

1. Record Nr.	UNINA9910598101303321
Titolo	Wetlands for the treatment of agricultural drainage water // edited by Guangzhi Sun
Pubbl/distr/stampa	Basel, Switzerland : , : MDPI - Multidisciplinary Digital Publishing Institute, , [2018] ©2018
Descrizione fisica	1 online resource (150 pages)
Disciplina	627.54
Soggetti	Drainage Drainage - Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	About the Special Issue Editor -- Preface to "Wetlands for the Treatment of Agricultural Drainage Water" -- Evelyn Uemaa, Chris C. Palliser, Andrew O. Hughes and Chris C. Tanner / Effectiveness of a Natural Headwater Wetland for Reducing Agricultural Nitrogen Loads, Reprinted from: Water 2018, 10, 287, doi: 10.3390/w10030287 -- G. M. P. R. Weerakoon, K. B. S. N. Jinadasa, G. B. B. Herath, M. I. M. Mowjood and W. J. Ng / Applicability of Constructed Wetlands for Water Quality Improvement in a Tea Estate Catchment: The Pussellawa Case Study, Reprinted from: Water 2018, 10, 332, doi: 10.3390/w10030332 -- Stevo Lavrnić, Ilaria Braschi, Stefano Anconelli, Sonia Blasioli, Domenico Solimando, Paolo Mannini and Attilio Toscano / Long-Term Monitoring of a Surface Flow Constructed Wetland Treating Agricultural Drainage Water in Northern Italy, Reprinted from: Water 2018, 10, 644, doi: 10.3390/w10050644 -- Yuanchun Zou, Linlin Zhang, Luying Wang, Sijian Zhang and Xiaofei Yu / Effects of Aeration, Vegetation, and Iron Input on Total P Removal in a Lacustrine Wetland Receiving Agricultural Drainage, Reprinted from: Water 2018, 10, 61, doi: 10.3390/w10010061 -- Xueying Jia, Marinus L. Otte, Ying Liu, Lei Qin, Xue Tian, Xianguo Lu, Ming Jiang and Yuanchun Zou / Performance of Iron Plaque of Wetland Plants for Regulating Iron, Manganese, and Phosphorus from Agricultural Drainage Water, Reprinted from: Water

2018, 10, 42, doi: 10.3390/w10010042 -- Christian Kleimeier, Haojie Liu, Fereidoun Rezanezhad and Bernd Lennartz / Nitrate Attenuation in Degraded Peat Soil-Based Constructed Wetlands, Reprinted from: Water 2018, 10, 355, doi: 10.3390/w10040355 -- Yuanyuan Li, Sen Wang, Yue Li, Fanlong Kong, Houye Xi and Yanan Liu / Corn Straw as a Solid Carbon Source for the Treatment of Agricultural Drainage Water in Horizontal Subsurface Flow Constructed Wetlands, Reprinted from: Water 2018, 10, 511, doi: 10.3390/w10040511 -- Peirong Lu, Zhanyu Zhang, Genxiang Feng, Mingyi Huang and Xufan Shi / Experimental Study on the Potential Use of Bundled Crop Straws as Subsurface Drainage Material in the Newly Reclaimed Coastal Land in Eastern China, Reprinted from: Water 2018, 10, 31, doi: 10.3390/w10010031 -- Tong Wang, Ranbin Liu, Kate O'Meara, Emmet Mullan and Yaqian Zhao / Assessment of a Field Tidal Flow Constructed Wetland in Treatment of Swine Wastewater: Life Cycle Approach, Reprinted from: Water 2018, 10, 573, doi: 10.3390/w10050573 -- Yongbo Liu, Wanhong Yang, Hui Shao, Zhiqiang Yu and John Lindsay / Development of an Integrated Modelling System for Evaluating Water Quantity and Quality Effects of Individual Wetlands in an Agricultural Watershed, Reprinted from: Water 2018, 10, 774, doi: 10.3390/w10060774.

Sommario/riassunto

Agricultural drainage, such as runoffs from farmlands and wineries, are contaminated waters. Their management is monitored by environmental protection authorities who set targets of volume or pollutant reductions. Due to large quantities and seasonal variations, the targets are often not met, and effective management remains a problem in many parts of the world. Natural wetlands are known as the 'kidneys' of the earth with unique water purification functions that have long been recognized. Imitating the functions of natural wetlands, constructed wetlands are engineered systems purposely built to treat contaminated waters. They may therefore be called the 'artificial kidneys' of the earth. Rural areas often only have low-value lands available for constructed wetlands. Where large quantities of drainage are produced, farmlands are often adjacent to degraded natural wetlands that have reduced ecosystem functions. Controlled discharge and treatment in the wetlands can potentially be part of an integrated solution to multiple environmental problems. This book includes some recent studies on the fate of pollutants removed from agricultural drainage in wetlands, modelling of wetland performance, innovative systems, and the use of non-hazardous agricultural waste in constructed wetlands for wastewater treatment. These studies enhance our understanding of wetland systems, and will help develop wetland technology towards solving the problems associated with agricultural drainage.
