October 2015

CAPE TO CITY

Facebook: Cape to City

It's in our nature

Cape to City Project Underway

The Cape to City project, launched in May 2015, is the next big push on pest control in Hawke's Bay. And we have the rest of the country watching us, to see how well this new approach with technology and Hawke's Bay know-how will work.

The five-year project is targeting ferrets, stoats, rats, hedgehogs and feral cats - as well as possums - over 26,000 hectares between Cape Kidnappers and the Tukituki Valley. It is jointly funded over the next five years by a partnership between the Aotearoa Foundation, the Department of Conservation, Hawke's Bay Regional Council, Landcare Research and Cape Sanctuary.

Chew card monitoring and possum control has been undertaken since late 2014. The initial knockdown of predators using wireless monitoring of traps and motion sensitive cameras will begin mid 2016.

Cape to City is the logical next step in ecological restoration, says Hawke's Bay Regional Council Chairman Fenton Wilson. "No-one else is doing what we're doing here. Our farming community has driven successful possum control through the Possum Control Area (PCA) programme and seen the economic gains; the HuB programme has city people keen to help and gain benefits; and Cape Sanctuary shows how private enterprise can make a difference.

"Now Cape to City has a chance to build on this knowledge and success, and trial the delivery of very low cost, integrated predator control over a very large scale. And hopefully we can show the rest of New Zealand what will work well in the battle to restore our biodiversity."

Governor General Jerry Mateparae and Andy Lowe at Cape Sanctuary. Photo HBToday.

INSIDE: MEET SOME OF THE PEOPLE INVOLVED

Hayden Rees-Jones and Stuart Ellingham at the Maraetotara River where willows have been removed ready for planting of natives.

Looking at a Win-Win Situation: Taurapa Station

Possum control is only part of the picture

From an aesthetic point of view, possum control has been a huge success at Ocean Beach's Taurapa Station. "Native trees have loved the absence of the possums. Everything looks alive again and we're hearing birdsong everywhere. Bird life has flourished," says manager Hayden Rees-Jones.

The 1,200 ha sheep and beef station (1,050 ha effective plus leased land) is within the new Cape to City programme. It borders Haupouri and Clifton Stations, and the Maraetotara River runs along one boundary.

About 7 km of the river has been fenced; willows are being removed and more natives planted. But it's a Catch-22 situation. Other predators, such as wild cats and stoats, have flourished in the absence of the possums. "Getting rid of possums has created a feed source for the birds, but that in turn has created a new food source for other predators," says Stuart Ellingham, general manager for Horizon Farming Limited, which leases Taurapa.

"Good work has been done on possum control and it would be a chronic shame to let that work be wasted because of an explosion in the numbers of other predators.

"The work done out at the Cape Sanctuary is outstanding. Continued pest control on farmland around the peninsula makes sense. There's nothing to stop the whole area being covered in pheasants and native birds and pockets of native bush - that's what the goal should be," he says.

"We can create these corridors of native bush by fencing waterways that can be home to native flora and fauna and we can farm around it without impact on our business. It's a win-win."

Ruud Kleinpaste and Cape to City Project

'Bug Man' Ruud Kleinpaste has been championing the Cape to City story in Hawke's Bay schools.

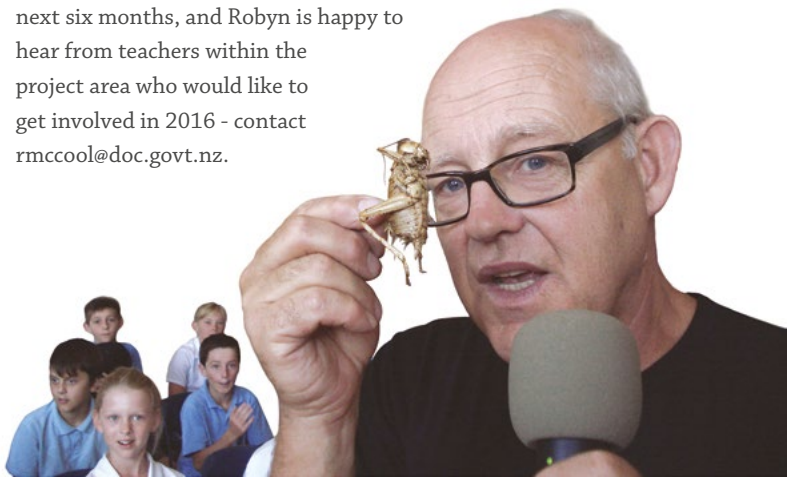
Ruud has visited the three schools which were part of the Cape to City education pilot programme - Port Ahuriri, Haumoana and St Patrick's. Ruud also visited Havelock North Intermediate where students are getting involved in Cape to City too.

Ruud had fun introducing the students to wetas and other native bugs. Initial hesitations were soon overcome by curiosity as the children learned about insects and their habitats.

The Cape to City five year education programme is led by Robyn McCool of the Department of Conservation. She holds workshops for teachers, supporting them to make the most of the outdoors as a learning resource for their students. She's pleased with the response from teachers and students.

"Our three pilot schools are keeping up their good work and have plans to expand their biodiversity enhancement learning. This is great and will ensure the Cape to City five year education plan will have an impact on both young lives and the future of our region's biodiversity."

Ruud and Robyn are planning to hold Nature Time teaching workshops for the schools in the programme later in 2015. Three more schools are learning from Cape to City over the next six months, and Robyn is happy to hear from teachers within the project area who would like to get involved in 2016 - contact rmccool@doc.govt.nz.



Cameras Traps to Monitor: Landcare Research

A new method of detecting predators will be used on the Cape to City project.

The first New Zealand trials to assess the cost-effectiveness of motion-detecting cameras to measure predator numbers have been conducted in Hawke's Bay by Landcare Research, in conjunction with PhD students from Auckland and Lincoln universities.

"Until now, this has been a difficult challenge, but advances in camera technology and camera data analysis are making it possible to estimate predator numbers much more accurately," says Al Glenn from Landcare Research

Options for the effective monitoring of predators have been, until recently, very limited. Simply counting the numbers of predators trapped gives an incomplete picture, as some animals (feral cats in particular) are naturally wary of traps and will go undetected.

During the trial, cameras were initially deployed for three weeks and detected a large number of predators. After 3 weeks of intensive predator control, the numbers of predators detected by the same cameras fell by 90%. This test showed that camera trapping can be a significant help in measuring changes in predator numbers after control programmes.

For the Cape to City project, we will need to find out what works best - cameras deployed in widespread locations for long periods, or clusters of cameras moved more frequently.

In the future, the project will also look at using motion-sensitive cameras to detect very cautious predators as another factor in the success of the project.

Wireless Tech Game Changer: Encounter Solutions

Wireless technology will revolutionise pest control operations across the region.

Encounter Solutions has designed the software and set up a very low-power wireless sensor network. Using satellite technology, the system can be used over large, remote areas, even where there is no cellphone coverage.

When a trap is activated, a sensor transmits an identifying signal, so farmers monitoring large numbers of traps know exactly which ones to check. The technology will therefore provide more efficient and cost-effective ways to manage large geographical areas. The system has already had a test run at the Poutiri Ao ō Tāne project in 2014.

"This technology is game changing. Maintenance visits can now be targeted, saving valuable time and money," says HBRC Land Services Manager Campbell Leckie.

Other applications

This network technology can also be used for on-farm data collection and infrastructure monitoring.

For example, applied to farm gates it can alert landowners where and when parts of their land are being accessed, or used in farm troughs to alert when water levels are full or low.

Bonus for volunteers

This technology will enable volunteer groups to focus efforts on activated traps.

It will hopefully also encourage more volunteers to get involved, as they can get more traps cleared in a shorter time and plan their volunteer time more easily.

Trap with transmitting wireless node

Getting Everyone On Board: HBRC

The word 'city' in Cape to City is key.

"Everyone can take some action to improve biodiversity, even in their backyard in town," says HBRC's Campbell Leckie. "Two things will make Cape to City successful. The first is effective, low-cost pest control that adds value to rural businesses. The second is getting people to care enough about biodiversity to do something about it."

New Zealand biodiversity exists within a growing threat from weed and animal pests. Sanctuaries such as Kapiti Island and Hawke's Bay's Boundary Stream 'mainland island' provide isolated areas of protection, but if they stand alone they are not the long-term solution for New Zealand's biodiversity

"We don't want these sanctuaries to become 'museums of nature', locked away so that ordinary New Zealanders can't enjoy the everyday riches of our natural world."

HBRC initiated the Hawke's Bay Urban Biodiversity (HuB) programme across Napier Hill in 2008 to significantly reduce suburban possum numbers.

"The support of residents is the reason we can now enjoy the song of tui and bellbirds in our downtown areas."

This programme has since extended to Taradale, Havelock North and outskirts of Hastings.

"Maintaining a possum bait box on your land, controlling noxious plants, planting tree species which provide food for birds: we can all do something to help."

THE COST:

On this one farm, in one year and in one age-group of ewes on the property, the costs attributable to toxoplasmosis were estimated to total $13,880 (including lamb loss, ewe loss and more toxovax).

David and Hamish Humphries

The Real Cost of Predators: Glen Moraig

Toxoplasmosis from wild cats caused huge issues for Waipukurau farmer Hamish Humphries.

Toxoplasmosis (toxo) is a disease that can cause significant economic loss to rural businesses by causing abortions in pregnant ewes. A fact Hamish knows only too well.

Hamish farms 1250ha on Motere Rd and Farm Rd with parents David and Jan and his brothers Mark and Tom.

On Glen Moraig, their 650ha home farm, the Humphries lost 79 two-tooth ewes and 64 ewe hoggets to toxo during the 2011 lambing period - despite the animals being fully vaccinated.

Hamish says it was hard for him to deal with. "The vaccine had worked, but the later impact of this toxo was too great for the vaccine to cope with. I was killing 10 sheep a day there at its worst."

A new trapping programme began in the spring of 2012, and 34 cats and 17 ferrets were caught in just three weeks in a mix of cage, snare and leg hold traps. "We caught eight ferrets in the planting around one of our dams. I've never seen hatchlings in that area before, but we do now."

Trapping was targeted around younger breeding stock that didn't appear to have the same immunity as older ewes.

Hamish says the two-tooths have consistently docked at 150-155%. In 2011 and 2012 that dropped to 135%. After trapping, the percentage was almost back to normal in 2013. "But those two-tooths and hoggets were our replacement ewes, so at $140 each times the number of deaths - that's a huge hit to the finances."

He says the toxo vaccine is $3 an animal and even though the farm suffered from the disease despite it, the decision to vaccinate is still a "no brainer".

Toxoplasmosis can also affect pregnant women, and can kill our iconic bird, the kiwi.

He pānui tēnei ki Ngāti Hāwea. Ko tātou ngā kaitiaki o Te Matau o Māui tae noa ki Ahuriri. Kia kaha tātou ki te whakapakari i ngā tikanga ā ō tātou Mātua, Tīpuna i tukuhia mai ki ā tātou Kia marama tātou ki nga taonga o Te Taio. Mā tātou e manāki e tiaki mō ngā uri kahore noa kia whanau. Kia papa pounamu te moana kia tere te kārohirohi.

Ngā mihi Tom Mulligan (Kaumātua)

Poutiri Ao ō Tāne

Invaluable lessons from a complementary project

A stepping stone for Cape to City has been Poutiri Ao ō Tāne, the 8000 ha ecological restoration project located 50km north of Napier where the Boundary Stream Mainland Island is at its heart.

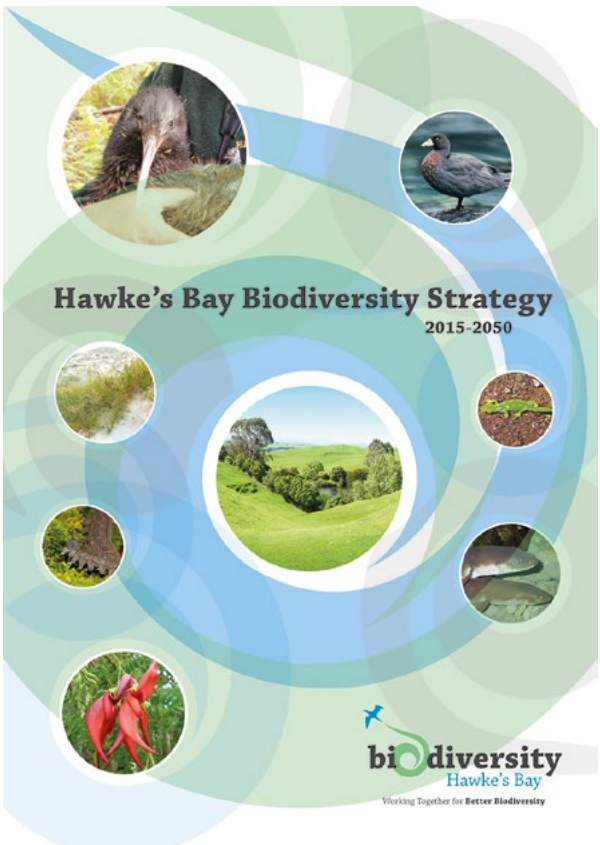
The name Poutiri Ao ō Tāne is a reference to embracing the sacred knowledge of Tāne, the god of forests and birds. The project's long-term vision is to restore the mountain-to-sea ecosystems and return native species to the ngahere (forest) of Maungaharuru, the once noisy mountain that resounded with the call of thousands of birds.

Although different in scale, landscape and activities, Cape to City and Poutiri Ao ō Tāne are complementary projects. This project's been guided since 2011 by the same team of Department of Conservation, Hawke's Bay Regional Council, Landcare Research, iwi, local councils, local community and businesses. The involvement of the hapū of Maungaharuru-Tangitū, Ngāti Pāhauwera, and Ngāti Hineuru has been vitally important for Poutiri Ao ō Tāne, and their appreciation and advocacy has flowed into other restoration initiatives.

In the last four years, five bird species have been returned - kākā, tītī (Cook's petrel), kōrure (mottled petrel), kākāriki, and pāteke (brown teal). Around the project, 124ha of farmland has been retired and parts, mostly wetlands, revegetated to improve habitat. Plus, the new, efficient pest control techniques that will be used for Cape to City were successfully tested here.

Work at Poutiri Ao ō Tāne continues until 2020, focused on native species reintroduction, research, predator control, education and community engagement.

www.poutiri.co.nz • www.facebook.com/poutiri



What is biodiversity?

Biodiversity is the variability among living organisms, and the interwoven ecological whole of which they are a part, including diversity within species, between species, and of ecosystems.

Hawke's Bay Biodiversity Strategy

The Hawke's Bay Biodiversity Strategy is our response to an issue that affects us all: declining biodiversity. Biodiversity is essential for all life as it gives greater resilience to ecosystems, organisms and humans. In Hawke's Bay we've lost a lot of biodiversity and a lot of our taonga are still under threat.

biodiversity
Hawke's Bay
Working Together for **Better Biodiversity**

PESTS CONTROLLED: Ferrets, stoats, rats, hedgehogs, feral cats, and possums

Farmers Show Support

And make their expectations clear

During workshops in 2014, farmers were very keen to control a broader range of animal pests and get the potential benefits.

However, this support came with two clear caveats:

1. They didn't want to lose ground on the success against possums in the PCA programme, and

2. They didn't want a whole lot of additional cost to control a wider range of animal pests.

PROPERTIES INVOLVED: 168 farms + Cape Sanctuary

Cape to City Context

Why we do pest control

When we look at why we do pest control, we need to make sure that the benefits of removing these pests are our drivers – not just killing pests as an end in itself.

We learned early on from Landcare Research that cats are the sole reproductive host for the disease toxoplasmosis. If we break that one link in the chain, we can reduce the risk of toxo for our sheep farmers and we may, over the long term, be able to break the incidence of the disease in the landscape.

And we'll get additional biodiversity benefits as the research suggests that invertebrates and our native bird life will benefit greatly as well.

Building On Successful Local Projects

Cape to City builds on the success and experiences of existing local projects

The Cape Sanctuary project has operated their own predator control on the privately-owned working farm and golf course to successfully build biodiversity in their area since 2008. A predator fence, planting programme and bird releases are reaping biodiversity rewards.

DOC's Mainland Island programme, such as Boundary Stream, protects and restores valued native bush and biodiversity through intensive pest management. In the same area, **Poutiri Ao ō Tāne** in the Maungaharuru Range has been in operation since 2011. DOC also manages other reserves and wildlife areas in the region. www.doc.govt.nz/our-work/mainland-islands

HBRC's **Urban Biodiversity** programme **(HuB)** has involved residents and local councils helping with possum control in urban areas of Napier, Taradale and Havelock North. Tui numbers in Napier alone have quadrupled and bellbirds trebled. Planting programmes around urban areas are increasing habitat.

HBRC's **Possum Control Area** (PCA) programme across our rural landscape, plus OSPRI's TB free vector control, now involves 95% of farms in the region.

Cape to City:

Geographical coverage

SIZE: 26,000 Hectares

Who's Who

The Cape to City project is a team effort. Let's meet some of the key players:

Cape Sanctuary Landowners

Providing knowledge and support based on their own project, the largest privately owned conservation project in New Zealand is spread over 3 farms and a golf course at Cape Kidnappers.
Facebook: Cape Sanctuary

HBRC

Experienced pest control staff have managed a wide variety of animal and plant pest operations. Contractors are used for initial possum knockdowns in PCAs and HuB projects. www.hbrc.govt.nz

Landcare Research

Landcare Research provides scientific credibility nationally and internationally, measured outcomes in terms of benefits, and access to other academic organisations.
www.landcareresearch.co.nz

Tangata Whenua

We anticipate a variety of advice, knowledge and involvement from various levels - governance, hapu, and marae - throughout the course of the project.

DOC

Technical knowledge and staff support in all conservation areas.
www.doc.govt.nz

168 landowners

Involved through their PCA (possum control area) groups of Te Mata, Haumona, Waimarama A and Waimarama B.

Aotearoa Foundation

Generously providing funding support for both Cape to City and Poutiri Ao ō Tāne.

You

Providing habitat for native birds, insects and lizards in your backyard, controlling pests and weeds, and helping out with community eco-restoration projects.

CAPE TO CITY
It's in our nature

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