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LAMPIRAN

Lampiran 1. Tutupan dasar terumbu karang pada setiap stasiun

Stasiun	Lokasi	Kategori	Stasiun Wisata			Stasiun Kontrol		
			Kisaran (%)	Mean (%)	±SE	Kisaran (%)	Mean (%)	±SE
1	Pantai Annora & Tanjung Dua	<i>Live coral</i>	66-80	73.33	4.06	58-68	64	3.06
		<i>Dead coral</i>	14-21	18	2.08	13-24	17.33	3.38
		<i>Algae</i>	3-4	3.67	0.33	12-16	13.33	1.33
		<i>Abiotik</i>	0-3	1.33	0.88	1-3	2	0.58
		<i>Other</i>	1-8	3.67	2.19	2-4	3.33	0.67
2	Pulau Kecil	<i>Live coral</i>	75-81	77.67	1.76	53-72	65.33	6.17
		<i>Dead coral</i>	10-18	13.67	2.33	10-19	14.67	2.6
		<i>Algae</i>	1-9	5.33	2.33	6-13	9.67	2.03
		<i>Abiotik</i>	0-2	0.67	0.67	0-2	1	0.58
		<i>Other</i>	2-3	2.67	0.33	7-13	9.33	1.86
3	Gosong Cemara Kecil & Pulau Cemara Kecil	<i>Live coral</i>	71-78	73.67	2.19	61-77	70	4.73
		<i>Dead coral</i>	16-21	18	1.53	13-16	14.33	0.88
		<i>Algae</i>	2-7	4	1.53	2-4	3.33	0.67
		<i>Abiotik</i>	0-7	3	2.08	6-21	11	5
		<i>Other</i>	1-2	1.33	0.33	0-2	1.33	0.67
4	Gosong Tanjung Gelam	<i>Live coral</i>	64-78	69	4.51	55-65	59.67	2.91
		<i>Dead coral</i>	12-28	20	4.62	8-13	10.33	1.45
		<i>Algae</i>	0-1	0.67	0.33	4-11	7	2.08
		<i>Abiotik</i>	5-9	9.67	2.91	13-31	20	5.57
		<i>Other</i>	0-1	0.67	0.33	1-6	3	1.53
5	Pulau Menjangan Besar	<i>Live coral</i>	70-78	74.67	2.4	37-53	43.67	4.81
		<i>Dead coral</i>	13-18	15.33	1.45	7-10	9	1
		<i>Algae</i>	0-3	1.33	0.88	4-6	4.67	0.67
		<i>Abiotik</i>	4-12	7	2.52	30-50	41.33	5.93
		<i>Other</i>	0-3	1.67	0.88	1-2	1.33	0.33
6	Pulau Menjangan Kecil	<i>Live coral</i>	71-85	78.67	4.1	65-83	75	5.29
		<i>Dead coral</i>	6-14	11	2.52	4-13	8	2.65
		<i>Algae</i>	1-3	2	0.58	12-21	16.33	2.6
		<i>Abiotik</i>	3-10	6.67	2.03	0-1	0.67	0.33
		<i>Other</i>	0-4	1.67	1.2	0	0	0

Lampiran 2. Hasil *Shapiro-wilk normality test* tutupan karang hidup setiap stasiun

Lokasi	Kategori tutupan dasar	<i>p-value</i>		Keterangan
		Wisata	Kontrol	
Pantai Annora & Tanjung Dua	<i>Live coral</i>	0.8428	0.3631	Terdistribusi normal
	<i>Dead coral</i>	0.5367	0.3275	Terdistribusi normal
	<i>Algae</i>	< 2x10 ⁻¹⁶	0.3275	Tidak terdistribusi normal
	<i>Abiotik</i>	0.6369	1	Terdistribusi normal
	<i>Other</i>	0.253	< 2x10 ⁻¹⁶	Tidak terdistribusi normal
Pulau Kecil	<i>Live coral</i>	0.6369	0.08934	Terdistribusi normal
	<i>Dead coral</i>	0.7262	0.8777	Terdistribusi normal
	<i>Algae</i>	0.7262	0.8428	Terdistribusi normal
	<i>Abiotik</i>	< 2x10 ⁻¹⁶	1	Tidak terdistribusi normal
	<i>Other</i>	< 2x10 ⁻¹⁶	0.2983	Tidak terdistribusi normal
Gosong Cemara Kecil & Pulau Cemara Kecil	<i>Live coral</i>	0.253	0.5928	Terdistribusi normal
	<i>Dead coral</i>	0.3631	0.6369	Terdistribusi normal
	<i>Algae</i>	0.3631	< 2x10 ⁻¹⁶	Tidak terdistribusi normal
	<i>Abiotik</i>	0.5367	< 2x10 ⁻¹⁶	Tidak terdistribusi normal
	<i>Other</i>	< 2x10 ⁻¹⁶	< 2x10 ⁻¹⁶	Tidak terdistribusi normal
Tanjung Gelam	<i>Live coral</i>	0.1223	0.7804	Terdistribusi normal
	<i>Dead coral</i>	1	0.7804	Terdistribusi normal
	<i>Algae</i>	< 2x10 ⁻¹⁶	0.5367	Tidak terdistribusi normal
	<i>Abiotik</i>	0.7804	0.2983	Terdistribusi normal
	<i>Other</i>	< 2x10 ⁻¹⁶	0.3631	Tidak terdistribusi normal
Menjangan Besar	<i>Live coral</i>	0.4633	0.4633	Terdistribusi normal
	<i>Dead coral</i>	0.7804	< 2x10 ⁻¹⁶	Tidak terdistribusi normal
	<i>Algae</i>	0.6369	< 2x10 ⁻¹⁶	Tidak terdistribusi normal
	<i>Abiotik</i>	0.2196	0.5665	Terdistribusi normal
	<i>Other</i>	0.6369	< 2x10 ⁻¹⁶	Tidak terdistribusi normal
Menjangan Kecil	<i>Live coral</i>	0.6878	0.6369	Terdistribusi normal
	<i>Dead coral</i>	0.2196	0.6369	Terdistribusi normal
	<i>Algae</i>	1	0.8777	Terdistribusi normal
	<i>Abiotik</i>	0.8428	< 2x10 ⁻¹⁶	Tidak terdistribusi normal
	<i>Other</i>	0.4633	0	Tidak terdistribusi normal

p-value > alpha 0.05

Lampiran 3. Hasil Uji F (melihat varians data) tutupan karang hidup setiap stasiun

Lokasi	Kategori tutupan dasar	p-value	Keterangan
Pantai Annora & Tanjung Dua	Live coral	0.7241	Homogen
	Dead coral	0.5493	Homogen
	Algae	0.1176	Homogen
	Abiotik	0.6	Homogen
	Other	0.1702	Homogen
Pulau Kecil	Live coral	0.1509	Homogen
	Dead coral	0.8909	Homogen
	Algae	0.8605	Homogen
	Abiotik	0.8571	Homogen
	Other	0.0625	Homogen
Gosong Cemara Kecil & Pulau Cemara Kecil	Live coral	0.3525	Homogen
	Dead coral	0.5	Homogen
	Algae	0.32	Homogen
	Abiotik	0.2955	Homogen
	Other	0.4	Homogen
Tanjung Gelam	Live coral	0.5869	Homogen
	Dead coral	0.1801	Homogen
	Algae	0.05	Terdapat perbedaan nyata
	Abiotik	0.4285	Homogen
	Other	0.09091	Homogen
Menjangan Besar	Live coral	0.4	Homogen
	Dead coral	0.6429	Homogen
	Algae	0.7273	Homogen
	Abiotik	0.3056	Homogen
	Other	0.25	Homogen
Menjangan Kecil	Live coral	0.7494	Homogen
	Dead coral	0.95	Homogen
	Algae	0.09375	Homogen
	Abiotik	0.05263	Homogen
	Other	< 2x10 ⁻¹⁶	Terdapat perbedaan nyata

p-value > alpha 0.05

Lampiran 4. Hasil Uji *two sample t-test* (parametrik) dan *Wilcoxon signed rank test* (non-parametrik) tutupan karang hidup setiap stasiun

Lokasi	Kategori tutupan dasar	Uji	p-value	Keterangan
Pantai Annora & Tanjung Dua	<i>Live coral</i>	Parametrik	0.1399	Tidak berbeda nyata
	<i>Dead coral</i>	Parametrik	0.8749	Tidak berbeda nyata
	<i>Algae</i>	Non-parametrik	0.1736	Tidak berbeda nyata
	<i>Abiotik</i>	Parametrik	0.5614	Tidak berbeda nyata
	<i>Other</i>	Non-parametrik	1	Tidak berbeda nyata
Pulau Kecil	<i>Live coral</i>	Parametrik	0.1271	Tidak berbeda nyata
	<i>Dead coral</i>	Parametrik	0.7891	Tidak berbeda nyata
	<i>Algae</i>	Parametrik	0.2336	Tidak berbeda nyata
	<i>Abiotik</i>	Non-parametrik	1	Tidak berbeda nyata
	<i>Other</i>	Non-parametrik	0.5	Tidak berbeda nyata
Gosong Cemara Kecil & Pulau Cemara Kecil	<i>Live coral</i>	Parametrik	0.5201	Tidak berbeda nyata
	<i>Dead coral</i>	Parametrik	0.1062	Tidak berbeda nyata
	<i>Algae</i>	Non-parametrik	1	Tidak berbeda nyata
	<i>Abiotik</i>	Non-parametrik	0.5	Tidak berbeda nyata
	<i>Other</i>	Non-parametrik	1	Tidak berbeda nyata
Tanjung Gelam	<i>Live coral</i>	Parametrik	0.1569	Tidak berbeda nyata
	<i>Dead coral</i>	Parametrik	0.1166	Tidak berbeda nyata
	<i>Algae</i>	Non-parametrik	0.25	Tidak berbeda nyata
	<i>Abiotik</i>	Parametrik	0.1753	Tidak berbeda nyata
	<i>Other</i>	Non-parametrik	0.1736	Tidak berbeda nyata
Menjangan Besar	<i>Live coral</i>	Parametrik	0.00449	Berbeda nyata
	<i>Dead coral</i>	Non-parametrik	0.25	Tidak berbeda nyata
	<i>Algae</i>	Non-parametrik	0.25	Tidak berbeda nyata
	<i>Abiotik</i>	Parametrik	0.00595	Berbeda nyata
	<i>Other</i>	Non-parametrik	0.7728	Tidak berbeda nyata
Menjangan Kecil	<i>Live coral</i>	Parametrik	0.6129	Tidak berbeda nyata
	<i>Dead coral</i>	Parametrik	0.4575	Tidak berbeda nyata
	<i>Algae</i>	Parametrik	0.00578	Berbeda nyata
	<i>Abiotik</i>	Non-parametrik	0.25	Tidak berbeda nyata
	<i>Other</i>	Non-parametrik	0.3711	Tidak berbeda nyata

p-value > alpha 0.05

Lampiran 5. Kerusakan karang yang diduga akibat aktivitas wisata berdasarkan pengamatan menggunakan transek kuadaran

Site	Lokasi	Kategori	Stasiun Wisata			Stasiun Kontrol		
			Kisaran (%)	Mean (%)	$\pm SE$	Kisaran (%)	Mean (%)	$\pm SE$
1	Pantai Annora & Tanjung Dua	BBC	0 - 0.8	0.29	0.25	0	0	0
		BMC	0 - 0.11	0.04	0.04	0	0	0
		BPC	0 - 0.03	0.01	0.01	0 - 0.24	0.08	0.08
		UTC	0	0	0	0	0	0
		AD	0	0	0	0	0	0
2	Pulau kecil	BBC	0.01 - 0.05	0.03	0.01	0 - 0.05	0.02	0.01
		BMC	0 - 5.5	1.83	1.83	0	0	0
		BPC	0.11 - 11.85	4.8	3.59	0 - 0.21	0.07	0.07
		UTC	0 - 8	2.67	2.67	0	0	0
		AD	0	0	0	0	0	0
3	Gosong Cemara Kecil & Pulau Cemara Kecil	BBC	0 - 0.3	0.1	0.1	0 - 0.02	0.01	0.01
		BMC	0 - 3.5	1.8	1.01	0	0	0
		BPC	0 - 0.02	0.01	0.01	0 - 0.43	0.23	0.12
		UTC	0	0	0	0	0	0
		AD	0	0	0	0	0	0
4	Gosong Tanjung Gelam	BBC	0 - 0.03	0.02	0.01	0 - 0.48	0.17	0.15
		BMC	0 - 4	1.33	1.33	0 - 1.1	0.38	0.36
		BPC	0.02 - 0.12	0.06	0.03	0	0	0
		UTC	0	0	0	0	0	0
		AD	0	0	0	0	0	0
5	Menjangan Besar	BBC	0	0	0	0 - 0.48	0.16	0.16
		BMC	0	0	0	0 - 0.55	0.32	0.17
		BPC	0 - 3.04	1.51	0.88	0 - 1.6	0.6	0.5
		UTC	0	0	0	0	0	0
		AD	0	0	0	0 - 12	4	4
6	Menjangan Kecil	BBC	1.35 - 4.2	2.32	0.94	0	0	0
		BMC	0 - 9.6	3.2	3.2	0	0	0
		BPC	4.44 - 13.08	7.5	2.79	0 - 0.02	0.01	0.01
		UTC	0	0	0	0	0	0
		AD	0	0	0	0	0	0

Lampiran 6. Hasil Chi-Square antara pemandu dan kerusakan karang

Pemandu & kerusakan karang				
χ^2	4.4524			
p-value	0.6157			
<i>observed</i>				
	TK	KR	KS	SB
Baik	1	1	0	0
Sedang	11	1	0	0
Buruk	16	2	1	1
<i>expected</i>				
	TK	KR	KS	SB
Baik	1.65	0.24	0.06	0.06
Sedang	9.88	1.41	0.35	0.35
Buruk	16.47	2.35	0.59	0.59
<i>residuals</i>				
	TK	KR	KS	SB
Baik	-0.504	1.576	-0.243	-0.243
Sedang	0.356	-0.347	-0.594	-0.594
Buruk	-0.116	-0.23	0.537	0.537

Lampiran 7. Hasil Chi-Square antara wisatawan dan kerusakan karang

Wisatawan & Terumbu Karang			
χ^2	81.609		
p-value	< 2.2e-16		
<i>observed</i>			
	TK	KR	KB
Baik	158	0	0
Buruk	23	19	1
<i>expected</i>			
	TK	KR	SB
Baik	142.28	14.94	0.79
Buruk	38.72	4.06	0.21
<i>residuals</i>			
	TK	KR	SB
Baik	1.318	-3.865	-0.887
Buruk	-2.526	7.408	1.7

Lampiran 8. Hasil Chi-Square antara pemandu dan wisatawan

Pemandu & Wisatawan			
χ^2	0.008532		
p-value	0.9957		
<i>observed</i>			
	Baik	Sedang	Buruk
Baik	2	12	20
Buruk	2	11	19
<i>expected</i>			
	Baik	Sedang	Buruk
Baik	2.06	11.85	20.09
Buruk	1.94	11.15	18.91
<i>residuals</i>			
	Baik	Sedang	Buruk
Baik	-0.042	0.044	-0.02
Buruk	0.044	-0.045	0.021

Lampiran 9. Kategori pemandu, wisatawan, dan terumbu karang

Terumbu Karang	Wisatawan	Pemandu	Kategori
2	-	-	Sangat Baik
4	158	2	Baik
0	-	12	Sedang
0	43	20	Buruk

Lampiran 10. Rekap absensi wisatawan selama penelitian berlangsung (source : TIC Jepara)

Tanggal	Jumlah wisatawan
1/10/2022	144
2/10/2022	59
3/10/2022	0
4/10/2022	130
5/10/2022	99
6/10/2022	17
7/10/2022	157
8/10/2022	465
9/10/2022	170
10/10/2022	30
11/10/2022	274
12/10/2022	29
13/10/2022	28
14/10/2022	51
15/10/2022	359
Total	2012
Rata-rata	134.1333

Lampiran 11. Informasi stasiun pengambilan data tutupan dasar terumbu karang

Stasiun	Lokasi	Koordinat X	Koordinat Y	Kedalaman	Tipe Karang
Wisata	Pantai Annora	110.4778	-5.84971	1-3	Fringing Reef
	Pulau Kecil	110.50823	-5.81896	1-3	Fringing Reef
	Gosong Cemara Kecil	110.3871	-5.82549	1-3	Patch Reef
	Tanjung Gelam	110.40728	-5.84871	1-3	Fringing Reef
	Menjangan Besar	110.41702	-5.87837	1-3	Fringing Reef
	Menjangan Kecil	110.40862	-5.88461	1-3	Fringing Reef
	Tanjung Dua	110.4714	-5.85608	1-3	Fringing Reef
	Pulau Kecil	110.51004	-5.81801	1-3	Fringing Reef
	Pulau Cemara Kecil	110.37547	-5.83111	1-3	Fringing Reef
	Tanjung Gelam	110.4116	-5.85207	1-3	Fringing Reef
Kontrol	Menjangan Besar	110.41942	-5.88942	1-3	Fringing Reef
	Menjangan Kecil	110.41231	-5.8984	1-3	Fringing Reef

Lampiran 12. Informasi pengamatan perilaku pemandu dan wisatawan

No	Lokasi	Sesi Snorkeling	Jumlah Pemandu	Jumlah Wisatawan	Wisatawan dan Pemandu Melakukan Kontak (Orang)		Durasi Snorkeling (menit)	Koordinat X	Koordinat Y	Arus
					Wisatawan	Pemandu				
1	Menjangan Kecil	1	2	14	3	1	92	110.420783	-5.877012	Lemah
2	Menjangan Besar	2	2	14	1	2	81	110.407609	-5.886224	Lemah
3	Gosong Cemara Kecil	1	4	23	3	2	72	110.387086	-5.825486	Lemah
4	Menjangan Besar	2	4	20	3	2	56	110.417038	-5.875091	Lemah
5	Tanjung Gelam	1	2	12	7	2	63	110.406967	-5.8483	Lemah
6	Gosong Cemara Kecil	2	2	12	1	0	38	110.389167	-5.827142	Lemah
7	Gosong Cemara Kecil	1	2	10	1	0	53	110.387034	-5.825946	Lemah
8	Menjangan Kecil	2	2	9	1	1	49	110.407753	-5.886206	Lemah
9	Menjangan Kecil	1	1	3	0	0	31	110.407884	-5.885866	Lemah
10	Menjangan Besar	2	1	3	1	1	41	110.416732	-5.878391	Lemah
11	Pulau Kecil	1	1	6	0	0	80	110.50815	-5.818839	Lemah
12	Pantai Annora	2	1	5	1	0	62	110.476573	-5.849304	Lemah
13	Menjangan Besar	1	2	12	2	2	56	110.420457	-5.876683	Lemah
14	Menjangan Kecil	2	2	12	7	2	48	110.407465	-5.886251	Lemah
15	Menjangan Besar	1	3	24	10	3	69	110.418363	-5.876299	Lemah
16	Menjangan Kecil	2	3	22	2	2	42	110.407694	-5.88693	Lemah