

Manuscript ID : 00000-20054

International Journal of Civil Engineering and Technology

Volume 9, Issue 7, July 2018, Pages 1270-1275, Page Count - 6



Source ID : 00000001

LAKES AND FORESTS AS A COUPLE OF ENVIRONMENTAL INFRASTRUCTURE IN TROPICAL COUNTRIES

Herry Palangka Jaya⁽¹⁾ Fernando⁽²⁾ Yetrie Ludang⁽³⁾

⁽¹⁾ Student at Doctoral Program of Environmental Science, Postgraduate Program, University of Palangka Raya, Palangka Raya, Indonesia.

⁽²⁾ Student at Doctoral Program of Environmental Science, Postgraduate Program, University of Palangka Raya, Palangka Raya, Indonesia.

⁽³⁾ Department of Forestry, Faculty of Agriculture, Universitas Palangka Raya, Palangka Raya, Indonesia.

Abstract

The uptake of carbon dioxide and water by plants generates oxygen and its biomass. The process is in equilibrium, known as the process of respiration and photosynthesis. No other living thing can carry out the process. Clearly, water and plants become the controller of the gas equilibrium cycle, which is emitted (carbon dioxide) and is needed (oxygen) by all living things. Here, water is represented as a lake, and plants as urban forest, another term greenspace. So, the lake and the forest are the ideal pairs, which are absolute as long as the sun seems to move from east to west.

Author Keywords

lake, Greenspace, Structure, Distribution, Area

Index Keywords

Oxygen, Photosynthesis, Gas equilibrium cycle, Urban forest

ISSN Print: 0976-6308

Source Type: Journals

Publication Language: English

Abbreviated Journal Title: IJCIET

Publisher Name: IAEME Publication

Major Subject: Physical Sciences

Subject area: General Environmental Science

ISSN Online: 0976-6316

Document Type: Journal Article

DOI: 10.34218/IJCIET.9.7.2018.134

Access Type: Open Access

Resource Licence: CC BY-NC

Subject Area classification: Environmental Science

Source: SCOPEDATABASE

References (25)

1. Adams, H.D., Luce, C.H., Breshears, D.D., Allen, C.D., Weiler, M., Hale, V.C., Smith, A.M.S., Huxman, T.E
Ecohydrological consequences of drought- and infestation-triggered tree die-off: Insights and hypotheses

(2012) *Ecohydrology*, Volume 5, Page No 145–159,

DOI: doi.org/10.1002/eco.233

2. Davies, R. G., Barbosa, O., Fuller, R. A., Tratalos, J., Burke, N., Lewis, D., Warren, P. H., and Gaston, K. J
City-wide relationships between green spaces, urban land use and topography

(2008) *Urban Ecosystems*, Volume 11, Issue 3, Page No 269-287,

3. Diaz, R.G

Analysis of Manning coefficient for small-depth flows on vegetated beds

(2005) *Hydrological Processes*, Volume 19, Page No 3221–3233,

DOI: doi.org/10.1002/hyp.5820

4. Downing, J. A., & Duarte, C. M.

Abundance and Size Distribution of Lakes, Ponds and Impoundments

(2006) *Limnol. Oceanogr*, Volume 51, Issue 5, Page No 2388–2397,

DOI: <https://doi.org/10.1016/B978-0-12-409548-9.03867-7>

5. Ng, E., Chen, L., Wang, Y., & Yuan, C

A study on the cooling effects of greening in a high-density city: An experience from Hong Kong

(2012) *Building and Environment*, Volume 47, Issue 1, Page No 256-271,

6. Wetlands Classification and Types

(2007)

Article Link: <https://www.epa.gov/wetlands/wetlands-classification-and-types#marshes>

7. Furnans, J., & Austin, B

Hydrographic survey methods for determining reservoir volume

(2008) *Environmental Modelling and Software*, Volume 23, Issue 2, Page No 139–146,

DOI: <https://doi.org/10.1016/j.envsoft.2007.05.011>

8. Peraturan Menteri Pekerjaan Umum Dan Perumahan Rakyat Republik Indonesia Nomor

(2015)

9. Limerinos, J. T.

Determination of the Manning Coefficient from Measured Bed Roughness in Natural Channels

(1970) *USGS Water-Supply Paper*, Volume 53,

10. Ludang, Y., Mangkoedihardjo, S.

Leaf area based transpiration factor for phytopumping of high organic matter concentration

(2009) *Journal of Applied Sciences Research*, Volume 5, Issue 10, Page No 1416-1420,

11. Mahan, B. L., Polasky, S., & Adams, R. M.

Valuing Urban Wetlands: A Property Price Approach

(2000) *Land Economics*, Volume 76, Issue 1, Page No 100,

DOI: <https://doi.org/10.2307/3147260>

12. Mangkoedihardjo, S

Biodegradability improvement of industrial wastewater using hyacinth

(2006) *Journal of Applied Sciences*, Volume 6, Issue 6, Page No 1409-1414,

13. Mangkoedihardjo, S.

Leaf area for phytopumping of wastewater

(2007) *Applied Ecology and Environmental Research*, Volume 5, Issue 1, Page No 37-42,

14. Mangkoedihardjo, S.

Individual or communal sanitation services?: Decision based on wastewater storage capacity

(2010) *Advances in Natural and Applied Sciences*, Volume 4, Issue 3, Page No 226-228,

15. Olden, J.D., Kennard, M.J., Pusey, B.J.

A framework for hydrologic classification with a review of methodologies and applications in ecohydrology

(2012) *Ecohydrology*,

DOI: doi.org/10.1002/eco.251

16. Sandra Oliveira, Henrique Andrade, Teresa Vaz

The cooling effect of green spaces as a contribution to the mitigation of urban heat: A case study in Lisbon

(2011) *Volume 46, Issue 11, Page No 2186-2194,*

DOI: <http://dx.doi.org/10.1016/j.buildenv.2011.04.034>

Article Link: <https://www.researchgate.net/publication/257171832>

17. Pignatelli, Cosimo; Piscitelli, Arcangelo; Damato, Bartolo; Mastronuzzi, Giuseppe

Estimation of the value of Manning's coefficient using Terrestrial Laser Scanner techniques for the assessment of flooding by extreme waves

(2010) *Zeitschrift Für Geomorphologie*, Volume 54, Issue 3, Page No 317-336,

DOI: <https://doi.org/10.1127/0372-8854/2010/0054S3-0030>

Article Link: https://www.schweizerbart.de/papers/zfg_suppl/detail/54/75483

18. Managing wetlands: Frameworks for managing Wetlands of International Importance and other wetland sites. Ramsar handbooks for the wise use of wetlands

(2010) *Page No 1-100,*

DOI: doi.org/10.1126/science.212.4496.795

19. Ganjar Samudro, Sarwoko Mangkoedihardjo

Water equivalent method for city phytostructure of Indonesia

(2006) *International Journal of Environmental Science and Technology*, Volume 3, Issue 3, Page No 261- 267,

20. Ganjar Samudro, Sarwoko Mangkoedihardjo

Urgent need of wastewater treatment based on BOD footprint for aerobic conditions of receiving water

(2012) *Journal of Applied Sciences Research*, Volume 8, Issue 1, Page No 454-457,

21. I.B. Santoso, Sarwoko Mangkoedihardjo

Mapping cumulative carbon dioxide concentrations at two meters above the ground for greenspace assessment in surabaya

(2013) *Middle East Journal of Scientific Research*, Volume 18, Issue 3, Page No 288-292,

DOI: <http://dx.doi.org/10.5829/idosi.mejsr.2013.18.3.12472>

Article Link: <https://www.researchgate.net/publication/288143979>

22. How much water is there on, in, and above the Earth?

(2018)

Article Link: <https://water.usgs.gov/edu/earthhowmuch.html>

23. Ernesto F. Viglizzo, Marcelo D. Nosetto, Esteban G. Jobbagy, M. Florencia Ricard, Federico C. Frank
The ecohydrology of ecosystem transitions: a meta-analysis

(2015) *Ecohydrology*, Volume 8, Issue 5, Page No 911-921,

DOI: <https://doi.org/10.1002/eco.1540>

Article Link: <https://onlinelibrary.wiley.com/doi/abs/10.1002/eco.1540>

24. Lake

(2018)

Article Link: <https://en.wiktionary.org/wiki/lake>. Accessed on 9 June 2018

25. BHAVAN KUMAR

WATER QUALITY STUDIES ON HESSARGHATTA LAKE (POST MONSOON STUDY)

(2018) *International Journal of Advanced Research in Engineering and Technology*, Volume 9, Issue 3, Page No 81–83,

Article Link: <http://paper.researchbib.com/view/paper/192764>

About Scope Database

[What is Scope Database](#)

[Content Coverage Guide](#)

[Scope Database Blog](#)

[Content Coverage API](#)

[Scope Database App](#)

© Copyright 2021 Scope Database, All rights reserved.

Customer Service

[Help](#)

[Scope Database Key Persons](#)

[Contact us](#)