

ROUND TOP ISLAND: PERCENT COVER

Monitoring Date	Hard Coral	Soft Coral	Macroalgae	Sponges	Other	Cyclone or Bleaching Events	Monitoring Date	Hard Coral	Soft Coral	Macroalgae	Sponges	Other	Cyclone or Bleaching Events		
Mean % Cover							Mean % Cover								
2010	August	28.2	8.24	6.1	2.28	55.18	Ului; March 2010	2018	July	19.94	5.91	41.73	2.33	30.09	Iris; April 2018
2010	November	26.92	9.2	5.06	2.69	56.13	Yasi; January 2011	2019	January	20.20	8.10	18.10	3.20	50.40	
2011	July	No survey: Annual surveys commenced 2015*						2019	June	22.70	8.60	21.40	3	44.30	
2012	February	24.98	9.33	25.02	3.66	37.01	Oswald; January 2013	2019	October	19.85	7.04	29.99	2.06	41.06	
2013	July	No survey: Annual surveys commenced 2015*					Dylan; January 2014	2020	April	21.16	3.39	13.28	2.33	59.84	
2014	July	No survey: Annual surveys commenced 2015*						2020	November**	19.48	3.43	7.81	3.08	66.19	
2015	March	23.03	8.8	24.35	2.19	41.63		2021	May	20.32	4.99	0.14	4.65	69.90	
2015	November	21.92	10.91	28.88	2.11	36.18		2021	November	22.79	5.45	2.55	3.44	65.78	
2016	May	22.95	9.76	20.18	2.85	44.26	Debbie; March 2017	2022	June	25.72	6.72	0.09	4.24	63.23	Bleaching Summer 2021/22
2017	January	23.15	9.83	25.76	2.7	38.56		2022	October	23.78	7.4	14.33	4.1	50.39	
2017	August	19.71	5.99	22.44	2.53	49.33		2023	May	28.78	10.61	1.64	4.16	54.81	
2018	January	20.71	7.31	17.53	2.59	51.86									

* Prior to 2015, the monitoring program was centred around maintenance dredging campaigns and therefore not completed annually. In 2015, the program was formalised into the current annual ambient program that includes a pre- and post- wet season monitoring event each year.

**A further review of the monitoring program was completed in 2020 to align with other inshore coral monitoring in the adjacent Abbot Point region. This review resulted in the reduction of site numbers per island from 6 to 4. Pre-October 2020 results will therefore not be directly comparable however this is not considered to have a measurable impact for the purpose of report discussion or website displays.

KESWICK ISLAND: PERCENT COVER

Monitoring Date	Hard Coral	Soft Coral	Macroalgae	Sponges	Other	Cyclone or Bleaching Events	
Mean % Cover							
2010						Ului; March 2010	
2011						Yasi; January 2011	
2012	Surveys at Keswick Island commenced in 2015*						
2013						Oswald; January 2013	
2014						Dylan; January 2014	
2015	March	28.54	8.43	41.11	0.24	21.68	
2015	November	29.34	9.04	41.92	0.27	19.43	
2016	May	34.02	9.29	37.88	0.49	18.32	
2017	January	31.78	8.88	40.15	0.51	18.68	Debbie; March 2017
2017	August	31.26	7.51	27.27	0.53	33.43	
2018	January	30.93	7.76	38.34	0.43	22.54	
2018	July	30.1	7.99	31.76	0.61	29.54	Iris; April 2018
2019	January	27.91	6.52	35.41	0.54	29.62	
2019	June	31.3	7.94	30.41	0.58	29.77	
2019	October	28.28	6.87	35.17	0.47	29.21	
2020**	April	28.04	6.8	35.11	0.46	29.59	Site now decommissioned**

* Prior to 2015, the monitoring program was centred around maintenance dredging campaigns and therefore not completed annually. In 2015, the program was formalised into the current annual ambient program that includes a pre- and post- wet season monitoring event each year. At this time, Keswick Island was also added to the program to assess ambient variability in health of mid-shelf reef communities in the Mackay and Hay Point region, as compared to near-shore islands currently in the program.

** The monitoring program was reviewed again in 2020. Keswick Island was deemed to represent more a mid-shelf reef rather than an appropriate background for inshore coral communities. April 2020 was the last survey completed at Keswick Island sites.

SLADE ISLAND: PERCENT COVER

Monitoring Date	Hard Coral	Soft Coral	Macroalgae	Sponges	Other	Cyclone or Bleaching Events	Monitoring Date	Hard Coral	Soft Coral	Macroalgae	Sponges	Other	Cyclone or Bleaching Events		
Mean % Cover							Mean % Cover								
2010	August	30	1.78	15.31	0.81	52.1	Ului; March 2010	2018	July	18.86	1.12	49.19	1.11	29.72	Iris; April 2018
2010	November	31.01	2.44	5.28	0.72	60.55	Yasi; January 2011	2019	January	19.8	1.6	19.8	1.7	57.1	
2011	No survey: Annual surveys commenced 2015*							2019	June	21.72	1.6	24.58	1.56	50.54	
2012	February	27.82	1.98	32.6	1.08	36.52	Oswald; January 2013	2019	October	20.02	1.05	44.54	1.56	32.83	
2013	No survey: Annual surveys commenced 2015*						Dylan; January 2014	2020	April	21.63	1.9	8.17	1.28	67.02	
2014	No survey: Annual surveys commenced 2015*							2020	November**	10.07	2.13	27.88	1.98	57.94	
2015	March	27.16	2.8	17.96	1.19	50.89		2021	May	12.65	1.66	4.68	2.45	78.57	
2015	November	29.14	2.38	39.77	1.08	27.63		2021	November	13.79	2.21	17.55	1.94	64.51	
2016	May	27.39	2.99	17.67	1.63	50.32	Debbie; March 2017	2022	June	18.1	3.15	6.43	2.42	69.90	Bleaching Summer 2021/22
2017	January	28.61	2.33	33.38	1.36	34.32		2022	October	13.82	1.67	20.33	1.35	62.83	
2017	August	18.53	1.32	25.03	1.24	53.88		2023	May	21.04	3.36	10.1	2.62	62.88	
2018	January	19.68	2.13	19.72	1.59	56.88									

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**A further review of the monitoring program was completed in 2020 to align with other inshore coral monitoring in the adjacent Abbot Point region. This review resulted in the reduction of site numbers per island from 6 to 4. Pre-October 2020 results will therefore not be directly comparable however this is not considered to have a measurable impact for the purpose of report discussion or website displays.

VICTOR ISLAND: PERCENT COVER

Monitoring Date	Hard Coral	Soft Coral	Macroalgae	Sponges	Other	Cyclone or Bleaching Events	Monitoring Date	Hard Coral	Soft Coral	Macroalgae	Sponges	Other	Cyclone or Bleaching Events		
Mean % Cover							Mean % Cover								
2010	August	22.74	1.48	20.55	0.74	54.49	Ului; March 2010	2018	July	17.93	0.89	50.64	0.42	30.12	Iris; April 2018
2010	November	23.19	2.01	14.48	0.81	59.51	Yasi; January 2011	2019	January	20.15	1.7	30.36	0.57	47.22	
2011	No survey: Annual surveys commenced 2015*							2019	June	20.06	1.28	39.82	0.64	38.2	
2012	February	24.61	1.75	32.45	0.54	40.65	Oswald; January 2013	2019	October	19.26	1.06	35.49	0.29	42.84	
2013	No survey: Annual surveys commenced 2015*						Dylan; January 2014	2020	April	19.68	1.49	12.68	0.45	65.7	
2014	No survey: Annual surveys commenced 2015*							2020	November**	19.05	2.05	41.47	0.31	37.13	
2015	March	24.53	1.96	29.1	0.39	44.02		2021	May	18.74	2.02	43.98	0.25	35.01	
2015	November	24.64	1.25	43.41	0.39	30.31		2021	November	23.04	1.50	24.27	0.57	50.62	
2016	May	25.73	1.99	32.31	0.62	39.35	Debbie; March 2017	2022	June	23.43	2.07	33.27	0.45	40.77	Bleaching Summer 2021/22
2017	January	25.27	2.26	40.04	0.39	32.04		2022	October	23.34	1.6	31.11	0.18	44.77	
2017	August	18.26	0.96	27.79	0.39	52.6		2023	May	25.95	1.89	37.73	0.85	33.58	
2018	January	18	1.68	23.72	0.64	55.96									

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INDICATORS OF HEALTH
(mean density affected per 40m²)

Year	Month	Bleached				Disease				Cyclone or Bleaching Events	
		Victor	Slade	Round Top	Keswick	Victor	Slade	Round Top	Keswick		
2010	August	0	0	0.04	ns	0.96	0.42	0.63		Ului; March 2010	
2010	November	0	0	0	ns	0.5	0.46	1.29		Yasi; January 2011	
2011		No survey: Annual surveys commenced 2015*								Keswick added in 2015*	
2012	February	0	0	0.08	ns	0.38	0.38	0.17			
2013		No survey: Annual surveys commenced 2015*									Oswald; January 2013
2014		No survey: Annual surveys commenced 2015*									Dylan; January 2014
2015	March	0.83	0.83	3.42	1.33	1.21	1.25	0.75	1.63		
2015	November	0.21	0.21	0.33	0.29	1.17	2.42	1.29	0.71		
2016	May	0	0	0.25	1.08	0.71	0.75	0.67	0.79		
2017	January	0	0	0.63	0.29	1.29	1.25	0.83	1.67		
2017	August	1.67	1.67	2.08	0.25	0.67	0.13	0.04	1.33	Debbie; March 2017	
2018	January	0.04	0.04	0.38	0.71	0.42	0.46	0.25	0.54	Iris; April 2018	
2018	July	0	0	0	0	0.21	0.13	0.42	0.79		
2019	January	0.04	0.04	0.21	0.04	0.33	0.42	1.13	1.79		
2019	June	0	0	0.04	0	0.17	0	0.5	0.58		
2019	October	0	0.21	0.04	0.04	0.42	0.83	0.38	0.79		
2020	April	27.21	41.96	24.17	38.67	0.04^	0.04^	0^	0^		

Year	Month	Bleached				Disease				Cyclone or Bleaching Events
		Victor	Slade	Round Top	Keswick	Victor	Slade	Round Top	Keswick	
2020	November**	0.69	3.62	1.62	ns^^	0.06	0.19	0.25	ns^^	
2021	May	0	0	0	ns	0.62	0.06	0.50	ns	
2021	November	0	0	0	ns	0.62	0.06	0.56	ns	
2022	June	0	0	0.60	ns	0.31	0	0	ns	Bleaching Summer 2021/22
2023	May	0.06	0.06	0	ns	0.19	0.19	0.31	ns	

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^ Disease extent is considered under-represented for this survey due to extent of bleaching evident.

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^^ The monitoring program was reviewed again in 2020. Keswick Island was deemed to represent more a mid-shelf reef rather than an appropriate background for inshore coral communities. April 2020 was the last survey completed at Keswick Island sites.