



Kai *Kōrero*

issue one
December 2007
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- › launching the Mahinga Kai project
- › taking toheroa the traditional way
- › kina: the milk of rangatira

mihi
greetings

Ki ngā karangatanga maha o te ao,
whakarongo ki te ngaru e papaki
mai ana ki uta

To the many identities nationwide behold the waves
crashing on the shore

Haere ngā mate haere

Remember those who have departed

Whati pai ana te kanohi ora

Whilst those of us who remain (alive) continue unabated

Ngā iwi, ngā hapū haere tōtika te
haere

Each tribe and sub tribe be strong in your resolve to
forge a pathway ahead

Kaua e kotiti atu i te huarahi kua
para nei mōu

Do not stray from the direction you have set

Kia kaha, kia māia, kia manawanui

Be strong, be resolute, be determined

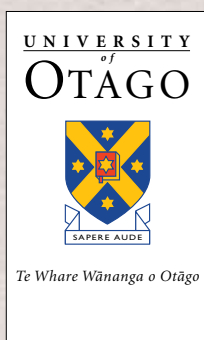
Tihei mauriora

Greetings

RK



Te Tiaki Mahinga Kai



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the Mahinga Kai project. It is
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Te Tiaki Mahinga Kai website:
www.mahingakai.org.nz

Kā Rakahau o te Ao Tūroa website:
www.csafe.org.nz

about our name

For readers unfamiliar with Te Reo Māori, the
name 'Kai Kōrero' has two interpretations.
'Kai' means 'food', and 'kōrero' is 'talking
about' – so we are talking about food.
As well, 'kaikōrero' (one word) are orators or
discussion leaders (usually on the marae) – so
we are leading discussion (about mahinga kai).
This name was suggested by Rau Kirikiri, our
senior Māori adviser to the programme.

Cover image: bark and fronds of *tī kouka*,
the cabbage tree, from which Māori extract a
sweetener from the taproot.

forum

The next meeting of *Te Tiaki Mahinga Kai*
Forum will probably be hosted by Ngāti Awa at
Whakatāne on a date yet to be determined.

Keep an eye on the website for more
information or email mahingakai@otago.ac.nz
to register your interest in attending –
we'll send out details when they are finalised.



Te Tiaki Mahinga Kai

securing mahinga kai for the mokopuna

A national research project, called *Te Tiaki Mahinga Kai*, was launched recently. The vision of *Te Tiaki Mahinga Kai* is for "sustained enhancement of the cultural, economic, social and environmental well being of Māori and New Zealand as a whole through the application of mātauranga and science associated with mahinga kai to modern customary fisheries practices".

Funding for the project is from the Foundation for Research Science and Technology's (FRST) Public Good Science Fund. The University of Otago was successful in its application for a grant of \$250,000 per year for the next 4 years. "The research being undertaken will improve protection of fish species important to all New Zealanders and help achieve the government's goals around sustainability," said Dr John Smart, Investments Group Manager at FRST. "The research project has the potential to deliver outstanding outcomes for Māori and the whole of New Zealand".

Te Tiaki Mahinga Kai is a national coalition of tangata tiaki / kaitiaki (Māori environmental guardians), fishers, coastal and river managers, and university and other science researchers committed to the improved establishment and management of customary fishing areas such as mātauitai and taiāpуре (local reserves), and temporary area closures (rāhui). *Kai Kōrero*, this newsletter, is one of the ways that these collaborators (and any others who choose to join in) can maintain regular contact and help one another to achieve this goal.

So why are we doing this research? Mātauitai and taiāpуре are quickly becoming the main vehicle for tangata whenua, and other communities, to take ownership of, and manage, their local coasts, rivers, and lakes. They seek to sustain high quality and quantities of the kai (food) they provide. It is important that we help each other by sharing mātauranga, science knowledge, and any other tools that can best support the continued improvement of mahinga kai. In many areas, the actual kai is dwindling because of modern day threats like overfishing, pollution, climate change, invasive species, and loss of traditional knowledge. Amongst other things, people no longer understand, nor appreciate, the importance of the tikanga necessary to maintain plentiful supplies of kai for the future. Without this, what hope do our mokopuna have of enjoying, or even coming to know about, the kai that we hold so precious?

Therefore, we hope you enjoy this newsletter and that you will contribute to it. We invite all interested iwi, hapū, and whānau – and anyone else for that matter – to join the effort and provide direction for the Project – so that it really will be nourished from the flaxroots. So, pick up your pens, pound away on your computers, or call and feed us with ideas and words so that we can all continue to feed off the bounty of kai that our waterways provide, well into the future.

HM & RK



Te Rūnanga o NGĀI TAHU

Co-funding by Ngāi Tahu helped secure the FRST grant to start *Te Tiaki Mahinga Kai*. Ngāi Tahu have commissioned the development of a Marine Cultural Health Index. We will feature this research in the next issue of *Kai Kōrero*.

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Governance of Te Tiaki Mahinga Kai

Bringing pāua to the people!

The *Te Tiaki Mahinga Kai* Project is situated in the environment – whenua/moana – and is populated by the people of the land: iwi whānui through to individuals.

Te Tiaki Mahinga Kai's Forum – te tohu rangatira

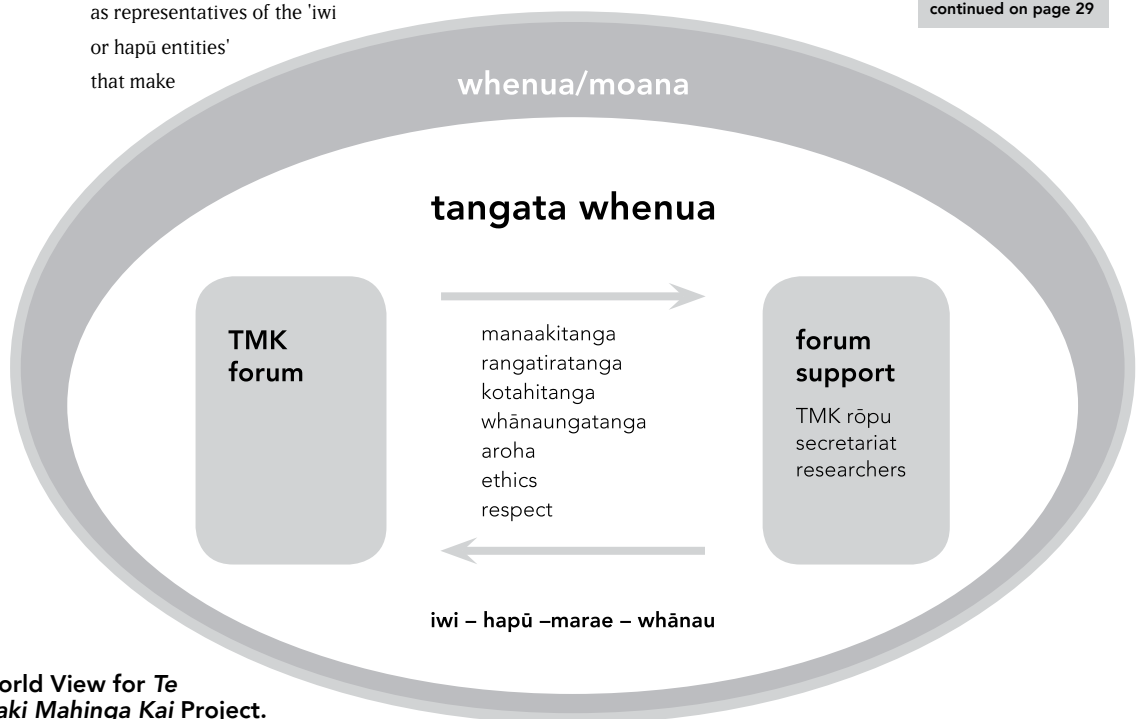
Te Tiaki Mahinga Kai is driven from the 'flax-roots' by the individuals and communities who sign on to the Project's protocol. This was the overwhelming consensus at the Project's inaugural hui held at Huirapa marae in July 2007, where it was also determined that we should establish the *Te Tiaki Mahinga Kai* Forum collective to meet at least once a year. We'd prefer two annual meetings, but additional financial support is required before that can happen – we live in hope! Any entity that has signed up to the project's protocol can be present at a Forum; either as interested individuals, or as representatives of the 'iwi or hapū entities' that make

up the backbone of the organization – that is, mātaihai or taiāpure management committees, rūnanga, or any other formally recognized and accepted iwi / hapū group (e.g. Whānau Trust). The role of the Forum will be to set general policy for the *Te Tiaki Mahinga Kai* project. As part of the function of the Forum, a Rōpū Mahinga Kai (Executive Committee) will be elected, with seven members, and two directors retiring every year on a rotating basis. A Technical Advisory Group will also be established to work with the Forum on technical issues.

Te Rōpū Mahinga Kai – keeping things working between the Forum gatherings

The Rōpū Mahinga Kai will be responsible for guiding and monitoring the day-to-day direction of the TMK Project. They will help, in the words of one kaitiaki at the inaugural hui, to 'keep the researchers honest'. Rōpū Mahinga Kai members serve the Forum and are not

continued on page 29



World View for Te Tiaki Mahinga Kai Project.

The values between the arrows strengthen the bond and relationship between the Forum and those groups and individuals that support it.

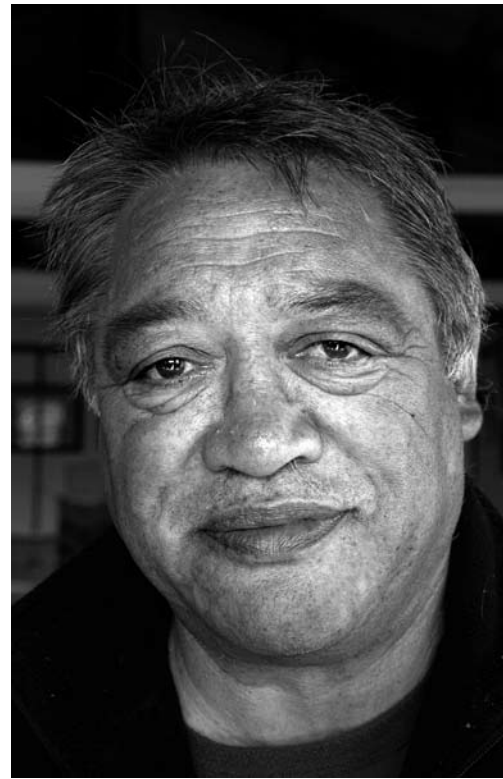
Kelly Davis

Ki a koutou kā puna roimata ka toro mai kā kurakura o Hinenuitepo mai te mauka ki Uri Tāne ki kā mauka maha o Kai Tahu whānui ,a ki a Aoraki; ka toko te raki nei. Tohaina mai te waikohu ko ruka o koutou te uri o Te Maire, ā, ki a koe hoki Evelyn. Takihia i muri nei kua riro rātou ma ki te arai.

Haere, haere, haere ake rā koutou.

Kua haere tētahi, ko tētahi o kā whānauka, ka pupu ake kā whakaaro mo rātou e ngau nei te aroha.

Huri noa ki a tātou kā kanohi ora, kā whānauka tata, kā whānauka mamao, tēna koutou, tēnā koutou, tēnā tātou katoa.



We sorely missed Kelly Davis at the inaugural hui of *Te Tiaki Mahinga Kai* at Huirapa. Kelly was a guide and an inspiration for many in Ngāi Tahu in his passion for mahinga kai and kaitiakitanga. He died earlier this year just one day short of his 60th birthday. He was a leader of the Waihao marae and community, near Morven. From there he fought many political and environmental battles. He succeeded in having commercial tuna harvesting banned in the area and taught traditional management methods and environmental care to all who would listen. The Zoology Department of the University of Otago owe him a particular debt for his teaching and

support, including the hosting of two wānanga in the very whareniui at Karatāne where *Te Tiaki Mahinga Kai* was launched in July this year. We like to think that Kelly would have been right behind *Te Tiaki Mahinga Kai* as a concept – urging us to walk not just talk - and holding firm to his belief that Māori should be given a much fairer share of resources to manage our environment using a mix of traditional and scientific methods. Our hearts go out to Evelyn, Kelly's partner of over a decade, and their four whāngai children. We share their loss.

Khyla Russell and Henrik Moller

Getting kaitiakitanga onto the map

mātaaitai and taiāpure will soon lead the way

So far, Aotearoa has 8 established taiāpure and 6 established mātaaitai [see maps on facing page]. That's a modest achievement after 18 years of trying for taiāpure, and 14 for mātaaitai. There have been delays from legal wrangles, community opposition, and from the exhausting process that the Ministry of Fisheries goes through when processing claims. It can be a complex and fraught process to get the reserves established when some locals are a tad suspicious of them. But the really exciting news is that there are currently 11 new proposals to establish mātaaitai under review by the Ministry of Fisheries and large teams of Pou Takawaenga and Pou Hononga have been established within the Ministry to help. The discussion with several communities up and down the motu to get *Te Tiaki Mahinga Kai* going has often turned to the wishes of many to establish several mātaaitai in their area. We expect there to be a flush of mātaaitai being added to the map in the coming five years and our project stands ready to try to help the kaitiaki get them up and running effectively. Mātaaitai, taiāpure, and rāhui are superb examples of bottom-up and local approaches to environmental conservation. Throughout the world this type of local, voluntary and passionate commitment to local resource development is blossoming and taking over where large, top-down environmental management by central government is not working.

HM

The Ministry of Fisheries review of the history and current status of mātaaitai and taiāpure can be downloaded from the *Te Tiaki Mahinga Kai* website. Go to www.mahingakai.org.nz, click on Area Management Tools, and then on Taiāpure, and finally on 'Summary of taiāpure and mātaaitai applications' in the 'Downloads' section at the bottom of the page.

Taiāpure, mātaaitai and rāhui – what's the difference?

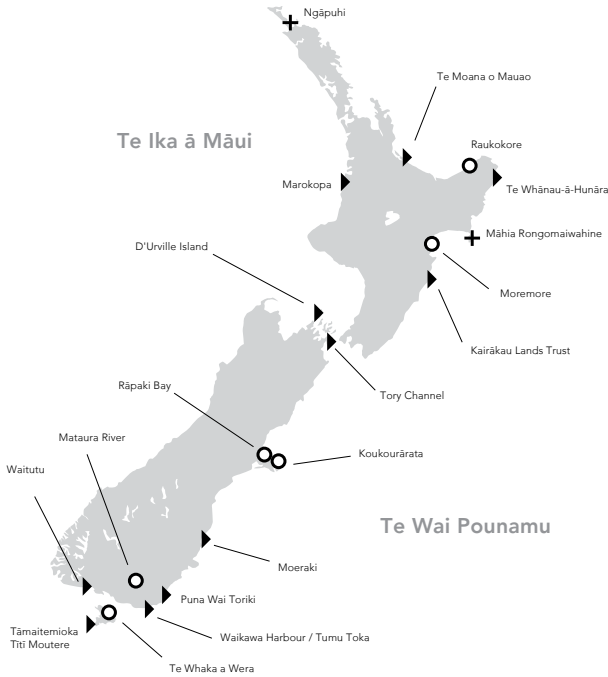
Collectively, the taiāpure, mātaaitai and rāhui are called 'Area Management Tools' by the boffins. All are ways of securing sustainable fishing and giving local communities a say in protecting their own resources. Taiāpure is a local fishery where bylaws can affect customary, recreational and commercial fishing. Although Māori communities take the initiative to establish the taiāpure, lots of other local stakeholders have a role as partners in decision making. In contrast, mātaaitai are areas managed only for customary and recreational fishing – commercial offtake is usually banned. Mātaaitai are often run entirely by Māori, but some management committees have also invited other local stakeholders to have a say. Rāhui is the traditional Māori method of restoring resources by imposing a temporary ban, either on a given method of catching or of any harvest at all.

We will explain the difference in more detail in the next issue of *Kai Kōrero* (coming in May or June next year at the latest – make sure you sign up your own whānau and friends to get a copy). In the meantime you can find a full description of the differences between the types of Area Management Tools on the *Te Tiaki Mahinga Kai* website www.mahingakai.org.nz. Click on the 'Area Management Tools' tab on the left and you can download the details.

HM

mātaimai

- established
- ▶ applications under consideration
- + proposed



taiāpure



NEW WAYS DEMAND NEW WORDS

... so where do they come from?

When the Māori Fisheries Act 1989 set up the possibility of a local fishery being led by Māori communities, the name given to them was 'taiāpure'. The New Zealand Fishing Industry Board took exception to the new concept, and amongst other protests, lodged a High Court action on 23rd June 1992 to get a declaratory judgment on the meaning of the words 'taiāpure – local fishery'. The concern seemed to be that the Manukau Harbour Taiāpure proposal was much too large an area to be considered a local fishery.

The resulting sworn statement by Timoti Karetu, then Māori Language Commissioner, recommended the term 'taiāpure', as a derivative from two words 'Tai' and 'Apure'. 'Tai' is the sea or coast, being the opposite of 'uta' (inland). An 'Apure' is defined as a patch or circumscribed area. Because Apure is a term used for land, like sections of vegetation or forest, Timoti prefaced it with Tai. Therefore he concluded that the word 'taiāpure' is a small circumscribed area of coastal water in which members of a particular tribe or hapū would have rights to gather seafood.

Fair enough ... but 'small' became the key word in this scrap! Several legal bills later the Manukau taiāpure still hasn't come to be. On 18 May 1998, the Waitangi Tribunal recommended that the proposal be declined because of the size, the diverse use of the area, and the large number of local communities using the harbour. It is still not clear whether the Huakina Development Trust wishes to proceed with the Manukau taiāpure proposal or whether the concept is now dead in the water, so to speak.

HM

> *did you KNOW?* that pāua get their internal shell colouring from the type of seaweeds they eat?

Kaumātua

Trevor Howse

Te Tiaki Mahinga Kai is delighted to have the support of Trevor Howse. He has instilled a strong commitment to developing and sustaining top quality management systems throughout Ngāi Tahu with his tireless and staunch advocacy for sustainable mahinga kai over the past 40 years. Simon Lambert, a post-doctoral fellow on the *Te Tiaki Mahinga Kai* team, caught up with Trevor to ask him what has kept him keeping on over the decades ...

Trevor Howse was "born in the sea". Tracing his whakapapa to Ngāti Wairangi of the West Coast, he grew up in Kaikoura.

"When the tide was low, we ate. We used all the resources available..." not just kaimoana but duck, geese, puha, and watercress.

"Anything introduced or native was fair game!"

Trevor was an integral member of the Ngāi Tahu negotiating team that developed the Ngāi Tahu Deed of Settlement with the Crown. He worked for the Ngāi Tahu Māori Trust Board and Te Rūnanga o Ngāi Tahu for many years in a diverse range of roles including the management of the land bank process between Ngāi Tahu and the Crown. He was also an instrumental member of the Ngāi Tahu fisheries team that developed the South Island Customary Fishing

Mahinga kai was central to the childhood of many Māori growing up three generations ago, and the mātauranga underpinning mahinga kai was survival itself.



Regulations with the Ministry of Fisheries and the eight iwi of Te Tau Ihu o Te Waka a Maui. Trevor became chair of the now disestablished Mahinga Kai Tikanga o Ngāi Tahu Komiti and was the Kaitohutohu for the Ngāi Tahu Customary Fisheries Unit for many years and he continues to provide mentoring support for the staff of Toitū Te Whenua.

One of five children, Trevor and his whānau moved from Kaikoura to Christchurch in response to the threat from tuberculosis and the need for better medical care. As a child he thought that "only Pākehā were poor!" as they were the ones who made up the ranks of swagmen. Mahinga kai and the associated mātauranga was not only survival in the old days but formed the basis for the successful Ngāi Tahu claim.

"It was the vehicle that won it...the catalyst".

Mahinga kai was central to the childhood of many Māori growing up three generations ago, and the mātauranga underpinning mahinga kai was survival itself. And it wasn't what you gathered, but "what you got home with. We dropped a bit here and there...". That included trout,

sometimes as many as 40 or 50, hidden under a false bottom of the cart and sacks of eels and kids on top.

"We'd have four or five kids as lookouts in the trees. That was your first job. Then you might be a bag boy before you ever got in the water. There was rank and mana!"

And the grounding in politics started at this age too.

"It was important to get on with the local farmers." Especially as they often went bandicooting for spuds (This is the practice of digging into the potato mounds, taking the tubers out while leaving the foliage standing. At least until the stems wilted ...).

Urbanisation and supermarkets have put paid to much traditional practice. Trevor is resigned about this loss: "It's the way the world is moving". But he has been instrumental in securing a future for Ngāi Tahu through his tireless work during the claims process and with his subsequent work on customary fisheries. That latter work "put us in the water, in legislation and regulation". Playing the political game, the negotiators managed to take the mana off the minister through the customary regulations.

"It was a big effort boy".

If Trevor has one concern, it is the "the inability to get the process right...still arguing with ourselves and not identifying what it is we want to do". He is quite clear about what research is needed with mātaītai and taiāpure: who's taking what, and how much? For this kaumātua (Trevor isn't comfortable being called a kaumātua – "It doesn't pay the bills!" – he's happy to be a matamua) "There hasn't been the testicular fortitude to pick up that wero ... quantifying the non-commercial take." Trevor acknowledges this is something the North Island may struggle with more, through the pressure of numbers accessing kaimoana. He's seen the non-commercial split between customary and recreational take perverted through the growth of charter fishing and the twisting of recreational philosophy for commercial ends.

No longer enjoying the best of health, the battles this old trout tickler has won remain his proudest effort.

"The success of the Ngāi Tahu claim. It was a privilege to be a part of that history."

Nga mihi nui ki a koe e pā!

SL

Whakatauki

metaphors for life and kaitiakitanga?

E kore te pātiki e hoki ki tōna puehu! "The flounder never returns to its disturbed sand". Te Ururoa Flavell, MP for Waiariki, used this saying in parliament recently to poke some borax at his opposition MPs - as politicians like to do. The saying teaches us to do things right from the start, and if you stuff up, don't try to excuse your incompetence. But we are also intrigued about the way whakatauki teach wise environmental management principles – a way of keeping the mātauranga fresh and relevant. In this case, it reminds us that disturbing the estuary sediments will push the flounder out. Indeed some kaitiaki believe the commercial cockle harvesting

in the East Otago Taiāpure is the reason that flounder catches have declined markedly in Blueskin Bay over the past decade. That's possible, but there is no evidence to say one way or the other that commercial harvesting is the cause. But we are now keen to find out, and the whakatauki kindles that curiosity.

We would like to sprinkle whakatauki about mahinga kai throughout future issues of *Kai Kōrero*. Please send us in your favourite sayings about the sea, rivers, and lakes, harvesting, kaitiakitanga, and mahinga kai. It would be great if you tell us what they mean to you. If you agree, we'd like to publish them and your explanation in the upcoming issues. Send them in to Kai Kōrero, CSAFE, University of Otago, PO Box 56, Dunedin, or email mahingakai@otago.ac.nz.

HM

› *did you*
KNOW? that an estimated 80% of all life on earth is found in the oceans?

Janelle's logo displays our kaupapa

A logo by Janelle Hazeldine, from Ohai in Southland, was the winning entry in our logo competition. Entries were invited from University and Wānanga design schools. The winning entry was selected by the *Te Tiaki Mahinga Kai* Forum gathered at Ōnuku Marae on 12th and 13th November. Janelle won a \$500 prize for her wonderful design. We would like to thank all those that entered and wish you all luck in your careers as designers.

I was born in Invercargill and raised in the coal mining town of Ohai, in Western Southland. I was educated at Ohai Primary and Central Southland College. I have always enjoyed being creative, and so it was only natural that I became immersed in the arts, completing a Bachelor of Fine Arts at Otago Polytechnic in 2006. I am building on this with two more years of Design Studies at the University of Otago (finishing at the end of 2008).

While design is often considered irrelevant, it confronts us everywhere in our daily lives: from advertising, to food packaging, to merely brightening up the world we live in. It also doesn't happen in a void, yet rather is created through process and time. My design for *Te Tiaki Mahinga Kai* went through these inevitable stages. I wanted my design to embody the many values of *Te Tiaki Mahinga Kai* while still delivering an instant and efficient message. The Forum's value of guardianship over the land is shown through a figure slowly receding into the distance to form a landscape of rolling hills or mountains. This literally shows that the land and people are one, and if we hurt the environment we are at the same time hurting ourselves – our future. Māori have always had a great reverence for the land, seeing it as sacred, referring to it as Papatuanuku or earth mother. The guardian's arms are formed by Koru. Stemming from the Koru or guardian's arms are smaller Koru of which resemble things taken from the land, yet monitored, guarded and even released back to replenish or replace what was initially taken or borrowed. The design is equivocal in showing the cycle of both taking,



yet replacing the aspects us as people have borrowed. It reinforces the fact that the pendulum shouldn't swing one way, and that when we take we must too, give back.

Janelle Hazeldine



Te Tiaki Mahinga Kai

Nice one Janelle. I'd say this is a distinctive mark for a really interesting project. It presents quite a few possibilities and yet has some unity about it. It's a skill to create that kind of asymmetrical open-ended flow but maintain the balance of parts. And the shapes have an organic quality which works well. I'd be proud of it.

- Alex Gilks, *Kai Kōrero* designer

Make Kai Kōrero yours!

This magazine is for you, the kaitiaki of Aotearoa. So please send us your items for publication – stories, photos, old articles, your opinion about a current issue, a letter, a recipe for your favourite kai, whakatauki, monitoring results, poachers caught in the act, celebrations, events ... whatever! We want it all, and now! Maybe you could interview a local kuia or kaumātua about how the mahinga kai in your area used to be and send us in their kōrero and a photo of them?

There will be no censorship or priority given to any particular view – we may have to lightly edit your material to fit it all in, but we'll send the modified version back to you before publication for you to check it out.

HM

Have your say!

Send your material for Kai Kōrero by Track-Post or courier to us at Kā Rakahau o Te Ao Tūroa (CSAFE), 21 Montgomery Ave., Dunedin – ph (03) 479 5220; or post to CSAFE University of Otago, PO Box 56, Dunedin. If you are just sending us text you can either fax us on (03) 479 5266 or email us at mahingakai@otago.ac.nz. We promise that we will immediately scan any photos and send them back to you by Track-Post. Don't forget to enclose your name and address and phone number in what you send us.

More students please

Te Tiaki Mahinga Kai research is powered along by keen students with sharp minds and a passion to support kaitiakitanga and community-led conservation. We would especially like to welcome your own community members to the research team – be they rangitahi or pakeke. If you've got the passion, time, and commitment to join a keen team of researchers (kai rangahau) in their efforts to understand more clearly, and to promote, the merits of sustained mahinga kai and the cultural benefits that can arise from this, we'll hook you into the team – somehow, somewhere! Give us a call: Pip Pehi (03) 479 3928 or Simon Lambert 021 100 1989. Otherwise you can email them:

pip.pehi@stonebow.otago.ac.nz

lamberts@landcareresearch.co.nz

to discuss your wishes. They'll advise on options for you. Depending on what you've done up till now, you may not need to come to University or live in a university town. You could be based in

your local wānanga, or a Crown-funded research institute (like the Allan Wilson Centre, Landcare Research, or the Cawthorn Institute). The team will help you write applications for scholarships and to get grants to fund your research.

You might like to contact some of the existing students in the team and ask them what it's like working in the project. Go to the 'About Us' page of www.mahingakai.org.nz and click on the 'Research team' section to view the current Rogues Gallery.

SL & PP

Stop press!

We just received word that Te Tiaki Mahinga Kai has received a grant of \$49,000 to build capacity among emerging Māori researchers. It was awarded by Hui Rangahau Tahī (the BRCSS Network). See www.brcss.net for details of their work.

› did you
KNOW? ... that an average female crayfish carries
between 20,000 and 500,000 eggs?

Binding *Te Tiaki Mahinga Kai* Together

Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has.

- Margaret Mead

The *Te Tiaki Mahinga Kai* Forum is not just some vague concept, but an actual entity - a network, made up of very real interconnections between people, places and communities. Personal relationships give the Forum power – we share experiences, knowledge, and information, but we also share love, values and care. The stronger our relationships, the more we will accomplish.

Forum meetings are the backbone of the network. We meet face to face, and build trust. But we are a dispersed network, and time and travel are expensive. To overcome these limitations, *Te Tiaki Mahinga Kai* is building online networking tools intended to facilitate relationships and information sharing between all-important hui.

Te Hao Mātauranga seminar series

Speakers will include researchers, fishers, managers and policy makers - all who have important knowledge and stories to share. Once someone has taken the time to make a presentation, we hope that they will share it again and again throughout the country. If you see a person of particular interest to your area, let us know and we will attempt to bring them to you for a seminar. We also hope that you will consider giving a talk in your area, and to other places in the network when you travel. 'Te Hao Mātauranga' means 'netting knowledge'.

Whiriwhiri Whakaaro email discussion list

More and more, email is used as a form of communication. We've started Whiriwhiri Whakaaro to facilitate dialogue for those who use email regularly. Rōpu and research updates will be sent (all important information will also be posted by 'snail-mail'), but the list is really intended to allow you to ask questions and share lessons, and raise concerns and opportunities with your peers. Whiriwhiri Whakaaro is hosted by the University of Otago, but owned and controlled by the Forum. 'Whiriwhiri Whakaaro' means 'gathering thoughts'.

www.mahingakai.org.nz

The website is typical in that it is a great place to store information, download reports and data, and read about the project. The Forum's website is not typical in that it is not managed by a 'webmaster' but is updated and built by the Forum members directly.

Kai Kōrero magazine

We hope you like the open and free approach we're taking, and that you share your knowledge and experience with us!

Register for forum membership, and sign up for *Kai Kōrero* using the form on the back page.

MH

Donate please!

we need money to secure Mahinga Kai for your mokopuna

Although we are grateful to FRST for their support, we don't have enough money to run the Forum and perform research. Wānanga, reseeding, research, and getting consultants' advice about mahinga kai are all expensive, especially as we are drawing kaitiaki together from right round the country for the mahi. Add the cost of managing all these activities to annual Forum events, and the numbers mount up!

Te Tiaki Mahinga Kai has set up a Flaxroots Foundation Trust Account to accept donations to fund the running of the project. The Flaxroots Foundation will be hosted and audited by the University of Otago on behalf of *Te Tiaki Mahinga Kai*, but the funds will be distributed by the Rōpu Mahinga Kai, according to the Forum's national priorities. An annual Report will be produced by the Rōpu Mahinga Kai to explain how the donations were allocated over the past year and why that was considered the most important way to spend your money. We will also send all donors a letter (and tax receipt) for your contribution, and detail what your koha was used for.

So far since the account was established on 1 December 2007, there have been 4 donations totaling \$700.

Donate to The Flaxroots Foundation

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support already received

Kua tautokona tēnei tono e ('this plea has been supported by ...') Stewart Island Experience (\$250), Henrik Moller & Fiona Stirling (\$200); Ecosystems Consultants Ltd (\$200); an anonymous donation (\$50). Stewart Island Experience have also offered us discount rates on transporting the research team.



› did you
KNOW? ... that seaweeds are not
classified as plants?

taking Toheroa in the traditional way

Graham Metzger explains how it used to be done in Murihiku.

For generations, Māori took toheroa for their food. As with all natural resources, they had worked out how this was best done to enhance the fishery and get better fish than if the beds were left in their natural state. Even though people would come from different areas, they all knew what part of the beach they were to work and how toheroa were to be taken to get good fish.

Māori grandparents have always been responsible for teaching the grandchildren because, they say, children do not listen to their parents. The grandparents taught that toheroa were to be washed out using the flow of the surge of the waves rushing under our bare feet at low tide. This did not damage the fish, unlike the modern use of spades. We were taught to always feel round the hole for the toheroa and its mate, and sure enough you would get two-at-a-time – any time of the year. As the toheroa age, their shell changes from the smooth white shell of the younger fish to a dull brown or black. We were

taught to leave the old 'black stripers' as they are the mummies (the breeding stock).

We gathered them at low tide because the nursery was further up, towards the high water mark, where only young ones would be found. The weather and state of the tide (ebb or flood) were just two things that would determine the depth of the fish on any particular day. Like with all fishing, we were taught how to study the moon to know when to gather toheroa. Whether fish would show or not depends on the moon, the tide, and the weather. Cold and wet is no good. With changeable conditions they can be on and off.

The fish in the area where we took from were so fat that the shell was completely full of flesh. Fish from any unworked part of the beach would be in poor condition. The south east wind often washed hundreds of toheroa up to the high tide mark all along the beach, except where we took ours from. The old people would tell us that ours never got washed out we because they were big and strong. They could hold on because of the way we managed the beds. Also, after the worst of these washouts it was always the areas nearer to our beds that would be first to recover. You can tell when the fishery is in good health or not: if they are fat and you can see them all feeding, they are in good health; if they are in poor condition, even if the numbers are there, the fishery is not in good order.

I can remember being told that there would only be about two degrees on that precise thermometer of the Pakehā between when the toheroa would spawn, so I presume that temperature is one of the things that affect the health of the fishery also. Kelp grew along the Omaui coast, and some of it would get washed up on Oreti Beach and become buried. Later, you would find a lot



Hunting for toheroa, these harvesters in 1969 could collect a limit of ten toheroa on an open day. Before this, harvesters in the mid 1900s over-exploited toheroa stocks. Today toheroa populations are much more depleted and such open days are not possible. Toheroa harvesting is watched over by tangata whenua.

more, bigger toheroa in that area. When we went to Te Waewae, we would ask Jack Te Au where to go and he would take us to where some kelp had been buried.

For special events we used to take 60 toheroa and, from that, get about eight litres of fish. After the Ngāi Tahu Settlement, and the ratifying of the Customary Fishing Regulations, the Awarua Rūnanga asked me to take a group of our young people out to Oreti to teach them

how to gather the young fish as our Tūpuna once had. Having been left to nature for so long, there were no big fat fish - they were all in poor condition. We took 80 toheroa and, when they were shelled, we had just 4 litres of fish. We had caught a third more and had got just half as much fish than when we used to manage the patch.

Tiny Metzger

OPINION

It's time to give traditional management methods another go!

Graham Metzger argues that the Ministry of Fisheries has harmed the toheroa Fishery in Murihiku.

Traditional Māori management of toheroa continued until the mid-fifties when the Ministry of Fisheries decided they should administer the fishery. They decided the season would around the months of July or August and, in spite of protests from Māori, they allowed people to dig toheroa with a wooden spade that was 3 inches wide. These spades smashed a great number of the shellfish when people were digging, and undersized damaged ones were just left to pollute the rest of beds.

Thousands of dollars of taxpayers' money is being spent in a manner that does not seem to be doing anything. They still dig and smash shells.

Māori also protested about the minimum size being set at 4 inches. But the Ministry officials were rather like children and would not listen. The regulations did not discriminate between taking old or young toheroa so the breeding stock was depleted.

When MFish report the way they survey the beaches today it would seem that Māori are still not being heard. Thousands of dollars of taxpayers' money is being spent in a manner that does not seem to be doing anything. They still dig and smash shells. Why can't they build adjustable one metre 'foot' to use the natural surge and rise of the tide to get them out without damage? Quite apart from the damage the Ministry did with their surveys, counting numbers as they insisted on doing, would tell them nothing – it is the condition of the fish that matters most.

Before the Ministry of Fisheries gave up and closed the fishery completely, we asked for a small portion of the beach for Māori to manage. They would then see what

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tuna

a staple food of the tūpuna

Tuna kept the people going year round for centuries in Aotearoa. 'Tuna' mainly refers to freshwater eels, but can also include Ngōiro (Kōiro in the South Island, or Conger Eel, from the ocean) and some fish that look like eels.

Knowledge and language for survival

Throughout New Zealand there are over a hundred different names for freshwater eels alone which describe size and colour of species. Mātauranga ('Traditional Ecological Knowledge of Māori' to overseas scholars) is often like that – the language reflects the detail of things that are important for survival. Inuits from North America are reported to have several words to describe all the different snow and ice conditions that affect safe travel, food gathering and shelter – the same type of detailed knowledge about tuna obviously mattered for the tūpuna. Tuna have long been a valued resource for iwi in the South Island due to their abundance, wide spread habitats and year round availability. Traditional tuna gathering and processing practices helped to strengthen family bonds and group cooperation in the hapū (whānaukatanga).

Harvest sustainability

While Crown policies once threatened eel population numbers through eel destruction programmes and land drainage, Māori customary management of tuna was sustainable and involved regulated harvesting mainly in times of migration in the life cycle of the eel.

Historically in Canterbury and north Otago, at least 1400 mahinga kai (places of resource gathering) were recorded (c1880). Possibly there were as many as 3000 of them! Among the 60-170 different foods gathered in the late 1800s and early 1900s throughout Canterbury and north Otago, tuna were harvested the most, along with fern root and tī kouka (cabbage tree). Tuna remained plentiful until last century and have declined markedly in the last 30-40 years of commercial harvesting, habitat loss and disruption of passage by dams.

Harvest tikanga

Traditionally, tuna could be harvested at any time of the year, except midwinter when they were harder to find and waters were unbearably cold to hunt in. A variety

past whoppers

Herries Beattie was told of a guy who speared a monster sized eel in 1903 up the Selwyn River (near Christchurch). The eel was short (five foot six inches) but had a huge girth. It weighed 57.5 pounds (that's 26 kg). The heaviest eel recorded was caught in 1863 at Queenstown. It weighed 106 pounds (48 kg). Obviously things have changed – captures of these whoppers are a thing of the past.

Source: Beattie, James Herries (1994). Traditional Lifeways of the Southern Māori: The Otago University Museum Ethnological Project, 1920. Edited by Atholl Anderson. Dunedin, N.Z.: University of Otago Press in association with Otago Museum, p323



Oodles of eels!

Te Pokiha of Koriniti here is dividing an eel catch for the families in the Wanganui River settlement. Communal distribution of kai at the kainga in this way was carried out after kai harvesting. Food sharing is just one of the many ways that mahinga kai bound families together – its cultural importance stretches way beyond the immediate need to have food for the table.

Photo taken by J I McDonald, from the Whanganui Regional Museum Collection, Reference number: M/Fo/3.



of methods were used, including spearing, rapu tuna (catching with quick hands from under rocks), pā tuna (eel weirs/fences), awa/koumu (drains/trenches) and hīnaki (basket traps).

Different methods of eeling were used in different regions. For instance, the awa or koumu method was used in Waihora, South Canterbury, and Waimātaitai (north Otago), but no further south. Pā tuna and hīnaki were used on Canterbury rivers such as Kaiapoi and Temuka but not further south than there. For example, at Mataura and Pomahaka, kanakana/piharau (lamprey, a type of boneless fish which looks like an eel) were caught by hand as the tuna passed through the falls.

Tuna were also efficiently harvested in a systematic way, in Canterbury, taking advantage of the annual migration of the fresh water eels on a large scale. The tūpuna knew that in spring and early summer tuna travelled downstream, often during spring rains, beginning their journey out to sea to spawn. Pā tuna were constructed parallel to the current to direct or guide tuna into the hīnaki.

The pā tuna fences were made out of strong woods such as manuka with bracken fern or mānuka brush was attached between the posts. This bracken or brush allowed water to flow through but kept the tuna in! Two different mechanisms were used in hīnaki to stop eels from escaping. One was that sharp sticks were attached

Tuna remained plentiful until last century and have declined markedly in the last 30-40 years of commercial harvesting, habitat loss and disruption of passage by dams.

to the entrance of the hīnaki. The sticks faced towards the centre of the basket so that the tuna could swim in through the entrance, but if it turned around, it would be faced with pointy sticks blocking its way. Another method involved having a net inside the hīnaki to capture the tuna.

In the Canterbury region, by late summer and early autumn, tuna would gather in coastal lagoons on their way to the sea. Traditional eelers would use a koumu or

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Pā tuna (eel weir) on the Whanganui River around 1910. Hinaki were attached to this pā tuna to catch and trap tuna as they migrated up and down the river.

Reference No. 1/2-140011-F Part of Webster, B (Mrs): Photographs of the Whanganui River (PAColl-5285), from the Alexander Turnbull Library Pictorial Collection.



hui

Te Tiaki Mahinga Kai's kick-off a meeting of minds at Huirapa

Bill Greening, from Mahia Māori Kōmiti

I've been here today listening, to see how [*Te Tiaki Mahinga Kai*] can benefit us in Mahia. At the moment we have gone through a code book of regulations and were looking at the tools to support the mātaitai and taiāpure and 186 closures. It's the tools we heard about today that we will take back to our people to see where we can go from here.

Hohepa Kupa, from Mahia Māori Committee

Great to see so many hapū involved and interested in coming to learn a bit more about the South Island Customary regulations as well as the kaimoana regulations ... from what we hear, we are very interested in being involved in getting to grips with what the scientific team can offer us and help us with our management.

Raewyn Solomon, from Rūnanga o Kaikoura

We are very passionate about our environment, we have a mountainous backdrop and the Hikurangi trench passes by Kaikoura which is why we get whales close into the shore. The Hikurangi trench is deep and our mountain is high so we are literally living on the edge. We tend

to work that way as well ... we don't particularly like being in position of reacting to others. We like to be in decision making areas. So in everything we do we have that at the end of it – we want to make the decisions about our kai. Nobody can care about these places like we do because we live with them, it is our history, it is our bones, its where we come from.

Gina Solomon, from Rūnanga o Kaikoura

We have a large farming community, so there are still a lot of farmers who need to clean their act up and look after the environment that they've destroyed and ruined for the last 100 years. So those impacts on the environment are really heavy ... in our summer times, our community is overrun with holiday makers all coming with a boat and several families to have a holiday fishing. So we need to do is to impress on our community to take ownership of trying to protect our resources and the environment that we have been brought up in, and we want our children to have the same healthy environment, and their children ... the other issue is most rūnanga people are volunteers. We do not have the resources or capacity yet to pay our people. That's what we will like in the future – that we could at least reimburse



rūnanga people. But most people are volunteers and they spend a lot of time, putting a lot of time and effort and hours into doing things for mahinga kai.

Owen Woods, Tangata Tiaki and Rōpu Mahinga Kai

I'm passionate about our marine environment and I would like it recorded for the future and the past that we were the first rohe in the South Island to have our rōbū rāhui in place. I hope that we can move from that to Taiāpure and Mātaitai.

Owen, Gina, and Raewyn

Owen: One of the things I'd like to say is we work as a team and I think we are successful because we do work as a team. We all think very much the same and if there's anything that needs to be changed we discuss it and work it out.

Gina: And we can get passionate about our discussions, and we can do it for a long time!

Raewyn: And that's good. We'd worry if we all agreed on the same thing everytime, because with a opposing views you get robust decisions. We welcome the differences as well.

Rau Kirikiri (Te Whānau-ā-Apanui)

I am really confident that the program is going to go well that we've got the makings of some really good collaborations. At the end of the day its not just the Foundation for Science Research and Technology, but mainly those iwi who are going to participate in the program that are going to get real value out of this. Also the country as a whole and maybe even the world internationally will gain immensely from the work that is being put into the project.

Henrik Moller, from Kā Rakahau o Te Ao Tūroa

We are delighted by the Huirapa hui because in general, after first giving us a pretty going over and checking the colour of our eyes, most of the people here have been very supportive of the kaupapa. It looks like we have a very exciting programme on the go for the next 10, 20, or 30 years – who knows how long? But the people are starting to take ownership, and that's an enormous relief and a hell of a privilege for us researchers. It builds our



Brendan Flack and Rua Hagen signing the Memorandum of Understanding to join *Te Tiaki Mahinga Kai* at Huirapa Marae 27th Nov 2007. All other groups wanting to join can find a copy of the Memorandum on *Te Tiaki Mahinga Kai*'s website: www.mahingakai.org.nz

opposite page: Huirapa hui group

Delegates from across New Zealand came together on the 26th and 27th of July at Kāi Huirapa Ki Puketeraki Marae, Karitāne to learn about the *Te Tiaki Mahinga Kai* project.

excitement for what's coming. Kia ora to them, and let's see what unfolds now.

Shannon Rua, from Tauranga Moana

I came here to just have a look at where we can actually go in customary fisheries and what it can do for us here in New Zealand as well. We're hopeful that *Te Tiaki Mahinga Kai* will provide tools we can use, and models to help us look after what's out there.

Stephanie Taiapa, Kaitiaki for Tauranga Moana rohe

I came here to see how people manage their areas and to see the problems that people have in their areas. I think, man we are lucky back in Tauranga. It's about managing our stocks wisely.

Compiled by Ani Kainamu and the *Kai Kōrero* Team. We would like to thank Louise Davidson for filming the interviews from which these excerpts came.

> *did you*
KNOW? that less than 10% of the ocean
has been explored by humans?

Angela MacKenzie

Masters of Applied Science
Environmental Management Student

Currently living in the Marlborough Sounds, Angela (Ang) joined the TMK team after graduating with an Honours degree (Anthropology) from the University of Otago in 2006. She has worked as an assistant researcher for CSAFE since 2005. While Ang's pathway to TMK resembles a meandering stream, rather than a state highway, two themes, situated very broadly around kai have remained dominant: the impacts of people on the environment and the impacts of the environment on people. A keen kaimoana gatherer, from a family of hunters, divers, and edible gardeners, Ang has carried out research in the areas of local ecological knowledge,



The last official sealer in Aotearoa, Ang's Great-grandfather, Harry Roderique was Captain of the *Kekeno*, a vessel which was used to take the birders down to the Titi Islands.

natural resource management, the traditions of wild food harvesting, and sustainability.

Ang grew up by (in and on) the sea in Marlborough, before attending Canterbury University, and then heading off to spend several years overseas, including nearly five years living in a national park in Japan. Arriving home to Aotearoa in 2000, she moved down to Central Otago, and set up her own business before returning to formal study at the University of Otago in 2004. The marine environment features strongly in her paternal whakapapa - the distinction deserves clarification as most of her maternal ancestors, originally from Counties Clare and Kerry in Ireland, much prefer keeping their feet on the land, and turn violently green at the sight of a boat. The last official sealer in Aotearoa, Ang's Great-grandfather, Harry Roderique was Captain of the *Kekeno*, a vessel which was used to take the birders down to the Titi Islands. Many of the family are still active within the oyster and fishing industry in Bluff, and, while no longer involved, Ang's father helped to establish one of the first mussel farms in Port Underwood in the Marlborough Sounds.

The Marlborough Sounds remains a place of belonging for Ang, and made the decision to move from the Otago Peninsula back to Marlborough a much easier one. Her current research: exploring how perceptions to new forms of marine management are shaped focuses on the Tory Channel mātaimitai proposed by Te Atiawa. Partly funded by the Marlborough District Council, the project is aimed at capturing what features of the Marlborough Sounds local iwi and stakeholders most value, perceptions of the current management of the Sounds, and responses to the proposed mātaimitai.

AM



Research

Te Tiaki Mahinga Kai Toheroa Research funded by Ministry of Fisheries

The Ministry of Fisheries recently granted \$23,000 to the Ōraka-Aparima Rūnaka to secure the mātauranga associated with Toheroa Management in Murihiku and to survey toheroa to identify potential sites for establishing a mātaimai to protect Toheroa in future. The grant was from the Ministry's 'Customary Research' Putea established for Tangata Whenua to research issues of importance to kaitiaki contemplating establishment of mātaimai and taiāpure. Ōraka-Aparima have been contracted to do the research, and they have subcontracted Kā Rakahau o Te Ao Tūroa to do part of the research. One of their rangitahi, Rākoa Bull, is employed by the research putea to help with field work so that she can upskill on research techniques. Rākoa's local knowledge and relationships to key informants of the way the Toheroa used to be is an enormous help to the researchers. The ultimate goal of *Te Tiaki Mahinga Kai* is community capacity building, so this type of community-university partnership is the way for the future of the project.

HM

You can read more detail about the Toheroa Research, its methods, and the research team by visiting the project website at mahingakai.org.nz and clicking on the 'Research' (and then the 'Toheroa') tab down the left hand side. The Ministry of Fisheries is also funding another *Te Tiaki Mahinga Kai* project on Pāua restoration and management at the Akaroa Taiāpure.

the main objectives of the Toheroa project

- interview Murihiku kaitiaki about toheroa populations, traditional management, and current harvest management
- contrast traditional reseeded methods with ecological science
- identify threats to traditional harvest areas and any response to them
- survey traditional harvest sites for the ongoing presence of Toheroa and survey potential sites for reseeded and more active habitat management
- assess viability of toheroa reseeded
- although not funded by the Ministry of Fisheries this time round, the long-term goal is to put a restoration plan into action. This is one of many projects that *Te Tiaki Mahinga Kai* might pick up themselves (using the FRST putea), or they may seek funding from elsewhere for the follow through. *Te Tiaki Mahinga Kai* is grateful to the Ministry of Fisheries for funding the start of this project.



cockle harvesting

Southern Clams harvesters walking backward in a cordon dragging hand dredges through the substrate to harvest Tuangi.

KINA the milk of rangitira

'Ma wai te kai ka whanga ki tua o Tokarārangī.'

'Who will wait for the food beyond the breakers of Tokararangī.'

The meaning of this proverb is that sea foods require appropriate days and seasons, calm seas and fine weather.

The New Zealand Kina (sea urchin, *Evechinus chloroticus*) is endemic to New Zealand. This means it is not found anywhere else but in Aotearoa. It can grow to be as large as 190 mm diameter, making it arguably the largest sea urchin species in the world. Sea urchins are an important traditional food of Māori, who prized their internal organs and gonads. Sea urchins are often represented in the diets of indigenous peoples from other parts of the world. More recently, a global sea urchin fishery and aquaculture has developed, mainly for the production of the valuable gonad.

Traditionally, men went out to sea to catch fish, while women and children harvested shellfish and other edibles in the intertidal and shallow subtidal where no waka was needed. The best time to harvest kina is during spring and summer, when the five reproductive organs of mature kina are fully swollen. Kina are sexually mature when they are about 30-50mm in diameter and can live up to 30-50 years. Their growth rate depends on water temperature and the type and quantity of seaweed they eat. Snapper and Leatherjackets are some of the few predatory enemies of kina.

'When the kōwhai is in bloom the kina tongues are yellow and full, but sour; when the pohutukawa is in bloom, they are red, full and sweet. Kina may be harvested during the months of October, November, December, January and February. The best times to harvest them are at low tide on the first, second and third days after the full moon.'

The annual commercial harvest of kina (675 tonnes) is mainly sold within New Zealand, although kina are eaten in several other countries around the world. In Asia, and especially Japan, kina roe is a delicacy and in great demand. Some aquaculture research is undertaken in New Zealand to achieve kina roe that is similar in taste and texture to kina roe harvested in Japan.

Thanks to the Tūranganui Branch Māori Women's Welfare League for the following material:

harvested in summer months

'A screwdriver with a long wooden handle, tied to the wrist with a piece of string, is the ideal implement to use in prising the kina from the crevices and rock ledges.'



These two in the Wellington region are enjoying kina roe (eggs) by scooping it out with spoons and knives. Yum!



to prepare freshly harvested kina

Crack the shell open by piercing the centre or navel of the kina with a butcher's knife. Hold the kina steady with the left hand and press the knife down firmly with the right hand, at the same time levering the knife to the right then to the left. Since the shell is brittle, it should then open in two.

Inside you will find a cone-shaped mass of fine teethlike shell, a colourless salty fluid, five tongues, a membranous substance purplish in colour, and a quantity of what appears to be fine particles of grit.

Use a teaspoon to scoop the tongues from the shell, being careful not to include the membrane or grit. Place the tongues in a jar, and discard the shells and remaining contents.

Half a sugarbag of average-sized kina will fill approximately a one quart jar.

Kina prepared as above is called kina poha and will keep in the refrigerator from three to four days. Kina poha may be eaten uncooked, and is often spread on slices of buttered bread.

Māori in the early days used a large hollowed-out kina shell as a container for poha, and also sometimes cooked it in this container. They did this by placing the shell on the burning embers of an open fire, and leaving it until the contents were thoroughly heated through. The kinaki or complement to this dish was boiled or steamed kumara.

Another Method

The following method of preparation is very popular. One must however acquire a taste for kina prepared in this way, for not only the tongues but the entire contents are eaten. As kina are usually harvested in kit or sugarbag lots, fortunate indeed is the town dweller who owns a large copper.

Pour the kina into the copper, completely cover with clean cold water, and leave to soak for two days. (Some prefer three days; the time of soaking differs according to taste.) The kina will have lost a lot of its saltiness and strong flavour after two days, and the tongues become plump and much sweeter.

For those who live in the country, the nearest creek is of course the answer. The kina are left in the bag and the neck of the bag is tied up with one end of a long rope. Then the bag is thrown into deep water, the other end of the rope is fastened to the nearest tree or post, and the bag and its contents are left submerged for two days.

After this time open the shells as instructed, and scoop out the contents with a spoon. No cooking is required. It is eaten with boiled kumara or buttered slices of homemade bread.

KS & Miles Lamare

sources

www.teara.govt.nz/EarthSeaAndSky/SeaLife
www.flickr.com/photos
<http://teahou.natlib.govt.nz>

Kina Pie

2 cups prepared fresh kina tongues (poha)
1 cup breadcrumbs
2 rashers lean bacon

Place alternate layers of kina and breadcrumbs into a buttered pie dish, finishing with a layer of breadcrumbs. Cover with chopped bacon. Bake in a moderate oven 350° F. until the crumbs and bacon are crisp and the tongues cooked. About half an hour.

Kina Fritters

1 cup fresh kina tongues (poha)
4 ozs. flour
1 teaspoon baking powder
1 egg
½ cup milk salt and pepper

Mix together the dry ingredients, add beaten egg and milk to make a smooth batter. Stir in the kina tongues and leave to stand for half an hour. Fry dessertspoonfuls in hot fat. Drain on absorbent paper. Serve hot, garnished with wedges of lemon and sprigs of parsley.

* send us your favourite recipes

... traditional or modified, and even a photo of your dish to share with Kai Kōrero readers. Send to us at Kai Kōrero, CSAFE, University of Otago, PO Box 56, Dunedin or email to mahingakai@otago.ac.nz

› *did you*
KNOW? that the sea level has risen an average of 10 - 25 cm over the past 100 years and scientists expect this rate to increase?

Turning the tide

by using excellent educational material

Gretchen Robertson and Monica Peters, of the New Zealand Landcare Trust, have put together a superb resource kit for studying and monitoring estuaries – they called it **Turning the Tide: an estuaries toolkit for New Zealand Communities**. This is going to be a great help for kaitiaki wanting to look after their local estuary or actively manage an estuary within their taiāpure or mātaimai, or to track whether a rāhui is working. It's packed full of explanations for why estuaries matter and how to monitor ecological changes, mobilise your local community and basically get on with the job. There are also pointers of where else to find more detailed information to help you promote enhanced kaitiakitanga.

You can get a bound and colour copy of Turning the Tide for \$25 by writing to:

Gretchen Robertson
NZ Landcare Trust
26 Hunt St.,
Andersons Bay
Dunedin

Or email her at

Gretchen@landcare.org.nz

Alternatively you can download a full copy from **www.mahingakai.org.nz**

Hit the 'Species and Habitats' tab on the left-hand panel, and then the 'Estuaries' tab to find your way to this treasure. The Te Tiaki Mahinga Kai team congratulates Gretchen and Monica and the NZ Landcare Trust and thank them for encouraging its use by distributing it through our website.

HM



good goo

That gooey stuff that you can squeeze from kelp and other algae turns out to be amazingly useful. This is a 'polysaccharide' (a type of complex sugar) and has three main types, one of which chemists refer to it as 'alginate' (only in brown algae). Agar and carrageenan are both found in red and green seaweed. It is a key part of the seaweed's cell wall, stabilising it and providing tissue flexibility. At the same time, it can also act as a defence against exposure to light, air, warm temperatures, and salt stress. Humans have also found some weird and wonderful uses for seaweed extracts: toothpaste, ice-cream, underwear, and welding rods for a start!

KS & JP

ask an expert!

If you have a question about mahinga kai, tikanga, mātauranga, or your moana, awa or roto ... then please speak up! We'll find an expert to provide you with an answer. Some people define an academic expert as 'a drip under pressure!' But we'll do our best to find all sorts of knowledgeable people (not just academics) to respond. If you throw us a real curve ball, we may even ask a range of people to respond (tohunga, fishers, a social scientist, surveyor, scientist, or even an economist) whatever it takes.

You can send your question to 'Ask an Expert', Kā Rakahau o te Ao Tūroa (CSAFE), University of Otago, PO Box 56, Dunedin; or fax us on (03) 479 5266. You can also submit your question by email to mahingakai@otago.ac.nz or through the project website www.mahingakai.org.nz and click on the 'Ask an Expert' tab on the left hand menu bar.

› did you
KNOW?

that the highest tidal range (difference between low and high tide points) is over 16 metres (Bay of Fundy, Nova Scotia, Canada)?



We would love to receive your letters. We promise that we will not alter their sense in anyway. If we have to trim them to fit, we will send you back the proposed edited piece to check before we publish your letter in the next issue.

27 November 2007

Kia ora tātou

Brendon Flack and I attended the second national gathering of the *Te Tiaki Mahinga Kai* Forum on the 12 and 13 November at Ōnuku marae. It was well attended from all over New Zealand. It was very full on, and at times very strenuous on the brain to take it all in. The discussions went a lot longer than anticipated. I felt there was still much confusion with many of the other attendees who had not been at the first Forum meeting at Huirapa in July.

The project is a great vision and will be worthwhile to everyone, but, I think that there is a long way to go before major undertakings will begin. The presentations from the University of Otago were great. If we can get the ball rolling, it would be excellent to see some of these research programs in our East Otago Taiāpure.

We also worked in groups prioritising what we thought were the most important issues within our areas. Our collective thoughts be collated with the other groups and then a national set of priorities is to be finalized by late March next year.

Rua Hagan

(East Otago Taiāpure Committee member and Rōpu Mahinga Kai member)

SEND YOUR THOUGHTS TO US AT

Kai Kōrero
Kā Rakahau o te Ao Tūroa (CSAFE)
University of Otago
PO Box 56
Dunedin

or fax it to us on **(03) 479 5266**

or Email to us on **mahingakai@otago.ac.nz**

Tell us what you think about *Te Tiaki Mahinga Kai* and *Kai Kōrero*! Brickbats and affirmations are all welcome.

14 November 2007

Tēnā koutou

Just wanted to thank you again for including me in your *Te Tiaki Mahinga Kai* hui. It's wonderful to see your exciting project moving forward! I hope and expect that the Allan Wilson Centre will be happy to offer formal support to your kaupapa. We are a Centre of Research Excellence spread across five University campuses in New Zealand. I would be very keen to apply genetic research techniques to help solve practical problems faced by taiāpure and mātaimitai managers. Could you please send me electronic copies of the Technical Advisory Roles and Responsibilities document and the Research Code of Practice document? I'd like to forward these to our directors to help illustrate what the Centre's part might be in the *Te Tiaki Mahinga Kai* project.

Congratulations on a successful meeting and thanks again!

Ngā mihi nui,

Dr Kristina Ramstad

(Allan Wilson Centre for Molecular Ecology & Evolution, Victoria University of Wellington)

note from editor

The project protocol and Memorandum of Understanding for iwi entities and research providers to join *Te Tiaki Mahinga Kai* can be downloaded from the project's website:

www.mahingakai.org.nz

Click on 'About Us' and then on 'Joining TMK' tabs on the left of the screen.

> *did you*
KNOW? that if all the world's ice melted, the oceans would rise 66 metres?

tuna

a staple food of the tūpuna

awa method to catch tuna during this time. Koumu were ditches or trenches dug into sandbars in the lagoons. These could be 60 metres long and 60-120 centimetres wide and several metres apart from each other. At night when tuna were directed through into the koumu, tuna would either become trapped in hīnaki or be speared by waiting eelers. For example, this method was used in Waihora (Lake Ellesmere) and Waiwera (Lake Forsyth), on Horomaka (Banks Peninsula) in the 1840s. This method allowed eelers to harvest hundreds of eels in one night of fishing. By early winter, tuna would be swimming upstream again from the sea. Eelers simply turned hīnaki around to face the opposite direction and could catch tuna heading back again.

Tuna could be preserved by partially cooking or curing them over a fire or were sun dried, or stored in poha.

This first article was mainly about the importance of tuna in the past. We would like to hear from participants in *Te Tiaki Mahinga Kai* about how the tuna are fairing in your rohe. We'll print your story and any old photos you might have of the harvest in the next *Kai Kōrero* if you wish.

Send your material to *Kai Kōrero*, Kā Rakahau o te Ao Tūroa (CSAFE), University of Otago, PO Box 56, Dunedin.

JL



This photo of hīnaki (eel traps) was taken between 1890-1930. Weaved hīnaki could be made in a variety of sizes, some could be quite large, as can be seen in this photo in comparison with the table in the background.

Reference No. 1/1-007414-G Part of Head, Samuel Heath, d 1948 :Negatives (PAColl-3049), from the Alexander Turnbull Library Pictorial Collection

sources

Anderson, Atholl (1998). *The Welcome of Strangers: an Ethnohistory of Southern Māori A. D. 1650-1850*. Dunedin, New Zealand: Otago University Press in association with Dunedin City Council

Evison, Harry (1993). *Te Wai Pounamu, the Greenstone Island: a History of the Southern Māori during the European Colonization of New Zealand*. Christchurch, New Zealand: Aoraki Press in association with the Ngāi Tahu Māori Trust Board and Te Rūnanganui o Tahu

Keane, Basil. 'Te hopu tuna – eeling', *Te Ara: the Encyclopedia of New Zealand* www.teara.govt.nz

King, Michael (1994). *Māori: A Photographic and Social History*. Auckland, New Zealand: Reed

Te Waka a Maui me ona Toka Mahi Tuna (1996). *Eel Management Plan Covering the South Island of New Zealand*. Ed. Ministry of Fisheries, New Zealand: Te Waka a Maui me ona Toka Mahi Tuna and the Ministry of Fisheries

gee whiz!

Tuna was a big part of the diet in South Canterbury. Some records say that in 1880, tuna made up 75% of food harvested from mahinga kai in the region!

Source: Anderson, Atholl (1998). *The Welcome of Strangers: an Ethnohistory of Southern Māori A. D. 1650-1850*. Dunedin, New Zealand: Otago University Press in association with Dunedin City Council, p132

origins of tuna

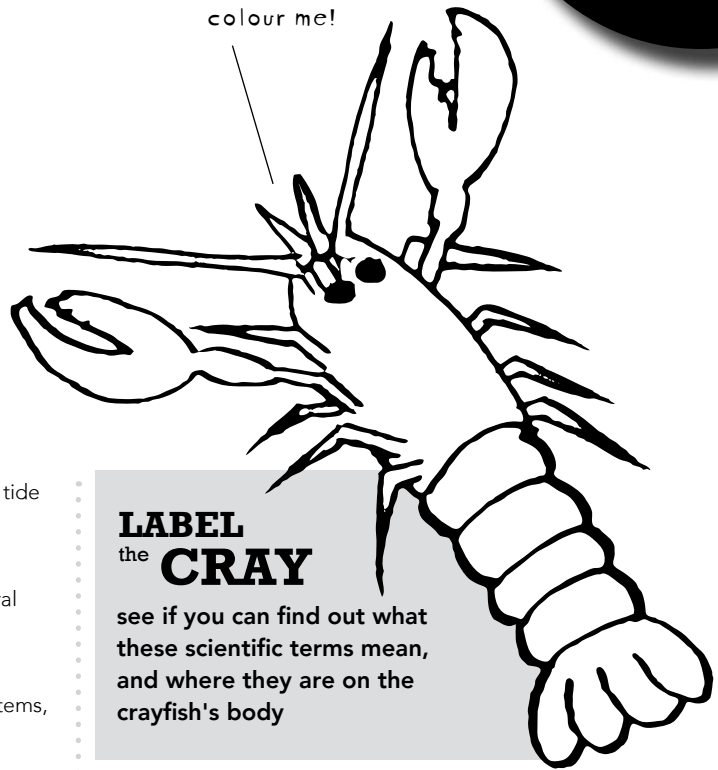
There are many stories of how eels came to be. One is that a giant eel, Tuna, scared the wives of Māui. Māui punished Tuna by cutting him in two! One half fell in the moana (sea) and became the kōiro and the other half landed in an awa (river) and turned into the freshwater eel!

Sources: Beattie, James Herries (1994). *Traditional Lifeways of the Southern Māori: The Otago University Museum Ethnological Project, 1920*. Edited by Atholl Anderson. Dunedin, N.Z.: University of Otago Press in association with Otago Museum, p141
Keane, Basil. 'Te hopu tuna – eeling', *Te Ara: the Encyclopedia of New Zealand* www.teara.govt.nz

quiz

- How many arms does a starfish have:
four, five or six?
- How do sharks swim?
a. They float near the surface
b. They move their bodies from side to side
c. They hold onto other fish
- What do dolphins use to breathe?
a. gills
b. blowhole
c. nose
- Where do crayfish live?
a. Near the top of the ocean
b. On the beach
c. At the bottom of the ocean near rocks
- Coral polyps are related to the anemone of tide pools.
True or false?
- Corals like cold water which is why most coral reefs are found in deep water.
True or false?
- Estuaries are such highly productive ecosystems, that half of living matter of world's oceans live there.
True or false?
- Guano is waste from birds that fertilizes the soil of atoll islands.
True or false?

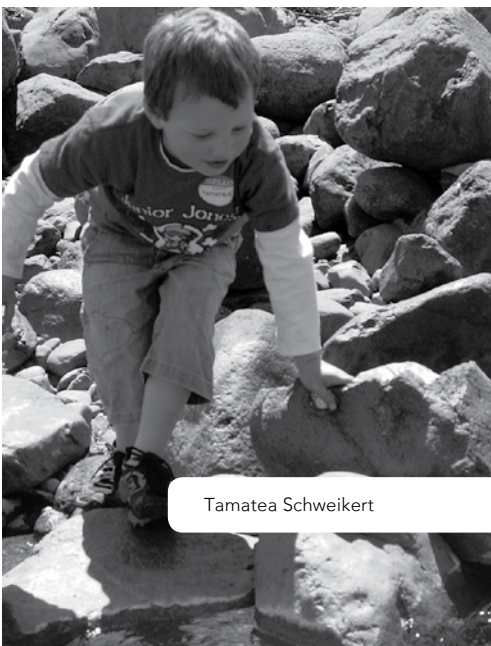
» Use the library or internet to find the answers! We've printed them on the inside back cover so you can test your research skills.



LABEL the **CRAY**

see if you can find out what these scientific terms mean, and where they are on the crayfish's body

- short antennae
- tail fan
- uropods
- abdomen
- cheliped
- cephalothorax
- carapace
- cephalic groove
- long antennae
- telson
- rostrum
- swimmerets



Tamatea Schweikert



Mātaítai, taiāpure, and rāhui provide a great opportunity for children to learn about their world, their place in it, and how we need to look after the environment to sustain ourselves. **Katja Schweikert** is a Postdoctoral Fellow in Te

Tiaki Mahinga Kai's research team who has particular expertise about seaweeds. She also teaches school children, including the Gifted & Talented classes, that regularly visit New Zealand Marine Studies Centre at the Portobello Aquarium on Otago Peninsula. Katja put together this educational material for the young and young at heart.

weight of fish could be produced in an area managed traditionally in comparison with the rest of the beach under MFish (MAF at the time) control. The reply was that it would cost us \$800. I was only young at the time, but I remember our people trying to get our little patch of about eight chain set aside at the south end of the beach – which is from where everyone used to get their toheroa. In return, we were prepared to teach everyone how to fish toheroa, so that the whole beach could be as good as where we fished. The Ministry were in charge and would not entertain the idea. In no time, the area our people had developed and fished was absolutely stripped – and remains that way now.

Eventually even the Ministry recognised that there was a problem and closed the fishery completely. It has stayed that way for so long that our people have lost touch with how to fish and care for toheroa. Since the Waihopai Rūnanga have been issuing Customary Fishing Permits the fishery has improved, but some of the breeding stock is still being taken because some of the fishers are taking what the Ministry call legal (100 mm or 4 inches) and they do not leave the black stripers to breed.

As well, cars and trucks are permitted to drive on the nursery area, destroying the juvenile fish. There is plenty of space for cars above that, so we should be putting a stop to the traffic.

But the ongoing issue is that traditional Māori methods for managing mahinga kai are still not being given a fair go. The Ministry of Fisheries has taken care of fisheries management for so long that our young people would not know how our tūpuna did it, and only some of our elders know how they managed some species in the past. The knowledge of these elders must not be lost. *Te Tiaki Mahinga Kai* is a chance to use science to prove that the systems our tūpuna used still work today. If we could be all brought together – from the older kaumātua to the youngest mokopuna – with scientists to discuss, test, and record what we do, I am sure the results will be enormous. Maybe then government and scientists will listen more to us Māori?

Graham Metzger

Graham Metzger

Graham ('Tiny') Metzger acts as a cultural mentor to many of the students contributing to *Te Tiaki Mahinga Kai*. He was brought up in traditional life-ways of southern Māori: he has had a lifetime (75 years so far and going strong!) of practising customary harvesting of a wide variety of mahinga kai – his household and many of his whānau still mainly survive by wild food gathering, gardening, and food exchange. Tiny was awarded a Queen's Service Medal in 1996 and He Tohu a Tā Kingi Ihaka from Te Waka Toi in 2004 for sustained service to Māori culture. Tiny has been one of the main instigators of *Te Tiaki Mahinga Kai*, from concept inception, work on the steering group, and vigorous networking and support of its kaupapa within Ngāi Tahu whānui. He is actively involved in tribal wānanga (most lately the Ahoi te Rangi Trust funded by Te Rūnanga o Ngāi Tahu to teach traditional weaving skills that were almost lost).

You can read more about Tiny and other *Te Tiaki Mahinga Kai* kaumātua by visiting www.mahingakai.org.nz and clicking on the 'About Us' tab.

Learning from debate

One of the goals of *Te Tiaki Mahinga Kai* is to foster open debate and consider all views. That's the way forward for any dialogue on mahinga kai – consider all the info and pick what you think is best for your mokopuna, and their mokopuna. Graham ('Tiny') Metzger has shown us the way – say it like you see it! We welcome replies from scientists, or Ministry officials, or anyone with the experience and knowledge to speak on this or other issues. The editors of *Kai Kōrero* will not censor or flavour the discussion in any way. You can send us a short letter or a full article.

C'mon then, bring it on!

HM

Governance of Te Tiaki Mahinga Kai bringing pāua to the people!

elected as representatives of their respective iwi or hapū entities. Indeed, they are expected to make decisions according to the national priorities set by the Forum and not to favour their own local interests – however easy or difficult that may be. The Rōpu Mahinga Kai will produce an annual report on their activities and present this to the Forum – ultimately they are accountable to, and will take guidance from, the Forum.

Te Tiaki Mahinga Kai in action - how things will work

Fundraising

The inaugural hui decided that the Forum should not take on a formal legal identity, and so it is unable to sign contracts on behalf of the collective and is limited in its ability to raise funds for the project. Instead, Forum members will act as 'research hosts' for service providers working on the various research activities related to the Project and which benefit the whole collective. Where major contracts have a national reach, the Forum members will take turns to host these key contracts.

Service providers can be researchers, educationalists, managers, consultants, or providers of biological material (eg. seed for scallops or pāua). A service provider might bid directly to an external funding agency to do work for *Te Tiaki Mahinga Kai* – the FRST contract to Kā Rakahau o Te Ao Tūroa at the University of Otago is an example of this. Alternatively, an iwi or hapū entity might bid directly to a funder in their own name and then subcontract a service provider – for example, the Ōraka-Aparima Rūnaka successfully applied for funds for toheroa research from the Ministry of Fisheries, and then subcontracted Kā Rakahau o Te Ao Tūroa to do the work. There will be some (relatively small) amounts collected

as donations for the Project as a whole (see p 13 for how you can donate) and to be held in trust by the University of Otago for distribution by the Rōpu Mahinga Kai in ways that they judge will best serve the Project's vision.

Technical Advisors – helpers on the sidelines

Research Partners on the Project will be invited to provide a representative to sit on the TMK Technical Advisory Group. They will provide guidance to the Rōpu Mahinga Kai and the Forum on technical issues. These representatives may attend Rōpū Mahinga Kai meetings and will facilitate the relationships between the Forum members and their own supporting agencies. Technical Advisors will not have a vote during Rōpū or Forum gatherings, but are there to assist the overall vision of *Te Tiaki Mahinga Kai* in any way that they can.

The Protocol – tying it all together

There are lots more details of how we will all work together in the *Te Tiaki Mahinga Kai* Protocol. If you have access to the internet, you can download the full Protocol from the Project website: www.mahingakai.org.nz. Click on 'About Us' on the left hand menu bar, and then on the download files at the bottom of the section on Governance. If you are not online, write to us at *Kai Kōrero*, Kā Rakahau o Te Ao Tūroa, and request a copy to be posted out. The Protocol sets out the tikanga of the relationships and whānaungatanga that will be needed to achieve the Project's vision. All iwi and hapū entities wishing to be part of the *Te Tiaki Mahinga Kai* Forum will need to ratify the Protocol as a signal of their intention to share in this collective relationship. Researchers will be asked to sign a Memorandum of Understanding saying that they will abide by the rules set out in the Research Code of Practice adopted by the Forum.

HM

› *did you KNOW?* that each year world wide there are up to 75 shark attacks on humans with fewer than 12 fatalities, but at the same time, human fishing activities harm 20-100 million sharks?

Upcoming funding opportunities

Working to support mahinga kai is expensive. We'll try to compile a list of upcoming grant applications that the kaitiaki can apply to for their work. The Te Tiaki Mahinga Kai project team is willing to support Forum members to prepare grant applications.

If you want help, contact:

Henrik Moller on (03) 4709244
or email mahingakai@otago.ac.nz

We know of the following potential funding sources coming up in the first six months of 2008. Scout around though – there are bound to be others that we haven't heard of.

Te Tipu o te Wānanga research grants, FRST applications due 13 February 2008
www.frst.govt.nz/research/TTW_Part1.cfm#application

Ngā Pae o te Māramatanga applications due 29 February 2008
www.maramatanga.co.nz

Te Tipu Pūtaiao, student and postdoctoral grants for research in support of Vision Mātauranga applications due mid-March 2008
see www.frst.govt.nz

Sustainable Management Fund applications due January 22 2008
www.mfe.govt.nz/withyou/funding/smf

Ministry of Fisheries Customary Fisheries research applications due ca June 2008
www.mfish.govt.nz

Pacific Development & Conservation Trust applications due 1 March 2008
www.dia.govt.nz/diawebsite.nsf
- and use keywords typed into the search field

HM & GH

take your project online

The project team stands ready to help each taiāpure, mātaimai, or rāhui management team to create a webpage about their area, bylaws, upcoming events, etc. We are using website software called Plone that is easy to use and is designed to allow collaborators from far and wide

to build a community website. Email mahingakai@otago.ac.nz, or ring Henrik Moller on (03) 479 9244 if you want to create your very own pages. We will come and visit you and get you started. You'll be an electronic whiz kaitiaki in an hour flat!

Kaikoura Rāhui Day celebration

Congratulations to The Kaikoura Marine and Coastal Protection Society and Te Rūnanga O Kaikoura, organisers of the Kaikoura Rāhui Day celebrations held on 27 October 2007. The whole community embraced the event, both young and old from all walks of life, as people gathered to take part in the fun and learn more about community management of their marine environment.

Spring, in its usual unpredictable manner, decided it wasn't quite finished with winter, and although the clouds threatened and the temperatures plummeted, the forces of Tawhiri-mātea and Whatitiri were mild. The fresh snow on the mountains surrounding the Kaikoura peninsula merged the colours of the sky, land, and sea, providing a backdrop of an inseparable marine and land environment. The weather, however, did not deter the constant stream of locals and



· did you
KNOW? that Antarctica has as much ice
as the Atlantic Ocean has water?

visitors flowing to the historic grounds at Fyfe House. Rides on the Coast Guard Boat (which I was itching to get on, but typically left until too late), buoyed by the driving winds, saw many arriving back with windswept hair and big smiles. The wide variety of displays from The Kaikoura Marine and Coastal Protection Society, CrayMac7, Pāua3, Ministry of Fisheries, Department of Conservation, and the Historical Society, to name just a few, provided an opportunity for visitors to connect with the organisations, and chat with some of the people behind them.

The rāhui celebrations focused on interaction: activities like pāua tagging and measuring, as well as the judging of marine themed competitions for local schools, lent a family atmosphere to the celebrations. It was a pleasure to observe the fascination and delight of the young as they loaded up their pockets with the educational freebies and tried the various activities; meanwhile their whānau and friends made good use of the time mingling among the displays sampling the kai on offer, and catching up with other locals.

The TMK display was hard-pressed to compete with the free chocolate fish and glossy fish stickers that the Ministry of Fisheries were offering, and the hands on opportunity to assist with pāua tagging. Nonetheless, many of those who spoke with us were interested in hearing about TMK and the application of mātaimai and taiāpure reserves. Nor was it only the visitors to the celebrations who were mingling; armed with cups of hot seafood chowder and fresh coffee, representatives got out from behind their stands and joined the public in learning more about the initiatives happening in the area. A homeless stack of brochures on the threat to the survival of the fur seal caused some mischief, as two anonymous individuals attempted to sneak the brochure onto various displays; displays that weren't too keen on hosting it!

Our appreciation goes to the organisers for inviting TMK to share in their celebrations. We hope that the spirit of the day lives on in the Kaikoura community, and the rāhui continues to benefit and enhance the local environment and people.



For more information on Kaikoura's rāhui please follow these links (or contact your local Ministry of Fisheries office):

www.fish.govt.nz

- type 'Kaikoura coastline Rahui' into the search field at top

www.mahingakai.org.nz

- type 'Kaikoura Rahui' into the search field at top

AM

The Kaikoura Community is grateful for a grant of \$1250 From the St Kilda Marine Environment Trust for promotion and raising awareness of the Rāhui celebration day. The SKMET's purpose is to help fund research, education and protect and enhance New Zealand's marine environment for the benefit of future generations.

website **www.stkilda.org.nz**



St Kilda
Marine Environment
Trust | SKMET

quiz Answers to questions in Kidz Korner

- | | | | |
|---------|---------|---------|---------|
| 1. five | 2. b | 3. b | 4. c |
| 5. True | 6. True | 7. True | 8. True |

sign up to receive

Kai Kōrero

If you want to receive *Kai Kōrero*, fill in the form below and post or fax it to us. You can also go online to register automatically (visit www.mahingakai.org.nz and click on the *Kai Kōrero* link down the left hand side). Choose either to receive it only electronically (ie, via email), or, if you want a belt and braces – ask to have a paper copy mailed out as well as getting an electronic version. The advantage of the electronic version is that it will all be in colour – cost prevents us from producing all but a few pages in colour when we print it.

We hope to produce at least two issues each year and will mail it out to you free of charge. C'mon, register other members of your whānau or rūnanga, hapū, NGO, work place etc. if you think they will be interested.



sign up by post

cut out and send to Kai Kōrero, CSAFE,
University of Otago, PO Box 56, Dunedin.

name

affiliation

eg. iwi, hapū, rūnanga, government agency,
university etc.

mataitai, taiapure, or rahui closure area

Please indicate any management area that you
particularly identify with or fish within.

email address

street address or PO box

city and postcode

phone number

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Te Rūnanga o NGĀI TAHU

UNIVERSITY
of
OTAGO



Te Whare Wānanga o Otago

The Kai Kōrero Team

Unless otherwise indicated, the articles in this issue were produced by the research team of *Te Tiaki Mahinga Kai*:

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Te Karaka provided the photo of Kelly Davis. Andrew Penniket sent us pictures of tuna. Additional photos by Henrik Moller.