

EcoBuzz

EcoBuzz Edition 67

Term 3 2017

IN THIS ISSUE: Conservation week, Science teaching leadership, schools in action, a water activity and more.



Hampden Street School Writers Walk comes to life – the children wrote about what they found in the environment – ‘The Waterfall’, ‘The Night Sky’ and ‘The Enchanted Forest’.

Kia ora tatou

How can you assist our young people getting ‘out and wild’ more? Collingwood Area School has taken a significant step by turning off the school Wi-Fi at lunch and break times.

Many of us would agree that finding the edge where risk and reward are in total balance is a lovely idea. The reality is that there is no risk rulebook to help us get it right. The definition of the word risk is ‘a situation involving exposure to danger’. So what is acceptable risk, what is an acceptable level of danger to expose children too? These are deeply challenging questions that parents and teachers have to grapple with everyday.

Research undertaken with 2,000 UK parents from three generations has these conclusions – when it comes to permitting free outdoor play, there isn’t a lack of will, but there is a fundamental fear around allowing risk into children’s lives. We increasingly see risk aversion acting as a driver towards a more sedentary, screen based lifestyle, which in turn exposes children to a whole new set of physical and emotional risks.

There is a gap between what we believe is right for our children in terms of outdoor play and the reality of the levels of risk we are prepared to allow into our families, schools and communities. Addressing this is not simple, and it highlights once again the need to not simply promote the benefits of free play but to address the deeper reasons that stop us from making it happen.

It’s easy to reminisce about the good old days when we all roamed free as children, but it’s worth remembering that this was also the context of the wider environmental and social construct of the times. Fewer cars made cycling and street games easier. Football was a ‘jumpers for goalposts’ game played on any available patch of land not an organised routine activity.

Tackling deeply held societal problems isn’t easy and can’t be solved by a single thing but rather through a series of experiments and interventions as families, communities and schools. All of which will push the edges of fear and risk in one way or another.

Adapted from ‘The Wild Network’ www.wildnetwork.com

Thanks Adie, Heather, Karen and Claire



‘The more risks you allow children to take, the better they learn to take care of themselves’

Roald Dahl

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Tasman Youth Council update

The Tasman Youth Councillors have clusters operating from Waimea College, Murchison, Motueka and Golden Bay. They met together recently to receive some training, enjoy themselves and set their sights on what next. They also helped gain over 600 surveys from Tasman youth about their needs and issues. The results were presented to a Council workshop in early September. This was a fantastic effort from a group of our high school students as it can be quite a daunting environment yet they all presented their data and opinions with confidence. Teachers, if you know of students at your school (12 or older) who might be interested in Civics, politics and supporting the needs of youth outside of the school environment, please tell them about the Youth Council. There is also a Nelson Youth Council doing amazing work. Contact claire.webster@tasman.govt.nz to find out more about either group.



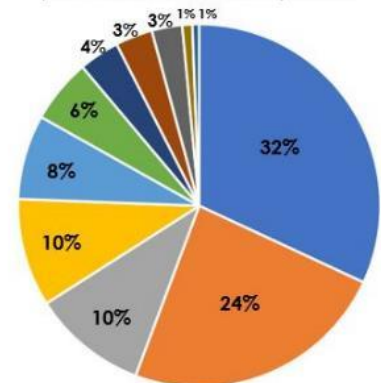
Waimea Youth Council cluster members present at the Hui in August



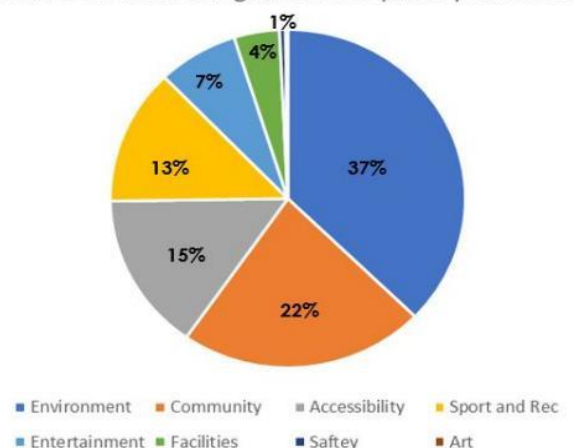
Several local teachers attended a secondary focused EnviroSchools Hui in Wellington. Here is Heidi James from Motueka caught hard at work with peers.

Survey results – here are two of the findings from the survey. We will be sharing more with each Tasman school district in the near future.

What is not working well in your community for young people you would like to see improved?



What's the best thing about the place you live in?



Science Teaching Leadership Programme

Wakefield School teacher Isobel Ford, is enjoying her Science Teacher Leadership Programme (SLTP) placement with Tasman District Council for Terms 3 and 4:

“I’ve gained a much greater understanding of the science behind some environmental issues that we face today. I have experienced a range of activities and started to learn a number of science skills including:

- Sampling, monitoring and why we need to monitor our natural resources, collection and processing of data, use of random sampling, sample size, fair testing, calibration of instruments, avoiding contamination, use of subjective and objective measures for
 - Ground water
 - Soil
 - River water quality
 - Air quality
- Use of GIS mapping of wetlands on privately owned land and corporate forestry estate
 - adding to the wetlands database
 - understanding of different features and measures used to classify wetland types
 - the interdependence of different environments, eg, the impact of the quality of a wetland on the health of a river that runs through it
 - plant identification
- Making connections with other environmental science organisations
- Understanding how scientific information is communicated – between scientists, to the public, to the Councillors, across departments
- Pest plant control
- Environmental health inspections



Isobel plate sediment sampling in the Waimea Estuary (with Trevor James)

Much of the day-to-day work of the resource scientists at Council involves the gathering of data through monitoring so trends can be identified. The scientists are not convinced by a single study that supports a particular idea – they are interested in the accumulation of evidence. This evidence provides information needed both for compliance and for decision-making within the Council and it sometimes raises further questions.

It has been the scientists’ passion for their specialist areas that has struck me the most. Every one of them appears to be driven by a desire to protect and improve their aspect of the environment. This involves cross-disciplinary work within Council, and in partnership with other organisations, such as Iwi, DOC, community groups, schools, environmental organisations, contractors and other councils, both formal and informal.

The scientists at Council are constantly called upon to **communicate** what they find out, between themselves, with other departments, with Councillors and with the public. Equally, they depend on partner organisations, the Tasman District Councillors and members of the public having a certain level of scientific literacy and a willingness to engage with the science behind an issue. This is an important part of our teaching role as science educators”.

Have you heard of Parihaka?

I would like to invite you to learn about our NZ history and commemorate the invasion of Parihaka with your ECE centre/kindergarten or class/school. In the 1800s, the Māori settlement of Parihaka, in Taranaki, under the leadership of Tohu Kākahi and Te Whiti o Rongomai, was a vibrant and sustainable community based on the principles of equality, collectivity, identity, goodwill and self-sufficiency.

The people resisted the confiscation of lands using non-violence. Still, the village, with a population of several thousand people, was invaded by an army of more than 1500 colonial troops on 5 November 1881 and occupied for several years. Hundreds were imprisoned in the South Island for acts of civil disobedience but given criminal sentences. Raa Maumahara National Day of Commemoration will be held 28 October each year, with the first inaugural event starting this year. We are proposing that you use the week between that and 5 November, Parihaka Day, as an opportunity to explore the history and the principles demonstrated at Parihaka, celebrating peace. Instead of thinking about Halloween trick or treat, support our Tamariki to consider what they can do for others and what contribution that can make.



For resources and more information contact helen.durbridge@ntk.org.nz 0276884572

Parihaka Network: Ngā Manu Korihi mai Whakatū are planning some exciting events for this week. Watch out for more information at the beginning of October.

Nā te hiahia kia titiro, ā, ka kite ai tātou te mutunga. You must understand the beginning if you wish to see the end.

Pai māire, Helen Durbridge

National Enviroschools Survey happening in Term 4

The start of Term 4 we will hold another Enviroschools Census. This national project started in 2014 as an information gathering process that enabled us all to deepen our understanding of what was happening in Enviroschools, regionally and nationally, and to stand strongly in our kaupapa.

The teachers and facilitators involved in testing the 2017 version questionnaire have worked to make it more ECE and secondary friendly. They have told us it worked well as a powerful reflection tool providing significant insight, ideas and motivation for the Enviroschools' journey.

When? The survey should arrive in the first week of Term 4. Please let your facilitator know if it has not arrived so we can obtain a copy for you.

Completion? Before 24 November and we would like as many Enviroschools as possible to fill in the survey. Nelson was first in New Zealand to have all 100% surveys returned in 2014. Please contact your facilitator for assistance, rather than send the survey back untouched.

The survey is hard copy, on purpose, to gain the full staff response to most or relevant area questions, and to provide you all with comprehensive insight into what has been happening in your Enviroschool.

We recommend that the lead teacher and Enviroschools Facilitator complete this survey together with the support of the range of people who have been involved with your Enviroschools journey. So ensure you have a meeting date planned ☺

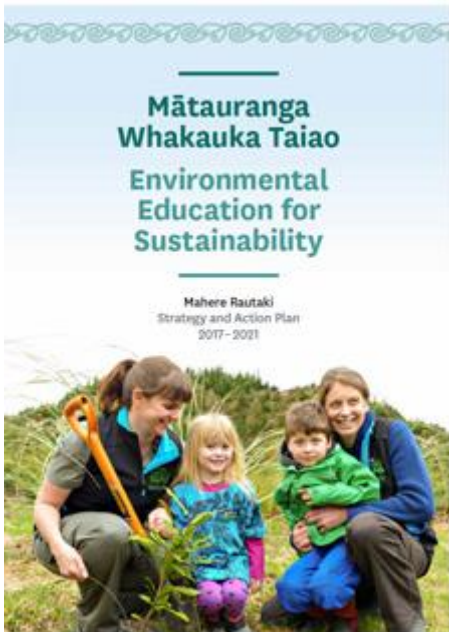
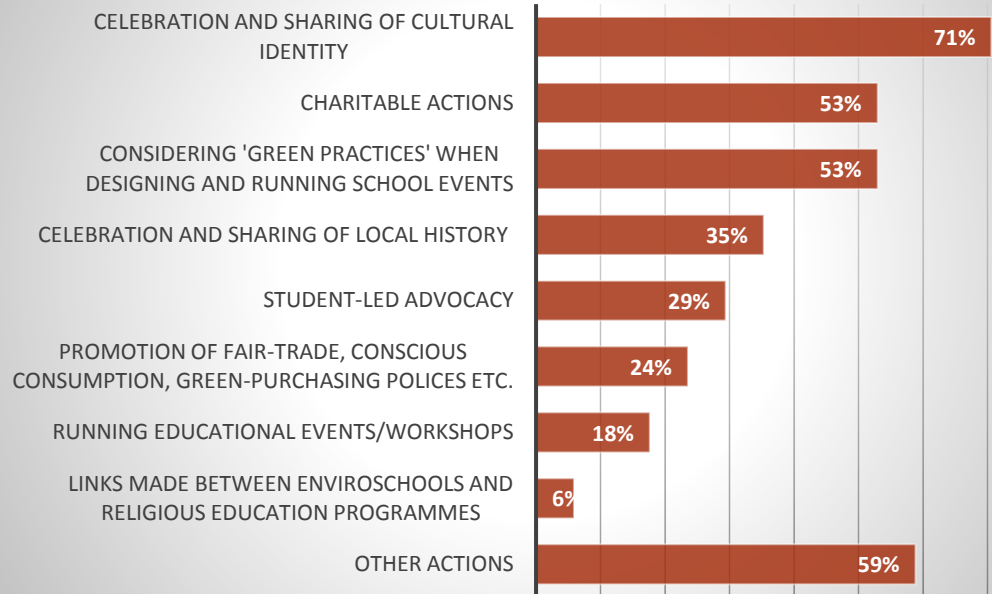
Your facilitator can provide support as to how to obtain the range of answers in a larger Enviroschool. Often the facilitator can be a good prompt to add information and may assist in helping plan future support.



The reported data is not identified with individual Enviroschools but paints a picture of what is happening regionally and nationally over time in our learning and experiential sustainable journeys.

Let's do this😊

Other projects and practices



Mātauranga Whakauka Taiao New EEfS strategy and plan

We are very excited to see the new NZEEfS document coming from shared ministries in government. The Department of Conservation, Ministry for the Environment and Ministry of Education developed this document, after public consultation last year, as a strategy and action plan for all of Government. Its purpose is to support and enhance the great work that is already happening around New Zealand, and encourage more people to engage in environmental education for sustainability. Toimata, the national office of Enviroschools, is identified as a key partner to support schools and early childhood centres with their sustainability journeys.

See <http://www.doc.govt.nz/eefs>

The document states that ‘as a nation, we need to recognise the key challenges we must face together and where we can effectively take a global leadership position.’

The strategy and action plan considers environmental education is relevant for people of all ages and from all works of life, not just in school settings. Our aim is that New Zealanders can access opportunities in many ways throughout their lives.

Motueka High School has grown the width and depth of its programme involvement in Abel Tasman National Park with Project Janszoon and the Department of Conservation. Enviroschool lead teacher, Heidi James, has led this development. She knows that the range of real experiences available in many of our wonderful environments can lead to exciting student learning and leadership in all of the curriculum areas and subjects

My Piece of Nature art workshop



Join renowned New Zealand artist, Janet de Wagt, and learn how to celebrate the environment through art – all while creating your own nature themed masterpiece.

Enviroschools – Teacher workshop

3.45 – 6.45pm, Thursday 26th October 2017

We will meet at the The Suter Art Gallery, 208 Bridge Street, Nelson and then later transition to NMIT for the hands on section of the programme.

Bookings are essential as numbers are limited.

Register

<https://goo.gl/forms/fFsn7oqthoZpJ7ou2>

Heather Graham

nelsonenviroschools@gmail.com

0273088413

Made possible with funding from:

creative NZ
ARTS COUNCIL OF NEW ZEALAND TOI AOTIAROA

Janet de Wagt.



Department of Conservation
Te Papa Atawhai

This course is now full but contact Heather if you wish to go on the wait-list. Thanks

Save Our Precious Water – Tahunanui style

The Tahunanui Enviro Group is learning about saving water. It's important that we don't have polluted water because we need clean water to survive. Clean water is also important for lots of animals that live in it. Also, the animals that don't live in it still use it for lots of things. Plants need it to grow; if they don't have it they will not grow big.

Aaliyah says, "We should keep cows away from the river because they're making polluted water, if they step in the cold water it makes them poo. This goes into the water and it makes it polluted."

Madison thinks, "It's really amazing how there are different uses for and types of water, clean water is wai ora."

Molly says, "Waikino are rapids and dangerous Water."



Spud Monday? – Never heard of it?!!

Term break saw me catching up with a few EnviroSchool Lead teachers over coffee. Katrina from Birchwood is new to the district and is eager to learn about the place she now lives and works.

As the conversation wandered we got discussing "Spud Monday", which Karina had heard mention and was intrigued to know about. I had not a clue to be fair, but committed to a bit of investigating!

This is what I discovered –

Spud Monday was observed each year as a special holiday on the first Monday of August. We understood that it was to commemorate the plight of the first settlers who became so near to starvation that they dug up their seed potatoes, already planted, to use as food. The eyes of the potatoes were replanted to provide the next crop. Spud Monday was a unique Nelson holiday that lasted until about World War 2. All shops, businesses and schools closed for the day. It became a tradition for hundreds of people to walk the Dun Mountain Track on Spud Monday, and while many only went as far as Third House, the hardier ones trudged on to the top of the Dun.

I then set up a google drive folder to support "Spud Monday" and the "spud in the bucket" activity. The google drive sparked interest ..

Clifton Terrace School gets spud-tastic

Nick is the EnviroSchool lead teacher at Clifton Terrace School and upon receiving the google drive folder link embarked on what turned out to be a hugely popular spud growing journey!!

I put a few questions to him around this journey

Why did you engage with this concept?

Gardening is an awesome way to hook kids into appreciation of the natural world, as well as understanding a bit about where their food comes from. Spud Monday is such a cool, uniquely Nelson event that everyone should know about!

What was the project event you developed around it?

We did a 'Spud in a Bucket' competition – everyone who entered paid \$3 and got a bucket with some compost and a seed potato in it. On Spud Monday my class prepared all the buckets, including some instructions, and handed them out to participants to take home. We will give them a few months to grow and when we feel that they have all had a decent chance will call them in for a grand weigh-up/ count-up etc. We will have prizes for



Schools Taking Action

biggest single spud, most spuds, heaviest overall bucket-worth, smallest, funniest looking etc. etc. We sent home 150 (recyclable plastic) buckets!

Aim?

For everyone who wanted to, to get something they could grow at home. To build an appreciation of how easy and satisfying it can be to grow food. To show that you don't even need an actual garden to grow food - it can be done in a bucket!

What have you noticed (peoples engagement, interest, enthusiasm, current skills etc etc)?

Heaps of enthusiasm! Kids coming in and talking about their spud's progress. Photos of potato plants starting to come in. Teachers discussing it at lunchtime.

Heather Graham – Nelson ES facilitator

Project Predator

On 4 July, 32 students from Garin College, Collingwood, Murchison and Rai Valley Area Schools and Te Kura, Correspondence School learnt why it is important for us to be the main predator of the mammals that continue to give our native flora and fauna a hard time. The students also built their own trap housing to hold a DOC 200 while at the Girl Guide camp at Paretai. The previous Project Predator, run by Papa Taiao, was held two years ago.

In order to complete the NCEA standards, the students had to record their bait and set trapping line efforts, in the hopes of removing some stoats, ferrets and weasels from their local environment.



If you know of any school groups, which are setting their own traps or trap lines, the results are of real interest to the many volunteers and agencies who set and check traps all around the region. A lot of this information is reported in Will's Newsletter. Please email Will with any of your results: willrickerby@gmail.com

Here is an example from Jacob Lewis, Fish and Game, who has concerns that some people may be dumping their unwanted cats/kittens on Rabbit Island.

Eastern Rabbit Island Catches

Date	Mice	Rat	Weasel	Stoat	Ferret	H/hog	Possum	Cat	Hours
DEC 2016				1		2			18
JAN 2017	1	1				2			6
MAR	2	17	1	2		6			15
APR	5					7			6
MAY	10	2				2			8
JUN	8					1			22
JUL	10	6	1						19
Aug	4			1	1	9	9	16	
Total	40	26	2	4	1	29	9	16	94 +

Awa Opening Celebration at Golden Bay Kindergarten

Despite the rain, we had a wonderful opening celebration for our awa. Pene Ralph has done a wonderful job creating our awa. This has been the culmination of two years of hard work, planning, and fundraising. It wouldn't have been possible without all parents support and that of the wider community and businesses who donated their time and energy. Kaumātua Syd opened the celebration, Rebecca thanked everyone involved, the children sang and then Thomas and Bayley cut the ribbon! The children played in the awa and we all enjoyed shared kai. Thanks to Morgan for making the little boats for the awa play and to everyone for their support with this project. Our awa is a wonderful addition to our Kindergarten garden.



Enviro-Leaders Conservation and Waka day

In August, Enviro-leaders from our local Enviroschool High Schools had a wonderful experience learning about Waka tikanga and paddling technique by paddling into or out from the Abel Tasman National Park. While in the Park, they learned about Citizen Science activities. Many of the activities would be suitable for them to run back in the school grounds or surrounds with others. It was a rich, rich day – full of people, place and practices. Thanks everyone ☺



Bee Wraps by Nelson Central Enviro Agents

Nelson Central School has been working on a new initiative to reduce the plastic wrap from their lunch boxes. Following a waste audit last year, the children identified that lunch rubbish was a large contributor to the waste they were sending to the landfill.

The schools Enviro Agents researched alternatives and decided that Bees Wax lunch wraps were a fantastic option for their school. They wanted everyone to have access to one and didn't want children who couldn't afford one to miss out.

We were lucky to have the support of our community who donated fabric and bees wax to the project. Volunteers ran workshops with each class so each child could make their own wrap. We made 500 wraps!

Having the children involved in the process has really given them ownership over it and it is awesome to see the wraps being used in the lunch boxes. Some children have also taken the message home and created more with their families!

Nga mihi

Lynley Walters

Room 12

Year 2 Classroom Teacher

Lead teacher Enviro Schools

Nelson Central School



Learners Turn Knowledge into Action and Feel the Difference it can Make

My recent thinking has centred around how I can promote and facilitate learning opportunities for my junior science students that can include not only knowledge acquisition, but also those wider, less well-defined outcomes such as problem-solving, collaboration, creativity, thinking in different ways, and building effective relationships and teams.



Class 10BN completed a week plastic audit and brought their home plastic to class.

The context of this project was "Plastics in our Oceans" and the objective was to develop the learning, creating and doing dispositions that our young people need to thrive now and in their futures. It all started with class 10BN watching a documentary on plastic in our oceans. Students then went on to enquire into their own questions and conduct online research in order to build an understanding about:

- What is the Great Pacific Garbage Patch?
- How does human activity contribute to the GPGP?
- Does the plastic biodegrade?
- What damage is the plastic doing to the ocean environment and the plants and animals that live there?
- What impact will it have on humans in the short and long term.

	Plastic in our oceans! What are you thinking right now...how do you feel about the impact we are having on our oceans are having on our ocean?
<p>Grace never realised how bad it was, it motivated me now i want to help!</p>	
<p>Sophie C It is crazy how polluted our oceans are! It is so important to keep it clean for not only us but all the animals in it. The ocean effects everyone, and we really need to help clean it. It is so important because water basically thee key thing we need for life! And when chemicals are in the water they could get evaporated and turned into rain which then can carry the problems to land. It is horrible how bad plastic effects our marine life</p>	
<p>Leah I didn't realise that plastic was that big of a problem. Those poor animals that have no idea that they are eating plastic! Something NEEDS to be change. WE need to change</p>	
	<p>Silvie Its awful and I want to help improve this and help the environment and oceans</p>
	<p>Sammi THIS IS SO UPSETTING :(POOR MARINE LIFE</p>
	<p>Grace never realised how bad it was, it motivated me now i want to help!</p>
	<p>Sophie C It is crazy how polluted our oceans are! It is so important to keep it clean for not only us but all the animals in it. The ocean effects everyone, and we really need to help clean it. It is so important because</p>

Class 10BN were encouraged to reflect and share their thoughts on the class website

They were then challenged to use this newly acquired knowledge to develop and present an action plan with a single action that would contribute to a solution at a personal or community level. The students from 10BN developed a number of thoughtful initiatives that included:

- Shirty Bag production and promotion undertaking a "plastic detox" and to reduce personal consumption of plastic
- Exploring the potential to install Sea Bins into the Nelson Marina to collect floating rubbish in and around the area.

Schools Taking Action



- Creating a campaign that could be displayed on a poster to encourage people in our community to say "hold the straw" when they order a drink.
- Hosting interactive lessons and fun competitions with Primary and Intermediate around plastic free lunch boxes

The learning experience engaged the students of 10BN because it connected with their aspirations to do things that truly make a difference to our lives and to the world. The focus of this project was on the learning process, developing student's ability to lead their own learning and to do things with their newly acquired knowledge. Well done 10BN and I hope the Nelson Community will embrace and support your initiatives in the coming weeks.

"I think we always want to forget what's out beyond our borders because we think it doesn't effect us. But by doing this assessment we had to really face the issue head on and really think about what we are doing to our world. And how we can change it for the good" Sophie C

Sarah Johns NCG

Small Planet for Nelson ECE's



Nelson City Council has just updated its early childhood education resource, Small Planet. This is a standalone resource to help teachers with young learners try out activities, and ideas that help make our planet a healthy and happy – you can find it here: nelson.govt.nz/sustainability-in-education. There are also great stories from other early childhood educators about projects they've done – such as reducing waste and creating living landscapes.

Small Planet has great posters and cut-out planets available on the Council website which you can use with the children as milestones to celebrate success with their projects, and it's chock-full of ideas, activities and useful links to get everyone started.

Go to nelson.govt.nz, search small planet, to find out more.

A TRULY UNIQUE CULTURAL EXPERIENCE!



For your students

Waka Abel Tasman invites your school group to experience waka; connecting you to a rich cultural heritage that is also great fun.

Sample half day itineraries:



30 students; 3 groups of 10. One group waka paddling, two other beach activities then swap



24 students; two groups of 12 one in waka the other walk to Stephens Bay then swap

Our waka has 15 seats this includes 4 four non-paddling seats for up to 10 year olds. We provide life jackets for all sizes and can cater for all ages. An itinerary can be designed for the needs of your group.

Testimonials from Nelson Central School (yr 5/6)

Lee-Anne's years of experience in outdoor education is evident. The way she includes and encourages everyone creates a very inclusive and positive environment. The way she incorporates tikanga and Te Reo into the journey make it accessible to all. It truly is a special and unique cultural experience. (Sally Russ, teacher)

A wonderfully safe, inclusive and positive adventure which effectively imparts a sense of culture, the strength of teamwork, and respect for the natural environment. We will be back. (Nic John, parent)

Contact us today! Lee-Anne and Todd Jago



**Certified
Adventure Activity**
*Registered with work
safe*



**Culturally
responsive**
*Following appropriate
kawa and tikanga*



Inclusive and safe
Cannot capsize



**Other cultural or
outdoor activities**
*To compliment your
experience*



**Kaiteriteri Beach
(next to the boat ramp)**

www.WakaAbelTasman.nz

Kiaora@WakaAbelTasman.nz

Phone 03 527 8160

or 0800 925 228



Bugs may have a reputation for being small, scaly and scary but creepy crawlies are actually superheroes in disguise!

At Nelson Museum this family-friendly, hands-on educational experience brings visitors face-to-face with some real live mini-monsters - 'Eugene', the giant poisonous centipede, and his friends the tree wētā, stick insects, locusts, crickets, cockroaches and Avondale spiders.

Explore the secret world of bugs and the vital role they play in our lives without us even realising it! Learn about the different native species of bugs in New Zealand and the sometimes precarious position they hold in the ecosystem due to threats from imported pests and environmental threats.

There are plenty of hands-on activities for youngsters to get involved in, including dress-ups, creating their own superpower bug, a huge picture puzzle, and a collection of activity cards to take home with instructions how to create a backyard bug hotel, a bug census and homes for wētā.

They can also learn how to become a citizen scientist and how bugs inspire those on the frontline of technology. Come to Nelson Museum to discover how bugs really and truly are Our Backyard Heroes!



Mark your Calendars: 4th annual Electric Wheels Festival, A&P Showgrounds Christchurch, December 2.

- Electric vehicle test drives
- Electric bike test rides
- Electric grass karts
- National finals, Evolocity schools competition
- Exhibits
- Free EV workshops
- Fun activities for the family
- Networking BBQ

<http://evolocity.co.nz/electricwheels/>

LOVE FOOD, HATE WASTE!

A staggering \$870 million dollars of edible food is thrown out each year by NZ households, enough to feed free lunches to every school – aged child in NZ for three years! Bread is the most wasted food with 20 million loaves thrown out a year.

Here are six simple things you can do at home and at school to reduce food waste:

Teachers:

1. Plan your meals and buy only what you need
2. Take last night's leftovers for lunch
3. store your bread in the freezer
4. Stew tired fruit or make smoothies
5. Store potatoes in the dark
6. Add leftover chicken to a pizza, a pie or panini



Students:

1. In your lunchbox, pack fresh, healthy food; avoid foods wrapped in plastic
2. Only pack enough for you to eat
3. Eat all your lunch! Even your apple cores!
4. Eat your crusts!
5. When you get home, make any fruit leftover in your lunchbox into a smoothie
6. Save any leftovers from dinner for lunch tomorrow!

To combat food waste in Nelson Tasman, and to feed those in need, Nelson Environment Centre has set up Kai Rescue, rescuing food that is “Good Enough to Eat but Not to Sell”. Since we began in March this year, we have rescued more than thirty tonnes of perfectly edible food and have distributed it to more than 30 agencies who work with those in need in our local community.

Contact Kai Rescue at: Nelson Environment Centre. 31 Vanguard Street Nelson.

P: 03 545 9176, e: info@nec.org.nz, w: www.nec.org.nz





The theme for Conservation Week (14-22 October) this year is “Love my Backyard”.

Our Place Our Nature

Come along to our free Nelson event – ‘Our Place: Our Nature’ on Saturday 28 October from 10am to 2 pm at Branford Park, Maitai Valley.

There will be lots of exciting activities for all ages – including making tracking tunnels, flax weaving, geocaching, nature walks, tent pitching, and discovering what freshwater critters live in the Maitai River. Learn all about nature, and the interesting things that can be found in your own backyard. There will be quizzes to complete, and games to play.

We will also be launching a new Kiwi Guardians Trail [Become a Kiwi Guardian: Places to go](#) which is located on the Branford Park Edible Walk. Come along, explore the trail, and earn yourself a Kiwi Guardians Medal.

Check out It’s On (www.itson.co.nz) for updates, e.g. in case of wet weather on the day.

Brought to you by the Department of Conservation, Nelson City Council, Tasman District Council, Nelmac, Bowater Toyota, Big Picture Productions, EnviroSchools and Nelson College for Girls Enviro Group.

Conservation Week Activities

Check out the DOC website <http://www.doc.govt.nz/get-involved/conservation-activities/> for a list of cool conservation activities you can do at home, or around town, during the school holidays or anytime you like. Send in a picture or story of what you did by 28 October and be in the draw to win an awesome prize.

Check out what else is happening in the region:

<http://www.doc.govt.nz/news/events/conservation-week/>



Activity one: Fresh, clean water is a relatively scarce resource

This resource is copied from the Enviroschools new Theme Areas resource - Water of Life

Maybe planet Earth should have been called planet Water instead, for it is a watery world. Over two thirds of the surface of the planet is covered by water, around the same percentage of our bodies that is water!

Water exists in many forms in nature – as ice, liquid (freshwater and saltwater) and water vapour. About 97 percent of the water on Earth is ocean. Of the remaining three percent (which is freshwater), over two thirds is locked in icecaps and glaciers. This means that less than one percent of the world's water is liquid freshwater. Of this one percent, the vast majority is too deep in the ground to extract, or too polluted to drink. So, only a tiny percentage (0.0003%) of the total water on the planet is available to drink.

Globally, clean drinkable water is a very limited resource. In New Zealand, we are fortunate to have relatively abundant freshwater due to our high rainfall. However, we can tell a lot about our relationship with the environment by the condition of our local water resources, and in some places pollution is a serious problem. Parts of the country also experience drought and sometimes summer water restrictions are in place. Some of our groundwater aquifers are also being over-extracted, for domestic supply or irrigation. Over-extraction of groundwater can result in lower flows in streams fed by groundwater, or in coastal areas, salty water may flow into the aquifer, making it less suitable to drink.

Our rivers and streams need enough flow to support the aquatic life forms that depend on that water. So we have to think seriously about how much water we can take, what it is used for, and how to minimise our water use. Figuring out the fairest way to share water between people and aquatic ecosystems is an important part of our community decision-making. We also need to consider how our groundwater aquifers can get recharged from water draining through the land above, without it becoming polluted along the way.

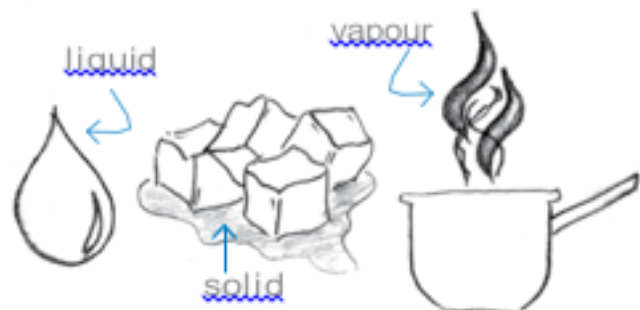


How much is fresh?

This experimental activity compares how much water is in two of the three states (liquid and solid). It then looks at how much of the liquid water is available as fresh water for drinking.

You will need

A series of measuring containers that can measure 1 L, 24 ml, 6ml and a single drop (an eyedropper or stirring rod can pick up one drop of water)



Activity one continued: How much is fresh?

Method:

How much water is there in the world?

1. Fill a container with 1 litre of water. This represents all the water in the world (excluding vapour in the atmosphere).
2. Take out 24 ml. This represents all the water that is frozen in snow and ice, 2.4 percent of the water on the planet. Put this in a separate container and label it 'ice'.
3. See how much is left. This is the amount of water that is liquid. Keep this for the next activity.



How much can we drink?

4. Take the liquid component left from the previous activity (976 ml).
5. Draw out 6 ml of water and put into a smaller container. This represents the fresh water in the world in a liquid state (0.6 percent of the total water). Note that of the 6 ml, only about 2 ml represents surface water; the rest is underground. However, don't measure this out as some ground and some surface water are available.
6. With the remaining 970 ml put salt in this and label this container 'oceans'.
7. Now, from the 6 ml of fresh water, draw out a single drop (0.003 ml).
8. This represents the proportion of water in the world that is available to drink (0.0003 percent of the total). The rest of the fresh water is too dirty, trapped in the soil, or too far underground to extract. Drop the drop into a container and label it 'drinkable water'.

Reflection/ Pūmahara

How do you feel about wai (water) after doing this activity? Is there enough water in the world for us to drink?

Is the source for our Enviroschool's water supply plentiful or limited? Do all people have the same amount of available drinking water?

