

Cloudy Bay

Themes that are developed at this site:

- Biological detective work
- Marine debris
- Impact of development

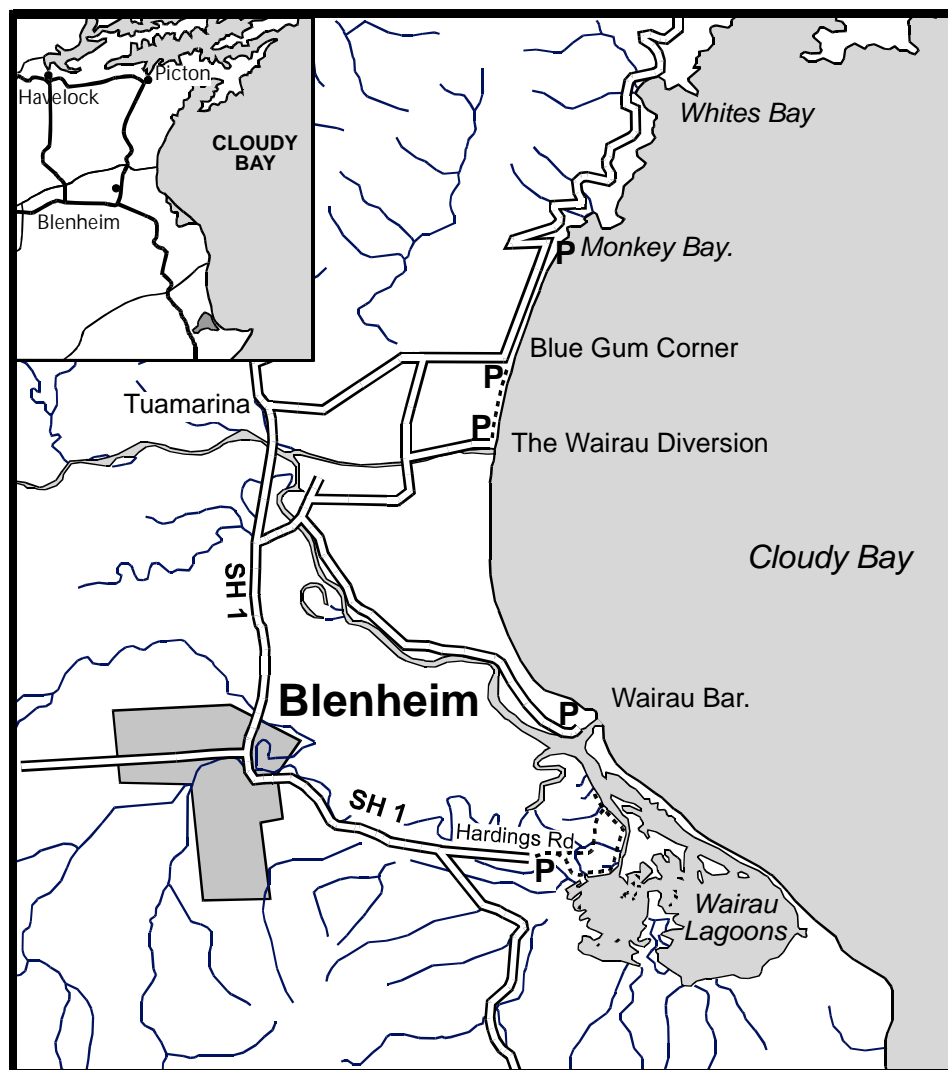
In this resource we have the opportunity to explore this coast, do some detective work and discover some secrets.

Cloudy Bay covers the coastal strip closest to Blenheim. Some parts of Cloudy Bay are frequently visited while other parts away from access points are quite remote. This combination means that a trip there can be based partly on the familiar, and also incorporate something new. A trip to the beach can be wonderfully exhilarating.

Whites Bay in the northern section is a popular place over the summer months with swimmers and picnickers. It also has the historic North - South Island telegraph station dating from 1866. Further south are the well-used sites of Monkey Bay and Rarangi. From here, the next 15 kilometres of coast down to White Bluffs has only limited access points and consequently is used much less often.

HOW TO GET THERE

To reach places north of the Wairau Bar head north out of Blenheim on State Highway 1. Turn off towards the coast at either at Spring Creek (to reach the Wairau Bar and The Diversion) or keep going until Tuamarina to get to Blue Gum Corner, Rarangi, Monkey Bay and Whites Bay. Access to the Wairau (Vernon) Lagoons is available via the walkway near the Blenheim Sewage Works down Hardings Road south of Blenheim. South of the river mouth, access requires permission to cross private land, or access to a boat to take you over the lagoons.



FACILITIES CHECKLIST

- All locations have good parking.
- Wheel chair access is limited in most places.
- Toilets are available in all locations mentioned in this sheet, except Blue Gum Corner. Most are 'long drop' type and some are not regularly maintained. Luxuries such as toilet paper would need to be brought with you!
- Water is available at Whites Bay (but treatment or boiling is suggested). Take drink bottles.
- There is ample space for activities and games at Wairau Bar (river mouth), Whites Bay, Rarangi and depending on tide at the other locations.
- There are information panels at Whites Bay and at Rarangi/Monkey Bay.
- Overnight camping is available at Whites Bay which has good self-registration campsites but no cabins and only limited ablution facilities. The beach is suitable for swimming with supervision. Commercial camping and cabins are available in Blenheim and at Spring Creek.

H A Z A R D S

- **Remember that when giving instructions at the beach the roar from the sea will dull the audibility of those listening. Instructions regarding safety should be given before getting to the beach to help ensure everybody has heard.**
- This coast, especially river mouths, has the potential to be dangerous. The water off Cloudy Bay is subject to a strong long-shore current, the evidence of which can be seen by the shape of the beach. Swimming is not advisable anywhere except at Whites Bay. Children need not go near the water. This resource describes a beach exploration based around a low tide, NOT a swimming trip. Check the tide times.
- The beaches are predominantly made up of stones, children may need reminding of the dangers of throwing these.
- At the Wairau Bar there are notices warning against eating shellfish due to the out-fall from the Blenheim sewage treatment works located in the nearby Opawa River. Picnics on the nearby beaches would not be advisable.

N A T U R A L H I S T O R Y

The gravels that make up the Cloudy Bay beach began their journey as rocks up the Awatere River. Ocean currents have carried the shingle north past Cape Campbell and have enclosed the Wairau Lagoons. The Wairau River enters the sea at the Wairau Bar and adds its load to the long-shore current. The beach at Rarangi is said to be growing at a rate of about one metre a year!

In the shingle dunes behind the beach area there are a number of rare plants, please keep to the existing tracks.

You are likely to see both black-backed and red-billed gulls, and possibly, the black-billed gull. The black-billed gull is very similar to the red-billed but has a narrower, longer beak and less black on the wingtips in flight. Spotted and pied shags often roost on the beach or can be seen flying past. Hector's dolphin are known from this coast.

H I S T O R Y

The most famous early Maori/moa hunting site in New Zealand is located on Wairau Bar. Clearly this area was an important location during this period.

Settlers arriving in Marlborough in the 1800's were brought in over the Wairau bar. Crossing a river bar can be dangerous at the best of times, but coming in on a sailing ship must have been nerve wracking for the skipper at least! In the domain at Wairau Bar is a memorial dedicated to the "... pioneer settlers and their wives ...". Out on the Lagoon is the wreck of the *Waverley*, which can be walked to via the Wairau Lagoons Walkway starting at Hardings Road.

ACTIVITIES

Pre-trip classroom preparation

During this trip the students will be looking at a variety of marine creatures or their remains, so you might want to explain some of the differences between a variety of marine animals.

Example:

Fish	bony fish (the standard varieties, with bones) cartilaginous fish (sharks and rays) jawless fish (lampreys and hagfish)
Crustaceans	crabs crayfish shrimps
Molluscs	bivalves (two shelled) snails (one shelled) cephalopods (little or no shell, eg. octopus, squid, cuttlefish)
Echinoderms	seastars sea cucumbers sea urchins (kina)

Things to bring

At the beach it is a great idea to make a “Mini Beach Collection”. This is a great way to display small treasures found at the beach. To do this you might want to get organised before you come. Scout about for the large sized bubble wrap with the bubbles about 2 cm across. Cut out squares or circles about 20cm in each direction and frame them by stapling it to decorated card. Using a pair of fine scissors or a sharp knife make small slits in each bubble, big enough to push a small beach object into but not so big to let it fall out. Bring them to the beach with you!

- Large bubble wrap organised as above.
- Identification books.
- Binoculars.
- Paper and pencils.
- Ice cream containers.
- Black plastic bags (for feely bags).
- Marine debris survey form.
- Gloves.
- Bucket.
- Rubbish bags for collecting washed up rubbish.

A note on logistics

Exactly how the day will be planned is up to the trip organiser. There is scope for walking a section of the coast if desired. There are coastal walks from Rarangi to Bluegum Corner (3km) or from Bluegum Corner to the Wairau Diversion(2.5km). It would be best if you have enough drivers to allow the students to be dropped off and picked up at different locations.

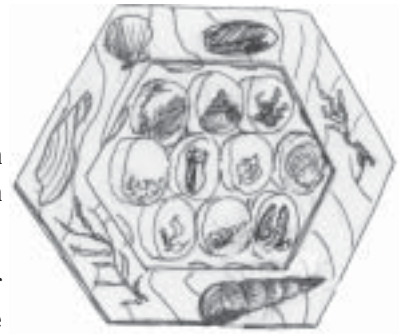
The loop walk around the Wairau (Vernon) Lagoons from Hardings Road would require the group to walk about 6 km.

STARTER ACTIVITIES

A. *Mini beach collection*

This activity is designed to focus the students on detail. The beach at first glance can seem monotonous. It's not!

Using the Bubble wrap frames (outlined above) or simply using a flat stone or bit of driftwood, get the students to assemble a collection of small beach drift items no longer than 1cm. Tiny shells can often be found attached to bits of washed up seaweed or driftwood. Parts of crabs' claws, small seaweed nodules, sand or tiny rock samples are all fine. While they are working it is fun to find something yourself to award to the best efforts!



B. *Knots - plant adaptations to the coast*

Coastal vegetation lives in an unstable environment. Plants growing here are constantly being blown by salt-laden coastal winds. Fresh water can be scarce because any rain quickly runs away through the sand or gravel much faster than it would in soil. Many coastal plants have therefore developed large and quite fibrous root systems that bind the sand and stones stabilising the ground and trapping water as well as growing fleshy leaves to store water in. In this activity we recreate our own root system.

Form circles of about five to eight children facing inwards. Every body puts their hands in the middle and takes hold of the hands of two other people, but NOT the hand of someone next to you or both hands of any one person. Get them to gently sway around and feel how much stronger the tangle is than if they were standing by themselves. Now they should be able to carefully disentangle themselves without letting go of the hands they are holding. They are allowed to shift their grip but not let go! They will end up as one large circle or two smaller often-interconnecting circles.

IN THE ENVIRONMENT

We can learn a lot about a beach and the water near by walking along the beach looking at what has been washed up.

A. *Beach detectives - a biodiversity 'snap shot'*



If we wanted to find out what lives just off the beach we could go diving, or dredge the bottom, or work it out from clues left on the beach along the high tide mark.

N.B. It is important to emphasise that many animals use what has been washed up as their source of food or shelter. We should be careful not to take things away from the beach unless it is going to be vital to our studies. Don't encourage children to collect every shell they can find even if it is empty. Empty shells provide valuable shelter for many small animals.

Rather than collecting items, most detectives will make notes. The 'notes' can be written or drawn. Ideally the notes should be sorted into groups; the simplest sorting might be by size, colour or shape, or for older children using biological groups like crustaceans, molluscs, echinoderms, fish or seaweeds (green brown and red).

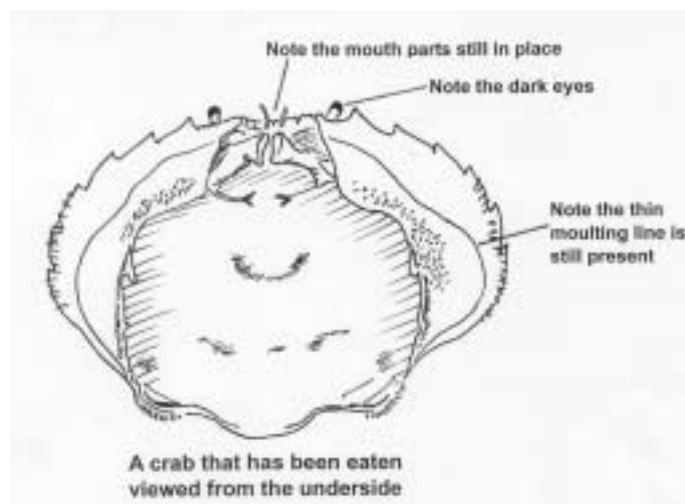
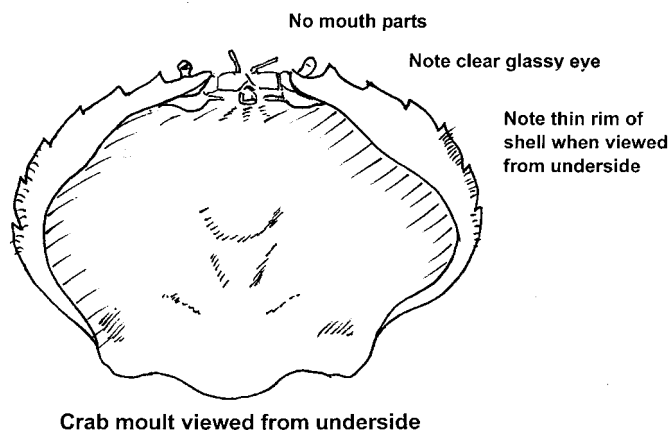
What is washed up will depend on recent storms and the time of year. You should find the shells of swimming crabs, bivalve shells belonging to both tuatua and triangle shells, and the snail shell commonly called ostrich foot. There will be a variety of seaweeds, as a rule the green types live close to the surface, the brown ones lower down and the red coloured ones live at the deepest depths.

Discussion

Take time at the end to combine the class results. What items are common? What items are rare? Why are some rarer than others? They may be less common in life, or more fragile, or not so easily washed up.

Extension Activity

Look at the crab shells collected. Are they moults? Compare with the pictures to see if they are moulted or the remains of dead crabs. During a site visit in May, all the crab shells found were from dead crabs. So who is eating them? Possible culprits are seals or octopus. Which does the group think? Seals only use their teeth to eat with and so tend to crunch the shells up. Octopuses use their beak to break in around the legs, the shell is usually left reasonably whole. You may therefore see the evidence of another marine creature living just off the beach!



ABOUT THE ENVIRONMENT

A. Feely bags

Using non see-through bags (black plastic supermarket bags or plant potting bags are fine). Place a variety of items, natural and polluting, found on the beach in each bag (it can be fun to include a bogus item such as a plastic toy or a plastic bag filled with water and tied). Get the group to sit in a circle and pass the bags from person to person. Without looking at the contents, each person must place their hands in the bags and try to guess what's in there. Using three or four bags at once means that there is a hubbub of ideas coming out which means that the last people to feel a particular bag don't necessarily have all the answers! Once everyone has had a go, empty the bags out and discuss why each item is on the beach and their effect.

FOR THE ENVIRONMENT

A. Rubbish patrol

Use the Marine Debris Survey Form.

As you walk along a stretch of beach, collect the rubbish that has been washed up. You may like to divide the class into teams with some collecting only 'plastic bags and bottles', others collecting 'other plastic', others pick up 'glass and metal' and others picking up what is left. Sort the rubbish and try and decide where it has come from. Is it from boats or from things thrown in from land or washed in by rivers? Give gloves and a bucket to one group of students for sharp or undesirable objects.

Does it matter having rubbish on a beach? If there was twice as much rubbish on the beach would that be too much. Are some sorts of rubbish allowed?

In what ways does rubbish affect the plants and animals living here?

Who should clean up the rubbish, and who will clean up the rubbish?

Graph your results using some of the rubbish to illustrate the graph, eg. use a length of packing strap glued on to illustrate the quantity found.

Please dispose of the collected rubbish thoughtfully, and recycle where possible.

B. Stop the rubbish campaign

Back at school, think about the rubbish you found on the beach during your visit, and having decided on some possible sources, how could you communicate a 'stop rubbishing the oceans and beaches' message to those responsible? The class could be grouped according to their styles of learning to come up with designs for a poster, a pamphlet, devising radio or TV advertisements, or writing letters, or creating a sculpture from the rubbish collected which highlights the problem. Please dispose of any leftover rubbish carefully.

Do you have a beach near your school or home that you could adopt as your clean beach? Your local newspaper may be interested in your work too.

C. Ferry port proposal

There has been recent talk of building a ferry terminal somewhere down this coast. What effect might it have on the animals living on or just off the beach? How might it affect the archaeological sites and the rare plants in the dunes behind the beach? Try and design an 'environment friendly' ferry port. Label the features you think would be good and explain how they would benefit the environment.

FURTHER INFORMATION

Department of Conservation
South Marlborough Area Office
Gee Street
Renwick
Phone 03-527 9100

The Seaweek Website

www.environment.org.nz/seaweek has extra tips for a marine debris survey.