

# Super Sites for Conservation Education – Okia



Department of Conservation  
*Te Papa Atawhai*



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## USING THIS RESOURCE

This resource kit is designed to help you plan exciting and educational conservation learning experiences outside the classroom. Background information on **Okia Reserve** and neighbouring **Victory Beach** introduces you to the key points of interest at the site. A list of related resource material is included to guide you to more in-depth information. To help you get the most out of your site visit, a range of on-site activities have been suggested, together with ideas for pre and post visit activities.

## CROSS-CURRICULAR OR SPECIALISED.

Site visits can be used to meet goals from specific curriculum areas, or different curriculum areas simultaneously. A trip might be planned to meet objectives from the **place and environment** strand in the Social Studies curriculum, the **living world** strand of the Science curriculum, and **healthy communities and environments** from the Health and Physical Education curriculum. Skills and attitudes can similarly be selected from across the range of curriculum documents.

Example: Science Curriculum

Strand: ***Making Sense of the Living World*** – Students could be learning by:

- Level 1 Reading books about the main features of coastal animals and plants.
- Level 2 Finding out about what happens to the animals in a coastal environment when people behave irresponsibly.
- Level 3 Constructing a photograph collage of the land forms at Okia reserve to familiarise themselves with the environment.
- Level 4 Conducting a field survey at Okia Reserve to observe the main features of the wildlife and their feeding habits.
- Level 5 Making a poster of geological events such as volcanic eruptions in the local area in the past.
- Level 6 Investigating the management of a replanting programme.
- Level 7 Developing a photographic record of geological and/or geographical features of the local area to illustrate the information contained in a map of the region they have prepared.

In planning your programme, it is recommended that you refer to the Ministry of Education's *Guidelines for Environmental Education in New Zealand Schools*. The *Guidelines* identify environmental education opportunities in the national curriculum statements. Copies are available from Learning Media, Box 3293 Wellington.

## EDUCATION *FOR* THE ENVIRONMENT.

Take the opportunity to make students aware that the places they are about to visit are part of the heritage of all New Zealanders and therefore the responsibility of all to care for. The *Environmental Care Code* in the margin is a good resource for reinforcing this point.

## SAFETY

Schools are reminded of the need to prepare a risk analysis and management plan for their visit. Helpful documents include:

- *Education Outside the Classroom: Guidelines for Best Practice* (Ministry of Education, 1995).
- *Managing Risks in Outdoor Activities* (Mountain Safety Manual 27, 1993).
- *Water Safety Across the Curriculum* (Water Safety New Zealand, 2000).



## ENVIRONMENTAL CARE CODE CHECKLIST

- Protect plants and animals
- Remove rubbish
- Bury toilet waste
- Keep streams and lakes clean
- Take care with fires
- Camp carefully
- Keep to the track
- Consider others
- Respect our cultural heritage
- Enjoy your visit

Protect the environment for your own sake, for the sake of those who come after you, and for the environment itself.

# Pre and post activities

Planning good lead-in and follow-up activities will help you get the best value from a field trip. If students have some formative ideas about what they might be about to find, they will observe in a more focussed way. The activities suggested below can be adapted to the age/level of your students.

## Pre visit

- Locate the site on a map. Work out its distance from the school and how long it will take to get there. Talk about how people would have travelled there in the past, before cars. How long would it take to get there on foot?
- List the marine mammals and birds you would expect to find in the coastal environment.
- List all the things students like and dislike about the coastal environment. What is the reason for these views? Why do they think the way they do?

At the end of the study re-examine these views and see if any have changed.

- Brainstorm (in small groups) the meaning of specific words related to the topic, e.g. native, introduced, habitat, adaptation, ecosystem. Begin to build a class bank of key words that can be used when seeking information from books, web-sites, resource people.
- Compile a chart “Things we already know about Okia Reserve”.
- Compile a chart of questions the students want to find answers to on their visit to Okia Reserve.
- Visit the Otago Museum to investigate the lifestyle of Maori in settlements on Otago’s coastal areas. Invite a local kaumatua to talk to the class about the history and cultural value of the area.
- What do the students know about the Dunedin City Council reserves, and the Yellow-eyed Penguin trust? What do they know about DOC? Check out websites and find out which people do what.
- Visiting outdoor areas usually requires special gear and there are safety issues to take into account. Have students list the clothing and other gear they think they will need on the trip. Discuss a brief for and design a weather-proof suit or jacket with plenty of pockets and extra features like a waterproof seat. Discuss the danger of tree nettle and first aid treatment.
- Design an outdoor safety code. Appoint class members to help apply it on the day.
- Use maps and other resources to gather information about the geology and geography of the area.
- Examine issues related to the history of the site – e.g. its geological history (volcanic activity), location and strategic importance; evidence of past occupation and uses. Which groups of people have lived in or used the area in the past, and for what purposes?
- Examine the roles of people who work in or help to look after natural areas. Who are they? What do they do?

- Working in groups of four or five get students to plan a radio documentary on Okia Reserve.
  - Get them to research some background information about the area and identify some points of interest that they want to report on.
  - Allocate roles to the group members: one student can be the reporter, one can be the programme producer and the other students can be given roles as interview subjects. For example, one could be a member of the Yellow-eyed Penguin Trust talking about why the group wants to protect the reserve, another could be a local historian and another could be given the role of a fur seal or sea lion and interviewed for her/his view on why it's important to protect the area (for help, see [www.yellow-eyedpenguin.org.nz](http://www.yellow-eyedpenguin.org.nz)).
  - The reporter and producer will need to draw up a list of questions to ask. The other members of the group can draw up character profiles, stating the character's name and summarising his/her background and viewpoint.
- Begin a study of a plant or animal that lives in the coastal or marine environment that you will visit.

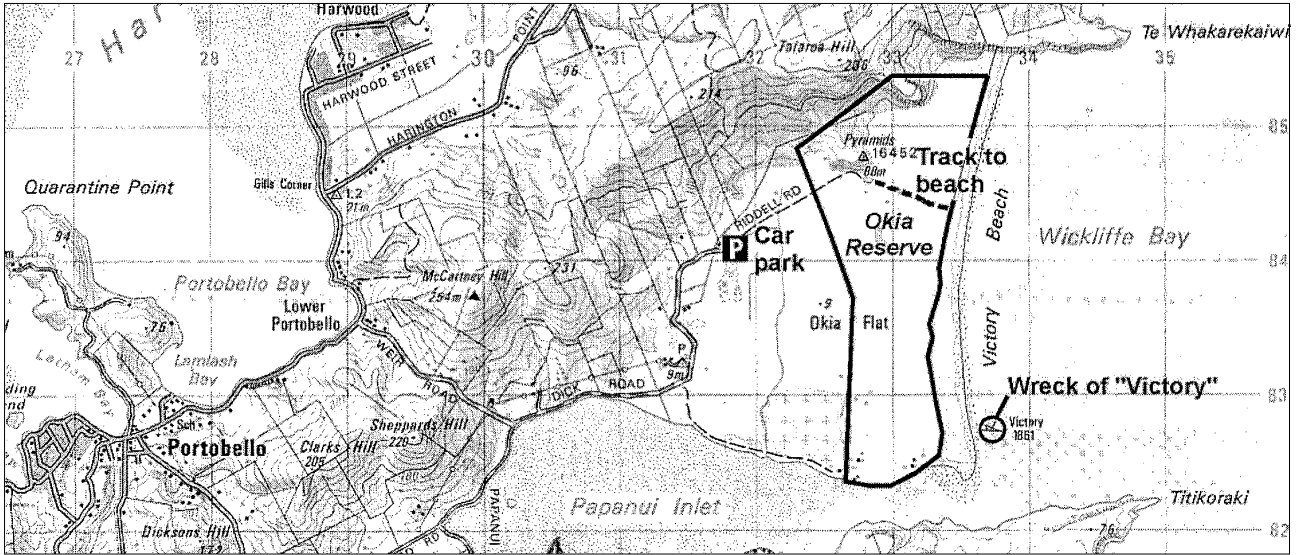
Find out as much as you can about its main features, feeding habits, natural predators, introduced predators, its status, its uses, its size at different stages of its life cycle, etc. This study can be added to following the visit.

### Post Visit

- Create a coastal collage along a wall of the classroom. Add pictures or models of birds. Make silhouettes of birds in flight to adorn the ceiling.
- If photos were taken of the landforms at the reserve, use them to construct a photo collage.
- Add to the plant/animal study begun prior to the visit.
- Draw plants and animals that make a food chain and/or cut them out. Arrange them into a food chain or, for more advanced students, build up a food web.
- Find out about the work being done by the Yellow-eyed Penguin Trust and others at Okia Reserve. Look for ways your class might be able to help, for example, assisting with re-planting or growing seedlings.
- Write a report for your school newsletter on the visit to Okia Reserve to tell people what you learnt.
- Use clay or play dough to make a model of the "Pyramids" at Okia Reserve and the wildlife that live in the area e.g. sea lions, fur seals, yellow eyed penguins. Discuss or write about the role each of these species plays in this ecosystem.
- Design a board game where players win points for taking action to protect the reserve and lose points for activities that damage the environment. For example, one square could read "Thanks to your replanting efforts, numbers of yellow-eyed penguins nesting in the reserve have increased this year. Earn 10 points". The next square may read "Your dog gets loose in the reserve and kills three blue penguins. Lose 15 points".
- Find out about other reserves in your area. Plot the reserves you have found on a map. What does being a "reserve" mean?
- Recreate the debate in Parliament about the Conservation Act that set up the Department of Conservation in 1987. Have speakers for and against - including some who would like more of New Zealand's land and sea to be protected. What would be the advantages and disadvantages of each argument?



Yellow-eyed penguin





# Okia Reserve – Victory Beach: Site Information

Located right next door to Victory Beach – the longest and most spectacular beach on the Otago Peninsula – Okia Reserve supports a fascinating diversity of wildlife and vegetation. The site is also renowned for a number of important geological and historical features including the “Pyramids”, remains of an old shipwreck and signs of Maori occupation.

The name *Okia* seems most likely to have been the name of a person of some importance, an ancestor who was remembered by his name being placed on the land. The fact that Okia as a name is applied to several points in the Okia Reserve points strongly to the fact that *kia* once lived here. Okia meaning “of Kia”. The large pyramid has the name Pu-wheke-o-Kia.

## Geology and History

It is the famous “Pyramids” that greet you first on your approach to Okia Reserve. These awe-inspiring features were formed during the first eruptive stage of the volcano on which Dunedin is built. They are made of a dark rock called *basalt* which is extremely hard and resistant to erosion. The basalt has formed a collection of jointed columns. The columns are most prominent on the seaward side of the “Little Pyramid” (Te Matai O Kia). (A track leads to the top of the “Little Pyramid” where you can get outstanding views of the reserve and its coastline.)

On the seaward side of the “Little Pyramid”, you’ll also find an old cave carved out by the sea long ago. Signs of Maori occupation have been found here. The cave is listed as an important archaeological site.

Several Maori settlement sites have been identified within Okia Reserve. Excavations have revealed:

- middens of shell and bone;
- bedding material;
- a carved wooden figure known as a “godstick” (now housed at the Otago Museum);
- a burial area;
- stone adzes;
- moa bones and human bones .

A large settlement was situated at the southern end of the reserve. Many artefacts have been revealed including stone adzes, moa bones and human bones, dating back 500 years.

**Signs of early European history** can be found on the beach itself. Victory Beach gets its name from the wreck of the steam ship *Victory*. In 1861 the *Victory* was on a voyage from Melbourne to Dunedin carrying mail, cargo and passengers. George Hand, the chief mate, took charge of the ship just seven minutes before she struck sand. He was later charged with drunkenness and breach of duty, and was sentenced to serve 3 months’ hard labour. Had it struck the rocks a mile further up the bay, lives could have lost. Fortunately, the passengers and mail were landed safely but the steamer was left so high on the beach that it was surrounded by only four feet of water at low tide and deeply embedded in the sand. The ship’s barnacle encrusted flywheel can still be seen on the beach today when the tide is out.

## Vegetation

Okia reserve supports a varied collection of native and exotic plant species.

On the cliffs to the north is Taiaroa Bush, the largest remaining tract of native forest on the Peninsula. It is made up of:

- Broadleaf;
- Fuchsia;
- Kowhai;
- Mahoe; and
- Flax.

Maiden hair fern, rare in the Dunedin area, can be seen at the base of the cliffs.

There are also dense thickets of tree nettle and coprosma shrubs. Watch out for tree nettle or ongaonga at the base of the Little Pyramid. Avoid contact with bare skin as it has a nasty sting.

On the dunes behind Victory Beach, introduced species dominate.

- Marram grass flourishes on the foreshore
- Lupins and exotic grasses run wild, although they are gradually being replaced by the natural regeneration of bracken fern and flax

The original plant cover of the dunes was probably *pikao* (Southern dialect for pingao: *Desmoschoneus spiralis*), the native sand sedge. Today this plant, which is highly prized by Maori weavers, survives naturally in only a few places on Otago Peninsula. The rich yellow sedge has now been largely replaced by introduced marram grass, which has taken over in coastal areas throughout New Zealand.

*Pingao* is found naturally only in New Zealand. Its thick rope like stems stabilise the sand, sending down long, fine roots to search for moisture. From the same strong stems, curving tufts of narrow grass-like leaves grow. It is these leaves that give *pikao* its luxuriant colour – green-gold in winter, turning bright orange and later deep yellow in summer. It is often referred to as weavers' gold and has been used by Maori to make intricate tukuktuku panelling and decorative woven articles.

Efforts are being made to re-establish pikao at several sites in the Reserve. Recent signs of these efforts are visible near the Pyramids. (see [www.pikao.org.nz](http://www.pikao.org.nz))

Damp dune hollows, resembling those found around inland lakes, are common on the reserve. In wet spells they become small lakes enjoyed by aquatic birds and waders such as paradise ducks (putakitaki) and white-faced herons. Several thousand years ago, the area was an intertidal salt marsh. The whole of the flat was once entirely underwater, with waves pounding against the base of the Little Pyramid.

## Wildlife

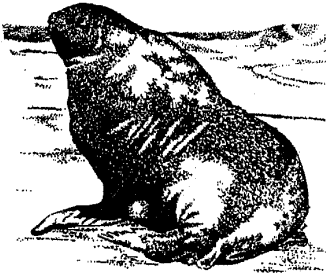
Okia Reserve was purchased primarily for the protection of the yellow-eyed penguin or hoiho which are endangered on mainland New Zealand. There are 47 birds species, including 13 seabirds, 7 shorebirds, 4 water fowl and 23 landbirds. The seven most numerous species are: red-billed gull, black-backed gull, bar-tailed Godwit, starling, redpoll, South Island pied oyster catcher and skylark. In the dune scrub you will find hedge sparrows, silvereyes and blackbirds, and perhaps a fernbird. Developed farmland is the main habitat for grey warblers, redpolls and yellowhammers.



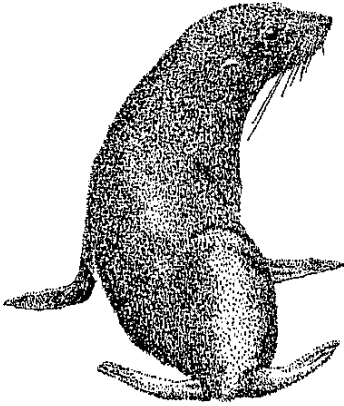
Tree nettle or ongaonga



Pikao



Sealion



Fur seal

- Hoiho are medium sized penguins, standing 65-70cm tall. Unlike most penguin species, hoiho do not migrate and they can be found at their breeding beaches the year round. They go to sea during daylight hours to feed and come ashore in the late afternoon and early evening. Otago Peninsula is a stronghold for the species. About 17 pairs nested in the reserve in 1997/98, mostly at the northern end. Since the reserve was created, numbers of penguins at the site have increased. Habitat restoration to encourage nesting includes the planting of flax, shrubs and trees along the northern fore dunes.
- Blue penguins (korora) also breed at the northern end of the beach.
- Numerous other seabirds feed in the cold water offshore and use the coastline for resting and breeding.
- New Zealand fur seals (kekeno) can be seen below the northern cliffs, playing amongst the rocks or resting.
- New Zealand sea lions (Hooker's, rāpoka/whakahao) can be found at the southern end of the beach. Much larger than fur seals, male sea lions tend to be dark brown or black whereas females and juvenile males are a sandy or pale cream colour. Young males can be seen playing on the beach. You are likely to see sea lion "tracks" leading up into the dunes behind the beach where they go to rest. Sea lions can move quickly and they can be aggressive so respect their territory and keep a safe distance away, at least 5 metres. These sea lions are threatened, and only found in New Zealand.
- Lizards such as the common skink, common gecko and the rarer jewelled gecko can also be found in the reserve.
- Two species of introduced frog are resident as well. Whistling frogs live amongst the rocks at the base of the Pyramids making high pitched "cree cree" calls and deep croaking golden bell frogs are found in the wetlands.
- The red admiral butterfly can often be seen while walking.
- Wading birds such as the South Island pied oyster catcher (torea) and the pied stilt (poaka) can be observed from Papanui Inlet, south of the reserve..
- Royal spoonbills are occasional visitors to Papanui Inlet and river mouth.
- The eastern bar-tailed godwit (kuaka) is a common migrant that flies all the way from Siberia to overwinter in the inlet.
- In the dune scrub you will find hedge sparrows, silver eyes, blackbirds, and you may hear the "click" sound of the native fernbird.

### Access

Okia Reserve is approximately 27 kilometres from Dunedin and around 7 kilometres from Portobello.

Foot access begins at the carpark at the stile beside Okia Reserve and follows a straight farm track for 15 minutes to the Pyramids.

The beach can be reached in 20 minutes from the Pyramids. The route on to the beach heads out between the Pyramids and across the dunes, is marked by poles and features a number of interpretive panels.

To protect wildlife and dune vegetation, please keep to the tracks.

The site is recommended as more suitable for upper primary and secondary students. You may want to consider combining your visit with a trip to the Portobello Marine Laboratory. There are no public toilets at Okia Reserve at present. The nearest public toilets are at Portobello.

## **Conservation Management: Issues and Threats**

Okia Reserve was jointly purchased by the Yellow-eyed Penguin Trust and the Dunedin City Council in July 1991. It is managed by both organisations in conjunction with representatives from Te Runanga Otakou and the Department of Conservation.

Key management issues for the area include:

- Improvement of breeding habitat for the yellow-eyed penguin, jewelled gecko, blue penguin, sea lion and fur seals.
- Protection of wildlife from introduced predators and undue public disturbance.
- Protection of dunes from disturbance of off-road vehicles and trail bikes.
- Protection from threats such as fire and weeds.
- Provision of walking access to the site.

# Site activities

The following pages provide suggested activities to help you get the most out of your site visit.

## ACTIVITY 1: NATURE AWARENESS SCAVENGER HUNT

### Materials

- Instruction card
- Pen or pencil
- Paper
- Hand lens (optional)

### Method

1. Group the students into pairs. Give each pair an instruction card with a list of things to find and study at the site. A sample card is provided below.
2. Set a time limit for students to find and study the items listed.  
Note: **Students should not collect living things or remove parts of plants.**
3. At the end of the designated time, ask each pair to report on what they found.

#### Nature Awareness Scavenger Hunt

Find evidence of the items below and explain the reason for their special features: (eg. Something prickly - the prickles help to protect it from predators)

- Something with a rough surface
- Something multi coloured
- Something very big
- Something your own height
- Something unusual
- Something shiny
- Something prickly
- Something growing

See if you can also find:

- Something that shows people have been here
- Something that is of no use in nature.

REMEMBER the Environmental Care Code:

- ✓ Treat plants and animals with respect
- ✓ Stay on the track.
- ✓ Have fun.

Trick question: Everything in nature is put to some use by plants or animals even if only by breaking down and adding to soil.

Chip packets or human plastic rubbish **may** be only thin and of no use but could lead to discussion of waste and recycling - by nature; by humans.

## ACTIVITY 2: WHO LIVES HERE?

### Materials

- Ball of string
- Paper
- Pen and pencil

### Method

1. Divide the students into groups of five. Give each group a long piece of string which they can place around an area of the site. Get the students to explore the trail, recording the plants and animals they note along the way. They do not have to know the proper names; they can just record the number of different species they see.
2. After exploring the trail for 10-20 minutes, call the class together and talk about the variety of things they have seen.
3. Use the discussion to introduce information about the diversity of plants and animals in New Zealand. For example:
  - It is estimated New Zealand may have as many as 80,000 species but we only know about 30,000 of them in any detail.
  - Human impacts on the environment have meant we've already lost some of our plant and animal species, including:
    - 32% of our native land and freshwater birds;
    - 18% of our native seabirds;
    - three of our seven native frogs.

The New Zealand Biodiversity Strategy is a useful source of information on our plants and animals. It can be found online at [www.doc.govt.nz](http://www.doc.govt.nz)

4. Ask the students to identify human behaviours that benefit and harm the environment. You could use the Environmental Care Code as an example of positive behaviours.

### Extension activity

Back in the classroom, ask each student to develop their own personal code of environmental ethics or construct a class code of environmental ethics. Encourage students to put the code into practice over a period of time (two weeks, one month) and to monitor how easy or difficult it is for them to live by it. Get them to report their progress each week.



## ACTIVITY 3: SAND WORKS

### Materials

- Sticks/driftwood.

### Method

1. Find an area of smooth sandy beach suitable for making sand sculptures or drawing shapes.
2. Ask students to form groups and choose a marine or coastal animal that they have studied at school (prior knowledge is essential).
3. In their groups, get the students to map out the area they will need to create models of their chosen animal
  - at birth;
  - as a young adult; and
  - fully grown.
4. Once they have mapped out their area, they can start building a life size model of their chosen animal either as a sand sculpture or they can draw an outline to scale in the sand.
5. Discuss the place of this marine animal in the food chain.
  - What does it depend on for its survival?
  - Who depends on it for their survival?



### Further options

Use sand sculpturing to explore the nature and function of sand dunes, and the roles of plants and the elements in dune morphology.

## ACTIVITY 4: CHANGING WORLD

### Materials:

- Paper
- Pen or pencil

### Method

*Pikao* once grew on almost every sandy shore, from the far north to Stewart Island, providing food and shelter for small native shore dwelling animals. Now colonies of *pikao* are few and far between as fires, coastal subdivision, roading, farming and grazing have led to its decline.



Pikao

1. Ask the students to pretend they are a crew member of the steamship *Victory*, returning to Okia Reserve for the first time since the ship went ashore on the sandy beach in 1861.
2. Get them to find a good vantage point and write a diary entry describing the distribution of *pikao* at the reserve today and comparing it with what they might have seen in 1861- ask them to think about what it would have been like to see the dunes covered in the golden grass and compare it with the small pockets evident today. Ask them to consider other changes that may have occurred since 1861. For example, do they think there would have been more sea lions and yellow-eyed penguins? Would there have been more native bush? Would they have seen pine trees in 1861? What sounds would they have heard instead of the sheep in the neighbouring paddocks?
3. After a designated time, or back at school, gather them together and discuss the changes to the coastal environment that they think have happened since 1861. Why has it changed, who or what has caused the change?
4. As a class or in groups, discuss whether peoples' attitudes towards the environment might have changed over the years. For example, early New Zealand settlers cut down bush to provide farmland. Today, we have laws protecting most of our native forests. What does this suggest about how attitudes change?
5. Ask the students to discuss their own attitudes towards the environment.

### Extension Activity

1. Back in the classroom, working alone or in groups ask students to draw up a list of questions to survey people's views about the environment. They could interview each other, students in other classes, or family members.
2. Ask them to compile the results of their survey interviews and present their findings to the class. For older students, encourage them to present their results in graph form e.g. pie charts, bar or line graphs.

Examples of questions they might ask are:

- Do you think our environment is as healthy as it should be?
  - Yes - it's in great health
  - Okay but could be better
  - No - It's in poor health



- What do you see as the main environmental problems for your community?
- Do you have any recommendations for solving these problems?
- Do you think we need laws to protect the environment?
- What, if anything, do you do to protect the environment?

Below is a report of a survey of New Zealand students' attitudes towards the environment that could be used to stimulate discussion.

### **Environment first, say Kiwi Kids**

Put the environment before economic growth, say Kiwi kids. Sixty-four per cent of students interviewed in a recent survey believe New Zealand should concentrate on the environment even if it means some reduction in economic growth.

The survey of 700 students in Auckland and Hamilton found only 12% thought New Zealand should place economic growth before environmental protection.

Most felt it was possible to have a prosperous economy and a healthy environment.

Presented by Waikato University lecturer Paul Keown at a Sydney environmental education conference last year, the survey shows students not only care strongly about the environment but are also prepared to take action to help improve environmental quality.

*Table 1: Environment versus Economic Growth*

NZ should concentrate on economic growth even if it means some damage to the environment.	12.7%
NZ should concentrate on the environment even if it means some reduction in economic growth.	64.14%
Not sure.	21.7%
Economic growth is bound to be at the expense of the environment.	13.57%
It is quite possible to have both a prosperous economy and a healthy environment.	73.14%
Not sure.	12.12%

Over half the students surveyed indicated they would consider signing a petition, going to a meeting or writing a letter to help protect the environment. The majority also indicated they would consider making a report or complaint about something that they thought was bad for the environment and would consider encouraging others to change behaviour that was bad for the environment.

Only about 20% were resistant to the idea of taking action to improve the environment.

## ACTIVITY 5: POETRY

### Materials

- Paper
- Pen or pencil

### Method

1. Ask the students to identify an aspect of the site they would like to write a poem about. They can choose a plant or animal or even the view from a particular spot.
2. Give everyone 5 minutes to find his or her own place. Suggest they begin by noting down some key words to describe the subject of their poem. If they have chosen a plant or animal, they can think about where it lives, how it moves, where it travels, what it eats, how long it lives, and how other plants and animals look from its perspective.
3. Ask them to write a short poem or sets of phrases.
4. After a designated time, ask for volunteers to share their poems with the class or invite them to swap poems with a classmate.

Haiku or cinquain poems could be written if children are familiar with these. Encourage spontaneous writing so that the focus is on the environment not on the correct structure of the poem. Writing could be fine-tuned back at school.

- *Haiku*

Three lines: 5, 7, and 5 syllables respectively.

- *Cinquain*

Five lines:

Line 1: The title in two syllables or two words.

Line 2: A description of the title in four syllables or four words.

Line 3: A description of action in six syllables or six words.

Line 4: A description of feeling in eight syllables or words.

Line 5: Another word for the title in two syllables or words.

- *Diamante*

A poem shaped in the form of a diamond.

## ACTIVITY 6: SIGN OF LIFE

### Materials

- Paper
- Pen or pencil

### Method

1. Ask the students to identify an aspect of the site they think would be interesting for tourists.

Think about an eco-tourism plan for the site. Make some brief notes that can be expanded back at school. Think about:

- Should visitor numbers be limited?
  - How could you allow for people to enjoy the site without harming it?
  - Should accommodation be provided? If so, what type?
  - What type of employment could be provided for locals?
  - What are the environmental implications of tourism (e.g. increased traffic, increased waste)?
2. Make an interpretive sign which could be placed in the area to tell others about it.
  3. After they have done some planning, suggest they look at other interpretive signs in the area. Ask them to think about and note down what works and what doesn't. For example, does the sign make you want to read it? Can you understand it? Is the writing clear - too small, too big? What could be improved?
  4. Back in the classroom, get the students to design their own sign from the notes and sketches they have taken at the site. What other forms of information might you need eg, brochures, videos.
  5. Send your ideas to the DCC or your local DOC office.



## ACTIVITY 7: TRUE OR FALSE

### Materials

- Question sheet
- Pen or pencil.

### Method

1. Using the following examples, draw up a question sheet for distribution to the class.
2. Working in pairs, ask the students to use the site to identify the correct response to the questions.
3. Once they have completed the questions, go through the correct responses as a class.
4. In their pairs, ask the students to draw up a list of five to ten questions about the site which they can then exchange with another pair.
5. Allow 15-20 minutes for the students to gather their responses and check the answers.



### Sample Questions

- |  |   |
|--|---|
| 1. The Pyramids are made of a hard dark rock called basalt.  | T |
| 2. <i>Pīkiao</i> is a rich golden colour and has thick rope-like stems.  | T |
| 3. Many small invertebrates live on or under leaves and on plants.   | T |
| 4. You'll only find one or two species of plant living in a coastal environment as the salt air makes them rust. | T |
| 5. It is okay to take plants from the reserve  | F |
| 6. Yellow-eyed penguins like to play on the beach during the day.  | F |
| 7. Sand dunes are a great place to ride motorbikes because nothing lives there.                                  | F |
| 8. The trees planted behind the sand dunes are pines.  | T |
| 9. Pines are native New Zealand trees.   | F |
| 10. Sea lions can move quickly and they can be aggressive so you should keep well clear.                         | T |

## ACTIVITY 8: REPORTING FROM OKIA RESERVE

### Materials

- Tape recorder
- Paper
- Pen or pencil

### Method

1. If students have carried out the pre-visit work on planning a documentary about Okia they can now begin making their documentary. As well as interviews, they could include sound effects like the waves breaking on the shore, birdcalls, frogs croaking, sounds of people walking, sheep in the neighbouring paddocks.

The reporter should also describe the setting for listeners so they can get a picture in their minds of what it is like to be there.

2. Back at school, get each group to play their recording to the class.
3. As a class, ask the students to talk about what they learnt in making their programme. Ask them to identify what they think worked best and what makes a good programme people will enjoy listening to.

## RELATED RESOURCES

In planning your site visit, the following resources and websites may be of interest:

Allen, Ralph. (1994) *Native Plants of Dunedin and its Environs*, Otago Heritage Books.

Beattie, James. (1995) *Traditional Lifeways of the Southern Maori*, University of Otago Press.

*Children of Earth and Sky: Maori Nature Traditions*, Retold by Pita Graham, Bush Press, 1995.

Crowe, Andrew. (1992) *Which Native Tree?* Penguin Books.

Crowe, Andrew. (1997) *The Life-Size Guide to Native Trees*, Penguin Books.

*Which New Zealand Insect* (2002), Penguin Books.

Dawson, John and Rob Lucas. (1996) *New Zealand Coast and Mountain Plants*, Victoria University Press.

Department of Conservation (1996) *A Directory of Wetlands in New Zealand*.

Gaskin, Chris and Neville Peat. (1991) *The World of Penguins*, Hodder & Stoughton.

Grant, Elizabeth A. (1999) *An Illustrated Guide to Some New Zealand Insect Families*, Maanaki Whenua Press.

Johnson, Peter and Pat Brooke. (1989) *Wetland Plants in New Zealand*, DSIR Publishing, Wellington.

Learning Media. *The Ancient Forests of New Zealand* (video), Ministry of Education, Wellington.

Life's A Beach: *A Coastal Resource Kit* (includes video), available from New Zealand Association for Environmental Education, P O Box 6189, Wellington, or on loan from DOC, phone 477 0677.

Malcolm, Bill and Nancy. (1989) *The Forest Carpet*, Craig Potton Publishing, 1989.

McKinlay, Bruce. (1995) *The Distribution of Birds in Dunedin*, Otago Branch OSNZ.

Riley, Murdoch. (1994) *Maori Healing and Herbal*, Viking Seven Seas New Zealand.

Wilson, Roger (1982) *From Aramoana to Manapouri: The Battle for New Zealand's Environment*, Earthworks Press, Auckland.

[www.doc.govt.nz](http://www.doc.govt.nz) Tells you what the Department of Conservation does and has general information about conservation and more about DOC sites, along with resources for events like Sea Week, Conservation Week and Arbor Day.

[www.nzace.org.nz](http://www.nzace.org.nz) New Zealand Association for Environmental Education has a comprehensive directory of sources of information available on-line.

[www.converge.org.nz/eco](http://www.converge.org.nz/eco) ECO is an umbrella for environmental groups and has links to these organisations at its website.

[www.kiwirecovery.org.nz](http://www.kiwirecovery.org.nz) Find out what is happening in the efforts to save our national symbol.

[www.kakapo.org.nz](http://www.kakapo.org.nz) Gives the latest on kakapo conservation.

[www.forest-bird.org.nz](http://www.forest-bird.org.nz) New Zealand's largest non- governmental conservation group. Includes a club for primary school aged students.

[www.learnz.org.nz](http://www.learnz.org.nz) An interactive site for tracking the progress of adventures in some of our most interesting natural areas.

[www.nztcv.massey.ac.nz](http://www.nztcv.massey.ac.nz) New Zealand Trust for Conservation Volunteers gives details of opportunities for voluntary work in the environmental area.

[www.pikao.org.nz](http://www.pikao.org.nz) Direct link to Pikao information sheets on DOC website.

[www.yellow-eyedpenguin.org.nz](http://www.yellow-eyedpenguin.org.nz)





## RESOURCE EVALUATION FORM

This education resource is designed to help you plan exciting learning experiences using parks and reserves administered by DOC in your area. Is it useful? How can we improve it? Please let us know!

- How did you find out about this resource?

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- Was there enough information provided about the site?  Yes  No
- If not, what else would you like included?

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- What was the level of the class that used the resources? (Circle the answer)

Year      1      2      3      4      5      6      7      8      9      10

- Did you find the suggested activities relevant to the curriculum?  Yes  No

If not, how could we improve them?

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- Did the activities provide worthwhile learning experiences?  Yes  No
- Were the suggested activities manageable at this site?  Yes  No

Comment:

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- Were there any safety concerns arising from these activities, or the site? YES/NO  Yes  No

Comment:

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- Has using this resource helped raise your awareness of the environment in your region?

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- Are you aware of any change in your students' attitudes or behaviour towards the environment/environmental issues since using this resource?

Comment:

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- Was this your first class visit to a Department of Conservation site?  Yes  No

- Are you planning any more visits to this or other conservation sites?  Yes  No

- On a scale of 1-10, how would you rate this resource?

1    2    3    4    5    6    7    8    9    10  
(Excellent) (Poor)

- Have you any other comments about how we could improve this resource?

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Please post the completed form to:

Steve Broni  
Department of Conservation  
P O Box 5244  
Dunedin

Thank you!