

Enviroteach

An environmental education resource for teachers



From the editor

Kia ora! In this issue of Enviroteach, find out how teachers are making literacy more fun and meaningful for their students by choosing interesting environmental themes. Learn how to bring your own literacy curriculum to life by creating opportunities for students to learn in, about and for the environment.

Read Narelle's story on pages 4-5 to find out how a focus on pest animals helped her students, who were initially unenthusiastic about writing, to learn the structures of non-fiction writing. Read Gillian's story on page 6 to find out how the Fish in Schools programme enhances the literacy programme at Otatara School.

Would you like some help with environmental topics at school? Environment Southland has two environmental educators who are available to schools throughout Southland, free of charge. We'd love to visit your school to talk to the students, help with a field trip, or assist you and your colleagues with planning. Contact us on 0800 76 88 45 or education@es.govt.nz.

All the best for term four!

Pat Hoffmann
Environmental education officer



Integrating literacy and environmental education

Teachers can approach the integration of literacy and environmental education in several ways. The 'IN, ABOUT, FOR' framework can be quite helpful for planning:

Experiences **IN** the environment

When students have had opportunities to participate in engaging experiences in their environment, it becomes much easier and more interesting for them to apply their language skills to report on those experiences, through writing, speaking or visual presentations.

- ▶ Examples include: taking part in a tree planting event, a stream study, planting a vegetable garden, measuring water use in the school, and doing a waste audit.

Opportunities to learn **ABOUT** the environment

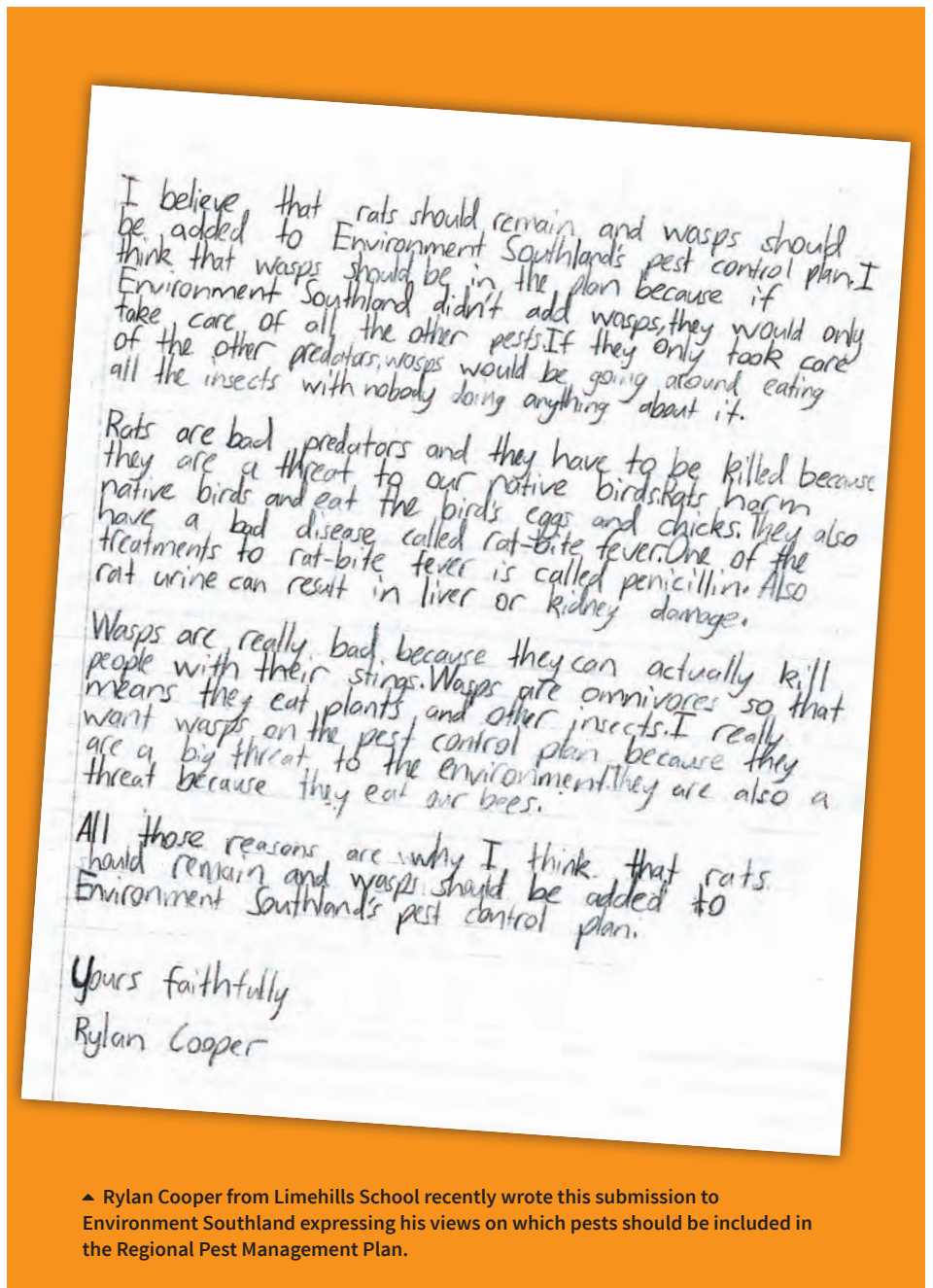
Students can listen to, read, or view accounts produced by other people on environmental topics. In this way, they will learn about their environment while practising their literacy skills.

- ▶ Examples include: inviting an expert to come and talk to the class about an environmental topic, reading articles online, visiting a museum, and watching videos.

Opportunities to take action **FOR** the environment

Students can use their language skills to take action to help maintain and improve their environment or to advance an environmental cause.

- ▶ Examples include: writing a letter to a member of parliament, making a submission to the regional council, giving a speech, making a poster, designing T-shirts with environmental messages, and producing a film on an environmental issue.



▶ Rylan Cooper from Limehills School recently wrote this submission to Environment Southland expressing his views on which pests should be included in the Regional Pest Management Plan.

Any literacy activity can be based on issues related to the environment. The next few pages have some examples which we hope will inspire you to try something new.

Using the environment for listening and speaking

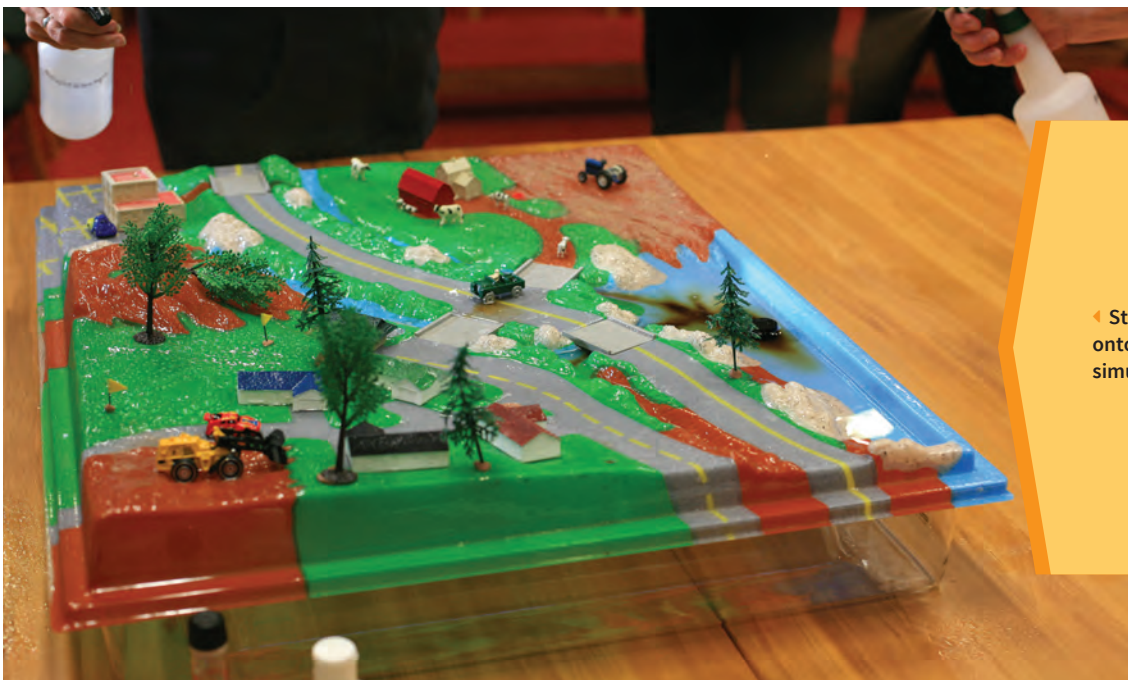
Example – Listening

▶ Students from Heddon Bush were visited by environmental education officer Mark Oster who talked to them about pest animals. While they listened, they made notes in their writing books which they were able to use later in their reports.



Example – Speaking

Let students view a poster or a 3D model (such as the EnviroScape model pictured) depicting how human activities on the land can affect the health of freshwater ecosystems. Give them an opportunity to discuss what they observe, identify what might be driving the decline in water quality, and suggest ways to improve the situation.



◀ Students spraying water onto the EnviroScape model to simulate rainfall.

Case study – An environmental writing journey

By Narelle Collie, Heddon Bush School AUGUST 2016

This year in my classroom I was looking for a different approach to my writing programme. I was finding that I had a class of students who were strong in creative writing but not as strong when it came to non-fiction writing. I wanted to be able to explicitly teach the structures of non-fiction writing whilst still engaging the students and creating new learning experiences for them based around what was relevant to them and us as a school.

As we were (and still are) in the very early stages of becoming an Enviroschool, my decision to base our writing around the environment was easy to make. Also, as we have an area of native bush (affectionately called The Donut) that is under a QEII covenant and is under our care, I wanted to be able to incorporate this in our learning. Therefore I decided to use the theme of ‘pests’ to begin with. My goal from the beginning was to learn about the different types of pests that we have in New Zealand and then to investigate what pests we may have down at The Donut.

My next step was a visit to Environment Southland to meet with Mark Oster. Together we discussed what I was hoping to achieve with my class and the ways that he would be able to assist us with this journey. We booked in a visit and we were on our way!



▲ Heddon Bush teacher Narelle Collie with a group of her students.

“I wanted to be able to explicitly teach the structures of non-fiction writing whilst still engaging the students and creating new learning experiences for them based around what was relevant to them and us as a school.”

Mark’s first visit to school was based around pests and how they were introduced into New Zealand. He took my students on a journey from Gondwanaland to modern day New Zealand. I can honestly say that for the whole three hours that Mark was in the classroom, my students were fully engaged from start to finish! I too, was enthralled and had now identified so many writing opportunities from this visit that we could use in the classroom. As a class, we decided to begin by writing reports about early New Zealand or some of the pests that Mark





▲ A visual display of reports written by Heddon Bush students after a series of lessons on pests.

“I can honestly say that for the whole three hours that Mark was in the classroom, my students were fully engaged from start to finish!”

had talked to us about. During Mark’s visit we all had our writing books out and had been taking notes so we were ready to go.

I found that because the students had been totally engaged in Mark’s recount and had been taking notes as they listened, they found the whole process of writing the report so much easier. I believe that this was due to several reasons including the interest of the topic to them and the fact that before they even began to write or research their topic, they already had a lot of prior information in front of them. We wrote our reports (which I think were great!) and made a visual display in our classroom.

After this, we decided to investigate what pests we might have around our school, inside and outside. After another visit from Mark we were

♦ Mark Oster talking to students about pest animals.

busy making tracking tunnels and writing procedures about how to make them. Then was the exciting task of identifying the little footprints that we found and writing about what type of pest they were and how we knew this. We also included a report about who would use these tracking tunnels and why they would be used in different places. We learnt about how they had been used to discover some animals that were thought to have been extinct and how they can be used by DOC to monitor pests in our native bushes. We haven’t quite got there yet, but our next step is to invite Mark back to school and we are all heading down to The Donut to see exactly what pests we might find there!

Using the theme of the environment has opened up many new learning and writing opportunities for my students and also for myself. As well as the above examples that I have identified, we have also written letters and recounts and produced booklets full of all of the information that we have learnt. There have also been opportunities for the students to take an idea from Mark’s visits that really sparked their interest and pursue it further.

Personally as a teacher, I have enjoyed our journey so far for many reasons. Some of these include the enjoyment and engagement that

I have seen in my students, the ability to be able to use this theme to scaffold their learning in writing and the quality of the writing that the students are producing. I have especially found that this approach is working well for my students who perhaps initially were not as enthusiastic about the whole writing process and it is also encouraging a lot of non-fiction writing that was not so strong to begin with.

I am not quite sure where this journey will lead us by the end of the year, but both myself and my students are enjoying it and are looking forward to seeing where we will end up.

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Using the environment for reading and writing

Suggestion – Reading

Read a story about an environmental issue and respond in a way that demonstrates understanding, such as by illustrating it or by improvising a short drama.

Case study – Writing

Fish in Schools, by Gillian Donnelly, Otatara School AUGUST 2016

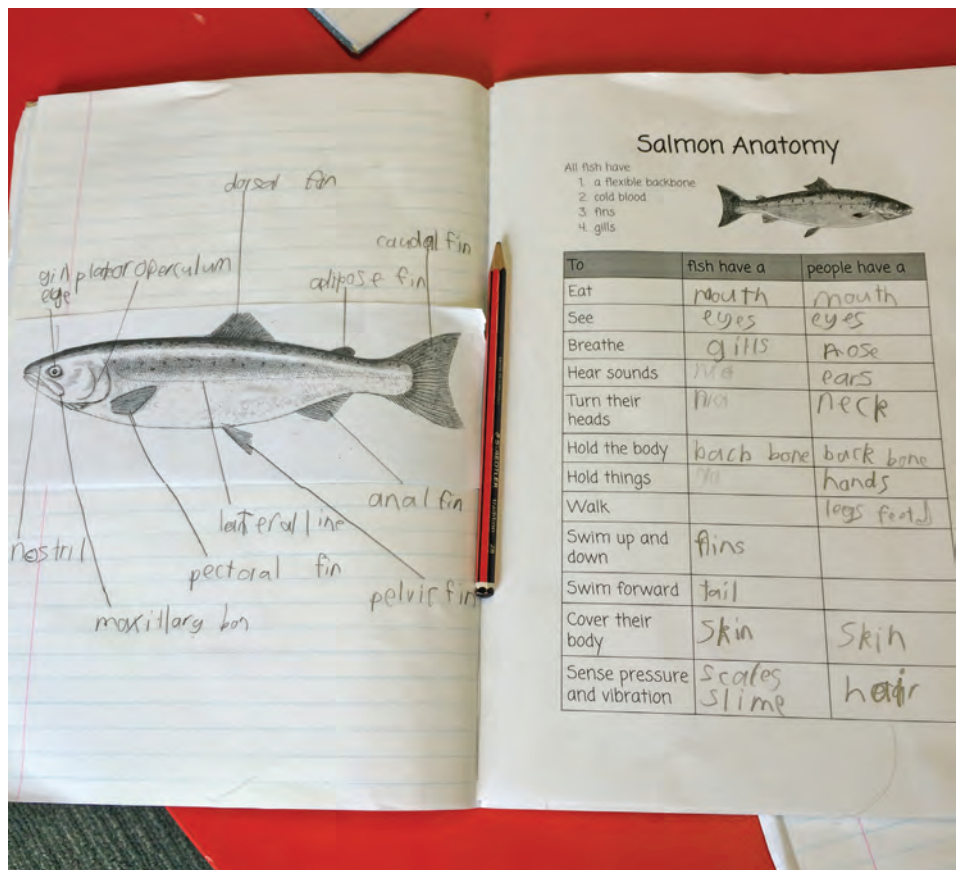
Otatara School has been fortunate enough to be a part of Fish and Game's Fish in Schools programme for the last two years. This has involved raising salmon fry from fertilised eggs. The students take ownership of the salmon, testing the water daily for nitrate levels, recording the results and, when necessary, changing the water or removing uneaten food or dead salmon. They are very proud of having the salmon and delight in sharing this with anyone who will listen! We have parents in to visit the salmon almost daily and regular visits from classes around the school.

The children ask informed questions about the salmon that we address as part of an inquiry programme. Hands on experiences for children to examine how the shape of the salmon's body helps it to move through the water, how their gills work and why they need a float sac are some of the different experiences the students have had.

Our literacy programme was influenced by our participation in the programme providing students with an authentic purpose for reading and writing. We used the instructions for how to clean the filter in a guided reading session as well as finding and reading as much material as we could on salmon themselves. Students' vocabulary increased as they learned and used scientific names for concepts and ideas related to salmon. They explained, in their own words, their understanding of processes orally to different visiting groups who wanted to know more. Students wrote letters to persuade agencies to support our wish to travel to Stewart Island to see the Sanford salmon farm and were successful. Ownership of the inquiry was in the hands of the students as they voluntarily blogged their observations of the salmon in our tank (<http://tinyurl.com/hdkcacn>).



▲ Otatara School students test the water clarity of the Oreti River after releasing their salmon with Environment Southland education officer Pat Hoffmann.



▲ An example of students' work showing vocabulary learnt.

Using the environment for viewing and presenting

Suggestion – Viewing

Let students watch a television advertisement for an 'environmentally-friendly' product and consider how the product is presented to the viewer through dialogue, words on the screen, music and types of characters.

Examples – Presenting



Students from Halfmoon Bay School explored their school grounds, concentrating on using all of their senses. They wrote down their observations on leaf-shaped pieces of paper and then placed them on a map of the school grounds (right). They used their observations to identify aspects of their school environment they wanted to improve (top left) and then presented their ideas visually using a word cloud (bottom left).



New entrants at Tisbury School demonstrated what they had learned about water pollution by drawing pictures on the concrete in their school playground. They wanted people to know that they could help protect fish in streams by keeping litter and pollution out of stormwater drains.

We can help!

Environment Southland offers expert assistance to schools wanting to learn more about freshwater, coastal environments and biodiversity.

The education team provides environmental educational support to Southland schools, at no cost. We offer lessons on a wide range of topics, plus field trips, publications and professional development opportunities for teachers.

If you'd like some help with planning your lessons with an environmental focus, we'd be delighted to discuss your ideas over the phone, or via email, or we can visit you at school.

We offer:

- ▶ Talks and activities in class
- ▶ Field trips, e.g. Stream Connections, Marine Metre Squared and riparian planting
- ▶ EnviroScape catchment model
- ▶ Workshops for teachers
- ▶ Resources for teachers

Contact Environment Southland with your request, or visit our website to find out more about our most popular activities.



BEACON Mapping Service

Finding reliable information about your local environment can be challenging. Many people don't know the name of the stream that runs past their home, or the dominant soil type in their area, or whether their favourite bathing site is safe for swimming.

Environment Southland has designed a mapping service, named 'Beacon', to enable anyone to access the information we have on Southland's environment. Refer to the 2015 Term 4 issue of *Enviroteach* for instructions on how to use Beacon – www.es.govt.nz (key words 'Enviroteach October 2015').

◀ **Students from Southland Adventist Christian School identifying and recording life on the rocky shores at Waipapa Point.**

LOCAL STUDENTS' FILM NOMINATED FOR GREEN SCREEN INTERNATIONAL WILDLIFE FILM FESTIVAL

Congratulations to Liam van Eeden and Jean-Martin Fabre, two young students from Invercargill, whose environmentally-focused film *Message in a Bottle* was nominated for the Green Screen International Wildlife Film Festival in Germany, held from 14-18 September 2016. Their film presents a critical view of the true cost of bottled water for both the consumer and the planet.

It gained the 'Web Show Central Cinematography Award' and the 'Element Audience Favourite' at The Outlook for Someday film challenge in 2015. It's very good and well worth watching (4 minutes). View it online at <https://vimeo.com/143755387>.