



OTUATAUA STONEFIELDS

A combined project between the Department of Conservation, Manukau City and Auckland Regional Councils enabled the purchase of 100 hectares of land to protect the Otuataua Stonefields as a reserve. Less than two hundred years ago over 8,000 hectares of stonefields around Auckland's volcanic cones were part of a complex system of gardens and settlements.

Almost all the remains of these places have been overrun by modern day Auckland or quarried away. The 100 hectares of land making up Otuataua is one of only two major remnants left. The reserve contains evidence of a wide range of Māori garden practices and also more recent European garden systems from one hundred years ago.

The Otuataua Stonefields is an historic reserve which can be freely visited. Contact the Department of Conservation or Auckland Council for further information.

FURTHER READING

- Anderson, A, Binney, J and Harris, A. 2014. *Tangata Whenua An Illustrated History*. Bridget Williams Books.
- Davidson, J. 1987 2nd Edition. *The Prehistory of New Zealand*. Longman Paul.
- Leach, H. 1984. *1,000 Years of Gardening in New Zealand*. Reed.
- Furey, L. 2006. *Māori gardening: An archaeological perspective*. Department of Conservation.

PROTECTING ARCHAEOLOGICAL SITES

Gardens and stone field sites are an irreplaceable part of our heritage. They are protected by the Heritage New Zealand Pouhere Taonga Act 2014. If you wish to do any work that may affect an archaeological site you must obtain an authority from Heritage New Zealand Pouhere Taonga before you begin. It is an offence to modify or destroy an archaeological site without the written authority of Heritage New Zealand.

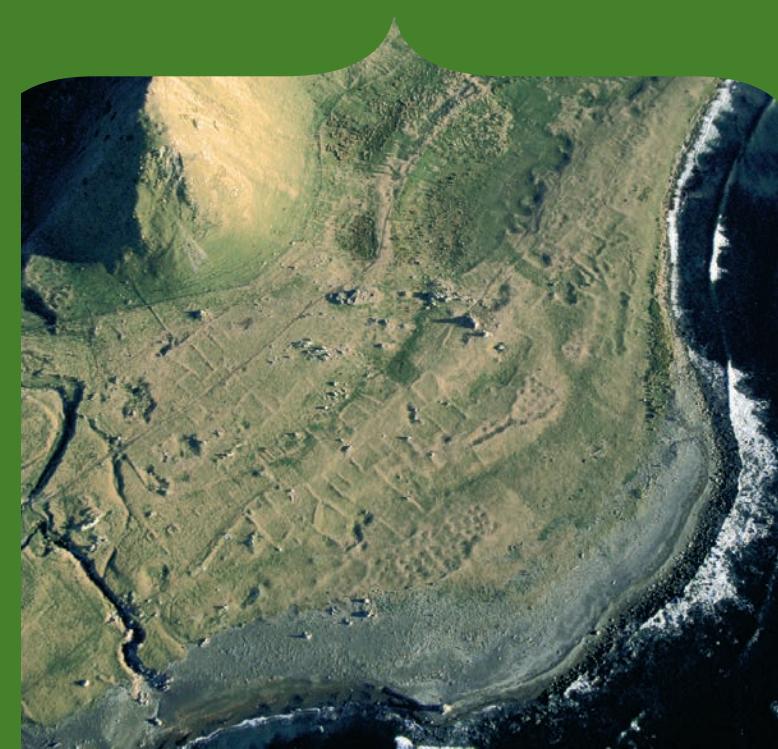
INFORMATION ABOUT ARCHAEOLOGICAL SITES

For information about archaeological sites, applying for an archaeological authority or the Heritage New Zealand Pouhere Taonga Act 2014 contact:

Heritage New Zealand Pouhere Taonga
PO Box 2629, Wellington 6140
Toll free: 0800 HERITAGE (0800 437 482)
Email: archaeologist@heritage.org.nz
www.archaeology.nz

New Zealand Archaeological Association
www.nzarchaeology.org

ARCHAEOLOGICAL REMAINS OF NEW ZEALAND'S FIRST GARDENS



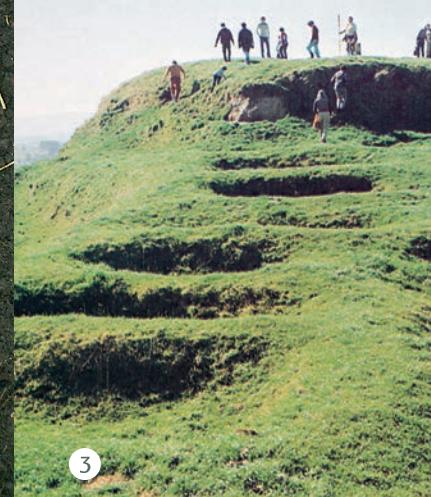
HERITAGE NEW ZEALAND
POUHERE TAONGA



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THE FIRST GARDENERS

When people from tropical Polynesia came to New Zealand around 800 years ago they brought with them a range of plants from their homeland. Those we know to have survived are kūmara, yam, taro, gourd, a tropical cabbage tree and paper mulberry. Unfortunately most of these plants could only be grown in the warm climate of the upper North Island. Techniques were developed to enable some plants, particularly kūmara, to survive as far south as Banks Peninsula. Some of the gardening techniques and innovations have left behind archaeological remains that show how Māori successfully adapted their Polynesian ancestors' style of gardening to New Zealand.

ARCHAEOLOGICAL REMAINS OF GARDEN SYSTEMS

Archaeologists have found evidence for a variety of gardening techniques used to improve plant yields. Changes to the soil were made to optimise fertility, water retention and warmth. Elevating the soil temperature by adding a layer of sand or gravel meant plants could be planted earlier and harvested later, therefore extending the growing season.

Large "stone-field" garden systems can contain many different features, including stone rows made from stones cleared from plots. These were used to mark boundaries and form places to grow plants. Other features include stone mounds, additions of gravel, shell, charcoal and ash to soils and levelled terraces on slopes for gardens.

Archaeologists have studied this type of garden system in detail at Pouerua, Northland, the volcanic cones of Auckland, and the south-east Wairarapa coast.

In many areas soils were modified to improve fertility, particularly in the Waikato, South Taranaki and Nelson regions. Large areas of garden soils, sometimes over hundreds of hectares, have been identified from the addition of gravels and coarse sand not naturally found in the area. Sand and gravel quarries or "borrow pits" are often found near these soils. They are large, irregularly shaped hollows in the ground from which this additive material was obtained.

Archaeologists have also studied the gardening implements used by Māori. Kō or digging sticks were made from wood and were used to prepare the ground. Sometimes these implements have been preserved in swamps and have been later uncovered.

In the wetter parts of Northland and the Bay of Plenty, water was controlled through complex systems of ditches and drains. Some of the better known of these systems are found at Motutangi in Northland and Kawerau in the Bay of Plenty. This use of water control to increase plant production is a widespread and ancient Pacific tradition brought to New Zealand by the Māori people's Polynesian ancestors.

Although many gardening traditions were brought from the Pacific, Māori also developed new techniques more suitable for gardening in a temperate climate. Storage pits were invented to protect kūmara

seed stock and food supplies from the cold and wet winters. The archaeological remains of these storage pits can often be found on ridges and river terraces above gardens throughout the North Island and northern South Island. There are two common forms: rua, or bell-shaped, and rectangular. There is some regional variation, with rectangular pits with raised rims being found mainly on the east coast of the North Island and bell-shaped underground pits in Taranaki.

As well as gardening, Māori also obtained plant foods from wild plants. The use of wild food is harder to detect from archaeological remains, however, archaeologists have found evidence of the use of bracken fern root, hīnau, tawa and karaka berries as food. ■

IMAGES:

Cover: Pukaroro garden systems. Archaeological remains of gardens are usually part of a complex landscape that may contain a range of garden features, garden soils, quarries, storage pits and pā. The complex at Pukaroro on the Wairarapa coast (see cover) includes storage pits above the beach terraces, stone mounds and rows, and small gravel quarries (borrow pits). (IMAGE: KEVIN JONES, DOC)

① Māori women digging land for a kūmara garden, 1839
(IMAGE: LOUIS AUGUSTE DE SAINSON ALEXANDER TURNBULL LIBRARY PUBL-0034-2-387)

② Traditional Māori kūmara, *Ipomoea batatas*
(IMAGE: GRAHAM HARRIS, OPEN POLYTECHNIC OF NZ)

③ Storage pits, Piarere, Waikato
(IMAGE: HERITAGE NEW ZEALAND POUHERE TAONGA)

④ Pātaka – provision house – at Otumata Pā, 1840.
(IMAGE: CHARLES HEAPHY, ALEXANDER TURNBULL LIBRARY, A-146-009)

⑤ Otuatua Stonefields
(IMAGE: DOC)