

Activity Title:

Beach management case study – Ōhiwa

Focusing question

What action would we take to protect a beach from coastal erosion?

Resources required

- PowerPoint presentation – 6k Action to protect the coast – Ōhiwa, or the case study: Ōhiwa Beach – page 271
- Action planner template – page 273
- Copying: copy the action planner – one per group or project a digital image. Copy the case study – Ōhiwa Beach (only if you are using the case study rather than the PowerPoint presentation).

Prior learning

5a The past – how have people affected beaches?

6e Coast Care

6j Coastal protection – different management options

Method

- 1 The objective of this activity is to explore (as a social decision-making exercise) what action we might take if charged with protecting an area from coastal erosion.
- 2 In small groups students study the fact sheet or first two slides showing Ōhiwa before. Discuss and explore:
 - What action would you take if you were in charge of protecting this area?
 - Using the action planner template develop a plan of action for Ōhiwa.
- 3 Groups report back to the class. Discuss:
 - How easy would these actions be to take?
 - Would they be controversial and create community conflict?
- 4 View the slide of Ōhiwa After. Discuss:
 - Do you think this is how the beach would look after the actions your group would take?

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Environmental Education Aspect:

About the environment

Environmental Education Concept:

- Biodiversity
- Sustainability
- Interdependence

Curriculum Links:

- Social Science

Suggested Curriculum Level:

Any

SUSTAINABILITY TIP!

Use the PowerPoint presentation rather than the case study and save paper!

Digitally project the action planner and get students to create their own version of this on re-used paper or card.



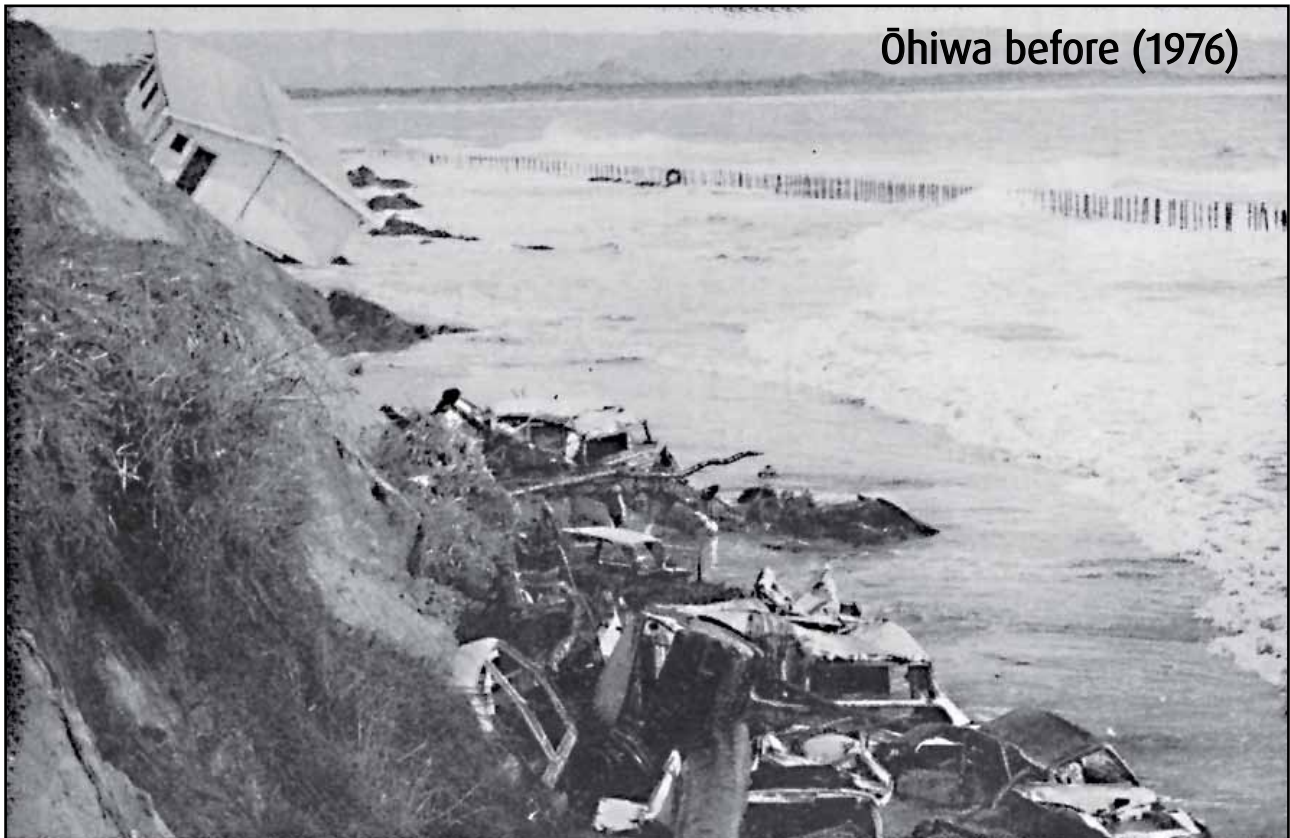
Possible next steps

- Visit Ōhiwa Beach.
- Invite Coast Care from Bay of Plenty Regional Council or Ōhiwa to talk to the class about their experience at Ōhiwa.
- 6l Create your own beach case study – a student-directed research activity requiring an investigation into a local beach, how it is being managed, what issues face that beach and how these might be resolved.
- 6m Developing a plan for action to protect the local beach – an activity designed to draw together learning from the six themes. The activity requires reflection on what has been learned, inquiry into the state of a local beach and development and implementation of a plan for action for beach protection/enhancement.





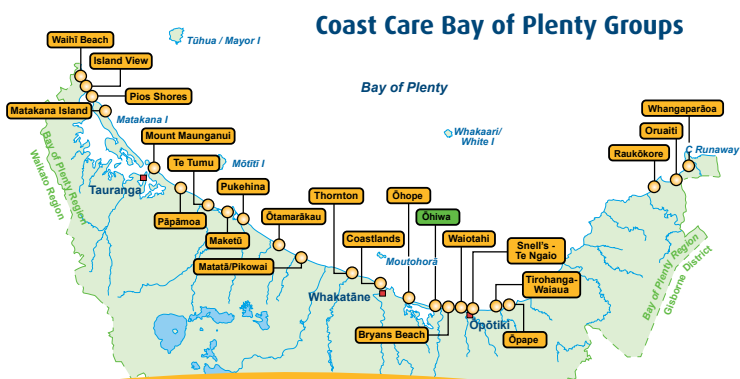
Case study: Ōhiwa Beach



Ōhiwa before (1976)

NOTE: This dune area was gazetted as a stock reserve in 1906 and grazed heavily. Some areas have been used as hay paddocks. The area was infested with lupins for some years before this erosion episode occurred.

The accompanying photo (Ref. Soil and Water Magazine December 1976) of Ōhiwa Spit looking westward was taken in April 1976, and clearly illustrates the disastrous effects of the severe coastal erosion taking place at the spit.



"In an effort to curb the erosion, the Poverty Bay Catchment Board put in rail and brush protection in the summer of 1970, two metres seaward of what were then the sand dunes. As the photograph shows, this protection was completely unsuccessful. The erosion, a combination of tidal and wave action, outflanked the protection and the dunes have since been destroyed.

The house is one of the two that fell down the cliffs because of the combination of high spring tides and strong on-shore wind in Easter of 1976.



Ōhiwa Beach Coast Care replanting the accreting dune field - 2005.

Car bodies were thrown over the cliffs in a further attempt to halt what is basically a natural erosive process". This method of 'protectant' is described by Mr Jeremy Gibb, geologist with the Ministry of Works and Development's water and soil division, as being "completely ineffective", because the cars simply sink down into the sand.

Ōhiwa Spit is eroding at a rate of approximately eight metres a year – this is a very high rate of erosion by NZ standards. Mr Gibb estimates that the short life expectancy of the spit is probably only between 40 and 70 years.



Ōhiwa after (1996)

After the 1976 erosion phase, sand returned to this beach (during the normal "Fill" sequence of the "Cut & Fill" cycle). It was trapped by native spinifex. The cars and trucks pictured in the 1976 photo still lie beneath the people planting above. Grazing stopped in 1988 and dune restoration began. This dune and beach system was over 235m wide (2012), helped by the good restoration work of the local Coast Care group pictured in the top photo.

Find out more

If you want more information on Coast Care groups and programmes contact:

Coast Care Coordinator, Bay of Plenty Regional Council

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Email: coastcare@boprc.govt.nz

Website: www.boprc.govt.nz

Address: 5 Quay Street, PO Box 364, Whakatāne 3158



Bay of Plenty Regional Council in partnership with Tauranga City Council; Whakatāne, Western Bay of Plenty, and Ōpōtiki District Councils; and the Department of Conservation.

Action planner template

