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Constructed Wetlands and Water Quality Improvement

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Water Quality Information Center

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Constructed Wetlands and Water Quality Improvement

1. Accumulation of organic solids in gravel-bed constructed wetlands.
Tanner, C. C.; Sukias, J. P.

Water-sci-technol v.32, p.229-239. (1995).
In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.
Descriptors: wetlands-; schoenoplectus-; gravel-; waste-water-treatment; dairy-wastes; dairy-effluent; waste-water; deposition-; organic-matter; pollutants-; hydrology-; new-zealand; suspended-solids; schoenoplectus-validus; artificial-wetlands

NAL Call No.: TD420.A1P7

2. Actual experiences with the use of reed bed systems for wastewater treatment in single households.

Perfler, R.; Haberl, R.

Water-sci-technol v.28, p.141-148. (1993).

Proceedings of the 2nd International Conference on, "Design and Operation of Small Wastewater Treatment Plants," June 28-30, 1993, Trondheim, Norway / edited by H. Odegaard.

Descriptors: waste-water-treatment; rural-areas; wetlands-; pollution-control; phragmites-australis; filter-beds; biological-treatment; chemical-oxygen- demand; biochemical-oxygen-demand; ammonium-nitrogen; nitrogen-; phosphorus-; costs-; nutrient-removal

NAL Call No.: TD420.A1P7

3. Agricultural best management practices and surface water improvement and management.

Anderson, D. L.; Flaig, E. G.

Water-sci-technol v.31, p.109-121. (1995).

In the series analytic: Integrated water resources management / edited by S.H. Hosper, R.D. Gulati, L. van Liere, and R.M.M. Rooijackers.

Descriptors: water-pollution; phosphorus-; runoff-; runoff-water-; drainage-; drainage-water; pollution-control; agricultural-land; farmland-; wetlands-; lakes-; national-parks; watershed-management; florida-; lake-okeechobee; everglades-national-park; nonpoint-source-pollution

NAL Call No.: TD420.A1P7

4. Ammonium and nitrate removal in vegetated and unvegetated gravel bed microcosm wetlands.

Zhu, T.; Sikora, F. J.

Water-sci-technol v.32, p.219-228. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; gravel-; ammonium-; ammonium-nitrogen; nitrate-; nitrate-nitrogen; removal-; denitrification-; nitrification-; phalaris- arundinacea; phragmites-australis; scirpus-; typha-latifolia; nutrient-uptake; roots-; immobilization-; biomass-; microorganisms-; redox-potential; alabama-; scirpus-atrovirens; constructed-wetlands; artificial-wetlands

NAL Call No.: TD420.A1P7

5. Ammonium removal in constructed wetlands with recirculating subsurface flow: removal rates and mechanisms.

Sikora, F. J.; Tong, Z.; Behrends, L. L.; Steinberg, S. L.; Coonrod, H. S.

Water-sci-technol v.32, p.193-202. (1995).
In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.
Descriptors: wetlands-; ammonium-; removal-; nutrient-uptake;
aquatic-plants; typha-; scirpus-; scirpus-acutus;
phragmites-australis; phalaris- arundinacea;
ammonium-nitrogen; seasonal-variation; phosphorus-;
sorption-; immobilization-; biomass-; microorganisms-;
nitrification-; waste- water-treatment;
chemical-oxygen-demand; denitrification-; alabama-;
macrophytes-; scirpus-atrovirens; scirpus-cyperinus;
vegetated-submerged-bed-wetlands; artificial-wetlands
NAL Call No.: TD420.A1P7

6. Artificial wetlands for the treatment of mill effluent.
Schumann, G. T.

Proc-Annu-Congr-S-Afr-Sugar-Technol-Assoc p.228-232. (1991).
Meeting held on June 10-12, 1991, Durban and Mount Edgecombe,
South Africa.

Descriptors: sugar-factory-waste; waste-water-treatment;
factory-effluents; roller-mills; biological-treatment;
wetlands-; phragmites-australis; typha- latifolia
NAL Call No.: 65.9-S083

7. Artificial wetlands for wastewater treatment. University
of Nebraska--Lincoln thesis : Civil Engineering.
Streckfuss, T. H.

1991. vi, 169 leaves : ill..
Thesis (M.S.)--University of Nebraska--Lincoln, 1991.
NBU LD3656-1991-S774

8. An assessment of the root zone method of wastewater
treatment.
Conley, L. M.; Dick, R. I.; Lion, L. W.

Res-j-Water-Pollut-Control-Fed v.63, p.239-247. (1991).
Includes references.

Descriptors: wetlands-; aquatic-plants;
waste-water-treatment; biochemical-oxygen-demand; removal-;
roots-; water-flow; design-; waste-water; scirpus- ; typha-;
phragmites-; constructed-wetlands; subsurface-flow
NAL Call No.: TD419.R47

9. Benefits from restoring wetlands for nitrogen abatement :
a case study of Gotland.
Gren, I. M.

Stockholm, Sweden : Beijer Internantional Institute of
Ecological Economics, 1992. 19 p..
Cover title.

Descriptors: Wetlands-Sweden-Gotland; Nitrogen-;
Water-Purification-Sweden-Gotland
NAL Call No.: QH87.3.G73--1992

10. Benefits to downstream flood attenuation and water quality as a result of constructed wetlands in agricultural landscapes.

De Laney, T. A.

J-soil-water-conserv v.50, p.620-626. (1995).

Special issue on wetlands.

Descriptors: agricultural-land; wetlands-; construction-;
geographical-distribution; flood-control; pollution-control;
agricultural-chemicals; sediment-; water-quality

NAL Call No.: 56.8-J822

11. Biochemical treatment of metal-chloride-enriched wastewater by simulated constructed wetlands by Linda Kay Mitchell.

Mitchell, L. K. 1.

1992. ix, 129 leaves : ill..

Includes vita and abstract.

Descriptors: Wetlands-; Water-reuse; Water-Purification

NAL Call No.: KyU Thesis-1992-Mitchell

12. Biogeochemical characteristics of wetlands developed after strip mining for coal.

Sistani, K. R.; Mays, D. A.; Taylor, R. W.

Commun-soil-sci-plant-anal v.26, p.3221-3229. (1995).

Includes references.

Descriptors: wetlands-; disturbed-soils; mined-land;
reclamation-; biogeochemistry-; characterization-;
chemical-composition; wetland-soils; comparisons-; alabama-;
constructed-wetlands-versus-natural-wetlands

Abstract: Since the costly practice of toxic spoil burial and topsoil replacement during surface mine reclamation are mandated by law, it has become feasible to consider creation of constructed wetlands for wildlife habitat as an alternative mined land reclamation practice on active or abandoned mine sites. This is also a novel approach for mitigation of lost natural wetland in the past.

Implementation of this concept will require proper baseline information from the biogeochemical properties of constructed wetlands developed on surface mined sites. Baseline data were collected from two wetlands developed on strip mined sites in Alabama. We took samples from each wetland in April and September 1992. Since the naturalization of these wetlands with regard to the spatial variabilities within each wetland were the main objective of this work, a natural wetland developed on undisturbed soil was sampled at the same time so that it could be used as a reference to wetlands developed on disturbed soils. The natural wetland was

dominated by cattail (*Typha latifolia*) and smartweed (*Polygonum* sp.) while the dominant emergent vegetation of the stripmined site wetlands was bulrush (*Scirpus* sp.) and cattail. The pH of the mineral and organic substrate in the natural wetland ranged from 7.7 to 7.8 while in the mined-site wetlands, pH ranged from 6.7 to 7.4. Dry soil adjacent to mined site wetlands had pHs of 4.1 and 5.0, compared to 6.5 for dry soil adjacent to the natural wetland. Higher levels of extractable calcium (Ca), magnesium (Mg), potassium (K), sodium (Na), aluminum (Al), iron (Fe), manganese (Mn), and zinc (Zn) were measured in April than September for all wetlands. Metal concentrations did not show any consistent trend. coal will gain biogeochemical characteristics similar to those of natural wetlands regardless of the initial chemical characteristics of the mined spoil materials. However, more studies with regard to the direct comparison of constructed versus natural wetlands at different locations is warranted.

NAL Call No.: S590.C63

13. Busch wildlife area constructed wetland.
Schneider, J. H.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of Agricultural Engineers, . Winter 1991. (912505) 29 p.
Paper presented at the "1991 International Winter Meeting sponsored by the American Society of Agricultural Engineers," December 17- 20, 1991, Chicago, Illinois.

Descriptors: water-quality; wetlands-

NAL Call No.: 290.9-Am32P

14. Carcoar Wetland--a wetland system for river nutrient removal.

White, G. C.; Smalls, I. C.; Bek, P. A.

Water-sci-technol v.29, p.169-176. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: wetlands-; nutrients-; phosphorus-; removal-; nutrient-uptake; aquatic-plants; design-; new-south-wales; constructure-wetlands; artificial-wetlands

NAL Call No.: TD420.A1P7

15. Case studies of wetland filtration of mine waste water in constructed and naturally occurring systems in Northern Australia.

Noller, B. N.; Woods, P. H.; Ross, B. J.

Water-sci-technol v.29, p.257-265. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: wetlands-; filtration-; waste-water; drainage-water; mined-land; mine-spoil; metals-; metal-ions; removal-; northern-territory; constructed-wetlands;

artificial-wetlands

NAL Call No.: TD420.A1P7

16. Challenges for the development of advanced constructed wetlands technology.

Bavor, H. J.; Roser, D. J.; Adcock, P. W.

Water-sci-technol v.32, p.13-20. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; waste-water-treatment; structural-design; nutrients-; removal-; expert-systems; decision-making; databases-; sewage-effluent; waste-water; aquatic-plants; cycling-; aquatic-organisms; microorganisms-; microbial-degradation; artificial-wetlands

NAL Call No.: TD420.A1P7

17. Cleopatra's bathwater: an informal introduction to the art and science of bioremediation.

Ausubel, K.

Arid-Lands-News1. Tucson, Ariz. : Office of Arid Lands Studies, University of Arizona. Spring/Summer 1992. v. 32 p. 2-4.

Descriptors: biotechnology-; water-resources; wetlands-; waste-water-treatment; marshes-; arizona-

NAL Call No.: S612.A753

18. Cold-climate constructed wetlands.

Maehlum, T.; Jenssen, P. D.; Warner, W. S.

Water-sci-technol v.32, p.95-101. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; waste-treatment; waste-water-treatment; nutrients-; removal-; phosphorus-; nitrogen-; chemical-oxygen-demand; biochemical-oxygen-demand; water-flow; horizontal-flow; organic-matter; norway-; artificial-wetlands; subsurface-flow

NAL Call No.: TD420.A1P7

19. The combination of a flood-retarding basin and a wetland to manage the impact of urban runoff.

Breen, P. F.; Mag, V.; Seymour, B. S.

Water-sci-technol v.29, p.103-109. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: wetlands-; flood-control; runoff-; runoff-water; urban-areas; aquatic-plants; waste-water-treatment; biological-treatment; victoria-; artificial-wetlands; constructed-wetlands

NAL Call No.: TD420.A1P7

20. Comparing microbial parameters in natural and constructed wetlands.

Duncan, C. P.; Groffman, P. M.

J-environ-qual v.23, p.298-305. (1994).

Includes references.

Descriptors: wetlands-; pollution-control; water-quality; microbial-activities; biomass-production; soil-organic-matter; soil-ph; soil-water; denitrification-; enzyme-activity; mineralization-; nitrification-; massachusetts-; rhode-island

Abstract: Microbial biomass C, soil respiration, denitrification enzyme activity (DEA), and potential net N mineralization and nitrification were compared in two constructed and three natural wetlands in Massachusetts and Rhode Island. The constructed wetlands studied had marsh and wet meadow vegetation and received storm water discharge directly from a large shopping mall and its associated parking lots. The natural sites encompassed three soil drainage classes (moderately well drained, poorly drained, and very poorly drained) across an upland to wetland transition zone with red maple (*Acer rubrum* L.) swamps and mixed oak (*Quercus* sp.) forests in the transition zone. Our objective was to determine if microbial biomass and activity were similar in the constructed wetlands and the most common type of natural wetland in our area. Microbial biomass C, DEA, and potential net N mineralization and nitrification were similar among the constructed and natural wetland sites.

In all cases, levels of these parameters in the constructed wetlands fell within the range of variability observed in the natural wetlands. Denitrification enzyme activity was higher ($p < 0.05$) in the constructed wetlands than in the moderately well drained soils at the natural sites. Soil respiration was generally lower ($p < 0.05$) in the constructed wetlands than in the natural wetlands. The results suggest that the constructed wetlands have a significant and active microbial community that facilitates nutrient cycling and water quality maintenance functions similar to natural wetlands. The successful development of the microbial community in these wetlands was likely due to the use of organic substrates.

NAL Call No.: QH540.J6

21. Constructed reed beds: appropriate technology for small communities.

Green, M. B.; Upton, J.

Water-sci-technol v.32, p.339-348. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; waste-water-treatment; runoff-water; sewage-; sewage-effluent; phragmites-australis; nutrients-; pollutants-; removal-; nitrogen-; biochemical-oxygen-demand; ammonium-nitrogen; suspended-solids; constructed-wetlands; storm-water-treatment

NAL Call No.: TD420.A1P7

22. Constructed "source" wetland concepts applied to urban landscapes.

Hopkins, B.; Argue, J. R.

Water-sci-technol v.29, p.133-140. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: wetlands-; water-management; runoff-;

urban-areas; groundwater-recharge; aquifers-;

south-australia; constructed-wetlands; artificial-wetlands;

urban-runoff; stormwater-

NAL Call No.: TD420.A1P7

23. Constructed wetland design--the first generation.

Reed, S. C.; Brown, D. S.

Water-Environ-Res v.64, p.776-781. (1992).

Includes references.

Descriptors: refuse-; industrial-wastes;

waste-water-treatment; wetlands-; construction-; design-;

environmental-protection; federal-government; public-

agencies; inventories-; performance-appraisals; usa-;

environmental-protection-agency; constructed-wetland-systems;

organic-loading-on-wetlands

NAL Call No.: TD419.R47

24. Constructed wetland for treating swine lagoon effluent.

Payne, V. W. E.; McCaskey, T. A.; Eason, J. T.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of Agricultural Engineers, . Winter 1992. (92-4526) 6 p.

Paper presented at the "1992 International Winter Meeting sponsored by the American Society of Agricultural Engineers," December 15- 18, 1992, Nashville, Tennessee.

Descriptors: pigs-; lagoons-; effluents-;

waste-water-treatment; wetlands-; construction-

NAL Call No.: 290.9-Am32P

25. Constructed wetland-pond systems for treating agricultural runoff in Northern Maine. CIVIL ENGINEERING - 1992.

Higgins, M. J. 1.

Orono, Me., 1992. vi, 113 leaves : ill..

Includes vita.

Descriptors: Agricultural-pollution;

Watershed-management-Environmental-aspects-Maine

NAL Call No.: MeU Univ.-1992-H54

26. Constructed wetland site design and installation.

Ulmer, R.; Cathcart, T.; Strong, L.; Pote, J.; Davis, S.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of Agricultural Engineers, . Winter 1992. (92-4528) 8 p.

Paper presented at the "1992 International Winter Meeting sponsored by the American Society of Agricultural Engineers," December 15- 18, 1992, Nashville, Tennessee.

Descriptors: dairy-effluent; waste-water-treatment; wetlands-; construction-; lagoons-

NAL Call No.: 290.9-Am32P

27. Constructed wetland systems for water pollution control in North China.

Li, X. F.; Jiang, C. C.

Water-sci-technol v.32, p.349-356. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; waste-water-treatment; sewage-; sewage-effluent; water-flow; pollution-control; water-pollution; lagoons-; ponds-; phragmites- australis; xinjiang-; liaoning-; beijing-; yunnan-; shandong-; artificial-wetlands; surface-flow

NAL Call No.: TD420.A1P7

28. Constructed wetland treatment of animal waste in Indiana: management implications.

Reaves, R. P.; DuBow, P. J.; Jones, D. D.; Sutton, A. L.

Clean water, clean environment, 21st century team agriculture, working to protect water resources conference proceedings, March 5-8, 1995, Kansas City, Missouri /. St. Joseph, Mich. : ASAE, c1995.. v. 2 p. 179-182.

Includes references.

Descriptors: wetlands-; aquatic-plants; waste-water-treatment; waste-treatment; dairy-effluent; piggery-effluent; lagoons-; indiana-; swine-lagoon-effluent

NAL Call No.: TD365.C54-1995

29. Constructed wetland treatment of swine wastewater.

Hunt, P. G.; Humenik, F. J.; Szogi, A. A.; Rice, J. M.; Stone, K. C.; Cutts, T. T.; Edwards, J. P.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of Agricultural Engineers, . Winter 1993. (93-2601/93-3510) 12 p.

Paper presented at the "1993 International Winter Meeting sponsored by the American Society of Agricultural Engineers," December 14- 17, 1993, Chicago, Illinois.

Descriptors: wetlands-; waste-water-treatment; animal-wastes; glycine-max; oryza-sativa; nitrogen-; redox-potential; redox-reactions

NAL Call No.: 290.9-Am32P

30. Constructed wetlands: an approach for animal waste treatment.

Rieck, A.; Langston, J.; VanDevender, K.

FSA-Coop-Ext-Serv-Univ-Arkansas. Little Rock, Ark. : The Service. Apr 1993. (3005) 4 p.

Includes references.

Descriptors: animal-wastes; waste-treatment; wetlands-; regulations-; state-government; arkansas-

NAL Call No.: S37.F72

31. Constructed wetlands clean up: they could be an inexpensive, low-tech cure for farm pollution headaches.

Becker, H.

Agric-res p.20. (1993).

Descriptors: dairy-farming; waste-water; water-management; wetlands-

NAL Call No.: 1.98-Ag84

32. Constructed wetlands for acid drainage control in the Tennessee Valley.

Brodie, G. A.

[Chattanooga, Tenn.? : Tennessee Valley Authority?, 1987?] 1 v. (unpaged).

Caption title.

Descriptors: Constructed-wetlands

NAL Call No.: TD756.5.B76-1987

33. Constructed wetlands for animal waste management : proceedings of workshop, 4-6 April 1994, Lafayette, Indiana.

Dubowy, P. J. P. J. 1.; Reaves, R. P. R. P. 1.

West Lafayette, In. : Department of Forestry and Natural Resources, Purdue University, c1994. vi, 188 p. : ill..

Includes bibliographical references.

Descriptors: Animal-waste-Management-Congresses;

Constructed-wetlands-Congresses

NAL Call No.: TD930.C644--1994

34. Constructed wetlands for animal wastewater treatment.

Humenik, F.; Zublena, J.; Barker, J.

AG-NC-Agric-Ext-Serv. Raleigh : North Carolina Agricultural Extension Service, . Oct 1993. (473-13) 3 p.

In subseries: Water Quality & Waste Management.

Descriptors: wetlands-; construction-; design-; waste-water-treatment; water-quality; simulation-;

north-carolina

NAL Call No.: S544.3.N6N62

35. Constructed wetlands for dairy wastewater treatment.
Davis, S. H.; Ulmer, R.; Strong, L.; Cathcart, T.; Pote, J.;
Brock, W.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of
Agricultural Engineers,. Winter 1992. (92-4525) 11 p.
Paper presented at the "1992 International Winter Meeting
sponsored by the American Society of Agricultural Engineers,"
December 15- 18, 1992, Nashville, Tennessee.
Descriptors: dairy-effluent; waste-water-treatment;
wetlands-; construction-; nitrification-;
biochemical-oxygen-demand; dissolved-oxygen; mississippi-
NAL Call No.: 290.9-Am32P

36. Constructed wetlands for industrial wastewater.
Gillette, B.

Biocycle v.35, p.80, 82-83. (1994).
Descriptors: waste-water; waste-water-treatment; wetlands-;
kentucky-
NAL Call No.: 57.8-C734

37. Constructed wetlands for milkhouse wastewater treatment.
Zimmerman, T.; Lefever, J. L.; Warns, M.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of
Agricultural Engineers,. Summer 1994. (94-1075/94-2020) 12 p.
Paper presented at the "1994 International Summer Meeting
sponsored by The American Society of Agricultural Engineers,"
June 19-22, 1994, Kansas City, Missouri.
Descriptors: waste-water-treatment; wetlands-
NAL Call No.: 290.9-Am32P

38. Constructed wetlands for river water quality improvement.
Kadlec, R. H.; Hey, D. L.

Water-sci-technol v.29, p.159-168. (1994).
In the series analytic: Wetlands systems in water pollution
control / edited by H.J. Bavor and D.S. Mitchell.
Descriptors: wetlands-; water-quality; sediment-;
phosphorus-; nitrogen-; removal-; atrazine-; nutrients-; -;
hydrology-; water-pollution; watersheds-; illinois-;
non-point-source-pollution; artificial-wetlands
NAL Call No.: TD420.A1P7

39. Constructed wetlands for treating agricultural
wastewater.
United States. Environmental Protection Agency.

West Lafayette, IN : The Center, [1993?] 1 sheet.
Caption title.
Descriptors: Wetland-ecology; Agricultural-pollution
NAL Call No.: QH541.5.M3C66--1993

40. Constructed wetlands for treatment of acid mine drainage
: a preliminary review.

Girts, M. A.

[Morgantown, WV? : West Virginia University?, 1986?] p.
165-171.

Caption title. December 8-11, 1986.

Descriptors: Constructed-wetlands

NAL Call No.: TD756.5.G57-1986

41. Constructed wetlands for wastewater treatment and
wildlife habitat : 17 case studies.

United States. Environmental Protection Agency.

[Washington, DC] : U.S. Environmental Protection Agency :
[Supt. of Docs., U.S. G.P.O., distributor, 1993] iv, 174 p. :
ill. (some col.), maps.

Cover title.

Descriptors: Constructed-wetlands-United-States-Case-studies;

Sewage-Purification-Biological-treatment-United-States-Case-studies;

Habitat-Ecology- Modification-United-States-Case-studies

NAL Call No.: TD756.5.C65--1993

42. Constructed wetlands for wastewater treatment in the
Czech Republic--State of the art.

Vymazal, J.

Water-sci-technol v.32, p.357-364. (1995).

In the series analytic: Wetland systems for water pollution
control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; waste-water-treatment; sewage-;

sewage-effluent; phragmites-australis; phalaris-arundinacea;

glyceria-maxima; biochemical- oxygen-demand;

chemical-oxygen-demand; pollutants-; water-flow;

czechoslovakia-; reed-bed-system; artificial-wetlands;

suspended-solids; susurface-flow

NAL Call No.: TD420.A1P7

43. Constructed wetlands for water quality improvement.

Moshiri, G. A.

Boca Raton : Lewis Publishers, c1993. 632 p. : ill., maps.

Papers presented at the Pensacola conference.

Descriptors: Constructed-wetlands-Congresses;

Water-quality-management-Congresses;

Constructed-wetlands-Case-studies-Congresses

NAL Call No.: TD756.5.M67--1993

44. Constructed wetlands handle waste.

Taylor, S.

Soil-Water-Conserv-U-S-Dep-Agric-Soil-Conserv-Serv v.11,
p.5-6. (1991).

Descriptors: wetlands-; animal-wastes; planting-; georgia-
NAL Call No.: aS622.S6

45. Constructed wetlands in Europe.

Haberl, R.; Perfler, R.; Mayer, H.

Water-sci-technol v.32, p.305-315. (1995).

In the series analytic: Wetland systems for water pollution
control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; waste-water-treatment; water-flow;
horizontal-flow; dewatering-; sewage-sludge; nutrients-;
removal-; ammonium-nitrogen; nitrogen-; phosphorus-; europe-;
artificial-wetlands; subsurface-flow

NAL Call No.: TD420.A1P7

46. Constructed wetlands in water pollution control:

fundamentals to their understanding.

Wood, A.

Water-sci-technol v.32, p.21-29. (1995).

In the series analytic: Wetland systems for water pollution
control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; waste-water-treatment;
pollution-control; aquatic-plants; nutrient-uptake;
nutrients-; removal-; aquatic-organisms; microorganisms-;
microbial-degradation; cycling-; surface-flow-wetlands;
subsurface-flow-wetlands; artificial-wetlands

NAL Call No.: TD420.A1P7

47. Constructed wetlands successfully treat swine wastewater.

McCaskey, T. A.; Eason, J. T.; Hammer, D. A.; Pullin, B. P.;
Payne, V. W. E.; Bransby, D. I.

Highlights-Agric-Res-Ala-Agric-Exp-Stn v.39, p.13. (1992).

Descriptors: pigs-; waste-water; waste-water-treatment;
wetlands-; aquatic-plants; ammonia-; nitrogen-content;
alabama-

NAL Call No.: 100-AL1H

48. Constructed wetlands to control nonpoint source
pollution.

Wengrzynek, R. J.

United States Department of Agriculture patents. [Washington,
D.C.? : The Department, 1900?- . Dec 29, 1992. (5,174,897) 1
p.

Copies of USDA patents are available for a fee from the
Commissioner of Patents and Trademarks, U.S. Patents and
Trademarks Office, Washington, D.C. 20231.

Descriptors: soil-pollution; pollution-control; patents-;
usda-; wetlands-; ponds-; vegetation-; detoxification-; usa-;

us005174897a-

Abstract: Abstract: The construct containing in hydraulic order a sediment basin, level-lip spreader, grassy filter, wetland, and deep pond can be used to remove pollutants from nonpoint source runoff. Wetlands are planted with vegetation that encourages growth of aerobic and anaerobic bacteria which are helpful in removing and detoxifying contaminants.

NAL Call No.: aT223.V4A4

49. Coupling wetland treatment to land treatment: an innovative method for nitrogen stripping.

Cooper, A. B.

Water-sci-technol v.29, p.141-149. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: waste-water-treatment; wetlands-; typha-orientalis; carex-; azolla-filiculoides; nitrate-; removal-; nutrient-uptake; denitrification-; new-zealand

NAL Call No.: TD420.A1P7

50. Created and natural wetlands for controlling nonpoint source pollution.

Olson, R. K.; United States. Environmental Protection Agency. Office of Research and Development.

Boca Raton, Fla. : C.K. Smoley, c1993. v, 216 p. : ill., maps.

"U.S. EPA, Office of Research and Development, and Office of Wetlands, Oceans, and Watersheds."

Descriptors: Water-quality-management-United-States; Water-Pollution-United-States; Wetland-conservation-United-States; Constructed-wetlands-United-States

NAL Call No.: TD223.C73-1993

51. Denitrification in constructed wastewater wetlands receiving high concentrations of nitrate.

Van Oostrom, A. J.; Russel, J. M.

Water-sci-technol v.29, p.7-14. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: waste-water-treatment; biological-treatment; wetlands-; glyceria-maxima; meatworks-effluent; denitrification-; nitrate-; nitrogen-; removal-; nutrient-uptake; artificial-wetlands

NAL Call No.: TD420.A1P7

52. Design and construction of a wetland to treat milkhouse wastewater.

Holmes, B. J.; Massie, L. R.; Bubenzer, G. D.; Hines, G.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of Agricultural Engineers, . Winter 1992. (92-4524) 18 p.
Paper presented at the "1992 International Winter Meeting sponsored by the American Society of Agricultural Engineers," December 15- 18, 1992, Nashville, Tennessee.
Descriptors: milking-parlors; waste-water-treatment; wetlands-; construction-; wisconsin-
NAL Call No.: 290.9-Am32P

53. Design and performance of the Champion pilot-constructed wetland treatment system.
Knight, R. L.; Hilleke, J.; Grayson, S.

Tappi-j v.77, p.240-245. (1994).
Includes references.
Descriptors: pulp-and-paper-industry; kraft-mill-effluent; waste-water-treatment; water-quality; biochemical-oxygen-demand; wetlands-; florida-
NAL Call No.: 302.8-T162

54. Design criteria and practice for constructed wetlands.
Crites, R. W.

Water-sci-technol v.29, p.1-6. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.
Descriptors: waste-water-treatment; wetlands-; design-; water-flow; hydrology-; biological-treatment; aquatic-plants; artificial-wetlands
NAL Call No.: TD420.A1P7

55. Design models for nutrient removal in constructed wetlands.
Kadlec, R. H.

Animal waste and the land-water interface /. Boca Raton : Lewis Publishers, c1995.. p. 173-184.
Includes references.
Descriptors: waste-water-treatment; wetlands-; design-; nutrients-; nitrogen-; phosphorus-; removal-; water-pollution; pollution-control; multivariate- analysis; databases-
NAL Call No.: TD930.A55-1995

56. Design of constructed wetlands for dairy waste water treatment in Louisiana.
Chen, S.; Cothren, G. M.; DeRamus, H. A.; Langlinais, S.; Huner, J. V.; Malone, R. F.

Animal waste and the land-water interface /. Boca Raton : Lewis Publishers, c1995.. p. 197-204.
Descriptors: dairy-wastes; waste-water-treatment; water-flow; wetlands-; water-systems; design-; pollution-control;

louisiana-

NAL Call No.: TD930.A55-1995

57. Design of submerged flow wetlands for individual homes and small wastewater flows.

Sievers, D. M.; University of Missouri Columbia. Agricultural Experiment Station.

Columbia, MO : Missouri Small Wastewater Flows Education & Research Center, Agriculture Experiment Station, College of Agriculture Food & Natural Resources, University of Missouri--Columbia, [1993] 11 p. : ill..

Cover title.

Descriptors: Constructed-wetlands; Sewage-Purification; Septic-tanks; Typha-; Aquatic-weeds

NAL Call No.: 100--M693Sp-no.457

58. Designing constructed wetlands for nitrogen removal.

Hammer, D. A.; Knight, R. L.

Water-sci-technol v.29, p.15-27. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: waste-water-treatment; biological-treatment; wetlands-; design-; nitrification-; denitrification-; nitrogen-; removal-; ammonium-; anaerobic- conditions; aerobiosis-; aerobic-treatment; anaerobic-treatment; aquatic-plants; nutrient-uptake; artificial-wetlands

NAL Call No.: TD420.A1P7

59. Developing artificial wetlands to benefit wildlife and livestock.

Olson, R.

Bull-Wyo-Univ-Coop-Ext-Serv. Laramie, Wyo. : The Service. May 1990. (938) 21 p.

Includes references.

Descriptors: wetlands-; habitat-selection; environmental-protection; wildlife-conservation; construction-; grazing-; wyoming-

NAL Call No.: 275.29-W99B

60. Development of guidelines for and demonstration of efficient treatment of swine lagoon wastewater by constructed wetlands.

McCaskey, T. A.

Sustainable Agriculture Research and Education SARE research projects Southern Region. [1988-. 1995. 34 p.

SARE Project Number AS94-16. Record includes floppy disk.

Date of report December 1995.

Descriptors: pig-slurry; waste-water-treatment; nitrogen-content; ammonia-; nitrate-; nitrogen-

biochemical-oxygen-demand; chemical-oxygen-demand;
phosphorus-; streptococcus-; water-quality; wetlands-;
bioremediation-; water-pollution; pollution-control;
guidelines-; alabama-

NAL Call No.: S441.S8552

61. Diagenesis of organic matter in a wetland receiving
hypereutrophic lake water. II. Role of inorganic electron
acceptors in nutrient release.

D'Angelo, E. M.; Reddy, K. R.

J-environ-qual v.23, p.937-943. (1994).

Paper presented at the symposium, "Wetland Processes and
Water Quality," November 3-4, 1992, Minneapolis, MN.

Descriptors: organic-matter; sediment-; peat-soils;
decomposition-; cycling-; oxygen-; nitrate-nitrogen;
ammonium-nitrogen; sulfate-; water-pollution; water-quality;
marshes-; pollution-control

Abstract: Constructed marshes are currently being used as a
low-cost alternative for treatment of nutrient-enriched
waters. These marshes may function as net sinks for
nutrients, especially for particulate organic forms of N and
P. However, decomposition of organic matter and nutrient
release may influence the ability of the marsh to function
for this purpose. One of the main factors affecting
decomposition is the availability of inorganic electron
acceptors (e.g., O₂, NO₃(-), and SO₄(2-)). The role of
electron acceptor consumption on N and P regeneration and
release was investigated using batch incubation experiments
with recently deposited organic matter (floc sediment) and
peat soils collected from the constructed marsh. In electron
acceptor-amended soil cores, electron acceptor consumption
proceeded rapidly in the order O₂ > NO₃(-) > SO₄(2-). Mean
oxygen reduction rate (OR) was 1.6 g O₂ m⁻² d⁻¹ (2025 g O₂
m⁻³ d⁻¹), with corresponding values for NO₃(-) and SO₄(2-) of
0.23 g N m⁻² d⁻¹ (60 g N m⁻³ d⁻¹) and 0.086 g S m⁻² d⁻¹ (5.4
g S m⁻³ d⁻¹), respectively. If electron acceptor consumption
was coupled to decomposition of organic matter in Hoc
sediment with a C/N/P ratio of 190:14:1, aerobic catabolism
accounted for 92% of NH₄⁺, and soluble P regenerated in the
soil, with anaerobic activity (NO₃(-) and SO₄(2-) reduction)
accounting for the remaining 8%. In the constructed marsh
receiving allochthonous inputs of labile organic matter,
however, anaerobic decomposition was expected to be the
dominant mechanism for nutrient regeneration. Under
SO₄(2-)-reducing conditions, net rates of organic N and P
mineralization were 3.3 to 14 mg N L⁻¹ sediment d⁻¹ and 0.5
to 0.6 mg P L⁻¹, respectively, and were highly. the water
column by diffusion and advection (e.g., gas ebullition),
thus impacting water quality.

NAL Call No.: QH540.J6

62. Domestic wastewater treatment through constructed wetland
in India.

Juwarkar, A. S.; Oke, B.; Juwarkar, A.; Patnaik, S. M.

Water-sci-technol v.32, p.291-294. (1995).
In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.
Descriptors: phragmites-; phragmites-karka; typha-latifolia; wetlands-; waste-water-treatment; sewage-effluent; removal-; nutrients-; nitrogen-; phosphorus-; pathogens-; biochemical-oxygen-demand; waste-water; orissa-; phragmites-carca
NAL Call No.: TD420.A1P7

63. The economic and environmental feasibility of using constructed wetlands for treatment of municipal wastewater in small communities in Maine.
Hesketh, P. S. 1.

Orono, Me., 1990. viii, 256 leaves : ill..
Includes vita.
MeU Univ.-1990-H461

64. Effects of acidification on metal accumulation by aquatic plants and invertebrates. 1. Constructed wetlands.
Albers, P. H.; Camardese, M. B.

Environ-Toxicol-Chem v.12, p.959-967. (1993).
Includes references.
Descriptors: aquatic-plants; aquatic-insects; uptake-; aluminum-; cadmium-; calcium-; copper-; iron-; lead-; magnesium-; manganese-; nickel-; zinc-; acidification-; wetlands-; pollution-; ph-; adverse-effects; freshwater-biology; maryland-
NAL Call No.: QH545.A1E58

65. The efficiency of constructed wetland-pond systems in the reduction of sediment and nutrient discharges from agricultural watersheds.
Jolley, J. W. 1.

Orono, Me., 1990. ix, 180 leaves : ill., map.
Includes vita.
MeU Univ.-1990-J683

66. Efficient and low cost effluent treatment using an ash disposal dam.
Vermeulen, P. L. M.; Vawda, A. S.

Proc-Annu-Congr-S-Afr-Sugar-Technol-Assoc p.48-51. (1989).
Meeting held on June 5-8, 1989, Durbon and Mount Edgecombe, South Africa.
Descriptors: roller-mills; sugar-industry; sugar-refineries; fly-ash; waste-water; waste-water-treatment; effluents-; wetlands-; biological-treatment; dams- ; sugar-factory-waste; artificial-wetlands

NAL Call No.: 65.9-S083

67. Engineered reed-bed systems for wastewater treatment.
Gray, K. R.; Biddlestone, A. J.

Trends-biotechnol v.13, p.248-252. (1995).

Includes references.

Descriptors: waste-water-treatment; wetlands-;
phragmites-australis; typha-latifolia; scirpus-lacustris;
biological-treatment; waste-water; microbial- degradation;
constructed-wetlands

NAL Call No.: TA166.T72

68. Enhancement of nitrogen removal in subsurface flow
constructed wetlands employing a 2-stage configuration, an
unsaturated zone, and recirculation.

White, K. D.

Water-sci-technol v.32, p.59-67. (1995).

In the series analytic: Wetland systems for water pollution
control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; waste-water-treatment; nitrogen-;
removal-; denitrification-; nitrification-; water-flow;
waste-water; factory-effluents; food- industry; seafoods-;
biochemical-oxygen-demand; aeration-; hydraulics-;
ammonium-nitrogen; nitrate-; passive-aeration;
hydraulic-retention-time; artificial-wetlands;
seafood-industry

NAL Call No.: TD420.A1P7

69. Establishing wetland plants in artificial systems.

Chambers, J. M.; McComb, A. J.

Water-sci-technol v.29, p.79-84. (1994).

In the series analytic: Wetlands systems in water pollution
control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: waste-water-treatment; biological-treatment;
wetlands-; aquatic-plants; rhizomes-; transplanting-;
seed-germination; establishment-; western-australia;
constructed-wetlands; artificial-wetlands; macrophytes-

NAL Call No.: TD420.A1P7

70. European design and operations guidelines for reed bed
treatment systems.

Cooper, P. F. P. F.; Water Research Centre (Great Britain).

Swindon : Water Research Centre, 1990. viii, 27, 10 p. (1
folded) : ill..

Rev. Dec. 1990.

Descriptors: Constructed-wetlands; Water-Purification

NAL Call No.: TD756.5.E97--1990

71. Evaluation of a diked natural wetland for the treatment of sugar mill effluent.
Batubara, D. S. 1.

1992. viii, 204 leaves : ill. (some col.), maps.
Vita.

Descriptors: Constructed-wetlands;
Factory-and-trade-waste-Environmental-aspects;
Sugarcane-industry-Environmental-aspects
NAL Call No.: LU 378.76-L930-1992-batu

72. Evaluation of ARS and SCS constructed wetland/animal waste treatment project at Hernando, Mississippi : interim report 1991-1992.

Cooper, C. M.; Testa, S. 1.; Knight, S. S.; National Sedimentation Laboratory (U.S.).

Oxford, Miss. : Water Quality/Ecology & Watershed Process Units, National Sedimentation Laboratory, [1993] vii, 55 leaves : ill..

"April 1993."

Descriptors: Dairy-waste-Mississippi-Hernando; Sewage-; Waste-disposal-sites-Mississippi-Hernando
NAL Call No.: aTD899.D3C66--1993

73. An evaluation of pollutant removal from secondary treated sewage effluent using a constructed wetland system.

Thomas, P. R.; Glover, P.; Kalaroopan, T.

Water-sci-technol v.32, p.87-93. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; juncus-; schoenoplectus-; sewage-; waste-water-treatment; sewage-effluent; pollutants-; nutrients-; removal-; biochemical- oxygen-demand; chemical-oxygen-demand; ammonium-; nitrate-; phosphorus-; victoria-; schoenoplectus-validus; suspended-solids; artificial-wetlands; juncus-ingens

NAL Call No.: TD420.A1P7

74. Experiences with two constructed wetlands for treating milking center waste water in a cold climate.

Holmes, B. J.; Doll, B. J.; Rock, C. A.; Bubenzer, G. D.; Kostinec, R.; Massie, L. R.

Animal waste and the land-water interface /. Boca Raton : Lewis Publishers, c1995.. p. 223-230.

Descriptors: dairy-wastes; wetlands-; waste-water-treatment; water-quality; typha-latifolia; survival-; water-pollution; pollution-control; temperate- climate; maine-; wisconsin-
NAL Call No.: TD930.A55-1995

75. Factors affecting nitrogen removal in horizontal flow

reed beds.
Platzer, C.; Netter, R.

Water-sci-technol v.29, p.319-324. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.
Descriptors: sewage-effluent; waste-water-treatment; biological-treatment; wetlands-; nitrogen-; removal-; nutrient-uptake; aquatic-plants; evapotranspiration-; nitrification-; aquatic-plants; evapotranspiration-; nitrification-; denitrification-; environmental-temperature; austria-; germany-; constructed-wetlands; artificial-wetlands
NAL Call No.: TD420.A1P7

76. A field-scale, natural gradient solute transport experiment in peat at a Newfoundland blanket bog.
Hoag, R. S.; Price, J. S.

J-hydrol v.172, p.171-184. (1995).
Includes references.
Descriptors: wetlands-; bogs-; solutes-; contaminants-; transport-processes; hydraulic-conductivity; rain-; evaporation-; pollution-control; newfoundland-
Abstract: A field-scale, natural gradient solute transport experiment conducted at a Newfoundland blanket bog resulted in an asymmetrical plume owing to solute retardation in the dual-porosity matrix. An order of magnitude decrease in hydraulic conductivity 10-20 m downslope of the spill caused the transport rate to decrease and lateral dispersion to increase. Most transport occurred near the watertable and the transport rate increased as the watertable rose. Hydraulic conductivity between a depth of 0 and 0.2 m was 1.6×10^{-2} m s⁻¹, whereas at a depth of 0.5 m it was 5-6 orders of magnitude lower owing to greater compaction and humification of the peat with depth. At a depth of 0.4-0.45 m diffusion may have become the dominant transport mechanism. In spite of the retardation process, the solute front's rate of movement was relatively high, about 2.3 m day⁻¹, owing to a combination of the high watertable during the study and a relatively steep hydraulic gradient of 0.055. Rain caused dilution and mixing of solute near the watertable. Evaporation did not have an appreciable effect on solute concentration, which is attributable to the high transport rate.

NAL Call No.: 292.8-J82

77. Flow characteristics of planted soil filters.
Netter, R.

Water-sci-technol v.29, p.37-44. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.
Descriptors: waste-water-treatment; biological-treatment; wetlands-; water-flow; measurement-; aquatic-plants; tracers-; constructed-wetlands; artificial-wetlands

NAL Call No.: TD420.A1P7

78. A four-year mass balance for a natural wetland system receiving domestic wastewater.

Hosomi, M.; Murakami, A.; Sudo, R.

Water-sci-technol v.30, p.235-244. (1994).

In the series analytic: Water quality international '94. Part 8: Anaerobic digestion; sludge management; appropriate technologies / edited by D. Ballay. Proceedings of a conference held July 24-30, 1994, Budapest, Hungary.

Descriptors: wetlands-; waste-water-treatment; waste-water; water-quality; aquatic-plants; chemical-oxygen-demand; biochemical-oxygen-demand; nitrogen-; phosphorus-; removal-; organic-matter; honshu-; gray-water; domestic-waste-water; reeds-

NAL Call No.: TD420.A1P7

79. Freshwater wetlands, urban stormwater, and nonpoint pollution control : a literature review and annotated bibliography. 2nd ed., rev. and updated.

Stockdale, E. C.; Washington (State). Dept. of Ecology.

Olympia, WA : Washington State Dept. of Ecology, [1991] v, 267 p. : ill..

"February 1991."

Descriptors: Wetlands-Bibliography;

Urban-runoff-Bibliography; Water-Pollution-Bibliography;

Water-quality-management-Bibliography

NAL Call No.: Z6004.S94S76-1991

80. The function of a coastal wetland as an efficient remover of nutrients from sewage effluent: a case study.

Soukup, A.; Williams, R. J.; Cattell, F. C. R.; Krogh, M. H.

Water-sci-technol v.29, p.295-304. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: sewage-effluent; waste-water-treatment; biological-treatment; wetlands-; ammonia-; nitrogen-; phosphorus-; removal-; nutrient-uptake; aquatic-plants; new-south-wales

NAL Call No.: TD420.A1P7

81. Functions of macrophytes in constructed wetlands.

Brix, H.

Water-sci-technol v.29, p.71-78. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: waste-water-treatment; biological-treatment; wetlands-; aquatic-plants; hydraulic-conductivity; nutrient-uptake; artificial-wetlands

NAL Call No.: TD420.A1P7

82. General design, construction, and operation guidelines :
constructed wetlands wastewater treatment systems for small
users including individual residences. 2nd ed.
Steiner, G. R.; Watson, J. T.; Tennessee Valley Authority.
Water Management Resources Group.

Chattanooga, Tenn. : Tennessee Valley Authority, Resource
Group, Water Management, [1993] vi, 42 leaves : ill..
"May 1993."

Descriptors: Constructed-wetlands; Sewage-Purification
NAL Call No.: TD756.5.S74--1993

83. *Glyceria maxima* for wastewater nutrient removal and
forage production.
Sundblad, K.; Wittgren, H. B.

Biol-Wastes v.27, p.29-42. (1989).

Includes references.

Descriptors: refuse-; waste-water-treatment; glyceria-maxima;
fodder-crops; biomass-production; crop-yield;
nutrient-uptake; crop-quality; lysimeters-; nutritive-value;
sweden-; wetland-filter

NAL Call No.: TD930.A32

84. Gravel media filtration as a constructed wetland
component for the reduction of suspended solids from
maturation pond effluent.
Sapkota, D. P.; Bavor, H. J.

Water-sci-technol v.29, p.55-66. (1994).

In the series analytic: Wetlands systems in water pollution
control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: waste-water-treatment; biological-treatment;
wetlands-; gravel-; filtration-; artificial-wetlands

NAL Call No.: TD420.A1P7

85. Growth characteristics of three macrophyte species
growing in a natural and constructed wetland system.
Adcock, P. W.; Ganf, G. G.

Water-sci-technol v.29, p.95-102. (1994).

In the series analytic: Wetlands systems in water pollution
control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: waste-water-treatment; biological-treatment;
wetlands-; phragmites-australis; aquatic-plants; triglochin-;
nutrient-uptake; nitrogen-; phosphorus-; removal-;
south-australia; artificial-wetlands; baumea-articulata;
triglochin-procerum

NAL Call No.: TD420.A1P7

86. A handbook of constructed wetlands : a guide to creating wetlands for: agricultural wastewater, domestic wastewater, coal mine drainage, stormwater in the Mid-Atlantic Region. Davis, L.; United States. Natural Resources Conservation Service.

Washington, D.C. : For sale by the U.S. Govt. Print. Off., [1995]. 5 v. : ill. (some col.).
"This document was prepared by Luise Davis"--P. [2] of cover.
v.1. General considerations -- v.2. Domestic wastewater -- v.3. Agricultural wastewater -- v.4. Coal mine drainage -- v.5. Stormwater.

Descriptors:

Constructed-wetlands-Middle-Atlantic-States-Handbooks,-manuals,-etc;
Sewage-Purification-Handbooks,-manuals,-etc; Agricultural-pollution-Handbooks,-manuals,-etc; Coal-mine-waste-Handbooks,-manuals,-etc;
Storm-sewers-Handbooks,-manuals,-etc
NAL Call No.: TD756.5.D39--1995

87. High temporal resolution measurement of nitrate uptake from flowing solutions.

Raman, D. R.; Spanswick, R. M.; Walker, L. P.

Bioresour-technol v.53, p.113-123. (1995).

Includes references.

Descriptors: oryza-sativa; nitrate-; nutrient-uptake; ion-uptake; measurement-; specific-ion-electrodes; nutrient-availability; pretreatment-; applications-; wetlands-; waste-water-treatment; constructed-wetlands

Abstract: The nitrate (NO₃⁻) uptake rates of intact, 23 day old rice plants were measured to determine the relationship between the plant's NO₃⁻ nutrition history and the NO₃⁻ uptake rate. A system for measuring NO₃⁻ uptake was designed, built and tested. Specific design goals, which were met, include: low handling shock to the plants, high measurement accuracy (4%), high temporal resolution (10 min) and minimal mass-transfer limitations to uptake. Important design factors were identified and the overall uncertainties in the reported measurements were computed. The observed uptake rates were dependent on the NO₃⁻ concentration ([NO₃⁻]) to which the plants were exposed for the 24 h prior to testing; plants pretreated at higher [NO₃⁻] had lower uptake rates from 200 micromolar NO₃⁻ solutions than plants pretreated at lower [NO₃⁻].

NAL Call No.: TD930.A32

88. Hydraulic properties of bed media for constructed wetlands.

Turner, G. A.; Lesikar, B. J.; Fipps, G.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of Agricultural Engineers,. Summer 1994. (94-1075/94-2020) 14 p. Paper presented at the "1994 International Summer Meeting sponsored by The American Society of Agricultural Engineers," June 19-22, 1994, Kansas City, Missouri.

Descriptors: wetlands-; hydrological-factors

NAL Call No.: 290.9-Am32P

89. Hydrologic network design for a constructed wetland.

Abteu, W.; Guardo, M.; Roy, J.; Obeysekera, J.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of Agricultural Engineers, . Winter 1993. (932553) 18 p.

Paper presented at the "1993 International Winter Meeting sponsored by the American Society of Agricultural Engineers," December 14- 17, Chicago, Illinois.

Descriptors: wetlands-; phosphorus-; drainage-; monitoring-; hydrology-; florida-

NAL Call No.: 290.9-Am32P

90. Influence of hydrologic loading rate on phosphorus retention and ecosystem productivity in created wetlands.

Mitsch, W. J.; Cronk, J. K.; United States. Army. Corps of Engineers.

[Vicksburg, Miss. : U.S. Army Engineer Waterways Experiment Station, 1995] xii, 84 p. : ill., maps.

At head of title: Wetlands Research Program.

Descriptors: Wetland-conservation; Constructed-wetlands; Freshwater-productivity; Water-Phosphorus-content; Restoration-ecology

NAL Call No.: QH541.5.M3M57--1995

91. Integrated constructed wetland for small communities.

Urbanc Bercic, O.; Bulc, T.

Water-sci-technol v.32, p.41-47. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; waste-water-treatment; water-flow; waste-water; sewage-effluent; horizontal-flow; nutrients-; removal-; ammonium-nitrogen; nitrate-nitrogen; organic-nitrogen-compounds; phosphorus-; cycling-; chemical-oxygen-demand; pollutants-; phragmites-australis; microbial- degradation; microorganisms-; aquatic-organisms; denitrification-; yugoslavia-; slovenia-; vertical-flow; grey-water

NAL Call No.: TD420.A1P7

92. Inventory of constructed wetlands in the United States.

Brown, D. S.; Reed, S. C.

Water-sci-technol v.29, p.309-318. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: waste-water-treatment; biological-treatment; wetlands-; surveys-; sewage-effluent; usa-; artificial-wetlands

NAL Call No.: TD420.A1P7

93. Investigation into the use of constructed reedbeds for municipal waste dump leachate treatment.
Urbanc Bercic, O.

Water-sci-technol v.29, p.289-294. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: landfill-leachates; biological-treatment;

wetlands-; phragmites-australis; gravel-;

biochemical-oxygen-demand; chemical-oxygen-demand;

waste-water-treatment; yugoslavia-; artificial-wetlands;

slovenia-; constructed-wetlands

NAL Call No.: TD420.A1P7

94. Iron and manganese release in coal mine drainage wetland microcosms.

Tarutis, W. J. J.; Unz, R. F.

Water-sci-technol v.32, p.187-192. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: iron-oxides; manganese-oxides;

manganese-dioxide; hematite-; iron-; manganese-; release-;

mushroom-compost; sulfate-; reduction-; simulation-;

wetlands-; wetland-soils; waste-water-treatment;

drainage-water; coal-mine-spoil; coal-mined-land

NAL Call No.: TD420.A1P7

95. The kinetics of nitrate uptake from flowing solutions by rice: influence of pretreatment and light.

Raman, D. R.; Spanswick, R. M.; Walker, L. P.

Bioresour-technol v.53, p.125-132. (1995).

Includes references.

Descriptors: oryza-sativa; nitrate-; nutrient-uptake;

ion-uptake; kinetics-; nutrient-solutions; depletion-;

nutrient-availability; pretreatment-; light-; applications-;

wetlands-; waste-water-treatment; michaelis-menten-kinetics;

constructed-wetlands

Abstract: The kinetics of nitrate (NO₃⁻) uptake by intact 23 day old rice plants was studied by measuring the depletion of NO₃⁻ in solutions flowing over the plant roots. A

Michaelis-Menten kinetic model was applied, allowing the uptake kinetics to be characterized by two parameters: the apparent half-velocity constant, K_m, and the apparent maximum uptake rate, V_{max}. A propagation of uncertainty calculation revealed that the kinetic parameters could be determined with a high degree of accuracy; the standard deviation in K_m was typically 15% of the K_m value; the standard deviation in V_{max} was typically 7% of the V_{max} value. The plants were exposed to full nutrient solutions containing NO₃⁻ at 50, 200, 500 and 800 micromolar for 24 h prior to kinetic

testing, and both Km and Vmax were found to vary with pretreatment NO3- concentration, [NO3-]; plants pretreated at high [NO3- had lower Vmax and higher Km values than plants pretreated at lower [NO3-]. However, the variations in Vmax were more consistent than those in Km. These changes in the kinetic parameters reflect an uptake system which is capable of compensating for changes in the external [NO3-] to maintain a virtually constant NO3- uptake rate in the range studied. Changes in Km and Vmax begin within 4 h of a change in [NO3-]. Light deprivation during pretreatment in 200 micromolar NO3- resulted in a complete cessation of NO3- uptake; 4-8 h of illumination were required before the uptake resumed, and uptake rates had not yet reached normal levels 8 h after the resumption of illumination.

NAL Call No.: TD930.A32

96. Limited response of cordgrass (*Spartina foliosa*) to soil amendments in a constructed marsh.

Gibson, K. D.; Zedler, J. B.; Langis, R.

Ecol-appl v.4, p.757-767. (1994).

Includes references.

Descriptors: spartina-; ammonium-sulfate; straw-; alfalfa-; organic-amendments; green-manures; decomposition-; biomass-production; plant-density; nitrogen-; nutrient-availability; soil-fertility; sandy-soils; nutrient-uptake; salt-marshes; wetlands-; dry-matter-accumulation; salt-marsh-soils; california-; constructed-wetlands

NAL Call No.: QH540.E23

97. Long-term impacts of sewage effluent disposal on a tropical wetland.

Osborne, P. L.; Totome, R. G.

Water-sci-technol v.29, p.111-117. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: waste-water-treatment; biological-treatment; sewage-effluent; wetlands-; tropics-; nutrient-uptake; nitrogen-; phosphorus-; removal-; aquatic-plants; botanical-composition; papua-new-guinea

NAL Call No.: TD420.A1P7

98. MAFES on solid ground with wastewater cleanup project.

Drapala, P.

MAFES-Res-Highlights-Miss-Agric-For-Exp-Stn v.54, p.5.

(1991).

Descriptors: waste-water; waste-water-treatment; water-purification; wetlands-; mississippi-; artificial-wetlands

NAL Call No.: 100-M69MI

99. Methods to assess the water quality impact of a restored riparian wetland.

Vellidis, G.; Lowrance, R.; Smith, M. C.; Hubbard, R. K.

J-Soil-Water-Conserv v.48, p.223-230. (1993).

Includes references.

Descriptors: water-pollution; animal-wastes; bioremediation-; water-quality; runoff-; riparian-forests; wetlands-; reclamation-; pollution-control; georgia-; wetland-restoration; nonpoint-source-pollution

NAL Call No.: 56.8-J822

100. Microbial ecology of constructed wetlands used for treating pulp mill wastewater.

Hatano, K.; Frederick, D. J.; Moore, J. A.

Water-sci-technol v.29, p.233-239. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: pulp-mill-effluent; waste-water-treatment; biological-treatment; wetlands-; typha-latifolia; scirpus-acutus; microbial-degradation; bacteria-; fungi-; actinomycetales-; oregon-; artificial-wetlands

NAL Call No.: TD420.A1P7

101. Mineralisation and pathogen removal in gravel bed hydroponic constructed wetlands for wastewater treatment.

Williams, J.; Bahgat, M.; May, E.; Ford, M.; Butler, J.

Water-sci-technol v.32, p.49-58. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; waste-treatment; sewage-; gravel-; phragmites-australis; biochemical-oxygen-demand; removal-; ammonium-nitrogen; pollutants-; pathogens-; fecal-coliforms; indicator-species; bacteriophages-; bacteria-; coliform-bacteria; egypt-; england-; coliphages-; artificial-wetlands; suspended-solids

NAL Call No.: TD420.A1P7

102. Mineralogy of iron precipitates in a constructed acid mine drainage wetland.

Karathanasis, A. D.; Thompson, Y. L.

Soil-Sci-Soc-Am-j. [Madison, Wis.] Soil Science Society of America. Nov/Dec 1995. v. 59 (6) p. 1773-1781.

Includes references.

Descriptors: wetlands-; mine-spoil; drainage-; waste-treatment; mineralogy-; iron-; chemical-precipitation; solubility-; mineralogy-; constructed-wetlands

Abstract: Precipitates forming at various stages of acid mine drainage treatment in a high metal load (approximately 1000 mg L-1 Fe) and low pH (approximately 3) constructed wetland

were characterized by chemical dissolution, X-ray diffraction, thermal analysis, and scanning electron microscopy. Minerals precipitating in flumes and in entry wetland cells lacking vegetation included poorly crystalline ferrihydrite, lepidocrocite, goethite, possibly an akaganeite-like mineral, and high Fe/S ratio Fe oxyhydroxysulfates (similar to schwertmannite). Within vegetated wetland cells lined with crushed limestone, well-crystallized gypsum, lepidocrocite, and Fe-oxyhydroxysulfate minerals with low Fe/S ratios were accompanied by gradual reductions in ferrihydrite and akaganeite. The Fe/S molar ratios of Fe oxyhydroxysulfates in flume precipitates averaged 5.2 +/- 0.3, while those of cell precipitates averaged approximately 3.5 +/- 0.5. The oxalate-extractable (Fe(ox)) to total (Fe(t)) Fe fraction of the precipitates was considerably higher in wetland cells (1.1 +/- 0.3), where organic C was 10-fold higher than in entry flumes (0.7 +/- 0.1). Scanning electron micrographs of flume precipitates showed a fiber-like morphology of densely aggregated spherical particles, 1.5 to 2.0 mm in diameter, with a closely packed microcrystalline matrix. Precipitates collected from vegetated wetland cells formed aggregates of somewhat smaller diameter spherical particles with grassy surfaces or finger-like projections entangled with bacterial cells. The overall composition of the precipitates suggested that the Fe chemistry is controlled primarily by the solubility of Fe oxyhydroxides in flumes and by S-enriched Fe oxyhydroxysulfates. inhibited by the presence of organics and the precipitation of Fe oxyhydroxysulfates and gypsum.

NAL Call No.: 56.9-So3

103. A modified procedure for design of constructed wetlands.
Chen, S.; Malone, R. F.; Fall, L.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of Agricultural Engineers,. Winter 1992. (92-4527) 19 p.
Paper presented at the "1992 International Winter Meeting sponsored by the American Society of Agricultural Engineers," December 15- 18, 1992, Nashville, Tennessee.

Descriptors: waste-water-treatment; wetlands-; construction-; design-calculations; models-

NAL Call No.: 290.9-Am32P

104. A multidisciplinary wetlands research facility.
Kenimer, A. L.; Mitchell, F. L.; Lasswell, J. L.

Clean water, clean environment, 21st century team agriculture, working to protect water resources conference proceedings, March 5-8, 1995, Kansas City, Missouri /. St. Joseph, Mich. : ASAE, c1995.. v. 2 p. 95-98.

Includes references.

Descriptors: wetlands-; aquatic-plants; waste-treatment; runoff-; watersheds-; fields-; arachis-hypogaea;

food-industry; cheesemaking-; factory-effluents;

dairy-effluent; dairy-wastes; waste-water-treatment; texas-;

constructed-wetlands

NAL Call No.: TD365.C54-1995

105. Natural treatment processes and on-site processes.
Kruzic, A. P.

Water-environ-res v.67, p.470-475. (1995).

Includes references.

Descriptors: waste-water-treatment; biological-treatment;
application-to-land; infiltration-; wetlands-;
literature-reviews; soil-infiltration-systems;
constructed-wetlands

NAL Call No.: TD419.R47

106. Natural treatment systems.
Kruzic, A. P.

Water-environ-res v.66, p.357-361. (1994).

Includes references.

Descriptors: waste-water-treatment; aquatic-environment;
systems-; aquatic-plants; wetlands-; literature-reviews;
soil-based-systems

NAL Call No.: TD419.R47

107. Natural wetland polishing effluent discharging to
Wooloweyah Lagoon.
Patruno, J.; Russell, J.

Water-sci-technol v.29, p.185-192. (1994).

In the series analytic: Wetlands systems in water pollution
control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: waste-water-treatment; biological-treatment;
wetlands-; sewage-effluent; nitrogen-; phosphorus-; removal-;
nutrient-uptake; aquatic-plants; lagoons-; new-south-wales

NAL Call No.: TD420.A1P7

108. A new concept in treating wastewater--constructed
wetlands.
Karathanasis, A. D.

Soil-Sci-News-Views-Coop-Ext-Serv-Univ-Ky-Coll-Agric-Dep-Agron.
Lexington, Ky. : The Department. 1991. v. 12 (3) 3 p.

Descriptors: waste-water-treatment; wetlands-;
biological-treatment; construction-; costs-; mine-spoil;
agricultural-wastes; kentucky-

NAL Call No.: S591.55.K4S64

109. Nitrate removal from a synthetic groundwater using a
constructed wetland.
Rock, J.

1993. ix, 251 leaves : ill. (some col.).

Thesis (M.S.)--University of Nebraska--Lincoln, 1993.
NBU LD3656-1993-R635

110. Nitrogen removal from pretreated wastewater in surface flow wetlands.

Wittgren, H. B.; Tobiasson, S.

Water-sci-technol v.32, p.69-78. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; nitrification-; nitrogen-; removal-; waste-water-treatment; waste-water; sewage-effluent; denitrification-; hydraulics-; water- flow; phosphorus-; sweden-; hydraulic-loading; artificial-wetlands; constructed-wetlands

NAL Call No.: TD420.A1P7

111. Nitrogen removal from reclaimed water applied to constructed and natural wetland microcosms.

Gale, P. M.; Reddy, K. R.; Graetz, D. A.

Water-Environ-Res v.65, p.162-168. (1993).

Includes references.

Descriptors: wetlands-; waste-water-treatment; florida-; nutrient-removal

NAL Call No.: TD419.R47

112. Nitrogen removal from waste treatment pond or activated sludge plant effluents with free-surface wetlands.

Horne, A. J.

Waste stabilisation ponds and the reuse of pond effluents selected proceedings of the 2nd International Symposium on Waste Stabilisation Ponds and the Reuse of Pond Effluents, held in Berkeley, California, USA, 30 Nov-3 Dec 1993 / International Symposium on Waste Stabilisation Ponds and the Reuse of Pond Effluents. 1st ed. Oxford, U.K. ; Tarrytown, New York, U.S.A. : Pergamon : Elsevier Science, 1995.. p. 341-351.

Includes references.

Descriptors: wetlands-; waste-water-treatment; sewage-effluent; activated-sludge; ponds-; nitrogen-; nitrate-; removal-; denitrification-; constructed-wetlands; activated-sludge-plant-effluent

NAL Call No.: TD420.A1P7-v.31,-no.12

113. Nitrogen removal in constructed wetlands treating nitrified meat processing effluent.

Van Oostrom, A. J.

Water-sci-technol v.32, p.137-147. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; waste-water-treatment;
meatworks-effluent; nitrification-; nitrogen-; removal-;
glyceria-maxima; denitrification-; nutrient- uptake;
biomass-; new-zealand; artificial-wetlands;
surface-flow-wetlands

NAL Call No.: TD420.A1P7

114. Nutrient partitioning in a clay-based surface flow wetland.

Adcock, P. W.; Ryan, G. L.; Osborne, P. L.

Water-sci-technol v.32, p.203-209. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; nutrients-; removal-; release-; cycling-; nitrogen-; phosphorus-; organic-matter; sediment-; nutrient-content; mineral-content; plant-composition; aquatic-plants; water-; clay-; adventitious-roots; waste-water-treatment; sewage-effluent; wetland-soils; new-south-wales; artificial-wetlands; constructed-wetlands

NAL Call No.: TD420.A1P7

115. Nutrient reduction in an in-series constructed wetland system treating landfill leachate.

Martin, C. D.; Moshiri, G. A.

Water-sci-technol v.29, p.267-272. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: wetlands-; biological-treatment; water-purification; landfill-leachates; aquatic-plants; phosphorus-; nitrogen-; removal-; florida-; artificial-wetlands

NAL Call No.: TD420.A1P7

116. Nutrient removal and disinfection performance in the Byron Bay constructed wetland system.

Bavor, H. J.; Andel, E. F.

Water-sci-technol v.29, p.201-208. (1994).

In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: sewage-effluent; waste-water-treatment; biological-treatment; wetlands-; nitrogen-; phosphorus-; fecal-coliforms; removal-; nutrient- uptake; aquatic-plants; new-south-wales; artificial-wetlands

NAL Call No.: TD420.A1P7

117. The nutrient retention by ecotone wetlands and their modification for Baiyangdian Lake restoration.

Yin, C. Q.; Lan, Z. W.

Water-sci-technol v.32, p.159-167. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.
Descriptors: wetlands-; nutrients-; removal-; nitrogen-; phosphorus-; lakes-; pollution-control; water-flow; phragmites-australis; biomass-; harvesting-; wetland-soils; soil-fertility; hubei-; total-nitrogen; total-phosphorus; surface-flow; subsurface-flow
NAL Call No.: TD420.A1P7

118. Nutrient transformations in a natural wetland receiving sewage effluent and the implications for waste treatment.
Cooke, J. G.

Water-sci-technol v.29, p.209-217. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.
Descriptors: sewage-effluent; waste-water-treatment; biological-treatment; wetlands-; phosphorus-; nitrogen-; removal-; nutrient-uptake; aquatic-plants; denitrification-; nitrification-; nitrate-; new-zealand
NAL Call No.: TD420.A1P7

119. On-site wastewater treatment : proceedings of the Seventh International Symposium on Individual and Small Community Sewage Systems, 11-13 December 1994, Atlanta, Georgia. On-site waste water treatment.
International Symposium on Individual and Small Community Sewage Systems (7th : 1994 : Atlanta, Ga.

St. Joseph, Mich. : American Society of Agricultural Engineers, c1994. xiv, 578 p. : ill..
"Vol. 7.". Implementing on-site technologies -- Design and performance of constructed wetlands -- Impacts of on-site systems -- Mechanics of soil-based systems -- Field evaluation of alternative technologies -- Design and evaluation of sand filters -- Small community options -- Pressure distribution systems -- On-site systems for nitrogen removal -- New research results.
Descriptors: Sewage-disposal,-Rural-Congresses;
Constructed-wetlands-Congresses;
Sewage-disposal,-Rural-United-States-Congresses
NAL Call No.: TD929.I567--1994

120. Operating experience with constructed wetlands for wastewater treatment.
Knight, R. L.

Tappi-J v.75, p.109-112. (1993).
Includes references.
Descriptors: wetlands-; waste-water-treatment; water-quality; pulp-and-paper-industry; pulp-mill-effluent
NAL Call No.: 302.8-T162

121. An operational survey of a natural lagoon treatment plant combining macrophytes and microphytes basins.
Vandevenne, L.

Water-sci-technol v.32, p.79-86. (1995).
In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.
Descriptors: wetlands-; aquatic-plants; algae-; waste-water-treatment; waste-water; sewage-; sewage-effluent; waste-treatment; nitrogen-; phosphorus-; nutrients-; removal-; nutrient-uptake; lagoons-; belgium-; artificial-wetlands; constructed-wetlands
NAL Call No.: TD420.A1P7

122. Orange County Florida Eastern Service Area reclaimed water wetlands reuse system.
Schwartz, L. N.; Wallace, P. M.; Gale, P. M.; Smith, W. F.; Wittig, J. T.; McCarty, S. L.

Water-sci-technol v.29, p.273-281. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.
Descriptors: wetlands-; water-reuse; waste-water-treatment; sewage-effluent; nutrients-; removal-; nutrient-uptake; florida-; constructed-wetlands; artificial-wetlands
NAL Call No.: TD420.A1P7

123. Organic priority pollutants in wetland-treated leachates at a landfill in central Florida.
Chen, C. S.; Zoltek, J. Jr.

Chemosphere v.31, p.3455-3464. (1995).
Includes references.
Descriptors: landfill-leachates; groundwater-pollution; runoff-water; landfills-; pollutants-; volatile-compounds; organic-compounds; waste-water- treatment; biological-treatment; wetlands-; microbial-degradation; sorption-; water-quality; aromatic-hydrocarbons; florida-
NAL Call No.: TD172.C54

124. Overview: surface flow constructed wetlands.
Kadlec, R. H.

Water-sci-technol v.32, p.1-12. (1995).
In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.
Descriptors: wetlands-; marshes-; waste-water-treatment; aquatic-plants; nutrients-; removal-; cycling-; nutrient-uptake; sorption-; microbial- degradation; water-flow; aquatic-organisms; microorganisms-; artificial-wetlands; macrophytes-; surface-flow-wetlands
NAL Call No.: TD420.A1P7

125. Performance of an artificial wetlands filter treating facultative lagoon effluent at Carville, Louisiana.
Zachritz, W. H. I.; Fuller, J. W.

Water-Environ-Res v.65, p.46-52. (1993).
Includes references.
Descriptors: waste-water-treatment; lagoons-; wetlands-; sagittaria-; species-
NAL Call No.: TD419.R47

126. Performance of subsurface flow wetlands with batch-load and continuous-flow conditions.
Burgoon, P. S.; Reddy, K. R.; DeBusk, T. A.

Water-environ-res v.67, p.855-862. (1995).
Includes references.
Descriptors: wetlands-; scirpus-; waste-water-treatment; biochemical-oxygen-demand; waste-water; sewage-effluent; carbon-; nitrogen-; oxidation-; ammonium-; water-flow; microbial-degradation; oxygen-; transfer-; scirpus-pungens; waste-water-flow; artificial-wetlands; constructed-wetlands
NAL Call No.: TD419.R47

127. Phosphorus removal in constructed wetlands using gravel and industrial waste substrata.
Mann, R. A.; Bavor, H. J.

Water-Sci-Technol-J-Int-Assoc-Water-Pollut-Res-Control v.27, p.107-113. (1993).
In the series analytic: Appropriate waste management technologies / edited by G. Ho and K. Mathew. Proceedings of the International Conference, held November 27-28, 1991, Perth, Australia.
Descriptors: sewage-effluent; waste-treatment; wetlands-; phosphorus-; new-south-wales
NAL Call No.: TD420.A1P7

128. Phosphorus retention and distribution in constructed wetlands.
Cronk, J. K.; Mitsch, W. J.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of Agricultural Engineers, . Winter 1993. (932579) 10 p.
Paper presented at the "1993 International Winter Meeting of the American Society of Agricultural Engineers," December 14-17, 1993, Chicago, Illinois.
Descriptors: wetlands-; pollution-; phosphorus-
NAL Call No.: 290.9-Am32P

129. Phosphorus retention by wetland soils used for treated wastewater disposal.
Gale, P. M.; Reddy, K. R.; Graetz, D. A.

J-environ-qual v.23, p.370-377. (1994).

Includes references.

Descriptors: wetland-soils; phosphorus-; sorption-; kinetics-; sorption-isotherms; physicochemical-properties; waste-water-treatment

Abstract: Wetlands function as buffers for nutrients loaded from terrestrial ecosystems through drainage and surface discharges. The objectives of our study were to (i) determine the P retention capacity of representative wetlands soils being used for disposal of treated wastewater and (ii) relate P retention characteristics to selected physicochemical properties to evaluate likely of P removal in the soils. Intact soil cores (0-40 cm) and bulk soil samples (0-15 cm) were collected from a system of natural and constructed wetlands currently being used for disposal of treated wastewater. Floodwater P concentrations of the intact soil cores were monitored over time to determine the rate of P removal. Batch experiments were conducted to determine maximum P retention capacity of the soils. Soil samples were analyzed for inorganic P pool sizes, and selected properties. During a 21 d hydraulic retention time, the constructed wetlands (sandy, low organic matter soils) retained 52 to 66% of added P, as compared with 46 to 47% retained by the natural wetlands (high organic matter soils). The P retention as estimated using the Langmuir model, ranged from 196 to 1821 mg P kg(-1) (aerobic incubations) and from 32 to 1415 mg P kg(-1) (anaerobic incubations). The P sorption maximum for the soils could be by batch equilibration with a single high P solution. Anaerobic conditions increased P solubility. Organic P pools and the Fe-Al-bound fraction seemed to control P chemistry in these natural and wetlands.

NAL Call No.: QH540.J6

130. Phosphorus retention in constructed freshwater riparian marshes.

Mitsch, W. J.; Cronk, J. K.; Wu, X. Y.; Nairn, R. W.; Hey, D. L.

Ecol-appl v.5, p.830-845. (1995).

Includes references.

Descriptors: water-pollution; phosphorus-; pollution-control; water-purification; river-water; marshes-; aquatic-plants; nutrient-uptake; wetlands-; water- quality; geological-sedimentation; nutrient-content; biomass-; phytoplankton-; water-flow; illinois-; experimental-wetlands; constructed-marshes; low-flow-wetlands; high-flow-wetlands

NAL Call No.: QH540.E23

131. Phosphorus uptake in Florida marshes.

Kadlec, R. H.

Water-sci-technol v.30, p.225-234. (1994).

In the series analytic: Water quality international '94. Part 8: Anaerobic digestion; sludge management; appropriate

technologies / edited by D. Ballay. Proceedings of a conference held July 24-30, 1994, Budapest, Hungary.
Descriptors: marshes-; aquatic-plants; phosphorus-; removal-; nutrient-uptake; waste-water-treatment; pollution-control; wetlands-; mathematical- models; florida-; artificial-wetlands; constructed-wetlands
NAL Call No.: TD420.A1P7

132. A pilot study of vertical flow wetlands at Coffs Harbour, New South Wales, Australia.
Chick, A. J.; Mitchell, D. S.

Water-sci-technol v.32, p.103-109. (1995).
In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.
Descriptors: wetlands-; waste-treatment; waste-water-treatment; sewage-; sewage-effluent; water-flow; nutrients-; removal-; pollutants-; biochemical-oxygen-demand; fecal-coliforms; hydraulics-; phosphorus-; new-south-wales; suspended-solids; artificial-wetlands; constructed-wetlands
NAL Call No.: TD420.A1P7

133. Planted soil filter--a wastewater treatment system for rural areas.
Netter, R.

Water-sci-technol v.28, p.133-140. (1993).
Proceedings of the 2nd International Conference on, "Design and Operation of Small Wastewater Treatment Plants," June 28-30, 1993, Trondheim, Norway / edited by H. Odegaard.
Descriptors: waste-water-treatment; water-systems; rural-areas; wetlands-; filter-beds; aquatic-plants; biochemical-oxygen-demand; chemical-oxygen- demand; purification-; nutrients-; particle-size-distribution; constructed-wetlands
NAL Call No.: TD420.A1P7

134. Pollution filtration by plants in wetland-littoral zones.
Mickle, A. M.

Proc-Acad-Nat-Sci-Phila. Philadelphia, Pa. : The Academy. Apr 7, 1993. v. 144 p. 282-290.
Literature review.
Descriptors: aquatic-plants; bog-plants; filtration-; purification-; waste-water; waste-water-treatment; wetlands-; coastal-areas; literature-reviews
NAL Call No.: 500-P53

135. Pollution solution: build a marsh.
MacDonald, L.

Am-for v.100, p.26-29. (1994).
Descriptors: water-pollution; pollution-control; marshes-;
wildlife-; wetlands-; california-;
arcata-marsh-and-wildlife-sanctuary
NAL Call No.: 99.8-F762

136. Potential use of constructed wetlands for wastewater
treatment in Northern environments.
Jenssen, P. D.; Maehlum, T.; Krogstad, T.

Water-sci-technol v.28, p.149-157. (1993).
Proceedings of the 2nd International Conference on, "Design
and Operation of Small Wastewater Treatment Plants," June
28-30, 1993, Trondheim, Norway / edited by H. Odegaard.
Descriptors: wetlands-; waste-water-treatment; cold-zones;
temperate-climate; aquatic-plants; freezing-; purification-;
biodegradation-; constructed-wetlands
NAL Call No.: TD420.A1P7

137. Preliminary effectiveness of constructed wetlands for
dairy waste treatment.
Cooper, C. M.; Testa, S. I.; Knight, S. S.

Environmentally sound agriculture proceedings of the second
conference 20-22 April 1994 / p.439-446. (1994).
Includes references.
Descriptors: dairy-wastes; waste-water;
waste-water-treatment; wetlands-; scirpus-validus;
on-farm-processing; water-quality; improvement-; mississippi-
NAL Call No.: S589.7.E57-1994

138. Processes of iron and manganese retention in laboratory
peat microsomes subjected to acid mine drainage.
Henrot, J.; Wieder, R. K.

J-Environ-Qual v.19, p.312-320. (1990).
Includes references.
Descriptors: peat-; acid-mine-drainage; iron-; manganese-;
retention-; binding-; iron-oxides; exchangeable-cations;
microbial-activities; ph-; temperature-; solubilization-;
reduction-; acid-deposition; constructed-wetlands;
complexation-; photoreduction-
Abstract: Despite increasing use of constructed wetlands for
treatment of metal-enriched acid coal mine drainage (AMD),
the biotic and abiotic mechanisms of metal retention in such
wetlands are poorly understood. The present study was
conducted to evaluate the processes responsible for Fe and
Mn retention in peat and the effects of microbial activity,
pH temperature, and metal concentration in AMD on these
processes. Experimental units consisted in 30 g (wet wt.) of
fresh Sphagnum peat, which was repeatedly flushed with
synthetic AMD at pH 3.5. Of the four major processes of
metal cation retention in peat (cation exchange, complexation
with peat organic precipitation as oxides, and precipitation

as sulfides), Fe oxidation and Fe binding on peat organics were predominant, with Fe oxides and organically bound Fe making up, respectively, 62 and 22% of the total Fe in the peat at the end of the experiment. Whereas Fe complexation was a finite process, reaching saturation at 12 mg Fe g⁻¹ dry peat, Fe-oxide concentration in peat increased steadily throughout the experiment. At pH 3.5, Fe-oxide precipitation was depressed by the addition of an antiseptic (formaldehyde) to AMD, suggesting that the process was microbially mediated. Iron oxide precipitation was higher at pH 5.5 than 3.5 and less depressed at pH 5.5 than 3.5 by the presence of formaldehyde in AMD. The efficiency of peat to remove Fe from AMD was diminished at low temperature (< 15 degrees C) and high Fe concentration in AMD (> 100 mg L⁻¹). Manganese retention in peat was small compared with that of Fe, and Mn was retained in peat almost exclusively as exchangeable Mn²⁺. Retention of Fe²⁺ in peat was not affected by the presence of Mn²⁺ in AMD. Iron oxides that had accumulated in peat subjected to AMD were not readily resolubilized by any of three processes investigated: photoreduction, microbial Fe(III) reduction under reducing conditions, and exposure to simulated acid precipitation. These findings suggest that constructed wetlands may be an appropriate technology to remove Fe from AMD with low soluble Fe concentration, but are inadequate for treating drainage waters rich in soluble Mn.

NAL Call No.: QH540.J6

139. Project end report, development of high mountain plant communities as wetland mitigation systems for copper mine effluent.

Kastning Culp, N.; Lockwood, J. A. 1.; DeBrey, L.;
University of Wyoming. Dept. of Plant, S. a. I. S.

[Laramie] : Dept. of Plant, Soil and Insect Sciences,
University of Wyoming, [1993] viii, 141 p. : ill. (some col.).

Cover title.

Descriptors:

Copper-mines-and-mining-Little-Snake-River-Watershed-Colo;

-and-Wyo; -Waste-disposal;

Constructed-wetlands-Little-Snake-River- Watershed-Colo;

-and-Wyo;

Plants-as-sanitary-agents-Little-Snake-River-Watershed-Colo;

-and-Wyo

NAL Call No.: TD899.C59K37--1993

140. The purification efficiency of planted soil filters for wastewater treatment.

Netter, R.

Water-Sci-Technol-J-Int-Assoc-Water-Pollut-Res-Control v.26,
p.2317-2320. (1992).

In the series analytic: Water Quality International '92. Part
5 / edited by M. Suzuki, et.al. Proceedings of the Sixteenth

Biennial Conference of the International Association on Water Pollution Research and Control held May 24-30, 1992, Washington, D.C.

Descriptors: waste-water-treatment; soil-; filters-; wetlands-; water-purification; efficiency-
NAL Call No.: TD420.A1P7

141. The reality of sewage treatment using wetlands.
Hiley, P. D.

Water-sci-technol v.32, p.329-338. (1995).

In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; waste-water-treatment; waste-treatment; sewage-; sewage-effluent; water-flow; ammonium-; phosphorus-; nitrogen-; removal-; biochemical-oxygen-demand; pollutants-; yorkshire-and-lancashire; surface-flow; subsurface-flow; suspended-solids; constructed-wetlands; artificial-wetlands
NAL Call No.: TD420.A1P7

142. Reed-bed treatment for municipal and industrial wastewater in Beijing, China.
Li, S. R.; Ding, T.; Wang, S.

J-Inst-Water-Environ-Manag v.9, p.581-588. (1995).
Includes references.

Descriptors: phragmites-australis; wetlands-; waste-water-treatment; waste-water; sewage-effluent; beijing-; artificial-wetlands; constructed-wetlands
Abstract: The reed-bed system is a cost-effective and environmentally friendly method of treating sewage from small treatment works. A pilot-scale plant, which treated 500 m3/d of municipal and industrial wastewater, was studied in Beijing, China. The aim of the project was (i) to test the ability of the reed beds to remove pollutants for long-term operation in cold weather conditions, and (ii) to evaluate its environmental, ecological and financial values. The results of operation demonstrated that this system has the ability to remove the pollutants. One of the attractive features is that the reed beds can partly convert the pollutants into plant biomass with the natural energy from sunlight. The reeds can (a) be harvested each year, (b) provide a wildlife habitat, and (c) improve the quality of the ecosystem. Capital and operating costs of the system are comparatively low.

NAL Call No.: TD420.W374

143. Reed bed treatment systems for sewage treatment in the United Kingdom--the first 10 years' experience.
Cooper, P.; Green, B.

Water-sci-technol v.32, p.317-327. (1995).

In the series analytic: Wetland systems for water pollution

control 1994 / edited by R. H. Kadlec and H. Brix.
Descriptors: phragmites-australis; wetlands-;
waste-treatment; waste-water-treatment; sewage-;
sewage-effluent; gravel-; nitrification-; water-flow;
biochemical-oxygen-demand; pollutants-; ammonium-nitrogen;
nitrogen-; phosphorus-; uk-; artificial-wetlands;
gravel-beds; vertical-flow; suspended-solids
NAL Call No.: TD420.A1P7

144. Removal efficiency of the constructed wetland wastewater treatment system at Bainikeng, Shenzhen.
Yang, Y.; Xu, Z. C.; Hu, K. P.; Wang, J. S.; Wang, G. Z.

Water-sci-technol v.32, p.31-40. (1995).
In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.
Descriptors: wetlands-; waste-water-treatment; nutrients-; removal-; nitrogen-; phosphorus-; microbial-degradation; pollutants-; biochemical-oxygen- demand;
chemical-oxygen-demand; aquatic-plants; aquatic-organisms; sewage-effluent; gravel-; guangxi-; organic-pollutants; suspended-solids; artificial-wetlands; vegetated-gravel-beds
NAL Call No.: TD420.A1P7

145. Removal of pathogens from wastewaters by the root zone method (RZM).
Rivera, F.; Warren, A.; Ramirez, E.; Decamp, O.; Bonilla, P.; Gallegos, E.; Calderon, A.; Sanchez, J. T.

Water-sci-technol v.32, p.211-218. (1995).
In the series analytic: Wetland systems for water pollution control 1994 / edited by R. H. Kadlec and H. Brix.
Descriptors: wetlands-; roots-; root-systems; phragmites-australis; typha-; pathogens-; removal-; escherichia-coli; coliform-bacteria; fecal-coliforms; salmonella-; shigella-; giardia-; entamoeba-; sarcomastigophora-; ascaris-lumbricoides; waste-water-treatment; sewage-; sewage-effluent; mexico-; england-; pathogenic-free-living-amoebae; constructed-wetlands
NAL Call No.: TD420.A1P7

146. Restoration of our lakes and rivers with wetlands--an important application of ecological engineering.
Mitsch, W. J.

Water-sci-technol v.31, p.167-177. (1995).
In the series analytic: Integrated water resources management / edited by S.H. Hosper, R.D. Gulati, L. van Liere, and R.M.M. Rooijackers.
Descriptors: wetlands-; aquatic-plants; water-pollution; pollution-control; sediment-; rivers-; streams-; phosphorus-; nutrient-uptake; ohio-; manmade-wetlands; riparian-wetlands; fringe-wetlands

NAL Call No.: TD420.A1P7

147. A Review of literature concerning the establishment and maintenance of constructed wetlands using Scirpus, Sparganium, and other wetland species.
Mandel, R.; Koch, P. L.; United States. Soil Conservation Service.

[Washington, D.C.? : U.S. Dept. of Agriculture, Soil Conservation Service], 1992. iii, 114 p..

Cover title.

Descriptors: Wetland-plants-Great-Lakes-Region;
Constructed-wetlands-Great-Lakes-Region

NAL Call No.: aQK130.R48--1992

148. Riparian forest buffer system research at the Coastal Plain Experiment Station, Tifton, GA.
Hubbard, R. K.; Lowrance, R. R.

Water-air-soil-pollut v.77, p.407-432. (1994).

In the special issue: Wetlands of the interior southeastern United States / edited by C.C. Trettin, W.M. Aust, and J. Wisniewski. September 28-30, 1993, Knoxville, Tennessee.

Descriptors: riparian-forests; riparian-vegetation; grasses-; vegetation-management; clearcutting-; selective-felling; wetlands-; biological-treatment; waste-water-treatment; dairy-wastes; pig-slurry; aldicarb-; insecticide-residues; nutrients-; removal-; nutrient-uptake; simulation-models; nitrate-; denitrification-; water-quality; runoff-; groundwater-; groundwater-pollution; water-pollution; georgia-

NAL Call No.: TD172.W36

149. Riparian forest restoration to control agricultural water pollution.

Lowrance, R.; Hubbard, R. K.; Vellidis, G.

Clean water, clean environment, 21st century team agriculture, working to protect water resources conference proceedings, March 5-8, 1995, Kansas City, Missouri /. St. Joseph, Mich. : ASAE, c1995.. v. 3 p. 179-182.

Includes references.

Descriptors: riparian-forests; wetlands-; dairy-effluent; lagoons-; waste-water-treatment; application-to-land; pollution-control; removal-; sediment-; nitrogen-; phosphorus-; nitrates-; denitrification-; water-quality; groundwater-pollution; georgia-; riparian-wetlands

NAL Call No.: TD365.C54-1995

150. Riparian wetlands and water quality.
Gilliam, J. W.

J-environ-qual v.23, p.896-900. (1994).

Paper presented at the symposium, "Wetland Processes and Water Quality," November 3-4, 1992, Minneapolis, MN.
Descriptors: wetlands-; riparian-vegetation; water-quality; pollutants-; water-pollution; pollution-control

Abstract: Because of wet soils adjacent to the streams, riparian buffers are frequently present between farming and urban activities on the uplands and small streams. These riparian areas have been shown to be very valuable for the removal of nonpoint-source pollution from drainage water. Several researchers have measured > 90% reductions in sediment and nitrate concentrations in water flowing through the riparian areas. The riparian buffers are less effective for P removal but may retain 50% of the surface-water P entering them. I consider riparian buffers to be the most important factor influencing nonpoint-source pollutants entering surface water in many areas of the USA and the most important wetlands for surface water quality protection.
NAL Call No.: QH540.J6

151. The role of constructed wetlands and other alternative technologies in meeting the wastewater treatment needs of rural and small communities : hearing before the Subcommittee on Investigations and Oversight of the Committee on Public Works and Transportation, House of Representatives, One Hundred Second Congress, second session, August 4, 1992.

United States. Congress. House. Committee on Public Works and Transportation. Subcommittee on Investigations and Oversight.

Washington : U.S. G.P.O. : For sale by the U.S. G.P.O., Supt. of Docs., Congressional Sales Office, 1992 [i.e. 1993]. iii, 303 p. : ill..

Distributed to some depository libraries in microfiche.

Descriptors: Constructed-wetlands-United-States; Sewage-disposal,-Rural-United-States-Technological-innovations; Sewage-Purification- Technological-innovations

NAL Call No.: KF27.P89632-1992

152. The role of wetlands, ponds, and shallow lakes in improving water quality.

Whigham, D. F.

Animal waste and the land-water interface /. Boca Raton : Lewis Publishers, c1995.. p. 163-172.

Includes references.

Descriptors: wetlands-; ponds-; lakes-; water-systems; animal-wastes; nitrogen-; phosphorus-; movement-; waste-water-treatment; water-quality; water- pollution; constructed-wetlands-pond-systems

NAL Call No.: TD930.A55-1995

153. The roles of spent mushroom substrate for the mitigation of coal mine drainage.

Stark, L. R.; Williams, F. M.

Compost-sci-util v.2, p.84-94. (1994).
Includes references.
Descriptors: mushroom-compost; substrates-; coal-mined-land;
drainage-; wetlands-; waste-water-treatment;
biological-treatment; waste-utilization;
appalachian-states-of-usa; constructed-wetlands;
mine-water-treatment
NAL Call No.: TD796.5.C58

154. Rootzone dynamics in constructed wetlands receiving
wastewater: a comparison of vertical and horizontal flow
systems.
Breen, P. F.; Chick, A. J.

Water-sci-technol v.32, p.281-290. (1995).
In the series analytic: Wetland systems for water pollution
control 1994 / edited by R. H. Kadlec and H. Brix.
Descriptors: wetlands-; schoenoplectus-;
eleocharis-sphacelata; waste-water-treatment; roots-;
root-systems; water-flow; horizontal-flow; hydraulics-;
nutrients-; nitrogen-; phosphorus-; removal-;
ammonium-nitrogen; hydraulic-resistance; root-density;
schoenoplectus-validus; artificial-wetlands
NAL Call No.: TD420.A1P7

155. SCS technical requirements for constructed wetlands for
agricultural wastewater treatment.
Krider, J. N.; Boyd, W. H.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of
Agricultural Engineers, . Winter 1992. (92-4523) 5 p.
Paper presented at the "1992 International Winter Meeting
sponsored by the American Society of Agricultural Engineers,"
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Descriptors: agricultural-wastes; waste-water-treatment;
wetlands-; regulations-
NAL Call No.: 290.9-Am32P

156. Sewage and industrial waste treatment, wetlands : (Oct
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[Springfield, Va.] : U.S. Dept. of Commerce, National
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Descriptors: Sewage-Purification-Bibliography;
Sewage-disposal-in-the-ground-Bibliography;
Land-treatment-of-wastewater-Bibliography;
Constructed-wetlands-Bibliography
NAL Call No.: Z5853.S22S38--1993

157. Small constructed wetlands for animal waste treatment.
Evans, J. L.; Webber, D.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of
Agricultural Engineers,. Summer 1994. (94-1075/94-2020) 21 p.
Paper presented at the "1994 International Summer Meeting
sponsored by The American Society of Agricultural Engineers,"
June 19-22, 1994, Kansas City, Missouri.
Descriptors: waste-treatment; wetlands-
NAL Call No.: 290.9-Am32P

158. State of knowledge on reed bed treatment systems :
October 1987.
Cooper, P. F. P. F.; Hobson, J. A.; Water Research Centre
(Great Britain).

[England? : WRC?, 1987?] 1 v. (unpaged) : ill..
Cover title.

Descriptors: Constructed-wetlands
NAL Call No.: TD756.5.C67-1987

159. A stochastic approach to designing wetlands for
stormwater pollution control.
Wong, T. H. F.; Somes, N. L. G.

Innovative technologies in urban storm drainage NOVATECH '95
selected proceedings of the 2nd NOVATECH Conference on
Innovative Technologies in Urban Storm Drainage, held in
Lyon, France, 30 May - 1 June, 1995 / NOVATECH Conference on
Innovative Technologies in Urban Storm Drainage. 1st ed.
Oxford, U.K. ; Tarrytown, N.Y. : Pergamon : Elsevier Science,
1995.. p. 145-151.

Includes references.

Descriptors: wetlands-; pollution-control; rain-; storms-;
runoff-; urban-areas; hydrology-; size-; structural-design;
stochastic-processes; simulation-; victoria-;
constructed-wetlands

NAL Call No.: TD420.A1P7-v.32,-no.1

160. Strategies for protecting Florida's Everglades: the best
management practice approach.
Izuno, F. T.; Capone, L. T.

Water-sci-technol v.31, p.123-131. (1995).

In the series analytic: Integrated water resources management
/ edited by S.H. Hosper, R.D. Gulati, L. van Liere, and
R.M.M. Rooijackers.

Descriptors: water-pollution; phosphorus-; runoff-;
runoff-water; agricultural-land; farmland-;
pollution-control; wetlands-; drainage-water; drainage-;
florida-; everglades-agricultural-area;
nonpoint-source-pollution

NAL Call No.: TD420.A1P7

161. Subsurface flow constructed wetlands for wastewater treatment : a technology assessment.
Reed, S. C.

Washington, D.C. : U.S. Environmental Protection Agency, Office of Water, [1993] 1 v. (various pagings) : ill..
"Mr. Sherwood C. Reed ... was the principal author and editor of this document"--P. i.
Descriptors: Constructed-wetlands
NAL Call No.: TD756.5.R44--1993

162. Subsurface flow wetlands--a performance evaluation.
Reed, S. C.; Brown, D.

Water-environ-res v.67, p.244-248. (1995).
Includes references.
Descriptors: wetlands-; aquatic-plants;
waste-water-treatment; gravel-; water-flow;
biochemical-oxygen-demand; organic-matter; phosphorus-;
ammonia-; nitrification-; biological-treatment;
total-suspended-solids; constructed-wetlands;
gravel-filled-basins; subsurface-water-flow
NAL Call No.: TD419.R47

163. Surface flow and particle settling in a coastal reed field.
Hosokawa, Y.; Furukawa, K.

Water-sci-technol v.29, p.45-53. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell.
Descriptors: waste-water-treatment; biological-treatment;
wetlands-; aquatic-plants; water-flow; hydrology-; stems-;
hydraulic-resistance; roughness-; geological-sedimentation;
coastal-wetlands; hydraulic-roughness
NAL Call No.: TD420.A1P7

164. Swine wastewater treatment in constructed wetlands.
Hunt, P. G.; Humenik, F. J.; Szogi, A. A.; Rice, J. M.;
Stone, K. C.; Sadler, E. J.

Environmentally sound agriculture proceedings of the second conference 20-22 April 1994 / p.268-275. (1994).
Includes references.
Descriptors: pigs-; animal-wastes; waste-water-treatment;
wetlands-; juncus-effusus; scirpus-; species-; sparganium-;
typha-angustifolia; typha-latifolia; glycine-max;
oryza-sativa; growth-; crop-yield; wetland-soils;
redox-reactions; nitrogen-; phosphorus-; removal-
NAL Call No.: S589.7.E57-1994

165. A theoretical approach for minimization of excavation and media costs of constructed wetlands for BOD5 removal. Chen, S.; Malone, R. F.; Fall, L. J.

Trans-ASAE v.36, p.1625-1632. (1993).

Includes references.

Descriptors: wetlands-; design-; waste-water-treatment; biochemical-oxygen-demand; hydraulics-; subsurface-drainage; artificial-wetlands; subsurface-flow

Abstract: A modified procedure for minimizing excavation and media costs for subsurface constructed wetland design for BOD5 removal is presented. Based upon the assumptions of first order BOD5 removal kinetics, a plug-flow reactor, and hydraulics governed by Darcy's law for a constructed wetland, this procedure incorporates the currently available theory into a unique systematic design approach. The modified procedure suggests that a small slope and a small aspect ratio (length/width) should be used whenever possible. This design procedure provides an optimization rationale for each design step and relates the primary design parameters to excavation and media material costs. Operational parameters that determine the performance of constructed wetlands are more clearly defined than before based on the theoretical treatment presented. Using this design procedure, cost reductions are demonstrated for two examples.

NAL Call No.: 290.9-Am32T

166. Toward the rational design of aquatic treatment systems. Stowell, R. E.

Davis, Calif. : Dept. of Civil Engineering, University of California, [1980] 59 p. : ill..

"Presented at the American Society of Civil Engineers Spring Convention, Portland, Oregon, April 14-18, 1980."

Descriptors: Sewage-Purification-Biological-treatment; Constructed-wetlands; Wetlands-

NAL Call No.: TD755.T68-1980

167. Treating dairy waste utilizing laboratory-scale constructed wetlands.

Benham, B. L.; Mote, C. R.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of Agricultural Engineers, . Winter 1993. (932576) 11 p.

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Descriptors: dairy-wastes; wetlands-; waste-treatment

NAL Call No.: 290.9-Am32P

168. Treating wastewater in constructed wetlands.

Hauck, R. D.

BioCycle. Emmaus, Pa. : J.G. Press. Sept 1992. v. 33 (9) p.

72.

Descriptors: waste-water-treatment; wetlands-; simulation-;
applied-research; water-pollution; alabama-
NAL Call No.: 57.8-C734

169. Treatment of dairy farm wastewaters in horizontal and
up-flow gravel-bed constructed wetlands.
Tanner, C. C.

Water-sci-technol v.29, p.85-93. (1994).

In the series analytic: Wetlands systems in water pollution
control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: waste-water-treatment; biological-treatment;
dairy-wastes; dairy-effluent; wetlands-; gravel-;
schoenoplectus-; nutrient-uptake; nitrogen-; phosphorus-;
removal-; new-zealand; schoenoplectus-validus;
artificial-wetlands

NAL Call No.: TD420.A1P7

170. Treatment of domestic wastewater by a constructed
upland-wetland wastewater treatment system.
House, C. H.; Broome, S. W. S. W. 1.; Hoover, M. T. M. T.
1.; Water Resources Research Institute of the University of
North Carolina.

[Raleigh, N.C.?] : Water Resources Research Institute of the
University of North Carolina, [1993] xi leaves, 51 p. : ill..
"September 1993"--Cover.

Descriptors: Sewage-disposal-in-the-ground-North-Carolina;
Sewage-disposal,-Rural-North-Carolina;
Septic-tanks-North-Carolina

NAL Call No.: TD201.N6--no.277

171. Treatment of landfill leachate in on-site lagoons and
constructed wetlands.
Maehlum, T.

Water-sci-technol v.32, p.129-135. (1995).

In the series analytic: Wetland systems for water pollution
control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; landfill-leachates;
waste-water-treatment; lagoons-; aeration-; water-flow;
horizontal-flow; aquatic-plants; phragmites-australis;
typha-latifolia; scirpus-; removal-; nitrogen-; phosphorus-;
iron-; pathogens-; pollutants-; norway-; artificial-wetlands;
horizontal-subsurface-flow

NAL Call No.: TD420.A1P7

172. Treatment of mine drainage by a constructed multi-cell
wetland : the Corsica Project. Corsica Project.
Stark, L. R.; Pennsylvania State University. Environmental
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University Park, Pa. : PennState, Environmental Resources
Research Institute, 1994. iv, 124 p. : ill..
Cover title.

Descriptors: Mine-drainage; Wetlands-; Wetland-ecology
NAL Call No.: TD439.T74--1994

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upland-wetland wastewater treatment system.
House, C. H.; Broome, S. W.; Hoover, M. T.

Water-sci-technol v.29, p.177-184. (1994).
In the series analytic: Wetlands systems in water pollution
control / edited by H.J. Bavor and D.S. Mitchell.

Descriptors: sewage-effluent; waste-water-treatment;
biological-treatment; wetlands-; phosphorus-; ammonium-;
nitrate-; removal-; nutrient-uptake; nitrification-;
phragmites-australis; typha-angustifolia; north-carolina;
constructed-wetlands; artificial-wetlands

NAL Call No.: TD420.A1P7

174. Treatment of primary-settled urban sewage in pilot-scale
vertical flow wetland filters: comparison of four emergent
macrophyte species over a 12 month period.
Heritage, A.; Pistillo, P.; Sharma, K. P.; Lantazke, I. R.

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In the series analytic: Wetland systems for water pollution
control 1994 / edited by R. H. Kadlec and H. Brix.

Descriptors: wetlands-; typha-orientalis; schoenoplectus-;
cyperus-; cyperaceae-; waste-water-treatment; sewage-;
sewage-effluent; removal-; nutrients-; nitrogen-;
phosphorus-; biochemical-oxygen-demand; pollutants-;
evapotranspiration-; new-south-wales; cyperus-involucratus;
suspended-solids; dissolved-solids; schoenoplectus-validus;
baumea-articulata

NAL Call No.: TD420.A1P7

175. Treatment of swine wastewater by constructed wetlands.
Szogi, A. A.; Hunt, P. G.; Humenik, F. J.; Rice, J. M.

Clean water, clean environment, 21st century team
agriculture, working to protect water resources conference
proceedings, March 5-8, 1995, Kansas City, Missouri /. St.
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Descriptors: wetlands-; aquatic-plants; piggery-effluent;
lagoons-; waste-treatment; waste-water-treatment; ammonia-;
ammonium-nitrogen; nitrogen-; phosphorus-; nitrate-nitrogen;
nutrient-uptake; wetland-soils; anaerobic-conditions;
denitrification-; north-carolina

NAL Call No.: TD365.C54-1995

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Kadlec, R. H.; Knight, R. L. R. L. 1.

Boca Raton : Lewis Publishers, c1996. 893 p. : ill., maps.
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Descriptors: Sewage-Purification-Biological-treatment;
Wetlands-
NAL Call No.: TD755.K33--1996

177. Upgrading pond effluents: an overview.
Middlebrooks, E. J.

Waste stabilisation ponds and the reuse of pond effluents
selected proceedings of the 2nd International Symposium on
Waste Stabilisation Ponds and the Reuse of Pond Effluents,
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New York, U.S.A. : Pergamon : Elsevier Science, 1995.. p.
353-368.
Includes references.

Descriptors: waste-water-treatment; ponds-; effluents-;
waste-water; wetlands-; eichhornia-crassipes; lemna-;
constructed-wetlands
NAL Call No.: TD420.A1P7-v.31,-no.12

178. Usage of drainmod-creams in evaluating constructed
wetlands.
Shirmohammadi, A.; Cronk, J. K.

Pap-Am-Soc-Agric-Eng. St. Joseph, Mich. : American Society of
Agricultural Engineers,. Summer 1994. (94-1075/94-2020) 15 p.
Paper presented at the "1994 International Summer Meeting
sponsored by The American Society of Agricultural Engineers,"
June 19-22, 1994, Kansas City, Missouri.
Descriptors: wetlands-; denitrification-
NAL Call No.: 290.9-Am32P

179. Use of artificial wetlands for the treatment of
recreational wastewater.
Vincent, G.

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In the series analytic: Wetlands systems in water pollution
control / edited by H.J. Bavor and D.S. Mitchell.
Descriptors: water-purification; wetlands-;
biological-treatment; aquatic-plants; nutrient-uptake;
phosphorus-; nitrogen-; nitrate-; lakes-; water- recreation;
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NAL Call No.: TD420.A1P7

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biochemical-oxygen-demand; ammonium-nitrogen;
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NAL Call No.: TD420.A1P7

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