Northland's Coast and Us



Our rocky shores



Where are Northland's rocky shores?

- Northland has 3200 kilometres of coastline with rocky shores at just about every turn.
- Northland's rocky shores are found from Cape Reinga to Mangawhai on the east coast, and to the Kaipara Harbour on the west coast.







What is a rocky shore?

Study the life on your nearest rocky shore.

A rocky shore is an area of coast covering any or all tidal zones where solid rock is the most dominant feature.

Rocky shores are rich in life. They make an ideal natural laboratory for the study of intertidal biology and ecology.





How are Northland's rocky shores formed?

Northland's rocky shores were formed by a mixture of

- volcanic and geological activity
- erosion wind, water and waves

What evidence is there of wind and wave action on a rocky shore near you?





What shapes Northland's rocky shores?

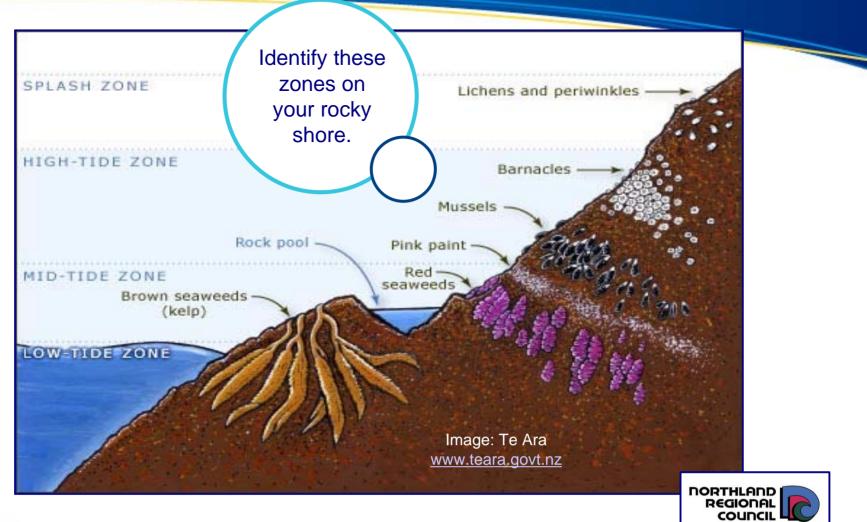


Rocky shores are constantly changing as sea, wind and rain erode the land. The eroded sediment accumulates to reshape the shore.

Ask older people in your community what changes they have noticed on rocky shores over the years. What caused the changes?



What zones make up rocky shores?





What birds live on rocky shores?

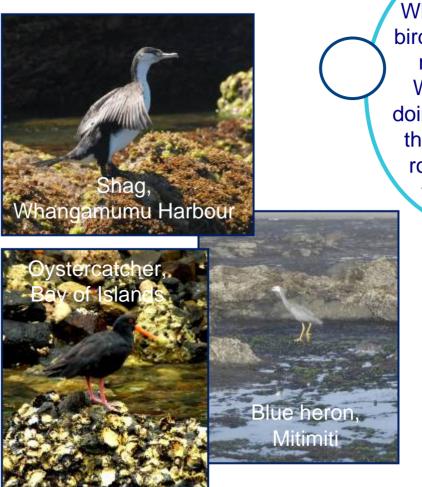
Gulls and Australasian gannets are among the birds that look for food around rock pools and nest on rocky headlands.

What other birds live on the rocky shore?



What birds live on rocky shores?

Other birds, such as oystercatchers, herons and shags can be seen resting, feeding and nesting here too.



Where are these birds found on the rocky shore? What are they doing? Why would they choose the rocky shore for this activity?



What plants live on rocky shores?

Northland's exposed cliffs and rock faces support grasses, ferns, coastal flax and succulents such as horokaka, also known as Māori ice plant.

Pōhutukawa trees may also cling precariously.



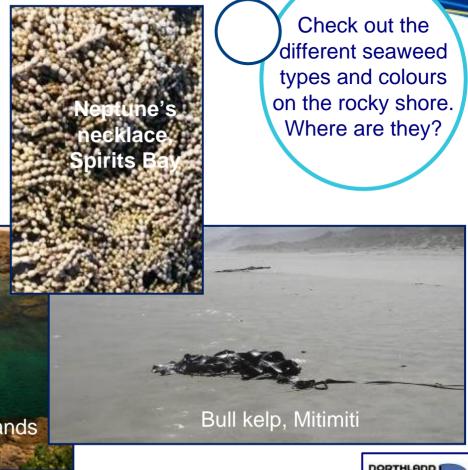
What plants live where on rocky shores? How well are they surviving?



What plants live on rocky shores?

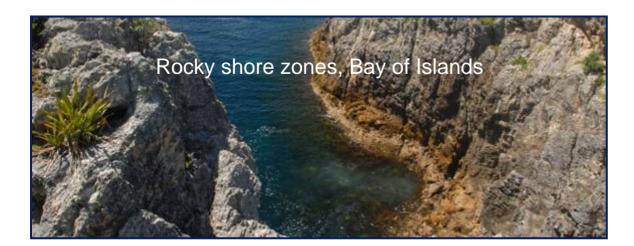
Three distinct colours of seaweed can be found on Northland's rocky shore – green, red and brown.







Each rocky shore zone has its own creatures. Some can be found only in one zone, others in many zones.



Investigate which zone on the rocky shore contains the most creatures.



Anemones (low tide zone)





Without disturbing them, locate these creatures on the rocky shore.

Sponges (low tide zone)







Photos: www.seathings.co.nz

Worms (low tide zone)



Without disturbing them, locate these creatures on the rocky shore.

NORTHLAND REGIONAL COUNCIL Putting Northland first

Barnacles (high tide zone)

Photos: www.seathings.co.nz www.teara.govt.nz

Shrimps, sandhoppers and sea slaters (all zones)







Without disturbing them, locate these creatures on the rocky shore,

Crabs (all zones)







Photos: Department of Conservation Rocky Shore Guide – Marine Studies Centre

Sea stars (mid tide to low tide zone)





Use the <u>Portobello</u> <u>Marine Studies'</u> <u>Centre Rocky</u> <u>Shore Guide to</u> identify these creatures on your rocky shore.





Photos: Rocky Shore Guide – Marine Studies Centre

Shellfish (all zones)

What shellfish are found on the rocky shore? Where are they and why do they live there?

rock oysters





Why are Northland's rocky shores special to Maori?

As a source of identity – a sense of place.



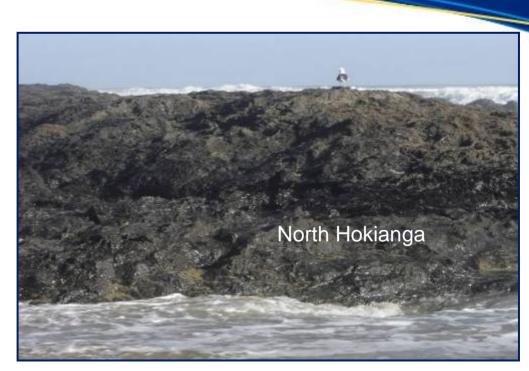
Invite a guest speaker to tell you about the ancient history surrounding the rocky shores.



Why are Northland's rocky shores special to Maori?

As a food basket (kete).







What threatens rocky shores?

- careless human activity
- creature, habitat and plant removal
- habitat disturbance (rocks, shells, seaweed)
- eroded material covering them
- buildings built too close
- pollution



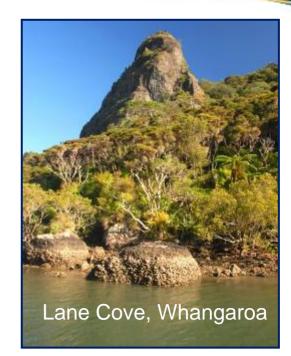




What can we do to protect rocky shores?

- . tread carefully
- . handle creatures with care
- . leave creatures where they are
- leave attached seaweed in placecarefully replace rocks
- . leave empty shells on the shore







How can you keep safe on rocky shores?

- check tide times at <u>www.nrc.govt.nz</u>
- take someone with you when you explore
- watch for changing weather
- look out for waves
- beware of slippery and uneven rock surfaces
- pick up rubbish and dispose of it appropriately



How can you help your friends and family to keep safe when they visit the rocky shore?

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have you clicked on yet? www.nrc.govt.nz

