



www.yellow-eyedpenguin.org.nz ISSN 1179-2981

Our Conference: Conservation Inc.

What's ahead for community-based conservation in NZ?

The *Conservation Inc.* conference celebrates our 25th year and it is shaping up to be a truly outstanding event. We are constantly surprised by the interest this conference is generating nationwide.

Please mark your diaries now if you wish to attend the conference in Dunedin on 17-18 October 2013.

Given the looming changes at the Department of Conservation, it is timely to ask ourselves what's ahead for communitybased conservation in New Zealand. DOC too is thinking this way and is proposing new arrangements to enhance and strengthen community relationships. Clearly, neither DOC nor the community can manage New Zealand's growing biodiversity crisis alone. Our conference will address some of the issues expected to arise from the sharing of responsibility for conservation in this country.

Conservation Incorporated will explore four themes:

I. Connecting

How can like-minded groups and NGOs connect to make the most of opportunities to collaborate?



The Trust was proactive in registering its protest to the government's proposed cuts to DOC's staff numbers and capability (see page 2 'Postscript')



2. Staying viable

What factors will influence the success and vitality of community-based conservation? What will it take to ensure that groups thrive and remain effective as conservation custodians? What works and what doesn't in the way we organise ourselves and our work?

3. Responding to need

How well will community initiatives meet biodiversity needs? How do we ensure that they do?

4. What's feasible?

What has worked so far for communitybased conservation in New Zealand? What can we learn from that?

>> Continued from page 1

PRE-CONFERENCE WORKSHOPS

We have organised three pre-conference workshops for the afternoon of Wednesday 16 October 2013. Each workshop is designed to make community groups stronger and better at their work.

Governance as Leadership

by Margy-Jean Malcolm (United NZ)

In this workshop, participants will explore:

- Core functions of governance and different ways we fulfil them
- Recruitment, retention and getting the best out of our governance team
- Practical question frameworks that help strategic thinking and planning
- Legal, financial and other stewardship responsibilities of good governance
- How can we shape our governance models and practices to make the most of the leadership contribution of diverse stakeholders?

Sustainable fundraising – what really works? by Heather Newell (Foresee Communications)

How often do we hear the words that organisations should be thinking outside the box when it comes to fundraising? The success or otherwise of that strategy depends on how much we know about the box! At this session you will learn where the money really comes from and how to plan to receive your share. How you can develop a sustainable fundraising plan, and where you should invest your energy and effort. Learn from one of New Zealand's leading fundraising experts who has been working with thousands of New Zealand organisations and collecting case studies for more than twenty years.

Heather has achieved the highest accolade in the fundraising sector – a fellowship of the Fundraising Institute of New Zealand. She holds the internationally recognised qualification of Certified Fund Raising Executive and is the lead trainer for the Fundraising Institute's Certificate of Fundraising qualification.

Integrated Pest Management Workshop hosted by the Orokonui Ecosanctuary

Orokonui Ecosanctuary, the 307ha fenced nature reserve located north of Dunedin, has achieved extremely low pest levels due to an eradication and monitoring programme that is second to none, and is now providing safe habitat to many threatened species. Learn about the control tools and techniques used by Orokonui and other community-led projects, new trap designs (including Good Nature traps) and measuring biodiversity outcomes. The workshop includes a guided walk in the ecosanctuary to look at the pest control infrastructure and biodiversity outcomes. Transport and wines and cheeses are included in the workshop fee.

CONFERENCE VENUE

The conference venue is confirmed at the newly refurbished Dunedin Centre located in the Octagon, only a short distance from accommodation, restaurants, cafés, bars, shopping and major attractions. The grand baroque style of the Dunedin Centre makes an impressive setting for our conference.

CONFERENCE SPEAKERS

Over the two days, there will be a diverse range of speakers, including legal and funding experts, communicators in both online and social media, advisors on governance and working with your local council, as well as speakers sharing their own conservation project experiences.

The Department of Conservation will lead a panel session outlining the changes to the department and its new way of doing things. This will be a pivotal session for community groups, since so much hangs on how the department plans to relate to us, and motivate newcomers to conservation work.

We aim to have leaders in the New Zealand community address the conference as keynote speakers. Martin Snedden of New Zealand's Tourism Industry Association (TIANZ) will speak about the crucial economic imperatives for community-based conservation. The Minister of Conservation, Dr Nick Smith, will open the conference supported by Dunedin's Mayor, Mr Dave Cull, and our principal sponsor; Mainland Brand.

CONFERENCE REGISTRATIONS

Early Bird registrations will open on 1 June so watch out on our website for more information on fees, accommodation, how to register and other conference matters.

Contact us for more information on conference@yeptrust.org.nz

POSTSCRIPT

The Department of Conservation is critical to ensuring New Zealand's wild places and species are protected. Since 1987 DOC has led the world in pest eradication and successfully preserved a number of species from extinction (such as our kakapo, black robin and takahe). The Yellow-eyed Penguin Trust works closely with several conservancies over the home range of the yellow-eyed penguin, a relationship that has strengthened and grown over the years since we all commenced our work. We believe the Government's budget cuts will impact on staff numbers, cutting capacity and ultimately affecting the projects we have launched together. The Trust joined other local groups and individuals on April 11th outside DOC's Dunedin base to show our support and commitment to the department. Our hearts go out to DOC as it, and its priceless staff, contemplate the unenviable job of rearranging their affairs to cope with the severe cuts imposed on operational budgets.

As a point of interest, did you know that DOC's total budget of \$324 million equates to approximately only 3 days of the social welfare budget of \$25.5 billion?

For more information about the proposed new structure at DOC, visit: www.doc.govt.nz/about-doc/news/issues proposed-new-structure-for-doc/



Mainland update

Late last year, along with a revamped website, Mainland launched the new digital barcode redemption scheme where, instead of sending in paper charts, consumers supporting the work of YEPT may enter their barcode details online and watch their contribution towards the yelloweyed penguin grow. As always, for every digital wall chart created, Mainland will donate \$10 to the Yellow-eyed Penguin Trust, up to \$75,000 per year. This has been very successful, and it is great to see the engagement with younger penguin supporters who are able to complete the redemptions themselves.

If you have not tried it, simply visit **www. mainland.co.nz/yellow-eyedpenguin** and follow the instructions. If you are unable to redeem your barcodes online, you can still send wrappers into the Yellow-eyed Penguin Trust and they will still be counted.

Another recent addition to the Mainland family is a new range of snacking products. New Mainland Cheese & Crackers and Cheese Sticks are a perfect way to enjoy cheese when you are out and about or to put into kids' lunchboxes and, of course, they all feature the yellow-eyed penguin barcode.

For more information about Mainland products, recipes or how you can help us raise funds for the yellow-eyed penguin, visit **www.mainland.co.nz.**

The Mainland team 0800 CHEESE (0800-243-373)





What's happening IN THE COMMUNITY

Lance Richdale Trust

This Trust was formed by the Otago Peninsula Trust and the Yellow-eyed Penguin Trust in 2010 to raise funds to publish a biography of the late Dr Lance Richdale, who in 1938 was instrumental in arranging protection for the albatross colony at Taiaroa Head. Dr Richdale, renowned as a world famous sea bird researcher, conducted the first scientific studies of the royal albatross and yellow–eyed penguin, both threatened species on the east coast of the South Island.

The author of the biography was local writer Neville Peat, ably supported by Christopher Robertson who worked with Richdale on some of his later researches and who was responsible for collecting and sorting most of Richdale's research papers and memorabilia.

The book was published and launched in November 2011 by the Otago University Press. The Trustees are grateful to all those who supported the Trust, and in particular, the Lotteries Commission, Ray Girvan Trust, J S Watson Trust, Alfred & Isabel Reed Trust, Otago Peninsula Community Board, and individual members of the Otago Peninsula Trust and Yellow-eyed Penguin Trust who gave so generously to fund the project. Not only were the research and writing of the book fully funded, but there was sufficient left over to assist with promotion and the erection of a permanent display at the Royal Albatross Reception Centre at Taiaroa Head, completed by the end of September 2012. The Trust is now wound up, having served its purpose.

Planting days

Wednesday 5 June

Arbor Day

Sunday 16 June

Watch our Facebook page and website for more details.



Please remember us in your will

Managing and/or purchasing penguin breeding habitat and controlling predators such as stoats and ferrets are some of our ongoing tasks. Saving the yellow-eyed penguin is a long-term task. Bequests will help secure the hoiho's survival. Please remember the Yelloweyed Penguin Trust in your will. Charities Commission Registration Number CC22822

Mystery yep deaths investigated



The recent spate of yellow-eyed penguin deaths has been devastating. Many dead yellow-eyed penguin adults were found on Otago Peninsula beaches and in breeding areas from mid-January to the peak in early February 2013. By 8 February, 25 adult yelloweyed penguins had been found dead. By 15 February the total had risen to 64 (17% of the peninsula's population), all of which were sent to Massey University for examination.

Trust staff and volunteers checked the Yellow-eyed Penguin Trust Reserves of Okia and Otapahi during the weekend of 16 and 17 February. To the Trust's relief, no further dead yellow-eyed penguins were found.

Checks, however, continued over the following weeks so that any chicks found could be weighed and, if underweight, taken to the hospital at Penguin Place for feeding to reach a reasonable fledging weight. While many chicks had fledged and gone to sea, some were still in the vicinity of their nest sites and losing weight, sometimes up to 1.5kg, especially if one or both parents had died.

Yellow-eyed penguin chicks tend to have a low survival rate, which means maintenance of the adult bird population is all-important. Adults know how to survive and how to feed. That's why the cause of deaths of adult yellow-eyed penguins is probably more concerning than avian diphtheria which targets just the chicks.

Since the peak of the adult penguin mortality, only two freshly dead adults have been found – on 19 February and 3 March – bringing the total of dead adults to 64.The latest penguin, a banded adult from the Highcliff breeding site, was found in a distressed state at Tomahawk Beach, face-down in the sand and still alive. It was taken to a vet but couldn't be saved.

Further beach and breeding area monitoring is ongoing. Fortunately, yellow-eyed penguins in the Catlins and North Otago have not been affected, nor other sea birds and marine mammals.

Early suspicions that heat stress was the cause of death were discounted. Testing so far has included looking for bacteria and viruses; heavy metals (zinc, lead, mercury, arsenic and cadmium); toxins, natural and otherwise; and analysis of water samples. By 4 February a bio-toxin of some kind was suspected. Toxicology results are so far inconclusive, but more tests are being carried out.

The mystery illness attacked the birds' red corpuscles. Post mortems were carried out on 20 or more adult bird corpses at Massey University and the remainder are yet to be analysed. Senior lecturer and wildlife pathologist, Stu Hunter, at the university's specialised veterinary hospital has ruled out lead poisoning or hydrocarbons, the usual culprits when red blood cells are under attack. He has sought help from overseas colleagues.

The penguins were possibly poisoned by some kind of biotoxin from algal blooms in the ocean. The dead birds were all healthy looking, with lots of muscle and fat. But microscopic examination showed the destruction of red blood cells. Stomach



contents couldn't be analysed because most of the birds had apparently lost them in vomit or diarrhoea, so scrapings of mucus from stomach linings were being tested instead.

Devastating though the deaths are, because they occurred mainly in ones and twos across the Peninsula's 15 breeding sites, losses were spaced out and not obvious at most yellow-eyed penguin viewing locations.

The full impact of the event will not be known until the birds return to Otago's shores next breeding season.

The Department of Conservation, University of Otago, Massey University and Yelloweyed Penguin Trust are developing a plan to investigate all aspects of the mass deaths so as much as possible can be learnt from the situation.

Once test results for the cause of death are received, the group will be in a much better position to determine what steps need to be taken, and how to manage or mitigate the problem.

The cost of discovering what killed the yellow-eyed penguins, though, could put pressure on tight conservation budgets. More extensive testing will probably be needed. So far the testing has been funded by DOC, the Ministry for Primary Industries and Massey University. Investigations to determine the cause of deformities in yellow-eyed penguin chicks on Otago Peninsula a few years ago cost about \$10,000. The Yellow-eyed Penguin Trust was helping out in other ways, because it did not have the capital reserves to inject.

Why is further investigation needed?

In 1990, a similar mass mortality event wiped out 150 birds, or 60 per cent, of Otago Peninsula's breeding adults. The recent mortality has all the hallmarks of the 1990 event. The population had only just reached a viable size after that episode. It is feared that should a similar event occur again in the next few years, the Otago Peninsula yellow-eyed penguin sites could be severely compromised.

The similarities between the 1990 and the current event are based on the penguin deaths occurring only locally (Otago

Peninsula) and the similar weather patterns. Both events were preceded by warm weather which caused unusually high sea surface temperatures - ideal conditions for the occurrence of harmful algal blooms and concentrations of toxins. The penguins, which tend to feed in deep waters, might be eating fish or other food carrying an accumulation of toxic algae. Understanding the cause of this event will assist in managing any future episodes.

Development of mitigation and management options for any future such

episodes, requires an in-depth analysis by a specialist with a specific skill set . A scientist specialising in epidemiology would be one such person - they study the science of patterns, causes and effects of health and disease conditions in a defined population.

The Trust is working collectively with other agencies to produce a 'blue print' for maximising the learnings from this event and predicting and responding to any similar events in the future.

Penguin Place 'hospital'



Penguin Place, a private conservation reserve on Otago Peninsula, gives rehabilitation care to penguins that are sick, starving or wounded, and conducts penguin viewing tours through their reserve. Penguin Place staff have been looking after chicks since they were brought to the Penguin Place 'hospital' after their parents died in the recent mass mortality event.

Penguins are normally transported to Penguin Place in cat cages but recently there haven't been enough to transport so many underweight chicks. Fortunately, the Otago SPCA, based in the Dunedin suburb of Opoho, came to the rescue with five cat cages, and chicks were safely taken from the Yellow-eyed Penguin Trust reserves to their temporary home.

Looking after the orphaned chicks became a full-time job. It took two hours twice a day to feed 30 yellow-eyed penguin chicks, plus two Snares penguins and two Fiordland crested penguins. There was also the cleaning, and the two to three hours it took to cut up about forty kilograms of fish for the one kilogram needed by each bird each day.



Once the chicks reach 5.5kg after being hand-fed at Penguin Place, they are considered heavy enough to survive in the wild, and to fend for themselves.

On I March, the first group of eight rescued orphaned yellow-eyed penguin chicks was encouraged out to sea by Penguin Place manager Lisa King. The other yellow-eyed penguin adults and chicks still in hospital remained there to be released when healthy.

Although Penguin Place staff check the beach regularly to see if any return, most are expected to remain at sea until next summer.

Seafloor survey in the yellow-eyed penguins' foraging grounds

The yellow-eyed penguin is one of the rarest penguin species in the world.

On the Otago Peninsula, the species' stronghold on the New Zealand mainland, the population has undergone considerable fluctuations in the past decades, the causes of which remain unclear. Recent studies of the yellow-eyed penguins' marine ecology found that diet quality plays a significant role in reproductive success. Yellow-eyed penguins are principally benthic (bottom dwelling) foragers that feed on fish species occuring at the sea floor. The advantage of such a benthic foraging strategy is because the occurrence of prey is spatially predictable, since demersal fish species (those living close to the seafloor) generally associate with reefs or horse mussel fields. However, it also makes the yellow-eyed penguin susceptible to disturbances of the seafloor, such as the degradation of reefs as a result of bottom fisheries (e.g. bottom trawls, dredging). There are indications that the interactions of such indirect fisheries might have a substantial effect on breeding outcome and, therefore, population developments.

The latest breeding season of yellow-eyed penguins on the Otago Peninsula was characterised by the outbreak of a disease (diphtheritic stomatitis) which affected chick survival in some colonies. Previous studies found that food quantity and quality are important factors in disease outbreaks in penguin chicks. The amount and type of food brought ashore by the parents largely depends on individual foraging effort and efficiency.

To examine whether the occurrence of this season's disease outbreak correlated with foraging preferences of individual birds, Dr Thomas Mattern and his associates studied movement patterns and diving behaviour of adult yellow-eyed penguins with GPS dive loggers. These devices record the penguins' dive behaviour (via pressure sensor), as well as geographic position after each dive (via GPS sensor). The results indicated that the



The yellow-eyed penguins' offshore seafloor foraging habitat: fine sediment, shell fragments and absence of epibenthic organisms (e.g. sponges) all indicate frequent impact of bottom fishing gear.



The seafloor looks markedly different about 8-10km from the coast. Here, dominant benthic fauna such as sponges and horse mussels show little sign of disturbance, resulting in higher biodiversity and presumably better foraging conditions for yellow-eyed penguins.



3D tracks of foraging trips performed by a single yellow-eyed penguin off the Otago Peninsula coast in December 2012.

occurrence of disease might indeed correlate with foraging patterns of adult penguins. Diphtheritic stomatitis seems to be prevalent in offspring of penguins that target offshore sea regions (>15km), while birds from unaffected nests remain closer to their colonies. The birds often swim up and down straight line courses that may span several kilometres with utmost accuracy. As benthic foragers, the birds use visual clues at the bottom for orientation. Thomas suspected that the penguins follow dredge or trawl marks left on the seafloor by commercial fishing activities. Such disturbance of the sea floor attracts scavenging fish species, which may be easy prey for the penguins but are of suboptimal quality as food for their chicks. Hence, fisheries might have a significant indirect impact on the yellow-eyed penguin's breeding outcome, and subsequently could provide an explanation for the species' population fluctuations.

To test this hypothesis he needed to examine the seafloor. As the penguins foraged in water depths of 60-80m, this could only be done with the aid of a remote operated vehicle (ROV). On 19 February 2013, a one day cruise on the University of Otago research vessel Polaris II was launched to examine the seafloor in the penguins' foraging range. Besides examining the seafloor for signs of fisheries' disturbance, the sites were surveyed for potential penguin prey species and to quantify the benthic biodiversity. Initial results indeed support the idea that the offshore regions of the yellow-eyed penguins' foraging grounds are subject to demersal fisheries. About 15km from the shore, the seafloor had a flat and barren appearance and was littered with shell fragments. There were very few epibenthic (living on the surface of the seafloor) organisms. In contrast, at 8km from the coast the seafloor featured horse mussels, sponges and fragile hydrozoans, suggesting a considerably higher biodiversity.

The analysis of the data is currently underway and first results will be presented in a key note presentation at the 8th International Penguin Conference in Bristol later this year.

The Trust is extremely grateful to the Leiden Conservation Foundation for funding this research at such short notice, and to the University of Otago for support funding and personnel.

Nature-based Tourism and Conservation

New Economic Insights and Case Studies

Professor Clem Tisdell from the University of Queensland was the Trust's invited guest and keynote speaker at the 2007 conference, 'Almost an Island:Valuing Otago Peninsula'.

Tisdell's interest in the economic value of wildlife on the Otago Peninsula has led to a chapter in his recently published book (2012), based on research completed since 1999. The book draws together some general conclusions from completing several case studies of nature-based tourism and its consequences for conservation. Professor Tisdell, in his chapter "Yelloweyed penguins and royal albatross as valuable tourist attractions", acknowledges that "Controversy continues about how satisfactorily economics can be used as a basis for measuring the importance of wildlife. There is no doubt that economics cannot and should not be the ultimate arbiter of what is of value or of importance. Nevertheless, economics is an important consideration in valuing many things".

Authors: Clem Tisdell and Clevo Wilson, Published by Edward Elgar ISBN: 9781848448674

Clem Tisdell nd Clevo Wilson

Nature-based Tourism and Conservation New Economic Insights and Case Studies



A note from the Chair

Our year is of course dominated with the planning of the October conference, but this was interrupted by the mortality events and the loss of many adults. Because of our successes, sometimes our supporters believe we have won the fight to save this endangered species. The latest threat highlights that, like the penguin itself, we are both reliant on the support of others, and the ability to adapt and respond is continually required.

For 19 years of the Trust's 25-year existence we have had an office in the Queen's Building in Central Dunedin. What a lot has been planned and achieved in that time. However, we are now on the move – only two blocks away and still in Central Dunedin. We shall be on the 2nd Floor of Conservation House, Lower Stuart Street. Currently the only tenant in this building is the Department of Conservation, so it makes sense, with our close association with them, to not only share the building but also facilities such as meeting rooms. The money saved will mean more available for actual penguin operations.

The move itself will have happened by the time you are reading this newsletter, so do drop by and see the new offices. We look forward to an equally long and achivementfilled relationship within these new offices. It is with sincerity we thank the many volunteers who helped, as well as support from WHK (for office furniture), Delta (for parking cones), and Mitre 10 Megastore Dunedin (for providing trucks and crates to assist with the move itself).

We hope you enjoy reading this newsletter, which updates you, our valued supporter, on our acitivities.

Lala Frazer Trust Board Chair



Digital redemption

Go to www.mainland.co.nz/yellow-eyedpenguin

- Follow the instructions
- Create your own digital wall chart with the Mainland barcode details
- For every wall chart created, Mainland will donate \$10 to the Yellow-eyed Penguin Trust, up to \$75,000 a year.

Cut-out redemption

- Mainland no longer accept cut-out coupons
- If you are unable to redeem your barcodes online, please return them to Yellow-eyed Penguin Trust, PO Box 5409, Dunedin 9058 and a trust volunteer will enter them digitally for you.

Thank you to our regular supporters:

Supporters Group Nursery supporters AdArt Brand Promotion Anton Oliver, Patron Canon NZ Ltd DOC Coastal Otago Youth Development Trust DOC Otago Conservancy & Coastal Otago Area Office DOC Southland Conservancy DOC Stewart Island Field Centre Downie Stewart Kieran Read, Ambassador Mainland Brand Malcam Trust Conservation Corp **Millers Studios** NHN7 Otago Polytechnic Horticulture, Arbor & Landscape Depts Pikao Recovery Group

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Thank you to:

All the landowners who have contributed to our habitat protection work.

Thank you to all volunteers:

We are tremendously grateful to all the other volunteers, including the regular Nursery workers and the Habitat Volunteer Team for their valuable contributions to our work.

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The Hoiho newsletter is printed on Royal Offset Hi-Brite paper which passes the green test.

> 2nd Floor, Conservation House 77 Lower Stuart Street PO Box 5409 Dunedin 9058, New Zealand

Phone +64 3 479-0011 Fax +64 3 479-0019 E-mail yeptrust@gmail.com Web www.yellow-eyedpenguin.org.nz

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