

Tēnā koutou katoa

I'm delighted to start my new role as Environmental Education Officer and can't wait to work with you over the next year or so. My background is in marine biology having worked as the Marine Ecologist at the Taranaki Regional Council (TRC) for the past six years and as a Marine Biology Lecturer at Swansea University UK for 10 years prior to that. I've had an invaluable term-long handover with the master himself, Kevin Archer, and am rapidly coming up to speed with other areas of the TRC education programme. This issue of SITE provides an ideal opportunity to recap on the education programme that we offer. To book lessons and fieldtrips, email me on education@trc.govt.nz, the sooner the better to get your dates.

I've loved working with a number of schools in Taranaki through the Curious Minds Participatory Science Platform (PSP). Projects that I've been involved with include the Waitara Kaimoana Survey, Project Hotspot and Dotterel Defenders. The PSP projects provide an incredible opportunity for students to meet scientists, drive projects and make a real difference. The great news is that there is currently another call for funding. I highly recommend that you get in touch with Josh Richardson at Venture Taranaki to discuss any exciting ideas that you have. If your project is environment related you might end up working with scientists from TRC.

I'm not sure how familiar you are with all of the awesome environmental educational resources available online. Over the next few issues of SITE I'll provide an opportunity for you and your students to become familiar with some of the resources (page 3). This issue focuses on a website called NatureWatch NZ that can be used to record and identify species. Several of the Taranaki-based PSP projects have used NatureWatch NZ as a valuable tool to build species records and we'll use some of these examples to help you get your head around how the site can be used as an educational resource. If you'd be interested in learning how to enter species sightings in NatureWatch NZ for identification and environmental education purposes get in touch and we can look into organising a staff development session. Enjoy!

Nāku noa nā,
Dr Emily Roberts

TRC Education Programme

This issue of SITE outlines the Education Programme offered by the Council. From alpine rainforest to rocky shore, we offer a range of environmental educational experiences and resources for students and teachers.

Calling all Curious Minds!

The 2018 funding round is now open for community-led research projects local to Taranaki. If your school has an interesting science and/or technology research idea Venture Taranaki can help turn this idea into a project through the Curious Minds Participatory Science Platform (PSP, <https://tinyurl.com/curiousmind>). Applicants can apply for up to \$20,000 and proposals are due by 15 March 2018. It is worth starting your application early to allow time to fully develop ideas and collaborations. For more information contact Josh Richardson at Venture Taranaki, josh@venture.org.nz, 06 759 5158.

The PSP projects allow schools to work alongside scientists and tech experts on questions or problems that are relevant to them and have enduring educational value. This is the fourth round of PSP funding for Taranaki and for the previous three rounds TRC staff have been providing scientific support for environment-based projects run through schools. The projects have allowed students to work alongside Council staff to develop investigations, encouraging the students to start thinking like scientists. See page 3 for examples of awesome projects funded through previous PSP rounds.



TRC Education Programme

Here is a general overview of the educational programmes that we currently offer at the Council. We often use the approach of field trips supported with classroom lessons. We can also provide advice and support with developing your teaching programmes or environment-based action projects, so if this is something that you might be interested in please get in touch.

All of our study units are available online via the TRC website: www.trc.govt.nz/environment/working-together/schools-programme/education-at-your-place-or-ours/study-units/

The following programmes are available throughout the year:

Rocky shore studies

Rocky reefs dominate the Taranaki coastline and provide a wonderful habitat to explore. Kāwaroa Reef in New Plymouth is the most commonly used site, but if you would be interested in studying a reef location closer to your school get in touch and we can discuss options. At primary and intermediate levels rocky shore investigation focuses on species identification and adaptations of the organisms to the environment. More advanced quantitative surveys can be undertaken at intermediate and high school level on request.



Stream studies

At primary level this involves finding and identifying stream bugs and measuring other water quality parameters including water clarity and temperature. Year 12 and 13 classes and adult groups often use the Stream Health Measurement and Assessment Kit (SHMAK) that enables collection of scientifically robust data that can be used to make assessments of stream health.

Wetland studies

There are some excellent wetland areas suitable for school visits. Popular ones are Nowells Lake, near Hāwera and Barrett Lagoon and the Peringa Park wetlands in New Plymouth. We have a wetlands study unit available online and we also recommend booking a visit to the Taranaki Wetlands exhibition at Puke Ariki on show throughout 2018.

Mountain studies

Stream studies are an option for school groups visiting the mountain and there are a number of short walks available where students can learn about the importance of weather stations and local wildlife.

Pond studies

Studies investigate invertebrates, plants, birds and other wildlife found in ponds.

Council gardens

We have programmes at all three of the Council gardens - the Rainforest School at Pukeiti, the Woodlands School at Hollard Gardens and the Riverside School at Tūpare. There are a range of activities on offer which cover many aspects of native biodiversity, predator control, composting and sustainable gardening. Check out the online study units for activity options (pot-a-plant at Pukeiti is particularly popular). Visits to Hollard Gardens are best suited to Mondays and Fridays due to staff availability. Trips to Pukeiti and Tūpare can be arranged for any day of the week.

Protecting native biodiversity


Native wildlife in Taranaki is under constant attack from pest animals and plants, posing a serious threat to regional biodiversity values. Lessons about pest animals and plants can be taken at school or at the Council gardens. They cover the damage they cause and how they can be controlled. There are also a number of relevant mini units available on the Council website.

Transport

The Council operates a number of bus services in our region. We have personnel who can talk to classes about these services.

We also offer lessons on request on Waste Minimisation and Civil Defence Emergency Management (CDEM).

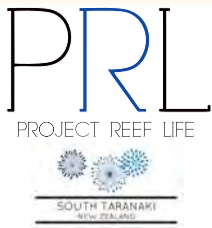
Need support with anything else? – We are here to provide advice on any aspects of environmental education relevant to TRC responsibilities. Please feel free to contact us

 06 765 7127

 education@trc.govt.nz

 www.trc.govt.nz

Here are some examples of exciting projects previously funded through the Curious Minds Participatory Science Platform



Project Reef Life have been investigating a rocky reef 11km offshore from Pātea. The South Taranaki Underwater Club are leading this investigation with support from the TRC and a range of other marine scientists from around New Zealand. As part of the project, students from Hāwera High School and Pātea Area School have analysed quadrats and video footage from seabed surveys, monitored fish using a hook and line technique, designed a species identification guide and presented their results to parliament. The project is the recipient of a TRC Environmental Award and a highly prestigious Green Ribbon Award. Check out the website (www.projectreeflife.org) and follow the project on Facebook (www.facebook.com/projectreeflife).



Project Hotspot has been capturing local knowledge on four coastal threatened species in Taranaki (orca, reef heron, little blue penguin and New Zealand fur seal) and using this information to better protect these species and their habitats. The project is lead by the Ngā Motu Marine Reserve Society, supported by scientists from TRC and MAIN Trust NZ and has been running in many schools in Taranaki including Highlands Intermediate, Oākura, Auroa, Coastal Taranaki, Manaia Primary, Hāwera Intermediate, Puketapu and Francis Douglas Memorial College. Using sightings recorded in NatureWatch NZ students have been investigating where species hotspots occur. Students have then investigated the main threats to these species in their local environment and presented their findings to government authorities, conservation groups and industry at an end user workshop. The project has resulted in many different positive actions and received a TRC Environmental Award. Follow Project Hotspot on Facebook (www.facebook.com/projecthotspotnz) and through their website (www.hotspot.org.nz).

Project Ultra

The East Taranaki Environment Trust worked with Kaimata School students to study the population of long-tail bats that live at Pūrangi. They investigated factors affecting preferred habitats and impacts on these habitats from human activity. The students created sticky traps to investigate invertebrate activity and designed, built, and monitored artificial bat roosts. The project will continue in 2018 to reassess long-tail bat populations.



Nature watch activity

NatureWatch NZ

Here's a little quiz to get you familiar with using NatureWatch NZ. Follow the instructions and answer the questions below.

Instruction: Firstly go to the website naturewatch.org.nz. On the top bar you can search under 'Projects'. Type 'CoastBlitz' in the search project box. You will see that there are lots of Taranaki-based CoastBlitz projects. Select CoastBlitz Patea (NB **not** the Hook and Line Survey).

① **How many observation are there for the white-capped mollymawk?**

Instruction: In the green Stats box on the CoastBlitz Pātea page, click on the number of species.

② **What species of eel is commonly found around the reef?**

Instruction: In the project search box (top of the page) type 'Ohawe'. Click on CoastBlitz Ohawe. In the green Stats box, click on the number of species.

③ **What species of shark is there evidence of at Ohawe Beach?**

Instruction: Click on '1 observation' and then on the photo to open the shark sighting record.

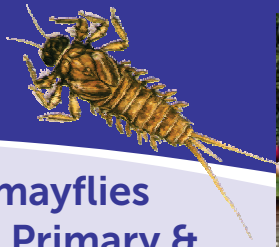
④ **Is the sighting of a live shark or something else?**

Instruction: In the project search box (top of the page) type 'fur seal'. Click on NZ Fur Seal Monitoring. Scroll down to the map and zoom in on Taranaki.

⑤ **Where have the most New Zealand fur seals been spotted in Taranaki?**



See the back page for the answers. If you enjoyed the quiz feel free to explore NatureWatch NZ further. Find out more about coastal species that have been spotted near your school by searching under the CoastBlitz projects. There are also projects set up for orca, little blue penguin, fur seal, reef heron and dotterel. If you'd like to enter your own species sightings ask your teacher to get in touch. Enjoy exploring!



Marvellous mayflies with Eltham Primary & Stratford High School

These two groups were such a pleasure to work with at the Pātea River in Stratford. Both groups found a plentiful abundance of mayfly larvae. These fascinating-looking invertebrates are sensitive to pollution and their presence generally indicates that the water quality is good.



This and That

Reef rocks stars

Waitara East School

We had a blast with Waitara East School at Kāwaroa Reef. Students found some fascinating beasts including the sea slug *Berthella ornata* that feeds on sponges (naturewatch.org.nz/observations/8705541) and a Twister triple fin, *Bellapiscis medius* (naturewatch.org.nz/observations/8705452), that rapidly darts around in rock pools. Clinton Duffy, a New Zealand shark expert, identified both species for us on NatureWatch NZ. Thanks Clinton!



Pukeiti pot a plant with New Plymouth Playcentre

The Rainforest School at Pukeiti has been a very popular choice with school and education groups recently, including the New Plymouth Playcentre. These keen beans are about to pot native seedlings to take home and plant in their gardens. Top job!



Buzzing about beeswax wraps

Check out these awesome beeswax wraps made by students from Puketapu School. They were shocked by the amount of plastic food wrap that turned up in a recent waste audit and decided to do something about it. Students from Matapu School have also been busy making beeswax wraps and documented the process in the great display that was on show at the Moa Kluster STEM Expo. What a fantastic classroom activity to reduce the amount of plastic waste produced.



Answers from page 3

- 1) The white-capped mollymawk, *Thalassarche cauta*, also known as the shy albatross, has been observed on nine different occasions at the reef offshore from Pātea. This bird has a 2.5m wingspan.
- 2) The southern conger eel, *Conger verreauxi*. This species can grow up to 2m long and can weigh up to 50kg.
- 3) The white shark, also known as the great white shark, *Carcharodon carcharias*. Females can grow over 6m and weigh up to 2,000kg.
- 4) The great white shark was not alive. A great white shark tooth was found in sediments two to three million years old.
- 5) The most New Zealand fur seals have been observed in New Plymouth around Port Taranaki. There is a colony of several hundred seals off the Ngā Motu/Sugar Loaf Islands.

For assistance or information on environmental education contact:

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