

## DAFTAR PUSTAKA

- Abidli, S., Akkari, N., Lahbib, Y., & Trigui El Menif, N. (2021). First evaluation of microplastics in two commercial fish species from the lagoons of Bizerte and Ghar El Melh (Northern Tunisia). *Regional Studies in Marine Science*, 41, 101581. <https://doi.org/10.1016/j.rsma.2020.101581>
- Al Tanto dan Gunardi Kusumah Loka Penelitian Sumber Daya dan Kerentanan Pesisir, T., & Kp-kkp, B. (2016). *Kualitas Perairan Teluk Bungus Berdasarkan Baku Mutu Air Laut pada Musim Berbeda Waters Quality in Bungus Bay Based on Sea Water Quality Standards in Different Season* (Vol. 8, Issue 2).
- Alam, F. C., & Rachmawati, M. (2020). Development of Microplastic Research in Indonesia. *Jurnal Presipitasi : Media Komunikasi Dan Pengembangan Teknik Lingkungan*, 17(3), 344–352. <https://doi.org/10.14710/presipitasi.v17i3.344-352>
- Alberghini, L., Truant, A., Santonicola, S., Colavita, G., & Giaccone, V. (2023). Microplastics in Fish and Fishery Products and Risks for Human Health: A Review. In *International Journal of Environmental Research and Public Health* (Vol. 20, Issue 1). MDPI. <https://doi.org/10.3390/ijerph20010789>
- Anderson, J. C., Park, B. J., & Palace, V. P. (2016). Microplastics in aquatic environments: Implications for Canadian ecosystems. *Environmental Pollution*, 218, 269–280. <https://doi.org/10.1016/j.envpol.2016.06.074>
- Ari Wijaya, B., & Trihadiningrum, Y. (2020). Pencemaran Meso- dan Mikroplastik di Kali Surabaya pada Segmen Driyorejo hingga Karang Pilang. *Jurnal Teknik ITS*, 8(2). <https://doi.org/10.12962/j23373539.v8i2.46000>
- Avio, C. G., Gorbi, S., & Regoli, F. (2017). Plastics and microplastics in the oceans: From emerging pollutants to emerged threat. *Marine Environmental Research*, 128, 2–11. <https://doi.org/10.1016/j.marenvres.2016.05.012>
- Ayuningtyas, W. C. (2019). Kelimpahan Mikroplastik pada Perairan di Banyuurip, Gresik, Jawa Timur. *JFMR-Journal of Fisheries and Marine Research*, 3(1), 41–45. <https://doi.org/10.21776/ub.jfmr.2019.003.01.5>
- Baalkhuyur, F. M., Bin Dohaish, E.-J. A., Elhalwagy, M. E. A., Alikunhi, N. M.,

- AlSuwailem, A. M., Røstad, A., Coker, D. J., Berumen, M. L., & Duarte, C. M. (2018). Microplastic in the gastrointestinal tract of fishes along the Saudi Arabian Red Sea coast. *Marine Pollution Bulletin*, 131, 407–415. <https://doi.org/10.1016/j.marpolbul.2018.04.040>
- Barnes, D. K. A., Galgani, F., Thompson, R. C., & Barlaz, M. (2009). Accumulation and fragmentation of plastic debris in global environments. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364(1526), 1985–1998. <https://doi.org/10.1098/rstb.2008.0205>
- Bellasi, A., Binda, G., Pozzi, A., Galafassi, S., Volta, P., & Bettinetti, R. (2020). Microplastic Contamination in Freshwater Environments: A Review, Focusing on Interactions with Sediments and Benthic Organisms. *Environments*, 7(4), 30. <https://doi.org/10.3390/environments7040030>
- Berov, D., & Klayn, S. (2020). Microplastics and floating litter pollution in Bulgarian Black Sea coastal waters. *Marine Pollution Bulletin*, 156, 111225. <https://doi.org/10.1016/j.marpolbul.2020.111225>
- Bhuyan, M. S. (2022). Effects of Microplastics on Fish and in Human Health. In *Frontiers in Environmental Science* (Vol. 10). Frontiers Media S.A. <https://doi.org/10.3389/fenvs.2022.827289>
- Browne, M. A., Crump, P., Niven, S. J., Teuten, E., Tonkin, A., Galloway, T., & Thompson, R. (2011). Accumulation of Microplastic on Shorelines Worldwide: Sources and Sinks. *Environmental Science & Technology*, 45(21), 9175–9179. <https://doi.org/10.1021/es201811s>
- Budi Utomo, A. (2020). *Sampah Mikroplastik pada Saluran Pencernaan Ikan Kerapu Genus Epinephelus di Pulau Pramuka Kepulauan Seribu*.
- Carbery, M., O'Connor, W., & Palanisami, T. (2018). Trophic transfer of microplastics and mixed contaminants in the marine food web and implications for human health. *Environment International*, 115, 400–409. <https://doi.org/10.1016/j.envint.2018.03.007>
- Castillo, A. B., Al-Maslamani, I., & Obbard, J. P. (2016). Prevalence of microplastics in the marine waters of Qatar. *Marine Pollution Bulletin*, 111(1–2), 260–267. <https://doi.org/10.1016/j.marpolbul.2016.06.108>
- Chen, G., Li, Y., & Wang, J. (2023). *Human health effects of airborne microplastics*

- (pp. 185–223). <https://doi.org/10.1016/bs.coac.2022.07.008>
- Claessens, M., Van Cauwenberghe, L., Vandegehuchte, M. B., & Janssen, C. R. (2013). New techniques for the detection of microplastics in sediments and field collected organisms. *Marine Pollution Bulletin*, 70(1–2), 227–233. <https://doi.org/10.1016/j.marpolbul.2013.03.009>
- Cole, M., Lindeque, P., Halsband, C., & Galloway, T. S. (2011a). Microplastics as contaminants in the marine environment: A review. *Marine Pollution Bulletin*, 62(12), 2588–2597. <https://doi.org/10.1016/j.marpolbul.2011.09.025>
- Cole, M., Lindeque, P., Halsband, C., & Galloway, T. S. (2011b). Microplastics as contaminants in the marine environment: A review. *Marine Pollution Bulletin*, 62(12), 2588–2597. <https://doi.org/10.1016/j.marpolbul.2011.09.025>
- Cordova, M. R., Purwiyanto, A. I. S., & Suteja, Y. (2019). Abundance and characteristics of microplastics in the northern coastal waters of Surabaya, Indonesia. *Marine Pollution Bulletin*, 142, 183–188. <https://doi.org/10.1016/j.marpolbul.2019.03.040>
- D'amelia, R. P., Gentile, S., Nirode, W. F., & Huang, L. (2016). Quantitative Analysis of Copolymers and Blends of Polyvinyl Acetate (PVAc) Using Fourier Transform Infrared Spectroscopy (FTIR) and Elemental Analysis (EA). *World Journal of Chemical Education*, 4(2), 25–31. <https://doi.org/10.12691/wjce-4-2-1>
- Dewi Purnama, Yar johan, & Mukti Dono Wilopo. (2021). Analisis Mikroplastik pada Saluran Pencernaan Ikan Tongkol (*Euthynnus Affinis*) Hasil Tangkapan Nelayan di Pelabuhan Perikanan Pulau Baai Kota Bengkulu. *Jurnal Enggano*, Vol.6(No.1).
- Dewi, Y., & Raharjo, T. (2019). Aspek Hukum Bahaya Plastik Terhadap Kesehatan dan Lingkungan Serta Solusinya. *Kosmik Hukum*, 19(1). <https://doi.org/10.30595/kosmikhukum.v19i1.4082>
- Dinul Islami M, I. S. Y. (2020). Distribution of Microplastic at Sediments in the Coast of Bungus Bay Padang West Sumatera Province. In *Journal of Coastal and Ocean Sciences e-issn* (Vol. 1, Issue 1).
- Edwin, T., Primasari, B., & Annisa Purnama, R. (2023). Characterization of microplastic in trawl fish caught in Padang City (Indonesia) coastal area.

- Biodiversitas*, 24(1), 516–522. <https://doi.org/10.13057/biodiv/d240160>
- Erni-Cassola, G., Zadjelovic, V., Gibson, M. I., & Christie-Oleza, J. A. (2019). Distribution of plastic polymer types in the marine environment; A meta-analysis. *Journal of Hazardous Materials*, 369, 691–698. <https://doi.org/10.1016/j.jhazmat.2019.02.067>
- Fachrudin, A. (2022). *Distribusi dan Komposisi Jenis Ikan Demersal Yang Tertangkap Trawl pada Musim Barat Diperairan Utara Jawa Tengah (Fish Distribution and Composition Demersal Fish Caught By Trawl In West Season In North Waters of Central Java)*.
- Farah Andhita. (2024). *Studi Timbulan, komposisi, Karakteristik dan Potensi Daur Ulang Sampah Komersial Kota Padang Tahun 2023*. Universitas Andalas.
- Feng, Z., Zhang, T., Li, Y., He, X., Wang, R., Xu, J., & Gao, G. (2019). The accumulation of microplastics in fish from an important fish farm and mariculture area, Haizhou Bay, China. *Science of The Total Environment*, 696, 133948. <https://doi.org/10.1016/j.scitotenv.2019.133948>
- Fitri, S., & Patria, M. P. (2019). Microplastic contamination on Anadara granosa Linnaeus 1758 in Pangkal Babu mangrove forest area, Tanjung Jabung Barat district, Jambi. *Journal of Physics: Conference Series*, 1282(1), 012109. <https://doi.org/10.1088/1742-6596/1282/1/012109>
- Galgani, F., Hanke, G., Werner, S., & De Vrees, L. (2013). Marine litter within the European Marine Strategy Framework Directive. *ICES Journal of Marine Science*, 70(6), 1055–1064. <https://doi.org/10.1093/icesjms/fst122>
- Galloway, T. S., Cole, M., & Lewis, C. (2017a). Interactions of microplastic debris throughout the marine ecosystem. *Nature Ecology & Evolution*, 1(5), 0116. <https://doi.org/10.1038/s41559-017-0116>
- Galloway, T. S., Cole, M., & Lewis, C. (2017b). Interactions of microplastic debris throughout the marine ecosystem. *Nature Ecology & Evolution*, 1(5), 0116. <https://doi.org/10.1038/s41559-017-0116>
- Garrido Gamarro, E., Ryder, J., Ellevoll, E. O., & Olsen, R. L. (2020). Microplastics in Fish and Shellfish – A Threat to Seafood Safety? *Journal of Aquatic Food Product Technology*, 29(4), 417–425. <https://doi.org/10.1080/10498850.2020.1739793>

- Gasperi, J. , D. R. , B. T. , R. V. , & T. B. (2014). Assessment Of Floating Plastic Debris In Surface Water Along The Seine River. *Environmental Pollution*. 195.
- Geneva: World Health Organizatio. (2019). *Microplastics in drinking-water.: Vol. Licence* (CC BY-NC-SA 3.0 IGO.).
- GESAMP. (2015). *Sources, Fate And Effects of Microplastics in The Marine Environment: Part 2 Of A Global Assessment*.
- GESAMP. (2019). *Sources, Fate and Effects Of Microplastics in The Marine Environment: Part 2 of a Global Assessment Science for Sustainable Oceans*. www.imo.org
- González-Pleiter, M., Edo, C., Velázquez, D., Casero-Chamorro, M. C., Leganés, F., Quesada, A., Fernández-Piñas, F., & Rosal, R. (2020). First detection of microplastics in the freshwater of an Antarctic Specially Protected Area. *Marine Pollution Bulletin*, 161, 111811. <https://doi.org/10.1016/j.marpolbul.2020.111811>
- Gresi, G., Panjaitan, M., Yudha Perwira, I., Putu, N., & Wijayanti, P. (2021). Diterima (received) 11 Juli 2021; disetujui (accepted). In *Curr.Trends Aq. Sci. IV* (Issue 2).
- Grigorakis, S., Mason, S. A., & Drouillard, K. G. (2017). Determination of the gut retention of plastic microbeads and microfibers in goldfish (*Carassius auratus*). *Chemosphere*, 169, 233–238. <https://doi.org/10.1016/j.chemosphere.2016.11.055>
- Hermawan, R., S Adel, Y., Renol, R., Syahril, M., & Mubin, M. (2022a). Kajian Mikroplastik pada Ikan Konsumsi Masyarakat di Teluk Palu, Sulawesi Tengah. *Journal of Marine Research*, 11(2), 267–276. <https://doi.org/10.14710/jmr.v11i2.32321>
- Hermawan, R., S Adel, Y., Renol, R., Syahril, M., & Mubin, M. (2022b). Kajian Mikroplastik pada Ikan Konsumsi Masyarakat di Teluk Palu, Sulawesi Tengah. *Journal of Marine Research*, 11(2), 267–276. <https://doi.org/10.14710/jmr.v11i2.32321>
- Hidalgo-Ruz, V., Gutow, L., Thompson, R. C., & Thiel, M. (2012). Microplastics in the Marine Environment: A Review of the Methods Used for Identification

- and Quantification. *Environmental Science & Technology*, 46(6), 3060–3075. <https://doi.org/10.1021/es2031505>
- Hiwari, H., Purba, N. P., Ihsan, Y. N., S Yuliadi, L. P., Mulyani, P. G., Studi Ilmu Kelautan, P., Perikanan dan Ilmu Kelautan, F., & Padjadjaran Jl Raya Sumedang-Bandung, U. K. (2019). Kondisi sampah mikroplastik di permukaan air laut sekitar Kupang dan Rote, Provinsi Nusa Tenggara Timur Condition of microplastic garbage in sea surface water at around Kupang and Rote, East Nusa Tenggara Province. *Jatinangor, Sumedang*, 5(2), 22. <https://doi.org/10.13057/psnmbi/m050204>
- Horton, A. A., Walton, A., Spurgeon, D. J., Lahive, E., & Svendsen, C. (2017). Microplastics in freshwater and terrestrial environments: Evaluating the current understanding to identify the knowledge gaps and future research priorities. *Science of The Total Environment*, 586, 127–141. <https://doi.org/10.1016/j.scitotenv.2017.01.190>
- Hosseinpour, A., Chamani, A., Mirzaei, R., & Mohebbi-Nozar, S. L. (2021). Occurrence, abundance and characteristics of microplastics in some commercial fish of northern coasts of the Persian Gulf. *Marine Pollution Bulletin*, 171, 112693. <https://doi.org/10.1016/j.marpolbul.2021.112693>
- Huang, W., Song, B., Liang, J., Niu, Q., Zeng, G., Shen, M., Deng, J., Luo, Y., Wen, X., & Zhang, Y. (2021). Microplastics and associated contaminants in the aquatic environment: A review on their ecotoxicological effects, trophic transfer, and potential impacts to human health. *Journal of Hazardous Materials*, 405. <https://doi.org/10.1016/j.jhazmat.2020.124187>
- Husamah, S., Pd, M., Pd, A., & Rahardjanto, M. S. (2019). *BIOINDIKATOR (Teori dan Aplikasi dalam Biomonitoring)*. <http://ummpress.umm.ac.id>
- Ivleva, N. P. (2021). Chemical Analysis of Microplastics and Nanoplastics: Challenges, Advanced Methods, and Perspectives. In *Chemical Reviews* (Vol. 121, Issue 19, pp. 11886–11936). American Chemical Society. <https://doi.org/10.1021/acs.chemrev.1c00178>
- Jambeck, J. R., Geyer, R., Wilcox, C., Siegler, T. R., Perryman, M., Andrade, A., Narayan, R., & Law, K. L. (2015). Plastic waste inputs from land into the ocean. *Science*, 347(6223), 768–771. <https://doi.org/10.1126/science.1260352>

- Jiang, C., Yin, L., Wen, X., Du, C., Wu, L., Long, Y., Liu, Y., Ma, Y., Yin, Q., Zhou, Z., & Pan, H. (2018). Microplastics in Sediment and Surface Water of West Dongting Lake and South Dongting Lake: Abundance, Source and Composition. *International Journal of Environmental Research and Public Health*, 15(10), 2164. <https://doi.org/10.3390/ijerph15102164>
- Jones, J. I., Vdovchenko, A., Cooling, D., Murphy, J. F., Arnold, A., Pretty, J. L., Spencer, K. L., Markus, A. A., Vethaak, A. D., & Resmini, M. (2020). Systematic Analysis of the Relative Abundance of Polymers Occurring as Microplastics in Freshwaters and Estuaries. *International Journal of Environmental Research and Public Health*, 17(24), 9304. <https://doi.org/10.3390/ijerph17249304>
- Jung, M., Kim, J., Kim, H., Hong, T., & Jang, H. (2023). Market growth strategies for sustainable smart farm: A correlation and causal relationship approach. *Developments in the Built Environment*, 16, 100260. <https://doi.org/10.1016/j.dibe.2023.100260>
- Jung, M. R., Horgen, F. D., Orski, S. V., Rodriguez C., V., Beers, K. L., Balazs, G. H., Jones, T. T., Work, T. M., Brignac, K. C., Royer, S.-J., Hyrenbach, K. D., Jensen, B. A., & Lynch, J. M. (2018). Validation of ATR FT-IR to identify polymers of plastic marine debris, including those ingested by marine organisms. *Marine Pollution Bulletin*, 127, 704–716. <https://doi.org/10.1016/j.marpolbul.2017.12.061>
- Karbalaei, S., Golieskardi, A., Hamzah, H. B., Abdulwahid, S., Hanachi, P., Walker, T. R., & Karami, A. (2019). Abundance and characteristics of microplastics in commercial marine fish from Malaysia. *Marine Pollution Bulletin*, 148, 5–15. <https://doi.org/10.1016/j.marpolbul.2019.07.072>
- Kovač Viršek, M., Palatinus, A., Koren, Š., Peterlin, M., Horvat, P., & Kržan, A. (2016). Protocol for Microplastics Sampling on the Sea Surface and Sample Analysis. *Journal of Visualized Experiments*, 118. <https://doi.org/10.3791/55161>
- Kurniawan, R. R., Suprijanto, J., & Ridlo, A. (2021). Mikroplastik Pada Sedimen di Zona Pemukiman, Zona Perlindungan Bahari dan Zona Pemanfaatan Darat Kepulauan Karimunjawa, Jepara. *Buletin Oseanografi Marina*, 10(2), 189–

199. <https://doi.org/10.14710/buloma.v10i2.31733>
- Kye, H., Kim, J., Ju, S., Lee, J., Lim, C., & Yoon, Y. (2023). Microplastics in water systems: A review of their impacts on the environment and their potential hazards. In *Heliyon* (Vol. 9, Issue 3). Elsevier Ltd. <https://doi.org/10.1016/j.heliyon.2023.e14359>
- Labibah, W., & Triajie, H. (2020). Keberadaan Mikroplastik pada Ikan Swanggi (*Priacanthus Tayenus*), Sedimen Dan Air Laut di Perairan Pesisir Brondong, Kabupaten Lamongan. *Juvenil: Jurnal Ilmiah Kelautan Dan Perikanan*, 1(3), 351–358. <https://doi.org/10.21107/juvenil.v1i3.8563>
- Layn, A. A., Emiyarti, ., & Ira, . (2020). Distribusi Mikroplastik pada Sedimen di Perairan Teluk Kendari. *Jurnal Sapa Laut (Jurnal Ilmu Kelautan)*, 5(2), 115. <https://doi.org/10.33772/jsl.v5i2.12165>
- Lewaru, M. W., Prihadi, D. J., Ismail, M. R., Lewaru, M. W., & Prihadi, D. J. (n.d.). *Microplastics Ingestion by Fish in The Pangandaran Bay, Indonesia*. [www.worldnewsnaturalsciences.com](http://www.worldnewsnaturalsciences.com)
- Li, J., Qu, X., Su, L., Zhang, W., Yang, D., Kolandhasamy, P., Li, D., & Shi, H. (2016). Microplastics in mussels along the coastal waters of China. *Environmental Pollution*, 214, 177–184. <https://doi.org/10.1016/j.envpol.2016.04.012>
- Lima, A. R. A., Costa, M. F., & Barletta, M. (2014). Distribution patterns of microplastics within the plankton of a tropical estuary. *Environmental Research*, 132, 146–155. <https://doi.org/10.1016/j.envres.2014.03.031>
- Lopes, C., Raimundo, J., Caetano, M., & Garrido, S. (2020). Microplastic ingestion and diet composition of planktivorous fish. *Limnology and Oceanography Letters*, 5(1), 103–112. <https://doi.org/10.1002/ol.2.10144>
- Lu, Y., Zhang, Y., Deng, Y., Jiang, W., Zhao, Y., Geng, J., Ding, L., & Ren, H. (2016). Uptake and Accumulation of Polystyrene Microplastics in Zebrafish (*Danio rerio*) and Toxic Effects in Liver. *Environmental Science & Technology*, 50(7), 4054–4060. <https://doi.org/10.1021/acs.est.6b00183>
- Lusher, A., Hollman, P. C. H., Mendoza-Hill, J., & Food and Agriculture Organization of the United Nations. (n.d.). *Microplastics in fisheries and aquaculture : status of knowledge on their occurrence and implications for*

- aquatic organisms and food safety.*
- Lusher, A. L., McHugh, M., & Thompson, R. C. (2013a). Occurrence of microplastics in the gastrointestinal tract of pelagic and demersal fish from the English Channel. *Marine Pollution Bulletin*, 67(1–2), 94–99. <https://doi.org/10.1016/j.marpolbul.2012.11.028>
- Lusher, A. L., McHugh, M., & Thompson, R. C. (2013b). Occurrence of microplastics in the gastrointestinal tract of pelagic and demersal fish from the English Channel. *Marine Pollution Bulletin*, 67(1–2), 94–99. <https://doi.org/10.1016/j.marpolbul.2012.11.028>
- Mahmud, A., Wasif, M. M., Roy, H., Mehnaz, F., Ahmed, T., Pervez, M. N., Naddeo, V., & Islam, M. S. (2022a). Aquatic Microplastic Pollution Control Strategies: Sustainable Degradation Techniques, Resource Recovery, and Recommendations for Bangladesh. In *Water (Switzerland)* (Vol. 14, Issue 23). MDPI. <https://doi.org/10.3390/w14233968>
- Mahmud, A., Wasif, M. M., Roy, H., Mehnaz, F., Ahmed, T., Pervez, Md. N., Naddeo, V., & Islam, Md. S. (2022b). Aquatic Microplastic Pollution Control Strategies: Sustainable Degradation Techniques, Resource Recovery, and Recommendations for Bangladesh. *Water*, 14(23), 3968. <https://doi.org/10.3390/w14233968>
- Maina, J. N. (2002). Structure, function and evolution of the gas exchangers: comparative perspectives. *Journal of Anatomy*, 201(4), 281–304. <https://doi.org/10.1046/j.1469-7580.2002.00099.x>
- Manalu, A. A. H. S. W. Y. (2017). *Kelimpahan Mikroplastik di Teluk Jakarta*. Marine Debris Program, N. (2015). *Laboratory Methods for the Analysis of Microplastics in the Marine Environment: Recommendations for quantifying synthetic particles in waters and sediments*.
- Markic, A., Bridson, J. H., Morton, P., Hersey, L., Maes, T., & Bowen, M. (2022a). Microplastic pollution in the surface waters of Vava'u, Tonga. *Marine Pollution Bulletin*, 185. <https://doi.org/10.1016/j.marpolbul.2022.114243>
- Markic, A., Bridson, J. H., Morton, P., Hersey, L., Maes, T., & Bowen, M. (2022b). Microplastic pollution in the surface waters of Vava'u, Tonga. *Marine Pollution Bulletin*, 185. <https://doi.org/10.1016/j.marpolbul.2022.114243>

- Maskun, M., Assidiq, H., Bachril, S. N., & Al Mukarramah, N. H. (2022). Tinjauan Normatif Penerapan Prinsip Tanggung Jawab Produsen Dalam Pengaturan Tata Kelola Sampah Plastik Di Indonesia. *Bina Hukum Lingkungan*, 6(2), 184–200. <https://doi.org/10.24970/bhl.v6i2.239>
- McCormick, A., Hoellein, T. J., Mason, S. A., Schluempf, J., & Kelly, J. J. (2014). Microplastic is an Abundant and Distinct Microbial Habitat in an Urban River. *Environmental Science & Technology*, 48(20), 11863–11871. <https://doi.org/10.1021/es503610r>
- Meng, Q. J., Ji, Q., Zhang, Y. G., Liu, D., Grossnickle, D. M., & Luo, Z. X. (2015a). An arboreal docodont from the jurassic and mammaliaform ecological diversification. *Science*, 347(6223), 764–768. <https://doi.org/10.1126/science.1260879>
- Meng, Q. J., Ji, Q., Zhang, Y. G., Liu, D., Grossnickle, D. M., & Luo, Z. X. (2015b). An arboreal docodont from the jurassic and mammaliaform ecological diversification. *Science*, 347(6223), 764–768. <https://doi.org/10.1126/science.1260879>
- Microplastics in drinking-water*. (n.d.).
- Miller, M. E., Motti, C. A., Hamann, M., & Kroon, F. J. (2023). Assessment of microplastic bioconcentration, bioaccumulation and biomagnification in a simple coral reef food web. *Science of The Total Environment*, 858, 159615. <https://doi.org/10.1016/j.scitotenv.2022.159615>
- Miller, M. S. (2020). Mapping Earth's deepest secrets. *Science*, 368(6496), 1183–1184. <https://doi.org/10.1126/science.abc3134>
- Mohamed Nor, N. H., & Obbard, J. P. (2014). Microplastics in Singapore's coastal mangrove ecosystems. *Marine Pollution Bulletin*, 79(1–2), 278–283. <https://doi.org/10.1016/j.marpolbul.2013.11.025>
- Moto, E., Hosseini, M., Bakari, R., Mateso, A. S., Selemani, J. R., Nkrumah, S., Ripanda, A., Rwiza, M. J., Nyanza, E. C., & Machunda, R. L. (2024). Ecological consequences of microplastic pollution in sub-Saharan Africa aquatic ecosystems: An implication to environmental health. *HydroResearch*, 7, 39–54. <https://doi.org/10.1016/j.hydres.2023.11.003>
- Musah, B. I., Peng, L., & Xu, Y. (2021). Plastic waste menace in Ghana, a serious

- threat to marine ecological diversity. *IOP Conference Series: Earth and Environmental Science*, 725(1), 012006. <https://doi.org/10.1088/1755-1315/725/1/012006>
- Narayanan, M. (2023). Origination, fate, accumulation, and impact, of microplastics in a marine ecosystem and bio/technological approach for remediation: A review. *Process Safety and Environmental Protection*, 177, 472–485. <https://doi.org/10.1016/j.psep.2023.07.013>
- Nie, H., Wang, J., Xu, K., Huang, Y., & Yan, M. (2019). Microplastic pollution in water and fish samples around Naxun Reef in Nansha Islands, South China Sea. *Science of The Total Environment*, 696, 134022. <https://doi.org/10.1016/j.scitotenv.2019.134022>
- Ningrum, I. P., Sa'adah, N., & Mahmiah, M. (2022). Jenis dan Kelimpahan Mikroplastik Pada Sedimen di Gili Ketapang, Probolinggo. *Journal of Marine Research*, 11(4), 785–793. <https://doi.org/10.14710/jmr.v11i4.35467>
- Nuamah, F., Tulashie, S. K., Debrah, J. S., & Pèlèbè, R. O. E. (2023a). Microplastics in the Gulf of Guinea: An analysis of concentrations and distribution in sediments, gills, and guts of fish collected off the coast of Ghana. *Environmental Research*, 234, 116567. <https://doi.org/10.1016/j.envres.2023.116567>
- Nuamah, F., Tulashie, S. K., Debrah, J. S., & Pèlèbè, R. O. E. (2023b). Microplastics in the Gulf of Guinea: An analysis of concentrations and distribution in sediments, gills, and guts of fish collected off the coast of Ghana. *Environmental Research*, 234, 116567. <https://doi.org/10.1016/j.envres.2023.116567>
- Nuamah, F., Tulashie, S. K., Debrah, J. S., & Pèlèbè, R. O. E. (2023c). Microplastics in the Gulf of Guinea: An analysis of concentrations and distribution in sediments, gills, and guts of fish collected off the coast of Ghana. *Environmental Research*, 234, 116567. <https://doi.org/10.1016/j.envres.2023.116567>
- Nugroho, D. H., Restu, I. W., & Ernawati, N. M. (2018). Kajian Kelimpahan Mikroplastik di Perairan Teluk Benoa Provinsi Bali. *Current Trends in Aquatic Science*, 1(1), 80. <https://doi.org/10.24843/CTAS.2018.v01.i01.p11>

- Oehlmann, J., Schulte-Oehlmann, U., Kloas, W., Jagnytsch, O., Lutz, I., Kusk, K. O., Wollenberger, L., Santos, E. M., Paull, G. C., Van Look, K. J. W., & Tyler, C. R. (2009). A critical analysis of the biological impacts of plasticizers on wildlife. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364(1526), 2047–2062. <https://doi.org/10.1098/rstb.2008.0242>
- Pratama, R. A. (2016). Perilaku Masyarakat dalam Membuang Sampah di Tempat Penampungan Sementara (TPS) di Kecamatan Pontianak Barat Kota Pontianak. *Jurnal Teknologi Lingkungan Lahan Basah*, 4(1).
- Purayil, N. C., Thomas, B., & Tom, R. T. (2024). Microplastics – A major contaminant in marine macro algal population: Review. *Marine Environmental Research*, 193, 106281. <https://doi.org/10.1016/j.marenvres.2023.106281>
- Rahmawan, G. A., & Wisha, U. J. (2020). Pemetaan Morfologi Dasar Perairan dan Pola Arus Pasang Surut di Teluk Bungus, Kota Padang. *Jurnal Segara*, 16(3), 175. <https://doi.org/10.15578/segera.v16i3.9052>
- Ramdhani, dan M., Penelitian dan Pengembangan Sumberdaya Laut dan Pesisir, P., & Penelitian dan Pengembangan Kelautan dan Perikanan-KKP, B. (2013b). Perubahan Garis Pantai di Teluk Bungus Kota Padang, Provinsi Sumatera Barat Berdasarkan Analisis Citra Satelit Coastline Changes at Bungus Bay Padang City, West Sumatera Province Based on Satellite Imagery Analyses. In *Jurnal Ilmu dan Teknologi Kelautan Tropis* (Vol. 5, Issue 2). [http://itk.fpik.ipb.ac.id/ej\\_itkt52](http://itk.fpik.ipb.ac.id/ej_itkt52)
- Rhodes, C. J. (2018). Plastic Pollution and Potential Solutions. *Science Progress*, 101(3), 207–260. <https://doi.org/10.3184/003685018X15294876706211>
- Rios, L. M., Moore, C., & Jones, P. R. (2007). Persistent organic pollutants carried by synthetic polymers in the ocean environment. *Marine Pollution Bulletin*, 54(8), 1230–1237. <https://doi.org/10.1016/j.marpolbul.2007.03.022>
- Saad, D., Chauke, P., Cukrowska, E., Richards, H., Nikiema, J., Chimuka, L., & Tutu, H. (2022). First biomonitoring of microplastic pollution in the Vaal river using Carp fish (*Cyprinus carpio*) “as a bio-indicator.” *Science of the Total Environment*, 836. <https://doi.org/10.1016/j.scitotenv.2022.155623>
- Sains, F., & Teknolgi, D. (n.d.). *Sampah Mikroplastik pada Saluran Pencernaan*

*Ikan Kerapu Genus Epinephelus di Pulau Pramuka Kepulauan Seribu Arief Budi Utomo Program Studi Biologi.*

- Sari Dewi, I., Aditya Budiarsa, A., & Ramadhan Ritonga, I. (2015). Distribusi mikroplastik pada sedimen di Muara Badak, Kabupaten Kutai Kartanegara. *Depik*, 4(3). <https://doi.org/10.13170/depik.4.3.2888>
- Schell, T., Rico, A., Cherta, L., Nozal, L., Dafouz, R., Giacchini, R., & Vighi, M. (2022). Influence of microplastics on the bioconcentration of organic contaminants in fish: Is the “Trojan horse” effect a matter of concern? *Environmental Pollution*, 306, 119473. <https://doi.org/10.1016/j.envpol.2022.119473>
- Schmitz, K. S. (2018). Life Science. In *Physical Chemistry* (pp. 755–832). Elsevier. <https://doi.org/10.1016/B978-0-12-800513-2.00004-8>
- Seltenrich, N. (2015). New Link in the Food Chain? Marine Plastic Pollution and Seafood Safety. *Environmental Health Perspectives*, 123(2). <https://doi.org/10.1289/ehp.123-A34>
- Senduk, J. L., Suprijanto, J., & Ridlo, A. (2021). Mikroplastik pada Ikan Kembung (Rastrelliger sp.) dan Ikan Selar (Selaroides eptolepis) di TPI Tambak Lorok Semarang dan TPI Tawang Rowosari Kendal. *Buletin Oseanografi Marina*, 10(3), 251–258. <https://doi.org/10.14710/buloma.v10i3.37930>
- Setia, T., Balai, D., Penelitian, B., Budidaya, P., Gondol, L., & Singaraja, B. (2007). The Mass Seed Production of Golden Trevally Fish (*Gnathanodon Speciosus* Forsskal) With Different Feed. In *Jurnal Ilmu dan Teknologi Kelautan Tropis* (Vol. 6, Issue 2). [http://itk.fpik.ipb.ac.id/ej\\_itkt62](http://itk.fpik.ipb.ac.id/ej_itkt62)
- SETYONO, P., & SOETARTO, E. S. (2008). Biomonitoring of ecosystem degradation caused by CPO waste of Mentaya River in Central Kalimantan use of esterase isozym electromorf method. *Biodiversitas Journal of Biological Diversity*, 9(3). <https://doi.org/10.13057/biodiv/d090317>
- Sherly Margaretha, L., & Fauzi, M. (n.d.). Identifikasi Mikroplastik pada Ikan Kapike (Puntius schawanafeldii) di Waduk PLTA Koto Panjang Kabupaten Kampar Provinsi Riau Microplastic Identification of Tinfoil Barb (Puntius schawanafeldii) in Koto Panjang Dam Kampar Regency Riau Province. In *Juni* (Vol. 27, Issue 2).

- Silvestrova, K., & Stepanova, N. (2021). The distribution of microplastics in the surface layer of the Atlantic Ocean from the subtropics to the equator according to visual analysis. *Marine Pollution Bulletin*, 162, 111836. <https://doi.org/10.1016/j.marpolbul.2020.111836>
- Su, L., Nan, B., Hassell, K. L., Craig, N. J., & Pettigrove, V. (2019a). Microplastics biomonitoring in Australian urban wetlands using a common noxious fish (*Gambusia holbrooki*). *Chemosphere*, 228, 65–74. <https://doi.org/10.1016/j.chemosphere.2019.04.114>
- Su, L., Nan, B., Hassell, K. L., Craig, N. J., & Pettigrove, V. (2019b). Microplastics biomonitoring in Australian urban wetlands using a common noxious fish (*Gambusia holbrooki*). *Chemosphere*, 228, 65–74. <https://doi.org/10.1016/j.chemosphere.2019.04.114>
- Su, L., Nan, B., Hassell, K. L., Craig, N. J., & Pettigrove, V. (2019c). Microplastics biomonitoring in Australian urban wetlands using a common noxious fish (*Gambusia holbrooki*). *Chemosphere*, 228, 65–74. <https://doi.org/10.1016/j.chemosphere.2019.04.114>
- Susanti, S. (2022). Analisis Kandungan Logam Berat (Pb) dan Kelimpahan Mikroplastik di Estuari Sungai Baturusa Provinsi Kepulauan Bangka Belitung. *JFMR-Journal of Fisheries and Marine Research*, 6(1). <https://doi.org/10.21776/ub.jfmr.2022.006.01.12>
- Syberg, K., Khan, F. R., Selck, H., Palmqvist, A., Banta, G. T., Daley, J., Sano, L., & Duhaime, M. B. (2015). Microplastics: addressing ecological risk through lessons learned. *Environmental Toxicology and Chemistry*, 34(5), 945–953. <https://doi.org/10.1002/etc.2914>
- Teuten, E. L., Saquing, J. M., Knappe, D. R. U., Barlaz, M. A., Jonsson, S., Björn, A., Rowland, S. J., Thompson, R. C., Galloway, T. S., Yamashita, R., Ochi, D., Watanuki, Y., Moore, C., Viet, P. H., Tana, T. S., Prudente, M., Boonyatumanond, R., Zakaria, M. P., Akkhavong, K., ... Takada, H. (2009). Transport and release of chemicals from plastics to the environment and to wildlife. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364(1526), 2027–2045. <https://doi.org/10.1098/rstb.2008.0284>
- Thacharodi, A., Hassan, S., Meenatchi, R., Bhat, M. A., Hussain, N., Arockiaraj, J.,

- Ngo, H. H., Sharma, A., Nguyen, H. T., & Pugazhendhi, A. (2024). Mitigating microplastic pollution: A critical review on the effects, remediation, and utilization strategies of microplastics. *Journal of Environmental Management*, 351, 119988. <https://doi.org/10.1016/j.jenvman.2023.119988>
- Thompson, R. C., Olsen, Y., Mitchell, R. P., Davis, A., Rowland, S. J., John, A. W. G., McGonigle, D., & Russell, A. E. (2004a). Lost at Sea: Where Is All the Plastic? *Science*, 304(5672), 838–838. <https://doi.org/10.1126/science.1094559>
- Thompson, R. C., Olsen, Y., Mitchell, R. P., Davis, A., Rowland, S. J., John, A. W. G., McGonigle, D., & Russell, A. E. (2004b). Lost at Sea: Where Is All the Plastic? *Science*, 304(5672), 838–838. <https://doi.org/10.1126/science.1094559>
- Tri Ernawati. (2007). Distribusi dan Komposisi Jenis Ikan Demersal Yang Tertangkap Trawl pada Musim Barat Diperairan Utara Jawa Tengah (Fish Distribution and Composition Demersal Fish Caught By Trawl In West Season In North Waters of Central Java). *Tri Ernawati*, Vol 7(Vol 7 No 1 (2007): Juni 2007).
- Tsang, Y. Y., Mak, C. W., Liebich, C., Lam, S. W., Sze, E. T.-P., & Chan, K. M. (2017). Microplastic pollution in the marine waters and sediments of Hong Kong. *Marine Pollution Bulletin*, 115(1–2), 20–28. <https://doi.org/10.1016/j.marpolbul.2016.11.003>
- United Nations Environment Programme. (2016). *UNEP frontiers 2016 report : Emerging issues of environment concern*.
- Wagner, M., Scherer, C., Alvarez-Muñoz, D., Brennholt, N., Bourrain, X., Buchinger, S., Fries, E., Grosbois, C., Klasmeier, J., Marti, T., Rodriguez-Mozaz, S., Urbatzka, R., Vethaak, A. D., Winther-Nielsen, M., & Reifferscheid, G. (2014). Microplastics in freshwater ecosystems: what we know and what we need to know. *Environmental Sciences Europe*, 26(1), 12. <https://doi.org/10.1186/s12302-014-0012-7>
- Wang, Y., Wang, Y., Shao, T., Wang, R., Dong, Z., & Xing, B. (2024). Antibiotics and microplastics in manure and surrounding soil of farms in the Loess Plateau: Occurrence and correlation. *Journal of Hazardous Materials*, 465,

133434. <https://doi.org/10.1016/j.jhazmat.2024.133434>
- Wright, S. L., & Kelly, F. J. (2017). Plastic and Human Health: A Micro Issue? *Environmental Science & Technology*, 51(12), 6634–6647. <https://doi.org/10.1021/acs.est.7b00423>
- Wright, S. L., Thompson, R. C., & Galloway, T. S. (2013a). The physical impacts of microplastics on marine organisms: a review. In *Environmental pollution* (Barking, Essex : 1987) (Vol. 178, pp. 483–492). <https://doi.org/10.1016/j.envpol.2013.02.031>
- Wright, S. L., Thompson, R. C., & Galloway, T. S. (2013b). The physical impacts of microplastics on marine organisms: A review. *Environmental Pollution*, 178, 483–492. <https://doi.org/10.1016/j.envpol.2013.02.031>
- Yona, D., Maharani, M. D., Cordova, M. R., Elvania, Y., & Dharmawan, I. W. E. (2020). Analisis Mikroplastik di Insang Dan Saluran Pencernaan Ikan Karang di Tiga Pulau Kecil dan Terluar Papua, Indonesia: Kajian Awal. *Jurnal Ilmu Dan Teknologi Kelautan Tropis*, 12(2), 497–507. <https://doi.org/10.29244/jitkt.v12i2.25971>
- Yulius, Y., Ramdhan, M., & Ramdhan, M. (2014). Coastline Changes at Bungus Bay Padang City, West Sumatera Province Based on Satellite Imagery Analyses. *Jurnal Ilmu Dan Teknologi Kelautan Tropis*, 5(2). <https://doi.org/10.29244/jitkt.v5i2.7570>
- Zhang, C., Wang, S., Sun, D., Pan, Z., Zhou, A., Xie, S., Wang, J., & Zou, J. (2020a). Microplastic pollution in surface water from east coastal areas of Guangdong, South China and preliminary study on microplastics biomonitoring using two marine fish. *Chemosphere*, 256, 127202. <https://doi.org/10.1016/j.chemosphere.2020.127202>
- Zhang, C., Wang, S., Sun, D., Pan, Z., Zhou, A., Xie, S., Wang, J., & Zou, J. (2020b). Microplastic pollution in surface water from east coastal areas of Guangdong, South China and preliminary study on microplastics biomonitoring using two marine fish. *Chemosphere*, 256. <https://doi.org/10.1016/j.chemosphere.2020.127202>
- Zhang, W., Zhang, S., Wang, J., Wang, Y., Mu, J., Wang, P., Lin, X., & Ma, D. (2017). Microplastic pollution in the surface waters of the Bohai Sea, China.

*Environmental Pollution*, 231, 541–548.  
<https://doi.org/10.1016/j.envpol.2017.08.058>

Zhao, S., Zhu, L., Wang, T., & Li, D. (2014). Suspended microplastics in the surface water of the Yangtze Estuary System, China: First observations on occurrence, distribution. *Marine Pollution Bulletin*, 86(1–2), 562–568.  
<https://doi.org/10.1016/j.marpolbul.2014.06.032>

Zhou, Q., Zhang, H., Fu, C., Zhou, Y., Dai, Z., Li, Y., Tu, C., & Luo, Y. (2018). The distribution and morphology of microplastics in coastal soils adjacent to the Bohai Sea and the Yellow Sea. *Geoderma*, 322, 201–208.  
<https://doi.org/10.1016/j.geoderma.2018.02.015>

Zhu, J., Zhang, Q., Li, Y., Tan, S., Kang, Z., Yu, X., Lan, W., Cai, L., Wang, J., & Shi, H. (2019). Microplastic pollution in the Maowei Sea, a typical mariculture bay of China. *Science of The Total Environment*, 658, 62–68.  
<https://doi.org/10.1016/j.scitotenv.2018.12.192>

Zuo, L., Sun, Y., Li, H., Hu, Y., Lin, L., Peng, J., & Xu, X. (2020). Microplastics in mangrove sediments of the Pearl River Estuary, South China: Correlation with halogenated flame retardants' levels. *Science of The Total Environment*, 725, 138344. <https://doi.org/10.1016/j.scitotenv.2020.138344>