

LAPORAN AKHIR
PENELITIAN UNGGULAN PERGURUAN TINGGI (P)



**STOK DAN HABITAT ENHANCEMENT TERUMBU KARANG DI PERAIRAN
SENDANG BIRU, MALANG DALAM USAHA MENGHIDUPKAN KEMBALI LIVE-
REEF FISH TRADE**

Tahun ke 1 dari rencana 2 tahun

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Judul Penelitian : Stok dan Habitat *Enhancement* Terumbu Karang di Perairan Sendang Biru, Malang dalam Usaha Menghidupkan Kembali *Live-Reef Fish Trade*

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DAFTAR PUSTAKA

- Anthony, K., dan Fabricius, K. E. 2000. Shifting roles of heterotrophy and autotrophy in coral energetics under varying turbidity. *Journal of experimental marine biology and ecology*, 252(2), 221-253.
- Barnes, R. dan; Hughes, R. 1999. *An Introduction to Marine Ecology* (3rd ed.). Malden, MA: Blackwell Science, Inc. pp. 117-141. ISBN 0-86542-834-4.
- Burke, L., Selig, E., dan Spalding, M. 2002. Terumbu karang yang terancam di Asia Tenggara. World Resources Institute, 8-11.
- Cesar, H. 2000. Economic analysis of Indonesian coral reefs. In World Bank Environmental Department Paper, Environment Economics Series. Washington, D.C.: The World Bank.
- Chou, L. M. 1997. The status of Southeast Asian coral reefs. *Proceedings of the Eighth International Coral Reef Symposium* 1, 317-322.
- Coles, S. L., & Jokiel, P. L. 1978. Synergistic effects of temperature, salinity and light on the hermatypic coral *Montipora verrucosa*. *Marine Biology*, 49(3), 187-195.
- Dahuri, R., Rais, J., Ginting, S.P., and Sitepu. M.J. 1996. *Pengelolaan Sumber Daya Pesisir dan Lautan Secara Terpadu (Integrated Coastal and Marine Resource Management)*. PT. Paradnya Paramita, Jakarta.
- Edwards, A. A. 2010. Reef rehabilitation manual. The Coral Reef Targeted Research & Capacity Building for Management Program.
- Eggleston, D.B. 1995. Recruitment in Nassau grouper *Epinephelus striatus*: post-settlement abundance, microhabitat features, and ontogenetic habitat shifts. *Marine Ecology Progress Series* 124(1-3): 9-22.
- Finelli, C. M., Helmuth, B. S., Pentcheff, N. D., & Wethey, D. S. 2006. Water flow influences oxygen transport and photosynthetic efficiency in corals. *Coral Reefs*, 25(1), 47-57.
- Gagliano, M., McCormick, M. I., Moore, J. A., & Depczynski, M. 2010. The basics of acidification: baseline variability of pH on Australian coral reefs. *Marine biology*, 157(8), 1849-1856.
- Goreau, T. J., & Hilbertz, W. 2005. Marine ecosystem restoration: costs and benefits for coral reefs. *World Resource Review*, 17(3), 375-409.
- Harriott, V. J., & Fisk, D. A. 1988. Coral transplantation as a reef management option. In *Proceedings of the 6th International Coral Reef Symposium*. 6th ICRS Executive Committee, Townsville, Australia (pp. 375-379).

- Hoegh-Guldberg, O., Mumby, P.J., Hooten, A.J., Steneck, R.S., Greenfield, P., Gomez, E., Harvell, D.R., Sale, P.F., Edwards, A.J., Caldeira, K., Knowlton, N., Eakin, C.M., Iglesias-Prieto, R., Muthinga, N., Bradbury, R.H., Dubi, A. and Hatzioi, M.E. 2007. Coral reefs under rapid climate change and ocean acidification. *Science*, 318, 1737-1742.
- Kanwisher, J. W., & Wainwright, S. A. 1967. Oxygen balance in some reef corals. *The Biological Bulletin*, 133(2), 378-390.
- Kepmen Negara LH No. 51 Tahun 2004
- Kraines, S., Suzuki, Y., Yamada, K., & Komiyama, H. 1996. Separating biological and physical changes in dissolved oxygen concentration in a coral reef. *Limnology and oceanography*, 41(8), 1790-1799.
- Medley, P.A., Gaudian, G. and Wells, S. 1993. Coral reef fisheries stock assessment. *Reviews in Fish Biology and Fisheries* 3(3):242-285.
- Muthiga, N. A., & Szmant, A. M. 1987. The effects of salinity stress on the rates of aerobic respiration and photosynthesis in the hermatypic coral *Siderastrea siderea*. *The Biological Bulletin*, 173(3), 539-551.
- Otero, E., Carbery, Y., Kelly K. 2005. Chlorophyll a and turbidity patterns over coral reefs systems of La Parguera Natural Reserve, Puerto Rico. *Rev. biol. trop [online]*, vol.53, suppl.1, pp. 25-32. ISSN 0034-7744;
- Reef Check. 2006. Laporan Akhir Reef Check 2006. Fisheries Diving Club (FishDic) Fakultas Perikanan dan Ilmu Kelautan Universitas Brawijaya
- Reid, C., Marshall, J., Logan, D. and Kleine, D. 2009. Coral Reefs and Climate Change. The Guide for Education and Awareness. CoralWatch, University of Queensland, Brisbane. 256 pp.
- Richmond, R. H. 1993. Coral reefs: present problems and future concerns resulting from anthropogenic disturbance. *American Zoologist* 33, 524-536.
- Ricker, W. E. 1975. Computation and interpretation of biological statistics of fish populations (Vol. 191). Ottawa: Department of the Environment, Fisheries and Marine Service.
- Riegl, B., & Piller, W. E. 2000. Reefs and coral carpets in the northern Red Sea as models for organism-environment feedback in coral communities and its reflection in growth fabrics. *Special Publication-Geological Society of London*, 178, 71-88.
- Rinkevich, B. 2008. Management of coral reefs: We have gone wrong when neglecting active reef restoration. *Marine pollution bulletin*, 56 (11), 1821-1824.
- Robertson, D.R. and Gaines, S.D. 1986. Interference competition structures habitat use in a local assemblage of coral reef surgeon fishes. *Ecology* 67(5): 1372-1383.

- Rudi, E. 2005. Kondisi terumbu karang di perairan Sabang Nanggroe Aceh Darussalam setelah tsunami. *ILMU KELAUTAN: Indonesian Journal of Marine Sciences*, 10(1), 50-60.
- Sadarun. 1999. Transplantasi karang batu di Kepulauan Seribu Teluk Jakarta. Tesis. Program Pasca Sarjana IPB
- Salm, R. V. 1984. Marine and Coastal Protected Area. A Guide for Planner and Manager IUCN. Pp. 73-80.
- Sukmara, A., Siahainenia, A. J., & Rotinsulu, C. 2001. Panduan Pemantauan Terumbu Karang Berbasis Masyarakat Dengan Metoda Manta Tow. Proyek Peisir-CRMP Indonesia. Jakarta. Hlm, 9-12.
- Summarco, Paul W. 2008. Crises of Coral Reef and in Coral Reef Science in 21st Century: The Need a New Peer-review System. *Mar Ecol Prog Ser* Vol 8: 109-119.
- Tomascik, T., Mah, T.J., Nontji, A., Moosa, M.K. 1997. The Ecology of Indonesian Seas, Part II. Vol. VII. Dalhousie University, Canada