

DAFTAR PUSTAKA

- Amri & Supriadi. 2013. Spermonde Sulawesi Selatan Condition of Seagrass Beds and Their Associated Biota in Spermonde Archipelago of South Sulawesi. 23(3)137–149.
- Bell, S. S., McCoy, E. D., and Mushinsky, H. R. 1991. Habitat Structure the Physical Arrangement of Objects in Space. London: Champan & Hall. Hal 17.
- Bell, J. D., and D. A. Pollard. 1989. Ecology of Fish Assemblages and Fisheries Associated with Seagrass. In: Larkum AWD, McComb AJ & Shepherd SA (Eds), *Biology of Seagrass: A Treatise on the Biology of Seagrass with Special Reference to the Australasian Region*. Elsevier, Amsterdam, 565-609pp.
- Clarke, K. R., Gorley, R. N. 2015. PRIMER v7: User Manual/Tutorial. PRIMER-Eplymouth.
- Coppejans E, Leliaert F, Dargent O, Gunasekara R, D. C. O. 2011. Sri Lankan Seaweeds Methodologies and Field Guide to the Dominant Species. *Botanica Marina*, 54(1).
- Daranas, B. M., Sánchez, P G., Ramos, A., Gomez, E., Alfonso, Y., Suarez, A. M., and Hanisak, M. D. 2018. Macroalgae Photo Identification Guide. Cuba.
- Davis, J. L., Green, J.D., Reed, A. 2009. Interdependence With the Environment: Commitment, Interconnectedness, and Environmental Behavior. *Journal of Environmental Psychology* 29 (2):173–180.
- Downes, B. J., Lake, P. S., Schreiber, E. S. G., Glaister, A. 1998. Habitat Structure and Regulation of Local Species Diversity in a Stony, Upland Stream. *Ecological Monographs* 68:237-257.
- Dronova I. 2017. Environmental Heterogeneity as a Bridge Between Ecosystem Service and Visual Quality Objectives in Management, Planning and Design. *Landscape and Urban Planning*. 163:90–106.
- English, S., Wilkinson, C., and Baker, V. 1998. Survey Manual For Tropical Marine Resources. Second Edition. Australia Institute of Marine Science.
- Erfemeijer, P., and Middelburg, J. 1993. Sediment-Nutrient Interactions In Tropical Seagrass Beds: A Comparison Between A Terrigenous and A Carbonate Sedimentary Environment In South Sulawesi (Indonesia). *Marine Ecology Progress Series*, 95(January), 187–198.
- Erfemeijer, P. L. A., Riegl, B., Hoeksema, B. W., and Todd, P. A. 2012. Environmental Impacts of Dredging and Other Sediment Disturbances

- on Corals: A review. *Marine Pollution Bulletin*, 64(9), 1737–1765.
- Erlania, E., dan Radiarta, I. N. 2015. Distribusi Rumput Laut Alam Berdasarkan Karakteristik Dasar Perairan Di Kawasan Rataan Terumbu Labuhanbua, Nusa Tenggara Barat: Strategi Pengelolaan Untuk Pengembangan Budidaya. *Jurnal Riset Akuakultur*, 10(3), 449.
- Fukunaga, A., Burns, J. H. R., Pascoe, K. H., Kosaki, R. K. 2020. Associations Between Benthic Cover and Habitat Complexity Metrics Obtained From 3D Reconstruction of Coral Reefs at Different Resolutions. *Remote Sensing* 12(6):1-15
- Gaiballa, A. K., Ali, O. M. M. 2023. Composition, Distribution and Biometric Aspects of Sea Grasses Beds Along the Sudanese Red Sea Coast. *International Journal of Fisheries and Aquatic Studies*. 11(5):51–58.
- Gamfeldt, L., Hagan, J. G., Farewell, A., Palm M., Warringer J., Roger F. 2023. Scaling-up the Biodiversity–Ecosystem Functioning Relationship: the Effect of Environmental Heterogeneity on Transgressive Overyielding. *Oikos*. 2023(3):1–12.
- Gallucci F., Christofoletti, R. A., Fonseca, G., Dias, G. M. 2020. The Effects of Habitat Heterogeneity at Distinct Spatial Scales on Hard-Bottom-Associated Communities. *Diversity*. 12(1):1–13.
- Giyanto, Abrar, M., Hadi, T. A., Budiyanto, A., Hafizt, M., Salatalohy, A., & Iswari, M. Y. 2017. Status Terumbu Karang di Indonesia 2017. Pusat Penelitian Oseanografi - Lembaga Ilmu Pengetahuan Indonesia. Jakarta.
- Godbold, J. A., Bulling, M. T., Solan, M. 2011. Habitat Structure Mediates Biodiversity Effects on Ecosystem Properties. *Proceedings of The Royal Society B: Biological Sciences* 278 (1717):2510–2518.
- Hamylton, S., & Spencer, T. 2007. Classification of Seagrass Habitat Structure As A Response to Wave Exposure At Etoile Cay, Seychelles. *EARSel EProceedings* 6, 6(2), 94–100.
- Heck, K. L., Crowder, L. B. 1991. Habitat structure and predator-prey interactions in vegetated aquatic systems. *Habitat Structure*. 8:281–299.
- Herlinawati, N. D. P. D., Arthana, I. W., dan Dewi, A. P. W. K. 2017. Keanelekragaman dan Kerapatan Rumput Laut Alami Perairan Pulau Serangan Denpasar Bali. *Journal of Marine and Aquatic Sciences*, 4(1), 22.
- Hutabarat, S., dan Evan, S. M., 1985. Pengantar Oseanografi. Universitas Indonesia Press. Jakarta
- Irawan, A. 2019. The Study Of Seagrass Vegetation Complexity and Its

- Relevancy to the Distributions and Abundance of Biota in Inner Ambon Bay. Program Studi Magister Biologi. Institut Teknologi Bandung. Jawa Barat.
- Jackson-Bu T., Williams, G. J., Walker-Springett G., Rowlands, S. J, Davies, A. J. 2021. Three-Dimensional Mapping Reveals Scale-Dependent Dynamics in Biogenic Reef Habitat Structure. *Remote Sensing in Ecology and Conservation* 7 (4):621–637.
- Karlina, I., Kurniawan, F., Idris, F. 2018. Pressures and status of seagrass ecosystem in the coastal areas of North Bintan, Indonesia. *E3S Web of Conferences* 47:1–6.
- Keputusan Menteri Negara Lingkungan Hidup No. 200 Tahun 2004. Kriteria Baku dan Pedoman Penentuan Status Padang Lamun. Menteri Negara Lingkungan Hidup Republik Indonesia.
- Kiswara, W. 2004. Kondisi Padang Lamun (Seagrass) di Teluk Banten. LIPI.
- Kordi, M. G. H., 2011. Ekosistem Lamun (Seagrass) Fungsi, Potensi dan Pengelolaan. Cetakan 1. PT Rineka Cipta. Jakarta
- Kordi, M. G. H., 2018 Mengenal dan Mengelola Padang Lamun. Indeks. Jakarta Barat
- LIPI. 2008. Jenis-jenis karang di Indonesia. Coremap Program. LIPI Press. Jakarta
- Lohr, K. E., Smith, D. J., Suggett, D. J., Nitschke, M. R., Dumbrell, A. J., Woodcock, S., and Camp, E. F. 2017. Coral Community Structure and Recruitment in Seagrass Meadows. *Frontiers in Marine Science*, 4 (NOV), 1–13.
- McKenzie, L. J. 2003. Guidelines for the Rapid Assessment and Mapping of Tropical Seagrass Habitats. Seagrass-Watch HQ, July, 46.
- Mckenzie, L. J., Yaakub, S. M., and Yoshida, R. 2007. Seagrass-Watch: Guidelines for Team Seagrass Singapore Participants. Proceedings of a Training Workshop. National Parkas Board Biodiversity Centre Singapore. 24th - 25th March 2007. 32pp
- Mckenzie, L. 2008. Seagrass-Watch: Proceedings of a Workshop for Mapping and Monitoring Seagrass Habitats in North East Amhem Land, Northem Territory. 18 – 20 Oktober 2008. 49pp.
- Meenapha A., Tong-U-Dom, S., Wongfoo, N., Manthachitra, V. 2021. The Relationship Between Coral Reef Fish and Habitat Structure on Coral Reefs at Kut Islands, Trat Province. NU. *International Journal of Science* 8 (2):50-56.
- Melsasail, K., Awan, A., and Papilaya, P. M. 2018. Analysis of Environmental

- Physical-Chemical Factors and Macroalga Species In the Coastal Water of Nusalaut, Central Maluku – Indonesia. Sriwijaya Journal of Environment, 3(1), 31–36.
- Nadiarti, N., Riani, E., Juwita, I., Budiharsono, S., and Purbayanto, A. 2012. Seagrass Beds Distribution and Their Structure in the Surrounding Coastal Waters of Kapoposang Island, South Sulawesi. Journal of Natural Resources and Environmental Management, 2(1), 11–16.
- Nogueira, M. M., Neves, E., Johnsson, R. 2021. Effects of Habitat Structure on the Mollusc Assemblage In *Mussismilia* Corals: Evaluation of the Influence of Different Coral Growth Morphology. Journal of the Marine Biological Association of the United Kingdom 101 (1):61–69.
- Nugroho, S. H., and Basit, A. 2014. Sediment Distribution Based on Grain Size Analyses in Weda Bay, Northern Maluku. Jurnal Ilmu Dan Teknologi Kelautan Tropis, 6(1), 229–240.
- Nurcahyo, H., Nugroho, D. A. S., Al Rizky, M., Hutanto, Y., Roni, S., Utama, A. P., Budi W, P., dan Supriyadi. 2016. Ekosistem padang padang lamun di Taman Wisata Perairan Kepulauan Anambas. Loka Kawasan Konservasi Perairan Nasional Pekanbaru. Pekanbaru. 63
- Nurdin, N., La Nafie Y., Umar, M. T., Jamal, M., Moore, A. 2019. Preliminary Study: Human Trampling Effects on Seagrass Density. IOP Conference Series: Earth and Environmental Science 370 (1):1-7.
- Oakley-Cogan A., Tebbett, S. B., Bellwood, D. R. 2020. Habitat Zonation on Coral Reefs: Structural Complexity, Nutritional Resources and Herbivorous Fish Distributions. 1-23.
- Phillips & E. G., Menez. 1988. Seagrasses. Smithsonian Contribution to the Marine Sciences No. 34. Smitsonian Institution Press, Washington DC
- Riniatsih, I. 2016. Struktur Komunitas Larva Ikan Pada Ekosistem Padang Lamun di Perairan Jepara. Jurnal Kelautan Tropis, 19(1), 21-28.
- Sara La. 2014. Pengelolaan Wilayah Pesisir. Gagasan Memelihara Aset Wilayah Pesisir dan Solusi Pembangunan Bangsa. Alfabeta CV. Bandung.
- Sermatang, J. H., Tupan, C. I., dan Siahainenia, L. 2021. Morfometrik Lamun *Thalassia Hemprichii* Berdasarkan Tipe Substrat di Perairan Pantai Tanjung Tiram, Poka, Teluk Ambon Dalam. Triton: Jurnal Manajemen Sumberdaya Perairan, 17(2), 77–89.
- Setianto, T., Rosmaladewi, R., & Suharyanto, S. 2019. Studi Hasil Tangkapan Set Net , Sero dan Bagan Tancap di Perairan Kabupaten Bone. Agrominansia, 4(1), 39–48.
- Short, F. T., Short, C. A., and Novak, A. B. 2016. Seagrass. The Wetland

- Book. Distribution, Description and Conservation. Springer Science.
- Sjaafrie, N. D. M., Hernawan, U. E., Prayudha, B., Rahmat, R., Supriyadi, I. H., Iswari, M. Y., Suyarso, S., Anggraini, K., & Rahmawati, S. 2018. Status padang lamun Indonesia 2018. Pusat Penelitian Oseanografi-LIPI (Vol. 53, Issue 9).
- Stapel, J., Aarts, T. L., Van Duynhoven, B. H. M., De Groot, J. D., Van Den Hoogen, P. H. W., & Hemminga, M. A. 1996. Nutrient Uptake by Leaves And Roots of the Seagrass *Thalassia hemprichii* in the Spermonde Archipelago, Indonesia. *Marine Ecology Progress Series*, 134(1–3), 195–206.
- Stevens, A. W., and Lacy, J. R. 2012. The Influence of Wave Energy and Sediment Transport on Seagrass Distribution. *Estuaries and Coasts*, 35(1), 92–108.
- Supriyadi, I. H., Rositasari, R., Iswari, M. Y. 2018. Dampak Perubahan Penggunaan Lahan Terhadap Kondisi Padang Lamun di Perairan Timur Pulau Bintan Kepulauan Riau. *Jurnal Segara*. 14(1):1-10
- Tang, K. H. D., Hadibarata, T. 2021. Microplastics Removal Through Water Treatment Plants: Its Feasibility, Efficiency, Future Prospects and Enhancement by Proper Waste Management. *Environmental Challenges*. 5:1-12.
- Tanto, T. A., Husrin S., Wisha, U. J., Putra, A., Putri, R. K., Ilham. 2016. Characteristic of Physical Oseanography (Bathymetry, Tide, Wave Significant Height and Sea Current) In Bungus Bay. *Journal Kelautan*. Vol 9(2):107-121.
- Unsworth, R. K. F., Cullen, L. C., Pretty, J. N., Smith, D. J., Bell, J. J., 2010. Economic and subsistence values of the standing stocks of seagrass fisheries: Potential benefits of no-fishing marine protected area management. *Ocean and Coastal Management* 53(5–6):218–224.
- Valdez, S. R., Zhang, Y. S., van der Heide T., Vanderklift, M. A., Tarquinio, F., Orth, R.J., Silliman, B. R., 2020. Positive Ecological Interactions and the Success of Seagrass Restoration. *Frontiers in Marine Science*. 7:1–11.
- Van Katwijk, M. M., Thorhaug, A., Marbà, N., Orth, R. J., Duarte, C. M., Kendrick, G. A., Althuizen, I. H. J., Balestri, E., Bernard, G., Cambridge, M. L., Cunha, A., Durante, C., Giesen, W., Han, Q., Hosokawa, S., Kiswara, W., Komatsu, T., Lardicci, C., Lee, K. S., Verduin, J. J. 2016. Global analysis of seagrass restoration: The importance of large-scale planting. *Journal of Applied Ecology*, 53(2), 567–578.
- Vindia, W. I., Julyantoro, P. G. S., dan Wulandari, E. 2018. Asosiasi Echinodermata pada Ekosistem Padang Lamun di Pantai Samuh,

- Nusa Dua, Bali. Journal of Marine and Aquatic Sciences, 5(1), 100.
- Vozzo, M. L., Cumbo, V. R., Crosswell, J. R., Bishop, M. J. 2020. Wave Energy Alters Biodiversity by Shaping Intraspecific Traits of a Habitat-Forming Species. *Oikos*. 130(1):52–65.
- Wagey, B. 2018. Hilamun (Seagrass). Unsrat Press. Manado. Indonesia. February 2013.
- Wangkanusa, M. S., Kondoy, K. I. F., Rondonuwu. A. 2017. Identifikasi Kerapatan dan Karakter Morfometrik Lamun *Enhalus acoroides* pada Substrat yang Berbeda di Pantai Tongkeina Kota Manado. *Jurnal Ilmiah Platax*. 5(2):210-220.
- Waycott, M., Duarte, C. M., Carruthers, T. J. B., Orth, R. J., Dennison, W. C., Olyarnik, S., Calladine, A., Fourqurean, J. W., Heck, K. L., Hughes, A. R., Kendrick, G. A., Kenworthy, W. J., Short, F. T., & Williams, S. L. 2009. *Accelerating Loss of Seagrasses Across the Globe Threatens Coastal Ecosystems. Proceedings of the National Academy of Sciences of the United States of America*, 106(30), 12377–12381.
- Wawu, A., Dahoklory, N dan Tuboku R. 2018. Pengaruh Substrat yang Berbeda Terhadap Pertumbuhan Rumput Laut *Sargassum sp* Hasil Produksi Spora. *Jurnal Akuatik*. Vol 1 No 1. ISSN: 2301-5381.
- Wernberg, T., Connell, S. D. 2008. Physical Disturbance and Subtidal Habitat Structure on Open Rocky Coasts: Effects of Wave Exposure, Extent and Intensity. *Journal of Sea Research*. 59(4):237–248.
- Willis, S. C., Winemiller, K. O., Lopez-Fernandez, H. 2005. Habitat Structural complexity and Morphological Diversity of Fish Assemblages in a Neotropical Floodplain River. *Oecologia*. 142(2):284–295.
- World Atlas. 2021. Philip's RGS World Atlas. 23rd ed. London. p 1-64.
- Zurba, N. 2018. Pengenalan Padang Lamun Suatu Ekosistem yang Terlupakan. Unimal Press, August, 1–114.

Lampiran 1. Persentase tutupan spesies yang membentuk habitat lamun di dua lokasi penelitian

Spesies	Rata-rata % penutupan per transek									
	Puntundo					Batu Kalasi				
	1	2	3	4	5	1	2	3	4	5
Seagrass:										
<i>Enhalus acoroides</i>	0	37	27	5	1	4	3	2	2	2
<i>Thalassia hemprichii</i>	25	24	70	43	1	18	36	37	14	23
<i>Halophila sp</i>	5	3	2	3	0	5	0	0	0	3
<i>Cymodocea rotundata</i>	1	0	1	21	56	12	20	19	8	5
<i>Halodule uninervis</i>	0	0	0	6	12	2	1	0	0	0
Macroalgae:										
<i>Gracilaria salicornia</i>	-	-	-	-	-	10	18	6	8	6
<i>Boergesenia forbesii</i>	-	-	-	-	-	5	1	3	0	0
<i>Padina sp</i>	-	1	-	-	-	0	3	0	5	4
<i>Hypnea spinella</i>	-	-	-	-	-	0	0	4	10	8
<i>Acanthophora muscoidea</i>	-	-	-	-	-	0	0	5	8	0
<i>Halimeda opuntia</i>	-	-	-	-	-	0	0	0	0	5
<i>Sargassum sp</i>	-	-	-	-	-	0	0	0	0	5
<i>Caulerpa serrulata</i>	-	-	-	-	-	0	0	0	0	5
Coral:										
<i>Favia veroni</i>	-	-	-	-	-	4	10	0	6	7

Lampiran 2. Dokumentasi pengambilan data lapangan di perairan Dusun Puntondo



Lampiran 3. Dokumentasi pengambilan data lapangan di Pulau Batu Kalasi

