

2009

Would you like staff from the National Aquarium of New Zealand to assist you and your class with the 'Rocky Shore' study free of charge?

We can meet you at the National Aquarium sign near the playground in Hardinge Road in Napier, and help with identification and conservation of our beach residents.

You can download the Rocky Shore unit plan from the National Aquarium website www.nationalaquarium.co.nz with pre and post activities for your study.

If you wish you can visit the National Aquarium for follow up activities either on the same day, or at a later date [normal schools' rates apply.]

On booking you will receive a list of resources to bring with you, and some hints on safety and conservation issues.

Check with the tide chart below as to when your visit would be most suitable.

Booking form enclosed or contact:

Education Officer Carol Larson
Ph 06 833 5424 or 06 834 1404
Fax 06 833 7631
Email carol@nationalaquarium.co.nz

Rocky Shore study

The Rocky Shore

Rocky shores are unique and special marine habitats. They support a huge diversity of life; examples of almost every animal group can be found here. Life on the rocky shore is not easy; with the rise and fall of the tide the animals and plants are exposed to the air, and then covered by water again. Each time the tide goes out it leaves behind a layer of food on the rocks. On its return, the sea is rich with millions of tiny plants and animals (plankton) feeding the larger animals of the rocky shore. Salinity, water, wave action, competition and predation are all factors affecting survival chances on the rocky shore.

All exhibits in our rocky shore come from Hawke Bay, many donated by professional and recreational fishers. (Hawke Bay is the marine area; Hawke's Bay is the land.)



Anemone



Glass shrimp



Hermit crab

Sea Anemone

These have nerve fibres, which co-ordinate contractions of their muscles but they have no brain or nerve cords. They eat solid food and can walk slowly on the foot of the stem that anchors them securely to a rock.



Sea Egg (Sea Urchin)

The sea egg, or kina, is a popular food of Maori people. Among its long, brittle spines are blood-red, flexible tube feet that are used to grip the surface.



Nudibranch (Sea Slug)

Glossodoris amoena
 Size: 58mm
 White with orange spots. Found around rock pools along our coasts.



Seven-Armed Starfish

Astrostele scabra
 Size: up to 50cm
 Like most starfish, if an arm is lost it has the ability to grow a replacement from the stump. New Zealand's largest and most voracious starfish. Blueish-grey with brilliant orange tube feet.



Cushion Star

Patriella regularis
 Size: to about 10 cm
 Shaped and coloured like a fancy biscuit. Common on sandy beaches south of Napier.



Paua

Haliotis iris
 Size: up to 28cm

The inside flesh is a delicacy. The shell has a curved row of holes on the outside, the interior is used to make jewellery. Paua live on rocks but it is illegal to take Paua of less than 125 mm.



Paddle Crab

Ovalipes catharus
 Size: about 15 cm

Common on sandy beaches and burrow backwards into sand, leaving their eyes protruding. Eats shellfish and pipi.



Hermit Crab

Maori: Papaka moke

Will inhabit an empty spiral shell as a temporary home until it outgrows the shell and seeks a new one.



Crayfish

Maori: Koura papatea

Colour varies between red, purple or orange but turns red when cooked for eating. A second species, the Packhorse (Jasus hugelii) is greener in colour and less spiny. Omnivorous and scavengers. Female carries eggs beneath her tail. Larvae are pelagic, associating them with open water or ocean.



Packhorse Crayfish

Mussel

Maori: Kuku

Perna canaliculus

Perna canaliculus is a large greenish mussel found abundantly in the North Island. In the South Island the common species is the small bluish-black *Mytilus aoteanus*.



Low Tide Times 2009 HARDINGE ROAD, NAPIER

Two hours ahead and one hour after low tide times are good viewing times for Rocky Shore study.

Month	Day	Date	Time
February	Mon	9th	1159
	Tues	10th	1257
	Wed	11th	1354
	Thurs	12th	1448
	Mon	23rd	1126
	Tues	24th	1212
March	Wed	25th	1257
	Thurs	26th	1341
	Fri	27th	1424
	Mon	9th	1042
	Tues	10th	1139
	Wed	11th	1236

Month	Day	Date	Time
April	Thurs	12th	1330
	Fri	13th	1423
	Mon	23rd	959
	Tues	24th	1045
	Wed	25th	1131
	Thurs	26th	1217
May	Fri	27th	1303
	Mon	6th	828
	Tues	7th	924
	Wed	8th	1019
	Thurs	9th	1113
	Mon	27th	1310

Month	Day	Date	Time
June	Tues	28th	1402
	Wed	29th	1456
	Wed	6th	904
	Thurs	7th	957
	Fri	8th	1048
	Mon	11th	1311
July	Tues	12th	1356
	Wed	13th	1439
	Fri	22nd	913
	Mon	25th	1150
	Tues	26th	1245
	Wed	27th	1340

Month	Day	Date	Time
August	Thur	28th	1436
	Fri	5th	932
	Mon	8th	1156
	Tues	9th	1241
	Wed	10th	1324
	Thurs	11th	1406
September	Fri	12th	1448
	Mon	22nd	1029
	Tues	23rd	1126
	Wed	24th	1223
	Thurs	25th	1320
	Fri	26th	1417

BACKGROUND PICTURE IS PAGES 16-17 IN NATIONAL AQUARIUM OF NEW ZEALAND PUBLICATION, AVAILABLE FROM THE AQUARIUM