

# Ötamahua/ Quail Island

Canterbury's largest island

## ROHE – IWI LINKS

The Ngäi Tahu people of Rāpaki have a very close attachment to Ötamahua/Quail Island. Te Hapū o Ngäti Wheke (Rāpaki) relationship with the island includes its place in the creative story of Te Waipounamu, the role of taniwha; links with the land, sea, air, flora and fauna and early settlement. Ötamahua translates as 'the place where the tamariki (children) collect seabirds' eggs', indicating the significance of Ötamahua as an important food-gathering site. It was also known as Kawakawa or Te Kawakawa, after the pepper tree once plentiful on the island. For more information on the Ngäi Tahu association with Quail Island/Ötamahua refer to 'Quail island: A Link with the Past'.

## KEY FEATURES AND CURRENT ISSUES

Quail Island, within Lyttelton Harbour (Te Whakaraupö), has an interesting cultural heritage in a unique natural environment. The Ötamahua/Quail Island Ecological Restoration Trust, supported by DOC, has a joint restoration project under way aimed at bringing back native species.

## THE NATURAL LANDSCAPE AND ENVIRONMENT

Ötamahua/Quail Island, Canterbury's largest island, is an inner harbour island of low relief comprising 81 hectares, with a high point of 86 metres.

Its origins are volcanic. Over 20 million years ago a volcano erupted on a small island in the Pacific. Scientists believe the lava flowed from several vents between what is now Gebbies Pass and Ötamahua/Quail Island.

A larger explosion eight million years later kept erupting for two million years. The mountain it formed, located where Lyttelton/Whakaraupö Harbour is now, was probably around 1500 metres high before it sank into its crater. This later became the harbour. Over where Akaroa is now, another volcano was emptying. This volcano was bigger and its lava flowed over the top of

Mount Herbert /Te Ahupātiki and Mount Bradley and down into and across Lyttelton/Whakaraupō Harbour. A finger-like lava flow formed Ōtamahua/Quail Island.

Later the sea eroded a gap in the crater wall and created the harbour. Over millions of years the sea eroded many of the lava fingers and cut Ōtamahua/Quail Island off from the crater's wall.

On the island you can see volcanic rock (basalt) formations but much of the landscape is covered by wind-blown dust or loess deposited by nor'westers.

The original vegetation cover was probably dry, coastal broadleaf-podocarp forest, a now rare habitat. Species likely to be present would have included kōwhai, akeake, ngaio, lowland tōtara and matai. Small remnants of this forest type are found at North-West Bay (Okains Bay) and between Waipara and Conway Rivers in North Canterbury. Kānuka was also probably more extensive. This cover was very likely cleared by early Polynesian settlers for harvesting or defensive reasons.

Today the vegetation is predominantly introduced species such as pines, cypresses, oaks and sycamores, some weedy introduced shrubs and exotic grasses. On the drier, northern aspects native grasses are more common and there are native shrub patches in some gullies. Native bracken fern and small-leaved native shrubs and flax are re-colonising the grassland in some southern areas but overall there are few species of the original cover remaining. There are some kānuka, cabbage trees/ti kōuka, ngaio, broadleaf/pāpāuma and mahoe.

Prior to Māori settlement Ōtamahua/Quail Island would have been used by many forest, scrubland and coastal bird species. Very few land birds remain: kingfisher/kōtare, grey warbler/riroriro, fantail/pīwakwaka, bellbird/korimako, harrier hawk/kāhu and pipit/pihoihoi. There are now many introduced European birds and birds self-introduced from Australia.

Thanks to predator trapping by DOC staff and trust members over recent years, penguins have returned to nest on the island. White-flipped penguins/kororā now have a thriving population on the island. Ōtamahua is one of the few sites in Lyttelton Harbour where they still nest.

Some of the birds the trust and DOC hope to re-establish are:

South Island tomtit/miromiro

brown creeper/pīpī

rifleman/tītīpounamu

Tui

Fernbird/mātā

South Island robin/kakaruai

Yellowhead/mohua

South Island saddleback/tīeke

and possibly:

Parakeet/kākāriki

Brown kiwi/tokoeka

Takahē

fluttering shearwater/titī

Already native pigeons/kererū, grey warbler/riroriro, kingfisher/kōtare, fantail/pīwakawaka, bellbird/korimako and silvereyes/tauhou have returned to the island in increasing numbers now they have a food source there.

When the original island vegetation cover disappeared, an unknown number of terrestrial insect species, other invertebrates and lizards would have also disappeared. The total range of invertebrates present on Ōtamahua is unknown but there are common geckos and skinks.

Native ground beetles, leaf vein slugs, and the Akaroa tree wētā have been introduced to the island. Artificial refuges such as hollow wooden blocks and wooden disks placed around the island are used by all the above invertebrates as well as spiders, slugs, flatworms and skinks.

## A VARIED CULTURAL HERITAGE

### **Maori history**

People from Rāpaki and other Māori settlements in Whakaraupō/Lyttelton Harbour travelled in waka to Ōtamahua; when the tide was out they walked across the mudflats from Moepuku to Ōtamahua. Māori used Ōtamahua to collect shellfish, flax/harakeke, birds' eggs, cabbage tree/ti kōuka roots and shoots and bracken/rahurahu roots. The eggs were considered a great delicacy, especially by the children, hence the island's present Māori name. The waters around Ōtamahua were important for harvesting kai moana.

Māori also collected fine sandstone from King Billy Island/Aua, the small southern island, and used it to shape greenstone/pounamu into working utensils.

The Crown acquired Ōtamahua/Quail Island from Ngāi Tahu in 1849.

### **European history**

First recorded European contact was in 1842 by Captain Mein Smith from the schooner Deborah. He wrote:

*“Having reached the island...I landed on the Shelly beach....During my walk there I flushed several quail.... I gave it the name, Quail Island”.*

The New Zealand quail/koreke Smith saw are now extinct. The predominant vegetation on the island then would have been silver tussock/wī grassland with scattered matagouri/ tūmatakuru shrub and cabbage trees/ti kōuka.

The Ward brothers gained possession of Ōtamahua/Quail Island in 1851 and were very pleased with their land. They built a house facing Lyttelton and introduced cows, goats, pigs and exotic plants to the island. Life was not easy as all supplies had to be shipped in. Firewood was scarce and had to be transported in a boat. Tragedy struck one stormy winter's night when two of the brothers, Edward and Henry, drowned while on a firewood excursion. They are buried at the Anglican Church cemetery in Lyttelton. Two other Ward brothers remained on the island for a few more years.

The island changed hands a number of times before it was taken over by the Department of Agriculture in 1892 for an animal quarantine station, which was operational until 1931. Three months at sea, cramped conditions and a lack of fresh food and exercise made the chance of immigrants succumbing to disease and illness high. As early as 1851, measures were being taken to isolate cases of sickness on board a ship when it arrived. The hope was to prevent it from spreading to colonists already here. If any sickness of an infectious or contagious nature was reported, a ship was required to anchor in quarantine with a yellow flag hoisted by day and a lantern hung out by night. In 1875, the Rakaia arrived in Lyttelton after an 81 day voyage from England. During the journey there were 11 deaths on board, 100 cases of mumps, 55 cases of measles and eight cases of scarlet fever. Sixty six men were quarantined on Ōtamahua/Quail Island for nine days.

Quarantine barracks were built and for 19 years the island was a leper colony. Leprosy is a contagious, long-term disease, and the establishment of the colony on Ōtamahua/Quail Island was not popular. There was a lot of fear about the disease and the leper patients had a lonely isolated life. A replica leper patient's cottage has been built on a terrace site where one originally stood.

One leper, who was almost free of the disease, escaped the colony in 1925 by crossing the mudflats to Charteris Bay. He disguised himself as a priest, knocked on a door and said his car had broken down, then rang for a taxi! He was last seen heading west.

Because of its proximity to Christchurch and the Port of Lyttelton, Ōtamahua/Quail Island was ideal for quarantining imported animals. Between 1901 and 1929 four Antarctic expeditions used the island to quarantine and train their dogs, ponies and mules.

In 1907 Shackleton, Commander of the British Antarctic Expedition used Ōtamahua/Quail Island to quarantine and prepare 15 Manchurian ponies for his trip. The famous explorer, Captain Scott, also used the island for his Antarctic expeditions. Although the original kennels are no longer there, a local school has built a replica kennel on the site as a way of maintaining the historic links.

Followers of the Antarctic Heritage Trail often visit Ōtamahua/Quail Island.

In the twentieth century the island was a 'ships' graveyard' where unwanted ships were dumped out of sight of the port. The remains of up to 13 ships lie in a bay on the western side of the island. The island also provided ballast rock for empty ships returning to Britain. Walkers Beach was a useful source of poultry grit, which was dug from its deep shell beds. Later the island was briefly used as a Navy League sea cadets' training base.

In August 1975, Ōtamahua/Quail Island was declared a recreation reserve and the walkway and a new wharf were opened.

In 1982 a native tree replanting programme began and an associated huge rabbit eradication programme was launched to rid the island of some 5000-6000 rabbits. Unfortunately the rabbit numbers built up again and heavily impacted the native vegetation. Although pests like rabbits, hedgehogs and wild cats are now controlled, continual monitoring is necessary as Ōtamahua/Quail Island is only semi-isolated – at the lowest tides, mudflats connect it to the mainland.

Management of the island was transferred to the Department of Conservation (DOC) in 1987.

The Ōtamahua/Quail Island Ecological Restoration Trust was incorporated in 1998, in partnership with Te Hapū o Ngāti Wheke (Rāpaki) and the Royal New Zealand Forest and Bird Protection Society. The trust's purpose is to: facilitate the restoration of indigenous vegetation and fauna on the island and provide a refuge for the locally extinct or rare endangered species of the Banks Peninsula region; protect and enhance the island's historical, landscape and recreational values; undertake educational activities.

The department together with Te Hapū o Ngāti Wheke (Rāpaki) and the trust are working to re-vegetate the land and reintroduce native fauna. DOC also looks after the historic sites and maintains the island as a popular recreation reserve.

The level of commitment to the current restoration of the island is impressive. Planting days have been extremely well supported. In 1998 1500 plants were planted and there have been sizeable annual plantings each winter since then. Plantings include cabbage trees/ti kōuka, kānuka, broadleaf/kāpuka and lancewood/horoeka. It isn't just a matter of plant it and forget it. Ecological restoration is an ongoing process. Weed control and removal of some trees like juvenile pines and macrocarpa are necessary. If not checked these would eventually colonise the whole island.

Schools have been involved as well. Cathedral College built the replica dog kennels and leper cottage and helps with plantings. They also built 12 penguin-nesting boxes.

As an island, Ōtamahua has a unique and important status for nature conservation. It offers three identifiable opportunities:

- A focal point for ecological restoration in Canterbury.
- A venue for continued environmental education, past and present
- A source of public and community pride

#### SPECIFIC ENVIRONMENTAL EDUCATION AT ōtamahua/QUAIL ISLAND

Education involves the integration of three key dimensions:

- Education **IN** the environment
- Education **ABOUT** the environment

- Education FOR the environment.

A balanced environmental education programme should address all three dimensions (p.14, Ministry of Education Guidelines)

## EDUCATION IN THE ÖTAMAHUA/QUAIL ISLAND ENVIRONMENT

### **Suggested activities:**

- **Follow the walkway** around the island. En route discuss the historic features, interpretive panels, native plants, geological features and the uniqueness of Ötamahua/Quail Island. Get students to sit/lie on their own. What can they hear/see/feel/smell? Students could compare their responses to a city environment and record the results as a poem, or a story.
- **Create a picture** (adapted from Joseph Cornell)  
Use cardboard/ice cream container lids/coat hangers to form frames. In pairs students select an area to sit in. They sit back to back and as one describes the scene they see through their frame the other draws it. The first person gets 5-10mins then the pairs swap roles. Equipment required for this activity could be made before your trip or borrowed from your local DOC office.
- **Conduct transect plant studies.** Estimate the number of plants required to re-vegetate a section of the island.
- **Survey visitor profiles** and numbers or native/exotic plant and animal sightings. Why are these numbers important? What do they mean?
- **Explore** the variety of shapes and objects found in nature, by touching, observing and talking about them.
- **Draw a sketch map** of the island as you walk around it. Include all the animal and plant species you see. Why are they on the island? How did they get here? This sketch could be compared with the school environment, examining the different habitats, land formations, wildlife etc.
- **Make a sea creature.** Using sand, seaweed, shells, rocks etc students could create a natural, historical or mythical sea creature. They could emerge from the water as that sea creature and tell a story about how it relates to Ötamahua/Quail Island.

## EDUCATION ABOUT ÖTAMAHUA/QUAIL ISLAND'S ENVIRONMENT

This dimension encompasses knowledge about and understanding of the natural and cultural heritage of Ötamahua/Quail Island's environment.

Cultural awareness, economic activities, political decisions, ecological understanding and health and safety issues are all factors that influence education about the environment.

It may be useful, prior to your visit; to use the information provided in the resource as well as the activities listed below.

## Suggested activities:

### Cultural awareness

There are many possibilities for incorporating a Māori perspective into your trip. We have just touched the surface in this resource but more ideas can be found in the “Guidelines for Environmental Education in New Zealand Schools” (Ministry of Education, 1999).

- **Read Māori stories** of the formation of Te Wai Pounamu and Ōtamahua then write stories, draw illustrations, write a waiata or act out a play.
- **Interview** a member of Te Hapū o Ngāti Wheke from Rāpaki Bay and learn about their relationship with Ōtamahua.
- **Mahinga kai**, food gathering, was an important activity for Māori. Read the story of *Te Waka Huruhurumanu* (Huria, 1996) and/or *The People of the Place: Mahika Kai* (Dacker, 1990). Why was this area a significant mahinga kai area? List the foods that the island contributed to the food basket of Ngāi Tahu. How has this changed over time? Consider the significance of this activity to the on-going involvement of Ngāi Tahu through the Ngāi Tahu Claims Settlement Act of 1998.

### Economic activities

- **Create a timeline** showing the variety of land uses on historical Ōtamahua/Quail Island. This could be written e.g. as a story or newspaper article, or be oral such as a speech or play or visual using photos, film footage or pictures.
- **Have a debate** about the potential conflict between the preservation of historical sites, the restoration of plantings and the effect of visitors. Students could think about the views of interest groups involved e.g. local iwi, tourists, member of the Ōtamahua Quail Island trust, developer, DOC ranger, local school/community. For details of this activity and starter cards, use the DOC website templates section.
- **Investigate** how a trust operates and how it gets funding to carry out its work.

### Ecological understandings

- Use maps and other resources to gain information about the geography of the area. Make up a grid reference treasure hunt.
- Research three plant/animal species established in this area. Find out when and why there were brought here. What is their impact on the area?
- Investigate the damage rabbits, hedgehogs, stoats and possums do to the natural environment. You could play ‘Possum Picnic’ (designed by Barry Law and Bert McConnell). A very useful activity for looking at the effects of introduced species. For full details visit the DOC website templates section. Equipment for this activity can be borrowed from your local DOC office.

- Food webs. Use the cards from Cocktail Party. Students could take on roles of plants and animals on the cards to create a food web i.e. who eats whom? Each aspect could be linked by wool or other material. What happens to different parts of the food web when habitat is lost/destroyed e.g. by development or introduced species?
- After brainstorming the term biodiversity at school, what examples of biodiversity can be seen at the site you are visiting? Record these examples and think about them as part of the food web or possum picnic scenario. How do these scenarios affect the biodiversity of this area? What about the effect on New Zealand's biodiversity?
- Complete a fact sheet on a bird that may be reintroduced to the island. Identify its special features, label them and say how each of these helps the bird to survive.
- Interview a member of the Ecological Restoration Trust. Make a profile sheet of the person's interests, age, name and their involvement with the restoration and replanting of Ōtamahua/Quail Island. What drives this person to be involved?
- **Cocktail party** (Adapted from Barry Law)  
Each person in the class is given a card with a picture of something relevant to the site they are visiting e.g. plants, wildlife, historical monument. This card is then pegged onto someone else's back so that everyone in the group has a card. Then they move around the group asking 'yes/no' questions to find out what they are. Once they have correctly guessed what they are, they can peg the card onto their front. The card also has a description on its reverse so when the group has finished everyone gets into a circle and uses the description to explain a bit about who/what they were. These cards can also be used as general starters for finding out what is in an area as well as how all aspects are interconnected. Cards for this activity can be borrowed from your local DOC office.
- **Forest ecosystem** (adapted from Barry Law, Bert McConnell, and Christchurch City Council)  
This activity looks at the impact on animal communities as their food and habitat resources are destroyed. For full details visit the DOC website templates section. This game can be used to demonstrate the impacts of farming or possible development in this area.
- **Role play** (adapted from Barry Law and Bert McConnell)  
Students divide into groups of approx 3-4. Each group is given a natural, historical or ecological process to act out for the rest of the class. The audience then guess what this process is. For example: a fantail following walkers down a path; a pair of kererū feeding in a cabbage tree/ti kōuka; fire destroying the entire island; gorse smothering native forest; possums eating young native trees; a native snail slowly climbing a flax leaf; the volcanic eruption that formed Ōtamahua/Quail Island; Captain Robert Falcon Scott training his husky dogs; how early Māori used Ōtamahua/Quail island and how it got its name.

### **Political understandings**

- Find out about DOC. What is DOC's involvement with Ōtamahua/Quail Island? Check out the web site [www.doc.govt.nz](http://www.doc.govt.nz).
- Should there be laws preventing/restricting recreational use of this area? Why/why not?



- Investigate the Resource Management Act 1991 to gain an appreciation of why and how the use of an environment like Ōtamahua/Quail Island is regulated. Imagine you are a business operator who wishes to set up an enterprise on Ōtamahua/Quail Island. Apply for a resource consent and examine the implications of the Resource Management Act 1991 for the enterprise's development.
- Examine the Government's Environmental 2010 Strategy (p.8). What issues apply to Ōtamahua/Quail Island?

### **Health and safety issues**

- Design an outdoor safety code for a trip to Ōtamahua/Quail Island. Elect a class safety officer and team. (See activities in the introduction)
- Investigate the disease, leprosy. Design an information pamphlet for your local doctor's surgery.
- Imagine you are the leper who escaped! Write diary entries. Where did you go? Are you still alive?
- Plan an emergency rescue strategy for a classmate who gets left behind on Ōtamahua/Quail Island.

### **EDUCATION FOR THE ENVIRONMENT**

Education for the environment is based on students' knowledge and understanding about the environment and their practical experiences in the environment. Education for the environment encompasses developing a sense of social and personal environmental responsibility and knowledge of how people can minimise their impact on the environment.

All three aspects are interdependent.

### **Suggested activities:**

- **Write, act and film** an advertisement for television entitled 'Come on Canterbury, get involved with your island'. Your job is to get the community (including schools) involved in the planting restoration project. Your advertisement must include an advertising jingle/rap.
- Students could **research** a conservation issue that particularly interested them at this site and prepare a report to present to their family/school/local community.
- **Find out** what aspect of the Ōtamahua/Quail Island environment the students most enjoyed. Why? How did it make them feel? Do they feel the same way about any local areas? What could they do to help preserve and protect these areas? You could use 'Land deed' as a starter. This activity allows students to create their own special piece of land. Templates for this can be found on the DOC website, templates section.

For example:

- Replant some of the school/home garden with natives. Planting the right kinds of trees can create more habitats for native birds, reptiles, insects etc
  - Get rid of weed plants and replace them with threatened plant species
  - Look after and keep an eye on your pets; keep dogs on leads in natural areas and keep cats indoors at night
  - Find out what your local authority can do about an environmental issue that is important to you and your community. Write to them and let them know your views and opinion.
- **Brainstorm** the environmental and cultural issues associated with the Ōtamahua/Quail Island Recreation Reserve. Discuss what the community needs to do/be aware of and act on it. This could be presented as a song or drama production.
  - **Imagine** what the island could look like in 100 year's time, after the success of ecological restoration. Draw a picture. Now imagine the island without human intervention to restore it, and draw a picture of what it could look like in 100 years time. Brainstorm some actions you could take to help make one of these pictures a reality.
  - **Personal impact:** get students to consider their personal relationship with the environment and how lifestyle choices impact on it. If they have pets, how can they reduce their impact on native species? This could be related to an animal survey pre-visit and observations on your visit.
  - Make a wanted **poster** for an introduced pest (plant/animal). Describe the damage it is doing and suggest an ecological reward for its elimination. Think of ways to encourage your community to get rid of this pest/prevent it from entering the area e.g. making tracking tunnels to monitoring animal pests (see website below). Put the posters in the classroom/school library.
  - **Think about** any pest plant species you saw on your visit. What plants do you have at home that could become weeds in a forest/reserve in your local area? Why are they weeds? What are their impacts? What is/can be done to stop/prevent this problem
  - **Adopt** a special area near your school/community and make a commitment to restore/care for it. Identify the plants and animals living there. What are the issues? How clean is it? Contact your local council/organisations to get involved in a local project.
  - **Contact** the DOC Mahaanui Area office or Ōtamahua Quail Island Ecological Restoration Trust and find out if there are any conservation projects/activities on the island that you can get involved in.

## RESOURCE MATERIAL

### Specific resource material

- Ōtamahua/Quail Island, A Link with the Past – Peter Jackson, additional material Ōtamahua/Quail Island Trust – 2<sup>nd</sup> edition (revised) 2006, Ōtamahua/Quail Island Trust (an

excellent resource book – loads of information and photos). Available from public libraries or through purchase from the Trust or DOC.

- Involvement in fund raising or tree planting – contact Alison Ross – phone 328 8350 – P.O. Box 127 Lyttelton.
- Loan packs for each site are also available. These packs contain a variety of information sheets and leaflets, pictures and maps. To obtain one of these packs contact the Environmental Education Officer, Canterbury Conservancy 03 371 3700.

### **General resource material**

(For a more comprehensive website list refer to the loan pack for this site)

- [www.doc.govt.nz](http://www.doc.govt.nz): Department of Conservation website.
- [www.nzaee.org.nz](http://www.nzaee.org.nz): New Zealand Association for Environmental Education. Supporting and promoting environmental education.
- [www.bush.org.nz](http://www.bush.org.nz): New Zealand Ecological Restoration Network. How to get involved in restoration projects or start your own.
- [www.forest-bird.org.nz](http://www.forest-bird.org.nz): Forest and Bird website. General information and links to kiwi conservation club information and activities.
- [www.tki.org.nz/r/environ\\_ed/](http://www.tki.org.nz/r/environ_ed/): Activities, lesson and unit plans.
- [www.learnz.org.nz/2k/karioirahui/r\\_tracking\\_tunnels.htm](http://www.learnz.org.nz/2k/karioirahui/r_tracking_tunnels.htm). How to make and use tracking tunnels. This site gives specific instructions and student worksheets.
- Dacker, B. (1990). *The People of the Place: Mahika Kai*. New Zealand 1990 Commission.
- Huria, G. (1996). *Te Waka Huruhurumanu*. Christchurch, Ngäi Tahu Development Corporation.
- Melbourne, H. and M. Gardiner (n. d.). *Te Wao Nui a Tane*. Wellington, Huia Publishers.
- Ministry of Education (2002). *Safety and EOTC (Education Outside the Classroom). A good practice guide for New Zealand Schools*, The Ministry of Education, National Operations
- Ministry of Education (1999). *Guidelines for Environmental Education in Schools*, Learning Media, Wellington
- Ministry of Education (2001). *Building Science Concepts series*. Volcanoes: Hot Rock in a Cool World, Learning Media, Wellington
- Ministry of Education (2001). *Building Science Concepts series*. Weathering and Erosion: The Shaping of our Landscape, Learning Media, Wellington

### **Care on the island**

- Fire is a real danger – do not take matches or cigarette lighters.

- Be careful with the bags you take on the island.. Check them for unwanted stowaways like rodents.
- Take all your rubbish home.
- Take care when walking. Watch out for holes and tree roots and be cautious when walking around the cliff tops.

## ATTRACTIONS AND FACILITIES

- Historic and cultural sites
- Geological features
- Tree planting projects
- Walkways – round trip 4.5 km – 2.5 hours, loop trip 2 km – 1 hour
- Toilets and running water are available
- Wildlife
- Swimming beaches
- School groups can camp on the island during the school term, on weekdays only. Contact the Mahaanui Area Office, Department of Conservation, phone 03 341 9100 or email: nthcantvc@doc.govt.nz

## PUBLIC TRANSPORT

A regular bus service runs between Christchurch and Lyttelton and a ferry service operates to Ōtamahua/Quail Island from Lyttelton. Launches are available for hire – contact The Black Cat Group – 03 384 0621.

For further information contact:

Department of Conservation  
Mahaanui Area Office  
Christchurch  
Phone 03 341 9100

or

Environmental Education Officer  
Department of Conservation  
Canterbury Conservancy  
Christchurch  
Phone 03 371 3700