CORALWATCH PERMANENT TRANSECTS

NORTH BEACH AND RESEARCH BEACH, HERON ISLAND, QUEENSLAND, AUSTRALIA

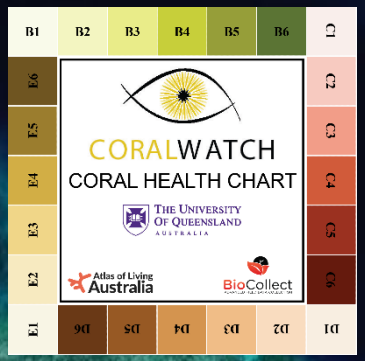
CORALWATCH

Updated May 2024

Help collect valuable data!

CW_NB_10
CW_NB_7
CW_NB_8
CW_NB_11
CW_NB_12

CW_RB_17
CW_RB_3
CW_RB_7
CW_RB_5
CW_RB_14



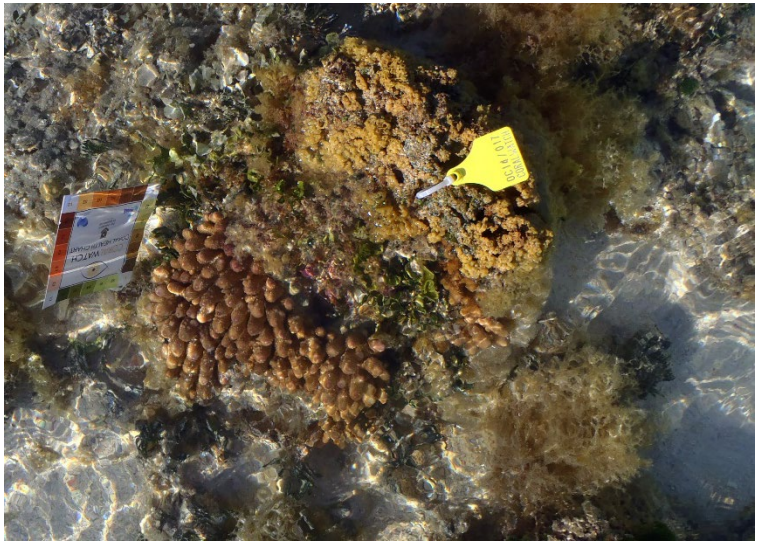
THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

Sources: Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

HELP CORALWATCH COLLECT VALUABLE DATA!

CoralWatch established two permanent transects in October 2014; one at NORTH BEACH and one at RESEARCH BEACH. The transects consist of coral colonies that have been identified and tagged so they can be monitored regularly using the Coral Health Chart. The Coral Health Chart measures the colour of the coral colonies as an indicator of coral health. The colour of the coral colony can change due to coral bleaching, disease, seasonal variation, fresh water or other impacts.

Example of a tagged colony

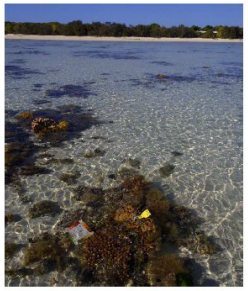


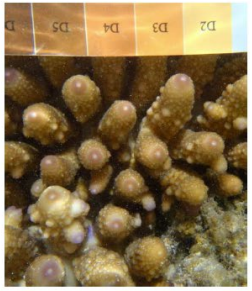
Individual Coral-ID-sheets provide the info and photos needed to help locate the coral. Check out remarks for latest updates.

North Beach 7 - Fingers

CORALWATCH

ORIGINAL DETAILS Coral colony – 1/10/2014				
Scientific name	Given name		Coral Type	
Acropora	Fingers		Branching	
GPS Latitude (WGS84)	Measurements		Coral Health Score	
-23.43915	Max. Diameter	Max. Height	Lightest	Darkest
GPS Longitude (WGS84)				
151.91731	30 cm	8 cm	D3	D5
% of dead coral within colony	Remarks: All photos and survey details are from 1/10/2014. Check the latest photo from May 2017, 75% of the coral died.			
0%				





May 2017 – 25% of the colony alive

Coral Bleaching

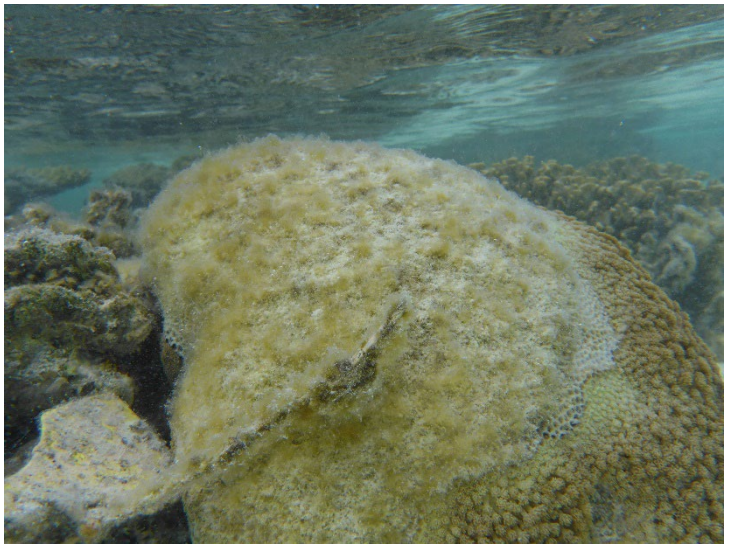
Coral bleaching occurs when corals change colour, generally from dark brown to a lighter shade of brown or white. The colour change is usually caused by a loss of symbiotic algae (zooxanthellae) from the coral's tissue. It can also be related to a decrease in the concentration of photosynthetic pigments within the symbiotic algae. Coral bleaching is a reaction to stress and can be caused by a variety of environmental factors including:

- elevated or decreased water temperatures
- changes in water salinity
- increased intensity of sunlight
- elevated exposure to chemical pollutants.

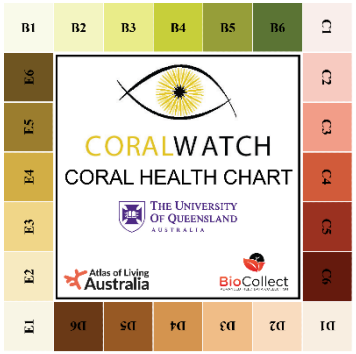
Coral bleaching can be localised or it can occur as part of a mass bleaching event. **Localised bleaching** occurs over small geographical regions and can be caused by any of the above factors. **Mass bleaching** events occurs over large geographical regions and are caused by increased water temperature over extended periods of time, together with increased light intensity. Sea temperatures are predicted to continue to rise and thus mass bleaching is expected to become more frequent and more severe. This could lead to the death of large areas of coral reefs worldwide within a few decades.

Coral bleaching 2019

During the last coral bleaching event, sadly half of the corals of the CoralWatch permanent transects were impacted and several died.



In November 2020 together with Sunshine Beach SHS we added four new corals to the transect at Research Beach. Two corals were added at North Beach.



Coral Health Chart

The Coral Health Chart measures the colour of the coral colonies as an indicator of coral health. The colour of the coral colony can change due to bleaching, disease, seasonal variation, fresh water or other impacts.

Do-It-Yourself instructions

Pick up a copy from Heron Island Research Station or download from

WWW.CORALWATCH.ORG

(https://coralwatch.org/index.php/monitoring/monitoring-materials/)

CoralWatch Coral Health Chart Instructional Video

https://youtu.be/sPP8SNlnJ1Y

INSTRUCTIONS for data collection PERMANENT TRANSECT

1. If you are not familiar with CoralWatch, read the CoralWatch ‘Do It Yourself kit’.

2. Get ready for your CoralWatch reef walk. **Don’t forget to bring:**
   - Laminated set of CoralWatch photo ID sheets and permanent transect maps
   - GPS with CoralWatch coordinates (collect from the scientific officer at the station)
   - Coral Health Chart
   - CoralWatch Permanent Transect Datasheets (North Beach and/or Research Beach) and pencil
   - Underwater viewer
   - Appropriate safety equipment (sun protection, enclosed shoes or booties)

3. Once in the field, use the CoralWatch GPS coordinates and photo ID-sheets to find each individual coral colony labelled with a yellow tag.

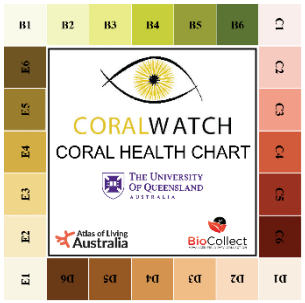
4. Use the Coral Health Chart and measure the lightest and darkest spot within the coral colony. Note your findings on the datasheet together with the coral type.

Items to bring

CORALWATCH

DATA SHEET PERMANENT TRANSECT

NORTH BEACH



Group name:_____Your name:_____

Email address: _____

Participation field: dive centre / scientist / environmental / school or university / tourist

Sea temperature:_____°C

Date of survey: _____/_____/_____
Day Month Year

Time collected: (ie.14:00 or 2pm)_____

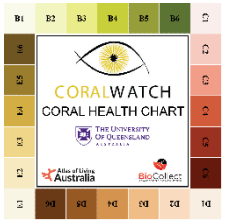
Weather: sunny / cloudy / raining

Coral No*	**Colour Code** L=Lightest D=Darkest		**Coral Type** BR = Branching BO = Boulder PL = Plate SO = Soft				**Size**		% dead	Remarks
	Lightest	Darkest	Branching	Boulder	Plate	Soft	Height	Diameter		
5										
7										
8										
10										
11										
12										

Coral 1, 2, 3, 4, 6 and 9 have been severely damaged or died during the coral bleaching event 2019. Coral 11 and 12 have been added in 2021.

CORALWATCH

DATA SHEET PERMANENT TRANSECT **RESEARCH BEACH**



Group name:_____Your name:_____

Email address: _____

Participation field: dive centre / scientist / environmental / school or university / tourist

Sea temperature:_____°C Date of survey: _____/_____/_____ (Day / Month / Year)

Time collected: (ie.14:00 or 2pm)_____ Weather: sunny / cloudy / raining

Coral No*	**Colour Code** L=Lightest D=Darkest		**Coral Type** BR = Branching BO = Boulder PL = Plate SO = Soft				**Size**		% dead	Remarks
	Lightest	Darkest	Branching	Boulder	Plate	Soft	Height	Diameter		
4										
5										
7										
8										
11										
14										
15										
16										
17										

Coral 1, 2, 6, 9, 10, 12 and 13 have been severely damaged or died during the coral bleaching event 2019. Coral 3 died in 2024. Coral 14, 15, 16, 17 have been added in November 2021.

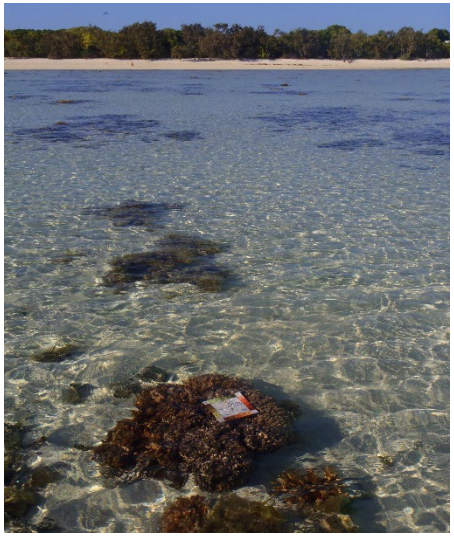
CORALWATCH PERMANENT TRANSECT

North beach, Heron Island, Queensland, Australia

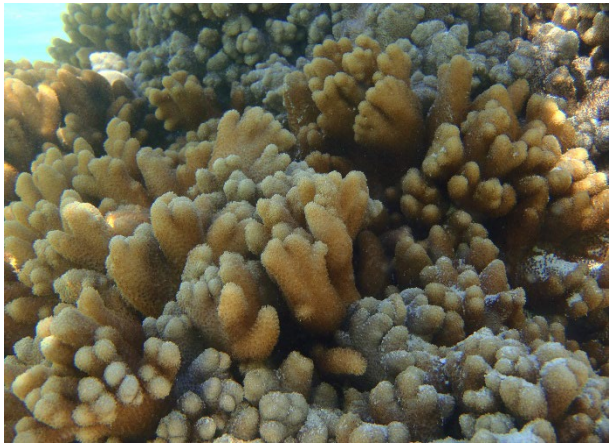
Help collect data for CoralWatch permanent transect on North Beach. Please send your datasheet to info@coralwatch.org
All random surveys can be entered online
www.coralwatch.org

North Beach 5 - Wavy

DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Cladiella	Wavy		Soft			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.43924	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
151.91733	75 cm	33 cm	E4		D5	
% of dead coral within colony	Remarks: Tags to the left when walking at shore					
0						



2014



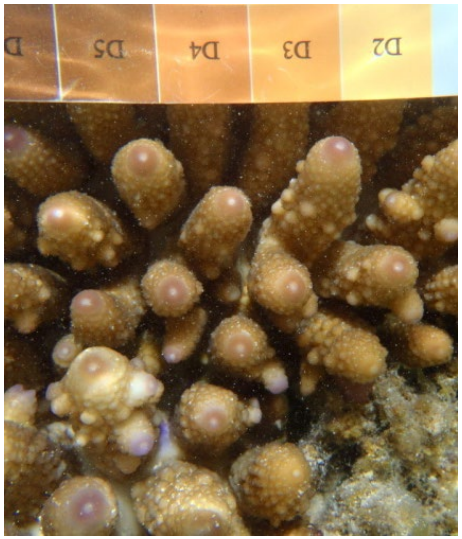
2014

North Beach 7 - Fingers

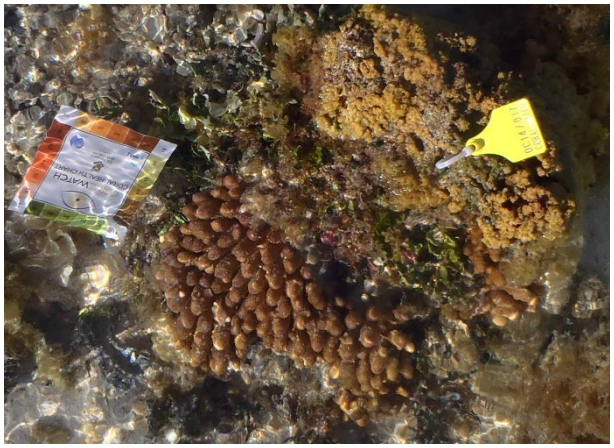
CORALWATCH

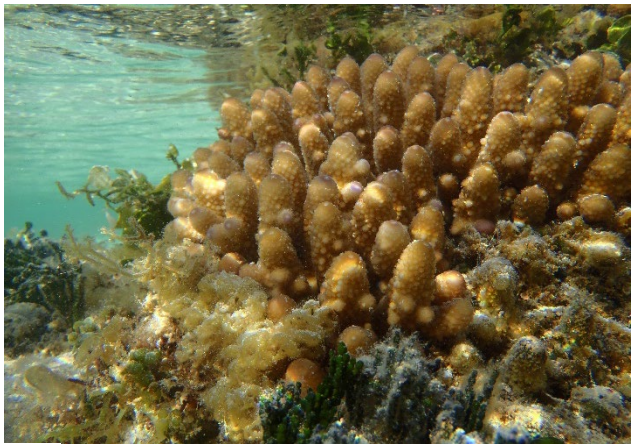
DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Acropora	Fingers		Branching			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.43915	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
151.91731	30 cm	8 cm	D2		D3	
% of dead coral within colony	Remarks: Original transect is from 2014. Check the latest photo from Sept 2020, 80% of the coral died.					
80%						

October 2014



October 2014

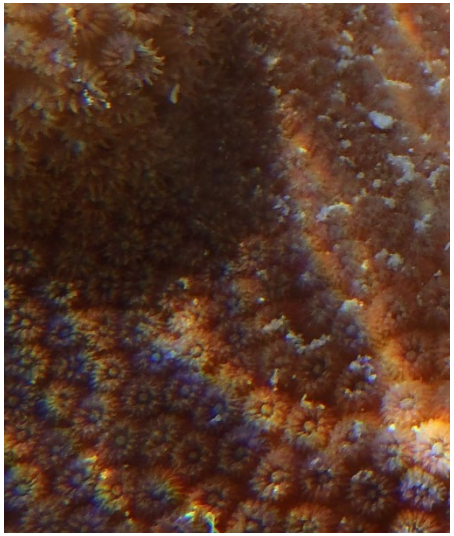




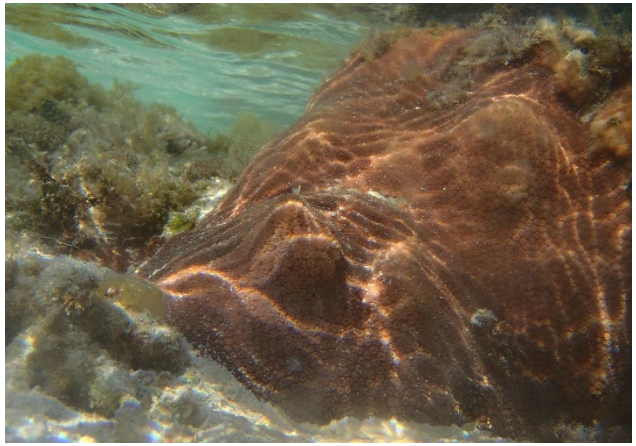
Sept 2020 – 20% of the colony alive

North Beach 8 – Sleepy dog

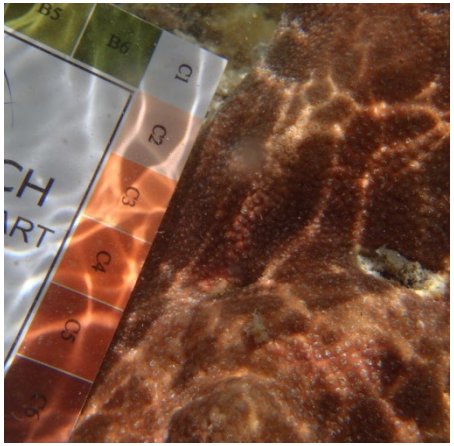
DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Cyphastrea	Sleepy dog		Boulder			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.43874	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
151.91748	51 cm	17 cm	D4		D5	
% of dead coral within colony	Remarks: Tag missing 2023 – 80% overgrown with algae					
15%						



Nov 2023 – 20% alive

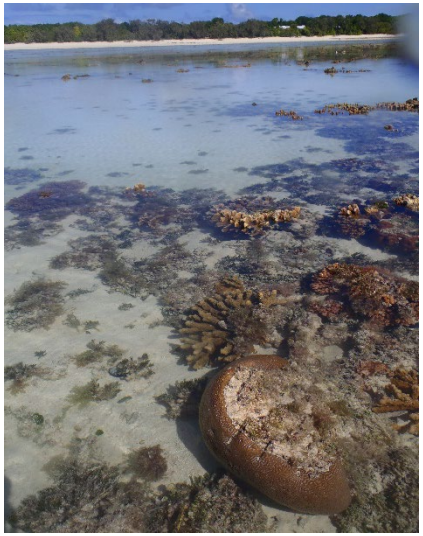


2014

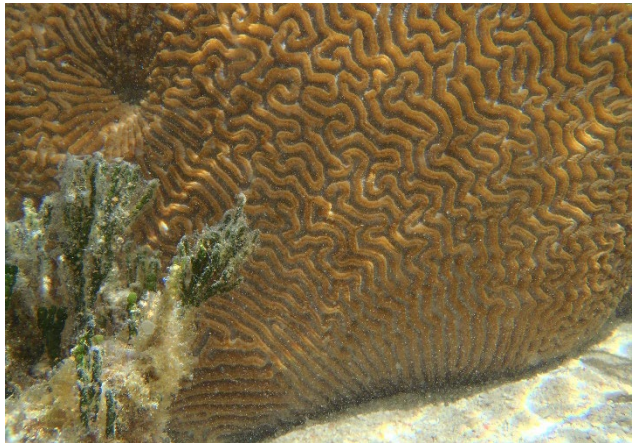


North Beach 10 - Labyrinth

DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Platygyra	Labyrinth		Boulder			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.43812	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
151.91765	50 cm	29 cm	D3		D5	
% of dead coral within colony	Remarks 2017 New tag – orange colour (no CoralWatch text on it)					



2014



November 2023

North Beach 11 – Brown wig

DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Pocillopora damicornis	Brown wig		Branching			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.44029	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
151.91664	30 cm	14 cm	D2		E5	
% of dead coral within colony	Remarks Start of the transect, in front of rangers house. Tag attached to dead coral next to it.					

Nov 2023

Nov 2020 – 100% of colony alive

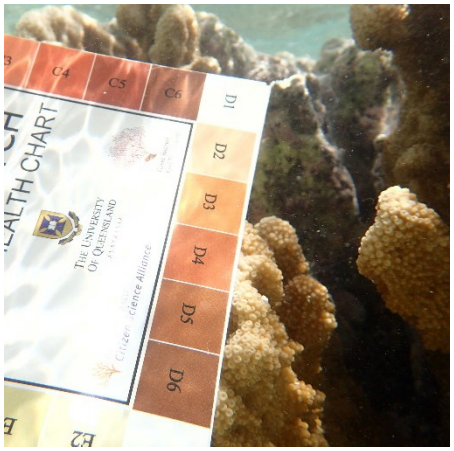
North Beach 12 - Shelter

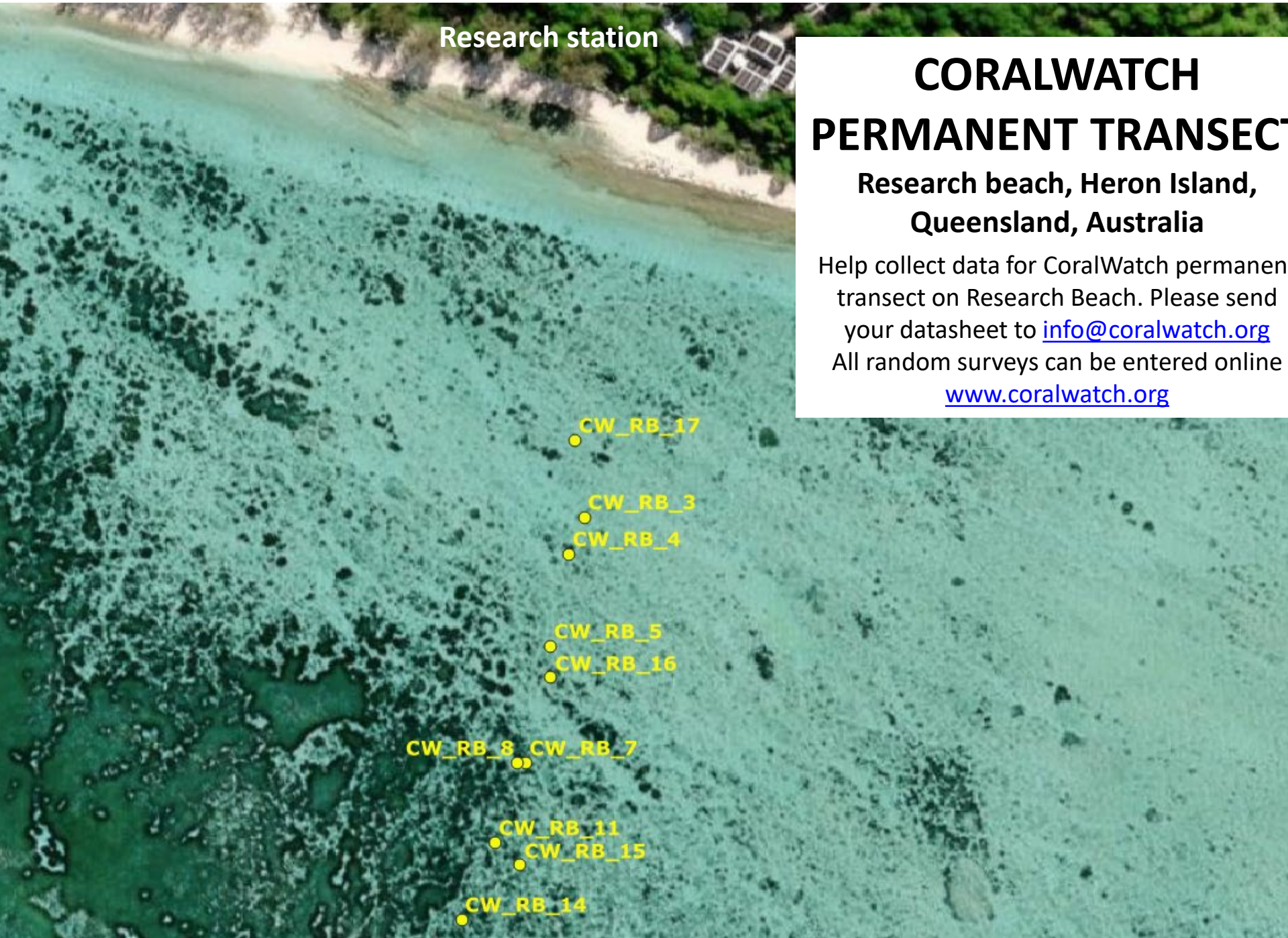
DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Isopora palifera	Shelter		Branching			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.43958	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
151.91721	50 cm	29 cm	E3		E5	
% of dead coral within colony	Remarks White on top; 20% dead coral due to low tide environment; tag attached next to pink Pocilopora					
20%						

Nov 2023

Nov 2020

Nov 2020 – 100% of colony alive





CORALWATCH PERMANENT TRANSECT

Research beach, Heron Island, Queensland, Australia

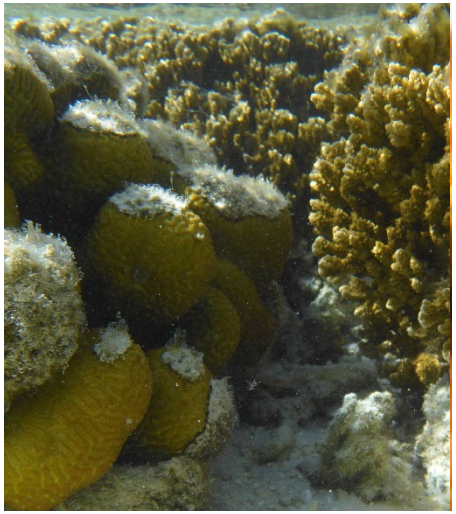
Help collect data for CoralWatch permanent transect on Research Beach. Please send your datasheet to info@coralwatch.org
All random surveys can be entered online www.coralwatch.org

Research Beach 4 - Brainy Barry

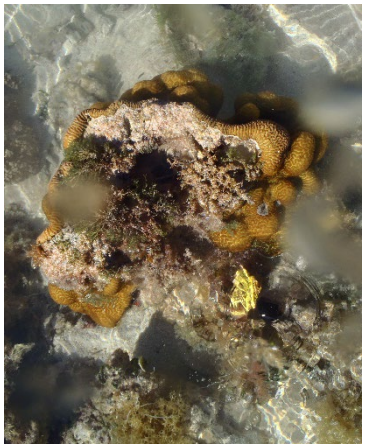
CORALWATCH

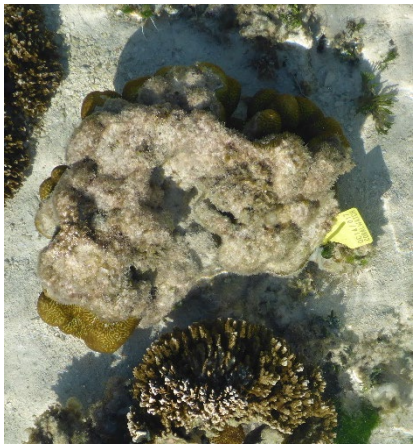
DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Platygyra	Brainy Barry		Boulder			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.444595	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
- 151.91336	42 cm	27 cm	E	4	D	5
% of dead coral within colony	Remarks: Next to large Montipora 1.5m towards Heron Island					
85%						

Sept 2020 – 15% alive

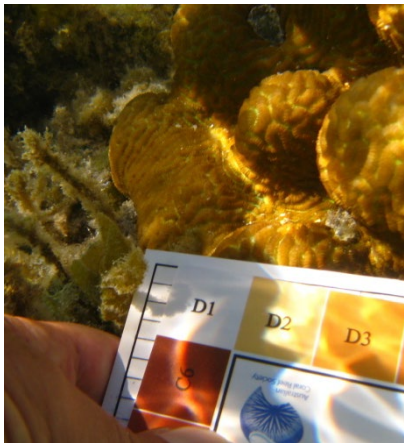


Sept 2020





May 2017 – 30% of the colony alive



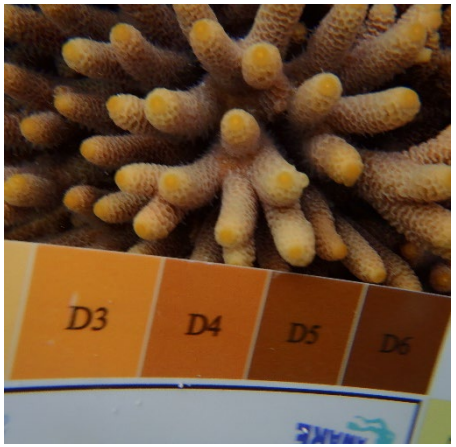
May 2024 bleached with some recovery

Research Beach 5 - Elle

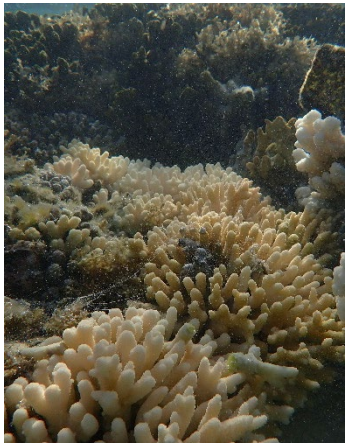
DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Acropora	Elle		Branching			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.4489	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
151.91330	75 cm	26 cm	E3		E4	
% of dead coral within colony	Remarks A branching plate like coral Tag missing					
15%						

Sept 2020 – 85% alive

May 2017 – 95% of the colony alive



November 2023 – 40% alive

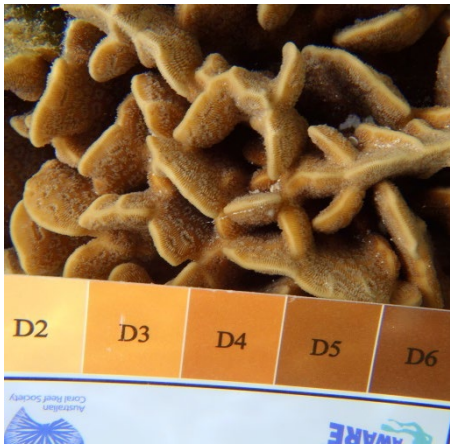


February 2024 - bleached

Research Beach 7 - Flower

DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Pavona	Flower		Plate			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.44527 S	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
- 151.9132122 E	40 cm	21 cm	E	3	E	4
% of dead coral within colony	Remarks: Left of big boulder coral when facing shore close to Goniopora on permanent transect line Tag missing					
10%						

Sept 2020 – 90% alive

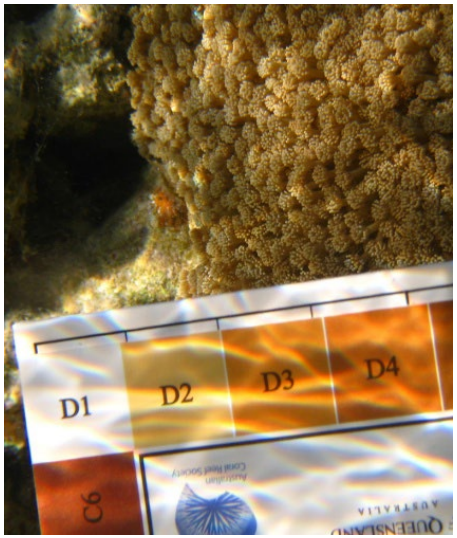


May 2024 – top of the colony shows dead patches

Research Beach 8 - Gonzo

DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Goniopora	Gonzo		Boulder			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.44527	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
- 151.91319	28 cm	22 cm	B	2	E	4
% of dead coral within colony	Remarks 2023 – no tag, close to number 7					
80%						

Sept 2020, 50% of colony alive



Nov 2023, 20% of colony alive

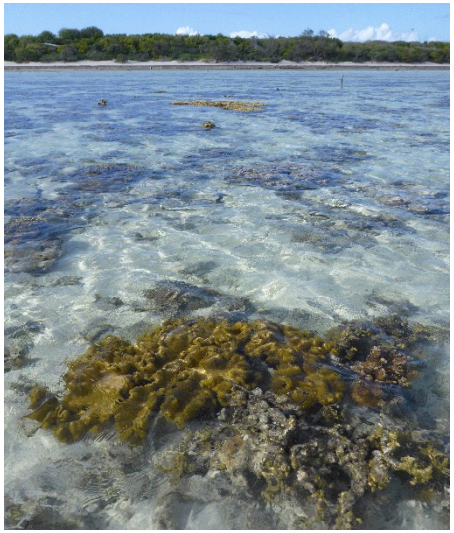
Sept 2020, 50% of colony alive

May 2024, 20% of colony alive and bleached

Research Beach 11 - Squishy

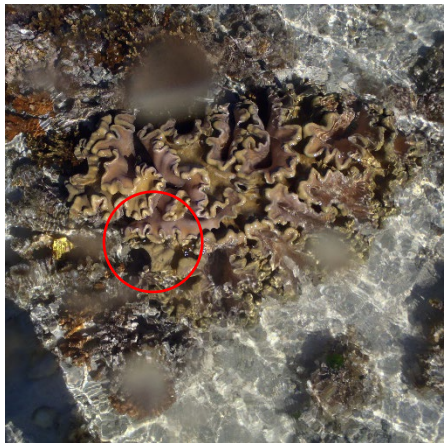
CORALWATCH

DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Sarcophyton	Squishy		Soft			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.44553 S	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
- 151.91312 E	107 cm	31 cm	E	3	E	4
% of dead coral within colony	Remarks: There are 2 sarcophytons (1 small 1 big), close to each another. This coral does not have a tag.					
0						



Nov 2023–100% alive

October 2014



October 2014

Sept 2020 –100% alive

October 2014

May 2024 - bleached

Research Beach 14 - Shreks rear

November 2021 - Selected and named by Sunshine Beach SHS

CORALWATCH

DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Cyphastrea serailia	Shreks rear		Boulder			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
--23.44578	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
- 151.91301	29 cm	18 cm	E	3	E	4
% of dead coral within colony	Remarks Green boulder, tag is 0.5 meter from the coral towards the reef crest					
5%						

November 2023

November 2021

November 2021

November 2021

May 2024

Research Beach 15 - Cinnamon roll

November 2021 - Selected and named by Sunshine Beach SHS

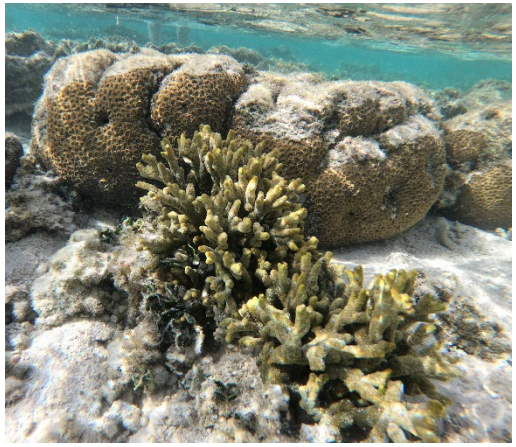
CORALWATCH

DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Favia	Cinnamon role		Boulder			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.44560	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
- 151.91320	84 cm	31 cm	D	2	D	3
% of dead coral within colony	Remarks Top part is dead due to environmental conditions – low tides					
Top 100% Side 95% healthy						

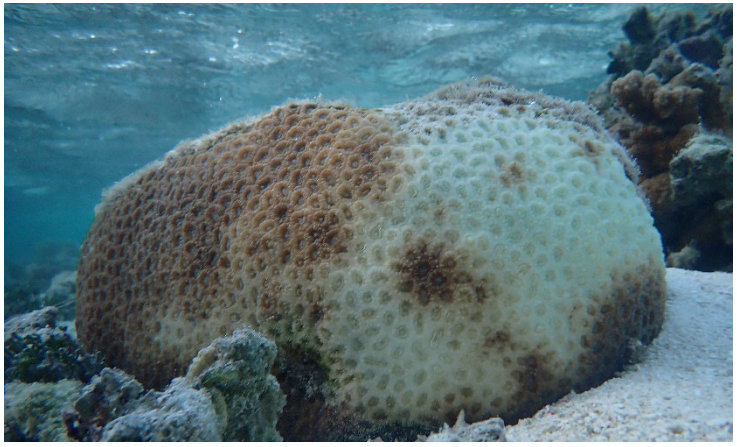
November 2023 (95% alive)

November 2021

November 2021



November 2021



May 2024, bleached, potentially recovering

Research Beach 16 – Covid 19

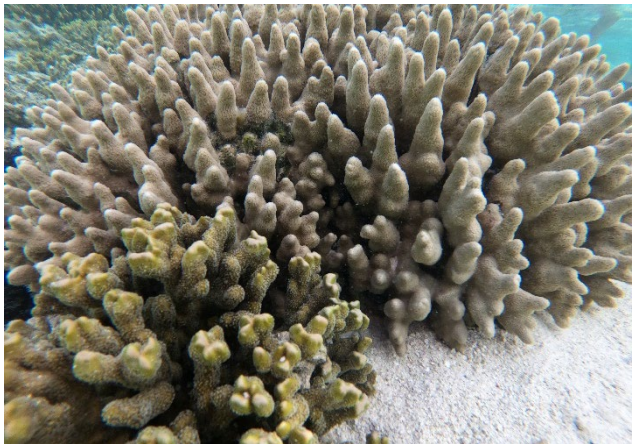
November 2021 - Selected and named by Sunshine Beach SHS

CORALWATCH

DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Porites cylindrica	COVID 19		Branching			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.444990	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
- 151.91330	75 cm	30 cm	D	2	D	3
% of dead coral within colony	Remarks The tag is socially distanced, 1.5m from the COVID 19 coral to the right facing shore					
3%						

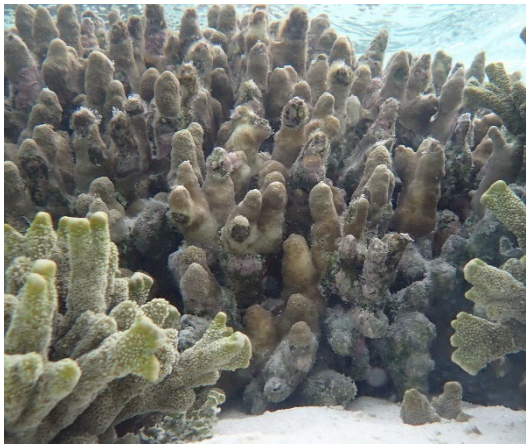
November 2023 (85% alive)

November 2021



November 2021 –100% alive

February 2024 – bleached



May 2024 – some recovery –65% alive

Research Beach 17 – Echidna turtle

November 2021 - Selected and named by Sunshine Beach SHS

DETAILS Coral colony – November 2023						
Scientific name	Given name		Coral Type			
Acropora	Echidna turtle		Branching			
GPS Latitude (WGS84)	Measurements		Coral Health Score			
-23.44422	Max. Diameter	Max. Height	Lightest		Darkest	
GPS Longitude (WGS84)						
- 151.91338	40 cm	23 cm	D	3	D	5
% of dead coral within colony	Remarks The tag is looking to shore on the right next to colony					
0%						

November 2023 (100% alive)

November 2021

November 2021

November 2021

May 2024 - bleached