



PEKAPEKA WETLANDS

Introduction

The suggested aim of this section is for students to learn about Pekapeka wetland specifically. Students will have the opportunity to study, observe and identify the different attributes in and around Pekapeka that makes the site so unique. This section covers biophysical, historical and cultural values of the site.

This resource provides information about Pekapeka wetland and includes a list of books and websites suitable for students to further their knowledge of these and other values.


Activity sheets can be manipulated and adjusted to suit the intended learning outcomes and photographs can be used as teacher aids or included in classroom activities, power points and for other curricular activities.

The following activities are based on 'pre-visit', 'on site' and 'post visit' categories and can be chosen according to ages, levels, interests or needs.



PEKAPEKA WETLAND

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Pekapeka is a palustrine wetland (from the Latin word 'palus' meaning marsh) with inputs of groundwater, and surface water from Poukawa Stream. The wetland is part of what used to be a much larger system covering most of the flat land in the Poukawa basin and out into the Heretaunga plains.

Location
Pekapeka wetland is located next to State Highway 2 and the Palmerston North - Gisborne railway, approximately 12km southwest of Hastings. It has an area of approximately 90 hectares, is 4.7km long and 800m wide at its widest point.

Development
This wetland has undergone major hydrological modifications caused by drainage for farming. This has allowed fast growing willow trees to grow and increase the rate of evapotranspiration reducing water levels further. Drier ground allows weeds to colonise and reduces habitat for fish.

Restoration
Pekapeka is currently being rehabilitated as it is now recognised as a valuable asset in Hawke's Bay for its cultural, historical, ecological and recreational attributes.

STUDENT INFORMATION SHEETS

A set of Student Information Sheets have been prepared covering basic information on Pekapeka Wetland. These topics are by no means exhaustive and we encourage additional research through the provided links and information sources listed on the following pages.

- INFO200 Pekapeka Wetland
- INFO201 Rehabilitation Project
- INFO202 Geography
- INFO203 Geology
- INFO204 Māori History
- INFO205 Oral History
- INFO206 Non Māori History
- INFO207 Recreation

PEKAPEKA WETLAND Restoration Project

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Towards the 20th century a new understanding of the importance of wetland biodiversity began to emerge. As a result, the Hawke's Bay Regional Council (HBRC) began researching Pekapeka wetland and began its restoration. In 1966 silviculture control began as the main focus for restoration and by 2005 many of the trees stood as bare trunks in open water.

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A plan was formed to create a visitor interpretation area that promoted public education about the sustainable value of wetland ecosystems while highlighting its cultural importance and historical management.

There are many volunteers and interest groups that are involved in the restoration at Pekapeka. Many help by attending planting days and looking after the site.

In order to make the sites history visible, existing materials from the site have been used in its development. For example railway sleepers are used for boardwalks and seating. Paths that lead to viewing points and interpretive signs are made of limestone from the local quarry. In a couple of areas rubble from the old bridges are exposed and fenced off, leaving it to tell its own story about our historical treatment of wetlands.

These are plans for more boardwalks, viewing points and paths throughout the wetland.

HISTORY Non-Māori History

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Settlement resulted in major changes for the land, water, plants and bird life here. People set about clearing wetlands as these were the highly fertile parts of the landscape and good for farming. Wetlands were seen as areas of waste to be filled and then put to good use. This is what happened in parts of Pekapeka.

Railway
In 1875, the Wellington-Napier railway (in this case through 'Island Pa') and steps from a steel line.

Roading
State Highway 2 was first a walkway along the western side. The track turned into a road in 1911, cutting through the western side.

Rubbish
For a long time, it was normal to dump rubbish in wetland areas. On the 15th 1970s until its recovery as the 1990s Mayor and Pacific Institute is glad as we've learned about looking after our wetlands.

GEOLGY

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Pekapeka is located in the Poukawa basin to the south of the Heretaunga Plains. It lies in a depression between the limestone caps of Oroua, Rangitoto, and Kaitiaki Range (nearby). These surrounding ranges are 300-400m above sea level while Pekapeka is only 20m above sea level.

Fault lines
There are a number of faults passing through the catchment with the most active being the Heretaunga fault that passes along the eastern side of Pekapeka wetland.

Soils
Wetland soils are generally acidic however peat soils are highly acidic (pH 3-4). The content of wetland soils depends on how much peat is present.

Peat
Studies indicate that peat began to form in the wetland around 10,000 years ago. Pekapeka has approximately 250mm of black peat at its center. However at the edges of the wetland it becomes much thinner.

Peat is a source of fuel for some parts of the world.

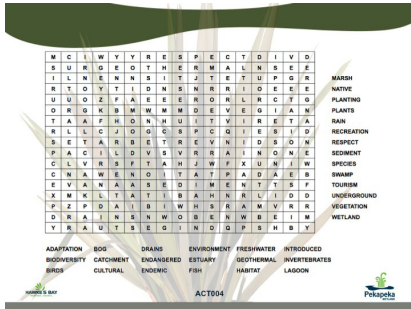





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PRE-VISIT ACTIVITIES

- Interview an older person in your community about Pekapeka. Ask them about how it has changed, what they used to see there, what they used to do there. Compare the interviews and write a story about how and why it has changed.
- Brainstorm why Pekapeka has been chosen as a restoration project. What are the benefits for the wetland, wildlife and for humans?
- Invite a person from HBRC or DoC to talk about Pekapeka.
- Learn about Caches and get the class to make one.
- Locate on maps the location of Pekapeka and explore the landscape that it sits in.
- Learn about different soils and their properties.
- Use Activity Sheets ACT003, ACT004, ACT007, ACT008, ACT010, ACT017.

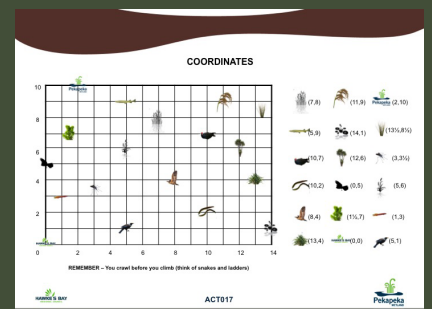
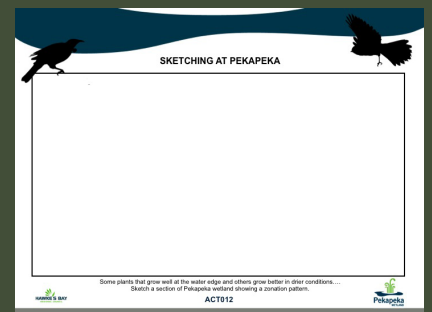


FIELD DAY ACTIVITIES

- While at Pekapeka, make a list of words to describe the wetland.
- Draw a picture of Pekapeka and how it looks now. Compare it to historical images.
- Find a quiet spot and write a poem about your trip to Pekapeka.
- Take pictures and/or video.
- Search for the hidden cache at Pekapeka and leave the one you made.
- Take soil samples.
- Use Activity Sheets ACT003, ACT004, ACT009.

POST-VISIT ACTIVITIES

- Write a newspaper report on the restoration work at Pekapeka.
- Create a play about the history of Pekapeka and spread the word about how to help.
- Make a poster that explains how important a wetland is and how to protect it.
- Make a realistic time line for the full restoration project at Pekapeka.
- Make a drawing of what you think Pekapeka will look like in another 20 years. Does it have more fish, birds or wildlife?
- Create a youtube video about Pekapeka and post it online.
- Post your hidden cache co-ordinates on line.
- Undergo soil testing to find out the type of soils that are present at Pekapeka.
- Create a class model of pekapeka (or draw a plan) to scale and design your own tracks, car park, boardwalks etc.
- Use Activity Sheets ACT003, ACT004, ACT009, ACT010, ACT017.





Additional Resources

BOOKS

Wetlands of New Zealand : a bitter-sweet story

By Janet Hunt

Pub Random House 2007

ISBN: 978-1-86941-904-2

This book describes what wetlands do, the different kinds of wetlands, what we find in wetlands and at the conservation and restoration of wetlands.

Wetland Types in New Zealand

By Peter Johnson and Philippe Gerbeaux

Pub. Department of Conservation 2004

ISBN: 978-0-47822-604-1

Wetlands

From the series, Habitats

By Ewan McLeish

Pub Wayland 1995

ISBN: 0-7502-1587-9

Covers a broad range of information on wetlands from how they are created to the kinds of flora and fauna typically seen, to food chains/webs, and the impact of people.

Biodiversity of Wetlands

By Greg Pyers

Pub Macmillan Education, 2011

ISBN: 9781420278866

Celebrates Earth's amazing variety of animals and plants in the wetlands ecosystems.



WEBSITES

www.hbrc.govt.nz

www.teara.govt.nz

www.doc.govt.nz

www.landcareresearch.co.nz

www.forestandbird.org.nz

www.wikipedia.org

www.wetlands.co.nz

www.wetlandtrust.org.nz

www.geocachers.co.nz

OTHER INFORMATION SOURCES

Landcare Research - Wetland Restoration. A handbook for New Zealand freshwater systems

Water Testing Kit available to loan from Hawkes Bay Regional Council.

Steve Moore - Landcare Research

Philipa Green - Hawkes Bay Regional Council

Robin McCool - DoC

Alan Lee -DoC



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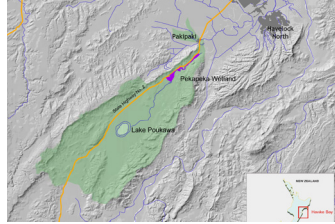
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