

Inglewood Primary School Case Study

Inglewood Primary School decided to take recycling a step further than just aluminium cans and has set up a comprehensive system, that works. The main reason for the increased interest in recycling was the desire to get rid of the incinerator which wafted yucky smoke at about nose-level across the school playground. The incinerator also provided other health and safety risks with potential for children to be hurt running around it or burning themselves on it.

Waste Management take Inglewood's waste paper/card, plastic bottles free of charge along with their normal collection of non-recyclable waste eg, yoghurt containers, chippy packets, gladwrap etc. The school still recycles its own aluminium cans as a fundraiser. Food scraps and other organic waste are recycled via the new compost bins which have been provided by the Taranaki Regional Council.

Each classroom has three colour-coded buckets, for paper, foodscraps and one for other (including plastics). There are bins in the outside environment where children can put various waste materials.

Obviously this system requires co-operation from all people in the school, especially the children. To help this, the property manager offers class rewards and certificates for children who make the system work.



Yucky smoke from the incinerator often wafted across the playground.

Property Manager, Paul Hitchcock, says the system works well and is actually less trouble for him now than the school's old method of managing waste.

If you would like to know more about Inglewood Primary School's recycling programme contact Paul Hitchcock, Inglewood Primary School Property Manager, 06 756 8040.

Taranaki Regional Council will provide a compost bin to schools that make a commitment to recycling; for more information contact Paul Radich.



Children from Room 13 recycle all their waste using colour-coded buckets.

SURVEY RESULTS

Below are some results from the school waste/recycling survey.

Of the schools that replied:

73% recycle (usually only to a small degree)	78% have an incinerator
10% have a more extensive recycling programme	65% still use an incinerator
65% indicated they would like to recycle more	39% use an incinerator daily



NPBS ECOLOGICAL ORGANISATION

Pupils at New Plymouth Boys High School with the help of two keen teachers have set up an environmental group and have named themselves the ECO group. The boys have regular meetings and have plans to become involved in some action for the environment. Plans include adopting a section of the Te Henui Stream to monitor and look after, beach clean-ups, nurturing and planting trees, and recycling projects. The group has solicited the help of the Taranaki Regional Council in achieving their goals.

If you would like to know more about this group, please contact Andrew Thomson at New Plymouth Boys High School or Paul Radich at Taranaki Regional Council.



Answers to children's page: Which Pest? - possum, wasp, rabbit, magpie, mustelid, wild goat. Reading Exercise: 4000, TB, goats, weasels, 1880's, rabbit, birds, erosion, rooks, crows, humans, nesting, control.

BITS'N'PIECES

Staff Meetings/Cluster Groups

If you want to know more about environmental education Paul has a fifteen minute presentation which explains Council's involvement and the services that are available.

Weather Unit

The popular weather unit still is available on request from the Regional Council. This unit of work focuses on weather related events, Council's functions regarding weather monitoring and air quality issues. As well, there is a cross-curriculum approach to the topic including language, maths and Te Reo Maori. Contact Paul Radich for a copy and/or assistance.

Environmental Web Sites

There are hundreds of neat web-sites on the Internet with environmental themes. Here are a few examples: www.nature.com, www.envirolink.org, www.nationalgeographic.com/kids. A good New Zealand site is www.kiwirecovery.org.nz

Taranaki Science & Technology Fair

Taranaki Regional Council will be providing a prize at this year's Science and Technology Fair held at the Pukekura Raceway complex on 20-21 August. The prize will be for an entry from any category which has an environmental flavour to it.

Kiwi Conservation Club

For children interested in the environment. The next outing is a trip to Curtis Falls, Egmont National Park, on Sunday 16th August. For more information contact Neil & Denise Phillips 06 762 2773.

NEXT S.I.T.E.

Believe it or not next term is the last term of the year and a great time for a coastal study. The next newsletter will focus on the coast and there will be the usual support offered and an updated version of the coast unit, available to teachers on request.

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TARANAKI REGIONAL COUNCIL
NEWSLETTER TO SCHOOLS

Education about, in and for the environment

Recently I attended the MESA (Marine Education Society of Aotearoa) conference and was privileged to hear a presentation from Barry Law, Senior Lecturer in Environmental Education at Christchurch Teachers College.

He explained the different meanings of education **about, in** and **for** the environment.

Education **about** the environment is learning how natural systems work and is a little like the old nature study we all used to do at school.

Education **in** the environment involves such things as having direct contact with the environment, gaining practical experience and aesthetic appreciation. Perhaps a bush walk or camp.

While we have traditionally done the first two well, the area we need to concentrate on more as educators is education **for** the environment.

This involves developing a sense of responsibility for the environment and developing an environmental ethic in our students and instilling a desire for environmental improvement. It also promotes a willingness and ability to adopt lifestyles compatible with wise use of environmental resources.

The challenge for us as educators is to make environmental education **for** the environment happen here in Taranaki. I believe this is happening already with groups taking action for the environment, whether it be involvement in some sort of river monitoring, a recycling programme, a beach clean-up, or a planting project. It can also be as simple as designing a poster to make people aware of an environmental issue. Surely this will lead to sustainability and an improved environment for future generations.

Paul Radich



Schools in the Environment - Winter 1998 - No.6

ANIMAL PESTS

The focus for this newsletter is animal pests and their impact on the environment. This is a very important topic which children need to know about and was a key issue in the recently released *State of the New Zealand Environment Report* which stated that 70 million possums eat 21 000 tonnes of vegetation in New Zealand every night.



Possums pose a major threat to our environment.

This topic has links with the New Zealand curriculum statements and there is a unit of work available with objectives, information and activities which can be adapted to suit all age groups.

It would be appreciated if teachers could spend a little time going through the information and activities inside SITE with their classes. The inside pages are now produced in black and white to encourage teachers to photocopy and distribute to their pupils. Check out the competition on the children's page.

Paul Radich, Information Officer, is available to visit your class to talk about animal pests and their effect on the environment.

RECYCLING ROUNDUP

Recycling turned out to be a fun topic, with children involved in making paper, recyclable art and craft, and composting. Some classes studied the topic in depth and achieved great learning outcomes.

Children also learnt about biodegradable and non-biodegradable materials and natural resources that are renewable and non-renewable. Children are very interested in the idea of saving energy and resources for future generations, and see recycling as one of the key ways of ensuring this.

Survey

A massive thank you to the 78 schools who returned the school rubbish recycling surveys. This was a 70% percent return rate which is very impressive for a survey. See page four for a summary of the results.

If you would like help with a recycling project contact Paul Radich.

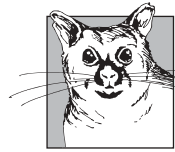
Emma Baker of Urenui School holds her creation 'Robo-person', one of the many pieces of recycled art made by her class.



Children of Saint John Bosco School make recycled paper.

ANIMAL PESTS

This issue's focus is pests and we're not talking about your brothers and sisters, but animals which cause havoc in our environment.



Possoms

Possoms are a protected animal in their native environment of Australia.

Possoms were first introduced to New Zealand in 1837 where they have no natural enemies and an abundance of food they love. Possum numbers have increased until there are now about 70 million of them. The vegetation they eat every night would fill about 4000 trucks.

Because Taranaki has a favourable environment for possums we are estimated to have a population of between four and six million which is a density higher than the North Island average.

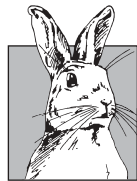
Possoms are pests because they:

- destroy forest and along with deer and goats could reduce our tall forests to poor scrub and grassland.
- drastically reduce native birdlife by stripping fruit and flowers which are vital food sources for birds.
- eat the eggs and chicks of native birds including kiwi, kereru (NZ pigeon) and the kokako. They also disturb nesting birds.
- could potentially spread Bovine Tuberculosis in beef, dairy and deer herds.

How do we control possums?

The Taranaki Regional Council is carrying out possum control around Taranaki, particularly focusing on the ring plain (the flat area around the mountain).

Farmers and other land owners also help keep possum numbers down by shooting, trapping and poisoning possums through the Taranaki Regional Council self-help possum control programme. Possums are considered a high priority pest in Taranaki.



Rabbits

Rabbits introduced in the 1830s to provide meat, fur and game have become a problem in New Zealand.

Rabbits

- eat valuable pasture
- burrow, causing erosion
- spoil new crops



Mustelids

This group includes ferrets, stoats and weasels. They were brought to New Zealand in the 1880s to control the rabbit population. Their introduction is regarded as one of the worst mistakes made by the colonists from

Europe as mustelids have become one of the main predators of birds:

Mustelids

- have contributed to the extinction of some native birds
- have reduced the numbers of kakapo, takahe and little spotted kiwi
- prey on kaka, kakariki, yellowhead and saddleback



Feral Goats

Feral goats (wild, or once domestic and now wild) are a problem in parts of Taranaki.

Goats browse the forest floor destroying seedlings and opening up the forest so possums can move in easily and destroy the forest canopy.

Goats can also cause erosion on steep country as they eat the foliage and leave the bare soil.

Other Pests



Magpies can be a problem by swooping on people in their nesting territory. They are also thought to interfere with native birds by driving them off their nests and preying on chicks and eggs. Magpies do however, benefit farmers by eating large amounts of grass grubs and harmful insects



Rooks are a large black bird, bigger than a magpie. Rooks can descend on emerging crops causing serious damage when their natural food supply (soil invertebrates) run out. Rooks are seldom seen in Taranaki.



Wasps as well as being a nuisance and posing a risk to people who are allergic to them, have been known to kill chicks in their nest. They also compete for the food supply of our native animals.



Feral (wild) cats and dogs can also be a problem when they prey on native birds. These are domestic animals that have been let loose in the environment and without their owners to feed them they have to hunt for food. Even domestic animals can prey on birds and other wildlife.

What can you do?

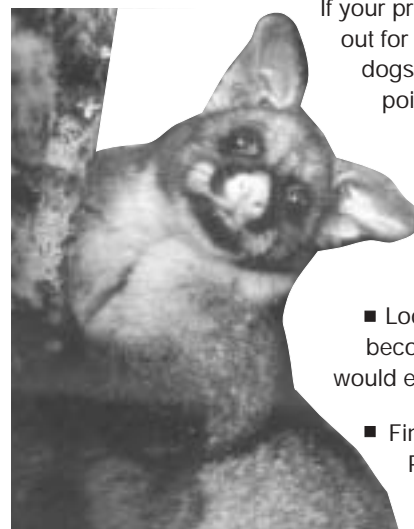
The animal pest problem in New Zealand is a big one that will probably never be completely solved. An awareness and desire to help solve the problem is important.

If you have a possum problem around your home or school, Taranaki Regional Council staff can offer advice and help you to get rid of them. They are also available for advice on other pests.

If your property is in a possum control operation area, watch out for poison bait stations and look after your dog, as dogs are in danger if they eat possums that are poisoned by 1080 poison.

You can also monitor evidence of possum damage. Look out for damage to fruit and vegetables, scratch marks on trees and new growth bitten off trees.

- Look after your domestic animals, never allow them to become wild, and never take them to an area where they would endanger native birds.
- Find out about Project Crimson which is saving Pohutukawa and Rata trees from possums and other pests.



Junior Environmentalists Page

This page is designed to reinforce learning and has activities for different levels. Please photocopy as you wish.

Which pest?



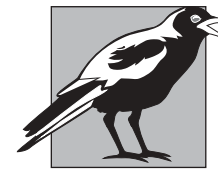
MUOPSS



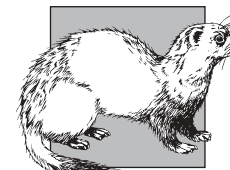
PSAW



BIABRT



IMPAGE



LUDESTMI



DILW TOGA

READING EXERCISE

Use the information on page 2 to fill in the gaps.

70 million possums are estimated to eat truckloads of vegetation every night. They are also known to spread and eat native birds and their eggs. Together with they have caused devastation of our native bush.

Stoats, Ferrets and collectively known as mustelids introduced in the 's have been a disaster even though they were brought over to control another pest the . They prey on native such as kiwi and kakapo.

Rabbits damage valuable pasture and crops and can cause .

Magpies and are bird pests which can damage , swoop on and disturb birds.

We must animal pests to protect our environment.

GRAPHING

A farmer with a pest problem goes hunting for possums and rabbits. Graph the results on a composite bar, or stem-and-leaf graph.

Night	Rabbits	Possums
1	9	12
2	12	6
3	16	14
4	14	28
5	18	19
6	25	22
7	14	12
8	7	10
9	5	5
10	3	2



DICTIONARY

- erosion
- native
- habitat
- introduced
- eradicate
- flora
- fauna
- pest
- feral
- invertebrate
- menace

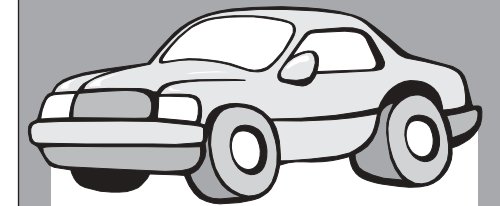
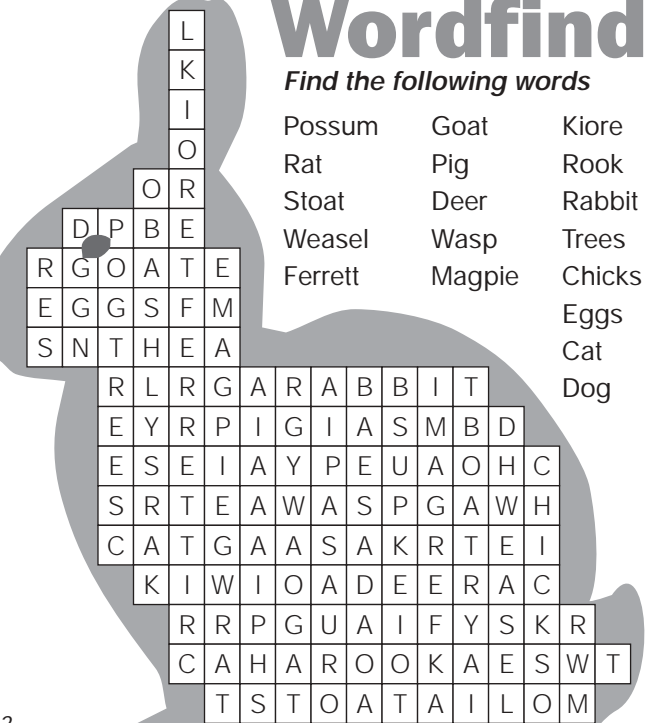


Find the meanings of these pest related words.

Wordfind

Find the following words

- Possum
- Rat
- Stoat
- Weasel
- Ferrett
- Goat
- Pig
- Deer
- Wasp
- Magpie
- Kiore
- Rook
- Rabbit
- Trees
- Chicks
- Eggs
- Cat
- Dog



COMPETITION

Write a slogan for a bumper sticker to make the public aware of our most serious animal pest, the possum.

Make it something short and catchy. For example:

- 'Stop Possums before it's too late'
- or
- 'Possums Prey on Paradise'

Entries can be faxed to the Regional Council on 06 765 5097 or email to paul.radich@trc.govt.nz You can even send a whole class set at once.

- Prizes 1st \$30 Book voucher
- 2nd \$20 Book voucher
- 3rd \$10 Book voucher

We will also make a class set of the winning entry