

# River Estuary Watch

River-Estuary Care: Waikouaiti – Karitane

JANUARY 2016

River - Estuary Care



Waikouaiti - Karitane

## Pūmaiterangi



*Pūmaiterangi on the Waikouaiti*

Pūmaiterangi, a 28ft waka on loan to local canoe club Hauteruruku ki Puketeraki. The waka is being used for some of the river and ocean monitoring work taking place around our Taiāpure. Built several years ago, it has a sail set-up similar to those used in Tahiti, centuries ago, and is a fast and capable vessel.

Pūmaiterangi will return to his home up north, after our summer has ended. Many thanks to Hoturoa Kerr and Te Toki Voyaging Trust, the Ngāi Tahu Fund, and NZ Marine Studies Centre.

—Brendan Flack

## Buzzy Local Science with International Impacts East Otago Taiapure Research Evening

Over the last 7 years science research in our community and along our immediate coast by 35 postgraduate students from the University of Otago and others has resulted in 25 academic publications which have had “big impacts in the science world internationally” according to Dr Anne Marie Jackson, an academic supervisor of some of those students.

Over 70 people from the community gathered at Puketeraki Marae in late November for the 7th annual East Otago Taiapure Research Evening. This gathering has become a way for scientists and science students to “report back” to our community their findings – and for locals to show their appreciation for the hard work over the past year.

After welcoming everyone, East Otago Taiapure Management Committee Chairman, Brendan Flack, gave a review of local fisheries management activities over the last season.

Dr Chris Hepburn, supervisor of many of the marine science students, announced the CARIM (Coastal Acidification: Rate, Impacts & Management) project will choose the Huriawa Peninsula /Karitane as one of three sentinel sites in New Zealand designed to track seawater pH over the coming years. Increasing atmospheric carbon dioxide has already caused the oceans pH to drop and this process, termed ocean acidification, could have major implications for marine ecosystems and fisheries. Part of the reason for CARIM choosing the Karitane site is the clear potential repercussions for the health of our local fisheries and the strong connection between the local community and the marine environment. The quality of research done on our local fishery, particularly on the role of kelp forests in providing habitat for paua and

other shellfish (predicted to be most impacted by ocean acidification) will allow the CARIM team that includes scientists from NIWA, the University's of Otago, and Auckland and the Cawthron Institute to tailor the monitoring to be useful for making management decisions along this coast.



Dr Pete Russell, researcher for Kati Huirapa ki Puketeraki, gave a rundown of the He Pataka Waiora Project. This amazing project is carrying out a four season baseline water sampling on the Waikouaiti River. You may have noticed the research team out over the past year in all kinds of weather gathering samples and doing measurements on dissolved oxygen, pH, salinity, and nutrients. They will also be looking at physical processes brought on by the formation of shallow residual pools of high salinity.



*He Pataka Wai Ora team monitoring the Waikouaiti River Estuary*

Chanel Phillips, School of Physical Education, Sports and Exercise Sciences Master's postgrad student and coordinator of Ki uta ki tai:Volunteer Week reported her study findings, Mahinga Kai – He Tangata, Mahinga Kaitiaki – He Mauri, on the importance of mahinga kai/food gathering practices and places as they relate to people developing relationships with one another and with places. Her study also looked at conservation practices around mahinga kai in relation to conservation practices, helping people, communities and environments.

Dr Daniel Pritchard, Researcher for Te Rununga o Ngāi Tahu (TRONT), talked

about fisheries research in the East Otago Taiapure and reported survey results from Te Tiaki Mahinga Kai project team over the last 8 years. . He credited the community for inspiring and encouraging research scientists saying "It does matter – to have people who care about your research". He also said scientists and students get work later because of work they've done in the East Otago Taiapure.

Georgia Bell, Marine Science Masters student talked about her study of dynamics of rainfall induced fecal contamination in the Waikouaiti River estuary. One important finding was that rainfall is not always a good indicator of E. coli contamination of shellfish. Her further research was looking at measuring salinity as related to E. coli and pending genetic sequencing analysis over the following months that may allow the source (e.g. human, avian, ruminant) of fecal bacteria in the river to be identified

Ngahuia Mita, School of Physical Education, Sport and Exercise Sciences, Masters postgrad student told of her ongoing study, Hauteruruku ki Puketeraki - Connecting to Te Ao o Takaroa based around a waka ama group, strengthening cultural connections, and connections with other research.

Susan Wells , Masters student in Marine Science looked at changes in cockle growth rate since human arrival in Otago. As New Zealand was one of the last land masses to be settled there is good retrievable



archaeological evidence in cockle growth patterns to document changes in climate for all of human history in NZ. With increased sedimentation of aquatic habitat current day cockles take 4-5 years longer to reach the size they did in historic times. As filter feeders they bring in more sediment and less usable food.

Eugene Leahy, Marine Science Masters student, is documenting locations for the invasive kelp *Undaria* over four seasons and measuring harvesting effort of the species as a potentially marketable product. The goal of his work is to provide a self-sustaining long-term control programme for this species by developing products (e.g. food, pharmaceuticals) that can pay for removal and control of this exotic marine pest.

Sunkita Howard, PhD student in the Department of Zoology and Marine Science looked at how accidental shark attacks affect commercial longline fishing operators. By working with experienced long line ling fishers on the West Coast she documented the catch/bycatch, practices and work flows involved in this fishery and hoped to develop a possible device to deter the sharks from being attracted to ling long lines.

Two undergraduate Marine Science students, Simone Jarrett and Niall Pearson, reported their findings from field research done in the Waikouaiti River Estuary as part of their Aquaculture and Fisheries 301 paper at the University of Otago. They did a comprehensive survey of the invasive weed, spartina, in the Waikouaiti River Estuary. They found that sites had increased from 19 in 2004 to 56 current locations. The largest site covered 1.3 hectares. They also documented biodiversity near these sites.

Evie Fachon, undergraduate research project student from Northeastern University, Boston, Massachusetts, USA looked at kelp forests and ocean acidification. Her studies suggest that rich kelp forests, such as those off our local coast, could play a critical role in buffering potential damage to vulnerable marine organisms.

Tom McFarlane, Science Communications Masters student's presentation "Redispose - a gathering of positive alternatives to throw-away culture" was a combination of philosophy, humour and quirky clever inventions he'd developed as an alternative way of thinking about our throw away culture.

These research evenings are positive, entertaining and informative. Researchers are cheered by the audience, the community is given acknowledgements by the researchers, and we all get a chance to catch up and visit over a post-match supper. It's one of those really worthwhile annual events for all concerned. What a buzz!

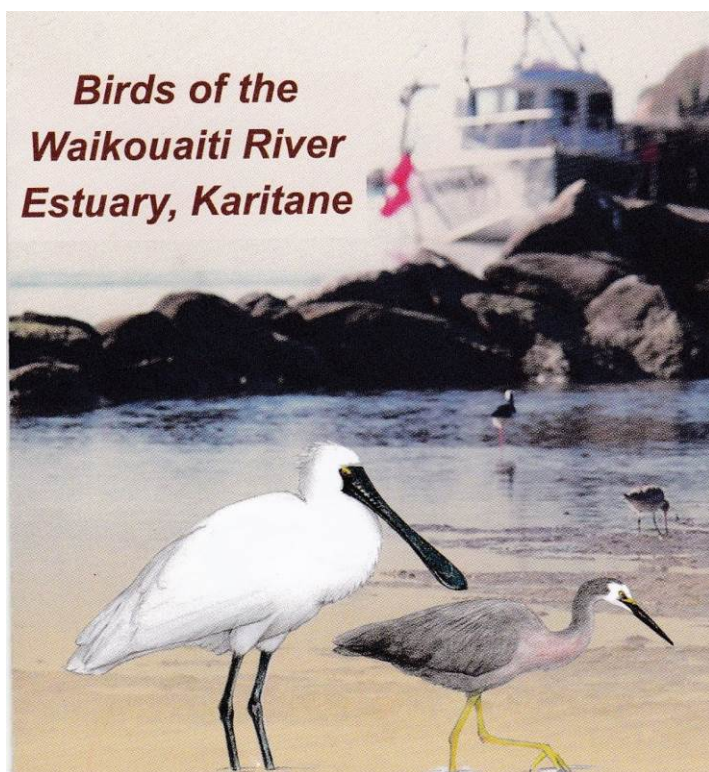
—Patti Vanderburg





## Our new pamphlet

### *Birds of the Waikouaiti River Estuary, Karitane*



**Kōtuku Kūpapa**  
Spoonbill

**Mātuku Moana**  
White-faced Heron

**Royal Spoonbill / Kōtuku Kūpapa** (native) Apart from a few birds nesting with the White Herons at Okarito, spoonbills were rare in NZ until the 1970s when, starting in Marlborough, they spread throughout the country. Locally they nest on coastal cliffs at Moeraki, Taiaroa Head and Green Island and the dozens of birds on the estuary from November to April are either young non-breeding birds or those moving to and from their winter areas up north to these colonies and those further south. There are usually 20-30 birds over summer with 1 or 2 staying overwinter in recent years. Highest count 63 in autumn.

**White-faced Heron / Mātuku Moana** (native) Surprisingly, White-faced Herons only arrived from Australia in the 1930s and quickly became the commonest heron in NZ, displacing the native Reef Heron on many estuaries and harbours. They are found throughout the estuary all year, with up to 15 birds in winter and higher numbers in summer, especially just after the young have fledged from the nests high in the trees around Cherry Farm (Hawksbury Village). Highest count 41.

*For 10 years the Bird Counting Group of Waikouaiti-Karitane River Estuary Inc. have surveyed the estuary from the wharf to the railway bridge and the upper reaches of Merton Arm. Counts take place every 6 weeks and include the adjacent marshier paddocks. The information on numbers, distribution, nesting, and seasonal changes is based upon this effort. To take part in the counts please contact Allan Kilner 03 4658411.*

*(please note Maori names vary regionally)*

Our new pamphlet is now available at local shops, the library and from bus driver, Graham.

We are extremely grateful to local artist and ornithologist Derek Onley for all his hard work in producing such beautiful and detailed illustrations, along with lots of information which is particularly relevant to our area. Derek's sketches and watercolour paintings are done from live observation, museum studies and his personal 20 year collection of art and photos. He comes out in all weathers to encourage our bird monitoring group and continues to collate and provide interpretation of their data. In addition, Derek provides similar support to several other local conservation groups.

Derek is well known for his illustrations in "The Field Guide to the Birds of NZ" and "The Hand Guide to the Birds of NZ". He co-authored "Albatrosses, Petrels & Shearwaters of the World" All these books can be purchased at the University Bookshop in Dunedin.

## Habitat Restoration

Over the nearly 17 years of RECWK's existence we have planted more than 15,000 plants of native species along approximately 7 km of fenced river and wetlands habitat.

The first two plantings were:

Planting day September 2007, after the area had been fenced off from grazing for a year) and the same site in January 2016



*Regenerating Salt Marsh*





Planting near Karitane September 2007



Same site January 2016



Planting on State Highway 1

## Thank You, “Otago Fish & Game Council”

Over the history of RECWK we have been fortunate in receiving a number of donations and grants permitting us to purchase plants for our Habitat Restoration efforts. Gradually we have been able to propagate more of our own plants in cooperation with Kati Huirapa Runaka ki Puketeraki, Hawksbury Lagoon Group, Inc., and East Otago Taiapure.

A successful grant application to Otago Fish and Game Council has now provided us \$3,000 to upscale our efforts with a proper shade house. Kati Huirapa Runaka ki Puketeraki has kindly provided the site on which to place this.

We also wish to express our sincere appreciation to Otago Fish & Game Council for their considerable support. It is hoped that we will shortly have this shade house in operation providing us with the capability to produce the greater portion of our own plants.

—Joel Vandeburg

To become a friend of the River and Estuary Care: Waikouaiti—Karitane	Phone or email Brad – 03 4658334 or <a href="mailto:brad126@xtra.co.nz">brad126@xtra.co.nz</a>
Should you wish to kindly make a donation	<p>Online:</p> <ul style="list-style-type: none"> <li>▪ Enter our name: Waikouaiti-Karitane Rivercare Group Inc) (this will appear on your statement)</li> <li>▪ Enter our bank account number 060942 0190792 00</li> <li>▪ Enter your name and reason for payment e.g. donation to friend of Waikouaiti-Karitane Rivercare Group (Inc) (this will appear on our statement)</li> </ul> <p>or post donation to 1333 Coast Rd Karitane</p>

### River-Estuary Care Waikouaiti - Karitane

Active since 1999 – Incorporated in 2001

Coastal Otago Conservation Award for 2005

#### Objectives

- To restore balance to Papatuanuku (Mother Earth).
- To have a well-informed community about our river and estuary.
- To have our community participating in sustainable resource practices.
- To have a healthy, productive river and estuary ecosystem (fishing, biodiversity, general health).
- To promote an understanding of the inter-relatedness of our river and estuary ecosystem with adjacent ecosystems.

**Anyone interested in supporting the above objectives may join!**

**Would you like to help with a project this year? Then contact**

- Newsletter – Hilary Yeoman ph 465 7687.
- Revegetation project – contact Andy Barratt ph 021 890 048.
- Education, information and advocacy project – contact Patti Vandeburg ph 465 8113.
- Birdwatching – contact current convener Allan Kilner, phone 465 8411.

Produced with assistance from the Otago Regional Council

