

Establishing a permanent transect

The **aim** of this activity is to monitor the health of corals over time by using a **permanent transect** as a research technique. Students will learn to identify corals that are easy to recognise and suitable for future monitoring, taking photos, measurements and GPS coordinates for future reference.

ACARA curriculum links

Science understanding (ACSSU116)

Science inquiry skills (ACSIS124, ACSIS125, ACSIS126, ACSIS131)

Science as a human endeavour (ACSHE119 & ACSHE223)



Instructions

- This activity should be conducted on the reef flat at low tide. Check the tide tables for low tide.
- Allowing students to select their favourite coral colony and choose a name can make this an engaging activity for students.
- Look for corals that you could recognise easily again when you revisit the site. They stand out from others because of their special features, such as their size, colour or shape. You can use them to set up a permanent transect, allowing you to monitor these specific corals over time.
- Your school can set up its own permanent transect that you revisit each year providing your school with its own data to use for timeline comparisons!

Steps to take for a permanent transect

1. Find an easy to identify coral.
2. Take a GPS coordinate of the coral.
3. Identify the coral type.
4. Measure coral health score.
5. If possible, identify the coral genus or species, and list the scientific and common names.
6. Take photos: general overview to locate the coral, closeup, side view, top view, and one with the chart to give an indication of size.
7. Measure the size of the coral.
8. Record all information in an Excel sheet.

Equipment

- Booties, hat and sunscreen
- Waterproof slate with pencil
- CoralWatch Coral Health Chart
- Waterproof data slate with pencil
- Underwater camera (if available)
- Viewing tube (if available)
- Waterproof ID guide (if available)
- GPS (if available)
- ID reference books and sheet cheat in the booklet
- Computer

Resources

CoralWatch has established three permanent transects. Two located on Heron Island and one on Lady Elliot Island.

Help us to collect more data. Visit www.coralwatch.org/web/guest/education-materials to download:

- 'Heron Island Workbook' (PDF) and 'Permanent Transect data entry Heron Island individual corals' (Excel)
- 'Lady Elliot Kit' (PDF) and 'Permanent Transect data entry Lady Elliot Island individual corals' (Excel)

Excel sheets and individual coral ID pages can also be used as a template for your own transect, see next page.

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CHERRY ON TOP LADY ELLIOT - PERMANENT TRANSECT 5

Genus: Pocillopora (Pocillopora damicornis) Size: Max diameter(cm): 19
 Max height(cm): 9

Transect name: Cherry on top GPS coordinates: Lat (WGS84): 24.91345
 Long (WGS84): 152.41304

Coral type: Branching On top of Number 4

MONITORING DATES	8/2/12	22/8/12
BREATHES	D1	D3
CHERRY	D3	D6

The booklets from Heron Island and Lady Elliot Island - available for downloading - will provide all existing survey details. We would like to invite you to visit these transects and add more data to our Excel sheets.

Permanent Transect details

Name of transect:

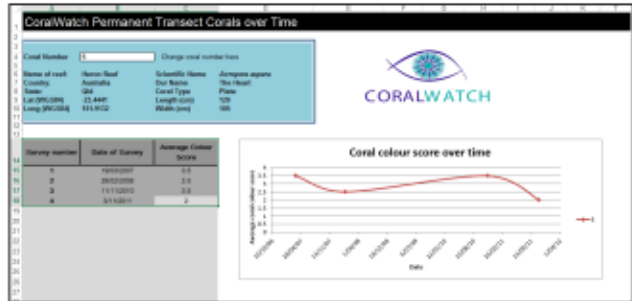
Name of reef:

Country:

State:

How to set up your own permanent transect -
 1) Copy this file and enter the details of your transect on this work sheet.
 2) Select 10 to 20 easily accessible corals using a reef walking trail or aerial view.
 3) Choose those with unique features that help to identify them when returning to the area.
 4) Sample a variety of coral colours of differing colours and type if available.
 5) Record name and location for each and the dimensions if desired.
 6) Create a file name to give each coral (you could involve reef visitors or residents).
 7) Record coral of genus and species scientific name if known.

Coral Number	Lat (WGS84)	Long (WGS84)	Scientific Name	File Name	Coral Type	Length (cm) (Width cm)
19.1	-23.823587	151.912187	Cophelasma sp.	Green Fanless	Shoulder	20 20
19.2	-23.823587	151.912187	Pocillopora sp.	Pink Fanless	Branching	20 20
19.3	-23.823589	151.912187	Acropora sp.	Yellow/Orange	Branching	70 17
19.4	-23.823590	151.912187	Sarcophyton sp.	Sarcophyton close to shore	Soft	20 22
19.5	-23.444100	151.912090	Acropora aspera	The Boat	Branching	130 105
19.6	-23.444101	151.912100	Acropora sp.	The Boat	Branching	60 50
19.7	-23.444099	151.912100	Montipora sp.	Shade Anemone	Branching	150 150
19.8	-23.444101	151.912101	Porites cylindrica	Shade	Branching	80 55
19.9	-23.444101	151.912100	Acropora aspera	The Dragon	Branching	210 210
19.10	-23.444087	151.912090	Favosites sp.	Pinkish Fanless	Shoulder	60 40
19.11	-23.444100	151.912090	Oranospira sp.	Shade Moss	Shoulder	20 8
19.12	-23.444101	151.912090	Acropora aspera	Shade	Branching	60 20
19.13	-23.444099	151.912100	Cophelasma sp.	Chalky Blue	Shoulder	20 20
19.14	-23.444099	151.912100	Phylloglyptis sp.	Jagg Tyle	Shoulder	60 60
19.15	-23.444101	151.912100	Cophelasma sp.	Reddish	Shoulder	3023 2212
19.16	-23.444101	151.912100	Favosites sp.	Coast Garden	Shoulder	10 15
19.17	-23.444101	151.912100	Copastrea aspera	Shading to Heaven	Shoulder	10 15
19.18	-23.444099	151.912100	Montipora sp.	Shade Moss	Shoulder	50 45
19.19	-23.444101	151.912100	Acropora aspera	Coastline & Crown	Branching	100 100
19.20	-23.444101	151.912100	Galaxea sp.	Shade Moss	Shoulder	50 120
19.21	-23.444099	151.912100	Phormia sp.	Shade Moss	Plate	120 80
19.22	-23.444101	151.912100	Montipora sp.	Shade Moss	Plate	50 20
19.23	-23.444100	151.912090	Phylloglyptis sp.	Shade Moss	Branching	20 10
19.24	-23.444101	151.912100	Sarcophyton sp.	Shade Moss	Soft	20 20
19.25	-23.444099	151.912100	Porites sp.	Coastline & Crown	Shoulder	30 20
19.26	-23.444101	151.912100	Acropora sp.	Landing Island	Branching	80 100
19.27	-23.444101	151.912100	Acropora aspera	Shade Moss	Branching	50 40
19.28	-23.444097	151.912100	Acropora sp.	Shade Moss	Branching	30 25
19.29	-23.444101	151.912100	Acropora sp. (Shade group)	Shade Moss	Branching	10 10



The Excel sheets allow you to add data and view coral colour score over time for each individual coral.