

Food webs - Intertidal coral reefs

The **aim** of this activity is to observe and consider feeding relationships between species living in the intertidal zone and the shallow coral reef. Students will record and identify characteristic features of different invertebrate groups.

ACARA curriculum links

Science understanding (ACSSU111)

Science inquiry skills (AC SIS124, AC SIS125, AC SIS126, AC SIS129, AC SIS130, AC SIS131, AC SIS132, AC SIS133)

Science as a human endeavour (ACSHE119 & ACSHE223)



Instructions

- This activity should be conducted on the intertidal zone at low tide. Check tides timetable and plan this activity accordingly
- To increase the amount of data collection, split the group into smaller groups.
- Features of the plant and invertebrate species found should be described.
- Waterproof invertebrate and plant ID sheets can help in the field to identify specimens found.

Equipment

- Sturdy reef walking shoes
- Hat, sunscreen and water bottle
- Waterproof paper and pencil
- Identification guide for animals and plants in the intertidal zone
- Digital camera
- Coralwatch Coral Health Chart and datasheet (optional)

Resources

- Common flora and fauna ID sheets
- Field guides

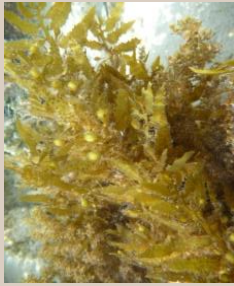
Common algal genera of Heron Island Reef Flat



Brown algae: Phaeophyta



Sargassum



Padina



Hydroclathrus



Colpomenia

Red algae: Rhodophyta



Laurencia



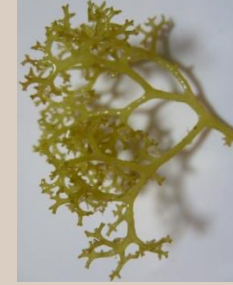
Hypnea



Coralline algae



Chnoospora



Lobophora

Green algae: Chlorophyta



Halimeda



Caulerpa



Chlorodesmis



Valonia



Cladophora

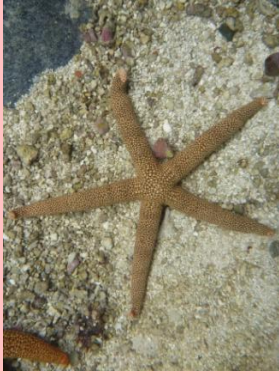
Common critters of Heron Island Reef Flat

Echinoderms



Blue Star
Linckia laevigata

Echinoderms



Tuberculate Star
Nardoa tuberculata

Echinoderms



Variogated Sea Cucumber
Stichopus variegatus

Crustaceans



Tropical shore crabs
Grapsus sp.



Pincushion star
Culcita novaeguineae



Greenish Sea Cucumber
Stichopus chloronotus



Stained Sea Cucumber
Holothuria leucospilota



White spotted hermit crab
Dardanus megistos



New Caledonian Star
Nardoa novaecaledoniae



Black Sea Cucumber
Holothuria atra



Brunt Sausage Cucumber
Holothuria edulis



Tiger Sea Cucumber
Holothuria hilla

Common critters of Heron Island Reef Flat



Molluscs



Chiton
Acanthopleura spinosa

Molluscs



Jimmie the Nudibranch
Gymnodoris sp.

Molluscs



Tigar Cowrie
Cypraea tigris

Elasmobranchs



Epaulette shark
Hemiscyllium ocellatum

Molluscs



Common Sea Hare
Aplysia dactylomela

Molluscs



Phillip the Opisthobranch
Philinopsis gardineri

Molluscs



Gold Ringed Cowrie
Cypraea annulus

Annelids



Christmas Tree Worm
Spirobranchus giganteus

Molluscs



Flat Bottomed Sea Hare
Dolabella auricularia

Molluscs



Giant Clams
Tridacna spp.

Annelids



Spaghetti Worm
Loimia medusa

Food webs - Intertidal coral reefs

Instructions

Field activity

1. Find an area that your teacher determines it is safe to walk through.
2. Record any animals and plants observed in this location in the table as a group.
3. Refer to field guides to help with species identification.
4. Any corals encountered should be assessed using the CoralWatch Coral Health Chart.

Questions

1. Use the information provided in the field guide to determine what animals eat the plants and other animals observed. Record this in the table (worksheet 4)
2. Predict which species are producers, first order consumers, second order consumers and third order consumers based on the information you have learned.

Back in the classroom activity

1. Construct a food web using all the plants and animals recorded in the field. Try to draw representative pictures of each animal or plant in the food web.
2. What types of corals did you observe in your field study? How did they fit into the food web of the intertidal zone?
3. Suggest what may happen if one of the first order consumers is removed from the system?
4. Did you find any difference in colour scores using the Coral Health Chart? Do you think the corals are healthy and why?



CoralWatch

Field Component

Food webs - Intertidal coral reefs

Food webs field activity results table

Group member names:

Location:

Date:

Time:

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