

Pembroke School trip

Room 1 from Pembroke School with teacher Caroline Beissel studied the invertebrate insects in the Kaupokonui Stream during a recent stay at Konini Lodge.



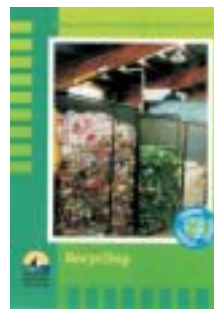
Pembroke students checking the Kaupokonui Stream.



Resources

It has been some time since we highlighted the resources available to teachers to assist them in implementing their environmental education themes. Full units with a range of activities for students ranging from Level 1 - 8 are available covering:

- River
- Weather
- Coast
- Recycling
- Trees
- Sustainable Land Management

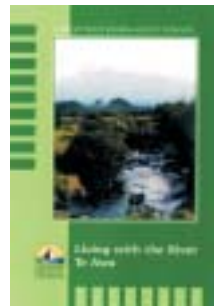
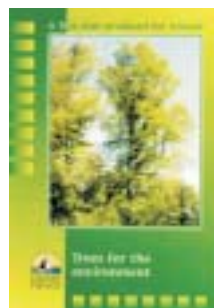


Two mini-units are also available

- Possums
- Native Freshwater Fish

In addition to these the Taranaki Regional Council has a huge range of information covering all environmental themes and topics. It also has an extensive photo library which might be useful when you are setting up displays.

All material is free from copyright so we would prefer schools to order copies, rather than each teacher. Individual teachers can then photocopy the activities they require from the original.



Newall School mountain visit



Pupils, staff and parents from Newall School struck a lovely clear day to visit Mt Taranaki during 2001. In contrast to the latter part of the year they had a fantastic visit to the Dawson Falls area. Thanks for your company.

Students from Newall School at Dawson Falls.

Bits'n'Pieces

National Waterways Pollution Detectives

On World Water day (March 22) schools are being encouraged to investigate the health of their local stream. The stream invertebrate score and clarity readings can be forwarded to the National Waterways Project to give a national snapshot of our waterways on that day. One school will be drawn to win water-monitoring equipment. Further details on <http://hwp.rsnz.govt.nz>.

Mini Units

I shortly hope to have two new mini-units available for your use. One has Pest Animals as its theme and the other focuses on Pest Plants. Both units have activities suitable for Y4 - Y8 students with a mix of practical and research type activities. If you would like to trial one of them please contact me by phone/fax/email.



The 2002 Youth EnviroSchool is again being held at Lincoln University, Canterbury from 2 - 6 April 2002. The school is for year 12 - 13 students with a strong interest in the environment. This year's themes will include Eco-Tourism and will involve lectures, field trips, practical sessions, discussions and social occasions.

Answers from page 3:

Target word: cot, coy, toe, toy, some, tome, most, mossy, cosy, toss, moss, come, cost, system, nine letter word - ecosystem.

Match up: 1) kitten, 2) whitebait, 3) calf, 4) cygnet, 5) cub, 6) leveret, 7) kid, 8) foal, 9) fawn, 10) joey.

Word change:
pest - pelt - felt - fell - tell - tall - tale - tame.

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TARANAKI REGIONAL COUNCIL
NEWSLETTER TO SCHOOLS

Welcome back! Hope the break has given you all the opportunity to recharge the body and mind.

Facilitator training for the 'Guidelines for Environmental Education' booklet has finally arrived in Taranaki. Early this term two teachers and I will attend training workshops in Christchurch. Our commitment to the training will see us offering two one-day workshops for local teachers during the second term. If your staff or syndicate is interested in integrating an environmental approach to any of your themes during this year give me a ring and I will include your school on a priority list for these training days.

As with last year I have planned some 'Teacher Development' days during this year. Advance details are included with this issue so you can diary them now. More specific details will be forwarded to your school (with an enrolment form) closer to the actual dates.

The wet weather during the fourth term played havoc with a number of class trips into the environment. I don't recall having so many activity days cancelled due to rain or high river levels. If you were affected and would like to re-schedule, or are contemplating fieldwork and would like some assistance give me a call. I can assist you with planning your activity and relating it to curriculum and environmental outcomes. Please remember that I have to operate on a 'first come, first served' basis so it is advisable to give me a call well in advance of your event.

A feature of each SITE newsletter is being able to highlight school or class activities which involved students learning about our environment. If you have photos of your class or school participating in environmental activities, send copies to me, and I will feature them where possible.

Finally, have a great year. I look forward to working with you if possible and to receiving photos of your students involved in environmental education.

Graeme

S.I.T.E.

Schools in the Environment - Summer 2002 - No.20

Invasion by intruders

From time-to-time we read about an invasion of our ecosystems by a foreign organism. Throughout our history we have introduced many plants and animals into our country. Many of these have gone on to pose a significant threat to our native flora and fauna. Often the detrimental effect is not obvious for quite some time after the invader has been introduced. This issue of SITE considers the implication of unwanted aliens and looks at some examples of intruders and their effect on our environment.

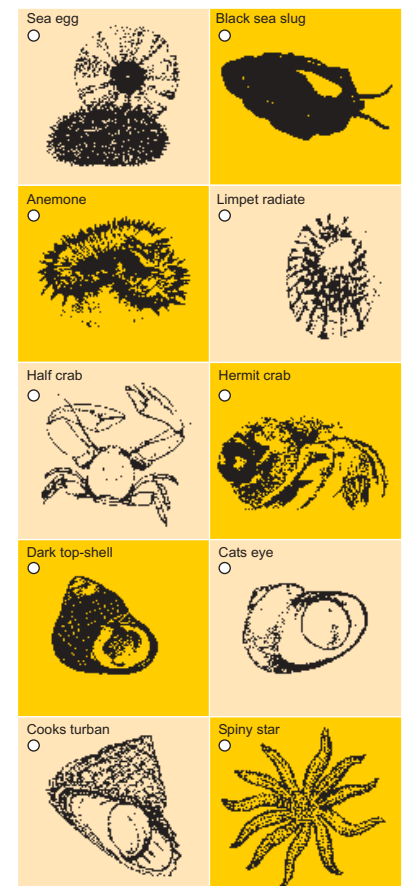
Rock pools

During rock pool visits our aim should be to observe carefully how the creatures protect themselves from predators, how they manage to co-exist, and the adaptations they have evolved to enable them to survive in this environment.

As many classes visit the rock pools as part of their Seaweek study it is an appropriate time to consider some issues:

- ★ In most cases it seems inappropriate to take containers of sea creatures back for classroom displays - most creatures will survive only for a short time because the tidal movement is removed causing the water to become stale quicker.
- ★ There is a strong need to focus the aim of the visit with the pupils well in advance. Groups of students ranging from pool to pool in search of crabs negates the depth of the study.
- ★ If, by our actions, we destroy the habitat of the creatures then our visit was entirely counter-productive. Likewise if we leave a trail of dead creatures then the same applies.

★ Examples of the identification sheet. A complete sheet can be obtained by contacting Graeme. ▶



Seaweek

Seaweek 2002 (March 8-17) 'Diving deeper - exploring marine conservation'. This year's theme provides a large range of activities for schools to participate in. I have inherited the role of 'Regional Seaweek Coordinator' so would be pleased to hear of anything you are planning.

See <http://environment.org.nz/seaweek> If you let me know the activities your school or class is proposing I will forward them on for inclusion on the Seaweek website. Email me at graeme.phillips@trc.govt.nz.



Koi carp



Rudd



Gambusia



Feral pigs



Mustelids



Possum



Argentine ant



Wasp



Old man's beard



Ragwort



Gorse

Many foreign insects, animals and plants find their way to New Zealand via a host of unwitting carriers. Sometimes they attach themselves to items brought into New Zealand from other countries but unfortunately some plants and animals are deliberately smuggled into New Zealand. Even vigilant border control officers will sometimes miss items being illegally brought into our country. We need to make all entrants into our country aware of the potential threat these invaders pose to our own native plants and creatures. We will look at a few foreign invaders and consider their effect on our environment.

Aquatic assassins

Koi carp Introduced from Japan as an ornamental fish. Large golden fish with two pairs of feelers near corner of mouth. Destroy river edges through uprooting water plants, feed on insects and young fish.

Gambusia Introduced from Mexico to control mosquitoes. Gang up and attack in large numbers. Breed faster than rabbits and have huge effect on native fish numbers.

Rudd Silver fish with bright orange fins, very rapid breeder who destroy snails, insects, plants and crustaceans.

So far these species are not present in any great numbers in our Taranaki waterways. However, our hill country rivers could provide a suitable habitat for all the above pests. The transfer of live fish is illegal but we need to take care not to allow them to hitchhike on boats, trailers, nets, containers or plants.

Pirate plants

Old man's beard This vine is a prolific climber that effectively strangles the host tree. It provides intense competition by excluding native plants and spreads quickly in forests, streambanks, hedgerows and gardens.

Ragwort An erect plant growing up to 120 cm tall with large clusters of yellow flowers. It suppresses pasture growth and can be toxic to cows and horses.

Gorse A woody shrub with sharp spines and yellow flowers. Suppresses the growth of pasture grasses and forestry seedlings.

All these pest plants are present in Taranaki. The Pest Plant Management Strategy sets out the rules regarding these pest plants and provides guidance on how to control them.

Insect invaders

Argentine ant A self-introduced stowaway. They swarm in huge numbers displacing other ants. Also reduce invertebrate numbers and compete for food sources. Listed in the 'World's worst 100 alien species'.

Wasp (*Vespula* and *Polistes* spp): Introduced as a stowaway on boxes of aeroplane parts in 1944. Form large colonies and can be aggressive when disturbed. Damage native insects and spiders and compete for food with native birds.

Wasps are now common in Taranaki but Argentine ants have not been found here. The potential damage to our environment is huge if they establish themselves.

Animal aliens

Possum Introduced from Australia in 1837 to establish a fur trade. Now estimated to number 70 million. Damage to plants, insects and birds is huge. Probably impossible to eradicate so aim is to control numbers.

Mustelid *weasel, stoat, ferret* Introduced from Great Britain to control rabbits which had been previously introduced. Responsible for damage to native birds, lizards and insects. Possibly responsible for diminished kiwi numbers.

Feral animals *cat, deer, pig, goat* All introduced for farming or as household pets. While farmed and controlled no problems arise but widespread damage caused when released into the wild. Feral cats could be partly responsible for decline in kiwi numbers.

All these pest animals are present in our region. We need to ensure we are doing all we can to prevent their numbers growing out of control because of the potential damage they pose to our environment.

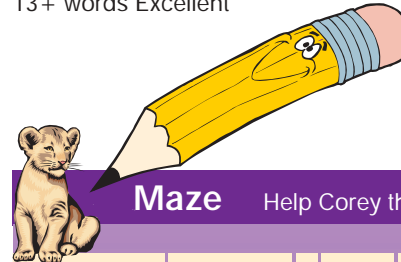
More information on pest animal and plant control is available from the Taranaki Regional Council.

Target Word

How many words (3 or more letters) can you make from the below letters? All words must contain the shaded letter. No plurals. Can you make a nine-letter word?

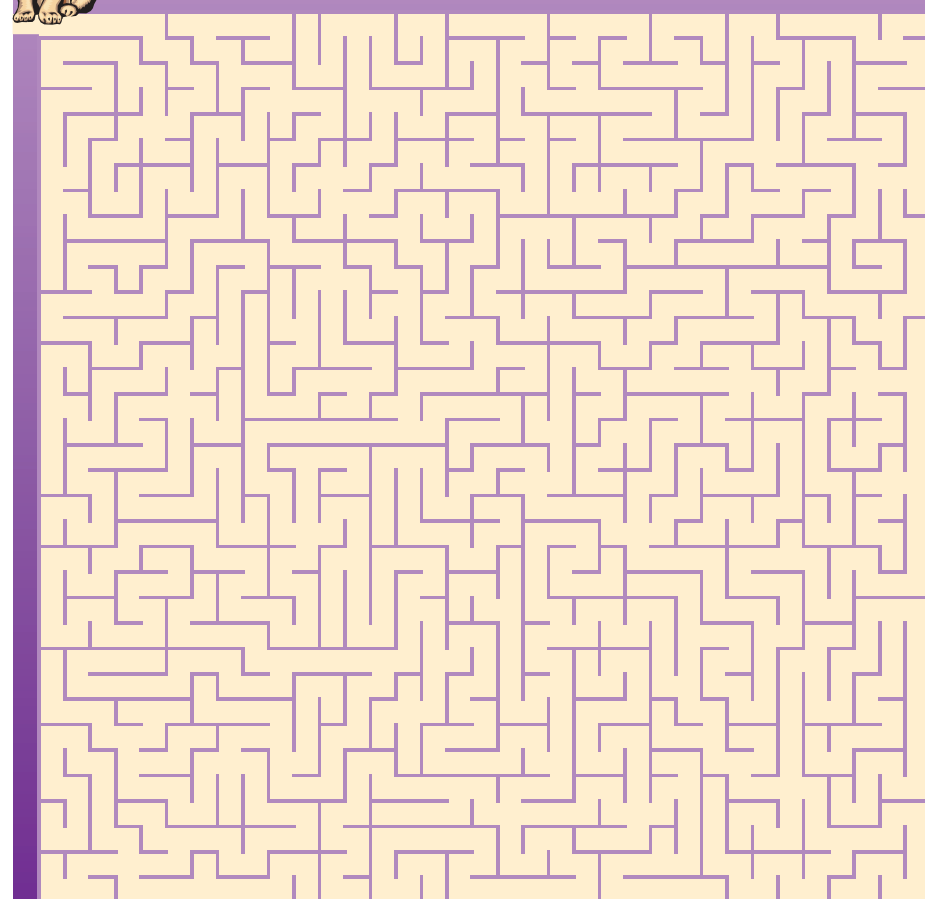
E	T	Y
E	O	S
S	M	C

1-8 words Good; 9-12 words Very good; 13+ words Excellent



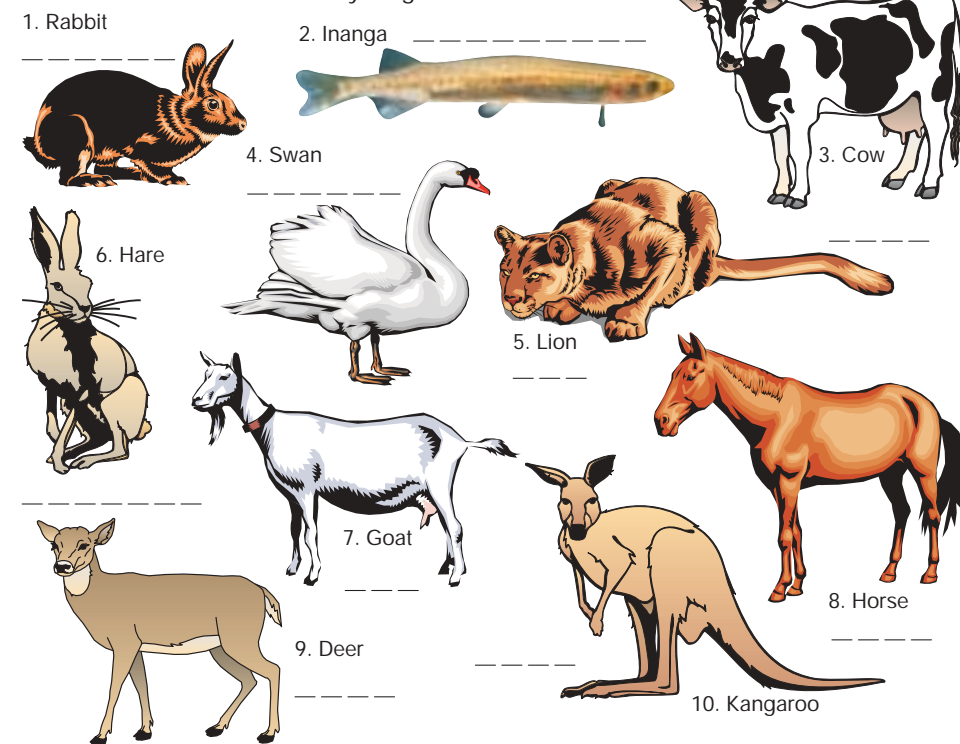
Maze

Help Corey the cub to find his way home to his mother



Match up

Match the adult animal with its young.



--- cub - foal - kid - calf - leveret - kitten - fawn - joey - whitebait - cygnet

Word change

Change pest to tame in seven moves. Remember you can only change one letter at a time and each change must make a proper word. The first one is done for you

pest -----
pelt -----

----- tame

Research activity

Use your research skills to investigate other invaders that have appeared in New Zealand. Find details about each one. Set out in a table with the headings: Invader/ original country/threat to/why introduced. Try to find animals, insects, plants and fish.



Answers on page four