As well as increased retail space, The new centre has a display room with panels interpreting the biology of the penguins and other coastal wildlife of the area. A popular feature so far has been an innovative "nestcam" - an infrared camera inside a penguin nest - that can be viewed on a monitor in the centre or on the internet at [http://www.penguin.net.nz/cam/nestcam.html]

The new centre has been popular with locals and visitors alike and is open every day as well as during the evening for penguin viewing. Work on the new viewing stand started in April and will hopefully be completed by July. The blue penguin breeding season has just finished and numbers of penguins coming ashore are at their annual low. Numbers of chicks fledged this year are 20% lower than last year, primarily due to the numbers of birds that perished as a result of the major storm last winter.



Late News,

Good News : Bad News!

- ledging rates for this breeding season are high - in some areas as much as 98%
- it looks as though the food supply (fish) is in short supply
- LEI Nino is on its way with colder water and more fish!



Which Threatened Species programmes are cost effective?

by Ross Cullen



Between 2 and 25 % of all species on the planet are stated to be at risk of extinction. In New Zealand there are about 1000 species on the threatened species list. Internationally, and in New Zealand, large amounts are expended in attempt to manage species. The scale of the challenge is enormous, and there is always an opportunity cost associated with using resources on a threatened species project. Some simple questions can be asked about threatened species projects: Have they been effective? What have they cost? How cost effective are they compared to other projects? Answers to those questions are

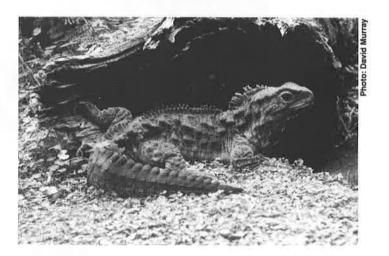
essential information to assess if we are making best use of the limited resources available for threatened species projects.

The questions are rarely asked, and providing answers to the questions is not easy. We have developed and tested techniques to help provide answers to those questions. To be able to answer the questions, two things are essential: a measure of the output produced by the threatened species projects; measurement of the costs of the projects. We have developed and tested ways to measure output and costs.

Measurement of output is completed by the project or species manager assessing how the status of 'their' species has progressed during the project, and how it would have progressed if there was no project. We assess the output is the difference between the 'with project' and the 'without project' species status scores over the life of the project. Measurement of costs requires obtaining information from the project managers on the annual costs over the life of the project.

The output measure informs us whether a threatened species project has been effective or not. Total cost of a project divided by its output score gives us a measure of its cost effectiveness. We have twice applied this technique within New Zealand on 'single species' threatened species projects and programmes and it has proved it can provide answers to our three questions. Some of our most expensive programmes including the Kakapo, and North Island Kokako have thus far produced no output despite costing many millions of dollars.

The Yellow-eyed penguin programme in comparison had the second highest output of the programmes we studied, and is fifth on the cost effectiveness rankings. Tuatara programmes are at the top of both rankings.



Some more questions need to asked: Can the technique be used internationally? Can it be adapted for use on multispecies programmes or projects? We are tackling those questions now in our FoRST funded research and hope to have answers by June this year. Ahead is another big question - can we estimate which future projects will be the most cost effective? Answers to that question will allow us to focus threatened species investments where we can expect best returns from the dollars invested.

References

Cullen, R. Fairburn, G. and Hughey, K. (1999) COPY: A new technique for evaluation of biodiversity protection projects. Pacific Conservation Biology 5, 115-123

Cullen, R. Fairburn, G.A., Hughey, K.F.D., (2001). Measuring the productivity of threatened species programs. Ecological Economics. 39(1), 53-66



Main mode of transport to Whenua Hou

To visit the pest free nature reserve of Whenua Hou (Codfish Island) one must first obtain a special permit, and adhere to the stringent quarantine procedures. Outdoor gear and equipment may be steam cleaned with close attention to

Velcro and pockets.

On arrival all boxes and packs are opened only inside the hut to prevent the escape of pests such as rats and mice that may have hidden in the gear.

Since Whenua Hou has been free of rat,

possums and weka it has been a place where some rare birds are breeding. The kakapo is having a bumper season this year and the very rare Campbell Island Teal has also been helped back from the brink of extinction.

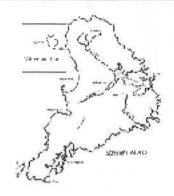


Hautaru a young female kakapo being hand fed

Other wildlife include an abundance of kaka and kakariki, and the island holds a population of our only indigenous mammal, the bat. Around the coast the N.Z. Fur Seal which was almost wiped out by sealers 200 years ago abound. Penguin species found here include the yellow-eyed penguin, the blue and Fiordland crested.



Breeding groups of NZ Fur Seals on the rough coasts of Whenua Hou



Whe (Cod

Whenua by Dave

In 1981, while working for the for Survey on Stewart Island, I go I'd never hear of before - Whenua months on the island, during which of wildlife and experiences.

Over the years I've flown over and of times but I never managed to or Blair offered me the opportunity on the island I leapt at the chance Back in '81 I was working alongside to rid the island of one of its three was the first stage in a long-term pests - weka, possums and kiore - a Despite the presence of these p contrast to Stewart Island. The staggered me and the forest had deer. While some species were fam petrels, bats - and penguins.

Returning to Whenua Hou was eve our plane approached the beach the grass in the dunes was gone and landed, the mass of seedlings on dramatic response to the absence Stilbocarpa, a plant once restricted was abundant and there were no about.

While scrambling around parts of S
of years assisting in the Trust's pe
by the lack of birdlife and the app
Again, Whenua Hou was a welco
abundance, kaka followed you aro
everywhere. It was great to see no
of hoiho, but also numerous non-bre
seen on Stewart Island.

Whenua Hou is a truly special pla there to experience the beauty of penguin feeding just offshore, or t out of your hand, it is an island we don't have to wait another 20 year

nua Hou | fish Island)

Hou revisited Houston

mer Department of Lands and the opportunity to go to a place dou or Codfish Island. I spent two I was introduced to an abundance

poated past Whenua Hou a number panise a return trip, so when David of surveying yellow-eyed penguins

the Wildlife Service in an effort introduced pests - the weka. This project to rid the island of all its ad turn it into an island sanctuary. sts, the island was an incredible numbers and diversity of wildlife not suffered from the ravages of iar, many were new to me, including

better than I imagined. Even as changes were evident. The marram he pingao was flourishing. Once the forest floor was evident – a of kiore. In the seabird colonies, o just a couple of sites by possums, reka-killed petrel carcasses lying

tewart Island over the last couple iguin survey, I had been saddened rently declining penguin numbers. ne relief. Forest birds were in nd the forest and penguins were only a healthy breeding population eders and juveniles, something not

e. While not many of us can get Sealers Bay, the three species of e thrill of having a kakapo feeding can all be proud of. I just hope I to go back.



Volunteers Dean Nelson and Dave Houston looking for sign of penguin nesting at Rodrigues Anchorage

The Trust sponsored yellow-eyed penguin census of Whenua Hou commenced mid November 2001. Trust Projects Officer David Blair and experienced volunteers carried out a nest search to find 61 productive nests in the three main breeding areas. Following the nest search a series of beach counts were completed. The results for Whenua Hou were very positive this year as the numbers of juveniles and non-breeding adult penguins give promise of a secure future for this breeding location



Juvenile yellow-eyed penguin on Sealers Bay







Natural History NZ and the Yellow-eyed Penguin Trust are presenting a talk at the 2002 International Science Festival titled:

"Filming the Kakapo: Behind the Scenes"

Producer Alison Ballance and technician Roy Sharp reveal the challenges involved in filming kakapo on Whenua Hou (Cod Fish Island). These birds are rare, nocturnal and live on this remote offshore island – all of which makes filming them a real challenge.

Date: Wednesday 3rd July at 5:30pm

Venue: Natural History NZ, Dowling Street, Dunedin Entry: gold coin donation

continued from page on e

Dracophyllum scrub clothes the sheltered harbours and this is where the penguins make their home. As most penguin enthusiasts will know, their secretive nesting habit makes them difficult to count. Searches for nests are labour intensive, and are only practical in small areas, whereas counts of birds moving to and from the sea are convenient but may or may not relate directly to the numbers of birds nesting inland. Based on methods being used on the South Island and what was practical on Campbell Island I came up with a penguin monitoring programme which could accommodate intensive work and sporadic visits during interim periods.

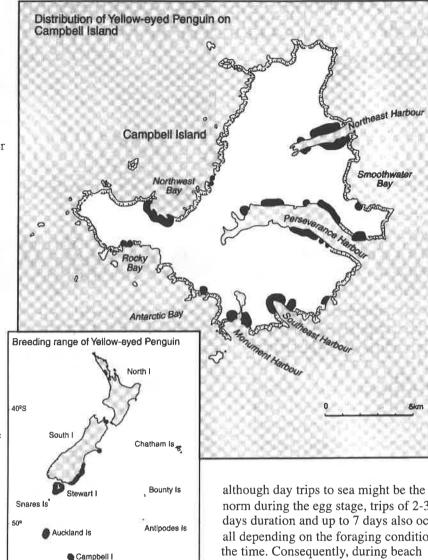
Beach Counts

We established the pattern of movements of penguins at Northwest Bay study areas in Middle Bay in 1987/88 (Peter Moore and Roger Moffat) and Sandy Bay in 1991/92 to 1992/93 (Jacinda Amey and Gus McAllister). We did this on two consecutive days of counting from before dawn till after dusk every month. To aid interpretation of the monthly counts we banded breeding birds at their nests, so we could monitor any changes in the proportions of banded versus unbanded birds, and to identify individual birds by reading their bands with binoculars or telescope during the beach counts.

Numbers of birds seen during beach counts were relatively low in spring, rose to a peak in summer, decreased in autumn, peaked again in winter before decreasing again. For the most part, the changes can

be explained by the stage of the breeding cycle. For example, on any particular day in spring, half the breeding birds were incubating eggs and their partners were feeding at sea. So if the birds were doing a day trip to sea, going out at dawn and returning at dusk, then half the total number of breeders would have been counted crossing the beach. Of course,





norm during the egg stage, trips of 2-3 days duration and up to 7 days also occur, all depending on the foraging conditions at the time. Consequently, during beach counts we saw less than half (44 %) the total number of banded birds. To complicate matters, previous breeders might take

the year off, non-breeders have more variable foraging patterns and young birds visit landing sites unpredictably. Fortunately the banded birds allowed us to assess any unusual patterns. During winter approximately 80% of birds travelled to sea each day.

As luck would have it, our intensive years of study on Campbell Island coincided with mortality events. The 1987/ 88 season at Middle Bay was very successful (average of 1.4 chicks produced per nest) but in winter the beach counts plummeted. Although some of this was explained by a rogue sea lion ambushing the penguins in the shallows at Middle Bay there seemed to be a more widespread problem as numbers were also decreasing in other parts of the island. In 1991/92 the breeding season at Sandy Bay was a poor one (0.6 chicks per nest) and 44% of adults had disappeared between November and July, a mortality level equivalent to the crash on mainland New Zealand in 1990. To what extent this was exacerbated by the use of flipper bands on the study birds is unknown. There is growing evidence that the increased drag caused by bands breaking the highly streamlined shape leads to increased mortality, at least in some

1809

increased drag caused by bands breaking the highly streamlined shape leads to increased mortality, at least in some species and some years. However, there was no clear evidence for this on Campbell Island as there were coincidental decreases in numbers of birds at sites where there were no banded birds.

Census

Having established the baseline pattern of beach counts, we were then able to conduct whole island censuses in winter of 1988 and 1992. Mostly we used vantage points on the shore to survey each landing site, but some counts were from a boat or kayak. The winter counts were easier than in summer in the sense that the peak of departures around dawn and arrivals at dusk were concentrated over a 2.5-3 hour time period, but of course conditions were not always very pleasant or warm! Also with only two people involved in each census it took about three months to cover the whole island.

Total counts of birds were 1625 in 1988 and 1034 in 1992 and the mark-recapture analysis for the two surveys gave us estimates of 2277 \pm 122 birds (approx. 610-890 pairs) and 1347 \pm 91 (350-540 pairs), or a decrease of about 41% over four years. The number of landing sites also decreased from 172 to 140 mostly with the loss of minor sites (1-2 birds). Of more significance was the decrease at the major sites. We counted more than 20 birds at 15 landing sites in 1988 but only at 6 sites in 1992.

Index Counts

In addition to the censuses, index counts at 8 landing sites in three bays of Northwest Bay and 3 landing sites in Southeast Harbour gave us longer-term monitoring for 12 years between 1987 and 1998. Because some of the sites were major, with over 100 penguins using them in 1987, they accounted for almost a quarter of the population. During the main years of study we did one count of birds at the index sites four times a year. In other years we, or other field workers, conducted at least one set of index counts (usually in November). In some years, to account for daily variation, we also counted a site several times on consecutive days.

Numbers decreased at the combined 11 sites between 1987 and

1992, stayed low in 1993 and 1994 before starting to recover. However statistical tests confirmed that each bay had a different trend. The most dramatic change was at Middle Bay where penguin numbers crashed in 1988 and continued to drop over the next couple of years to be 90% lower than its former levels. We used to count over 100 birds crossing the beach but in later years we were lucky if we saw a handful of birds. A decade later there was no sign of recovery. Capstan Cove also decreased by about 55% at the same time and began a limited recovery after 1993. The Sandy Bay decrease of around 40% lagged behind the other bays but numbers started to recover after 1994.

Southeast Harbour counts also decreased by 30% but recovery began in 1992 and by 1995-98 had exceeded the earlier counts. Other occasional counts at outer Southeast Harbour, Shag Point and Monument Harbour supported the observations that local populations more than halved between 1988 and 1992, but generally were recovering by 1995.

Some multiple counts and series of daily counts suggested that daily variation in beach counts was relatively low (usually around 5-9% variation from the mean) and did not affect the overall population estimates and trends. The exception were counts during the pre-breeding period (July-September).

What does this all tell us?

Most parts of Campbell Island showed a decrease in the yelloweyed penguin population of more than half between 1988 and 1992 but began recovering by 1995. Sea lions contributed at least locally to the decrease in 1988 but there was apparently a more widespread problem occurring. The poor breeding season, subsequent lack of juveniles and high mortality of adults in 1991/92 suggested that there was a problem in the food supply, but this did not coincide with the poor years on the South Island. The observed changes are probably small parts of longterm fluctuations in population size and the 12-year data series provides a baseline from which to interpret any future counts.

The study showed the value of beach counts to census and monitor yellow-eyed penguin populations. By benchmarking the counts in a study area with marked birds we were able to interpret the wider survey and arrive at a population estimate with a confidence interval. Index counts in intervening years then helped us to estimate population trends over a longer period.

Based on a paper by Moore, P.J.,, D. and Fletcher Amey, J. 2001 Emu 101, 225-236

By Peter Moore, Science & Research Unit, Department of Conservation, P.O. Box 10-420, Wellington. Email: pmoore@doc.govt.nz



AN ENGLISH CONNECTION

A New Zealander now living abroad tells us why he remains a member

The image of a yellow-eyed penguin waddling across the beach, stopping suddenly in mid-track to survey its surroundings, is one which humoured us greatly and is consequently burnt into the memory.

My wife and I first witnessed the yellow-eyed on our honeymoon in 1995. Its comical gamble coupled with an obvious intelligence and the many threats it faces through no fault of its own – human development inflict the most – left a profound effect on us both. We soon found out about and joined the Yellow-eyed Penguin Trust and have enjoyed membership ever since.

So why, now living in England (since 1997), do we remain "members abroad"? Aside from the emotional attachment to "yep", my wife and I see the Trust as the voice of a lesserknown species, championing the cause of a conservation underdog. After all, it's clear that the yellow-eyed needs friends.

Spreading the word on species not large in the public eye and never even heard of here in England! - plus the wonderful work of the Trust in the doing so, is something we can all do! Two yellow-eyed fridge magnets happily adorn our refrigerator - can you produce more of these? And our small membership fee helps the Trust exist, continue and – with others joining - grow.

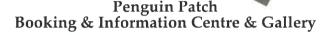
Why are we members of the YEPT abroad? Because we care!

Dunedin's new information centre

Congratulations to Mark Joyce of Penguin Patch who recently opened his booking and information centre in central Dunedin.

The Trust receives a percentage of sale from some of the souvenirs Penguin Parch sold by Penguin Patch.

Thank you Mark!



9 The Octagon Dunedin Ph 903 471-8571 fax (03) 471-8572 Email: penguinpatch@xtra.co.nz

Eco Tours • Sightseeing • Transport • Accommodation Internet • Gallery • Souvenirs

DUNEDIN'S WILDLIFE EXPERTS "We Sell Experiences, Not just Tickets"

Henricus Peters

2peters@uk2.net

An activities organizer at a nursing home, Henricus Peters runs a Nature Group for the residents and finds the Trust's newsletter including the children's page, amongst other resources, all extremely useful.

Yellow-eyed penguin Annual Symposium

The Yellow-eyed penguin Consultative Group supported by the Trust and the Department of Conservation is holding its annual symposium on Saturday 24th August, 2002 at the Botanic Garden Centre, Dunedin.

During the morning various presentations will be made on penguin happenings over the previous year. The theme for the afternoon session is still being determined.

For further information and registrations, contact either the Trust Office or Bruce McKinlay, Secretary of the Yellow-eyed penguin Consultative Group.

Mainland Report

Janine de Vryer, Product Manager Natural Cheese

Redemption Charts

The dedication of people collecting and returning Mainland cheese and butter barcodes over the years has been overwhelming. None more so than the following dedicated collector:

rendering the choose is yellow eyerd Renguen the shole waiti Bould you please send one and ther chart with my neurober on it.

Keep watching for our new charts due for release shortly.

www.yellow-eyedpenguin.org.nz

Nursery supporters Members Alison Ballance Canon Copiers Catriona Matheson Converge Cooke Howlison Toyota DCC Community Grant Denis Paterson **DoC Conservation Corp** Graham & Sherry Thurlow Holmes Programme, TVNZ John Barkla Mainland Products Ltd Maree Johnstone Mark Lawson Mike Hazel

Mr W Armitage, Downie Stewart,

Solicitors

NZ Lottery Grants Board

Penguin Fund, Japan

Ricky Eyre

Rod Morris

Ron Greenwood Environmental Trust

Sandra Legge



MIDS PAGE

The continuing adventures of Herbert Hoiho

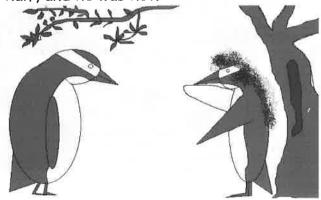
Herbie's New Feathers

You will remember that Herbie Hoiho survived chickhood and has made it to sea thanks to his parents feeding him and his sister with fish. He spent a whole year at sea, sometimes hungry and frightened, especially when a leopard seal or shark made a lunge at him. Once he was momentarily tangled in a set net. What a panic that was, and it made a few feathers dislodge before he managed to wriggle out. He swam many kilometres and came ashore most nights but not always to the beach where he hatched. (Have you read "The Adventures of Herbie Hoiho"? If not, please contact the Trust Office for a copy).

Herbie was sometimes frightened off the beaches by dogs and by people getting too close.

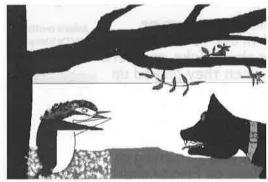
One day in late February he went fishing as usual, but he felt fat and slow, but in the cold water he was feeling quite warm. He had noticed that his once beautiful coat of feathers was becoming tatty, and that the pretty female yellow-eyed penguin "chicks" were swimming past him without a second look. He was worried. He lolled around at sea for a couple more days, catching a few of the slower sprats which made him bloated. A sudden urge to go ashore came over him.

It was almost as if he was going to split in half, and he was hot.



That afternoon he walked out of the sea onto a strange beach and noticed that it was a struggle for him to walk up the gentle sloping sand. When he looked down he couldn't see his feet. Boy was he fat! Herbie made it to the shade of a tree and there he saw another penguin. After a while he knew that this was a normal thing to happen.

The days passed slowly and Herbie stood in a growing pile of feathers. Sometimes the wind would blow them about.



He noticed that as the old feathers fell out a new set was growing. He was beginning to get hungry and thirsty and was grateful when it rained and he could get some moisture from the grass.

One day when a dog wandered over to him sniffing and dribbling, and with enormous eyes, Herbie knew fear like he had never known it before. His heart was thumping so much that Herbie found it deafening. He shuffled back against the tree and put his flippers out. The dog didn't know what to do and made a few lunges towards Herbie who thought his last moments had come. Suddenly there was a shrill noise and the dog turned and ran off. The owner had whistled for the dog. Herbie was Saved!

Herbie had been ashore for three weeks now, and he was very hungry, thin and weak. In his beautiful new coat he shuffled down to the sea and went fishing. Soon he was full again, free and happy.



5 Little Hoiho" by Jake Lewis RRP \$14.95 ISBN 0-473-08304-3 Published March 2002



The filming begins - here Jake helps

What you should know about this book....

- Enthusiastically reviewed by children at St Joseph's Cathedral School, Dunedin
- · Locally written by an Otago Peninsula boy
- Locally published by the Yellow-eyed Penguin Trust
- · Locally printed by John McIndoe's Ltd
- · Locally promoted by Tapui Children's Books (& the Trust)
- · Ideal sized souvenir/gift
- · Conservation message included
- · Raises funds for one of NZ's endangered species

TVNZ Holmes programme The Trust wrote to the Holmes TVNZ's Vicky Wilkinson-Baker and filmed Programme about Jake, and were delighted when they picked up on the story. Jake, his family and Trust Executive Officer Sue Murray, spent a day on the Otago Peninsula filming at various locations. Actual screening of this took place on Friday night (1st March) and since then the Trust Office has been inundated 🖡 with requests for the book.

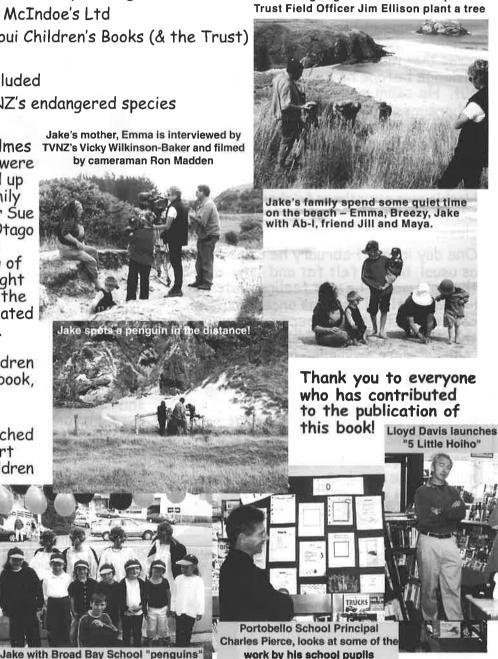
The Book is launched! Sixty adults and thirty children

attended the launch of this book, hosted at Tapui Children's Bookshop in Dunedin.

The book was officially launched by well known penguin expert Lloyd Davis. Many of the children

attending dressed as penguins, performed songs and poems or presented other work based on their knowledge of the endangered yellow-eyed penguin.

The answer to the Penguin Facts Crossword can be found on the members page of our website. Don't forget to use your new users name and password, mailed to you with this newsletter.



and other "penguin" volunteers.