

DAFTAR PUSTAKA

- Adibhusana, M.N., Hendrawan, I.G., Karang, W.G. 2016. Model Hidrodinamika Pasang Surut di Perairan Pesisir Barat Kabupaten Bali. *Journal of Marine and Aquatic Sciences*. Universitas Udayana. Bukit Jimbaran Bali.
- Bangun, S. A., Sangari, J. R., Tilaar. F., Pratasik. S. B., Salaki. M., Pelle. W 2019. *Marine Debris Composition on Tasik Ria Beach, Tombariri, Minahasa Regency*
- Barboza, L.G.A., Cózar, A., Gimenez, B.C.G., Barros, T.L., Kershaw, P.J., Guilhermino, L., 2019. *Macroplastics Pollution in the Marine Environment, in: World Seas: An Environmental Evaluation. Elsevier*, pp. 305–328.
- Citasari, N, Nur IO, dan Nuril A., 2012. Analisis Laju Timbunan dan Komposisi Sampah di Permukiman Pesisir Kenjeran Surabaya. Jawa Timur, Indonesia. *Berkas Penelitian Hayati*: 18 (83–85).
- Cheshire, A., Adler, E., 2009. *UNEP/IOC guidelines on survey and monitoring of marine litter*.
- CNN. 2016. Indonesia Penyumbang Sampah Terbesar Kedua Dunia. CNN Indonesia.
- Constantino, E., Martins, I., Salazar Sierra, J. M., & Bessa, F. 2019. Abundance and composition of floating marine macro litter on the eastern sector of the Mediterranean Sea. *Marine Pollution Bulletin*; Vol. 138, (August 2018): 260–265. <https://doi.org/10.1016/j.marpolbul.2018.11.008>
- CSIRO (*Ocean and Atmosphere Flaship*) 2014. *Marine Debris sources, distribution and fate of plastic and other refuse – and its impact on ocean and coastal wildlife*.
- Djaguna, A., Pelle, W. E., Schadu, J. N. W., Manengkey, H. W., Rumampuk, N. D., Ngangi, E. L. 2019. Identifikasi Sampah Laut di Pantai Tongkaina dan Talawaan Bajo.
- Fendall, L. S., & Sewell, M. A. 2009. *Contributing to marine pollution by washing your face: Microplastics in facial cleansers. Marine Pollution Bulletin*; Vol. 58, No. 8: 1225–1228. <https://doi.org/10.1016/j.marpolbul.2009.04.025>
- Galgani, L., Beiras, R., Galgani, F., Panti, C., & Borja, A. 2019. Editorial: “impacts of marine litter.” *Frontiers in Marine Science*, 6(APR). <https://doi.org/10.3389/fmars.2019.00208>.
- GESAMP. 2019. *Guidelines for the monitoring and assessment of plastic litter and microplastics in the ocean* (Kershaw P.J., Turra A. and Galgani F. editors). (IMO/FAO/UNESCO-IOC/UNIDO/WMO/IAEA/UN/UNEP/UNDP/ISA Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection) Rep. Stud. GESAMP, No. 99. Henry, B., Laitala, K., and Grimstad, I. 2019. *Science of the Total Environment Micro fibres from apparel and home textiles : Prospects for ng microplastics in environmental sustainability assessment. Science of the Environment*, 652, 483–494. <https://doi.org/10.1016/j.scitotenv.2019.10.166>
- h J., Leous J., Anziano J., Brockett D., Cherson A., Dean E., Dillon J., on T., Littman M., Lukehart N., Ombac J., Reilly K., 2005. *The Marine*



Debris Research, Prevention and Reduction Act: A Policy Analysis. Columbia University New York, New York.

Hong S, Lee J, Kang D, Choi HW, Ko SH (2014) Jumlah, komposisi, dan sumber puing-puing pantai di Korea dari hasil pemantauan nasional. *Mar Pollut Bull* 84: 27-34
Ivar do Sul JA, Costa MF (2014) Saat ini dan masa depan dari plastik mikro polusi di lingkungan laut. *Environ Pollut* 185: 352364.

Hutabarat, S. dan Evans, S. 1984. *Pengantar Oseanografi*. Penerbit Ui – Press. Jakarta

Isyrini, R., Tambaru, R., Nafie, Y. A. La, Ukkas, M., & Cordova, M. R. 2018. *Beach Debris On Labuange Beach, Barru District, South Sulawesi*. 4, 74–80.

Jambeck R., J., Roland G., Chris W., Theodore R., S., Miriam P., Anthony A., Ramani N. and Kara L. 2015. *Plastic Was Inputs From Land Into The Ocean*. *Journal. Science*.

Jang YC, Lee J, Hong S et al (2018) Komposisi dan Kelimpahan puing-puing laut yang terdampar di Pantai Sri Langka: Hasil dari survei pertama diseluruh pulau, *Mar Pollut Bull* 86: 505–511.

KLHK, D., 2017. *Pedoman Pemantauan Sampah Pantai (DRAFT)*.

Lippiatt, S., Opfer, S. and Arthur, C. 2013. *Marine Debris and Monitoring Assesment*. NOAA.

Mansui, J., Molcard, A., & Ourmières, Y. 2015. *Modelling the transport and accumulation of floating marine debris in the Mediterranean basin*. *Marine Pollution Bulletin*. Vol. 91, No. 1: 249–257.
<https://doi.org/10.1016/j.marpolbul.2014.11.037>

NOAA. 2013. *Marine Debris Shoreline Survey Field Guide*. NOAA Marine Debris Program.

NOAA. 2016. *Marine Debris Impacts on Coastal and Benthic Habitats*. NOAA Marine Debris Habitat Report.

Nontji, A. 1987. *Laut Nusantara*. Jakarta.

Opfer, S., Arthur, C., and Lippiat, S. 2012. *Marine Debris Shoreline Survey Field Guide*. NOAA.

Pawar, P. R., Shirgaonkar, S. S., & Patil, R. B. 2016. *Plastic marine debris: Sources, distribution and impacts on coastal and ocean biodiversity*. PENCIL Publication of Biological Sciences. Vol. 3, No. 1: 40–54.

Purba, N. P., Apriliani, I. M., & Dewanti, L. P. 2018. *Distribution of Macro Debris at Pangandaran Beach, Indonesia*. 103(July), 144–156.



Optimization Software:
www.balesio.com

Van, Aliani, S., Law, K. L., Maximenko, N., Alsina, J. M., Bagaev, A. & A. 2015. *The physical oceanography of the transport of floating marine*

2007. *Pasang Surut dan Energinya*. Oseana: Vol. 32. No. 1: 15-22. Syakti, Jacob, M., Birrien, T., Putra, M., Yudistira, M., Salim, A., Doumenq, P., and

Louarn, G. 2019. *Daily apportionment of stranded plastic debris in the Bintan Coastal area , Indonesia*. 149(June).

Syakti, A. D., Bouhroum, R., Hidayati, N. V., Koenawan, C. J., Boulkamh, A., Sulisty, I., Lebarillier, S., Akhlus, S., Doumenq, P., & Wong-wah-chung, P. 2017. *Beach macro-litter monitoring and floating microplastic in a coastal area of Indonesia*. *Marine Pollution Bulletin*, Vol. 122 No. 1–2: 217–225. <https://doi.org/10.1016/j.marpolbul.2017.06.046>.

Tangadesu, T. R. C. 2018. Identifikasi Sampah Laut di Muara Sungai Biringkassi dan Wilayah Pesisir Sekitarnya Di Kabupaten Takalar. Skripsi. Departemen Ilmu Kelautan. Universitas Hasanuddin.

Undang-undang Nomor 18 Tahun 2008 Tentang pengelolaan sampah <http://www.menlh.go.id/DATA/UU18-2008.pdf>.

Undang-undang Nomor 83 Tahun 2018 Tentang penanganan sampah laut <http://www.menlh.go.id/DATA/UU83-2018.pdf>.

UNEP, 2018. *Valuing Plastics: The Business Case for Measuring, Managing and Disclosing Plastic Use in the Consumer Goods Industry*. UNEP, pp. 116.

Zulkarnaen A., 2017. Identifikasi Sampah Laut (Marine Debris) Di Pantai Bodia Kecamatan Galesong, Pantai Karama Kecamatan Galesong Utara, Dan Pantai Mandi Kecamatan Galesong Selatan Kabupaten Takalar. Skripsi. Ilmu Kelautan Fakultas Ilmu Kelautan dan Perikanan Universitas Hasanuddin. Kota Makassar.



LAMPIRAN

Lampiran 1. Hasil uji statistik *One Way Anova* dan *Kruskal Wallis*

a. Kelimpahan jumlah sampah makro

Kruskal-Wallis Test

Ranks

Stasiun		N	Mean Rank
kelimpahan jumlah sampah makro	1	5	5,10
	2	5	12,00
	3	5	6,90
	Total	15	

Test Statistics^{a,b}

	kelimpahan jumlah sampah makro
Kruskal-Wallis H	6,416
df	2
Asymp. Sig.	,040

a. Kruskal Wallis Test

b. Grouping Variable: stasiun

Mann-Whitney Test

Ranks

Stasiun		N	Mean Rank	Sum of Ranks
Kelimpahan jumlah sampah makro	Stasiun 1	5	3,00	15,00
	Stasiun 2	5	8,00	40,00
	Total	10		



Test Statistics^a

	Kelimpahan jumlah sampah makro
Mann-Whitney U	,000
Wilcoxon W	15,000
Z	-2,611
Asymp. Sig. (2-tailed)	,009
Exact Sig. [2*(1-tailed Sig.)]	,008 ^b

- a. Grouping Variable: stasiun
 b. Not corrected for ties.

Ranks

stasiun		N	Mean Rank	Sum of Ranks
Kelimpahan jumlah sampah makro	Stasiun 1	5	5,10	25,50
	Stasiun 3	5	5,90	29,50
	Total	10		

Test Statistics^a

	Kelimpahan jumlah sampah makro
Mann-Whitney U	10,500
Wilcoxon W	25,500
Z	-,419
Asymp. Sig. (2-tailed)	,675
Exact Sig. [2*(1-tailed Sig.)]	,690 ^b

- a. Grouping Variable: stasiun
 b. Not corrected for ties.



Ranks

Stasiun		N	Mean Rank	Sum of Ranks
Kelimpahan jumlah sampah makro	Stasiun 2	5	7,00	35,00
	Stasiun 3	5	4,00	20,00
	Total	10		

Test Statistics^a

	Kelimpahan jumlah sampah makro
Mann-Whitney U	5,000
Wilcoxon W	20,000
Z	-1,567
Asymp. Sig. (2-tailed)	,117
Exact Sig. [2*(1-tailed Sig.)]	,151 ^b

a. Grouping Variable: Stasiun

b. Not corrected for ties.

b. Kelimpahan berat sampah makro

Descriptives						
Kelimpahan berat sampah makro						
			Std.		95% Confidence Interval for Mean	
	N	Mean	Deviation	Std. Error	Lower Bound	Upper Bound
Stasiun 1	5	65,6244	36,26109	16,21645	20,6003	110,6485
Stasiun 2	5	260,3149	289,20468	129,33626	-98,7802	619,4099
Stasiun 3	5	112,3193	97,21996	43,47809	-8,3952	233,0338
Total	15	146,0862	185,34451	47,85575	43,4458	248,7266



Descriptives		
Kelimpahan berat sampah makro		
	Minimum	Maximum
Stasiun 1	26,00	112,40
Stasiun 2	65,36	761,94
Stasiun 3	18,46	231,44
Total	18,46	761,94

Test of Homogeneity of Variances				
		Levene Statistic	df1	df2
Kelimpahan berat sampah makro	Based on Mean	3,346	2	12
	Based on Median	,988	2	12
	Based on Median and with adjusted df	,988	2	4,507
	Based on trimmed mean	2,798	2	12

Test of Homogeneity of Variances		
		Sig.
Kelimpahan berat sampah makro	Based on Mean	,070
	Based on Median	,401
	Based on Median and with adjusted df	,441
	Based on trimmed mean	,101



ANOVA					
Kelimpahan berat sampah makro					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	103312,474	2	51656,237	1,642	,234
Within Groups	377623,737	12	31468,645		
Total	480936,211	14			

c. kelimpahan jumlah sampah meso

Kruskal-Wallis Test

Ranks

stasiun		N	Mean Rank
kelimpahan jumlah sampah meso	1	5	4,90
	2	5	11,00
	3	5	8,10
	Total	15	

Test Statistics^{a,b}

	kelimpahan jumlah sampah meso
Kruskal-Wallis H	4,740
df	2
Asymp. Sig.	,093

a. Kruskal Wallis Test

b. Grouping Variable: stasiun



d. Kelimpahan berat sampah meso

Descriptives						
Kelimpahan berat sampah meso						
					95% Confidence Interval for Mean	
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Stasiun 1	5	,0368	,04240	,01896	-,0158	,0895
Stasiun 2	5	,0994	,05967	,02669	,0253	,1735
Stasiun 3	5	,0297	,04305	,01925	-,0237	,0832
Total	15	,0553	,05578	,01440	,0244	,0862

Descriptives		
Kelimpahan berat sampah meso		
	Minimum	Maximum
Stasiun 1	,00	,09
Stasiun 2	,03	,18
Stasiun 3	,00	,10
Total	,00	,18

Test of Homogeneity of Variances				
		Levene Statistic	df1	df2
Kelimpahan berat sampah meso	Based on Mean	,706	2	12
	Based on Median	,264	2	12
	Based on Median and with adjusted df	,264	2	11,932
	Based on trimmed mean	,726	2	12



Test of Homogeneity of Variances		
		Sig.
kelimpahan berat sampah meso	Based on Mean	,513
	Based on Median	,772
	Based on Median and with adjusted df	,773
	Based on trimmed mean	,504

ANOVA					
Kelimpahan berat sampah meso					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,015	2	,007	3,061	,084
Within Groups	,029	12	,002		
Total	,044	14			

Lampiran 2. Contoh jenis sampah laut yang ditemukan

Plastik



Busa Plastik



Kain



Kaca dan keramik



Kertas dan kardus



Logam



Karet



Kayu



Bahan lainnya



Lampiran 3. Dokumentasi kegiatan

