

Holistic health for animals

AN OTTER with a serious toothache mews plaintively on the operating table. No one likes a trip to the dentist, including this mustelid. But while it may sense the impending tooth extraction needed to relieve its pain, what it does not know is that it is one of the first patients to be treated in the Auckland Zoo's new state-of-the-art facility for conservation medicine.

The 32-room, \$4.6 million New Zealand Centre for Conservation Medicine (NZCCM) is the first of its kind here, and the first nationally-dedicated centre of its type anywhere in the world.

An operating theatre, laboratory, isolation wards and quarantine unit are among its host of facilities, although staff are at pains to point out that the new centre is not just an expanded animal hospital. As project

leader and senior zoo veterinarian Dr Richard Jakob-Hoff explains, the centre is also a commitment to the relatively new but expanding field of conservation medicine.

Conservation medicine focuses on the intersection of the environment, human and non-human hosts, and pathogens. It has developed from a crisis: unprecedented levels of disease and ill-health in many species, driven by the increasing burden of anthropogenic environmental change. Diseases are depleting animal stocks locally, as well as affecting humans (eg HIV, Nipah and Hendra virus outbreaks). Climate change, chemical pollution, global trade, domestic animals, encroachment into wilderness areas, and the overuse of antibiotics are some of the mechanisms through which humans are rapidly altering host-

parasite ecology worldwide.

Conservation medicine practitioners form multidisciplinary teams that try to unravel the complex causes of environmental ill-health and work with educators, policy-makers and conservation managers to devise ways to improve species' health.

"It's about taking a holistic view of health...integrating what we know about the health of the environment with what we know about our health and the health of animals," Jakob-Hoff says.

"The thing that is important about life is that 'business as usual' is not going to cut it, we are going to have to change our behaviour, and in order to change our behaviour we're going to have to change our thinking," says Jakob-Hoff.

"We need to start recognising we are a part of nature, and what we do to nature, nature will do to us, and that can be both negative and



St Kilda Marine Environment Trustees - John Farry, Tanya Jenkins, Neville Peat at St Kilda Beach

Seahorse Fund promotes eco-affluence

New Zealand's marine environment holds 80% of our country's total biodiversity. It's under attack from overfishing, pollution and man-made coastal erosion. WWF has identified it as one of 238 ecoregions requiring global priority for conservation action (the Global 200).

How the Seahorse Fund works

For each Seahorse Fund account opened, St Kilda Finance donates 0.5% pa interest to the St Kilda Marine Environment Trust, a registered charitable trust established to help safeguard our precious coastline and oceans for future generations of New Zealanders.

9.85%
p.a.
36-month investment

*First Ranking Debt Security Stock. Minimum investment - \$1000. Other rates/terms available. Ranking subject to prior charges (if any).

All loans secured against land and buildings.

Safeguarding our coasts

Under the careful stewardship of Trustees John Farry, holder of the NZ Order of Merit, environmental consultant Tanya Jenkins, and renowned nature writer and photographer Neville Peat, the St Kilda Marine Environment Trust aims to protect our marine environment through funding education, local projects and promoting an understanding of this fragile resource.



The three waves are the official symbol of the St Kilda Marine Environment Trust

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KATHRYN STEWART



The public viewing gallery in the new centre (above), and samples of animal parasites (left).

positive.”

Avian influenza is a case in point. The transmission of bird flu to domestic poultry has seen the disease move to cats and humans, at a cost not only to animal and human

life, but to the vast Asian poultry industry. It is feared that the disease may yet mutate to allow person-to-person transmission, potentially causing a pandemic.

With issues like this, centres such

as the NZCCM may be able to help. By working across disciplines and organisations they can research and share knowledge of human, animal and environmental health and health threats.

To date, the zoo has cooperated with the Department of Conservation and Biosecurity New Zealand in areas such as disease surveillance, and also works with tertiary institutions, the public health sector and community groups.

According to Jakob-Hoff, collaboration is the key.

“We work with people who have many different areas of expertise, and if we pool that expertise we suddenly start to stimulate new thinking and new insights that you wouldn’t have got otherwise,” he says.

The vision for the centre has

grown in part from the zoo's increasing role in native species conservation programmes. When animals were bred at the zoo for release into the wild, questions were raised about what diseases the animals could have come into contact with, their susceptibility, and whether they might spread new microbes back into the wild.

In response, the zoo set about gathering baseline data to establish normal health parameters—a practice which remains at the core of the centre's goals.

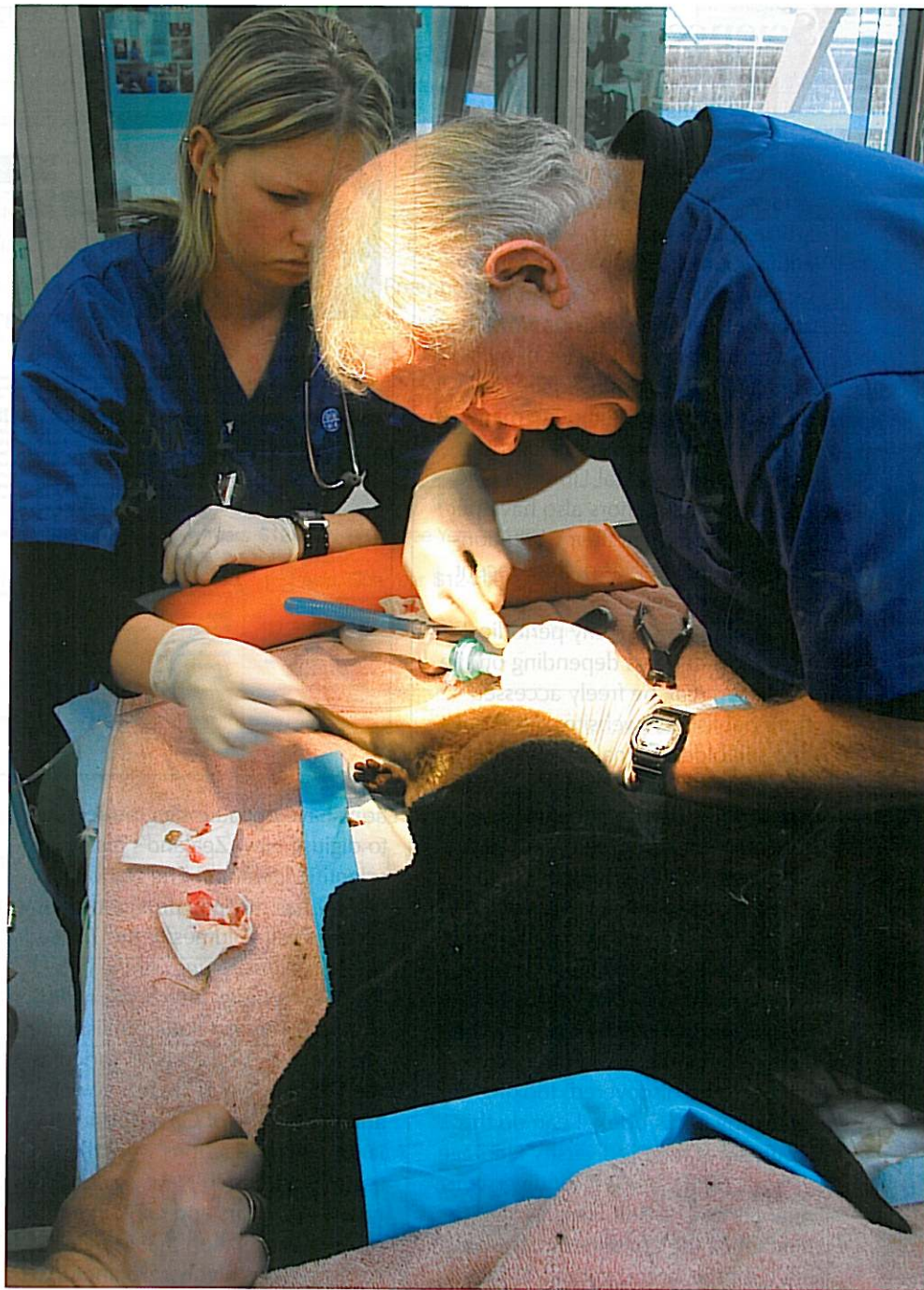
The zoo's expertise in wildlife conservation has also been transferred to both local and overseas personnel. Recently, a Seychelles-based vet visited the NZCCM to be schooled in field diagnostic sampling techniques for the Seychelles' endangered white-eye. Within days of returning home the vet was using her new skills in the field and had found a blood parasite that had not been identified before.

Accessibility to knowledge also extends to the public. Visitors to the zoo are literally given a window into the activities normally carried out behind closed doors via wall-to-ceiling glass between the public viewing gallery and the hospital, allowing visitors to watch animal examinations and operations.

Interactive displays also feature in the gallery, inviting visitors to delve into drawers containing zoo hospital delights ranging from giraffe faeces to polar bear parasites. The crown jewels of the display are perhaps the instantly fascinating testes from Fudge the castrated hippo, which, by the way, are packed in a very large jar.

However, the visitors' gallery is not just about spectacle.

"I hope they share a bit of the excitement. I hope that they understand a little bit more about what's involved in working with wildlife... the whole importance of taking a holistic approach in conservation management," says Jakob-Hoff.



Vet John Potter performs a tooth extraction on an otter in the new facility.

For the zoo, the centre is a major achievement, a place within which to expand research capabilities and foster knowledge and awareness in the overlapping fields of animal, human and environmental health. And, while the centre is just a fragment of the global effort required, it is hoped it will play a significant and valuable

role in conservation medicine for both native and more exotic species. Good news too for those like the little otter with toothache, who is now short of a few molars but a whole lot happier. ■

For more information about the centre visit www.aucklandzoo.co.nz and click on the NZCCM logo.