

DAFTAR PUSTAKA

- Adnyana, I.B.W., 2003. *Penyu Laut di Kepulauan Derawan, Kalimantan Timur*. Laporan untuk WWF Indonesia.
- Adnyana, I.B.W., Soede, L.P., Gearheart, G., and Halim, M., 2008. Status of green turtle (*Chelonia mydas*) nesting and foraging populations of Berau, East Kalimantan, Indonesia, including results from tagging and telemetry. *Indian Ocean Turtle Newsletter No. 7*. January 2008.
- Agastheesapillai, A., and Thiagarajan, R., 1979. Biology of the green turtle *Chelonia mydas* (Linnaeus) in the Gulf of Mannar and Palk Bay, *J. Mar. Biol. Assoc. India*, 21, 45.
- Alikodra, H.S., 2010. *Teknik Pengelolaan Satwaliar dalam Rangka Mempertahankan Keanekaragaman Hayati Indonesia*. IPB Press. Bogor. ISBN : 978-979-493-192-9
- Ambo Rappe, R., 2011. *Padang lamun (seagrass beds): ekosistem yang tangguh di tengah perubahan iklim global*. Naskah Pidato Guru Besar. Jurusan Ilmu Kelautan. Fakultas Ilmu Kelautan dan Perikanan Universitas Hasanuddin.
- Amoroch, D.F., Reina, R.D., 2007. Feeding ecology of the East Pacific green sea turtle *Chelonia mydas agassizii* at Gorgona National Park, Colombia. *Endangered Species Research*. Vol. 3: 43–51.
- Andrew, T.H., 1999. Rangeland Mismanagement in South Africa: Failure to Apply Ecological Knowledge. *Human Ecology*, 1999, 27(1):55 - 78.
- Atmadja, W.S., 1999. Perkembangan dan makna penelitian rumput laut (algae macro) di Indonesia. Pidato pengukuhan ahli peneliti utama. Jakarta 7 Desember 1999. P3O-LIPI, Jakarta, 42 hal. *Dalam* Azkab, M.H., 2006. Ada Apa Dengan Lamun. *Oseana Vol XXXI No. 3*. 2006 : 45-55, ISSN 0216-1877
- Azkab, M.H., 2006. Ada Apa Dengan Lamun. *Oseana Vol XXXI No. 3*. 2006 : 45-55, ISSN 0216-1877
- Bailey, J. A., 1984. *Principles of Wildlife Management*. John Wiley & Sons, New York.
- Balazs, G. H., 1980. Field methods for sampling the dietary components of green turtles *Chelonia mydas*, *Herpetol. Rev.*, 11, 5.

- Balazs, G. H., 1980. *Synopsis of biological data on the green turtle in the Hawaiian Islands*. NOAA Tech. Memo. NOAA-TM-NMFS-SWFC-7, Honolulu, Hawaii.
- Balazs, G.H., 1994. Homeward bound: satellite tracking of Hawaiian green turtles from nesting beaches to foraging pastures, in *Proceedings of the Thirteenth Annual Symposium on Sea Turtle Biology and Conservation* Schroeder, B.A. and Witherington, B.E., Compilers, NOAA Tech. Memo., NMFS SEFSC-341, 1994, 205, Miami, FL.
- Balazs, G.H. et al., 1994. Satellite telemetry of green turtles nesting at French Frigate Shoals, Hawaii, and Rose Atoll, American Samoa, in *Proceedings of the Fourteenth Annual Symposium on Sea Turtle Biology and Conservation* Bjorndal, K.A. et al., Compilers, NOAA Tech. Memo., NMFS-SEFSC-351, 1994, 184, Miami, FL.
- Bali J., Liew, H.C., Chan, E.H., and Tisen, O.B., 2001. *Long Distance Migration of Green Turtle From The Sarawak Islands, Malaysia*. Paper presented in the 20th Annual Sea Turtle Symposium. Orlando, Florida. NOAA Tech. Memo, 5 pp.
- Bell, I., and Ariel, E., 2011. Dietary shift in green turtle. In McKenzie, L. J., Yoshida, R.L., and Unsworth, R., (eds) 2011. *Seagrass-Watch News*. Issue 44, November 2011. Seagrass-Watch HQ. 32pp.
- Bjorndal, K.A., 1980. Nutrition and grazing behavior of the green turtle, *Chelonia mydas*, *Mar. Biol.*, 56, 147.
- Bjorndal, K.A., 1985. Nutritional ecology of sea turtles, *Copeia*, 736.
- Bjorndal, K.A., 1997. *Foraging Ecology and Nutrition of Sea Turtle*, in *The Biology of Sea Turtles*/edited by Peter L. Lutz, and John A. Musick. CRC Press Inc. 1997. Boca Raton, Florida ISBN 0-8493-8422-2.
- Bjorndal, K.A., and Bolten, A.B., 1988. Growth Rates of Immature Green Turtle, *Chelonia mydas* on Feeding Ground of Southern Bahamas. *Copeia*, 555.
- Booth, J., and Peters, J., 1972. Behavioral studies on the green turtle (*Chelonia mydas*) in the sea, *Anim. Behav.*, 20, 808.
- Broderick, A.C., and Godley, B.J., 1997. Observations of reproductive behaviour of male green turtles (*Chelonia mydas*) at a nesting beach in Cyprus. *Chelonian Conserv. Biol.*, 2, 615, 1997.

- Cardona, L., Aguilar, A., and Pazos, L., 2009. Delayed ontogenic dietary shift and high levels of omnivory in green turtles (*Chelonia mydas*) from the NW coast of Africa. *Mar. Biol.* (2009) 156:1487–1495.
- Carignan R, Kalff J (1980) Phosphorus sources for aquatic weeds: water or sediments? *Science* 207:987–989
- Carr, A.F., 1965. The navigation of the green turtle, *Sci. Am.*, 212, 78.
- Carr, A., and Ogren, L., 1960 The ecology and migrations of sea turtles, 4. The green turtle in the Caribbean Sea, *Bull. Am. Mus. Nat. Hist.*, 121(1), 1.
- Carr, A., Ross, P., and Carr, S., 1974. Internesting behaviour of the green turtle *Chelonia mydas* at a mid ocean island breeding round, *Copeia* , 3, 703.
- Cebrian J., Duarte C.M., Agawin N.S.R., Merino M., 1998. Leaf growth response to simulated herbivory: a comparison among seagrass species. *Journal of Experimental Marine Biology and Ecology* 220, 67-81.
- Cheng, I.J., and Balazs, G.H., 1998. The post-nesting long range migration of the green turtles that nest at Wan-An Island, Penghu Archipelago, Taiwan, in *Proceedings of the Seventeenth Annual Sea Turtle Symposium*, Epperly, S.P. and Braun, J., Compilers, NOAA Tech. Memo., NMFS-SEFSC-415, 1998, 29, Miami, FL.
- Christianen, M.J.A., van der Heide, T., Bouma, T.J., Roelofs, J.G.M., van Katwijk, M.M., Lamers, L.P.M., 2011a. Limited toxicity of NH_x pulses on an early and late successional tropical seagrass species: Interactions with pH and light level. *Aquatic Toxicology* 104 (2011) 73–79
- Christianen, M.J.A., Govers, L.L., Bouma, T.J., Kiswara, W., Roelofs, J.G.M., Lamers, L.P.M., and van Katwijk, M.M., 2011b. Marine megaherbivore grazing may increase seagrass tolerance to high nutrient loads. *Journal of Ecology*. British Ecological Society.
- Constanza, R., d'Arge, R., de Groot, R., Farber, S., Grasco, M., Hannon, B., Limburg, K., Naeem, S., O'Neil, R.V., Paruelo, J., Raskin. R.G., Sutton, P., and Belt, V.D.M., 1997. The value of world's ecosystem services and natural capital. *Nature* 387, 253; 15 May, 1997.

- den Hartog, C., and Kuo, J., 2006. *Taxonomy and Biogeography of Seagrasses*. In Larkum, A.D., Orth, R.J., and Duarte, C.M., 2006. *SEAGRASSES: Biology, Ecology and Conservation*. Springer, P.O. Box 17, 3300 AA Dordrecht, The Netherlands. ISBN-13 978-1-4020-2983-7 (e-book).
- Dharmadi, dan Wiadnyana, N.N., 2008. Kondisi habitat dan kaitannya dengan jumlah penyu hijau (*Chelonia mydas*) yang bersarang di Pulau Derawan, Berau-Kalimantan Timur. *Jurnal Penelitian Perikanan Indonesia Vol. 14 No. 2 Juni 2008 195-204*.
- Direktorat Konservasi dan Taman Nasional, 2009. *Pedoman Teknis Pengelolaan Konservasi Penyu*. Direktorat Jenderal Kelautan, Pesisir, dan Pulau-Pulau Kecil. Departemen Kelautan dan Perikanan Republik Indonesia.
- Dizon, A.E. and Balazs, G.H., 1982. Radio telemetry of Hawaiian green turtles at their breeding colony, *Mar. Fish. Rev.*, 44, 13.
- Dyer M.I., Turner C.L., Seastedt T.R., 1993. Herbivory and its consequences. *Ecological Applications* 3, 10-16.
- Eklöf, J.S., 2008. *Anthropogenic Disturbances and Shifts in Tropical Seagrass Ecosystems*. Department of Systems Ecology. Stockholm University. Stockholm, Sweden. Doctoral Thesis in Marine Ecotoxicology. ISBN 978-91-7155-552-6
- Erfteemeijer, P.L.A., 1994. Differences in nutrient concentrations and resources between seagrass communities on carbonate and terrigenous sediments in South Sulawesi, Indonesia. *Bulletin of Marine Science*, 54, 403–419.
- Evrard, V., Kiswara, W., Bouma, T.J., Middelburg, J.J., 2005. Nutrient dynamics of seagrass ecosystems: 15N evidence for the importance of particulate organic matter and root systems. *Marine Ecology Progress Series*. Vol. 295: 49–55.
- Fachrul, M.F., 2007. *Metode Sampling Bioekologi*. Bumi Aksara. Jakarta. ISBN (13) 978-979-010-065-7.
- Frick, J., 1976. Orientation and Behaviour of Hatchling Green Turtles (*Chelonia mydas*) in The Sea. *Anim. Behav.*, 24, 849.

- Fonseca, M.S., Kenworthy, W.J., Julius, B.E., Shutler, S., and Fluke, S. 2002. *Seagrass*. Pages 149-170 in Perrow, M.R., and Davy, A.J., (eds.), *Handbook of Ecological Restoration, Vol. 2*. Cambridge University Press, New York.
- Fourqurean, J.W., Powell, G.V.N., Kenworthy, W.J., Zieman, J.C., 1995. The effects of long-term manipulation of nutrient supply on competition between the seagrasses *Thalassia testudinum* and *Halodule wrightii* in Florida Bay. *Oikos* 72, 349–358.
- Fourqurean, J.W., Manuel, S., Coates, K.A., Kenworthy, W.J., Smith, S.R., 2010. Effects of excluding sea turtle herbivores from a seagrass bed: Overgrazing may have led to loss of seagrass meadows in Bermuda. *Marine Ecology Progress Series*. Vol. 419: 223–232.
- Garduno, M. et al., 2000. Satellite tracking of an adult male and female green turtle from Yucatan in the Gulf of Mexico, in *Proceedings of the Nineteenth Annual Symposium on Sea Turtle Biology and Conservation*, Kalb, H.J. and Wibbels, T., Compilers, NOAA Tech. Memo., NMFS-SEFSC-443, 2000, 158, Miami, FL.
- Godley, B.J. et al., 2002. Reproductive seasonality and sexual dimorphism in green turtles, *Mar. Ecol. Prog. Ser.*, 226, 125.
- Hays, G.C. et al., 2001a. The movements and submergence behaviour of male green turtles at Ascension Island, *Mar. Biol.*, 139, 395.
- Hays, G.C. et al., 2001b. Movements of migrating green turtles in relation to AVHRR derived sea surface temperature, *Int. J. Remote Sensing*, 22, 1403.
- Hemminga MA, Marba N, Stapel J (1999) Leaf nutrient resorption, leaf lifespan and the retention of nutrients in seagrass systems. *Aquatic Botany* 65:141–158
- Hendra, 2011. *Pertumbuhan dan produksi biomassa daun lamun Halophila ovalis, Syringodium isoetifolium dan Halodule uninervis pada ekosistem padang lamun di perairan Pulau Barrang Lompo*. Skripsi. Jurusan Ilmu Kelautan Universitas Hasanuddin Makassar. 81 Hal.
- Hirth, H. F. and Carr, A., 1970. The green turtle in the Gulf of Aden and the Seychelles Islands, *Verh. K. Ned. Akad. Wet. Afd. Natuurk. Reeks*, 58, 1.

- Hirth, H. F., Klikoff, L. G., and Harper, K. T., 1973. Sea grasses at Khor Umaira, People's Democratic Republic of Yemen with reference to their role in the diet of the green turtle, *Chelonia mydas*, *Fish. Bull.*, 71, 1093, 1973.
- Hughes, G. R., 1974. The sea turtles of south-east Africa. II. The biology of the Tongaland loggerhead turtle *Caretta caretta* L. with comments on the leatherback turtle *Dermochelys coriacea* L. and the green turtle *Chelonia mydas* L. in the study region, *Oceanogr. Res. Institute (Durban) Invest. Rep.*, No. 36.
- Hungate, R. E., 1966. *The Rumen and Its Microbes*, Academic Press, New York, 1966.
- Keputusan Menteri Negara Lingkungan Hidup Nomor : 200 Tahun 2004 Tentang Kriteria Baku Kerusakan Dan Pedoman Penentuan Status Padang Lamun.
- King, R. T., 1938. The essential of a wildlife range. *J. For.* 36: 457-464 dalam Alikodra, H.S., 2010. *Teknik Pengelolaan Satwaliar dalam Rangka Mempertahankan Keanekaragaman Hayati Indonesia*. IPB Press. Bogor. ISBN : 978-979-493-192-9
- Kiswara, W., Hutomo, M., 1985. Habitat dan Sebaran Geografik Lamun. *Oseana Volume 10. No. 1 : 21-30*, 1985 ISSN 0216-1877
- Kiswara, W., 1999. *Perkembangan Penelitian Padang Lamun Di Indonesia*. dalam Soetomo, Soegiarto, K. A., Djamali, A., dan Ongkosongo, O. S. R., 1999. *Prosiding Seminar Tentang Oseanologi & Ilmu Lingkungan Laut dalam rangka penghargaan kepada Prof. Dr. Aprilani Soegiarto, M.Sc. APU*. Puslitbang Oseanologi LIPI. Jakarta. ISBN 979-8105-67-2
- Kiswara, W., dan Winardi. 1999. Sebaran Lamun di Teluk Kuta dan Teluk Gerupuk, Lombok. Lembaga Ilmu Pengetahuan Indonesia.
- Kneer, D., 2006. *The role of Neaxius acanthus (Thalassinidea: Strahlaxiidae) and its burrows in a tropical seagrass meadow, with some remarks on Corallianassa coutierei (Thalassinidea: Callianassidae)*. Thesis Freie Universität Berlin. 92 pages
- Kuriandewa, T.E., 1997. Distribusi dan Zonasi Lamun di Daerah Padang Lamun Wilayah Kepulauan Derawan, Kalimantan Timur. *Prosiding Seminar Kelautan LIPI – UNHAS ke 1. Ambon 4-6 Juli 1997. Pp 59-70*. ISBN : 979-95178-1-8

- Kuriandewa, T. E., Kiswara, W., Hutomo, M., Soemodihardjo. 2003. *The Seagrasses of Indonesia* In Green E. P., and Short F. T., (2003) *World Atlas of Seagrasses*. Prepared by the UNEP World Conservation Monitoring Centre. University of California Press, Berkeley, USA.
- Kuo, J., 2007. New monoecious seagrass of *Halophila sulawesii* (Hydrocharitaceae) from Indonesia. *Journal of Aquatic Botany Vol. 87* 171–175.
- Lal, A., Arthur, R., Marba, N., Lill, A.W.T., and Alvocerro, T., 2010. Implications of conserving an ecosystem modifier: Increasing green turtle (*Chelonia mydas*) densities substantially alters seagrass meadows. *Biological conservation* 143 (2010) 2730-2738. Elsevier
- Larkum, A.D., Orth, R.J., and Duarte, C.M., 2006. *SEAGRASSES: Biology, Ecology and Conservation*. Springer, P.O. Box 17, 3300 AA Dordrecht, The Netherlands. ISBN-13 978-1-4020-2983-7 (e-book).
- Leopold, A., 1933. Game management. Charles Scribner. New York dalam Alikodra, H.S., 2010. *Teknik Pengelolaan Satwaliar dalam Rangka Mempertahankan Keanekaragaman Hayati Indonesia*. IPB Press. Bogor. ISBN : 978-979-493-192-9
- Limpus, C. J., and Read, P. C., 1985. Green Sea Turtle Stranded by Cyclone Kathy on the South Western Coast of the Gulf of Carpentaria. *Aust, Wildl. Res.* 12. 523.
- Limpus, C. J., Couper, P. J., and Read, M. A., 1994. The green turtle, *Chelonia mydas*, in Queensland: population structure in a warm temperate feeding area, *Mem. Queensland Mus.*, 35, 139.
- Limpus, C.J., 1993. The green turtle, *Chelonia mydas*, in Queensland: breeding males in the Southern Great Barrier Reef, *Wildlife Res.*, 20, 4, 513.
- Luschi, P. et al., 1998. The navigational feats of green sea turtles migrating from Ascension Island investigated by satellite telemetry, *Proc. R. Soc. Lond. B*, 265, 2279.
- Luschi, P. et al., 2001. Testing the navigational abilities of ocean migrants: displacement experiments on green sea turtles (*Chelonia mydas*), *Behav. Ecol. Sociobiol.*, 50, 528.

- Macia S., 2000. The effects of sea urchin grazing and drift algal blooms on a subtropical seagrass bed community. *Journal of Experimental Marine Biology and Ecology* 246, 53-67.
- Márquez M., R., 1990. *FAO Species Catalogue. Vol.11: Sea turtles of the world. An annotated and illustrated catalogue of sea turtle species known to date.* FAO Fisheries Synopsis No. 125, Vol. 11. Rome, FAO. 81 p.
- McKenzie, L.J., (2008). *Seagrass Educator Handbook.* www.seagrasswatch.org. 20pp.
- McKenzie, J.L., Campbell, S.J., & Roder, C.A. 2003. Seagrass-Watch: Manual for Mapping and Monitoring Seagrass Resources by Community (Cityzen) volunteers. 2nd Edition. (QFS, Northern Fisheries Centre, Cairns) 100 pp. ISBN 0-9579741-1-6
- McNaughton, S.J., 1984. Grazing lawns – Animals in herds, plant form, and coevolution. *American Naturalist*, 124, 863–886.
- Meylan, A.B., Bowen, B.W., and Avise, J.C., 1990. A genetic test of the natal homing versus social facilitation models for green turtle migration, *Science*, 248, 724.
- Meylan, P.A., Meylan, A.B., and Yeomans, R., 1992. Interception of Tortuguero-bound green turtles at Bocas Del Toro Province, Panama, in *Proceedings of the Eleventh Annual Workshop on Sea Turtle Biology and Conservation*, Salmon, M. and Wyneken, J., Compilers, NOAA Tech. Memo., NMFS-SEFC-302, 1992, 74, Miami, FL.
- Milchunas, D.G. & Lauenroth, W.K., 1993. Quantitative effects of grazing on vegetation and soils over a global range of environments. *Ecological Monographs*, 63, 327–366.
- Miller, J.D., 1997. *Reproduction in Sea Turtles*, in *The Biology of Sea Turtles*, Lutz, P.L. and Musick, J.A., Editors, CRC Press, Inc., Boca Raton, FL, 1997, 51.
- Moran, K.L. & Bjorndal, K.A., 2007. Simulated green turtle grazing affects nutrient composition of the seagrass *Thalassia testudinum*. *Marine Biology*, 150, 1083–1092.
- Mortimer, J. A, 1976. *Observations on the Feeding Ecology of the Green Turtle, Chelonia mydas, in the Western Caribbean.* Thesis. University of Florida, Gainesville, FL, 1976.

- Mortimer, J.A., 1982. *Feeding ecology of sea turtles*, in *Biology and Conservation of Sea Turtles*, Bjorndal, K.A., Editor, Smithsonian Institution Press, Washington, DC, 103.
- Nagaoka, S. M., Martins, A. S., dos Santos, R. G., Tognella, M. M. P., Filho, E. C. O., Seminoff, J.A., 2011. Diet of juvenile green turtles (*Chelonia mydas*) associating with artisanal fishing traps in a subtropical estuary in Brazil. *Mar Biol.*
- Nienhuis, P. H., Coose, J., and Kiswara, W., 1989. Community structure and biomass distribution of seagrass and macrofauna in the flores sea, Indonesia. *Netherlands Journal of Sea Research*. 23(3): 197-214.
- Nurlidiasari, M., 2004. *The application of QuickBird and Multitemporal Landsat TM data for coral reef habitat mapping Case Study: Derawan Island, East Kalimantan, Indonesia*. Master Theses. International Institute for Geo-Information Science and Earth Observation. Enschede, Netherlands.
- Ogden, J.C., Robinson, L., Whitlock, K., Daganhardt, H., and Cebula, R., 1983. Diel foraging patterns in juvenile green turtles (*Chelonia mydas*) in St Croix United States Virgin Islands. *Journal of Experimental Marine Biology and Ecology*, 66, 199–205.
- Papi, F. *et al.*, 1995. Long-range migratory travel of a green turtle tracked by satellite: evidence for navigational ability in the open ocean, *Mar. Biol.*, 122, 171.
- Papi, F. *et al.*, 2000. Open-sea migration of magnetically disturbed sea turtles, *J. Exp. Biol.*, 203, 3435.
- Peraturan Menteri Negara Lingkungan Hidup No. 17 Tahun 2009 tentang Pedoman Penentuan Daya Dukung Lingkungan Hidup Dalam Penataan Ruang Wilayah.
- Peristiwady, T., Happy, I., Souhoka, J., Uly, A. A., 2008. *Konektifitas padang lamun dan terumbu karang di pulau-pulau Derawan Kalimantan Timur*. Laporan Kegiatan Program Kompetitif LIPI 2005-2007. Pusat Penelitian Oseanografi. Lembaga Ilmu Pengetahuan Indonesia
- Plotkin, P., 2003. *Adult Migration and Habitat Use, in The Biology of Sea Turtles* / edited by Peter L. Lutz, John A. Musick, and Jeanette Wyneken. CRC Press LLC marine science series. 2002 Boca Raton, Florida ISBN 0-8493-1123-3.

- Rani, C., dan Budimawan, 2009. *Keberhasilan ekologi dari penciptaan habitat dengan lamun buatan (Artificial Seagrass): penilaian terhadap komunitas dan biodiversitas biota laut*. Laporan Akhir Penelitian Hibah Kompetisi A2-Ditjen DIKTI tahun 2008. Jurusan Ilmu Kelautan Universitas Hasanuddin. Makassar. 66 Hal.
- Rayburn, E., 2000. Overgrazing Can Hurt Environment, Your Pocketbook. *West Virginia Farm Bureau News*. West Virginia University. (<http://wvu.edu>.) diakses 28 November 2012.
- Reischig, T., Basuki N.R., Moord V.A., Cordes, H., and Latorra, L., 2011. Green turtles (*Chelonia mydas*) in the Berau archipelago: Population assessment, nesting activities, and protection status. *31st Conference of the International Sea Turtle Society, San Diego*.
- Ross, J. P., 1985. Biology of the green turtle, *Chelonia mydas*, on an Arabian feeding ground. *J. Herpetol.*, 19, 459.
- Schroeder, B.A., Ehrhart, L.M., and Balazs, G.H., 1996. Post-nesting movements of Florida green turtles: preliminary results from satellite telemetry, in *Proceedings of the Fifteenth Annual Symposium on Sea Turtle Biology and Conservation*, Keinath, J.A. et al., Compilers, NOAA Tech. Memo., NMFS-SEFSC-387, 1996, 289, Miami, FL.
- Schulz, J.P., (1984): *Turtle conservation strategy in Indonesia*. IUCN/WWF Report. Seminoff JA (2004a): *Chelonia mydas*. In: IUCN 2010. *IUCN Red List of Threatened Species*. Version 2010.
- Seminoff, J.A. 2004. *Chelonia mydas*. In: IUCN 2011. *IUCN Red List of Threatened Species*. Version 2011.2. www.iucnredlist.org. Downloaded on 13 February 2012.
- Serusi, S., 2010. *Estimation of leaves nutrient content in seagrasses using spectral data The case of Halodule uninervis*. International Institute For Geo-information science and observation Enschede, The Netherlands. Master Theses. 38 pages.
- Sirotnak, J.M. & Huntly, N.J., 2000. Direct and indirect effects of herbivores on nitrogen dynamics: voles in riparian areas. *Ecology*, 81, 78–87.
- SNI 06-6989.31-2005 cara uji kadar fosfat (PO₄) dengan spektrofotometer secara asam askorbat.

- SNI 19-6964.7-2003 cara uji nitrat ($\text{NO}_3\text{-N}$) dengan reduksi kadmium secara spektrofotometri.
- Short, F.T., Duarte, C. M., 2000. *Chapter 8. Methods for measurement of seagrass growth and production, in Global Seagrasses Research Methods*, Short, F.T. and Coles, R.G., Editors, Elsevier Science B.V., Amsterdam. ISBN: 0-444-50891-0.
- Supanwanid, C., Albertsen, J.O., Mukai, H., 2001. *Chapter 15. Methods for assesing the grazing effects of large herbivores on seagrasses, in Global Seagrasses Research Methods*, Short, F.T. and Coles, R.G., Editors, Elsevier Science B.V., Amsterdam. ISBN: 0-444-50891-0.
- Supriyadi, I.H., dan Kuriandewa, T.E., 2008. Seagrass distribution at small islands: case study of Derawan Archipelago, East Kalimantan Province, Indonesia. *Oseanologi dan Limnologi Indonesia* (2008) 34: 83- 99 ISSN 0125 - 9830
- Thayer, G.W., Bjorndal, K.A., Ogden, J.C., Williams, S.L. & Zieman, J.C., 1984. Role of larger herbivores in seagrass communities. *Estuaries*, 7, 351–376.
- Tomascik T., A.J. Mah, A. Nontji, and M.K. Moosa. 1997. *The Ecology of Indonesian Seas*. Part Two, Vol VIII, Chapter 21. Periplus Edition. pp 1101-1131.
- Turner C.L., Seastedt T.R., Dyer M.I., 1993. Maximization of aboveground grassland production - the role of defoliation frequency, intensity, and history. *Ecological Applications* 3, 175-186.
- Uku, J., Beer, S., Bjork, M., 2005. Buffer sensitivity of photosynthetic carbon utilisation in eight tropical seagrasses. *Marine Biol.* 147, 1085–1090.
- Undang-Undang Republik Indonesia No. 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup.
- Valentine J.F., Heck K.L., 1991. The role of sea urchin grazing in regulating subtropical seagrass meadows - evidence from field manipulations in the Northern Gulf of Mexico. *Journal of Experimental Marine Biology and Ecology* 154, 215-230.
- van der Zon, S., 2010. River influence on tropical seagrass ecosystems in the derawan archipelago; East-Kalimantan, Indonesia. Radboud University Nijmegen. Master thesis.

- van Katwijk, M.M., van der Welle, M.E.W., Lucassen, E.C.H.E.T., Vonk, J.A., Christianen, M.J.A., Kiswara, W., al Hakim, I.I., Arifin, A., Bouma, T.J., Roelofs, J.G.M., and Lamers, L.P.M., 2011. Early warning indicators for river nutrient and sediment loads in tropical seagrass beds: A benchmark from a near-pristine archipelago in Indonesia. *Marine Pollution Bulletin* 62 (2011) 1512–1520. Elsevier Ltd. All rights reserved
- Vonk, J.A., Kneer, D., Stapel, J., Asmus, H., 2008. Shrimp burrow in tropical seagrass meadows: An important sink for litter. *Estuarine, Coastal and Shelf Science* 79 (2008) 79–85
- Vonk, J.A., Christianen, M.J.A., & Stapel, J., 2010. Abundance, edge effect, and seasonality of fauna in mixed-species seagrass meadows in southwest Sulawesi, Indonesia. *Marine Biology Research*, 2010; 6: 282 - 291
- Wang, X., 2010. Research Review of the Ecological Carrying Capacity. *Journal of Sustainable Development* Vol. 3, No. 3; September 2010. Published by Canadian Center of Science and Education. www.ccsenet.org/jsd
- Waycott, M., McMahon, K., Mellors, K., Calladine, A., and Kleine, D., 2004. *A Guide To Tropical Seagrasses Of The West Indo-Pacific*. James Cook University, Townsville. 72 pp.
- Williams, S. L., 1988. *Thalassia testudinum* productivity and grazing by green turtles in a highly disturbed seagrass bed, *Mar. Biol.*, 98,447.

Lampiran 1. Kerapatan jenis padang lamun Pulau Derawan

TRANSEK	KERAPATAN TIAP JENIS LAMUN				n Total Transek ¹
	<i>H. uninervis</i>	<i>H. ovalis</i>	<i>S. isoetifolium</i>	<i>C. Rotundata</i>	
1	4811	349			5160
2	4463	637		154	5254
3	5105	347			5452
4	3439			507	3946
5	4294			267	4561
6	2216		347	547	3110
7	3071	381	113	475	4040
8	3064	1043	53		4160
9	2213	458	22		2693
10	2024		302		2326
11	2534		206		2740
12	2187		268	295	2750
13	2906	869		385	4160
14	3264	1272		392	4928
15	3045	731		235	4011
16	3737				3737
17	3971				3971
18	4698				4698
19	3746		379	378	3746
20	4523		475		4523
21	3342			432	3774
22	4115	637	284	354	4469
23	5345				5345
24	2978			337	3315
25	4309		343	294	4603
26	3974	645			4619
27	2721		386	676	3783
28	2334	235	584	535	3688
29	4327	303	347	163	5140
30	3465		421	454	4340
31	3859			367	4226
32	3091			515	3606
33	2204		97	848	3149
34	4136		74	165	4375
35	4021		82	367	4470
36	3743		65	294	4102
37	3617		236	283	4136

38	4347		41		4388
39	4269	697			4966
40	3284		246	376	3906
41	3502		405	344	4251
42	3624		265	498	4387
43	3748		500	261	4509
44	4061		151	182	4394
45	4583				4583
46	3789	714		579	4368
47	3091		315	481	3572
48	3305	891	129	585	3890
49	2767			981	3748
n Total Jenis	175262	10209	7136	14006	202068
Kerapatan Total Rata-rata (Di)	3576.77551	638.0625	254.8571429	411.9411765	4123.836735
% Kerapatan Relatif Jenis (Rdi)	86	5	3	6	100

Summary Statistic Kerapatan H. uninervis

Mean	3576.77551
Standard Error	115.9092576
Median	3624
Mode	3091
Standard Deviation	811.3648035
Sample Variance	658312.8444
Kurtosis	-0.551595573
Skewness	-0.077567773
Range	3321
Minimum	2024
Maximum	5345
Sum	175262
Count	49

Lampiran 2. Persentase keutuhan morfologi ujung daun *Halodule uninervis* di padang lamun Pulau Derawan

No.	Panjang Daun (mm)	Keutuhan Ujung Daun	No.	Panjang Daun (mm)	Keutuhan Ujung Daun	No.	Panjang Daun (mm)	Keutuhan Ujung Daun
1	101	utuh	41	28	tidak utuh	81	101	utuh
2	62	tidak utuh	42	27	tidak utuh	82	47	tidak utuh
3	51	tidak utuh	43	34	tidak utuh	83	97	utuh
4	61	tidak utuh	44	23	tidak utuh	84	37	tidak utuh
5	42	tidak utuh	45	98	utuh	85	41	tidak utuh
6	58	tidak utuh	46	55	tidak utuh	86	37	tidak utuh
7	42	tidak utuh	47	43	tidak utuh	87	50	tidak utuh
8	57	tidak utuh	48	28	tidak utuh	88	52	tidak utuh
9	99	utuh	49	52	tidak utuh	89	49	tidak utuh
10	51	tidak utuh	50	53	tidak utuh	90	57	tidak utuh
11	36	tidak utuh	51	102	utuh	91	47	tidak utuh
12	64	tidak utuh	52	58	tidak utuh	92	48	tidak utuh
13	97	utuh	53	41	tidak utuh	93	39	tidak utuh
14	47	tidak utuh	54	39	tidak utuh	94	109	utuh
15	49	tidak utuh	55	36	tidak utuh	95	41	tidak utuh
16	51	tidak utuh	56	49	tidak utuh	96	46	tidak utuh
17	103	utuh	57	58	tidak utuh	97	53	tidak utuh
18	45	tidak utuh	58	37	tidak utuh	98	53	tidak utuh
19	63	tidak utuh	59	45	tidak utuh	99	29	tidak utuh
20	29	tidak utuh	60	31	tidak utuh	100	52	tidak utuh
21	48	tidak utuh	61	104	utuh	101	46	tidak utuh
22	94	utuh	62	42	tidak utuh	102	32	tidak utuh
23	55	tidak utuh	63	50	tidak utuh	103	64	tidak utuh
24	29	tidak utuh	64	35	tidak utuh	104	27	tidak utuh
25	78	tidak utuh	65	51	tidak utuh	105	32	tidak utuh
26	71	tidak utuh	66	31	tidak utuh	106	41	tidak utuh
27	98	utuh	67	43	tidak utuh	107	39	tidak utuh
28	39	tidak utuh	68	62	tidak utuh	108	37	tidak utuh
29	51	tidak utuh	69	96	utuh	109	60	tidak utuh
30	32	tidak utuh	70	39	tidak utuh	110	31	tidak utuh
31	30	tidak utuh	71	42	tidak utuh	111	56	tidak utuh
32	106	utuh	72	37	tidak utuh	112	95	utuh
33	22	tidak utuh	73	54	tidak utuh	113	67	tidak utuh
34	41	tidak utuh	74	29	tidak utuh	114	54	tidak utuh
35	53	tidak utuh	75	53	tidak utuh	115	36	tidak utuh
36	48	tidak utuh	76	46	tidak utuh	116	93	utuh
37	30	tidak utuh	77	62	tidak utuh	117	46	tidak utuh
38	53	tidak utuh	78	48	tidak utuh	118	36	tidak utuh
39	46	tidak utuh	79	47	tidak utuh	119	51	tidak utuh
40	101	utuh	80	31	tidak utuh	120	29	tidak utuh
Total							6294	
Rata-rata panjang daun <i>Halodule uninervis</i> rata-rata							52 ± 21 mm	
Persentase ujung daun utuh							13.3%	

Summary Statistic Panjang Daun

Mean	52.45
Standard Error	1.96188649
Median	48
Mode	51
Standard	
Deviation	21.49138972
Sample Variance	461.8798319
Kurtosis	0.705612186
Skewness	1.212059173
Range	87
Minimum	22
Maximum	109
Sum	6294
Count	120

Lampiran 3. Posisi koordinat *sea-thruthing* Padang Lamun Derawan

No.	Latitude (N)	Longitude (E)	Akurasi (m)	Keterangan
1	2° 17' 13.5"	118° 14' 35.7"	3	lamun (tepi)
2	2° 17' 16.8"	118° 14' 35.2"	3	lamun
3	2° 17' 20.2"	118° 14' 34.2"	3	lamun
4	2° 17' 20.8"	118° 14' 34.0"	3	karang
5	2° 17' 21.2"	118° 14' 33.7"	3	karang
6	2° 17' 20.4"	118° 14' 32.1"	3	karang
7	2° 17' 18.4"	118° 14' 30.4"	3	karang
8	2° 17' 16.9"	118° 14' 30.7"	3	lamun
9	2° 17' 14.9"	118° 14' 30.3"	3	lamun
10	2° 17' 13.6"	118° 14' 29.1"	3	lamun
11	2° 17' 12.8"	118° 14' 30.8"	3	lamun (tepi)
12	2° 17' 12.8"	118° 14' 40.4"	3	lamun (tepi)
13	2° 17' 14.6"	118° 14' 40.8"	3	lamun
14	2° 17' 19.7"	118° 14' 44.0"	3	karang
15	2° 17' 19.2"	118° 14' 45.7"	3	lamun
16	2° 17' 20.3"	118° 14' 46.5"	3	lamun
17	2° 17' 23.7"	118° 14' 49.5"	3	lamun
18	2° 17' 25.1"	118° 14' 50.0"	3	lamun
19	2° 17' 25.1"	118° 14' 50.7"	3	karang
20	2° 17' 24.3"	118° 14' 51.7"	3	lamun
21	2° 17' 23.3"	118° 14' 52.3"	3	karang
22	2° 17' 23.2"	118° 14' 52.5"	3	lamun
23	2° 17' 19.8"	118° 14' 52.7"	3	lamun
24	2° 17' 19.9"	118° 14' 54.3"	3	lamun
25	2° 17' 19.6"	118° 14' 56.7"	3	lamun
26	2° 17' 20.2"	118° 15' 0.5"	3	lamun
27	2° 17' 21.3"	118° 15' 3.6"	3	lamun
28	2° 17' 19.4"	118° 15' 6.4"	3	lamun
29	2° 17' 16.6"	118° 15' 7.7"	3	lamun
30	2° 17' 14.9"	118° 15' 8.9"	3	lamun
31	2° 17' 14.3"	118° 15' 9.0"	3	pasir

32	2° 17' 13.1"	118° 15' 8.4"	3	pasir
33	2° 17' 12.7"	118° 15' 5.6"	3	pasir
34	2° 17' 11.8"	118° 15' 3.8"	3	pasir
35	2° 17' 6.8"	118° 15' 5.4"	3	lamun
36	2° 17' 5.2"	118° 15' 6.2"	3	lamun
37	2° 17' 4.1"	118° 15' 6.9"	3	lamun
38	2° 17' 2.5"	118° 15' 7.1"	3	lamun
39	2° 17' 2.4"	118° 15' 3.7"	3	lamun
40	2° 17' 2.5"	118° 15' 3.0"	3	lamun
41	2° 17' 2.5"	118° 15' 0.3"	3	lamun
42	2° 17' 1.5"	118° 15' 57.9"	3	lamun
43	2° 17' 1.2"	118° 15' 56.4"	3	lamun
44	2° 17' 1.0"	118° 15' 54.1"	3	lamun
45	2° 17' 2.5"	118° 15' 51.9"	3	lamun
46	2° 17' 0.4"	118° 15' 47.1"	3	lamun

Lampiran 4. Posisi koordinat *ground control point* Pulau Derawan

No.	Latitude (N)	Longitude (E)	Akurasi (Meter)	Keterangan
1	2° 17' 1.8" N	118° 14' 47.7" E	3	Pangkal Dermaga BMI
2	2° 17' 5.5" N	118° 14' 52.8" E	3	Pangkal Dermaga Kiani
4	2° 16' 57.1" N	118° 14' 57.2" E	3	Ujung Dermaga Kiani
6	2° 17' 7" N	118° 14' 53.9" E	3	Helipad
7	2° 17' 11.1" N	118° 14' 33.9" E	3	Pos AL Derawan
10	2° 17' 0.1" N	118° 14' 31.7" E	3	Masjid (Gerbang)
11	2° 16' 53" N	118° 14' 41.1" E	3	Dermaga Reza & Dira
13	2° 17' 7.0" N	118° 14' 18.4" E	3	Dermaga Desa
14	2° 17' 13.1" N	118° 14' 33.6" E	3	Menara Pos AL Derawan
17	2° 17' 8.0" N	118° 14' 45.2" E	3	Menara 1 (segitiga)
18	2° 17' 6.6" N	118° 14' 45.3" E	3	Menara 2 (bujur sangkar)
19	2° 17' 6.9" N	118° 14' 50.2" E	3	Pendopo PT. Kiani

Lampiran 5. Nilai parameter fisikokimia oseanografi padang lamun Pulau Derawan selama 9 hari pengamatan

Hari	Suhu (°C)	Salinitas (ppt)	pH	Nitrat (mg L ⁻¹)	Fosfat (mg L ⁻¹)	Oksigen Terlarut (mg L ⁻¹)
1	30	33	8.2	0.0004	0.0005	7.2
2	29	34	7.9	0.0002	0.0001	7.2
3	30	33	8.1	0.0002	0.0005	7.3
4	31	35	8.4	0.0004	0.0005	7
5	28	34	8.2	0.0002	0.0001	6.9
6	29	34	7.9	0.0002	0.0005	6.7
7	32	35	8.5	0.0004	0.0005	6.8
8	31	34	8.2	0.0002	0.0001	6.8
9	30	34	8.5	0.0002	0.0005	7.1
Rerata	30	34	8.211	0.00026	0.00036	7
Standar Deviasi	1.224	0.707	0.226	0.0001	0.0002	0.212

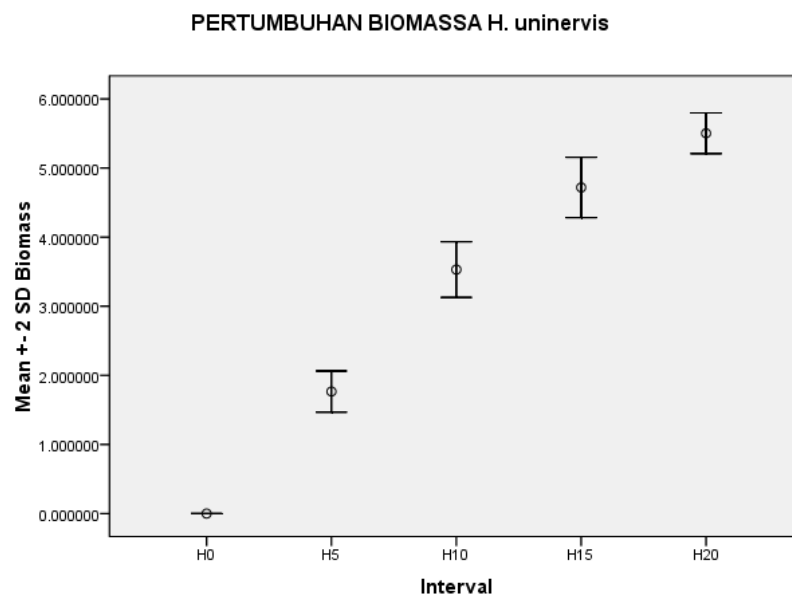
Lampiran 6. Hasil penimbangan biomassa total *H. uninervis* dari setiap interval pemanenan

Kode Sampel	Hari	Biomass Sub Plot (0.25 m ²)	Biomass Total* (gBK m ⁻²)	Jumlah	Rerata Biomass
H5A1	5	0.481666961	1.926667842		
H5B1	5	0.434790359	1.739161435	5.297834883	1.765944961
H5C1	5	0.408001401	1.632005605		
H10A2	10	0.825008493	3.300033972		
H10B2	10	0.905036859	3.620147438	10.59149765	3.530499217
H10C2	10	0.91782906	3.67131624		
H15A3	15	1.13319051	4.53276204		
H15B3	15	1.239783754	4.959135015	14.1561975	4.718732499
H15C3	15	1.16607511	4.664300441		
H20A4	20	1.346212856	5.384851424		
H20B4	20	1.41706369	5.668254762	16.5080276	5.502675868
H20C4	20	1.363730355	5.454921418		

* Hasil konversi (kali 4) biomass Sub Plot (0.25 m²) ke biomass m⁻²

Lampiran 7. Pertumbuhan dan Produktifitas biomassa Lamun *H. uninervis* pada eksperimen kurungan tertutup selama 20 hari dengan interval pemanenan 5 hari

Interval	Rerata Biomassa Daun <i>H. uninervis</i> (gBK m ⁻²)	Produktifitas Daun (gBK m ⁻² hari ⁻¹)
H5	1.765944961	0.353188992
H10	3.530499217	0.353049922
H15	4.718732499	0.314582167
H20	5.502675868	0.275133793
Rerata Produktifitas		0.323988718



Lampiran 8. Analisis Oneway ANOVA perbedaan laju produktifitas daun
H. uninervis pada setiap interval pemanenan

Oneway

ANOVA

PRODUKTIFITAS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.013	3	.004	10.692	.004
Within Groups	.003	8	.000		
Total	.016	11			

Post Hoc

Multiple Comparisons

Dependent Variable:PRODUKTIFITAS

	(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	INTERV AL	INTERV AL					
		H5	.00014	.01613	1.000	-.0515	.0518
		H10	.03861	.01613	.156	-.0130	.0903
		H15	.07806*	.01613	.006	.0264	.1297
	H10	H5	-.00014	.01613	1.000	-.0518	.0515
		H15	.03847	.01613	.158	-.0132	.0901
		H20	.07792*	.01613	.006	.0263	.1296
	H15	H5	-.03861	.01613	.156	-.0903	.0130
		H10	-.03847	.01613	.158	-.0901	.0132
		H20	.03945	.01613	.145	-.0122	.0911
	H20	H5	-.07806*	.01613	.006	-.1297	-.0264
		H10	-.07792*	.01613	.006	-.1296	-.0263
H15		-.03945	.01613	.145	-.0911	.0122	

LSD	H5	H10	.00014	.01613	.993	-.0371	.0373
		H15	.03861*	.01613	.044	.0014	.0758
		H20	.07806*	.01613	.001	.0409	.1153
	H10	H5	-.00014	.01613	.993	-.0373	.0371
		H15	.03847*	.01613	.044	.0013	.0757
		H20	.07792*	.01613	.001	.0407	.1151
	H15	H5	-.03861*	.01613	.044	-.0758	-.0014
		H10	-.03847*	.01613	.044	-.0757	-.0013
		H20	.03945*	.01613	.040	.0023	.0766
	H20	H5	-.07806*	.01613	.001	-.1153	-.0409
		H10	-.07792*	.01613	.001	-.1151	-.0407
		H15	-.03945*	.01613	.040	-.0766	-.0023

*. The mean difference is significant at the 0.05 level.

Homogeneous

PRODUKTIFITAS

INTERVAL	N	Subset for alpha = 0.05	
		1	2
Tukey HSD ^a			
H20	3	.2751	
H15	3	.3146	.3146
H10	3		.3530
H5	3		.3532
Sig.		.145	.156

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Lampiran 9. Analisis Oneway ANOVA perbedaan pertumbuhan biomassa daun *H. uninervis* pada setiap interval pemanenan

ANOVA

ANOVA					
BIOMASSA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	23.784	3	7.928	239.886	.000
Within Groups	.264	8	.033		
Total	24.048	11			

Post Hoc

Multiple Comparisons

Dependent Variable:BIOMASSA

	(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	INTERV AL	H10	-1.764554256E0 [*]	.148433517	.000	-2.23989063	-1.28921789
		H15	-2.952787538E0 [*]	.148433517	.000	-3.42812391	-2.47745117
		H20	-3.736730907E0 [*]	.148433517	.000	-4.21206728	-3.26139454
	H10	H5	1.764554256 [*]	.148433517	.000	1.28921789	2.23989063
		H15	-1.188233282E0 [*]	.148433517	.000	-1.66356965	-.71289691
		H20	-1.972176651E0 [*]	.148433517	.000	-2.44751302	-1.49684028
	H15	H5	2.952787538 [*]	.148433517	.000	2.47745117	3.42812391
		H10	1.188233282 [*]	.148433517	.000	.71289691	1.66356965
		H20	-.783943369 [*]	.148433517	.003	-1.25927974	-.30860700
	H20	H5	3.736730907 [*]	.148433517	.000	3.26139454	4.21206728
		H10	1.972176651 [*]	.148433517	.000	1.49684028	2.44751302
		H15	.783943369 [*]	.148433517	.003	.30860700	1.25927974
LSD	H5	H10	-1.764554256E0 [*]	.148433517	.000	-2.10684256	-1.42226595

	H15	-2.952787538E0*	.148433517	.000	-3.29507584	-2.61049923
	H20	-3.736730907E0*	.148433517	.000	-4.07901921	-3.39444260
H10	H5	1.764554256*	.148433517	.000	1.42226595	2.10684256
	H15	-1.188233282E0*	.148433517	.000	-1.53052159	-.84594498
	H20	-1.972176651E0*	.148433517	.000	-2.31446495	-1.62988835
H15	H5	2.952787538*	.148433517	.000	2.61049923	3.29507584
	H10	1.188233282*	.148433517	.000	.84594498	1.53052159
	H20	-.783943369*	.148433517	.001	-1.12623167	-.44165507
H20	H5	3.736730907*	.148433517	.000	3.39444260	4.07901921
	H10	1.972176651*	.148433517	.000	1.62988835	2.31446495
	H15	.783943369*	.148433517	.001	.44165507	1.12623167

*. The mean difference is significant at the 0.05 level.

Homogeneous

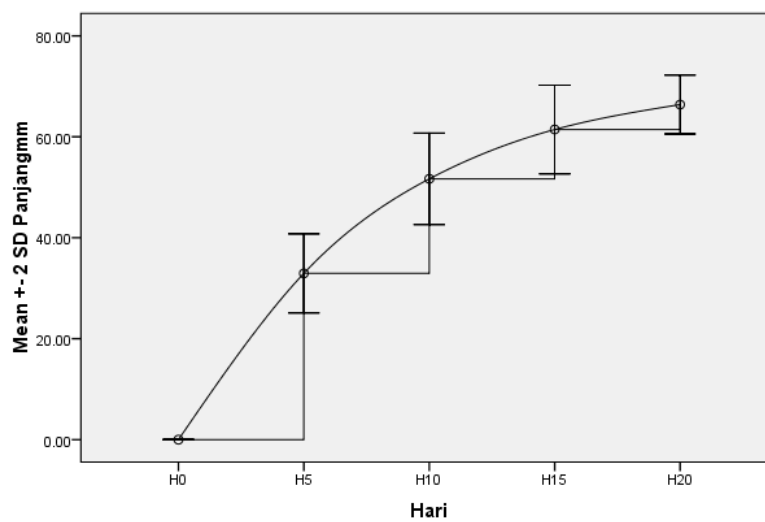
		BIOMASSA				
INTERV AL	N	Subset for alpha = 0.05				
		1	2	3	4	
Tukey HSD ^a	H5	3	1.76594496 E0			
	H10	3		3.53049922 E0		
	H15	3			4.71873250 E0	
	H20	3			5.50267587 E0	
	Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Lampiran 10. Pertumbuhan panjang daun *H. uninervis* perairan Derawan

No.	Panjang Daun (mm)			
	H5	H10	H15	H20
1	33	48	66	69
2	40	56	61	66
3	30	47	59	67
4	27	56	69	65
5	34	50	64	68
6	36	52	58	65
7	31	55	55	64
8	29	61	62	63
9	31	43	60	68
10	29	48	58	72
11	37	53	67	60
12	34	51	69	66
13	32	47	59	67
14	30	56	58	64
15	28	55	63	68
16	38	49	65	71
17	35	48	57	64
18	39	55	56	68
Rerata	32.94444444	51.6666667	61.4444444	66.3888889

PERTUMBUHAN PANJANG DAUN *H. uninervis*

Lampiran 11. Rata-rata bobot biomassa daun *H. uninervis* makanan penyuhu hijau di padang lamun pulau Derawan

No.	Biomass <i>H. uninervis</i> (gBK tegakan ⁻¹)
1	0.007557143
2	0.006852812
3	0.006450303
4	0.012715918
5	0.013918361
6	0.014110566
7	0.017346415
8	0.018948
9	0.017840513
10	0.020547119
11	0.021611667
12	0.020810323
13	0.007237143
14	0.006532812
15	0.006130303
16	0.012395918
17	0.013598361
18	0.013790566
19	0.017026415
20	0.018628
21	0.017520513
22	0.020227119
23	0.021291667
24	0.020490323
Rerata	0.014732428

Lampiran 12. Rata-rata durasi penyelaman saat aktifitas makan penyu hijau di padang lamun Pulau Derawan

No.	Durasi Penyelaman		Total Durasi Penyelaman (Detik)*
	Menit	Detik	
1	8	4	484
2	8	19	499
3	7	55	475
4	9	2	542
5	8	41	521
6	7	51	471
7	7	40	460
8	6	53	413
9	9	12	552
10	8	35	515
11	6	48	408
12	9	21	561
13	7	18	438
14	8	48	528
15	9	45	585
16	7	31	451
17	7	33	453
18	8	43	523
19	7	13	433
Total			9312
Rata-Rata (Detik)			490.1052632
Rata-Rata (Menit)			8' 16"± 51"

*Konversi satuan menit ke detik

Summary Statistic Turtle DiveTime

Mean	490.1052632
Standard Error	11.82620115
Median	484
Mode	#N/A
Standard Deviation	51.54921568
Sample Variance	2657.321637
Kurtosis	-0.970182244
Skewness	0.106496728
Range	177
Minimum	408
Maximum	585
Sum	9312
Count	19

Lampiran 13. Rata-rata jumlah gigitan penyus hijau untuk setiap penyelaman saat saat aktifitas makan padang lamun Pulau Derawan

No.	Jumlah gigitan/menit
1	44
2	36
3	47
4	55
5	52
6	44
7	51
8	55
9	46
10	49
11	43
12	46
13	48
14	55
15	53
16	47
17	51
18	45
19	47
20	54
21	49
22	43
23	47
24	51
25	43
26	39
27	54
28	47
29	49
30	54
31	43
Rerata	47 ± 4.8

Summary Statistic Turtle Bite
Minute⁻¹

Mean	47.96774194
Standard Error	0.870649085
Median	47
Mode	47
Standard Deviation	4.847568951
Sample Variance	23.49892473
Kurtosis	-0.191157797
Skewness	-0.348704999
Range	19
Minimum	36
Maximum	55
Sum	1487
Count	31

Lampiran 14. Perhitungan daya dukung (K) total padang lamun

Komponen Daya Dukung

$$\text{Pr (Produktifitas H. uninervis)} = 0.323988718 \text{ g BK m}^{-2} \text{ hari}^{-1}$$

$$\text{A (Luas padang lamun)} = 350000 \text{ m}^2$$

$$\text{C (Konsumsi harian penyu hijau)} = 373.9090295 \text{ g BK hari}^{-1}$$

Perhitungan

Daya Dukung Total Padang Lamun

$$K_{\text{total}} = \text{Pr} \times \text{A/C}$$

$$K_{\text{total}} = \frac{0.323988718 \times 350000}{373,9090295}$$

$$K_{\text{total}} = 303,2 \text{ ind}$$

Daya Dukung Per Hektar

$$K_{\text{per Ha}} = K_{\text{total}}/\text{Luas}$$

$$= 303,2 \text{ ind}/35$$

$$= 8,6 \text{ ind}$$

Lampiran 15. Tabel rata-rata kelimpahan populasi penyu hijau yang mencari makan di perairan Pulau Derawan pada bulan Mei 2012

No	Zona Lajur Survey	Cacah Penyu	Individu
1	Timur		11
2	Tenggara		11
3	Selatan		8
4	Barat Daya		6
5	Barat		3
6	Barat Laut		9
7	Utara		14
8	Timur Laut		12
Rerata			9.25

<i>Summary Statistic Kelimpahan Penyu</i>	
Mean	9.25
Standard Error	1.25
Median	10
Mode	11
Standard Deviation	3.535533906
Sample Variance	12.5
Kurtosis	-0.01792
Skewness	-0.610940259
Range	11
Minimum	3
Maximum	14
Sum	74
Count	8

Lampiran 16. Data pengamatan aktifitas bertelur penyu hijau di Pulau Derawan periode Maret – Mei 2012

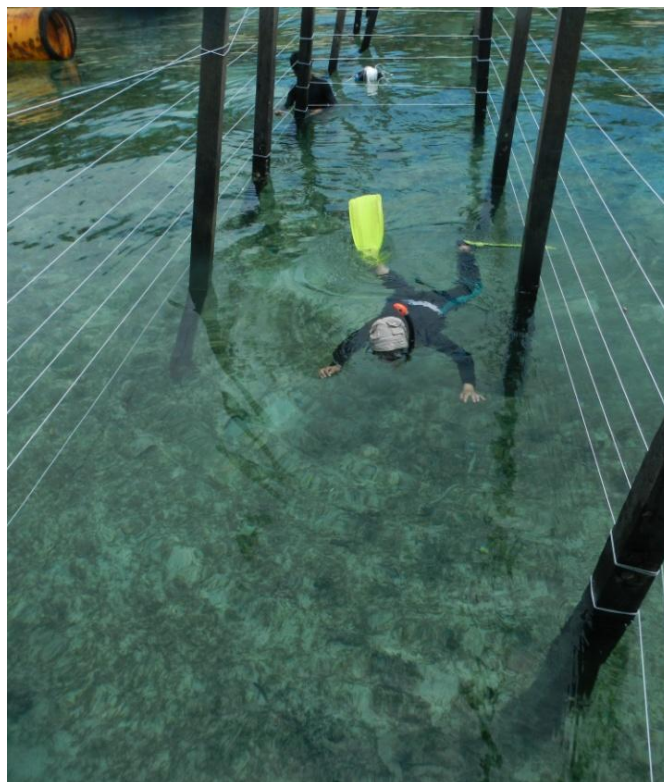
TANGGAL	MENDARAT	NOMOR TAG	UKURAN LENGKUNG KARAPAS		JUMLAH TELUR
			PANJANG (cm)	LEBAR (cm)	
4-Mar-12	1	221617			88
5-Mar-12	1	DO257	110.8	98	114
8-Mar-12	3	221618			100
		221622	90.2	80.6	80
		DO143			63
10-Mar-12	2	221621			106
		221620			103
16-Mar-12	1	221617			89
17-Mar-12	2	DO327			91
		221619			62
18-Mar-12	1	DO167	90	82.8	78
19-Mar-12	1	221618			105
21-Mar-12	1	221630			104
22-Mar-12	1	221621			98
24-Mar-12	1	221623	94.4	90	84
26-Mar-12	1	221624	100.2	90.5	112
27-Mar-12	1	221617			86
29-Mar-12	2	DO167			72
		221625	97.1	88	81
30-Mar-12	2	DO527			103
		221619			61
1-Apr-12	4	221618			102
		221621			78
		DO038			80
		221628			64
2-Apr-12	1	221630			103
3-Apr-12	1	221622			64
4-Apr-12	1	221629			105
5-Apr-12	1	221623			75
6-Apr-12	1	221626	97.2	80.2	83
7-Apr-12	1	221617			85
8-Apr-12	1	221624			91
9-Apr-12	1	DO167			69
10-Apr-12	1	221625			106
11-Apr-12	2	DO527			94
		221619			64
12-Apr-12	2	DO336	90.9	80.8	84

		221618			101
13-Apr-12	4	221627	90.1	84.1	61
		221620			107
		221628	98	86	82
		DO038			88
14-Apr-12	2	221629	92.2	81.4	80
		221622			65
15-Apr-12	1	221621			96
17-Apr-12	3	221631	89.1	84	66
		221623			81
		221617			86
18-Apr-12	1	221624			93
20-Apr-12	1	DO167			72
21-Apr-12	2	DO527			95
		221632	92.6	84.2	80
22-Apr-12	2	221625			105
		221633	109.1	99.1	107
23-Apr-12	1	221634	89.4	76.6	81
24-Apr-12	2	DO336			87
		221619			58
25-Apr-12	1	221629			68
26-Apr-12	5	DO038			92
		221620			103
		DO065	100.2	88.8	104
		221635	84.4	71.8	68
		22			66
27-Apr-12	2	221630	96.2	86.2	80
		221627			61
28-Apr-12	4	221631			79
		221633	98.2	86.2	61
		221617			89
		221626			83
29-Apr-12	1	221624			90
1-May-12	2	DO167			65
		DO527			76
2-May-12	1	221625			81
3-May-12	1	221632			79
5-May-12	1	221622			84
6-May-12	1	221634			63
7-May-12	1	221636			58
8-May-12	7	DO038			84
		DO065			85
		DO336			84

		221631			70
		221635			71
		NEW			108
		221628			75
9-May-12	1	221630			70
10-May-12	4	221626			89
		221627			54
		221637	92.8	80.2	79
		DO533			81
11-May-12	1	221624			91
12-May-12	2	DO527			94
		DO167			66
13-May-12	2	221638	98.5	80.2	62
		271045	103.1	92.2	89
14-May-12	2	221639			80
		221632			80
15-May-12	4	221640	97.8	87.2	66
		221622			86
		221629			65
		221633			103
16-May-12	1	221625			91
17-May-12	1	NEW			118
18-May-12	2	221635			67
		DO038			90
19-May-12	3	221631			70
		221620			73
		DO336			79
20-May-12	1	221630			78
21-May-12	2	DO533			73
		221624			92
22-May-12	1	221637			82
TOTAL	111		2202.5	1959.1	7578
RATA-RATA			95 ± 6.7	85 ± 6.5	83 ± 14.8

<i>Summary Statistic Panjang</i>		<i>Summary Statistic Lebar</i>		<i>Summary Statistic Telur</i>	
Mean	95.27894737	Mean	85.22631579	Mean	83
Standard Error	1.54118089	Standard Error	1.504862336	Standard Error	1.405849486
Median	94.4	Median	84.2	Median	82
Mode	100.2	Mode	86.2	Mode	80
Standard Deviation Sample	6.717851752	Standard Deviation Sample	6.559542845	Standard Deviation Sample	14.81154341
Variance	45.12953216	Variance	43.02760234	Variance	219.3818182
Kurtosis	0.81578273	Kurtosis	0.826506774	Kurtosis	-0.752508157
Skewness	0.901098397	Skewness	0.358542369	Skewness	0.19911568
Range	26.4	Range	27.3	Range	64
Minimum	84.4	Minimum	71.8	Minimum	54
Maximum	110.8	Maximum	99.1	Maximum	118
Sum	1810.3	Sum	1619.3	Sum	9213
Count	19	Count	19	Count	111

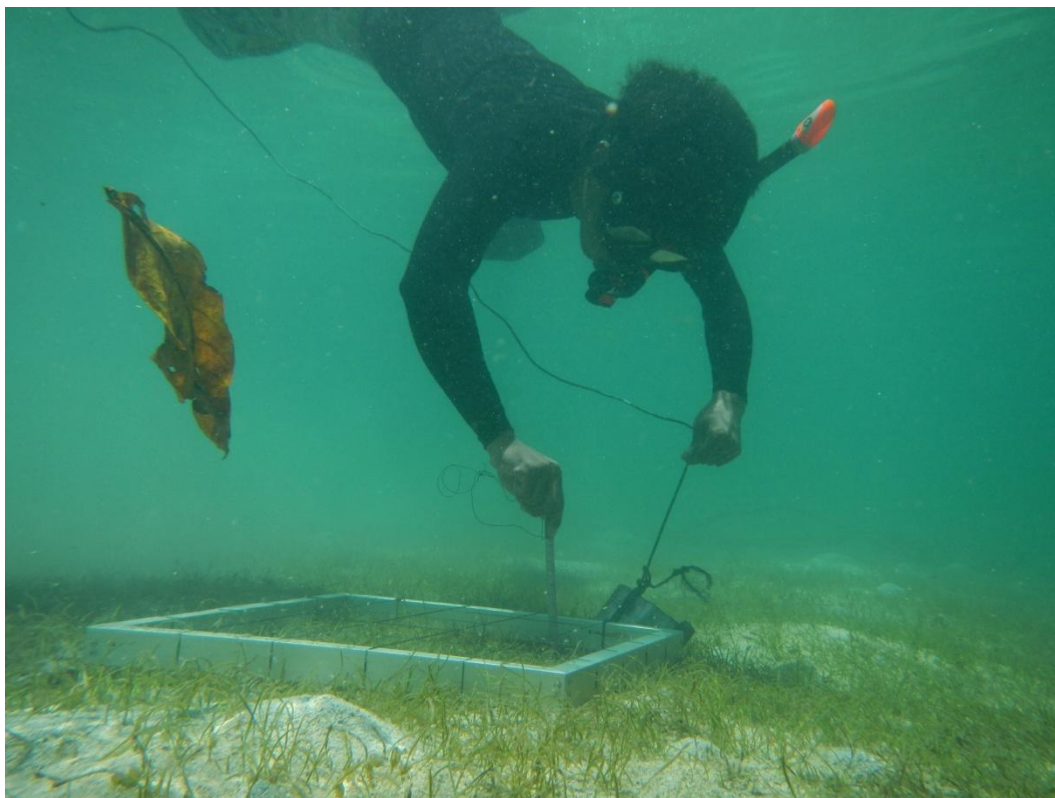
Lampiran 17. Dokumentasi kegiatan penelitian



Pembuatan plot eksperimen tertutup



Pengukuran tinggi tegakan *H. uninervis*



Pengambilan data kerapatan dengan transek kuadrat



Survey GPS



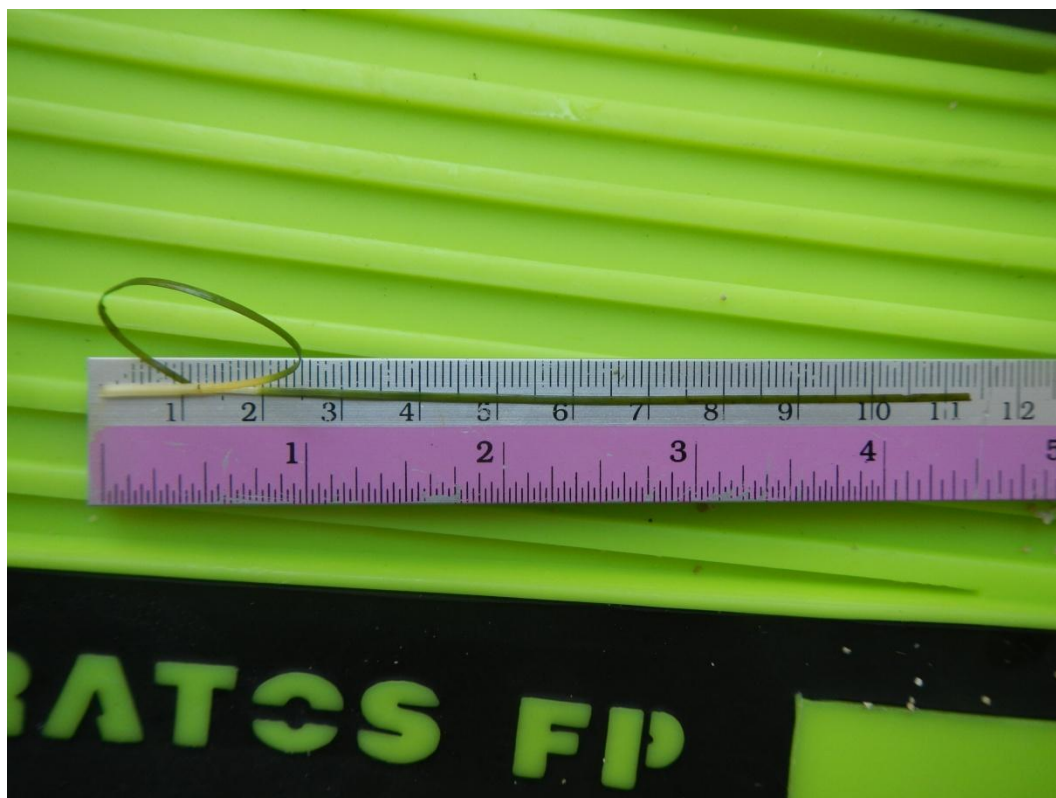
Seekor Penyu Hijau tertarik untuk memakan lamun dalam plot eksperimen



Penguatan tali pelindung plot eksperimen



Pengamatan aktifitas makan penyu hijau



Pengukuran panjang sampel setelah 20 hari



Pengeringan sampel di laboratorium



Penimbangan biomassa sampel