

DAFTAR PUSTAKA

1. En-Nejmy K, Hayany B EL, Al-Alawi M, Jemo M, Hafidi M, Fels L El. Microplastics in soil: A comprehensive review of occurrence, sources, fate, analytical techniques and potential impacts. *Ecotoxicol Environ Saf* [homepage on the Internet] 2024;288(July):117332. Available from: <https://doi.org/10.1016/j.ecoenv.2024.117332>
2. Rizka A. Kelimpahan Mikroplastik yang terdapat Pada Beberapa Jenis Biota di Danau Maninjau. 2023;1–79.
3. Yang Z, Zhang J, Viyakarn V, et al. Concentrations and carbonyl index of microplastic in surface seawater in southeastern coastal region off Japan, Northwestern Pacific. *Mar Pollut Bull* [homepage on the Internet] 2024;208(July):116957. Available from: <https://doi.org/10.1016/j.marpolbul.2024.116957>
4. Abd El-Hack ME, Ashour EA, AlMalki F, et al. Harmful impacts of microplastic pollution on poultry and biodegradation techniques using microorganisms for consumer health protection: A review. *Poult Sci* 2025;104(1).
5. Sari GL, Kasasiah A, Utami MR, Trihadiningrum Y. Microplastics Contamination in the Aquatic Environment of Indonesia: A Comprehensive Review. *J Ecol Eng* 2021;22(10):127–140.
6. Cole M, Lindeque P, Halsband C, Galloway TS. Microplastics as contaminants in the marine environment: A review. *Mar Pollut Bull* [homepage on the Internet] 2011;62(12):2588–2597. Available from: <http://dx.doi.org/10.1016/j.marpolbul.2011.09.025>
7. Wils K, Daryono MR, Praet N, et al. The sediments of Lake Singkarak and Lake Maninjau in West Sumatra reveal their earthquake, volcanic and rainfall history. *Sediment Geol* [homepage on the Internet] 2021;416:105863. Available from: <https://doi.org/10.1016/j.sedgeo.2021.105863>
8. Heri ER, Yulinda E, Arief H. Analisis Bioekonomi Ikan Bilih (*Mystacoleuseus padangensis*) di Danau Singkarak Provinsi Sumatra Barat. *J Sos Ekon Pesisir* [homepage on the Internet] 2022;3(4):12–22. Available from: <http://www.sep.ejournal.unri.ac.id>
9. Warsa A, Didik Wahyu Hendro Tjajo, Lismining Pujiyanti Astuti. Upaya Konservasi Ikan Bilih (*Mystacoleucus padangensis*) dengan Penetapan Ukuran Tangkap dan Suaka di Danau Singkarak. *J Airaha* 2020;9(01):036–048.
10. Sultana S, Anisuzzaman M, Hossain MK, et al. Ecological risk assessment of microplastics and mesoplastics in six common fishes from the Bay of Bengal Coast. *Mar Pollut Bull* [homepage on the Internet] 2024;204(May):116544. Available from: <https://doi.org/10.1016/j.marpolbul.2024.116544>
11. Immanuvel David T, Sheela MS, Krishnakumar S, et al. Distribution and characterization of microplastics and ecological risks in Vellayani Lake, Kerala, India. *Total Environ Res Themes* [homepage on the Internet] 2023;7(June):100065. Available from: <https://doi.org/10.1016/j.totert.2023.100065>
12. Shekoohiyan S, Akbarzadeh A. The abundance of microplastic pollution along the Jajroud river of Tehran: Estimating the water quality index and the ecological risk. *Ecol Indic* [homepage on the Internet] 2022;145(October):109629. Available from: <https://doi.org/10.1016/j.ecolind.2022.109629>
13. Ismanto A, Hadibarata T, Sugianto DN, et al. First evidence of microplastics in the water and sediment of Surakarta city river basin, Indonesia. *Mar Pollut Bull* [homepage on the Internet] 2023;196(September):115677. Available from: <https://doi.org/10.1016/j.marpolbul.2023.115677>
14. Vidayanti V, Retnaningdyah C. Microplastic pollution in the surface waters, sediments, and wild crabs of mangrove ecosystems of East Java, Indonesia. *Emerg Contam* [homepage on the Internet] 2024;10(4):100343. Available from: <https://doi.org/10.1016/j.emcon.2024.100343>
15. Yuan D, Corvianawatie C, Cordova MR, et al. Microplastics in the tropical Northwestern Pacific Ocean and the Indonesian seas. *J Sea Res* [homepage on the Internet]

- 2023;194(June):102406. Available from: <https://doi.org/10.1016/j.seares.2023.102406>
16. Smyth K, Tan S, Seters T Van, Henderson V, Passeport E, Drake J. Pavement wear generates microplastics in stormwater runoff. *J Hazard Mater* [homepage on the Internet] 2025;481(November 2024):136495. Available from: <https://doi.org/10.1016/j.jhazmat.2024.136495>
17. Kye H, Yoon Y, Hwang TM. Changes in physical and chemical properties of microplastics by ozonation. *Process Saf Environ Prot* [homepage on the Internet] 2024;192(October):1062–1072. Available from: <https://doi.org/10.1016/j.psep.2024.10.044>
18. Marrone A, Russa MF La, Randazzo L, Russa D La, Cellini E, Pellegrino D. Microplastics in the center of mediterranean: Comparison of the two calabrian coasts and distribution from coastal areas to the open sea. *Int J Environ Res Public Health* 2021;18(20).
19. Hossain R, Ghose A, Sahajwalla V. Microplastics pollution in Australia: Sources, impacts, and mitigation strategies. *Case Stud Chem Environ Eng* [homepage on the Internet] 2025;11(October 2024):101036. Available from: <https://doi.org/10.1016/j.csee.2024.101036>
20. Deswati D, Tetra ON, Hayati M, et al. Preliminary detection of microplastics in surface water of Maninjau Lake in Agam, Indonesia. *AACL Bioflux* 2023;16(5):2601–2614.
21. Ramakrishnan D, Sathiyamoorthy M. Seasonal distribution, source apportionment and risk exposure of microplastic contaminants along the Muttukadu backwater estuary, Tamil Nadu, India. *Results Eng* [homepage on the Internet] 2024;23(July):102776. Available from: <https://doi.org/10.1016/j.rineng.2024.102776>
22. Castillo AB, El-Azhary M, Sorino C, LeVay L. Potential ecological risk assessment of microplastics in coastal sediments: Their metal accumulation and interaction with sedimentary metal concentration. *Sci Total Environ* [homepage on the Internet] 2024;906(June 2023):167473. Available from: <https://doi.org/10.1016/j.scitotenv.2023.167473>
23. Soursou V, Campo J, Picó Y. Spatio-temporal variation and ecological risk assessment of microplastics along the touristic beaches of a mediterranean coast transect (Valencia province, East Spain). *J Environ Manage* 2024;354(February).
24. Nourozi N, Massahi T, Nouri M, Mardani M, Hossini H. A systematic review of the occurrence of microplastics in compost: Understanding the abundance, sources, characteristics and ecological risk. *Results Eng* [homepage on the Internet] 2024;24(November):103639. Available from: <https://doi.org/10.1016/j.rineng.2024.103639>
25. Sanchez JM, Oliva J, Gomez-Solis C, et al. High removal of PS and PET microplastics from tap water by using Fe₂O₃ porous microparticles and photothermal irradiation with NIR light. *Chemosphere* 2024;367(April).
26. Wang X, Li C, Liu K, Zhu L, Song Z, Li D. Atmospheric microplastic over the South China Sea and East Indian Ocean: abundance, distribution and source. *J Hazard Mater* [homepage on the Internet] 2020;389(September):121846. Available from: <https://doi.org/10.1016/j.jhazmat.2019.121846>
27. Jeong J, Choi J. Adverse outcome pathways potentially related to hazard identification of microplastics based on toxicity mechanisms. *Chemosphere* [homepage on the Internet] 2019;231:249–255. Available from: <https://doi.org/10.1016/j.chemosphere.2019.05.003>
28. Tan H, Yue T, Xu Y, Zhao J, Xing B. Microplastics Reduce Lipid Digestion in Simulated Human Gastrointestinal System. *Environ Sci Technol* 2020;54(19):12285–12294.
29. Wright SL, Kelly FJ. Plastic and Human Health: A Micro Issue? *Environ Sci Technol* 2017;51(12):6634–6647.
30. Andrady AL. Microplastics in the marine environment. *Mar Pollut Bull* [homepage on the Internet] 2011;62(8):1596–1605. Available from: <http://dx.doi.org/10.1016/j.marpolbul.2011.05.030>
31. Bayu A, Nandiyanto D, Oktiani R, Ragadhita R. 15806-33512-2-Pb. 2019;(1):97–118.

32. Gunarto A. PELESTARIAN IKAN BILIH (*Mystacoleucus padangensis*) MELALUI PENGEMBANGAN AGROWISATA PERIKANAN DI DANAU SINGKARAK SUMATERA BARAT. *J Rekayasa Lingkung* 2018;5(2):145–156.
33. Rekrutmen Dan Eksploitasi Ikan Bilih Di Danau Singkarak Sumatera Barat Finga Fitri Amanda S, Ghofur A. Seminar Nasional XIII Pendidikan Biologi FKIP UNS 701 SP-013-007. 2016;13(1):701–703.
34. suryanti. 1138-14229-6-Pb. 2017;9(April):33–42.
35. Rohaningsih D, Henny C, Suryono T, Santoso AB. Macroplastic abundance at Lake Singkarak riparian, West Sumatera. *IOP Conf Ser Earth Environ Sci* 2022;1062(1).
36. Group Of Experts On The Scientific Aspects Of Marine E, Protection. Report of the twenty-seventh session. *GESAMP Reports Stud.* 1997;0(63):1–48.
37. Lusher AL, Munno K, Hermabessiere L, Carr S. Isolation and Extraction of Microplastics from Environmental Samples: An Evaluation of Practical Approaches and Recommendations for Further Harmonization. *Appl Spectrosc* 2020;74(9):1049–1065.
38. Lindeque PK, Cole M, Coppock RL, et al. Are we underestimating microplastic abundance in the marine environment? A comparison of microplastic capture with nets of different mesh-size. *Environ Pollut* [homepage on the Internet] 2020;265:114721. Available from: <https://doi.org/10.1016/j.envpol.2020.114721>
39. Lusher AL, McHugh M, Thompson RC. Occurrence of microplastics in the gastrointestinal tract of pelagic and demersal fish from the English Channel. *Mar Pollut Bull* 2013;67(1–2):94–99.
40. Rummel CD, Löder MGJ, Fricke NF, et al. Plastic ingestion by pelagic and demersal fish from the North Sea and Baltic Sea. *Mar Pollut Bull* 2016;102(1):134–141.
41. Hidalgo-Ruz V, Gutow L, Thompson RC, Thiel M. Microplastics in the marine environment: a review of the methods used for identification and quantification. *Environ Sci Technol* 2012;46(6):3060–3075.
42. Besley A, Vijver MG, Behrens P, Bosker T. A standardized method for sampling and extraction methods for quantifying microplastics in beach sand. *Mar Pollut Bull* 2017;114(1):77–83.
43. Kreindler ERJ. The Stereo Microscope. *Micscape* 2012;1–26.
44. Fosu-Mensah BY, Laryea NNO, Darko D, Mensah M. Assessing microplastics contamination and characteristics in organic soil amendments in the Greater Accra Metropolitan Area of Ghana. *Heliyon* [homepage on the Internet] 2024;10(23):e40882. Available from: <https://doi.org/10.1016/j.heliyon.2024.e40882>
45. Khan SA, Khan SB, Khan LU, Farooq A. Fourier Transform Infrared Spectroscopy: Fundamentals and Application in Functional Groups and Nanomaterials Characterization Fourier Transform Infrared Spectroscopy: Fundamentals and Application in Functional Groups and Nanomaterials Characterization. 2018;(July 2020).
46. Masura J, Baker J, Foster G, Arthur C. Laboratory methods for the analysis of microplastics in the marine environment. NOAA Mar Debris Progr Natl [homepage on the Internet] 2015;(July):1–31. Available from: https://marinedebris.noaa.gov/sites/default/files/publications-files/noaa_microplastics_methods_manual.pdf
47. Kılıç E, Yucel N, Şahutoğlu S. First record of microplastic occurrence at the commercial fish from Orontes River. *Environ Pollut* 2022;307:119576.
48. Marine Debris Program N. Laboratory Methods for the Analysis of Microplastics in the Marine Environment: Recommendations for quantifying synthetic particles in waters and sediments. 2015;(July).
49. Blettler MCM, Ulla MA, Rabuffetti AP, Garelo N. Plastic pollution in freshwater ecosystems: macro-, meso-, and microplastic debris in a floodplain lake. *Environ Monit Assess* 2017;189(11):581.
50. Tim Penyusun Kajian Penetapan Batu Mutu Plastik. Indonesia darurat mikroplastik. *Ecol Obs Wetl Conserv* 2024;1–105.
51. Chae Y, An Y-J. Current research trends on plastic pollution and ecological impacts on

- the soil ecosystem: A review. *Environ Pollut* [homepage on the Internet] 2018;240:387–395. Available from: <https://www.sciencedirect.com/science/article/pii/S0269749117348637>
52. Qu B, Song J, Yuan H, et al. Historical evolutions of sediment quality in bays under serious anthropogenic influences in China, basing on fuzzy comprehensive assessment of heavy metals. *Environ Sci Pollut Res* [homepage on the Internet] 2020;27(21):25933–25942. Available from: <https://doi.org/10.1007/s11356-019-07337-7>
 53. Statistik BP. Kecamatan x Koto Diatas dalam Angka. 2024;1–128.
 54. Kataria T, Gupta D, Sarkar S. Design and analysis. 2023;
 55. Soares M de O, Matos E, Lucas C, Rizzo L, Allcock L, Rossi S. Microplastics in corals: An emergent threat. *Mar Pollut Bull* [homepage on the Internet] 2020;161(PA):111810. Available from: <https://doi.org/10.1016/j.marpolbul.2020.111810>
 56. Zhang K, Shi H, Peng J, et al. Microplastic pollution in China's inland water systems: A review of findings, methods, characteristics, effects, and management. *Sci Total Environ* [homepage on the Internet] 2018;630:1641–1653. Available from: <https://doi.org/10.1016/j.scitotenv.2018.02.300>
 57. Kooi M, Reisser J, Slat B, et al. The effect of particle properties on the depth profile of buoyant plastics in the ocean. *Sci Rep* 2016;6(June):1–10.
 58. Cózar A, Echevarría F, González-Gordillo JI, et al. Plastic debris in the open ocean. *Proc Natl Acad Sci U S A* 2014;111(28):10239–10244.
 59. Nizzetto L, Futter M, Langaas S. Are Agricultural Soils Dumps for Microplastics of Urban Origin? *Environ Sci Technol* 2016;50(20):10777–10779.
 60. Hurley R, Woodward J, Rothwell J. Microplastic contamination of river beds significantly reduced by catchment-wide flooding. *Nat Geosci* 2018;11:251–257.
 61. Lebreton LCM, Zwet J Van Der, Damsteeg JW, Slat B, Andrady A, Reisser J. River plastic emissions to the world's oceans. *Nat Commun* 2017;8:1–10.
 62. Rochman CM, Tahir A, Williams SL, et al. Anthropogenic debris in seafood: Plastic debris and fibers from textiles in fish and bivalves sold for human consumption. *Sci Rep* 2015;5:14340.
 63. Auta HS, Emenike CU, Fauziah SH. Distribution and importance of microplastics in the marine environment: A review of the sources, fate, effects, and potential solutions. *Environ Int* 2017;102:165–176.
 64. Woodall LC, Sanchez-Vidal A, Canals M, et al. The deep sea is a major sink for microplastic debris. *R Soc open Sci* 2014;1(4):140317.
 65. Prata JC, Costa JP da, Lopes I, Duarte AC, Rocha-Santos T. Environmental exposure to microplastics: An overview on possible human health effects. *Sci Total Environ* 2020;702:134455.
 66. Andrady AL. The plastic in microplastics: A review. *Mar Pollut Bull* [homepage on the Internet] 2017;119(1):12–22. Available from: <https://www.sciencedirect.com/science/article/pii/S0025326X1730111X>
 67. Walkinshaw C, Lindeque PK, Thompson R, Tolhurst T, Cole M. Microplastics and seafood: lower trophic organisms at highest risk of contamination. *Ecotoxicol Environ Saf* 2020;190:110066.
 68. Wu J, Jiang Z-G, Liu Y, et al. Microplastic contamination assessment in water and economic fishes in different trophic guilds from an urban water supply reservoir after flooding. *J Environ Manage* 2021;299:113667.
 69. Haque MR, Ali M, Ahmed W, et al. Assessment of microplastics pollution in aquatic species (fish, crab, and snail), water, and sediment from the Buriganga River, Bangladesh: An ecological risk appraisals. *Sci Total Environ* 2022;857:159344.
 70. Deswati, Wisna ND, Zein R, et al. Preliminary study on microplastic pollution in water and sediment at the Beaches of Pariaman City, West Sumatra, Indonesia. *AACL Bioflux* 2023;16(1):381–397.
 71. Barboza LGA, Lopes C, Oliveira P, et al. Microplastics in wild fish from North East Atlantic Ocean and its potential for causing neurotoxic effects, lipid oxidative damage,

- and human health risks associated with ingestion exposure. *Sci Total Environ* [homepage on the Internet] 2020;717:134625. Available from: <https://doi.org/10.1016/j.scitotenv.2019.134625>
72. Liu Y, Zhang J, Zhao H, et al. Effects of polyvinyl chloride microplastics on reproduction, oxidative stress and reproduction and detoxification-related genes in *Daphnia magna*. *Comp Biochem Physiol C Toxicol Pharmacol* 2022;254:109269.
 73. Yee MS-L, Hii L-W, Looi CK, et al. Impact of Microplastics and Nanoplastics on Human Health. *Nanomater* (Basel, Switzerland) 2021;11(2).
 74. Gewert B, Plassmann M, Sandblom O, Macleod M. Identification of Chain Scission Products Released to Water by Plastic Exposed to Ultraviolet Light. *Environ Sci Technol Lett* 2018;5(5):272–276.
 75. He D, Luo Y, Lu S, Liu M, Song Y, Lei L. Microplastics in soils: Analytical methods, pollution characteristics and ecological risks. *TrAC - Trends Anal Chem* [homepage on the Internet] 2018;109:163–172. Available from: <https://doi.org/10.1016/j.trac.2018.10.006>
 76. Wang G, Lu J, Li W, et al. Seasonal variation and risk assessment of microplastics in surface water of the Manas River Basin, China. *Ecotoxicol Environ Saf* [homepage on the Internet] 2021;208:111477. Available from: <https://doi.org/10.1016/j.ecoenv.2020.111477>
 77. Tomlinson DL, Wilson JG, Harris CR, Jeffrey DW. Problems in the assessment of heavy-metal levels in estuaries and the formation of a pollution index. *Helgoländer Meeresuntersuchungen* 1980;33(1–4):566–575.
 78. Isobe A, Uchida K, Tokai T, Iwasaki S. East Asian seas: A hot spot of pelagic microplastics. *Mar Pollut Bull* 2015;101(2):618–623.
 79. Lithner D, Larsson A, Dave G. Environmental and health hazard ranking and assessment of plastic polymers based on chemical composition. *Sci Total Environ* 2011;409(18):3309–3324.
 80. Zhang B, Chao J, Chen L, Liu L, Yang X, Wang Q. Research progress of nanoplastics in freshwater. *Sci Total Environ* 2021;757:143791.
 81. Li Y, Zhang Y, Chen G, et al. Microplastics in surface waters and sediments from Guangdong coastal areas, South China. *Sustain* 2021;13(5):1–15.

