The Water Quality Information Center (WQIC)
Agricultural Research Service, U. S. Department of Agriculture

Constructed Wetlands Bibliography

This bibliography was compiled by United States Department of Agriculture Staff from the Ecological Sciences Division of the Natural Resources Conservation Service and the Water Quality Information Center at the National Agricultural Library.

Introduction to Constructed Wetlands Bibliography
Contact Information and Document History
Constructed Wetlands Bibliography, Part I: Ag. NPS Pollution
Constructed Wetlands Bibliography, Part II: Acid Mine Drainage
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Constructed Wetlands Bibliography, Part IV: Basic and General
Constructed Wetlands Bibliography, Part V: Household Waste
Constructed Wetlands Bibliography, Part VI: Industrial Waste
Constructed Wetlands Bibliography, Part VII: Urban Runoff
Constructed Wetlands Bibliography (Complete Document)

The above bibliography was last updated on 10/24/95.

"New" Due to the level of interest in this constructed wetlands bibliography, another collection of citations drawn from the AGRICOLA database, Constructed Wetlands and Water Quality Improvement (I), was created in 1996. A second edition, Constructed Wetlands and Water Quality Improvement (II), created in June 2000, is now available.

Return to the Water Quality Information Center at the National Agricultural Library.
Last update: June 14, 2000
The URL of this page is http://www.nal.usda.gov/wqic/Constructed_Wetlands_all/index.html

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Water Quality Information Center of the National Agricultural Library
Agricultural Research Service, U.S. Department of Agriculture

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Introduction to Constructed Wetlands Bibliography

This constructed wetlands bibliography, compiled by the United States Department of Agriculture's Natural Resources Conservation Service (formerly the Soil Conservation Service) and the Water Quality Information Center at the National Agricultural Library, consists of more than 600 citations. One hundred and sixty-one of these have abstracts. The bibliography has been divided into seven major categories:

AGNPS: Agricultural Nonpoint Source Pollution
AMD: Acid Mine Drainage
AW: Agricultural Wastes
BG: Basic and General
HW: Household Wastes
IW: Industrial Wastes
UR: Urban Runoff

Within each major category, many, but not all, of the citations were subcategorized. Each of the citations in the original document has 10 fields as shown in the example below from the Acid Mine Drainage category. There have been 76 records added which contain the major citation fields but are in a different format.

Sample record:

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CATEGORY    AMD
SUBCATEGOR  case studies--TVA, AL

TITLE       Treatment of acid drainage with a constructed wetlands at
            the Tennessee Valley Authority 950 coal mine.
AUTHOR      Brodie, G.A., D.A. Hammer and D.A. Tomljanovich.
SOURCE      Constructed Wetlands for Wastewater Treatment: Municipal,
            Industrial and Agricultural.
PUBLISHER   Chelsea, MI: Lewis Publisher, Inc.
PAGES       pp. 201-209
DATE        1989
CALLNUM     TD 756. 5 C66
ANNOTATION  A Jackson County Alabama sediment pond that received acid mine
            drainage was cited for chronic effluent discharges.  Because the
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impoundment had acceptable characteristics (moderate water quality, adequate siting characteristics, and suitable geology and hydrology) a constructed wetland was built to treat acid drainage. The constructed wetland was environmentally effective and cost-beneficial in treating the acidic mine drainage.

This bibliography is available on the Internet in several different forms:

1 large ASCII text file containing all 605 citations
7 smaller ASCII files corresponding to each of the seven categories listed above.

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Menu Structure on World Wide Web Server:

1. Introduction to Constructed Wetlands Bibliography
2. Contact Information and Document History
3. Constructed Wetlands Bibliography, Part I: Ag. Nonpoint Source Pollution
4. Constructed Wetlands Bibliography, Part II: Acid Mine Drainage
5. Constructed Wetlands Bibliography, Part III: Agricultural Waste
6. Constructed Wetlands Bibliography, Part IV: Basic and General
7. Constructed Wetlands Bibliography, Part V: Household Waste
8. Constructed Wetlands Bibliography, Part VI: Industrial Waste
9. Constructed Wetlands Bibliography, Part VII: Urban Runoff
10. Constructed Wetlands Bibliography (Complete Document)

Return to Constructed Wetlands Bibliography

Return to the Water Quality Information Center at the National Agricultural Library.
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Contact Information and Document History

This "Constructed Wetlands Bibliography" was compiled by the United States Department of Agriculture staff from the Ecological Sciences Division of the Natural Resources Conservation Service (NRCS), formerly the Soil Conservation Service, and the Water Quality Information Center of the National Agricultural Library (NAL). The bibliography consists of more than 600 citations, of which 161 are annotated. It was assembled by:

Charles R. Terrell, NRCS, (editor)
Joe Makuch, NAL
Dan Cabirac, NAL
Diane Doyle, NAL
Bonnie Emmert, NAL
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The bibliography was developed over a period of two years in response to concerns by private organizations, consultants, state and federal agencies that information about constructed wetlands was not readily available nor easily accessible.

These groups, realizing that the lack of a bibliography was a deterrent to having others know about the advantages and values of constructed wetlands, advocated and supported the idea of building a bibliography. Additionally, the groups recognized that a bibliography would help to advance the knowledge base and the technology of constructed wetlands.

The Natural Resources Conservation Service provided personnel to develop the bibliographic references and annotations, while the National Agricultural Library provided the computer expertise to establish the bibliographic format and to make the document available via Internet.

This bibliography is considered an "open file" and a "work- in-progress" and represents the efforts by the authors as of November 1995.

If you have a constructed wetland reference that you believe should be part of this bibliography, please contact Mr. Terrell at the above address.

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Constructed Wetlands Bibliography, Part I: Agricultural Nonpoint Source Pollution

This file, "Constructed Wetlands Bibliography, Part I: Agricultural Nonpoint Source Pollution" is one section of a seven-part constructed wetlands bibliography on using constructed wetlands for wastewater treatment. The bibliography was compiled by United States Department of Agriculture Staff from the Ecological Sciences Division of the Natural Resources Conservation Service, formerly the Soil Conservation Service, and the Water Quality Information Center at the National Agricultural Library. The complete bibliography can be accessed as either a single large (450K) file containing more than 600 citations or in parts organized by topic.

To locate a publication cited in this bibliography, please contact your local, state, or university library. If you are unable to locate a particular publication, your library can contact the National Agricultural Library (see instructions given at the end of this file).

For WWW access to these files: point your browser at
http://www.nal.usda.gov/wqic/Constructed_Wetlands_all/index.html

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AGNPS
CATEGORY    AGNPS
SUBCATEGOR

TITLE       Constructed wetlands to control nonpoint source pollution.
AUTHOR      Wengrzynek, R.L.
SOURCE      Patent application. Report No. PAT-APPL-7-764 924.
PUBLISHER
PAGES
DATE        1991, September 24
CALLNUM
ANNOTATION
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CATEGORY AGNPS
SUBCATEGOR

TITLE Evaluating the role of created and natural wetlands in controlling nonpoint source pollution.
AUTHOR Olson, R.K.
SOURCE Ecological Engineering. 1: xi-xv.
PUBLISHER
PAGES
DATE
CALLNUM IPS 27176
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE Evaluation of wetland buffer areas for treatment of pumped agricultural drainage water.
AUTHOR Chescheir, G. M., R. W. Skaggs and J. W. Gilliam.
SOURCE TRANS ASAE Vol. 35, No. 1, Jan/Feb. 1992, p175-182.
PUBLISHER
PAGES pp 175-182
DATE 1992
CALLNUM 290.9 Am32T
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE Introduction to nonpoint source pollution in the United States and prospects for wetland use.
AUTHOR Baker, L.A.
SOURCE Ecological Engineering. 1:1-26.
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE Landscape design and the role of created, restored, and natural riparian wetlands in controlling nonpoint source pollution.
AUTHOR Mitsch, W.J.
SOURCE Ecological Engineering. 1: 27-47.
PUBLISHER

PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE Potential role of marsh creation in restoration of hypertrophic lakes.
AUTHOR Lowe, E.F., D.L. Stites and L.E. Battoe.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 710-18
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The authors propose the use of wetlands for the restoration of a hypertrophic lake. The lake water laden with high concentration of nutrients would pass through the wetland system many times. The goals of this approach are to maximize power (nutrient quantity removed per unit of time) and capacity (nutrients permanently stored) rather than efficiency (nutrient fraction removed in a single pass.)

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CATEGORY AGNPS
SUBCATEGOR

TITLE Strategy for evaluating the potential of constructed wetlands for mitigation of non-point source agricultural runoff.
AUTHOR Rodgers, J.H., K. Mauermann and A. Dunn.
SOURCE Paper No. 331. Society for Environmental Toxicology and Chemistry '90 - Global Environmental Issues: Challenges for the 90's
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE The use of constructed wetland systems in treating agricultural runoff: 1990 data summary.
AUTHOR Higgins, M.
SOURCE Report to the Dept. of Civil Engineering, Univ. of Maine,

Orono, ME.
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE Using constructed wetlands to control agricultural nonpoint source pollution.
AUTHOR Wengrzynck, R.J. and C.R. Terrell.
SOURCE Proc. Int. Conf. Use of Constructed Wetlands in Water Pollution Control, 24-28 September, 1990, Churchhill College, Cambridge, UK.
PUBLISHER Oxford, UK: Pergamon Press
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR aesthetics

TITLE Aesthetic implementation of nonpoint source controls.
AUTHOR Roesner, L.A.
SOURCE Nonpoint Pollution: 1988-Policy, Economics, Management, and Appropriate Technology.
PUBLISHER Bethesda, MD: Am. Water Resources Assc.
PAGES pp. 213-233
DATE 1988
CALLNUM TC 401 A% no. 88-4
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR ancillary benefits

TITLE Ancillary benefits and potential problems with the use of wetlands for nonpoint source pollution control.
AUTHOR Knight, R.L.
SOURCE Ecological Engineering. 1: 97-113.
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR case studies--midwestern USA (OH)

TITLE Wetlands for the control of nonpoint source pollution: Preliminary feasability study for swan creek watershed of northwestern Ohio.
AUTHOR Mitsch, W.J.
SOURCE
PUBLISHER Columbus, OH: Ohio Environmental Protection Agency,
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR Design

TITLE Designing constructed wetlands systems to treat agricultural nonpoint source pollution.
AUTHOR Hammer, D.A.
SOURCE Ecological Engineering. 1:49-82.
PUBLISHER
PAGES
DATE 1992
CALLNUM TD 153 .E26
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR ecology

TITLE Long-term impacts of agricultural runoff in a Louisiana swamp forest.
AUTHOR Day, J.W., Jr. and G.P. Kemp.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold
PAGES p. 317.
DATE 1985
CALLNUM QH 545. 549E3
ANNOTATION An analysis of the long-term effects from nitrogen and phosphorus from agricultural runoff on a swamp "crayfish farm" was performed. This paper presents the results which indicate that the swamp can serve as a long-term sink for significant quantities on nitrogen and phosphorus and that the burial in sediments and denitrification are mechanisms for permanent losses.

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CATEGORY AGNPS
SUBCATEGOR hydrology

TITLE The impact of wetlands on the movement of water and nonpoint pollutants from agricultural watersheds.
AUTHOR Dickerman, J.A., A.J. Stuart and J.C. Lance.
SOURCE USDA-ARS-Water Quality and Watershed Research Laboratory, Durant, OK
PUBLISHER
PAGES
DATE 1985, Feb.
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy

TITLE NPSP abatement program for the lagoon of Venice.
AUTHOR Bendoricchio, G.
SOURCE Nonpoint Pollution: 1988-Policy, Economy, Management, and Appropriate Technology."
PUBLISHER Bethesda, MD: American Water Resources Assc.
PAGES pp. 249-260
DATE 1988
CALLNUM TC 401 A5 no.88-4
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy

TITLE Regulations and policies relating to the use of wetlands for nonpoint source pollution control.
AUTHOR Fields, S.
SOURCE Ecological Engineering. 1: 135-41.
PUBLISHER
PAGES 135-41
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy

TITLE The role of wetland water quality standards in nonpoint source pollution control strategies.
AUTHOR Robb, D.M.

SOURCE Ecological Engineering. 1: 143-48.
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy/institutional aspects

TITLE Federal programs for wetland restoration and use of wetlands for nonpoint source pollution control.
AUTHOR Whitaker, G. and C.R. Terrell.
SOURCE Ecological Engineering. 1: 157-70.
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy/institutional aspects

TITLE Fiscal year 1990 program report.
AUTHOR Maine Environmental Studies Center
SOURCE NTIS # PB91-242834
PUBLISHER
PAGES 36p.
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy/institutional aspects

TITLE Research and information needs related to nonpoint source pollution and wetlands in the watershed: an EPA perspective.
AUTHOR Ethridge, B.J. and R.K. Olson.
SOURCE Ecological Engineering, 1:149-156
PUBLISHER
PAGES
DATE 1992
CALLNUM IPS 27176
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy/institutional aspects--research needs

TITLE Recommendations for research to develop guidelines for the use of wetlands to control rural nonpoint source pollution.
AUTHOR Van der Valk, A.G. and R.W. Jolly.
SOURCE Ecological Engineering. 1: 115-34.
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR pollutant removal

TITLE The efficiency of constructed wetland-pond systems in reducing sediment and nutrient discharges from agricultural watersheds.
AUTHOR White, G.K.
SOURCE Fiscal Year 1990 Report. Maine Univ. at Orono. Environmental Studies Center.
PUBLISHER Available from NTIS, Springfield, VA 22161, PB91-242834. USGS Project No. G1566-03.
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR pollutant removal

TITLE The efficiency of constructed wetlands-pond systems in the reduction of sediment and nutrient discharges from agricultural watersheds.
AUTHOR Jolley, J.W.
SOURCE Thesis (M.S.) in Civil Envineering, University of Maine, 1990.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE, AS OF OCTOBER 24, 1995, TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

1 NAL Call No.: TD420.A1P7
Constructed wetlands for river water quality improvement.

Kadlec, R. H.; Hey, D. L.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: wetlands; water quality; sediment; phosphorus; nitrogen; removal; atrazine; nutrients; hydrology; water pollution; watersheds; illinois; non point source pollution; artificial wetlands

2 NAL Call No.: TD223.C73-1993
Created and natural wetlands for controlling nonpoint source pollution.
Olson, R. K.; United States.Environmental Protection Agency. Office of Research and Development. and Watersheds. 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

3 NAL Call No.: TD420.A1P7
Planted soil filter--a wastewater treatment system for rural areas.
Netter, R.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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

4 NAL Call No.: 57.8-C734
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

5 NAL Call No.: 290.9-Am32P
Usage of drainmod-creams in evaluating constructed wetlands.
Shirmohammadi, A.; Cronk, J. K.
Paper American Society of Agricultural Engineers. 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

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TITLE: NAL Document Delivery Information
PUBLICATION DATE: February 1995
ENTRY DATE: April 1995
EXPIRATION DATE: None
UPDATE: As needed
CONTACT: Water Quality Information Center (wqic@nalusda.gov)
DOCUMENT TYPE: Text
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February 1995

United States Department of Agriculture
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February 1995

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ELECTRONIC MAIL - (Sample form below)

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J. R. Makuch /USDA-ARS-NAL-WQIC/ wqic@ars.usda.gov

Water Quality Information Center of the National Agricultural Library
Agricultural Research Service, U.S. Department of Agriculture

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Constructed Wetlands Part II: Acid Mine Drainage

This file, "Constructed Wetlands Bibliography, Part II: Acid Mine Drainage" is one section of a seven-part constructed wetlands bibliography on using constructed wetlands for wastewater treatment. The bibliography was compiled by United States Department of Agriculture staff from the Ecological Sciences Division of the Natural Resources Conservation Service, formerly the Soil Conservation Service, and the Water Quality Information Center at the National Agricultural Library. The complete bibliography can be accessed as either a single large (450K) file containing more than 600 citations or in parts organized by topic.

To locate a publication cited in this bibliography, please contact your local, state, or university library. If you are unable to locate a particular publication, your library can contact the National Agricultural Library (see instructions given at the end of this file).

For WWW access to these files point your browser at
http://www.nal.usda.gov/Constructed_wetlands_all/index.html

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Constructed Wetlands Part II, Acid Mine Drainage (AMD)

AMD
CATEGORY AMD
SUBCATEGOR

TITLE Achieving compliance with staged, aerobic, constructed wetlands.
AUTHOR Brodie, G.A.
SOURCE Proc. 1991 Annual Mtg. of the ASSMR, Durango, CO.
PUBLISHER
PAGES pp. 151-174
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Acid mine water treatment in wetlands: an overview of an emergent technology.
AUTHOR Kleinmann, R.L.P. and M.A. Girts.
SOURCE Aqutic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing
PAGES pp. 255-261
DATE 1987
CALLNUM
ANNOTATION The U.S. Bureau of Mines is conducting an inventory of wetlands that treat acid mine water. Preliminary results indicate that the wetlands dominated by emergent species are out-performing the Sphagnum-dominated wetlands and that much of the water treatment is accomplished by other aspects of the wetland, including bacteria, algae, amendments and other plants. Iron and manganese concentrations are reduced after flow through the constructed wetlands.

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CATEGORY AMD
SUBCATEGOR

TITLE An evaluation of mine drainage and surface mine reclamation.
AUTHOR Brodie, G.A., et al.
SOURCE Mine Drainage and Surface Mine Reclamation.
PUBLISHER Washington, DC: U.S. GPO
PAGES
DATE 1988
CALLNUM 156. 61 C49
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Bilateral wastewater land treatment research.
AUTHOR Leach, L.E., et al.
SOURCE Water Environment and Technology, Vol. 2, No. 12.
PUBLISHER
PAGES
DATE
CALLNUM TD419 W37
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Biochemical treatment of mine drainage through a reedgrass wetland.
AUTHOR Nawrot, J.R. and W.B. Klimstra.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 353-363
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Biological treatment of mine water: an update.
AUTHOR Kleinmann, R.L.P. and R. Hedin.
SOURCE Proceedings on the International Symposium on Tailings and Effluent Management, Halifax, August 20-24, 1989.
PUBLISHER New York: Pergamon Press
PAGES pp. 173-179
DATE 1989
CALLNUM
ANNOTATION In general, constructed wetlands treating acidic coal mine drainage improves water quality, although supplementary chemical treatment is usually required to meet effluent limitations. The principal reaction mechanism is believed to be microbially catalyzed oxidation of dissolved iron. Since many metals react with hydrogen sulfide to form virtually insoluble precipitates, the U.S. Bureau of mines has focused on the mechanisms of bacterial conversion of sulfate to hydrogen sulfide.

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CATEGORY AMD
SUBCATEGOR

TITLE Biological treatment of mine water: an update.
AUTHOR Hedin, R. and Kleinmann.
SOURCE U.S. Bureau of Mines, Pittsburg Research Center.
PUBLISHER
PAGES
DATE no date
CALLNUM
ANNOTATION Research by the U.S. Bureau of Mines has focused on the bacterial conversion of sulfate to hydrogen sulfide (an acid-consuming reaction) because many metals react rapidly with hydrogen sulfide to form virtually insoluble precipitates. Bacterial sulfate reduction and the formation of metal sulfides

have been confirmed in constructed wetlands. Research is continuing on how to best route the drainage water through wetlands to optimize the desired biological processes.

****

CATEGORY AMD
SUBCATEGOR

TITLE Biology and chemistry of generation, prevention and abatement of acid mine drainage.
AUTHOR Silver, M.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 753-760
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Microbially mediated reactions are presented with their relevance to the generation, prevention, and abatement of acidic drainage. Reactions involved in the solubilization and reprecipitation of polluting metals such as iron, copper, zinc, and aluminum will also be presented.

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for acid drainage control in the Tennessee Valley.
AUTHOR Brodie, G.A., et al.
SOURCE Mine Drainage and Surface Mine Reclamation.
PUBLISHER Washington, D.C.: U. S. GPO
PAGES pp 325-331.
DATE 1988
CALLNUM 156. 61 C49
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for acid drainage control in the Tennessee Valley.
AUTHOR Brodie, G.A., et al.
SOURCE Wetlands: Increasing Our Wetlands Resources.
PUBLISHER Washington: National Wildlife Federation
PAGES pp 173-80.

DATE 1987.
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for acid water treatment: an overview of emerging technology.
AUTHOR Hammer, D.A.
SOURCE TVA Resource Center
PUBLISHER
PAGES
DATE 1990, May
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for the treatment of acid mine drainage.
AUTHOR Donlan, R.
SOURCE Water Pollution Control Association of Pennsylvania.
PUBLISHER
PAGES
DATE March/April 1989
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for the treatment of mine water: course notes.
AUTHOR Kleinmann, R.L.P., R.P. Brooks, B.E. Huntsman and B. Pesavento.
SOURCE Short course at the 1986 Symposium on Surface Mining, Hydrology, Sedimentology, and Reclamation; Lexington, KY.
PUBLISHER
PAGES
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for treatment of acid mine drainage: a preliminary review.
AUTHOR Girts, M.A. and R.L.P. Kleinmann.
SOURCE National Symposium on Surface Mining, Hydrology, Sedimentology, and Reclamation.
PUBLISHER Lexington, KY: Univ. of Kentucky Press
PAGES pp. 165-171
DATE 1986.
CALLNUM TD756.5 G57 1986
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for treatment of ash pond seepage.
AUTHOR Brodie, G.A., D.A. Hammer and D.A. Tomljanovich.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 211-219
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Coal processing and coal ash storage frequently results in acid drainage similar to seepage from surface and underground mine areas. Ash pond seepage has concentrations metalic ions similar to acid mine drainage, but the aggreagate flow from many seeps along one ash pond dike may be orders of magnitued greater than individual mine drainage seeps. Constructed wetlands were built to treat ash pond seepage at three different Tennessee Valley coal-fired generating plants.

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for treatment of mine water.
AUTHOR Girts, M.A. and R.L.P. Kleinmann.
SOURCE Paper presented at the 1986 Society of Mining Engineers Fall MeetingSt. Louis, MO; Sept. 7-10 1986.
PUBLISHER
PAGES
DATE 1986.
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands to treat acid mine drainage, 1990 course notes.
AUTHOR Hedin, R.S., R.L.P. Kleinmann and G. Brodie.
SOURCE
PUBLISHER
PAGES 41p.
DATE 1990
CALLNUM
ANNOTATION This paper is not a manual nor a publication, simply an informal framework of observations to help one construct wetlands that treat acid mine water. The paper presents a brief description of: wetland processes which can affect mine drainage chemistry; components of a constructed wetland; sizing a wetland; constructing a wetland; and operation and maintenance of a constructed wetland.

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands to treat acid mine drainage.
AUTHOR Kleinmann, R.L.P., R.S. Hedin, D. Hyman and G.A. Brodie.
SOURCE Course Manual for a Workshop Presented at the 1990 Natn. Mining Symposium, Knoxville, TN.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Hydrochemical, vegatational, and microbiological effects of a natural and a constructed wetland on the control of acid mine drainage.
AUTHOR Dollhopf, D.J., et al.
SOURCE Final Report 1987-88, rru 8804, pp. 1-52, 1988.
PUBLISHER
PAGES pp 1-52.
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Impacts of volunteer cattail wetlands on drainage quality from reclaimed mined land in northern West Virginia.
AUTHOR Jamison, E. and H. W. Rauch.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 349
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Ion input/output budgets for five wetlands constructed for acid mine drainage.
AUTHOR Wieder, R.K.
SOURCE
PUBLISHER In Press
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Man-made wetlands for acid mine drainage control.
AUTHOR Brodie, G.A., et al.
SOURCE Proceedings of the 8th Annual National Abandoned Mine Land Conference.
PUBLISHER 1986.
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Mine-built ponds economically clear acid mine waters.
AUTHOR Chironis, N.P.
SOURCE Coal Age. 92(1):58-61(1987)
PUBLISHER
PAGES 58-61

DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Passive anoxic alkaline drains to increase effectiveness of wetlands acid drainage systems.
AUTHOR Brodie, G.A., et al.
SOURCE Proc. 12th Annual Natn. Assc. of Abandoned Mine Land Programs Conf., Breckenridge, CO.
PUBLISHER
PAGES pp. 89-102
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Passive mine drainage treatment systems: a theoretical assessment and experimental evaluation.
AUTHOR Guertin, deF., J.C. Emerick and E.A. Howard.
SOURCE Unpublished report submitted to the Colorado Mined Land Reclamation Division; Cooperative Agreement No. 202-317.
PUBLISHER
PAGES
DATE 1985
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Potential importance of sulfate reduction processes in wetlands constructed to treat mine drainage.
AUTHOR Hedin, R.S., R. Hammack and D. Hyman
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 508-514
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Reduction of sulfate in wetlands constructed to treat acid mine drainage is desirable because hydrogen sulfide readily reacts with dissolved metals, precipitating them as sulfides, and alkalinity neutralizes drainage acidity. This paper presents

factors which affect the importance of sulfide formation in aquatic systems and the theoretical process in constructed wetlands that treat acid mine drainage.

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CATEGORY AMD
SUBCATEGOR

TITLE Processes of iron and manganese retention in laboratory peat microcosms subjected to acid mine drainage.
AUTHOR Henrot, J. and R.K. Wieder.
SOURCE Journal of Environmental Quality. 19(2):312-320
PUBLISHER
PAGES
DATE April/June 1990
CALLNUM QH 540. J6
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Soil and water characteristics of a young surface mine wetland.
AUTHOR Cole, C.A. and E.A. Lefebvre.
SOURCE Environmental Management, Vol. 15, No. 3.
PUBLISHER
PAGES pp. 403-410
DATE 1991 May/June
CALLNUM HC79 E5 E5
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Staged, aerobic constructed wetlands for acid drainage and stormwater control.
AUTHOR Brodie, G.A.
SOURCE Manual of Short Course Presented at the 34th Annual Mtg. of the Assc. of Engineering Geologists, Chicago, IL.
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE The acid mine drainage.
AUTHOR Barton, P.
SOURCE Sulfur in the Environment--Part II: Ecological Impacts.
PUBLISHER New York: Wiley
PAGES pp. 314-358
DATE 1978
CALLNUM TD196 S95S84
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE The use of constructed wetlands in the treatment of acid mine drainage.
AUTHOR Perry, A. and R.P.L. Kleinmann.
SOURCE Natural Resources Forum, Vol. 15, No. 3.
PUBLISHER
PAGES pp. 81
DATE 1991, August
CALLNUM DNAL HC55.N3
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Treatment of acid drainage from coal facilities with man-made wetlands.
AUTHOR Brodie, G.A., et al.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, Florida: Magnolia
PAGES pp 903-912.
DATE 1987.
CALLNUM DNAL TD475.C65-1986
ANNOTATION A series of shallow impoundments planted with a variety of wetland emergents was constructed to treat acidic drainage emanating from the toe of a fine coal refuse impoundment dike. Flora and fauna within the wetlands (both transplants and invaders) showed rapid growth and expansion. Comparisons between the seeps and final effluent showed substantial reductions in manganese, iron, and suspended solids.

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CATEGORY AMD

SUBCATEGOR

TITLE Treatment of acid mine water by wetlands.
AUTHOR Kleinmann, R.L.P.
SOURCE Control of Acid Mine Drainage
PUBLISHER
PAGES pp 48-51
DATE 1985
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Treatment of coal mine drainage with constructed wetlands.
AUTHOR Hedin, R.S.
SOURCE Constructed wetlands for treatment of agricultural waste.
PUBLISHER The Pennsylvania Academy of Science
PAGES
DATE 1989
CALLNUM
ANNOTATION Coal mine drainage is a common water pollution problem on active and abandoned coal mine sites. Many mining companies and engineering firms have experimented with wetland systems to treat mine drainage. The status of constructed wetland technology is presented with respect to the construction and performance of systems; chemical and biological processes that affect acid mine drainage chemistry within constructed wetlands; and the future of this technology as perceived by the Bureau of Mines.

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CATEGORY AMD
SUBCATEGOR

TITLE Treatment of coal mine drainage with constructed wetlands.
AUTHOR Hedin, R.S. and D.M. Hyman.
SOURCE Biotechnology in minerals and metal processing.
PUBLISHER Littleton, CO: Soc. Min. Eng.
PAGES p. 113-120.
DATE 1989.
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Unpublished results of current research using alkaline beds for increasing constructed wetlands effluent pH.
AUTHOR Brodie, G.A.
SOURCE Unpublished results of current research using alkaline beds for increasing constructed wetlands effluent pH. Project cofunded by the Pennsylvania Electric Company and the Tennessee Valley Authority.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Use of constructed wetlands for the control of acid mine drainage.
AUTHOR Kleinmann, R.L.P.
SOURCE Annual Report and Proceedings--American Mining Congress. Vol. 1987.
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Use of constructed wetlands for the control of acid mine drainage.
AUTHOR Kolbash, R.L., and E.R. Murphy.
SOURCE Coal mining technology, economics and policy 1987; session papersfrom the American Mining Congress coal convention, Cincinnati, OH, May 3-6, 1987.
PUBLISHER
PAGES 6p.
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Use of passive anoxic drains to enhance performance of acid drainage constructed wetlands.
AUTHOR Brodie, G.A., C.R. Britt and H.N. Taylor.

SOURCE Proc. 1991 Natn. Mtg. of the ASSMR, Durango, CO.
PUBLISHER
PAGES pp. 211-228
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Use of wetlands for treatment of environmental problems in mining: non-coal-mining applications.
AUTHOR Wildeman, T.R. and L.S. Laudon.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 221-231
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION This paper presents a review of the chemistry of metal mine drainages and the differences from coal mine drainages; analyzes the geochemistry of metals removal within wetlands; and summarizes the results in the few pioneer examples. Throughout the paper, arguments are made that effluent from a base- or precious-metal mining operation containing abundant purite will be most difficult for wetland system application.

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CATEGORY AMD
SUBCATEGOR

TITLE Using laboratory mesocosms to evaluate the potential effectiveness of constructed wetlands for acid mine drainage treatment.
AUTHOR Wieder, R.K., M.N. Linton and K.P. Heston.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 615
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Utilization of Sphagnum species dominated bog for coal acid

mine drainage abatement.
AUTHOR Huntsman, B.E., J.G. Solch and M.D. Porter.
SOURCE 91st Annual Meeting of the Geological Society of America. Toronto, Ontario.
PUBLISHER
PAGES pp. 322
DATE 1978
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Water pollution mitigation in two national park service units affected by energy and mining activities.
AUTHOR Flora, M., S. Kunkle and D. Kimball.
SOURCE Water Resources related to Mining and Energy-Preparing for the Future.
PUBLISHER Bethesda, MD: Am. Water Resources Assc.
PAGES pp. 231-238
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR ancillary benefits

TITLE Mine-drainage treatment wetland as habitat for heptofaunal wildlife.
AUTHOR Lacki, M.J., W. Hummer and H.J. Webster.
SOURCE Environmental Management 16 (4). 1992, p163-179.
PUBLISHER
PAGES pp 163-179
DATE 1992
CALLNUM HC 79 ESE5
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--eastern USA

TITLE A survey of constructed wetlands for acid coal mine drainage treatment in the eastern USA.
AUTHOR Wieder, R.K.
SOURCE Wetlands 9 (2). 1989
PUBLISHER
PAGES pp 299-316
DATE 1989
CALLNUM

ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--mountain west CO

TITLE Passive treatment technology cleans up Colorado mining waste.
AUTHOR Morea, S., R. Olsen and T. Wildeman.
SOURCE Water Environment and Technology, Vol. 2, No. 12.
PUBLISHER
PAGES pp. 6, 9
DATE 1990, December.
CALLNUM TD419 W37
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--NE USA (MD)

TITLE Constructing treatment wetlands: Maryland's experience.
AUTHOR Bagley, F.L. and A. Lyons.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 599
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--NW USA (MT)

TITLE The Tracy wetlands: a case study of two passive mine drainage treatment systems in Montana.
AUTHOR Hiel, M.T. and F.J. Kerins.
SOURCE Mine Drainage and Surface Mine Reclamation.
PUBLISHER Washington, DC: U.S. GPO
PAGES pp. 352-358.
DATE 1988.
CALLNUM 156. 61 C49
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--SE USA (KY)

TITLE The Kentucky wetlands project: a field study to evaluate

man-made wetlands for acid coal mine drainage treatment.
AUTHOR Wieder, R.K.
SOURCE First report made on Cooperative Agreement GR 896422 between the US Office of Surface Mining, Reclamation and Enforcement and Villanova Univ.
PUBLISHER
PAGES
DATE 1992.
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--SE USA (TN Valley)

TITLE Engineered wetlands for effective treatment of acid drainage-applications, results, and prospects in the Tennessee Valley.
AUTHOR Brodie, G.A.
SOURCE Proc. 34th Annual Mtg. of the Assc. of Engineering Geologists. Greensburg, PA.
PUBLISHER
PAGES pp. 558-568
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--SE USA (WV)

TITLE Windsor Coal Company wetland: an overview.
AUTHOR Kolbash, R.L., and T.L. Romanoski.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp.788-792
DATE 1989
CALLNUM TD 756.5 C66
ANNOTATION High operating cost of conventional mine drainage cleanup and the lack of potential bond releases have encouraged the coal industry to consider wetlands for a reclamation alternative. The American Electric Power Service Corporation's Fuel Supply Department is actively involved in the overall reclamation plan for its abandoned Simco Number 4 mine, in which the wetland is an important component. Depending on the success of the Simco Number 4 wetland, the Windsor Coal Company will build a constructed wetland to reuse pile seep waters.

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Anoxic limestone drains to enhance performance of aerobic acid drainage treatment wetlands--experiences of the TVA.
AUTHOR Brodie, G.A., C.R. Britt, T.M. Tomaszewski and H.N. Taylor.
SOURCE Constructed Wetlands for Water Quality Improvements.
PUBLISHER Chelsea, MI: Lewis Publisher, Inc
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Constructed wetlands for treating acid drainage at TVA coal facilities.
AUTHOR Brodie, G.A.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Oxford, UK: Pergamon Press
PAGES pp. 461-470
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Constructed wetlands for treating acid drainage at TVA coal facilities.
AUTHOR Brodie, G.A.
SOURCE Proc. Annual Natn. Assc. of Abandoned Mined Lands Prog. Conf., Breckenridge, CO.
PUBLISHER
PAGES pp. 127-143
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Constructed wetlands for treating acid drainage at TVA facilities: a progress report.
AUTHOR Tomljanovich, D.A., G.A. Brodie and D.A. Hammer.
SOURCE TVA/ONRED/WRF-88/2

PUBLISHER NTIS Accession No. DE88016102/XAB
PAGES 145p.
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Constructed wetlands for treating acid drainage at TVA facilities: status report.
AUTHOR Tomljanovich, D.A., G.A. Brodie and H.N. Taylor.
SOURCE TVA
PUBLISHER Knoxville, TN: Tennessee Valley Authority
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Staged, aerobic constructed wetlands to treat acid drainage--case history of Fabius impoundment 1 and overview of the TVA's program.
AUTHOR Brodie, G.A.
SOURCE Constructed Wetlands for Water Quality Improvement.
PUBLISHER Chelsea, MI: Lewis Publishers
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Treatment of acid drainage using constructed wetlands--experience of the Tennessee Valley Authority.
AUTHOR Brodie, G.A.
SOURCE Proceedings 1990 National Symposium of Mining.
PUBLISHER Lexington, KY: Univ. of Kentucky
PAGES pp. 77-83
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA, AL

TITLE Treatment of acid drainage with a constructed wetlands at the Tennessee Valley Authority 950 coal mine.
AUTHOR Brodie, G.A., D.A. Hammer and D.A. Tomljanovich.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publisher, Inc.
PAGES pp. 201-209
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION A Jackson County Alabama sediment pond that received acid mine drainage was cited for chronic effluent discharges. Because the impoundment had acceptable characteristics (moderate water quality, adequate siting characteristics, and suitable geology and hydrology) a constructed wetland was built to treat acid drainage. The constructed wetland was environmentally effective and cost-beneficial in treating the acidic mine drainage.

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CATEGORY AMD
SUBCATEGOR chemical aspects

TITLE Implication of sulfate-reduction and pyrite formation processes for water quality in a constructed wetland: preliminary observation.
AUTHOR Hedin, R.S., D.M. Hyman and R.W. Hammack.
SOURCE Mine Drainage and Surface Mine Reclamation.
PUBLISHER Washington, D.C.: U.S. GPO
PAGES pp. 382-388.
DATE 1988
CALLNUM 156. 61 C49
ANNOTATION

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CATEGORY AMD
SUBCATEGOR chemical aspects

TITLE Sulfate reduction in freshwater sediments receiving acid mine drainage.
AUTHOR Herlihy, A.T. and A.L. Mills.
SOURCE Applied Environmental Microbiology. 49:179-186
PUBLISHER 1985.
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR chemical aspects

TITLE The importance of sediment sulfate reduction to the sulfate budget of an impoundment receiving acid mine drainage.
AUTHOR Herlihy, A.T., et al.
SOURCE Water Resources Research. 23:287-292.
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR chemical aspects

TITLE The use of bacterial sulfate reduction in the treatment of drainage from coal mines.
AUTHOR McIntire, P.E. and H.M. Edenborn.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 409-415
DATE 1990
CALLNUM
ANNOTATION Bacterial sulfate reduction is a naturally-occurring process in wetlands. An experimental wetland was designed and built to maximize contact between mine drainage and the anaerobic zone of the organic substrate, where sulfate reduction takes place. The sulfate-reducing bacteria effectively precipitate many heavy metals as insoluble sulfides and may be useful in treatment processes designed to improve the water quality of metallic mine drainage.

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CATEGORY AMD
SUBCATEGOR design--construction--operation

TITLE Constructed wetlands for treating acid drainage--practical considerations of design, construction, and operation.
AUTHOR Brodie, G.A.
SOURCE Manual for Workshop Presented at 12th Annual Natn. Assc. of Abandoned Mine Land Programs Conference. Breckenridge, CO.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR design--construction--operation

TITLE Design, construction and operation of staged aerobic wetlands system to treat acid drainage.
AUTHOR Brodie, G.A.
SOURCE Manual of Workshop, Presented at 1991 Annual Mtg. of ASSMR, Durango, CO.
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering consideration--sizing--performance

TITLE Sizing and performance of constructed wetlands: case studies.
AUTHOR Hedin, R.S. and R.W. Nairn.
SOURCE Proceedings of the 1990 Mining and Reclamation Conference and Exhibition Volume II, Charlestown, WV, April 23-26, 1990.
PUBLISHER
PAGES pp. 385-392.
DATE 1990
CALLNUM
ANNOTATION The iron removal in three Pennsylvania constructed wetlands that treat acid mine drainage was evaluated. All wetlands were constructed using a mushroom compost substrate and were planted with Typha spp. The performance was evaluated by calculating area-adjusted iron loading and removal as FE (g/day m2).

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CATEGORY AMD
SUBCATEGOR engineering considerations

TITLE Effectiveness of wetlands constructed with different types of organic matter for acid coal mine drainage amd treatment
AUTHOR Wieder, R.K., M.N. Linton and S.T. Starr.
SOURCE Bulletin of Ecological Society of America 71(2SUPPL.) 1990. 368
PUBLISHER
PAGES
DATE 1990
CALLNUM 410.9 EC7
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering considerations--design

TITLE Wetland design for mining operations.
AUTHOR Wildeman, T.R., J. Gusek and G.A. Brodie.
SOURCE Manual for a Short Course Presented at the 8th Natn. Mtg. ASSMR. Durango, CO.
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering considerations--design--construction

TITLE Design and construction of a research site for passive mine drainage treatment in Idaho Springs, Colorado.
AUTHOR Howard, E. A., J. C. Emerick and T. R. Wildeman.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 761-764
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Only a few wetlands have been constructed to treat noncoal mine drainage at the higher elevations of Colorado. A demonstration treatment system was built at the Big Five Tunnel to determine the fate of metals. Other objectives of the study were to determine vegetation survival with exposure to elevated metals in a mountain climate, to study function and distribution of bacteria in the system, and to identify appropriate organic substrates and plant species.

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CATEGORY AMD
SUBCATEGOR engineering considerations--design--operation

TITLE Design and use of wetlands for renovation of drainage from coal mines.
AUTHOR Fennessy, S. and W.J. Mitsch.
SOURCE Ecological Engineering: An Introduction to Ecotechnology.
PUBLISHER
PAGES
DATE in press
CALLNUM

ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering considerations--design--sizing--pollutant remova

TITLE Wetland sizing, design, and treatment effectiveness for coal mine drainage.
AUTHOR Kepler, D.A.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 403-408
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering considerations--design--substrate

TITLE An evaluation of substrate types in constructed wetlands acid drainage treatment systems.
AUTHOR Brodie, G.A., et al.
SOURCE Mine Drainage and Surface Mine Reclamation.
PUBLISHER Washington: U. S. GPO
PAGES pp. 389-398.
DATE 1988.
CALLNUM 156. 61 C49
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering considerations--design--substrate

TITLE Preliminary results of an experiment to assess the effect of substrate type on treatment of acid drainage using constructed wetlands.
AUTHOR Tomljanovich, D.A., et al.
SOURCE NTIS # DE88-016102
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering--pollutant removal, Fe

TITLE Iron loading, efficiency and sizing in a constructed wetland receiving mine drainage.
AUTHOR Stark, L.R., S.E. Stevens, Jr., H.J. Webster and W.R. Wenerick.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo., Morgantown, WV. WVU Publ. Serv.: No. 2, P393-401
PUBLISHER WV Univ. Publications Service
PAGES pp 393-401
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering/design considerations--economic modelling

TITLE Designing wetlands for controlling coal mine drainage: An economic modelling approach.
AUTHOR Baker, K.A., M.S. Fennessy and W.J. Mitsch.
SOURCE Ecological Economics, Vol. 3, No. 1.
PUBLISHER
PAGES pp. 1-24
DATE 1991, March
CALLNUM QH 540 E26
ANNOTATION

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CATEGORY AMD
SUBCATEGOR microbial aspects

TITLE Bacteriological tests from the constructed wetlands of the big five tunnel, Idaho Springs, Colorado.
AUTHOR Batal, W., L.S. Laudon, T.R. Wileman and N. Mohdnoordin.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 550-557
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Acid mine drainage originates from the metabolic activity of iron-oxidizing bacteria. Wetlands are a potential treatment for small flows of acid mine drainage waters. This paper presents the occurrence, depth, and position of bacteria in the Big Five Tunnel, a precious metal mine, wetland pilot system located at Idaho Springs Colorado.

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CATEGORY AMD
SUBCATEGOR microbiological aspects

TITLE Isolation and culture of a manganese-oxidizing bacterium from a man-made cattail wetland.
AUTHOR Vail, W.J., S. Wilson and R.K. Reiley.
SOURCE Mine Drainage and Surface Mine Reclamation. Vol. 1.
PUBLISHER
PAGES
DATE 1988
CALLNUM 156. 61 C49
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pathogens/vectors/pests

TITLE Control of army worm, Simyra henrici (Lepidoptera: Noctuidae), on cattail plantings in acid drainage treatment wetlands at Widows Creek steam-electric plant.
AUTHOR Snoddy, E.L., et al.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 808-811
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Due to the monocultural nature of the macrophytes used in constructed wetlands, some plants are subject to damage by lepidopterous insect pests, mainly the armyworm complex. Measures for controlling army worms in constructed wetlands treating acid waters are presented in this paper.

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CATEGORY AMD
SUBCATEGOR plants

TITLE A low-cost, low-maintenance treatment system for acid mine drainage using Sphagnum moss and limestone.
AUTHOR Kleinmann, R.L.P.
SOURCE Symposium on Surface Mining, Hydrology, Sedimentology and Reclamation.
PUBLISHER Lexington, KY: University of Kentucky
PAGES
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR plants

TITLE Tolerance of three wetland plant species to acid mine drainage: a greenhouse study.

AUTHOR Wenerick, W.R., S.E. Stevens, Jr., H.J. Webster, L.R. Stark and E. DeVeau.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 801-807
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Tolerance of wetland plants to acid mine drainage is not well understood. The purpose of the authors' investigation was to determine the tolerance levels of three wetland plants to acid mine drainage under semicontrolled conditions in a greenhouse simulation study.

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CATEGORY AMD
SUBCATEGOR policy institutional aspects

TITLE Fiscal year 1989 report (Kentucky Water Resources Research Institute).
AUTHOR Barfield, B.J. and R.R. Huffsey.
SOURCE NTIS PB91-104315/AS
PUBLISHER
PAGES 21p.
DATE 1990, July
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal

TITLE Performance data on Typha and Sphagnum wetlands constructed to treat coal mine drainage.
AUTHOR Girts, M.A., R.L.P. Kleinmann and P.M. Erickson.
SOURCE Eighth Annual Surface Mine Drainage Task Force Symposium; Morgantown, WV
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal

TITLE Role of dissimilatory sulfate reduction in wetlands constructed for acid coal mine drainage treatment.

AUTHOR Taddeo, F.J.
SOURCE Master's thesis, Villanova U., Dept. Biology
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Al--plants, sphagnum

TITLE Aluminum retention in a man-made Sphagnum wetland.
AUTHOR Wieder, R.K., et al.
SOURCE Wat. Air Soil Poll. 37(1988):177-196.
PUBLISHER
PAGES pp 117-196
DATE 1988
CALLNUM TD172 W36
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Co,Ni,Cu,As,Zn,Cd,Cr,Pb

TITLE Effects of mine effluent on uptake of Co, Ni, Cu, As, Zn, Cd, Cr, Pb by aquatic macrophytes.
AUTHOR Mudroch, A.
SOURCE Hydrobiologia 64 (3) pp. 233-231
PUBLISHER
PAGES pp 233-231.
DATE 1979
CALLNUM 410 H992
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe

TITLE Iron retention in wetlands created for acid coal mine drainage and treatment: short-term responses to a major precipitation event.
AUTHOR Wieder, R.K.
SOURCE 76th Annual Ecological Society of America Meeting, San Antonio, TX, August 3-8, 1991, Bulletin of the Ecological Society of America 72 (2 suppl.). 1991
PUBLISHER
PAGES 288-289
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe

TITLE Wetland treatment of coal mine drainage: controlled studies of iron retention in model wetland systems.
AUTHOR Henrot, J., et al.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 793-800
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION For evaluating the process involved in chemical modifications of mine drainage wetland systems, smaller scale laboratory studies may be more useful than field monitoring of constructed wetlands. This paper presents the results of a laboratory pilot study in which replicate model wetland systems were subjected to inputs of water at uniform flow rates but differing iron concentrations.

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe, Mn

TITLE Manganese and iron encrustation of green algae living in acid mine drainage.
AUTHOR Stevens, S.E., Jr., K. Dionis and L.R. Stark.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 765-773
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Filamentous algae species are known to tolerate acid mine drainage resulting from coal companies. The authors have observed encrustation that are rust colored or colored dark brown on filamentous algae. If there is significant accumulation of encrustation, then these filamentous algae may play a role in water quality improvements.

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe, Mn

TITLE Removal of iron and manganese from water by sphagnum moss.

AUTHOR Burris, J.E., D.W. Gerber and L.E. McHeron.
SOURCE Treatment of Mine Drainage by Wetlands.
PUBLISHER University Park, PA: Pennsylvania State Univ.
PAGES pp. 1-13
DATE 1984
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe, Mn

TITLE Simulated Typha wetlands applied to removal of iron and manganese from acid mine drainage.
AUTHOR Calabrese, J.P., et al.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 351
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe,Al,Mn,Ca,Mg

TITLE Laboratory mesocosm studies of Fe, Al, Mn, Ca, and Mg dynamics in wetlands exposed to synthetic acid coal mine drainage.
AUTHOR Wieder, R.K., M.N. Linton and K.P. Heston.
SOURCE Water, Air and Soil Pollution. WAPLAC. 51 (1/2);181-196
PUBLISHER
PAGES pp. 181-196
DATE 1990, May
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe,Mn

TITLE Long-term removal and retention of iron and manganese from acidic mine drainage.
AUTHOR Brooks, R.P., et al.
SOURCE Long-Term Removal and Retention of Iron and Manganese from Acidic Mine Drainage.
PUBLISHER Washington: Bureau of Mines
PAGES
DATE 1990.
CALLNUM

ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, metals

TITLE Adsorption compared with sulfide precipitation as metal removal processes from acid mine drainage in a constructed wetland.
AUTHOR Machemer, S.D. and T.R. Wildeman.
SOURCE Journal of Contaminated Hydrology Vol. 9, No. 1/2, P115-131, 1992.
PUBLISHER
PAGES pp 115-131
DATE 1992
CALLNUM TD 426. J68
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, metals

TITLE Metal removal efficiencies from acid mine drainage in the big five wetland.
AUTHOR Wildeman, T.R., et al.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 417-424
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, metals

TITLE Metal removal in Sphagnum-dominated wetlands: experience with a man-made wetland system.
AUTHOR Wieder, R.K., G.E. Lang and A.E. Whitehouse.
SOURCE Wetlands and water Management of mined lands: proceedings of a conference. October 23-24, 1985. The Penn. State Univ.
PUBLISHER University Park, PA: Penn State Univ.
PAGES pp 353-364.
DATE 1985?
CALLNUM DNAL QH541.5.M3W46-1985
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, metals

TITLE Metal speciation and inmobilization reactions affecting the true efficiency of artificial wetlands to treat acid mine drainage.
AUTHOR Karathanasis, A.D. and Y.L. Thompson.
SOURCE US Geological Survey, Report No. RR-175, USGS/G-1564-02.
PUBLISHER
PAGES
DATE 1990.
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, metals--plants, sphagnum

TITLE Metal cation binding to Sphagnum peat and sawdust: relation to wetland treatment of metal-polluted waters.
AUTHOR Weider, R.K.
SOURCE Water, Air, and Soil Pollution, Vol. 53, No. 3/4.
PUBLISHER
PAGES pp. 391-400
DATE 1990, October
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Mn

TITLE Treatment of manganese from mining seep using packed columns.
AUTHOR Gordon, J.A. and J.L. Burr.
SOURCE Journal of Environmental Engineering. 115(2)
PUBLISHER
PAGES
DATE 1989
CALLNUM 290. 9 aM3Ps (EE)
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Ni, Cu

TITLE Use of wetlands to remove nickel and copper from mine drainage.
AUTHOR Eger, P. and K. Lapakko.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.

PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 780-787
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Drainage from a northeastern Minnesota mine had increased the levels of nickel, copper, cobalt, and zinc concentrations in nearby receiving waters. Reduced concentration levels might be achieved though a series of passive, low cost, and low maintenance procedures combining infiltration reduction, alkaline treatment, and wetland treatment. Although previous work has demonstrated peat effectiveness in removing trace metals from mine drainage, an actual treatment system has not been built.

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CATEGORY AMD
SUBCATEGOR pollutant removal, Pb

TITLE Removing lead from wastewater using zeolite.
AUTHOR Groffman, A., S. Peterson and D. Brookins.
SOURCE Water Environment and Technology Vol. 4, No. 5, P54-59, May 1992.
PUBLISHER
PAGES pp 54-59
DATE 1992
CALLNUM TD419 W37
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal--Fe, Mn

TITLE Behavior of iron and manganese in the sediment of a wetland subjected to acidic mine drainage.
AUTHOR Tarutis, W.J.
SOURCE MS thesis, Pennsylvania State U., University Park, PA.
PUBLISHER
PAGES
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR proceedings/abstracts/bibliographies

TITLE Constructed wetlands on mined lands (1985-1990): a literature search conducted for the members of ASSMR.
AUTHOR _____.

SOURCE
PUBLISHER
PAGES 56p.
DATE 1990, December
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR proceedings/abstracts/bibliographies

TITLE Proceedings of the 1990 mining and reclamation conference and exhibition, 2 vols.
AUTHOR Skousen, J., J. Sencindiver and D. Samuel, eds.
SOURCE April 23-26, 1990, Charleston, WV.
PUBLISHER Morgantown, WV: West Virginia University
PAGES 615p.
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR proceedings/abstracts/bibliographies

TITLE Treatment of mine drainage by wetlands: Proceedings of a conference.
AUTHOR Burris, J.E., Ed.
SOURCE
PUBLISHER University Park, PA: Penn. State Univ.
PAGES 49p.
DATE 1984
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR wildlife

TITLE Effect of reclamation technique on mammal communities inhabiting wetlands on mined lands in east-central Ohio.
AUTHOR Lacki, M.J., J.W. Hummer and H.J. Webster.
SOURCE Ohio Journal of Science, Vol. 91, No. 4
PUBLISHER
PAGES pp. 154-158
DATE 1991, September
CALLNUM
ANNOTATION

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE, AS OF OCTOBER 24, 1995 TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

1 NAL Call No.: S591.55.K4S64
A new concept in treating wastewater--constructed wetlands.
Karathanasis, A. D.
Soil science news and views-Cooperative Extension Service and University of Kentucky, College of Agriculture, Department of Agronomy, Lexington, Ky. : The Department. 1991. v. 12 (3) 3 p.

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

2 NAL Call No.: TD420.A1P7
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 science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

3 NAL Call No.: QH540.J6
Processes of iron and manganese retention in laboratory peat microsomes subjected to acid mine drainage.
Henrot, J.; Wieder, R. K.
Journal of environmental quality 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.

4 NAL Call No.: TD796.5.C58
The roles of spent mushroom substrate for the mitigation of coal mine drainage.
Stark, L. R.; Williams, F. M.
Compost science and utilization 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

5 NAL Call No.: TD420.A1P7
Using decomposition kinetics to model the removal of mine water pollutants in constructed wetlands.
Tarutis, W. J. Jr.; Unz, R. F.
Water science and technology:a journal of of the International Association on Water Pollution Research and Control v.29, p.219-226. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell. Australia.

Descriptors: wetlands; ferrous ions; removal; pollutants; mine spoil; mined land; drainage water; decomposition; organic compounds; biological treatment; mathematical models; anaerobic conditions; artificial wetlands

6 NAL Call No.: TD420.A1P7
Wetland treatment for trace metal removal from mine drainage: the importance of aerobic and anaerobic processes.
Eger, P.
Water science and technology: a journal of the International Association on Water Pollution Research and Control v.29, p.249-256. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell. Australia.

Descriptors: wetlands; metals; metal ions; removal; drainage water; mine spoil; mined land; nickel; drainage; aerobiosis; anaerobic-conditions; minnesota; constructed wetlands; artificial wetlands; acid mine drainage

7 NAL Call No.: TD756.5.G57-1986
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. University of Kentucky, Lexington, Kentucky, December 8-11,

1986.

Descriptor: Constructed wetlands

8 NAL Call No.: TD756.5.B76-1987
Constructed wetlands for acid drainage control in the Tennessee Valley.
Brodie, G. A.
[Chattanooga, Tenn.? : Tennessee Valley Authority?, 1987?] 1 v. (unpaged).
Caption title.

Descriptor: Constructed wetlands

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| Canadian Journal of Soil Science 1988 v 68(1): 17-27
| DeJong, R.  Comparison of two soil-water models under semi-arid growing
| conditions
|
| Ver:  AGRICOLA     Remarks:  Not available at AU or in region.
| NAL CA:  56.8 C162  Auth:  C. Johnson      CCL     Maxcost: $15.00
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J. R. Makuch /USDA-ARS-NAL-WQIC/ jmakuch@nal.usda.gov

Water Quality Information Center of the National Agricultural Library
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Constructed Wetlands Bibliography, Part III: Agricultural Waste

This file, "Constructed Wetlands, Part III: Agricultural Waste" is one section of a seven-part constructed wetlands bibliography on using constructed wetlands for wastewater treatment. The bibliography was compiled by United States Department of Agriculture staff from the Ecological Sciences Division of the Natural Resources Conservation Service, formerly the Soil Conservation Service, and the Water Quality Information Center at the National Agricultural Library. The complete bibliography can be accessed as either a single large (450K) file containing more than 600 citations or in parts organized by topic.

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http://www.nal.usda.gov/Constructed_Wetlands_all/index.html

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AW
CATEGORY     AW
SUBCATEGOR

TITLE        Agricultural waste treatment with constructed wetlands.
AUTHOR       Hammer, D.A. and J.T. Watson.
SOURCE       Proceedings of the National Symposium on Protection of
             Wetlands from Agricultural Impacts.  U.S. Fish & Wildlife
             Service Biol. Report 88:16 (1988)
PUBLISHER
PAGES
DATE         1988
CALLNUM
ANNOTATION
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CATEGORY AW
SUBCATEGOR

TITLE Constructed wetland systems for agricultural waste water treatment.
AUTHOR Soil Conservation Service
SOURCE (WP6)(National Bulletin No. 210-1-17)
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Constructed wetlands for agricultural wastewater treatment: technical requirements.
AUTHOR Soil Conservation Service
SOURCE
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Constructed wetlands for treatment of agricultural waste and urban stormwater.
AUTHOR Majumdar, S.K., et al.
SOURCE Wetlands ecology and conservation: emphasis in Pennsylvania.
PUBLISHER Tenn. Valley Authority.
PAGES pp. 333-348
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Constructed wetlands for treatment of agricultural waste and urban stormwater.
AUTHOR Hammer, D.A.
SOURCE Wetlands Ecology and Conservation: Empahsis in Pennsylvania.
PUBLISHER Philadelphia, PA: Penn. Academy of Science

PAGES pp 333-248
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Effects of pumped agricultural drainage water on wetland water quality.
AUTHOR Gilliam, J.W., et al.
SOURCE paper presented at the National Symposium on Wetland Hydrology. Chicago, IL
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Establishment of a constructed wetland to treat wastewater from a confined animal operation.
AUTHOR Strong, L., R.L. Ulmer, T.P. Cathcart and J.W. Pote.
SOURCE Proceedings, 21st Annual Mississippi Water Resource Conference, 1991
PUBLISHER
PAGES pp. 112-117
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Treatment of waste from a combined hog feeding unit by using artificial marshes.
AUTHOR Werblan, D., et al.
SOURCE n. d. Journal Paper No. J-9160 of the Iowa Agricultural and Home Economics Experiment Station, Ames, IA.
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

****

CATEGORY AW
SUBCATEGOR

TITLE Use of constructed wetlands to clean up animal waste.
AUTHOR Eddleman, R.L., Jr.
SOURCE 7th Annual Meeting of the Soil and Water Conservation Society, Baltimore, MD, 9-12 August 1992.
PUBLISHER (515) 289-2331 voice (515) 289-1227 fax
PAGES
DATE 1992
CALLNUM
ANNOTATION

****

CATEGORY AW
SUBCATEGOR case studies--Ireland

TITLE Wetlands treatment of dairy animal waste in Irish drumlin landscape.
AUTHOR Costello, C.J.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 702-709
DATE 1989
CALLNUM TD756. 5 C66
ANNOTATION Lough Gara Farms Limited (an intensive dairy farm) existing treatment system uses a natural wetland that drains into a lake. In response to Sligo County Council issuance of a Local Water Pollution Notice, Gara Farms decided to commission an independent environmental study. This paper presents the results of the wetland treatment system portion of the study.

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CATEGORY AW
SUBCATEGOR case studies--SE USA (MS)

TITLE Evaluation of ARS and SCS constructed wetland/animal waste treatment project at Hernando, Mississippi. Interim report 1990-1991.
AUTHOR Cooper, C.M., et al.
SOURCE USDA-ARS Technology Application Project Report No. 17
PUBLISHER
PAGES 28p.
DATE 1992, March
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR case studies--SE USA (MS)

TITLE Project description--use of constructed wetlands to treat wastewater from confined animal operations in Mississippi.
AUTHOR Soil Conservation Service
SOURCE USDA-SCS
PUBLISHER
PAGES
DATE 1989, May
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR dairy

TITLE Vegetative filter treatment of dairy milkhouse wastewater.
AUTHOR Schwer, C.B. and J.C. Clausen.
SOURCE Journal of Environmental Quality, 18:446-451.
PUBLISHER
PAGES pp. 446-451
DATE 1989
CALLNUM QH540 J6
ANNOTATION

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CATEGORY AW
SUBCATEGOR engineering considerations--design--monitoring--dairy

TITLE Wetland for treating liquid dairy waste: design and monitoring.
AUTHOR Lanier, A.L., D. Fox and D.W. Smith.
SOURCE Paper-American Society of Agricultural Engineers: No. 91-4020, 11p, 1991
PUBLISHER
PAGES 11p
DATE 1991
CALLNUM
ANNOTATION

****

CATEGORY AW
SUBCATEGOR livestock

TITLE Constructed Wetlands for Animal Waste Management, 1994--Conference Proceedings.
AUTHOR DuBowy, P.J. and R.P Reaves (eds).
SOURCE Papers from the Constructed Wetlands for Animal Waste Management Waste Workshop. Lafayette, IN. Apr. 4-6, 1994.
PUBLISHER Lafayette, IN: Purdue University

PAGES 188 p.
DATE 1994
CALLNUM TD 930.C644 ISBN:0-931682-46-0
ANNOTATION Proceedings are the result of the first national workshop on the use of constructed wetlands for animal waste. Contains 18 papers with abstracts.

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CATEGORY AW
SUBCATEGOR livestock

TITLE Constructed wetlands for livestock waste treatment.
AUTHOR Hammer, D.A., B.P. Pullin and J.T. Watson.
SOURCE
PUBLISHER Tennessee Valley Authority, Knoxville, TN.
PAGES
DATE 1989
CALLNUM
ANNOTATION

****

CATEGORY AW
SUBCATEGOR livestock

TITLE Draft interim standard constructed wetlands for livestock waste treatment.
AUTHOR Wengrynek, R.
SOURCE
PUBLISHER Soil Conservation Service, Orono Maine
PAGES
DATE
CALLNUM
ANNOTATION

****

CATEGORY AW
SUBCATEGOR livestock--economic aspects

TITLE Environmental and economic aspects of recycling livestock wastes.
AUTHOR Martin, J.B. and C.E. Madewell.
SOURCE Southern Journal of Agricultural Economics. 3:137-42 (1971).
PUBLISHER
PAGES
DATE 1971
CALLNUM HD101 S6
ANNOTATION

****

CATEGORY AW
SUBCATEGOR reed beds

TITLE Treatment of agricultural effluents by reed bed systems. Report on the operation of the Rugeley reed bed. November 1986 to July 1988. Report for the MAFF and WRC.
AUTHOR Gray, K.R., A.J. Biddlestone and K. Thurairajan.
SOURCE
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

****

CATEGORY AW
SUBCATEGOR swine--aquaculture

TITLE Waste treatment for confined swine with an integrated artificial wetland and aquaculture system.
AUTHOR Maddox, J.J. and J.B. Kingsley.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 191-200
DATE 1989
CALLNUM TD756. 5 C66
ANNOTATION

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE, AS OF OCTOBER 24,1995,TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

1 NAL Call No.: S591.55.K4S64
A new concept in treating wastewater--constructed wetlands.
Karathanasis, A. D.
Soil science news and views-Cooperative Extension Service and University of Kentucky, College of Agriculture, Department of Agronomy, Lexington, Ky. : The Department. 1991. v. 12 (3) 3 p.

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

2 NAL Call No.: 44.8-J822
Components of dairy manure management systems.
Van Horn, H. H.; Wilkie, A. C.; Powers, W. J.; Nordstedt, R. A.
Journal of dairy science v.77, p.2008-2030. (1994).
Includes references.

Descriptors: cattle manure; dairy farms; application to land; dairy cows; excretion; waste treatment; waste disposal; waste utilization; energy

balance; water use; ammonia; methane; nitrogen; phosphorus

Abstract: Dairy manure management systems should account for the fate of excreted nutrients that may be of environmental concern. Currently, regulatory oversight is directed primarily at the assurance of water quality; N is the most monitored element. Land application of manure at acceptable fertilizer levels to crops produced on the farm by hauling or by pumping flushed manure effluent through irrigation systems is the basis of most systems. Nutrient losses to surface and groundwaters can be avoided, and significant economic value can be obtained from manure as fertilizer if adequate crop production is possible. Dairies with insufficient cropproduction potential need affordable systems to concentrate manurenutrients, thereby reducing hauling costs and possibly producing a salableproduct. Precipitation of additional nutrients from flushed manures withsedimented solids may be possible. Composting of separated manure solidsoffers a possible method to stabilize solids for distribution, but, mostoften, solids separated from dairy manures are fibrous and low infertility. Manure solids combined with wastes from other sources may have potential if a marketable product can be produced or if sufficient subsidy is received for processing supplementary wastes. Solutions to odor problems are needed. Energy generated from manure organic matter, via anaerobicdigestion, reduces atmospheric emissions of methane and odorous compounds. Use of constructed wetlands or harvesting of photosynthetic biomass from wastewater has the potential to improve water quality, making extensive recycling possible.

3 NAL Call No.: S37.F72
Constructed wetlands: an approach for animal waste treatment.
Rieck, A.; Langston, J.; VanDevender, K.
FAS-Cooperative Extension Service, University of Arkansas. Little Rock, Ark. : The Service. Apr 1993. (3005) 4 p.
Includes references.

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

4 NAL Call No.: 1.98-Ag84
Constructed wetlands clean up: they could be an inexpensive, low-tech cure for farm pollution headaches.
Becker, H.
Agricultural research- U.S. Department of Agriculture, Agricultural Research Sep.20. (1993).

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

5 NAL Call No.: TD930.C644--1994
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

6 NAL Call No.: 290.9-Am32P

Constructed wetlands for dairy wastewater treatment.
Davis, S. H.; Ulmer, R.; Strong, L.; Cathcart, T.; Pote, J.; Brock, W.
Paper American Society of Agricultural Engineers. 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

7 NAL Call No.: aS622.S6
Constructed wetlands handle waste.
Taylor, S.
Soil & water conservation news-U.S Department of Agriculture, Soil Conservation Service v.11, p.5-6. (1991).

Descriptors: wetlands; animal wastes; planting; georgia

8 NAL Call No.: 100-AL1H
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 of agricultural research-Alabama Agricultural Experiment Station v.39, p.13. (1992).

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

9 NAL Call No.: S589.7.E57-1994
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

10 NAL Call No.: 290.9-Am32P
SCS technical requirements for constructed wetlands for agricultural wastewater treatment.
Krider, J. N.; Boyd, W. H.
Paper American Society of Agricultural Engineers. 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," December 15-18, 1992, Nashville, Tennessee.

Descriptors: agricultural wastes; waste water treatment; wetlands; regulations

11 NAL Call No.: S589.7.E57-1994
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

12 NAL Call No.: 290.9-Am32P
Treating dairy waste utilizing laboratory-scale constructed wetlands.
Benham, B. L.; Mote, C. R.
Paper American Society of Agricultural Engineers. St. Joseph, Mich. : American Society of Agricultural Engineers,. Winter 1993. (932576) 11 p.
Paper presented at the "1993 International Winter Meeting of the American Society of Agricultural Engineers," December 14-17, 1993, Chicago, Illinois.

Descriptors: dairy wastes; wetlands; waste treatment

13 NAL Call No.: TD420.A1P7
Treatment of dairy farm wastewaters in horizontal and up-flow gravel-bed constructed wetlands.
Tanner, C. C.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

14 NAL Call No.: S1.N32
Wetlands that work for you.
Bowman, G.; Wetlands that work for you.
The New farm v.14, p.50-53. (1992).

Descriptors: dairy wastes; biological treatment; waste water treatment; wetlands; on farm processing; constructed wetlands

15 NAL Call No.: S544.3.N6N62
Constructed wetlands for animal wastewater treatment.
Humenik, F.; Zublena, J.; Barker, J.
AG-North Carolina Agricultural Extension Service. 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

16 NAL Call No.: 290.9-Am32P
Constructed wetlands for milkhouse wastewater treatment.
Zimmerman, T.; Lefever, J. L.; Warns, M.

Paper American Society of Agricultural Engineers. 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

17 NAL Call No.: 290.9-Am32P
Small constructed wetlands for animal waste treatment.
Evans, J. L.; Webber, D.
Paper American Society of Agricultural Engineers. 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

18 NAL Call No.: QH541.5.M3C66--1993
Constructed wetlands for treating agricultural wastewater.
United States. Environmental Protection Agency. West Lafayette, IN : The Center, [1993?] 1 sheet.
Caption title. Agency and CTIC.".

Descriptors: Wetland ecology; Agricultural pollution

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AGLINET -- Requesters in countries with an AGLINET library are encouraged to make full use of that library and its networking capabilities. As an AGLINET participant, NAL provides free document delivery service for materials published in the United States to other AGLINET participants.

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February 1995

The National Agricultural Library (NAL), Document Delivery Services Branch accepts ILL requests from libraries via several electronic services. All requests must comply with established routing and referral policies and procedures A sample format for ILL requests is printed below along with a list of the required data/format elements.

ELECTRONIC MAIL - (Sample form below)

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     SYSTEM            ADDRESS CODE
     ==================================================
     INTERNET. . . . . LENDING@NALUSDA.GOV
     OCLC  . . . . . . NAL's symbol AGL need only be entered
                       once, but it must be the last entry.
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==================================================================
| AG University/NAL    ILLRQ 231     1/10/95     NEED BY:  2/15/95
|
| Interlibrary Loan Department
| Heartland, IA  56789
| Agriculture
|
| Dr. Smith   Faculty   Ag School
|
| Canadian Journal of Soil Science 1988 v 68(1): 17-27
| DeJong, R.  Comparison of two soil-water models under semi-arid growing
| conditions
|
| Ver:  AGRICOLA     Remarks:  Not available at AU or in region.
| NAL CA:  56.8 C162  Auth:  C. Johnson      CCL     Maxcost: $15.00
|
| Ariel IP = 111.222.333.444.555 Or Fax To 123-456-7890
|
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4. Include statement of copyright compliance (if applicable) and willingness to pay NAL charges.

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==========--END--==========

Return to Constructed Wetlands Bibliography

Return to the Water Quality Information Center at the National Agricultural Library.
Last update: April 27, 1998
The URL of this page is http://www.nal.usda.gov/wqic/Constructed_Wetlands_all/cwagw.html

J. R. Makuch /USDA-ARS-NAL-WQIC/ wqic@ars.usda.gov

Water Quality Information Center of the National Agricultural Library
Agricultural Research Service, U.S. Department of Agriculture

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Constructed Wetlands Bibliography, Part IV: Basic and General

This file, "Constructed Wetlands Bibliography, Part IV: Basic and General" is one section of a seven-part constructed wetlands bibliography on using constructed wetlands for wastewater treatment. The bibliography was compiled by United States Department of Agriculture staff from the Ecological Sciences Division of the Natural Resources Conservation Service, formerly the Soil Conservation Service, and the Water Quality Information Center at the National Agricultural Library. The complete bibliography can be accessed as either a single large (450K) file containing more than 600 citations or in parts organized by topic.

To locate a publication cited in this bibliography, please contact your local, state, or university library. If you are unable to locate a particular publication, your library can contact the National Agricultural Library (see instructions given at the end of this file).

For WWW access to these files: point your browser at
http://www.nal.usda.gov/Constructed_Wetlands_all/index.html

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BG
CATEGORY     BG
SUBCATEGOR

TITLE        A desert wetland created by wastewater flows: current trends
             and problems.
AUTHOR       Morris, F.A. and L.J. Paulson.
SOURCE       Wetlands, Vol. 2.
PUBLISHER
PAGES        pp. 191-206
DATE         1982
CALLNUM
ANNOTATION
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CATEGORY BG
SUBCATEGOR

TITLE A new concept in treating wastewater--constructed wetlands.
AUTHOR Karathanasis, A.D.
SOURCE Soil Science News & Views, Cooperative Extension Service and Univ. of Kentucky, College of Agriculture, Dept of Agronomy. 1991. v.12 (3) 3p.
PUBLISHER
PAGES 3p.
DATE 1991
CALLNUM DNAL S591.55.K4S64
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Abstracts of symposium: innovative applications of constructed wetlands.
AUTHOR Kentucky Academy of Science.
SOURCE Univ. of Kentucky, College of Agriculture. (July 24-25, 1990).
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Aquatic plants improve wastewater treatment.
AUTHOR Pullin, B.P. and D.A. Hammer.
SOURCE Water Environment & Technology, Vol. 3, No. 3.
PUBLISHER
PAGES pp. 36-40
DATE 1991, March
CALLNUM TD419 W37
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Artificial marshes for wastewater treatment.
AUTHOR Wolverton, B.C.
SOURCE Aquatic Plants for Wastewater Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing Inc.

PAGES pp. 141-152.
DATE 1987
CALLNUM TD 475 C65 1986
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Artificial wetlands for wastewater treatment.
AUTHOR Wood, A. and M. Rowley.
SOURCE Paper presented at the Symposium Ecology and Conservation of Wetlands in South Africa
PUBLISHER October 15-16, 1987.
PAGES
DATE
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Assessing the use of aquatic plants for wastewater treatment in a high elevation tropical lake.
AUTHOR Riviera, R.C., et al.
SOURCE Internationale Vereinigung fuer Theoretische und Angewandte Limnologie. Verhandlungen, Vol. 24, No. 2.
PUBLISHER
PAGES pp. 1178-1182
DATE 1991, March
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Constructed wetlands handle waste.
AUTHOR Taylor, S.
SOURCE Soil & Water Conservation News, USDA, Soil Cons. Service. March/April 1991. v. 11 (8) p. 5-6
PUBLISHER
PAGES pp. 5-6
DATE 1991
CALLNUM TD755 U74 1980
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Constructed wetlands treatment will be a first for Colorado.
AUTHOR _____.
SOURCE US Water News
PUBLISHER
PAGES
DATE 1990, May
CALLNUM TD370 U57
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Constructed wetlands--a low cost reliable alternative for waste water treatment.
AUTHOR Griggs, J.
SOURCE J. Soil & Water Cons. 21(4):13 (1988).

PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Constructed wetlands--technology provides opportunities and challenges for contractors.
AUTHOR Hammer, D.A.
SOURCE Land and Water Conservation
PUBLISHER
PAGES
DATE 1990, Feb/Mar
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Cumulative impacts on water quality functions of wetlands.
AUTHOR Hemond, H.F. and J. Benoit.
SOURCE Cumulative Effects on Landscape Systems of Wetlands.
PUBLISHER
PAGES
DATE 1988, June

CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Herculean labors to clean wastewater.
AUTHOR Hawley, T.M.
SOURCE Oceanus, Vol. 33, No. 2.
PUBLISHER
PAGES pp. 72-75
DATE 1990, Summer
CALLNUM GCl 035
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Land application of wastewater.
AUTHOR Zirschky, J. and A.R. Abernathy.
SOURCE Water Pollution Control Federation. JWPFA5 60(6):857-858
PUBLISHER
PAGES
DATE June 1988.
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Low-cost and energy-saving wastewater treatment technology.
AUTHOR Wang, B. Z. et al, (eds.)
SOURCE Water Science and Technology, Vol. 24, No. 5. Proceedings of ISLEWTT Harbin '90, Harbin Institute of Architecture and Civil Engineering., Harbin, China, 6-10 August 1990.
PUBLISHER
PAGES 256p
DATE 1991
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Made-to-order-wetlands.

AUTHOR Oertel, B.
SOURCE Land and Water Conservation. October 1990.
PUBLISHER
PAGES
DATE 1990, October
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Mechanisms of water quality improvement in wetland treatment systems.
AUTHOR Kadlec, R.H. and H. Alvord, Jr.
SOURCE Wetlands: Concerns and Successes.
PUBLISHER Bethesda, MD: AWRA
PAGES
DATE 1989.
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Mississippi Agricultural and Forestry Experiment Station (MAPES) on solid ground with wastewater cleanup project.
AUTHOR Drapala, P.
SOURCE MAPES Research Highlights. December 1991. v. 54 (12) p. 5.
PUBLISHER
PAGES pp 5
DATE 1991
CALLNUM 100 M69MI
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Nationwide inventory: constructed wetlands for wastewater treatment.
AUTHOR Reed, S.C.
SOURCE Biocycle. 32(1):44-49
PUBLISHER
PAGES
DATE 1991, January
CALLNUM DNAL 57.8-C734
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Natural systems for waste management and treatment.
AUTHOR Reed, S.C., et al.
SOURCE
PUBLISHER New York, NY: McGraw Hill Book Co.
PAGES
DATE 1988
CALLNUM TD645 R44
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Natural systems for wastewater treatment and water reuse for space and earthly applications.
AUTHOR Wolverton, B.C.
SOURCE Water Reuse Conference, Denver, CO, August 2-7, 1987, AWWA Research Foundation.
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Natural systems for wastewater treatment, manual of practice FD-16.
AUTHOR Water Pollution Control Federation.
SOURCE
PUBLISHER Alexandria, VA: WPCF.
PAGES
DATE 1990
CALLNUM TD745 N37
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Natural systems vs. the 'black box'".
AUTHOR _____.
SOURCE BioCycle, Vol. 30, No. 6.
PUBLISHER

PAGES pp. 68-69
DATE 1989
CALLNUM 57.8 C734
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Natural wastewater treatment systems.
AUTHOR Jensen, R.
SOURCE Texas Water Resources. 1988. v. 14 (2).
PUBLISHER
PAGES
DATE 1988
CALLNUM TD 224 T4T42
ANNOTATION Some of the natural systems that show considerable promise in providing cost-effective treatment of domestic and industrial wastewater include floating aquatic plants, artificial wetlands, and systems combining aquatic plants and animals. Although these systems offer potential alternative to conventional wastewater treatment, more information is needed. Natural systems must be properly designed to prevent problems with the release of pathogens, heavy metals, and other pollutants into the environment.

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CATEGORY BG
SUBCATEGOR

TITLE Overview and future directions.
AUTHOR Zedler, J.B. and M.W. Weller.
SOURCE Wetland Creation and Restoration: The Status of the Science.
PUBLISHER Island Press
PAGES pp 405-14
DATE 1990
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Porewater chemistry of natural and created marsh soils.
AUTHOR Craft, C.B., E.D. Seneca, and S.W. Broome.
SOURCE Journal of Experimental Marine Biology and Ecology JEMBAM, Vol. 152, No.2
PUBLISHER
PAGES pp 187-200
DATE 1991, October 11
CALLNUM QH91A1J6

ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Root-water-sediment interface processes.
AUTHOR Good, B.J. and W.H. Patrick, Jr.
SOURCE Aquatic Plants for Water Treatment and Reasourse Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing Inc.
PAGES pp. 359-371
DATE 1987
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE State-of-the-art utilization of aquatic plants in water pollution control.
AUTHOR Reddy, K.R. and T.A. DeBusk.
SOURCE Water Science and Technology, Vol. 19, No. 10.
PUBLISHER
PAGES pp. 61-79
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Status of current technology on constructed wetlands.
AUTHOR Cooper, C.M.
SOURCE Submitted to the DEC Task Force, Natn. Sedimentation Lab., USDA-ARS, Oxford, MS.
PUBLISHER
PAGES
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE The use of wetland treatment processes in water reuse.
AUTHOR Gearheart, R.J. et al.

SOURCE Proceedings of the Water Reuse Symposium III, San Diego, CA, August 26-31, 1984. v. 2. p. 617-638.
PUBLISHER
PAGES pp 617-38
DATE 1984
CALLNUM TD429 W3 1984
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE The use of wetlands for treating wastes--wisdom in diversity?
AUTHOR Blumer, K.
SOURCE Paper presented at the Symposium on Freshwater Wetlands, Tallahassee, FL, March 2, 1978. Brookhaven Natn. Laboratory # BNL-24611
PUBLISHER
PAGES 26p.
DATE 1978
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE The use of wetlands for water pollution control.
AUTHOR Chan, E., et al.
SOURCE USEPA, Municipal Environmental Research Laboratory, Research and Development, EPA-600/S2-82-088.
PUBLISHER
PAGES
DATE 1982, November.
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Treating wastewater in constructed wetlands.
AUTHOR Huack, R.D.
SOURCE Biocycle Vol. 33 (9), Sept 1992, P72
PUBLISHER
PAGES pp 72
DATE 1992
CALLNUM 57.8 C734
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Treatment of wastewater in the rhizosphere of wetland plants--the root-zone method.
AUTHOR Brix, H.
SOURCE Water Science and Technology. 1987. v. 19 (1-2) p. 107-118.
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Use of wetlands for wastewater treatment.
AUTHOR Sereico, P. and C. Larneo.
SOURCE Civil Engineering Practice. Volume 5: Water Resources/Environmental.
PUBLISHER Lancaster, PA: Technomic Publishing Co., Inc.
PAGES pp. 767-787
DATE 1988
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Washing up with wetlands.
AUTHOR _____.
SOURCE Country Journal, Vol. 16 (Sept./Oct. 1989)
PUBLISHER
PAGES p. 28
DATE 1989
CALLNUM S 521. C65
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Wastewater treatment by artificial wetlands.
AUTHOR Gersberg, R.M., B.V. Elkins and C.R. Goldman.
SOURCE Water Science Technology. 17:443-50
PUBLISHER

PAGES
DATE 1984
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Wastewaters: a perspective.
AUTHOR Smith, A.J.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 3-4
DATE 1989
CALLNUM TD 756. 5C66
ANNOTATION The water quality protection field is undergoing major changes. Both the reduction in available federal dollars and increasing focus on water quality underscore the need for a continual effort to identify and encourage technologies that provide effective-low-cost treatment. Wetlands may effectively balance the need for reliable wastewater treatment with need for minimal cost.

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CATEGORY BG
SUBCATEGOR

TITLE Water improvement functions of natural and constructed wetlands.
AUTHOR Hammer, D.A.
SOURCE Proceedings Newman Teleconference Seminar Series - Protection and Management Issues for South Carolina Wetlands, Clemson University, March 28, 1990.
PUBLISHER
PAGES pp. 129-157
DATE 1990
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Wetland systems.
AUTHOR Knight, R.L.
SOURCE Natural Systems for Wastewater Treatment, Manual of Practices FD-16.
PUBLISHER Water Pollution Control Federation
PAGES

DATE 1990
CALLNUM TD 745 N37
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Wetlands ecosystems: natural water purifiers?
AUTHOR Hammer, D.A. and R.K. Bastian.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES p. 5-19
DATE 1989
CALLNUM TD 756.5 C66
ANNOTATION There is no single correct-all-purpose definition of a wetland. Most definitions of wetland are in terms of soil characteristics and type of vegetation. In this article, the authors discuss wetland dynamics, functions of natural wetlands, and the applicability of constructed wetlands to treat polluted water.

****

CATEGORY BG
SUBCATEGOR

TITLE Wetlands-Increasing Our Resources.
AUTHOR Steiner, G.R., J.T. Watson and D.A. Hammer.
SOURCE
PUBLISHER Washington, DC: National Wildlife Federation
PAGES
DATE 363p.
CALLNUM QH87.4 W47 1987
ANNOTATION

****

CATEGORY BG
SUBCATEGOR

TITLE Wetlands.
AUTHOR Rucker, D.J.
SOURCE IMPACT--TVA Natural Resources and the Environment, March/June 1988
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Yesterday's swamp.
AUTHOR Austin, T.
SOURCE Civil Engineering. 60(8):36-39(Aug. 1990)
PUBLISHER
PAGES
DATE 1990
CALLNUM 290.8 C49
ANNOTATION

****

CATEGORY BG
SUBCATEGOR abstract/proceedings

TITLE Constructed wetlands for wastewater treatment: An overview of an emerging technology.
AUTHOR Hammer, D.A.
SOURCE Program with abstracts--Geological Association of Canada, Mineralogical Association of Canada, Canadian Geophysical Union, Joint Annual Meeting, 1990. v. 15 p. 53.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR abstracts/bibliographies

TITLE International conference on constructed wetlands for wastewater treatment: abstracts.
AUTHOR _____.
SOURCE Chattanooga, TN Trade and Convention Center, June 13-17 1988.
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR abstracts/bibliographies

TITLE Sewage and industrial waste treatment: wetlands (Jan 77-Dec 89).

AUTHOR _____.
SOURCE NTIS Accession No. PB90-853722
PUBLISHER
PAGES 78p.
DATE 1989
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR abstracts/bibliographies

TITLE Wetland creation and restoration in the United States from 1970 to 1985: an annotated bibliography.
AUTHOR Wolf, R.B., L.C. Lee and R.R. Sharitz.
SOURCE Wetlands, Special Issue. 6(1):88
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR abstracts/proceedings

TITLE Constructed Wetlands in Water Pollution Control:
AUTHOR Cooper, P.F. and B.C. Findlater, eds.
SOURCE Proceedings of the international conference on the use of constucted wetlands in water pollution control, held in Cambridge, UK, 24-28 September 1990.
PUBLISHER Oxford, UK: Pergamon Press.
PAGES 605p.
DATE 1990
CALLNUM DNAL TD756.5.I57-1990
ANNOTATION There is a growing interest in the use of hydrophyte-based systems for treating sewage and mining and industrial wastewater. This book includes reports of practical experience and the latest research results from Australasia, South Africa, North America and China as well as all across Europe, and provides an essential guide to one of the most promising water pollution control options.

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CATEGORY BG
SUBCATEGOR abstracts/proceedings/bibliographies

TITLE Wetlands areas: natural water treatment systems (Jan 78 - Aug 89). citations from the pollution abstracts database.
AUTHOR Davis Associates, Inc.
SOURCE NTIS Accession No. PB90-862244

PUBLISHER
PAGES pp 99.
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR ancillary benefits

TITLE Ancillary benefits of wetlands constructed primarily for wastewater treatment.
AUTHOR Sather, J.H.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 353-358
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION A highly diversified wetland ecosystem may not only handle a greater variety of wastewater substances but may attract and support wildlife for human enjoyment and provide various visual-cultural benefits. Full manifestation of ancillary benefits in constructed wetlands is contingent upon species composition and degree of interspersion of plant communities, location with respect to human population centers, and location with respect to other wetlands.

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CATEGORY BG
SUBCATEGOR ancillary benefits

TITLE Developing artificial wetlands to benefit wildlife and livestock.
AUTHOR Olson, R.
SOURCE Bull. Wyo. Univ. Coop. Ext. Serv. Laramie, WY: The Service May 1990 (938) 21p.
PUBLISHER Laramie, WY: The Service
PAGES 21p.
DATE 1990
CALLNUM DNAL 275.29-W99B
ANNOTATION

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CATEGORY BG
SUBCATEGOR ancillary benefits

TITLE Some ancillary benefits of a natural land treatment system.
AUTHOR Schwartz, L.A. and R.L. Knight.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.

PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 643-645
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The Grand Strand Water and Sewer Authority is conducting studies in riverine wetlands and Carolina Bays to treat domestic wastewater. These wetlands will help confirm long-term feasibility and the integrity of using natural systems to treat wastewater. Visitors will have the opportunity to venture into the heart of Carolina Bays or into a swamp to view plant and animal natural habitats.

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CATEGORY BG
SUBCATEGOR ancillary benefits

TITLE Wetlands: the lifeblood of wildlife.
AUTHOR Feierabend, J.S.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 107-118
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Naturally occurring wetlands are usually attractive to wildlife. Constructed or man made wetlands have the potential to attract wildlife. The author gives an overview on the importance of wetland ecosystems as a wildlife habitat and the types of wildlife associated with them.

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CATEGORY BG
SUBCATEGOR aquaculture

TITLE Aquaculture in resource recovery.
AUTHOR Golueke, C.G.
SOURCE Compost Science/Land Utilization. 1979. v. 20 (3) p. 16-23.
PUBLISHER
PAGES
DATE
CALLNUM 57.8 C734
ANNOTATION

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CATEGORY BG
SUBCATEGOR aquaculture

TITLE Engineering assessment of aquaculture systems for wastewater treatment: an overview.
AUTHOR Reed, S.C., R. Bastian and W. Jewel.
SOURCE Aquaculture Systems for Wastewater Treatment. Seminar

Proceedings and Engineering Assessment, Sept. 11-12, 1979, University of California--Davis.
PUBLISHER
PAGES
DATE 1979
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR aquaculture

TITLE Engineers assess aquaculture systems for wastewater treatment.
AUTHOR Bastian, R.K., W.J. Jewell and S.C. Reed.
SOURCE Civil Engineering ASCE
PUBLISHER
PAGES pp. 64-67
DATE 1981, July
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR aquaculture

TITLE The use of aquatic plants and animals for the treatment of wastewater: an overview.
AUTHOR Tchobanoblous, G., et al.
SOURCE Presented at A Seminar on Aquaculture Systems for Wastewater Treatment, Davis, CA, Sept. 11-12, 1979.
PUBLISHER
PAGES 21p.
DATE 1979
CALLNUM TD 755 U74 1980
ANNOTATION Aquatic wastewater treatment systems treat wastewater at a slow rate in an essentially unmanaged environment compared to conventional wastewater systems which treat wastewater rapidly in highly managed environments. The major stimulus for further research into design and management of aquatic systems is the potential for reducing the construction, operation, and maintenance costs for wastewater treatment. This paper presents the general concepts involved in the design and use of aquatic systems and an overview of their implications.

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CATEGORY BG
SUBCATEGOR aquaculture--nutrient removal

TITLE Aquatic crops of economic value for removing N and P from nutrient-enriched waters in the everglades.

AUTHOR Snyder, G.H. and C.A. Sanchez.
SOURCE Soil and Crop Science Society, Florida Proceedings.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR case studies--western USA (CA)

TITLE The use of artificial wetlands for water treatment in high elevation, cold regions of California.
AUTHOR Goldman, C.R.
SOURCE Rep-Calif-Water-Resour-Cent-Univ-Calif. December 1987. p. 68.
PUBLISHER
PAGES p. 68
DATE Dec 1987
CALLNUM 292.9 C12182
ANNOTATION

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CATEGORY BG
SUBCATEGOR case study

TITLE Wetlands and wastewater: Kinross, Michigan.
AUTHOR Kadlec, R.H. and F.B. Bevis.
SOURCE Journal of the Society of Wetland Scientists, Vol. 10, No. 1.
PUBLISHER
PAGES
DATE 1990, June
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR chemical aspects

TITLE Quantitative assessment of natural purification in wetlands for linear alkylbenzenesulfonates.
AUTHOR Inaba, K.
SOURCE Water Res. 1992, 26(7) 893-8
PUBLISHER
PAGES pp 893-898
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR chemical aspects--transformations

TITLE Transformation of manganese in a waterlogged soil as affected by redox potential and pH.
AUTHOR Gotoh, S. and W.H. Patrick.
SOURCE Soil Sci. Soc. Am. J. 1972. v. 36 p. 1738-1742.
PUBLISHER
PAGES
DATE 1972
CALLNUM 56.9 S03
ANNOTATION

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CATEGORY BG
SUBCATEGOR design

TITLE Constructed wetlands design--the first generation.
AUTHOR Reed, S.C. and D.S. Brown.
SOURCE Water Environment Research Sept/Oct 1992. v. 64 (6) p. 776-781.
PUBLISHER
PAGES pp 776-781
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design

TITLE Technical summary--a guide to wetland functional design.
AUTHOR US Dept. of Transportation.
SOURCE Publication No. FHWA-IP-90-010, US Dept. of Transportation, Federal Highway Administration.
PUBLISHER
PAGES
DATE 1990, July
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Basic design rationale for artificial wetlands.
AUTHOR Zirschky, J.
SOURCE Contract Report 68-01-7108

PUBLISHER Washington, DC:
PAGES
DATE 1986, June
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Configuration and substrate design considerations for constructed wetlands wastewater treatment.
AUTHOR Steiner, G.R. and R.J. Freeman.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 363-377
DATE 1989
CALLNUM TD 756. 5C66
ANNOTATION Depending on specific pollutant removal needs and other factors, a variety of configurations and substrates can be used for a constructed wetland. Major pollutant removal mechanisms include sedimentation and filtration, precipitation and adsorption, and bacterial metabolism. Constructed wetland systems can be designed to achieve various levels of secondary and advanced level treatment for biochemical oxygen demand, suspended solids, nutrients, pathogens, metals, and other substances.

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Constructed wetland design--the second generation.
AUTHOR Reed, S.C. and D. Brown.
SOURCE S.C. Reed, E.C.C. , RR 1 Box 572, Norwick, VT 05055
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Design and use of artificial wetlands.
AUTHOR Wile, I., G. Miller and S. Black.
SOURCE Ecological Considerations in Wetland Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold
PAGES pp 26-7.

DATE 1985.
CALLNUM QH 545 .549 E3
ANNOTATION Artificial wetlands offer greater scope for use as sewage treatment systems than natural wetlands. They can be constructed on a variety of sites and problems associated with the use of natural wetlands can be minimized. Key design considerations for continuous flow systems in cold climates include: hydraulic loading rates and associated and requirements, system configuration, degree of pretreatment of raw wastewater and selection of appropriate vegetation.

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Design principles for wetlands treatment systems.
AUTHOR Hammer, D.A. and R.H. Kadlec.
SOURCE Available from NTIS as PB83-188722
PUBLISHER
PAGES
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Preliminary considerations regarding constructed wetlands for wastewater treatment.
AUTHOR Wieder, R.K., G. Tchobanoglous and R.W. Tuttle.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 297-305
DATE 1989
CALLNUM TD 756.5 C66
ANNOTATION Preliminary design factors are important in considering constructed wetland treatment of municipal wastewaters and coal mine drainage. In addition, the importance of maximizing aesthetics without compromising treatment effectiveness is discussed as a key component of preliminary design.

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Project summary--design principles for wetland treatment systems.
AUTHOR Hammer, D.A. and R.H. Kadlec.
SOURCE EPA Report 600/S2-83-026

PUBLISHER
PAGES
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Wetland systems for wastewater treatment: operating mechanisms and implications for design.
AUTHOR Heliotis, F.D.
SOURCE Report 117
PUBLISHER Institute of Environmental Studies
PAGES
DATE 1982
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design considerations--hydraulics--reed bed

TITLE Hydraulic considerations and the design of a reed bed treatment system.
AUTHOR Hobson, J.A.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 628-635
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION All of the information in this paper deals with reed bed treatment systems planted with Phragmites australis. The paper concentrates on the hydraulics of reed beds and possible mechanisms for wastewater treatment.

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CATEGORY BG
SUBCATEGOR design considerations--plants

TITLE Considerations and techniques for vegetation establishment in constructed wetlands.
AUTHOR Allen, H.H., G.J. Pierce and R. van Wormer.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 405-415
DATE 1989
CALLNUM TD 756. 5 C66

ANNOTATION The author describes considerations and techniques relating to domestic wastewater treatment in constructed wetlands. It focuses on herbaceous macrophytes and in-situ substrates.

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CATEGORY BG
SUBCATEGOR design considerations--site selection

TITLE Selection and evaluation of sites for constructed wastewater treatment wetlands.
AUTHOR Brodie, G.A.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 307-317
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Constructed wetlands are practical alternatives to conventional treatment of liquid agricultural wastes, storm water runoff, acid mine drainage, and domestic and municipal wastewater. Siting a constructed wetland is often dictated by the location of the wastewater source, geological, geotechnical, hydrological, and other environmental information.

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CATEGORY BG
SUBCATEGOR design--economic aspects

TITLE The economic and environmental feasibility of using constructed wetlands for treatment of municipal wastewater in small communities in maine.
AUTHOR Hesheth, P.S.
SOURCE M.S. Thesis in Agricultural and Resource Economics, Univ. of Maine, Orono, ME, 1990.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR ecology

TITLE Aging phenomenon in wastewater wetlands.
AUTHOR Kadlec, R.H.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold, Co.
PAGES pp. 338-347
DATE 1985

CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR ecology

TITLE Ecological features of an artificial wetlands area.
AUTHOR Magmedov, V.G. and L.I. Yakovleva.
SOURCE Proceedings of the International Symposium on the Hydrology of Wetlands in Temperate and Cold Regions. Joensuu, Finland, 6-8 June 1988, Vol. 1. The Academy of Finland, Helsinki, Finland.
PUBLISHER
PAGES pp. 72-75
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR ecology

TITLE Ecological limitations on wetland use for wastewater treatment.
AUTHOR Guntenspergen, G.R. and F. Stearns.
SOURCE Wetland Values and Management.
PUBLISHER St. Paul, MN: Water Planning Board
PAGES pp. 273-284.
DATE 1981
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR ecology

TITLE Ecological perspectives on wetland systems.
AUTHOR Guntenspergen, G.R. and F. Stearns.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold Company
PAGES pp. 69-97
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG

SUBCATEGOR ecology

TITLE Natural and artificial wetland ecosystems: ecological opportunities and limitations.
AUTHOR Richardson, C.J. and J.A. Davis.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando: Magnolia Publishing Inc.
PAGES pp 819-54.
DATE 1987.
CALLNUM
ANNOTATION Natural and artificial wetland capabilities and weaknesses to filter, transform, and store nutrients are presented with an analysis of the mechanisms controlling nutrient cycling and retention of nitrogen and phosphorus. Management guidelines for the selection and potential utilization of natural wetlands for effluent treatment as well as the impacts of using wetland systems for wastewater are also presented.

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CATEGORY BG
SUBCATEGOR ecology

TITLE Responses of wetlands and neighboring ecosystems to wastewater.
AUTHOR Ewel, K.C.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold, Co.
PAGES pp. 435-438
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR ecology

TITLE Some chemical aspects of wetland ecology.
AUTHOR Gorham, E.
SOURCE Tech. Mem No. 90, 12th Anm. Muskeg. Res. Conf.
PUBLISHER
PAGES
DATE 1967
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR engineering considerations

TITLE Aquatic plant systems for wastewater treatment: engineering

considerations.
AUTHOR Tchobanoglous, G.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing, Inc.
PAGES PP. 27-48
DATE 1987
CALLNUM
ANNOTATION This paper presents a review of important engineering considerations in the design of aquatic plant systems used for the treatment of wastewater. Special attention is focused on odor control techniques, mosquito control strategies, and contaminant removal kinetics as they affect the physical design and management of aquatic plant-based wastewater treatment systems. Based on an evaluation of these and other considerations, some alternative physical designs and operating strategies are proposed.

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CATEGORY BG
SUBCATEGOR engineering considerations

TITLE Hydraulics and solids accumulation in a gravel bed treatment wetland.
AUTHOR Kadlec, R.H. and J.T. Watson.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 227-235
DATE 1993
CALLNUM
ANNOTATION The design of a subsurface gravel bed permits only one flow rate if the water surface remains parallel to the gravel surface. The front twenty percent of the gravel bed (gravel cell Number 3 at Benton, KY) was found to be partly plugged with a gelatinous (80% inorganic) mud which caused major flow alterations. The downstream zones of the gravel were dry to a depth of many centimeters and the downstream vegetation was changing to a terrestrial mix.

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CATEGORY BG
SUBCATEGOR engineering considerations

TITLE Operations optimization.
AUTHOR Girts, M.A. and R.L. Knight.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 417-429
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Optimizing constructed wetland to minimize expense and maximize treatment efficiency is a compromise between system design and operations management. The authors examine conditions under

which flexibility in operation improves treatment efficiency and longevity of a well-designed system; methods by which operation changes can help a system adapt to unanticipated demands; and associated labor requirements.

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CATEGORY BG
SUBCATEGOR engineering considerations

TITLE Wetland systems for wastewater treatment in cold climates--an engineering assessment.
AUTHOR Tchobanoglous, G.
SOURCE US Army Corps of Engineers, Hanover, NH.
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION The purpose of this paper is to present an engineering assessment of the use of both natural and artificial wetlands for the treatment and disposal of wastewater. Another objective is to answer the question of whether the technology of using natural and artificial wetlands for the treatment of wastewater is ready for widespread use and what must be done remove uncertainties from the design.

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CATEGORY BG
SUBCATEGOR engineering considerations

TITLE Wetland systems for wastewater treatment: engineering applications.
AUTHOR Hantzsche, N.N.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold
PAGES pp 7-25
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR engineering considerations--hydraulics

TITLE Hydraulic design considerations and control structures for constructed wetlands wastewater treatment.
AUTHOR Watson, J.T. and J.A. Hobson.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES 379-391

DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Performance of constructed wetlands is based on first-order plug flow equations. The objectives of this paper are to summarize information on these parameters, identify considerations for each parameter importance to performance of wetlands systems, and identify the type and general design of structures needed to establish and control the hydraulic regime.

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CATEGORY BG
SUBCATEGOR engineering considerations--hydrology

TITLE Hydrologic factors in wetland water treatment.
AUTHOR Kadlec, R.H.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 21-40
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The purpose of this paper is to present the hydrologic factors in wetland treatment processes. Water movement in these systems is affected by precipitation, evapotranspiration, infiltration, and plant vegetation density.

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CATEGORY BG
SUBCATEGOR engineering considerations--performance

TITLE Performance expectations and loading rates for constructed wetlands.
AUTHOR Watson, J.T., et al.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 319-351
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Constructed wetlands technology is emerging as a low-key, easily operated, and efficient wastewater treatment system. This paper presents an overview on normally regulated parameters, loading factors of existing systems, and reaction kinetics. Summaries for performance expectations and loading rates are also presented.

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CATEGORY BG
SUBCATEGOR harvesting

TITLE Wetland harvesting with cable systems.

AUTHOR Aulerich, S.P.
SOURCE ASAE Winter Meeting, Dec. 18-21, 1990, Paper No. 907574.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR hydrology

TITLE Hydrologic processes in a southern Ontario wetland.
AUTHOR Gehrels, J. and G. Mulamoottil
SOURCE Hydrobiologia. 208(3): 221-234
PUBLISHER
PAGES 221-234
DATE 1990, Dec. 10
CALLNUM 410 H992
ANNOTATION

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CATEGORY BG
SUBCATEGOR hydrology

TITLE Storm event effects on constructed wetlands discharges.
AUTHOR Taylor, H.N., K.D. Choate and G.A. Brodie.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 139-145
DATE 1993
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR hydrology--nutrient cycling

TITLE Significance of hydrology to wetland nutrient processing.
AUTHOR Hemond, H.F. and W. Nuttle.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewater.
PUBLISHER Van Nostrand Reinhold, Co.
PAGES pp. 190-195
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR microbial ecology

TITLE Microbial populations and decomposition activity in three subsurface flow constructed wetlands.
AUTHOR Hatano, K., et al.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 541-547
DATE 1993
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR microbiology

TITLE Evaluation of specific microbiological assays for constructed wetlands wastewater treatment management.
AUTHOR Portier, R.J.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 515-524
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION

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CATEGORY BG
SUBCATEGOR microbiology

TITLE Wetlands microbiology: form, function, processes.
AUTHOR Portier, R.J. and S.J. Palmer.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 89-105
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION This paper presents an overview of important microbial processes of waste water treatment in constructed wetlands. Bacterial processes are the primary focus but fungal and actinomycetous contributions are also discussed. Information on microbial transformation processes, fate of anthropogenic organics, metals metabolism, and habitat for optimal microbial enzymology in a constructed wetland is also presented.

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CATEGORY BG
SUBCATEGOR nutrient cycling

TITLE A conceptual model of nutrient cycling in wetlands used for wastewater treatment: a literature analysis.
AUTHOR Heliotis, F.D. and C.B. DeWitt.
SOURCE Wetlands: Vol. 3, pp. 134-152, 1983
PUBLISHER
PAGES pp. 134-152
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient cycling

TITLE Decomposition in wastewater wetlands.
AUTHOR Kadlec, R.H.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 459-468
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The role of biomass accretion and decomposition for water quality improvement in constructed municipal wastewater wetlands is very important. The key biomass processes of accumulation, dieback, litterfall, litter accumulation, litter leaching, decomposition, and soil accretion are presented.

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CATEGORY BG
SUBCATEGOR nutrient cycling

TITLE Managing landscapes for humanity and nature; the role of wetlands in regional nutrient dynamics.
AUTHOR Brown, M.T.
SOURCE Wetlands of the Chesapeake. Proceedings of the Conference April 9-11, 1985, Easton, Maryland.
PUBLISHER
PAGES pp 63-75
DATE 1985
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient cycling

TITLE Modeling nutrient behavior in wetlands.
AUTHOR Kadlec, R.H. and D.E. Hammer.
SOURCE 189th National Meeting of the American Chemical Society.

PUBLISHER Washington: ACS
PAGES pp 244-246.
DATE 1985.
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient cycling

TITLE Phosphorus accumulation-discharge cycles in marshes.
AUTHOR Spangler, F.L., C.W. Fetter and W.E. Sloey.
SOURCE Water Resources Bulletin, Vol. 13, No. 6.
PUBLISHER
PAGES pp. 1191-1201
DATE 1977, Dec.
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal

TITLE A mass balance method for assessing the potential of artificial wetlands for wastewater treatment.
AUTHOR Breen, P.F.
SOURCE Water Research. 24:689-98(1990).
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal

TITLE An assessment of wetlands management and sediment phosphorus inactivation Kezar Lake, New Hampshire.
AUTHOR New Hampshire Dept. of Environmental Services.
SOURCE NH Dept. of Environmental Services, Water Supply Pollution Control Division, Biology Bureau.
PUBLISHER
PAGES
DATE 1989, Feb.
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal

TITLE Nutrient removal from effluents by an artificial wetland: influence of rhizosphere aeration and preferential flow studied using bromide and dye tracers.
AUTHOR Bowmer, K.H.
SOURCE Water Research. 21(5):591-600(1987).
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal N,P

TITLE Use of shallow reservoir and flooded organic soil systems for wastewater treatment: nitrogen and phosphorus transformations.
AUTHOR Graetz, D.A. and K.R. Reddy.
SOURCE Journal of Environmental Quality, Vol. 10, No. 1
PUBLISHER
PAGES pp. 113-119
DATE 1981
CALLNUM QH 540 H6
ANNOTATION Under simulated conditions, the use of a shallow reservoir (with a marly clay loam bottom) and flooded organic soil (Histosol) for inorganic nitrogen and ortho-P removal from wastewater (agricultural drainage effluent) was evaluated. Both the shallow reservoir and flooded soils were effective in removing inorganic nitrogen. However, ortho-P removal was found to be effective in the marly clay loam bottoms and ineffective in the flooded organic soils.

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CATEGORY BG
SUBCATEGOR nutrient removal, Cu--plants

TITLE Removal and uptake of copper (II) by Salvinia natans from waste water.
AUTHOR Sen, A.K. and N.G. Mondal.
SOURCE Water, Air and Soil Pollution, Vol. 49, No. 1/2.
PUBLISHER
PAGES pp. 1-6
DATE 1990, January
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal, N

TITLE Nitrogen removal from freshwater wetlands: nitrification-denitrification coupling potential.
AUTHOR Hsieh, Y.P. and C.L. Coultas.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 493-500
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Wetlands may be an economically and ecologically feasible alternatives to removing nitrogen and other nutrients from secondary wastewater. The existence of heterogeneous microsites or layers in soil systems permits the coexistence of the nitrogen and denitrification processes. However, biological and/or chemical denitrification are key processes of long-term nitrogen removal.

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CATEGORY BG
SUBCATEGOR nutrient removal, N

TITLE Nitrogen removal in experimental wetlands treatment system: evidence for the role of aquatic plants.
AUTHOR Rodger, K.H., P.F. Breen and A.J. Chick.
SOURCE Research Journal of the Water Pollution Control Federation: 63:7 p934-941, 1991
PUBLISHER
PAGES pp 934-941
DATE 1991
CALLNUM TD419 R47
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal, N

TITLE Pilot-scale nitrification studies using vertical flow and shallow horizontal flow constructed wetland cells.
AUTHOR Watson, J.T. and A.J. Danzig.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 301-313
DATE 1993
CALLNUM
ANNOTATION A pilot-scale, shallow horizontal and vertical flow cells have been built in Kentucky to develop design information for full-scale constructed wetlands systems for removing ammonia-nitrogen. Variables include hydraulic loading rates and different sizes and depths of sand and gravel. The initial operation of these facilities are presented in this paper.

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CATEGORY BG
SUBCATEGOR nutrient removal--hydraulics

TITLE Model of flow and nutrient absorption in artificial wetland systems.
AUTHOR Hearn, C.J., J.M. Chambers and A.J. McComb.
SOURCE Applied Mathematical Modelling. 15(5): 267-273.
PUBLISHER
PAGES
DATE 1991, May
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal--plants

TITLE Nutrient removal of selected aquatic macrophytes.
AUTHOR Reddy, K.R. and W.F. DeBusk.
SOURCE Journal of Environmental Quality, Vol. 14, No. 4, Oct/Dec 1985.
PUBLISHER
PAGES
DATE 1985
CALLNUM QH 540. J6
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal--reed bed

TITLE Nutrient removal in a reed bed system.
AUTHOR Haberl, R. and R. Perfler.
SOURCE Water Science and Technology, Vol. 23, No. 4/6.
PUBLISHER
PAGES pp. 729-737.
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal--water hyacinths

TITLE Nutrient removal by water hyacinths.
AUTHOR Cornwell, D.A., et al.
SOURCE Journal WPCF, January 1977

PUBLISHER
PAGES pp. 57-65
DATE 1977, Jan.
CALLNUM 293. 8 SE8
ANNOTATION The use of aquatic plants for nitrogen and phosphorous removal is not a new concept. The authors' research concluded that nutrient removal capability of water hyacinths was directly related to the pond surface area. In designing a nutrient removal system with water hyacinths, the depth and the detention time in the pond must be set so as to provide a given amount of surface area per unit flow through the pond.

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CATEGORY BG
SUBCATEGOR pathogens/vectors

TITLE Insecticides for insect pest control in constructed wetlands for wastewater treatment: a dilemma.
AUTHOR Snoddy, E.L. and J.C. Cooney.
SOURCE Pesticides in Terrestrial and Aquatic Environments. Proceedings of a National Research Conference. Blacksburg, VA.
PUBLISHER Virginia Water Resources
PAGES
DATE 1989, May 11-12
CALLNUM QH545.P4P4844
ANNOTATION

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CATEGORY BG
SUBCATEGOR pathogens/vectors

TITLE Mosquito considerations in the design of wetland systems for the treatment of wastewaters.
AUTHOR Stowell, R., et al.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold Company
PAGES pp. 38-47.
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR pathogens/vectors

TITLE Pathogen removal in constructed wetlands.
AUTHOR Gersberg, R.M., R.A. Gearheart and M. Ives.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.

PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 431-445
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION This article focuses on human health risks associated with constructed wetlands that are used to treat municipal wastewater. The overall objectives were to study the degree of removal of fecal contamination and viral pollution from two constructed wetlands in California.

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CATEGORY BG
SUBCATEGOR pathogens/vectors--mosquitos

TITLE California's experience with mosquitos in aquatic wastewater treatment systems.
AUTHOR Martin, C.V. and B.F. Eldridge.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 393-398
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Aquatic macrophytes added to oxidation ponds improved wastewater treatment. However, with the introduction of macropyhtes, the mosquitoes population increased. Careful design before construction and monitoring after construction can keep mosquito breeding within acceptable levels.

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CATEGORY BG
SUBCATEGOR pathogens/vectors--mosquitos

TITLE Production and suppression of pest mosquitos in constructed wetlands.
AUTHOR Tennessen, K.J.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 591-601
DATE 1993
CALLNUM
ANNOTATION Two types of wastewater wetlands constructed in the Tennessee Valley region were sampled for mosquito species composition and population levels. In wetlands receiving acidic runoff from coal mining operations, there were relatively few mosquito species while high levels of mosquito production occurred in wetlands treating domestic sewage. Therefore, recognition of potential mosquito problems in organically laden wetlands should be taken into consideration during the planning stages for both construction and operation.

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CATEGORY BG
SUBCATEGOR pathogens/vectors--mosquitos

TITLE Wastewater wetlands: user friendly mosquito habitats.
AUTHOR Dill, C.H.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 664-667
DATE 1989
CALLNUM TD 756.5 C66
ANNOTATION Early input by mosquito-control professionals can keep wetlands from becoming a public health risk. Mosquito problems can be minimized with a good preventive design coupled with water management, vegetation control, and biological control.

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CATEGORY BG
SUBCATEGOR pathogens/vectors/pests

TITLE Fate of viruses in artificial wetlands.
AUTHOR Gersberg, R.M., et al.
SOURCE Applied Environmental Microbiology. 53:731-736
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR Performance

TITLE Wastewater treatment using artificial wetlands: The hydrology and treatment performance of horizontal and vertical flow systems.
AUTHOR Breen, P.F. and A.J. Chick.
SOURCE Proceedings of 13th federal convention, Australian Water and Waste Association,
PUBLISHER Canberra, Australia, 1990.
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR performance (limitations)

TITLE The performance limitations of wetland treatment systems--a

discussion.
AUTHOR Hiley, P.D.
SOURCE Use of Constructed Wetlands in Water Pollution Control.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE A constructed wetland with a declining growth gradient of soft-stem bulrush (Scirpus validus) plants.
AUTHOR Edwards, M.E., K.C. Brinkmann and J.T. Watson.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 415-425
DATE 1993
CALLNUM
ANNOTATION A constructed wetland cell with gravel substrate, designed to polish subsurface flowing effluent from a package treatment plant, was planted exclusively with soft-stem bulrush. In the second year of plant growth, quantitative procedures were undertaken to determine if a plant growth gradient existed along the path of wastewater flow. Because of the declining growth gradient, bulrush plants grew most in the influent end, less in the middle section, and least in the effluent end of the wetland cell.

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CATEGORY BG
SUBCATEGOR plants

TITLE A study of soft-stem bulrush (Scirpus validus) growth in a constructed wetland, Hardin, Kentucky.
AUTHOR Edwards, M.E.
SOURCE Report prepared for the TVA
PUBLISHER
PAGES
DATE 1990, December
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Analysis of survival and condition of planted vegetation at the Benton, Hardin, and Pembroke, Kentucky constructed

wetland treatment systems.
AUTHOR Knight, R.L.
SOURCE Report prepared for the TVA by CH2MHill
PUBLISHER
PAGES
DATE 1991, November
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Aquatic plant wastewater treatment systems.
AUTHOR Wolverton, B.C.
SOURCE Mobile Bay Audubon Society, May 6, 1988.
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Aquatic plants for wastewater treatment: an overview.
AUTHOR Wolverton, B.C.
SOURCE Aquatic Plants for Wastewater Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing Inc.
PAGES pp. 3-15.
DATE 1987
CALLNUM TD 475 C65 1986
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Aquatic plants for water treatment and resource recovery.
AUTHOR Reddy, K.R. and W.H. Smith. (Eds.)
SOURCE
PUBLISHER Orlando, FL: Magnolia Publishing.
PAGES 1032p.
DATE 1987
CALLNUM TD475 C65 1986
ANNOTATION This book contains papers selected by a review panel from those presented at an International Conference on Research and Recovery. Much of the attention focused on vascular aquatic plants has been directed primarily toward their elimination

from water bodies. Sufficient biological, engineering, economic, ecologic and environmental data are now emerging to make possible the design and operation of water treatment/ resources systems using aquatic plants.

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CATEGORY BG
SUBCATEGOR plants

TITLE Effects of Phragmites australis roots and rhizomes on redox potentials, nitrification, and bacterial numbers in the sediment.
AUTHOR Hansen, J.I. and F.O. Andersen.
SOURCE Proceedings of the 9th Nordic Symposium on Sediments.
PUBLISHER Norr Malmo, Sweden: Scripta Limnologica
PAGES pp. 72-88
DATE 1981
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Evaluation of aquatic plants for constructed wetlands.
AUTHOR Surrency, D.
SOURCE USDA, Soil Conservation Service, Athens, GA. 30601
PUBLISHER
PAGES 14p.
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE High hopes for cattails.
AUTHOR Dawson, B.
SOURCE Civil Engineering
PUBLISHER
PAGES
DATE 1989, May
CALLNUM 290.8 C49
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Plants that purify.
AUTHOR Hallowell, C.
SOURCE Audubon, Vol. 94 (Jan./Feb. 1992)
PUBLISHER
PAGES pp. 76-80
DATE 1992
CALLNUM S900 A8
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Preliminary survey of vegetative growth and survival factors in constructed wetlands, selected TVA projects.
AUTHOR Edwards, M.E.
SOURCE Report prepared for the TVA
PUBLISHER
PAGES
DATE 1990, Sept.
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Propagation of wetland species.
AUTHOR Brumback, W.E.
SOURCE Combined Proceedings - International Plant Propagator's Society:40: p507-511, 1990, publ. 1991
PUBLISHER
PAGES pp 507-511
DATE 1991
CALLNUM 451 P692
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Relative radial oxygen loss in five wetland plants.
AUTHOR Michaud, S.C. and C.J. Richardson.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES WRA - WETLANDS.DOC -EPA S
DATE pp 501-507.
CALLNUM TD 756. 5 C66
ANNOTATION Obtaining reproducible toxic chemical impact in aquatic/marine

environments is a major difficulty for assessing field test information. This paper presents economical in-situ approaches for evaluating wastewater impacts and effects on constructed wetlands soil/sediment microenvironments.

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CATEGORY BG
SUBCATEGOR plants

TITLE Response of wetland plants to effluents in water and sediment.
AUTHOR Walsh, G.E., D.E. Weber, M.T. Nguyen and L.K. Esry.
SOURCE Environmental and Experimental Botany, Vol. 31, No. 3.
PUBLISHER
PAGES pp. 351-358
DATE 1991, July
CALLNUM 450 R11
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Role of aquatic plants in wastewater treatment by artificial wetlands.
AUTHOR Gersberg, R.M., B.V. Elkins, S.R. Lyon and C.R. Goldman.
SOURCE Water Research. 20(3):363-368
PUBLISHER
PAGES
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Selection and evaluation of plant materials for constructed wetlands.
AUTHOR Surrency, D.
SOURCE Soil and Water Conservation Society 47th Annual Meeting, Aug. 9-12, 1992, Baltimore, MD.
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Soil oxygenation in constructed reed beds: the role of macrophyte and soil-atmosphere interface on oxygen transport.
AUTHOR Brix, H. and H.H. Schierup.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Pergamon Press, Inc.
PAGES pp. 53-66
DATE 1989
CALLNUM TD 756. 5 I57
ANNOTATION The flux of metabolic gases through the soil-atmosphere interface and through the hollow reed (Phragmites australis) columns was quantified. The respiratory oxygen consumption of roots and rhizomes almost perfectly balanced the oxygen influx through the columns leaving only 0.02 grams of oxygen per day to be released to the surrounding soil. Therefore, the macrophyte -induced rhizosphere oxygenation was of no quantitative importance for aerobic biochemical oxygen demand degradation and microbial degradation.

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CATEGORY BG
SUBCATEGOR plants

TITLE The role of heavy metals and toxic materials in the physiological ecology of submerged macrophytes.
AUTHOR Guilizzoni, P.
SOURCE Aquatic Biology, Vol. 41.
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE The use of duckweed for wastewater treatment.
AUTHOR Zirschky, J. and S.C. Reed.
SOURCE J. Water Pollution Control Federation. 60(7):1253-58.
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Thermoosmotic air transport in aquatic plants affecting growth activities and oxygen diffusion in wetland soil.
AUTHOR Grosse, W.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 469-476
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Many water lily species are cultivated in lakes and constructed ponds as ornamental plants. Diffusion through the plant's aerenchyma can supply atmospheric air to a depth of four meters. For greater depths, plants with aerial or floating leaves generate a ventilating airflow by thermodiffusion.

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CATEGORY BG
SUBCATEGOR plants

TITLE Treating wastewater with hyacinths.
AUTHOR Doersam, J.
SOURCE BioCycle. August 1987.
PUBLISHER
PAGES pp. 30-32
DATE 1987, August
CALLNUM
ANNOTATION To protect vegetation from freezing, a natural treatment system (treating wastewater) consisting of three parallel hyacinth ponds was enclosed in a five acre greenhouse to provide for year -round operation. The system has been effective in removing 80% of total suspended solids and 40-50% effective in removing biochemical oxygen demand. The hyacinths are harvested to help facilitate the removal of nitrogen and phosphorus the system.

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CATEGORY BG
SUBCATEGOR plants

TITLE Vegetation dynamics in relation to wetland creation.
AUTHOR Niering, W.A.
SOURCE
PUBLISHER Island Press
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Vegetation in wetlands receiving sewage effluent: the importance of the seed bank.
AUTHOR Whigham, D.
SOURCE Paper presented at conference "Ecological considerations in wetlands treatment of municipal wastewater, Univ. of Mass., June 24-25, 1982.
PUBLISHER
PAGES 13p.
DATE 1982
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Water hyacinths--not just a pretty plant.
AUTHOR _____.
SOURCE BioCycle, ??
PUBLISHER
PAGES pp. 40-42
DATE ??
CALLNUM 57.8 C734
ANNOTATION For some southern wastewater treatment facilities, the water hyacinth is a good filtration system for primary effluent. The plants adsorb harmful by-products and significantly reduce nitrogen and phosphorus levels in sewage. Keeping the crop healthy and weed-free and harvesting the hyacinth requires much of the operator's time.

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CATEGORY BG
SUBCATEGOR plants

TITLE Wetland vegetation.
AUTHOR Guntenspergen, G.R., F. Stearns and J.A. Kadlec.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 73-88
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Any one type of artificial wetland may be unable to treat all contaminants coming into it, so a variety of plant species are used in constructed wetland systems to address this situation. In this paper the authors discuss major wetland vegetational categories, physiological adaptations to environmental gradients, and the abilities of plants to affect their environment to transform different types of wastewater.

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CATEGORY BG
SUBCATEGOR plants--aquaculture

TITLE Harvesting reed sweetgrass Glyceria-maxima poaceae effects on growth and rhizome storage of carbohydrates.
AUTHOR Sundblad, K. and K. Robertson.
SOURCE Economic Botany ECON BOT 42 (4). 1988. 495-502.
PUBLISHER
PAGES pp 495-502
DATE 1988
CALLNUM 450 Ec7
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants--microbes

TITLE Microorganisms and higher plants for wastewater treatment.
AUTHOR Wolverton, B.C., R.C. McDonald and W.R. Duffer.
SOURCE Journal of Environmental Quality, Vol. 12, No. 2.
PUBLISHER
PAGES
DATE 1983
CALLNUM QH 540 J6
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants--typha--bioaccumulation--zinc

TITLE Distribution and accumulation of zinc in Typha latifolia.
AUTHOR Blake, G., et al.
SOURCE Proc. Seminar on Aquatic Plants for Water Treatment and Resource Recovery. Orlando. FL, 20-24 July 1986
PUBLISHER
PAGES
DATE 1986
CALLNUM
ANNOTATION The use of the rooted macrophyte Typha latifolia in metal water treatment is presented. The authors studied the distribution and the accumulation of Zinc-65 ($ZnCl_2$ and Zn-EDTA) in plants grown in batch tank experiments. Highest concentration of the metal are found in underground parts of the plant.

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CATEGORY BG
SUBCATEGOR plants--water hyacinths

TITLE Influence of potassium supply on growth and nutrient storage

by water hyacinth.
AUTHOR Reddy, K.R., M. Agami, E.M. D'Angelo and J.C. Tucker.
SOURCE Bioresource Technology, Vol. 37, No. 1.
PUBLISHER
PAGES pp. 79-84
DATE 1991
CALLNUM TD930 A32
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal--metals

TITLE Bioaccumulation of selected heavy metals by the water fern, Azolla filiculoides lam. in a wetland ecosystem affected by sewage, mine and industrial pollution.
AUTHOR De Wet, L.P.D., H.J. Schoonbee and J. Pretorius.
SOURCE Water SA WASADV. 16(4): 281-286, October 1990
PUBLISHER
PAGES
DATE 1990, October
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR policy

TITLE Practices, EPA policies for wastewater-wetlands project evolve.
AUTHOR Bastian, R.
SOURCE Water Environment and Technology. v. 1 (4)
PUBLISHER
PAGES p. 483-485.
DATE
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR policy

TITLE States' activities, attitudes and policies concerning constructed wetlands for wastewater treatment.
AUTHOR Slayden, R.L. and L.N. Schwartz.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 279-286
DATE 1989
CALLNUM TD 756. 5 C66

ANNOTATION This paper presents a cross section of current activities, attitudes, and policies of individual states concerning constructed wetlands for wastewater treatment. Few states have hard-and-fast policies or criteria on this technology which leads to a wide spectrum of activities and attitudes concerning constructed wetlands.

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CATEGORY BG
SUBCATEGOR policy

TITLE U.S. Environmental Protection Agency's SITE emerging technology.
AUTHOR Bates, E.R., et al.
SOURCE Journal of the Air Pollution Control Association. July 1989. v. 39 (7). p. 927-35.
PUBLISHER
PAGES
DATE 1989
CALLNUM 449. 9 Ai7
ANNOTATION

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CATEGORY BG
SUBCATEGOR policy

TITLE Use of wetlands for water quality improvement under the USEPA region V clean lakes program.
AUTHOR Landers, J.C. and B.A. Knuth.
SOURCE Environmental Management. 15(2): 151-162.
PUBLISHER
PAGES
DATE
CALLNUM HC 79 E5E5
ANNOTATION

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CATEGORY BG
SUBCATEGOR policy

TITLE Wetland treatment systems--FY 91-96 research plan for the USEPA wetlands research program.
AUTHOR _____.
SOURCE NSI Technology Services Corp, Corvallis, OR
PUBLISHER
PAGES
DATE 1990, October
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR policy

TITLE Wetlands and water quality: EPA's research and monitoring implementation plan for the years 1989-1994.
AUTHOR Adamus, P.R. and E. Preston.
SOURCE EPA, Environmental Research Laboratory, Office of Research and Development, Corvallis, OR 97333.
PUBLISHER
PAGES 53p.
DATE 1989, March
CALLNUM
ANNOTATION The EPA wishes to demonstrate that existing surface water quality criteria for protecting the chemical, hydrological, and biological integrity of wetland resources is adequate. The agency wishes to develop technical information to support designation of particular wetlands for certain "uses"; estimate the limits of different wetland types, both constructed and natural, for intentionally or passively assimilating nutrients and contaminants.

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CATEGORY BG
SUBCATEGOR policy, institution

TITLE Use of wetlands for wastewater treatment and effluent disposal: institutional constraints.
AUTHOR Rusincovitch, F.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold, Co.
PAGES pp. 427-432
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR policy/perception

TITLE Human perception of utilization of wetlands for waste assimilation, or how do you make a silk purse out of a sow's ear.
AUTHOR Smardon, R.C.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES 18 ref. WRA - WETLANDS.DO
DATE pp 287-295.
CALLNUM TD 756. 5 C66
ANNOTATION Recent emphasis on ecological values and multifunctional aspects

of wetlands have improved the public's image of wetlands; however, loading wetlands with wastewater risks resenitizing all the historical negative imagery. This paper will present human perception of wetlands from a historical perspective; review the literature on how people perceive environmental quality in relation to odor, water quality, and wetland quality; and outline a data gathering framework to assess public perceptions on the role of wetlands in water quality enhancements.

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CATEGORY BG
SUBCATEGOR pollutant removal

TITLE Aquatic plants for pH adjustment and removal of toxic chemicals and dissolved minerals from water supplies.
AUTHOR Wolverton, B.C. and B.K. Bounds.
SOURCE Journal of the Mississippi Academy of Science, Vol. 33, 1988.
PUBLISHER
PAGES
DATE 1988
CALLNUM 500 m697
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal

TITLE Aquatic plants for removal of mevinphos from the aquatic environment.
AUTHOR Wolverton, B.C. and D.D. Harrison.
SOURCE Jour. Miss. Acad. Sci., 19: 84-88.
PUBLISHER
PAGES
DATE 1975
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal

TITLE Purification efficiency of planted soil filters for wastewater treatment.
AUTHOR Netter, R.
SOURCE Water Science and Technology v 26 n 9-11 1992. pp 2317-2320.
PUBLISHER
PAGES pp 2317-2320
DATE 1992
CALLNUM

ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal

TITLE Water quality functions of wetlands: natural and manmade systems.
AUTHOR Bastian, R.K. and J. Benforado.
SOURCE Proceedings of the International Symposium on Ecology and Management of Wetlands--Vol. 1: Ecology of Wetlands.
PUBLISHER Kent, UK: Croom Helm
PAGES pp. 87-97
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal N,P

TITLE Amplification of total dry matter, nitrogen, and phosphorus removal from stands of Phragmites australis by harvesting and reharvesting regenerated shoots.
AUTHOR Suzuki, T., W.G.A. Nissanka and Y. Kurihara.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 530-535
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Investigations have shown the Phragmites austrails are effective in removing nitrogen and phosphorus from wastewater. Harvesting the shoots could remove a large quantity of these nutrients. The experiment was designed to establish the best timing for harvesting and reharvesting the regenerated shoots and to amplify removal of total dry matter, nitrogen and phosphorus.

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CATEGORY BG
SUBCATEGOR pollutant removal, BOD

TITLE Vegetated submerged beds with artificial substrates. I: BOD removal.
AUTHOR Burgoon, P.S., T.A. Debusk, K.R. Reddy and B. Koopman.
SOURCE Journal of Engineering Mechanics, Vol. 117, No. 8.
PUBLISHER
PAGES pp. 394-407
DATE 1991, August.
CALLNUM 290. 9 AM3PS (EM)
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, metals

TITLE Uptake and losses of heavy metals in sewage sludge by a New England salt marsh.
AUTHOR Giblin, A.E., A. Bourg, I. Valiela and J.M. Teal.
SOURCE American Journal of Botany. 1980. v. 67 p. 1059-1068.
PUBLISHER
PAGES
DATE 1980
CALLNUM 450 Am36
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, N

TITLE Denitrification in artificial wetlands.
AUTHOR Stengel, E. and R. Schultz-Hock.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES Enviroline - WETLANDS.DOC
DATE pp 484-92.
CALLNUM TD 756. 5 C66
ANNOTATION Small artificial wetlands were examined for their potential to purify nitrate contaminated water into potable water. Macropytes were used for denitrification because of the low-oxygen content of wetland water. Denitrification in relation to oxygen concentration, organic carbon sources, and temperature; and oxygen conditions in the root horizon is presented in this paper.

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CATEGORY BG
SUBCATEGOR pollutant removal, N

TITLE Dentrification in wetlands as a means of water quality improvement.
AUTHOR Graetz, D.A., et al.
SOURCE Publication No. 48
PUBLISHER Gainesville, FL: University of Florida
PAGES
DATE 1980
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, N

TITLE Nitrogen removal in artificial wetlands.
AUTHOR Gersberg, R.M., B.V. Elkins and C.R. Goldman.
SOURCE Water Research. 17(9):1009-1014
PUBLISHER
PAGES
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, N

TITLE Use of artificial wetlands to remove nitrogen from wastewater.
AUTHOR Gersberg, R.M., B.V. Elkins and C.R. Goldman.
SOURCE Journal of the Water Pollution Control Federation. 56(2):152-156
PUBLISHER
PAGES
DATE 1984, February
CALLNUM 293.8 SE8
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, N,P

TITLE Vegetated submerged beds with artificial substrates. II: N and P removal.
AUTHOR Burgoon, P.S., K.R. Reddy, T.A. DeBusk and B. Koopman.
SOURCE Journal of Engineering Mechanics (ASCE), Vol. 117, No. 8.
PUBLISHER
PAGES pp. 408-424
DATE 1991, August
CALLNUM 290. 9 AM3PS (EM)
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, N--hydraulics

TITLE Hydraulic conductivity and nitrogen removal in an artificial wetland system.
AUTHOR McIntyre, B.D. and S.J. Riha.
SOURCE Journal of Environmental Quality. 20(1): 259-263.
PUBLISHER 2 fig, 2tab, 16 ref. CWET.TXT

PAGES
DATE
CALLNUM DNAL QH540.J6
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, P

TITLE Particulate phosphorous removal via wetland filtration: An examination of potential for hypertrophic lake restoration.
AUTHOR Lowe, E.F., et al.
SOURCE Environmental Management. Jan/Feb 1992. v. 16 (1) p. 67-74.
PUBLISHER
PAGES pp 67-74
DATE 1992
CALLNUM HC79 E5E5
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, P

TITLE Phosphorus removal efficiency of a constructed wetland treatment system.
AUTHOR Mann, R.A.
SOURCE M. App. Sci. (Thesis)
PUBLISHER 1990.
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, P

TITLE Removal of phosphorus from wastewater by soil under aerobic and aerobic conditions.
AUTHOR Hill, D.E. and B.L. Sawhney.
SOURCE J. Environ. Qual. 10:401-405.
PUBLISHER
PAGES
DATE 1981
CALLNUM QH 540 J6
ANNOTATION

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CATEGORY BG

SUBCATEGOR pollutant removal--metals

TITLE Comparisons of the processing of elements by ecosystems II: Metals.
AUTHOR Giblin, A.E.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold
PAGES pp. 158-179.
DATE 1985.
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal--metals

TITLE Removal of heavy metals by artificial wetlands.
AUTHOR Gersberg, R.M., S.R. Lyon, B.V. Elkins and C.R. Goldman.
SOURCE Future of Water Reuse. Vol. 2.
PUBLISHER Denver, CO: American Water Works Association
PAGES pp. 639-648
DATE 1984
CALLNUM TD 429. W3 1984
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal--metals, Cd--plant--water hyacinth

TITLE Incorporation of cadmium by water hyacinth.
AUTHOR Blake, G., B. Kaigate, A. Fourcy and C. Boutin.
SOURCE Wat. Sci. Tech. 19 (10), 123-128
PUBLISHER
PAGES
DATE 1987
CALLNUM TD420 A1P7
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal--plants

TITLE Biotransformation of priority pollutants using biofilms and vascular plants.
AUTHOR Wolverton, B.C. and R.C. McDonald-McCaleb.
SOURCE Journal of the Mississippi Academy of Science, Vol. 31.
PUBLISHER
PAGES
DATE 1986
CALLNUM 500 M697

ANNOTATION

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CATEGORY BG
SUBCATEGOR proceedings/abstracts/bibliographies

TITLE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
AUTHOR Hammer, D.A., ed.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial, and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES 831p.
DATE 1989
CALLNUM DNAL TD756.5.C66
ANNOTATION This volume contains the proceedings from the first comprehensive conference on constructed wetlands for water quality improvement. It represents the state-of-the-art in 1988; however, as new developments occur the information presented in this book will need revising. The goal of this book is to provide information to improve acceptance and increase application of constructed wetlands for water quality improvements.

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CATEGORY BG
SUBCATEGOR proceedings/abstracts/bibliographies

TITLE Constructed wetlands for water quality improvement.
AUTHOR _____.
SOURCE Paper Presented at the International Symposium on Constructed Wetlands for Water Quality Improvement, Pensacola, FL, October 2.
PUBLISHER
PAGES pp 10
DATE 1991
CALLNUM
ANNOTATION The author identifies various components of agricultural wastewater and compiles and evaluates the parameters that need to be considered in treating agricultural wastewaters in wetlands. Some of the various components of agricultural wastewater include milk house wastewater, barnyard runoff, roof and upstream runoff, barn/confined animal flush water, leachate from stacked manure systems, silage leachate, nonpoint surface runoff from cropland, and tile drainage water. Each of the components possesses unique characteristics which creates specific problems for treatment.

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CATEGORY BG
SUBCATEGOR reed beds--design/operation

TITLE Draft design and operations guidelines for reed bed treatment system.
AUTHOR Cooper, P.F.
SOURCE Draft WRC Report
PUBLISHER April 1989.
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR root zone method

TITLE An assessment of the root zone method of wastewater treatment.
AUTHOR Conley, L.M., et al.
SOURCE Journal of the Water Pollution Control Federation. 63(3):239-48(May-June 1991).
PUBLISHER
PAGES
DATE 1991, May/June
CALLNUM TD419 R47
ANNOTATION

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CATEGORY BG
SUBCATEGOR soils

TITLE Physical and chemical characteristics of freshwater wetlands soils.
AUTHOR Faulkner, S.P. and C.J. Richardson.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 41-72
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The chemical and physical parameters of soils, particularly freshwater wetland soils, influence their ability to effectively treat wastewater. This article describes soil properties, soil classifications, and saturated soil chemical processes of wetlands.

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CATEGORY BG
SUBCATEGOR thesis

TITLE Aspects of wetlands treatment.
AUTHOR Greaves, J.

SOURCE MSc Thesis
PUBLISHER
PAGES
DATE 1989
CALLNUM
ANNOTATION

****

CATEGORY BG
SUBCATEGOR water hyacinths--pollutant removal, NH4

TITLE Use of water hyacinth aquatic treatment systems for ammonia control and effluent polishing.
AUTHOR Hauser, J.R.
SOURCE Journal of the Water Pollution Control Federation. 56:219-226
PUBLISHER
PAGES
DATE 1984
CALLNUM 293. 8 SE8
ANNOTATION This paper presents the results of a 2-year pilot program investigating the use of water hyacinth aquatic treatment systems for ammonia removal and effluent polishing at a wastewater treatment plant. The aims of the pilot investigation were to determine if water hyacinth aquatic treatment systems could be used successfully for ammonia control, effluent polishing and to gain actual operational experience that could be used in a full-scale system design.

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE AS OF OCTOBER 24, 1995, TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

1 NAL Call No.: 290.9-Am32P
A modified procedure for design of constructed wetlands.
Chen, S.; Malone, R. F.; Fall, L.
Paper American Society of Agricultural Engineers. 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

2 NAL Call No.: aQK130.R48--1992
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

3 NAL Call No.: 290.9-Am32T
A theoretical approach for minimization of excavation and media costs of constructed wetlands for BOD5 removal.
Chen, S.; Malone, R. F.; Fall, L. J.
Transactions of the 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.

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

5 NAL Call No.: TD420.A1P7
Design criteria and practice for constructed wetlands.
Crites, R. W.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: waste water treatment; wetlands; design; water flow; hydrology; biological treatment; aquatic plants; artificial wetlands

6 NAL Call No.: TD420.A1P7
Designing constructed wetlands for nitrogen removal.
Hammer, D. A.; Knight, R. L.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

7 NAL Call No.: QH545.A1E58
Effects of acidification on metal accumulation by aquatic plants and invertebrates. 1. Constructed wetlands.
Albers, P. H.; Camardese, M. B.
Environmental toxicology and chemistry 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

8 NAL Call No.: TD420.A1P7
Establishing wetland plants in artificial systems.
Chambers, J. M.; McComb, A. J.L.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

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

10 NAL Call No.: TD420.A1P7
Flow characteristics of planted soil filters.
Netter, R.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: waste water treatment; biological treatment; wetlands; water flow; measurement; aquatic plants; tracers; constructed wetlands; artificial wetlands

11 NAL Call No.: TD420.A1P7
Functions of macrophytes in constructed wetlands.
Brix, H.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: waste water treatment; biological treatment; wetlands;

aquatic plants; hydraulic conductivity; nutrient uptake; artificial wetlands

12 NAL Call No.: 290.9-Am32P
Hydraulic properties of bed media for constructed wetlands.
Turner, G. A.; Lesikar, B. J.; Fipps, G.
Paper American Society of Agricultural Engineers. 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

13 NAL Call No.: TD420.A1P7
Inventory of constructed wetlands in the United States.
Brown, D. S.; Reed, S. C.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

14 NAL Call No.: QH540.E23
Limited response of cordgrass (Spartina foliosa) to soil amendments in a constructed marsh.
Gibson, K. D.; Zedler, J. B.; Langis, R. Ecological applications 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

15 NAL Call No.: 290.9-Am32P
Phosphorus retention and distribution in constructed wetlands.
Cronk, J. K.; Mitsch, W. J.
Paper American Society of Agricultural Engineers. 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

16 NAL Call No.: QH540.J6
Phosphorus retention by wetland soils used for treated wastewater disposal.
Gale, P. M.; Reddy, K. R.; Graetz, D. A.
Journal of environmental quality 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.

17 NAL Call No.: TD420.A1P7
Potential use of constructed wetlands for wastewater treatment in Northern environments.
Jenssen, P. D.; Maehlum, T.; Krogstad, T.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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

18 NAL Call No.: TD899.C59K37--1993
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.

19 NAL Call No.: TD756.5.C67-1987
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.

Descriptor: Constructed wetlands

20 NAL Call No.: TD756.5.R44--1993
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.

Descriptor: Constructed wetlands

21 NAL Call No.: MeU Univ.-1990-H461
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. 1990.

22 NAL Call No.: TP248.2.B562
The use of macrophytes in bioremediation.
Wood, B.; McAtamney, C.
Biotechnology advances v.12, p.653-662. (1994).
In the special issue: Biotechnology and industry: Present and future / edited by C.R. Barnett, J.S.G. Dooley, A.P. McHale, and P.G. McKenna.

Descriptors: waste water treatment; bioremediation; wetlands; reviews; reed bed systems; constructed wetlands

23 NAL Call No.: TD755.T68-1980
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

24 NAL Call No.: TD420.A1P7
Use of artificial wetlands for the treatment of recreational wastewater.
Vincent, G.
Water science and technology: a journal of the International Association on Water Pollution Research and Control. v.29, p.67-70. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell. Australia.

Descriptors: water purification; wetlands; biological treatment; aquatic plants; nutrient uptake; phosphorus; nitrogen; nitrate; lakes; water-recreation; beaches ; waste water; waste water treatment; quebec; constructed-wetlands; artificial-lakes

25 NAL Call No.: TD420.A1P7--v.29-no.4
Wetland systems in water pollution control : proceedings of the IAWQ 3rd International Specialist Conference on Wetland Systems in Water Pollution Control, held in Sydney, Australia, 23-25 November, 1992. 1st ed.
Bavor, H. J.; Mitchell, D. S.;
International Specialist Conference on Wetland Systems in Water Pollution Control (3rd : 1992 : Sydney, A. Oxford, U.K. ; Tarrytown, N.Y. : Pergamon : Elsevier Science, 1994. x, 336 p. : ill., maps.

On cover: IAWQ, International Association on Water Quality.

Descriptors: Water Pollution-Congresses; Wetlands-Congresses; Constructed wetlands-Congresses; Water quality management-Congresses

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| Canadian Journal of Soil Science 1988 v 68(1): 17-27
| DeJong, R. Comparison of two soil-water models under semi-arid growing
| conditions
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Water Quality Information Center of the National Agricultural Library
Agricultural Research Service, U.S. Department of Agriculture

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Constructed Wetlands Bibliography, Part V: Household Waste

This file, "Constructed Wetlands Bibliography, Part V: Household Waste" is one section of a seven-part constructed wetlands bibliography on using constructed wetlands for wastewater treatment. The bibliography was compiled by United States Department of Agriculture staff from the Ecological Sciences Division of the Natural Resources Conservation Service and the Water Quality Information Center at the National Agricultural Library. The complete bibliography can be accessed as either a single large (450K) file containing more than 600 citations or in parts organized by topic.

To locate a publication cited in this bibliography, please contact your local, state, or university library. If you are unable to locate a particular publication, your library can contact the National Agricultural Library (see instructions given at the end of this file).

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http://www.nal.usda.gov/wqic/Constructed_Wetlands_all/index.html.

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HW
CATEGORY    HW
SUBCATEGOR

TITLE       A new community approach to waste treatment with higher
            water plants.
AUTHOR      Burka, U. and P.C. Lawrence.
SOURCE      Constructed Wetlands in Water Pollution Control.
PUBLISHER   Pergamon Press, Inc.
PAGES       pp. 359-371
DATE        1990
CALLNUM     TD 756. 5 I57
ANNOTATION  The success of the two sewage treatment systems based on aquatic
            plants has attracted the attention of the industry, and
            communities.  The industry has been impressed by the systems'
            performances while communities are impressed by a treatment
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systems' efficiency and aesthetics that can be an attractive community amenity.

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CATEGORY HW
SUBCATEGOR

TITLE An assessment of using artificial wetlands to treat sewage.
AUTHOR Fisher, P.J.
SOURCE Proceedings of the 13th annual federal convention,
PUBLISHER Canberra, Australia, 1989. p. 21-31.
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Constructed wetlands for municipal wastewater treatment.
AUTHOR Watson, J.T., G.R. Steiner and D.A. Hammer.
SOURCE Proceedings, Mississippi Water Resources Conference,
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Constructed wetlands for municipal wastewater treatment: prepared for presentation at the Miss. Water Resources Conf., Jackson, MS, March 29-30, 1988.
AUTHOR Steiner, G.R., J.T. Watson and D.A. Hammer.
SOURCE
PUBLISHER Chattanooga, TN: Tenn. Valley Authority, Office of Natural Resources and Economic Development.
PAGES 12p
DATE 1988?
CALLNUM DNAL TD755.S7
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Constructed wetlands for municipal wastewater treatment: state-of-the-art.
AUTHOR Watson, J.T.
SOURCE Presented at the Sym. Epuration Des Eaux Usees Par Les Plants: Perspectives D'Avenir Au Quebec, Montreal, Quebec, Canada, March 20, 1992.
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Constructed wetlands in effluent disposal.
AUTHOR Sfackney, B.J.
SOURCE Sixth National Local Government Engineering Conference, Hobart, Australia, August 25-30, 1991.
PUBLISHER Barton, Australia: IE
PAGES pp 179-83.
DATE 1991.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Constructed wetlands in effluent disposal.
AUTHOR Mackney, B.J.
SOURCE Effective Management of Assests and Environment National Conference Publication - Institution of Engineers, Australia n 91 pt 14.
PUBLISHER Barton, Australia: IE Aust.
PAGES pp. 179-183
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Constructed wetlands: a viable alternative to sewage treatment plants?
AUTHOR Groark, E.
SOURCE Splash! [A newsletter of the Save Our Streams program] 10(2)
PUBLISHER Izaak Walton League of America
PAGES p. 3

DATE 1990, Spring
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Domestic wastewater treatment in tanks planted with rooted macrophytes, case study, description of system, design criteria, efficiency.
AUTHOR Boutin, C.
SOURCE Post-Conference IAWPRC. Piracicaba, Brazil, 24-27 August 1986. Wat. Sci. Tech., 19 (12), pp 29-40
PUBLISHER
PAGES
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Ecological considerations in wetlands treatment of municipal wastewaters.
AUTHOR Godfrey, P.J., et al., eds.
SOURCE
PUBLISHER New York: Van Rostrand Reinhold
PAGES
DATE 1985
CALLNUM QH545. S49E3
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Environmental protection agency municipal wastewater treatment technology forum, Orlando, Florida, March 20-22 1990.
AUTHOR Environmental Protection Agency.
SOURCE
PUBLISHER Washington: EPA
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Etude experimentale de traitement des eaux usees par des lagunes facultatives et a hydrophytes libres au Niger. (Experimentation of wastewater treatment in facultative pond and lagoons with floating macrophytes in Niger)
AUTHOR Laouali, Garba et al
SOURCE Water Quality Research Journal Canada, Vol. 31, No.1
PUBLISHER
PAGES 37-50
DATE 1996
CALLNUM
ANNOTATION The article is in French, with an English abstract.

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CATEGORY HW
SUBCATEGOR

TITLE Gas exchange through the soil-atmosphere interphase and through dead culms of Phragmites australis in a constructed reed bed receiving domestic sewage.
AUTHOR Brix, H.
SOURCE Water Research. 1990. v. 24 p. 259-266.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE General design, construction, and operation guidelines: constructed wetlands wastewater treatment systems for small users including individual residences.
AUTHOR Steiner, G.R., J.T. Watson and K.D. Choate.
SOURCE Tennessee Valley Authority, Chattanooga. Aquatic Biology Dept. Report: TVA/WR/WQ-91/2.
PUBLISHER NTIS Accession No. DE91015968XAB
PAGES
DATE 1991, March
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Inland marshes are saving dollars.
AUTHOR Birmingham, T.H.

SOURCE Public Works, Vol. 119, No.12
PUBLISHER
PAGES pp. 50-52
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Innovative solutions to small community wastewater problems.
AUTHOR Schutz, F.P.
SOURCE Operations Forum: Water Environment Federation Vol. 9, No. 6, p 12-15, 1992
PUBLISHER
PAGES pp 12-15
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Inventory of constructed wetlands for municipal wastewater treatment in the U.S.
AUTHOR Brown, D.S. and S.C. Reed.
SOURCE Pub. in Proc., ASCE Nat. Env. Eng Conference. Report No. EPA/600/D-91/087; NTIS Accession No. PB91-191247/XAB.
PUBLISHER
PAGES
DATE 1991, July
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Natural sewage recycling systems.
AUTHOR Small, M.M.
SOURCE Brookhaven National Laboratory BNL-50630
PUBLISHER NTIS BNL-50630
PAGES 36p.
DATE 1977
CALLNUM
ANNOTATION This paper presents a review of the development of the natural treatment systems, Marsh/Pond and Meadow/Marsh/Pond, which produces potable water from sewage. No conventional treatment plant hardware beyond aeration was used. Experiments for the

two prototype systems are described and performance data are presented in detail for the Marsh/Pond systems.

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CATEGORY HW
SUBCATEGOR

TITLE Needs and problems in sewage treatment and effluent disposal facing small communities: the role of wetland treatment alternatives.
AUTHOR Bastian, R.K.
SOURCE Transactions of the Kentucky Academy of Sciences. 52(1/2): 41-49.
PUBLISHER
PAGES
DATE 1991, March
CALLNUM 500 K41
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE On-site alternatives for treatment and disposal.
AUTHOR Pause, S.M.
SOURCE Journal-Water Pollution Control Federation, Vol.61, No. 6
PUBLISHER
PAGES pp. 844-845
DATE 1989, June
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Performance of solid-matrix wetland systems, viewed as fixed-film bioreactors.
AUTHOR Bavor, H.J., et al.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 646-656
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Wastewater treatment of solid-matrix constructed wetland systems has been investigated during the design, operation, and maintenance of seven large-scale units. Removal of suspended solids, biochemical oxygen demand, nitrogen, phosphorus, and fecal coliforms were investigated with respect to loading, detention time, and temperature parameters to allow predictive modeling of the system performance.

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CATEGORY HW
SUBCATEGOR

TITLE Potential replacement of septic tank drain fields by artificial marsh wastewater treatment systems.
AUTHOR Fetter, C.W., W.E. Sloey, and F.L. Spangler.
SOURCE Ground-water. 1976. v. 14 p. 396-402.
PUBLISHER
PAGES
DATE 1976
CALLNUM TD 403 G7
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Removal of nutrients from treated municipal wastewater by wetland vegetation.
AUTHOR Boyt, R.L. et al.
SOURCE Journal of the Water Pollution Control Federation. 1977. v. 49. p. 780.
PUBLISHER
PAGES
DATE 1977
CALLNUM 293. 8 SE8
ANNOTATION The town of Wildwood Florida had been releasing secondary treated wastewater into a mixed hardwood swamp for 20 years. The Florida Department of Environmental Regulation was concerned that nutrients from the wastewater effluent might reach Lake Panasoffkee. This paper presents a description of the study area, experimental design, and the results of the swamp's effectiveness in nutrient uptake.

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CATEGORY HW
SUBCATEGOR

TITLE Report on the use of wetlands for municipal wastewater treatment and disposal.
AUTHOR Environmental Protection Agency.
SOURCE EPA Report 430/09-88-005.
PUBLISHER NTIS Accession No.: PB88-233481/XAB
PAGES 32p.
DATE 1987
CALLNUM IPM 911118407
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Revolution in wastewater treatment.
AUTHOR Gillette, B.
SOURCE Biocycle, Vol. 29, No. 3.
PUBLISHER
PAGES pp. 49-51
DATE 1988
CALLNUM 57.8 C734
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Secondary treatment of domestic wastewater using floating emergent macrophytes.
AUTHOR Debusk, T.A., P.S. Burgoon and K.R. Reddy.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 525-529
DATE 1989
CALLNUM TD 756.5 C66
ANNOTATION Studies in Florida have demonstrated that shallow ponds containing large-leaved floating macrophytes, such as pennywort and water hyacinth, can remove biochemical oxygen demand (BOD) from domestic wastewaters. Because pennywort and water hyacinth cannot grow year long in cooler climates, the authors examined BOD and suspended solids removal rates from primary effluent using floating and emergent macrophytes cultured in pond and gravel-bed systems.

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CATEGORY HW
SUBCATEGOR

TITLE Sewage treatment in helophyte beds--first experiences with a new treatment procedure.
AUTHOR Bucksteeg, K.
SOURCE Wat. Sci. Tech. 19 (10) 1987, 1-10
PUBLISHER
PAGES
DATE
CALLNUM TD420 A1P7
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Sewage treatment with plants.
AUTHOR Stott, R.F. and S.J.L. Wright.
SOURCE Letters in Applied Microbiology. 12(4): 99-105.
PUBLISHER
PAGES
DATE April 1991.
CALLNUM QR1 L47
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Technical report: the effects of wastewater treatment facilities on wetlands in the midwest.
AUTHOR USEPA
SOURCE EPA-905/3-83-002
PUBLISHER
PAGES
DATE 1983, Sept.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE The use of Phragmites for wastewater treatment by the root zone method--the UK approach.
AUTHOR Cooper, P.F. and A.G. Boon.
SOURCE Aqautic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, Fl: Magnolia Publishing, Inc.
PAGES pp. 153-174
DATE 1987
CALLNUM TD475 C65 1986
ANNOTATION The root zone method of wastewater treatment is being evaluated in the United Kingdom. It may have significant benefits in relation to operational costs and performance for the treatment of sewage for small populations, especially in rural areas. The treatment process is described and compared with similar processes.

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CATEGORY HW
SUBCATEGOR

TITLE Treatment of wastewater using artificial wetlands: Large-scale, fixed-film bioreactors.

AUTHOR Bavor, H.J., et al.
SOURCE Austrialian Biotechnology. 1987 v. 1 (4).
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE TVA's constructed wetlands demonstration.
AUTHOR Choate, K.D., J.T. Watson and G.R. Steiner.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 509-516
DATE 1993
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Use of artificial wetlands for wastewater treatment.
AUTHOR Wile, I., G. Palmateer, and G. Miller.
SOURCE Presented at Minnesota Water Planning Board, Wetlands Values & Management Conference, St. Paul, MN, June 17-19, 1981.
PUBLISHER Original doc. avail. from Bowker
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Utilization of natural ecosystems for wastewater renovation.
AUTHOR Burton, T.M., D.L. King, R.C. Ball and T.G. Bar.
SOURCE EPA-905/3-79-003 USEPA Region V, Great Lakes National Programs Office.
PUBLISHER
PAGES 155p.
DATE 1979, April
CALLNUM TD 746 U78
ANNOTATION Michigan State University in cooperation with the City of East Lansing, Michigan, constructed a permanent facility for the experimental treatment, recycle and reuse of municipal sewage plant effluent. The waste flow is directed into an intensely

managed aquatic and terrestrial nutrient recycling system.
This report presents the preliminary research results.

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CATEGORY HW
SUBCATEGOR

TITLE Wastewater treatment by artificial wetlands.
AUTHOR Gersberg, R.M., B.V. Elkins, and C.R. Goldman.
SOURCE Water Science and Technology. 1984. v. 17 p. 443-50.
PUBLISHER
PAGES
DATE 1984
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Wastewater treatment by constructed wetlands: Using nature's way with an engineered constructed wetlands may be the solution to your wastewater treatment problems.
AUTHOR Tennessee Valley Authority.
SOURCE TVA Water Quality Branch.
PUBLISHER Chattanooga
PAGES
DATE 1987
CALLNUM TD756.5 W3
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Wastewater treatment using aquatic plants.
AUTHOR Fisher, P.J.
SOURCE Alternative Waste Treatment Systems.
PUBLISHER New York: Elsevier Science Publishing Co.
PAGES pp. 34-44
DATE 1988
CALLNUM TD511 A53
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Wetlands and wastewater management: questions, answers,

advice, and guidance.
AUTHOR Wernstedt, K.
SOURCE EPA, Office of Cooperative Environmental Management, Report No.:EPA/600/9-89/028
PUBLISHER
PAGES 178p.
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Wetlands wastewater treatment systems.
AUTHOR Small, M.M.
SOURCE Proceedings of the International Symposium, State of Knowledge in Land Treatment of Wastewater, Hanover, NH, August 20-25, 1978.
PUBLISHER
PAGES
DATE 1978, June
CALLNUM TD760. S8 1978 Vol. 2
ANNOTATION Judging from the demonstrated performance of two artificial wetland prototypes, it appears that these systems are technically superior to conventional secondary treatment plants and can be theequivalent of advanced water treatment plants. Construction, operating cost, design constraints of the wetlands, and a discussions of extensions for other prototype designs are presented in this paper.

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CATEGORY HW
SUBCATEGOR ancillary benefits

TITLE Creation and management of wetlands using municipal wastewater in northern Arizona: a status report.
AUTHOR Wilhelm, M., S.R. Lawry and D.D. Hardy.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 179-185
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Appropriation of water for agricultural, industrial and municipal uses has decreased natural wetland habitats. Municipal wastewater used to create new wetlands in northwestern Arizona may offset natural wetland losses.

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CATEGORY HW

SUBCATEGOR ancillary benefits

TITLE Land treatment of municipal wastewater on Mississippi Sandhill Crane National Wildlife Refuge for wetlands/crane habitat enhncement: a status report.
AUTHOR Hardy, J.W.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 186-190
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION One of the primary objectives for recovery and survival of the Mississippi sandhill crane is to restore desirable habitats, including plant communities and water regimes. Following lengthy feasibility reviews, governmental agencies signed a memorandum of understanding to allow land treatment of primary-treated effluent on the Mississippi Sandhill Crane National Wildlife Refuge. The two components of the project are a lagoon system and the land treatment system.

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CATEGORY HW
SUBCATEGOR ancillary benefits

TITLE Wastewater treatment/disposal in a combined marsh and forest system provides for wildlife habitat and recreational use.
AUTHOR James, B.B. and R. Bogaert.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 597-605.
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The Mt. View Sanitary District treatment plant treats sewage flows averaging 5300 m3/day with comminution, primary sedimentation, two-stage high-rate biofiltration, secondary sedimentation, chlorination, and dechlorination. This paper presents a summary of 15 years of operating experience on two wetland areas constructed in the 1970's and the marsh/forest pilot project, receiving secondary effluent from the district's wastewater treatment plant as the sole water source.

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CATEGORY HW
SUBCATEGOR aquaculture

TITLE Aquatic plant culture for waste treatment and resoure recovery.
AUTHOR Kingsley, J.B., J.J. Maddox and P.M. Giordano.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.

PAGES pp. 542-549
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION There has been limited efforts to recover useful products from artificial wetland systems that treat liquid waste streams from municipalities, industries, and agricultural enterprises. Some of the aquatic plants with potential uses in industry and agriculture are Chinese water chestnuts, cattails, and common reeds. This project demonstrated the potential of three aquatic macrophytes to remove pollutants from wastewater and produce useful crops.

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CATEGORY HW
SUBCATEGOR aquaculture

TITLE Assessment of aquaculture for reclamation of wastewater.
AUTHOR Duffer, W.R.
SOURCE Water Reuse.
PUBLISHER Ann Arbor, MI: Ann Arbor Science.
PAGES pp. 349-367
DATE 1982
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR aquaculture

TITLE Combined artificial wetlands and high rate algal pond for wastewater treatment and protein production.
AUTHOR Wood, A., J. Scheepers and M. Hills.
SOURCE Water Science and Technology Vol. 2 (of 5). p659-668.
PUBLISHER
PAGES pp 659-668
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR aquaculture

TITLE Municipal wastewater aquaculture.
AUTHOR Duffer, W.R. and J.E. Moyer.
SOURCE NTIS PB-284. EPA-600/2-78-110
PUBLISHER
PAGES 46p
DATE 1978, June
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies

TITLE Marsh-pond-meadow treatment facility.
AUTHOR Walters, D.H.
SOURCE Case Study 1 of the Case Study Series. Small Flows. January 1986.
PUBLISHER Morgantown, WV: West Virginia University.
PAGES
DATE 1986, Jan 17.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies, KY

TITLE Analysis of gravel cell number three, Benton, KY wetlands.
AUTHOR Kadlec, R. H.
SOURCE Report prepared for the TVA.
PUBLISHER
PAGES
DATE 1991, April
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies, PA pollutant removal, N

TITLE Nitrification and denitrification at the Iselin, Pennsylvania marsh/pond/meadow facility.
AUTHOR Davido, R.L. and T.E. Conway.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 477-83
DATE 1989
CALLNUM TD756.5 C66
ANNOTATION Combinations of marshes, ponds and meadows can be effective wastewater treatment systems. The Iselin Marsh/Pond/Meadow is an example of an active wetland system that has proven effective in removing nitrogen from wastewater. The authors intend to define major zones of nitrification and denitrification and provide base data for future work at the site for optimizing removal capacities.

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CATEGORY HW
SUBCATEGOR case studies--CA

TITLE Constructed free surface wetlands to treat and receive wastewater: pilot project to full scale.
AUTHOR Gearheart, R.A., F. Klopp, and G. Allen.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 121-137
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The city of Arcata, California has completed four years of a pilot project study that polished secondary-treated wastewater with constructed freshwater wetlands. The pilot study demonstrated that a constructed wetland can provide reliable tertiary treatment for municipal wastewater. This paper presents the pilot studies results and conclusions, two years of full-scale wetland operation. In addition the pilot's wetland management and design criteria for wastewater treatment are presented.

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CATEGORY HW
SUBCATEGOR case studies--MN

TITLE Minnesota's experience with the biologically activated soil filtration unit.
AUTHOR Tomasek, M.D., G.E. Johnson and P.J. Mulloy.
SOURCE Water Quality Division, Minnesota Pollution Control Agency, 6th Annual International Symposium, Lake and Reservoir Management: Influences of Nonpoint Source Pollutants and Acid Precipitation,
PUBLISHER
PAGES
DATE November 1986.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--NY

TITLE Data report, marsh/pond sewage treatment plants.
AUTHOR Small, M.M.
SOURCE Dept. of Applied Science, Brookhaven National Laboratory, Upton, NY.
PUBLISHER
PAGES
DATE 1976, May
CALLNUM
ANNOTATION The Marsh/Pond located at Brookhaven National Laboratory is a

prototype natural wastewater treatment facility whose purpose is to continuously renovate sewage to groundwater rechargeable quality. Since the system is still under study, it is premature to draw detailed observations; however, the purpose of this paper is to present the principal data from one year of test observations.

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CATEGORY HW
SUBCATEGOR case studies--NY

TITLE Data report, meadow/marsh/pond system.
AUTHOR Small, M.M. and C. Wurm.
SOURCE Brookhaven National Laboratory
PUBLISHER NTIS BNL-50675
PAGES 28p.
DATE 1977
CALLNUM TD760 S7
ANNOTATION The Meadow/Marsh/Pond has been in various modes of continuous operation since 1973 for the purpose of renovating blends of septage and weak sewage to groundwater recharge quality. The system is economical to build and operate, attractive, free of disease vectors, aerosols and objectionable odors. This paper presents a report that summarizes 13 months of operating data.

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CATEGORY HW
SUBCATEGOR case studies--NY

TITLE Meadow/marsh systems as sewage treatment plants.
AUTHOR Small, M.M.
SOURCE Brookhaven National Laboratory, Upton, NY.
PUBLISHER NTIS BNL-20757
PAGES
DATE 1975
CALLNUM
ANNOTATION For the past three years Brookhaven National Laboratory has been building, operating and testing Marsh/Meadow/Pond and Marsh/Pond sewage treatment systems. Presently, there is no clear choice on which system is better. Therefore, it is expected that land availability, terrain, and crop value will be the principal determinants in a choosing a system.

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CATEGORY HW
SUBCATEGOR case studies--New Zealand

TITLE Constructed wetlands for wastewater treatment: The New Zealand experience.
AUTHOR Bhamidimarri, R., et al.
SOURCE Water Science and Technology. 1991. v. 24 (5) p. 247-53.

PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--Ontario, CAN.

TITLE Listowel artificial marsh treatment project.
AUTHOR Herskowitz, J., S. Black and W. Lewandowski.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing, Inc.
PAGES pp. 247-254
DATE 1987
CALLNUM
ANNOTATION Complete mix aeration cell effluent and lagoon effluent were treated in five separate cattail marsh treatment systems for four years. The marsh systems demonstrated large reductions in biochemical oxygen demand, suspended solids and bacteria on a year round basis. The marsh effluent treatment quality ranged between conventional secondary and tertiary treatment levels.

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CATEGORY HW
SUBCATEGOR case studies--Ontario, CAN.

TITLE Use of artificial cattail marshes to treat sewage in northern Ontario, Canada.
AUTHOR Miller, G.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 636-642
DATE 1989
CALLNUM td 796.5 c66
ANNOTATION A southwestern Ontario marsh project established that a properly configured cattail marsh has the capacity to significantly improve the quality of sewage wastewater. This inexpensive marsh treatment technology seemed ideally suited for some northern Ontario communities that could not afford the capital costs of conventional sewage treatment. This paper presents the findings of the study.

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CATEGORY HW
SUBCATEGOR case studies--S. Africa

TITLE Experimental investigations into the use of emergent plants

to treat sewage in South Africa.
AUTHOR Alexander, W.V. and A. Wood.
SOURCE Water Science and Technology, Vol. 19, No. 10.
PUBLISHER
PAGES pp. 51-59
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--S. Africa

TITLE Low-cost and low-energy wastewater treatment systems: A South-African perspective.
AUTHOR Batchelor, A. et al.
SOURCE Water Science and Technology. 1991. v. 24 (5) p. 241-246.
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--SE USA

TITLE Demonstration of constructed wetlands for treatment of municipal wastewaters, monitoring report for the period: March 1988 to October 1989.
AUTHOR Choate, K.D., J.T. Watson and G.R. Steiner.
SOURCE TVA/WR/WQ--90/11
PUBLISHER
PAGES 107p.
DATE 1990, August
CALLNUM
ANNOTATION Three full-scale wetland treatment systems were constructed for the purpose of investigating and promoting the feasibility and benefits of using constructed wetlands for treating domestic wastewater. The constructed wetlands designs, operation status, and performance are presented in this report. Based on the findings, changes in the monitoring and operation of each system are addressed.

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CATEGORY HW
SUBCATEGOR case studies--SE USA

TITLE First semiannual monitoring report: demonstration of constructed wetlands for treatment of municipal wastewater, March to December 1988.

AUTHOR Choate, K.D., G.R. Steiner and J.T. Watson.
SOURCE TVA/WR/WQ--89/5
PUBLISHER
PAGES 36p.
DATE 1989, July
CALLNUM
ANNOTATION Since standardized design criteria are currently not available to engineers and regulators, several governmental agencies implemented a demonstration to investigate and promote the feasibility and benefits of using constructed wetlands for treating domestic wastewater. Three full-scale wetland treatment systems were constructed and a description of the systems are presented in this report. Also the initial ten months of monthly monitoring data and a dye study for the Benton system is presented.

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CATEGORY HW
SUBCATEGOR case studies--FL

TITLE Community waste research at the Walt Disney World resort complex.
AUTHOR _____.
SOURCE unpublished
PUBLISHER
PAGES
DATE no date
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--FL

TITLE Man-made wetlands for wastewater treatment: two case studies.
AUTHOR Jackson, J.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 574-580
DATE 1989
CALLNUM TD756. 5 C55
ANNOTATION State and federal agencies are discouraging the traditional practice of discharging treated wastewater directly to surface waters. Wastewater treatment technologies must develop effluent methods that use low-lying or otherwise less desirable lands while adequately protecting surface water resources. Two constructed wetlands that meet both of these criteria are presented in this paper.

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CATEGORY HW
SUBCATEGOR case studies--KY

TITLE Municipal waste water treatment by constucted wetlands--a TVA demonstration in western Kentucky.
AUTHOR Steiner, G.R., J.T. Watson and D.A. Hammer.
SOURCE Prepared for Presentation at the Conference on Increaseing our Wetland Resources, Washington, DC, October 4-7, 1987.
PUBLISHER TVA, Office of Nat. Resources and Economic Development, Div. of Air and Water Resources.
PAGES
DATE 1987
CALLNUM GH87.4 W47 1987
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--KY

TITLE Performance of constructed wetland treatment systems at Benton, Hardin, and Pembroke, Kentucky during the early vegetation establishment phase.
AUTHOR Watson, J.T., K.D. Choate and G.R. Steiner.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Oxford: Pergamon Press
PAGES pp. 171-182
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--SC

TITLE Performance of the boggy gut wetland treatment system, Hilton Head, South Carolina.
AUTHOR Knight, R.L. and K.A. Ferda.
SOURCE Wetlands: Concerns and Successes.
PUBLISHER Bethesda, MD: Am. Water Resources Assc.
PAGES pp. 439-450
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--TN,KY

TITLE Municipal wastewater treatment with artificial wetlands--a TVA/Kentucky demonstration.

AUTHOR Steiner, G.R., et al.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing, Inc.
PAGES pp. 923-932
DATE 1987
CALLNUM
ANNOTATION The use of artificial wetlands is neither widely known nor accepted by engineering firms and regulatory agencies. To circumvent this problem, the Tennessee Valley Authority in cooperation with the Kentucky Division of Water has implemented a project to demonstrate the feasibility and benefits of artificial wetlands sewage treatment systems. Three full scale treatment systems, marsh-pond-meadow, the root-zone method, and the gravel marsh, will be constructed for technology demonstration and technology transfer.

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CATEGORY HW
SUBCATEGOR case studies--NV

TITLE Constructed wetlands at Mesquite, Nevada.
AUTHOR Crites, R.W., et al.
SOURCE Proceedings of the 1991 Specialty Conference on Environmental Engineering.
PUBLISHER New York: ASCE
PAGES p. 390-95.
DATE 1991.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--CA

TITLE Final report City of Arcata marsh pilot project.
AUTHOR Gearheart, R.J. et al.
SOURCE Report C-06-2270.
PUBLISHER Arcata, CA: City of Arcata Dept. of Public Works
PAGES
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--CA

TITLE Wastewater reclamation and reuse for Malibu, California.
AUTHOR Stone, H. and A. Bouchard.
SOURCE Water Resources Planning and Management and Urban Water Resources.

PUBLISHER New York, NY: ASCE
PAGES pp 249-253.
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--CA--ancillary benefits

TITLE Wetlands creation for habitat and treatment at Mt. View sanitary district, California.
AUTHOR Demgen, F.C., et al.
SOURCE Aquatic Systems for Wastewater Treatment: Seminar Proceedings and Engineering Assessment.
PUBLISHER Washington: EPA Office of Water Programs Operaitons, Municipal Division
PAGES
DATE pp 61-73.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--OR

TITLE Cannon Beach, Oregon wetlands/marsh.
AUTHOR Walters, D.H.
SOURCE Case Study 7 of the Case Study Series. Small Flows. March 1986.
PUBLISHER Morgantown, WV: West Virginia Univ.
PAGES
DATE 1986, March 6
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR Denmark

TITLE Danish experience with emergent hydrophyte treatment systems (EHTS) and prospects in the light of future requirements to outlet water quality.
AUTHOR Schierup H.H. and H. Brix.
SOURCE Small Wastewater Treatment Plants, Water Science and Technology. 1989. v. 22 (3/4) p. 65-72.
PUBLISHER
PAGES
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR Denmark

TITLE Danish experience with sewage treatment in constructed wetlands.
AUTHOR Brix, H. and H.H. Schierup.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 565-573
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Treating wastewater with the root-zone method was introduced as a low-cost, low technology decentralized solution capable of producing an effluent quality equivalent to or even exceeding, conventional tertiary treatment technology. The process depends on a horizontal subsurface flow through the common reed rhizosphere. The most important functions of macrophytes in the reeds beds are to supply oxygen to the aerobic microorganisms in the rhizosphere and to increase/stabilize the hydraulic permeability of the soil.

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CATEGORY HW
SUBCATEGOR Denmark--reed beds

TITLE Sewage treatment in constructed reed beds--danish experiences.
AUTHOR Brix, H. and H.H. Schierup.
SOURCE Water Science Technology J. Int. Assc. Water Pollut. Res. Cont. Vol. 21 (12) p. 1665-1668, 1989.
PUBLISHER
PAGES pp 1665-1668
DATE 1989
CALLNUM DNAL TD420.A1P7
ANNOTATION

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CATEGORY HW
SUBCATEGOR design considerations

TITLE Constructed wetlands and aquatic plant systems for municipal wastewater treatment process design manual.
AUTHOR Environmental Protection Agency.
SOURCE EPA Report 625/1-88/022.
PUBLISHER Cincinnati: U. S. EPA Center for Environmental Information
PAGES
DATE 1988
CALLNUM

ANNOTATION

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CATEGORY HW
SUBCATEGOR design considerations--operations

TITLE Integrated wastewater treatment using artificial wetlands: a gravel marsh case study.
AUTHOR Gersberg, R.M., S.R. Lyon, R. Brenner and B.V. Elkins.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 145-152
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Artificial wetlands have the capability to perform integrated wastewater treatment using natural processes, with low energy input, and capital and operation and maintenance expense, make them very attractive for use by small to medium-sized communities for meeting discharge limitations. The primary objective of this paper is to present design and operational data on the use of artificial wetlands to perform secondary treatment of municipal wastewater. A second objective is to describe the mechanisms of nitrogen and total coliform bacteria removal.

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CATEGORY HW
SUBCATEGOR design considerations--performance--reed beds

TITLE Land-treatment systems: design and performance with special reference to reed beds.
AUTHOR Bayes, C.D., D.H. Bache and R.A. Dickson.
SOURCE Journal of the Institution of Water Engineers and Scientists, Vol. 3, No. 6.
PUBLISHER
PAGES 1989, December
DATE
CALLNUM TD 420 W374
ANNOTATION

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CATEGORY HW
SUBCATEGOR design--construction--costs

TITLE Constructed wetlands: design, construction, and costs.
AUTHOR Whalen, K.J., P.S. Lombardo, D.B. Wile, and T.H. Neel.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 590-96

DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The Mayo Water Reclamation Subdistrict Large Communal Water Reclamation Facility will treat septic tank effluent collected from 2000 homes. The reclamation facility consists of a recirculating sand filters, bulrush wetlands, ultraviolet disinfection, peat wetlands, a posteration aspirator, and an offshore wetland. Design and construction issues presented in this paper include process design, basin design, process control features, storm impact, construction, and construction costs.

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CATEGORY HW
SUBCATEGOR design--performance

TITLE Design and performance of the constructed wetland wastewater treatment system at Phillips High School, Bear Creek, Alabama.
AUTHOR Watson, J.T.
SOURCE TVA/WR/WQ-90/5.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR design--performance--case studies--PA

TITLE Design and performance of the artificial wetlands wastewater treatment plant at Iselin, Pennsylvania.
AUTHOR Watson, J.T., F.D. Diodatao and M. Luach.
SOURCE
PUBLISHER Chatanooga, TN: Tenn. Valley Authority. Office of Natural Resources and Economic Development.
PAGES 15p
DATE 1986?
CALLNUM TD525 P4W3
ANNOTATION

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CATEGORY HW
SUBCATEGOR energy conservation

TITLE Energy conservation in municipal wastewater treatment.
AUTHOR Wesner, G.M., et al.
SOURCE MCD-32
PUBLISHER Washington, DC: EPA 430-9-77-011
PAGES
DATE 1978, March

CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR engineering considerations

TITLE Domestic wastewater treatment using emergent plants cultured in gravel and plastic substrates.
AUTHOR Burgoon, P.S., K.R. Reddy and T.A. DeBusk.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 536-541
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Wetland substrate (except in the case of a soil matrix) is generally thought of as inert material that provides surface area for bacteria colinization. The use of high-specific-surface-area substrates in the trickling filter process has improved biochemical oxygen demand removal and nitrification when compared to the traditional gravel substrates. This study compared plant growth and wastewater treatment in two plastic substrates and in a one-centimeter-diameter gravel, each subtrate had different specific surface areas.

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CATEGORY HW
SUBCATEGOR engineering considerations

TITLE Wetlands for wastewater treatment: an engineering perspective.
AUTHOR Reed, S.C. and R.K. Bastian.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold Co.
PAGES pp. 444-450
DATE 1985
CALLNUM QH 545 549 E3
ANNOTATION

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CATEGORY HW
SUBCATEGOR engineering considerations--Africa

TITLE Research to develop engineering guidelines for implementation of constructed wetlands for wastewater treatment in southern Africa.
AUTHOR Wood, A. and L.C. Hensman.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.

PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 581-589
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Increasing production and disposal of domestic wastewaters have caused accelerated eutrophication of many of South Africa's evaluate the potential for constructed wetlands in wastewater treatment. This paper presents current research designed to provide engineering data on the biological and physiogeochemical constraints of the constructed wetland concept.

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CATEGORY HW
SUBCATEGOR engineering considerations--construction

TITLE Constructing the wastewater treatment wetlands: some factors to consider.
AUTHOR Tomljanovich, D.A. and O. Pereze.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 399-404
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The size of constructed wetlands treating wastewater may range from several square meters to several hectares. Design parameters vary with size, site characteristics, hydrologic group, pollutant type and loading rate, geographic locale, watershed characteristics, proximity to residential development, and anticipated operation and maintenance requirements. Construction process of wastewater treatment wetland and some important factors that influence success are presented in this paper.

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CATEGORY HW
SUBCATEGOR engineering considerations--design--sizing

TITLE TVA's new design guidelines for constructed wetlands alter size, shape, design process.
AUTHOR Schutz, F.R.
SOURCE Small Flows. January 1992. v. 6 (1) p. 1.
PUBLISHER
PAGES
DATE 1992, Jan
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR Germany

TITLE Treatment of domestic sewage in emergent helophyte beds--German experiences and ATV-guidelines H 262.
AUTHOR Bucksteeg, K.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Pergamon Press, Inc
PAGES pp. 505-515
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION Approximately 300 sewage treatment plants consisting of helophyte beds may be in operation in Germany. The beds consist of either gravel, sand, cohesive soil, or artificial mixtures of sand and soil, and many different varieties of helophyte were used. Experiences from several reed beds with cohesive soil are disappointing while ones with a specific helophyte bed consisting or iron-containing uniform sand shows good effluent results.

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CATEGORY HW
SUBCATEGOR gravel beds

TITLE Wastewater treatment by rooted aquatic plants in sand and gravel trenches.
AUTHOR Pope, P.
SOURCE Available from NTIS as PB81-213241
PUBLISHER
PAGES
DATE 1981
CALLNUM
ANNOTATION A process to treat municipal wastewater using a biological treatment process (utilizes higher aquatic plants and a series of trenches) that requires a minimal amount of mechanical equipment and manpower for normal operation was evaluated. The major goal was to achieve effluent meeting the U.S. Federal Effluent Standards. This paper presents a description of the system and a discussion of the results.

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CATEGORY HW
SUBCATEGOR gravel/reed beds

TITLE Reed bed treatment systems: experimental gravel beds at Gravesend--the southern water experience.
AUTHOR Christian, J.N.W.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Pergamon Press, Inc.
PAGES pp. 309-319
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION Various types of domestic wastewaters were treated in experimental reed beds that utilized gravel as the growing medium for common reeds. The beds performed well although

several lessons were learned during the design, construction, planting and operational stages. With good weed control, reed beds have a pleasant appearance and provide a habitat for a large bird population.

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CATEGORY HW
SUBCATEGOR monitoring

TITLE Monitoring of constructed wetlands for wastewater.
AUTHOR Hicks, D.B. and Q.J. Stober.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER 1989.
PAGES
DATE pp. 447-455.
CALLNUM TD 756.5 C66
ANNOTATION The use of constructed wetland for the disposal and treatment of wastewater is emerging as an alternative to conventional approaches for small communities and industries. Monitoring data are essential to measure the treatment levels and to indicate the functional status and biological integrity of the wetland system. The cost and effort of monitoring increases with chemical complexity of the influent to be treated and the ecological diversity of the wetlands to be maintained.

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CATEGORY HW
SUBCATEGOR

TITLE Brookhaven's two sewage treatment systems.
AUTHOR Small, M.M.
SOURCE Compost Science, Autumn, 1975.
PUBLISHER
PAGES
DATE 1975
CALLNUM 57.8 C734
ANNOTATION Two novel sewage treatment systems, Marsh/Meadow/Pond and Marsh/Pond, are in operation at the Brookhaven, NY. Both systems return drinkable water to the ground water supply, neither produces any sludge for further disposal, and both are in competition with one another to determine which is the least expensive to build and operate. This paper presents a description and the advantages and disadvantage of each system.

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CATEGORY HW
SUBCATEGOR

TITLE Iselin marsh pond meadow.
AUTHOR Conway, T.E. and J.M. Murtha.

SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 139-144
DATE 1989
CALLNUM TD756. 5 C66
ANNOTATION Pennsylvania Sewage Facilities Act of 1966 initially favored large, centralized regional sewage treatment systems which became increasingly difficult for small communities to finance. With 3500 small communities unable to obtain funding, innovative approaches, like the Iselin, PA marsh-pond-meadow, were needed. This paper presents an overview of the Iselin marsh pond system from planning stages to on line treatment.

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CATEGORY HW
SUBCATEGOR NE USA

TITLE Mayo peninsula water reclamation facilities.
AUTHOR Dept. of Utilities, Anne Arundel Co. Maryland.
SOURCE
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR nutrient removal

TITLE Nutrient removal using shallow lagoon-solid matrix macrophyte systems.
AUTHOR Bavor, H.J., W.E. Scott and A. Wood.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing, Inc.
PAGES pp. 227-235
DATE 1987
CALLNUM
ANNOTATION This paper presents information on the design, operation, and performance of seven large-scale, shallow lagoon-macrophyte systems that receive secondary treated sewage effluent. The systems consist of gravel filled trenches which have been designed to have dense macrophyte, unplanted gravel, and open water sections. Removal of the effluent components (biochemical oxygen demand, nitrogen, and indicator bacteria) has been effective.

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CATEGORY HW
SUBCATEGOR pathogens/vectors

TITLE Fate of microbial indicators and viruses in a forested wetland.
AUTHOR Scheuerman, P.R., G. Bitton and S.R. Farrah.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 657-63
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Wetlands have been suggested as an inexpensive means for tertiary treatment of sewage effluents. Concern regarding potential contamination of ground and surface waters with heavy metals, trace organics, nitrates, and microbial pathogens must be considered. Little is known regarding the fate of microorganisms in wetland systems, more is known about the fate of bacteria thanviruses, and improvement in bacteriological water quality of sewage effluents has been observed.

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CATEGORY HW
SUBCATEGOR pathogens/vectors

TITLE Mosquito production in constructed wetlands for treatment of municipal wastewater.
AUTHOR Tennessen, K.J. and M.K. Painter.
SOURCE TVA/WR/AB--90/4, March 1990
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR pathogens/vectors

TITLE Survival of bacteria and viruses in municipal wastewaters applied to artificial wetlands.
AUTHOR Gersberg, R.M., et al.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando: Magnolia
PAGES pp 237-247.
DATE 1987.
CALLNUM
ANNOTATION This paper presents a study where the survival of indigenous total coliform bacteria and seeded MS-2 bacteriophage was examined in artificial wetlands which received primary municipal wastewaters. The results demonstrate that artificial wetlands may serve as low-cost alternatives to conventional treatment systems for reducing the load of disease-causing bacteria and viruses to the aquatic environment.

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CATEGORY HW
SUBCATEGOR plants

TITLE Pennywort and duckweed marsh systems for upgrading wastewater effluent from a mechanical package plant.
AUTHOR Wolverton, B.C. and R.C. McCaleb.
SOURCE Aquatic Palnts for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing
PAGES pp. 289-294
DATE 1987
CALLNUM TD475 C65 1986
ANNOTATION

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CATEGORY HW
SUBCATEGOR plants

TITLE The use of aquatic macrophytes in water-pollution control.
AUTHOR Brix, H. and H.H. Schierup.
SOURCE Ambio. 1989. v. 18 p. 100-107.
PUBLISHER
PAGES
DATE 1989
CALLNUM QH 540. A52
ANNOTATION

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CATEGORY HW
SUBCATEGOR plants--water hyacinths

TITLE Multiple applications for water hyacinth.
AUTHOR Joglekar, V.R. and V.G. Sonar
SOURCE BioCycle, January, 1987.
PUBLISHER
PAGES pp. 46-48
DATE 1987
CALLNUM 57.8 C734
ANNOTATION The rapid urbanization of thousands of Indian towns has led to an urgent need to develop a financially self-sustaining composite system for recycling domestic wastewater. This paper presents a description of one such system and the research associated with its development.

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CATEGORY HW
SUBCATEGOR plants--water hyacinths

TITLE Upgrading wastewater treatment by water hyacinth in

developing countries.
AUTHOR Kumar, P. and R.J. Garde.
SOURCE Water Science and Technology, Vol. 22, No. 7/8.
PUBLISHER
PAGES pp. 153-160
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR policy

TITLE Use of wetlands for municipal wastewater treatment and disposal: regulatory issues and EPA policies.
AUTHOR Bastian, R.K., P.E. Shanaghan and B.P. Thompson.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 265-278
DATE 1989
CALLNUM TD756. 5 C66
ANNOTATION Freshwater, brackish, and saltwater wetlands have served as natural water treatment systems for centuries. Studies have shown that wetlands are able to provide high levels of wastewater treatment. However, concern has been expressed over possible harmful effects of toxic materials and pathogens in wastewaters and long-term degradation of wetlands due to the additional nutrient and hydraulic loadings from wastewater discharge.

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CATEGORY HW
SUBCATEGOR policy--regulatory issues

TITLE Regulatory and policy considerations on wetlands and municipal wastewater treatment.
AUTHOR Davis, D. and J.C. Montgomery.
SOURCE Paper presented at the Conference on Aquatic Plants for Water Treatment and Resource Recovery, Orlando, FL, July 20-24, 1986.
PUBLISHER
PAGES 16p.
DATE 1986
CALLNUM TD 475 C65 1986
ANNOTATION Under section 404 of the Clean Water Act The Environmental Protection Agency (EPA) seeks to preserve wetlands through its review of Army Corps of Engineers or state permits for discharge of dredged or fill material to waters of the U.S. (which includes wetlands). EPA has identified wetlands values in their ability to utilize nutrients which would otherwise pollute streams, rivers and lakes and to act as buffers for non-point source water pollution. The agency also supports artificial

wetland-type treatment land treatment systems as part of its Innovative and Alternative wastewater construction grants program.

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CATEGORY HW
SUBCATEGOR polishing

TITLE Enhancing effluent water quality of sedimentation basins using constructed wetlands technology.
AUTHOR Taylor, H.N.
SOURCE Prodeedings - National Conference on Hydraulic Engineering.
PUBLISHER New York: ASCE
PAGES pp 746-50.
DATE 1991.
CALLNUM TC5 H824 1991
ANNOTATION

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CATEGORY HW
SUBCATEGOR polishing

TITLE The performance of an artificial wetland for the treatment of biological filter effluent.
AUTHOR Furnes, H.D., K.J. Healey, D.A. Kerdachi, and W.N. Richards.
SOURCE Paper presented at the Symposium on Ecology and Conservation of Wetlands in South Africa,
PUBLISHER
PAGES
DATE October 15-16, 1987.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR pollutant removal

TITLE Design criteria for BOD5 removal in constructed reed beds.
AUTHOR Brix, H. et al.
SOURCE Preprints of proceedings of the international conference on design and operation of small wastewater treatment plants,
PUBLISHER Trondheim: Lewis Publishers, Inc.
PAGES p. 565-573.
DATE 1989.
CALLNUM
ANNOTATION

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CATEGORY HW

SUBCATEGOR pollutant removal N,P,COD--reed bed

TITLE Removal of nitrogen, phosphorus and COD from wastewater using sand filtration system with Phragmites australis.
AUTHOR Ariyawathie, G.
SOURCE Water Resources, 21 1217-24
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR pollutant removal--Austria

TITLE Root-zone system: Mannersdorf-new results.
AUTHOR Haberl, R. and R. Perfler.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 606-621
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Uncertainties regarding wetland treatment of sewage led to the decision to construct a full-sized experimental treatment plant and to manage it while allowing concurrent scientific studies. Proximity to an existing municipal sewage plant and soil conditions that did not require an impermeable membrane were some of the conditions for placing the site at Mannersdorf. This paper presents experimental results on sewage technology studies, hydraulic investigations, microbiological investigations, plant physiology studies, and soil science investigations.

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CATEGORY HW
SUBCATEGOR pollutant removal--metals

TITLE Removal of heavy metals and sewage sludge using the mud snail, Cipangopaludina chinensis malleata reeve, in paddy fields as artificial wetlands.
AUTHOR Kurihara, Y. and T. Suzuki.
SOURCE Water Science and Technology, Vol. 19, No. 12.
PUBLISHER
PAGES pp. 281-286
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR pollutant removal--plants

TITLE Comparison of plant density and growth forms related to removal efficiencies in constructed wetlands treating municipal wastewaters.
AUTHOR Pullin, B.P. and D.A. Hammer.
SOURCE Tennessee Valley Authority Valley Resource Center, Waste Technology Program.
PUBLISHER
PAGES
DATE 1989, October
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR reed beds

TITLE Purification of domestic sewage with and without faeces by vertical itermittent filtration in reed and rush beds.
AUTHOR Bahlo, K.E. and F.G. Wach.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Pergamon Press, Inc.
PAGES pp. 215-221
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION The description of two sewage treatment plants based on hydrophyte systems working under practical conditions are presented. One plant is fed with a normal domestic sewage and the other is fed with household wastewater without faeces. Both plants were operated from an intermittent application and flow of sewage effluent from septic tanks into this constructed wetland.

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CATEGORY HW
SUBCATEGOR reed beds--China

TITLE Reed-wetland beds for municipal wastewater treatment.
AUTHOR Tang, Y., et al.
SOURCE Journal of Environmental Science (China) 4 (1). 1992, pp 23-31
PUBLISHER
PAGES pp 23-31
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY HW

SUBCATEGOR reed beds--design--operations

TITLE European design and operations guidelines for reed bed treatment systems
AUTHOR Cooper, P.E., (ed.)
SOURCE EC/EWPCA Emergent Hydrophyte Treatment Systems Expert Contact Group Report U1 17, Swindon, Wiltshire.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION Approximately 500 Reed Bed Treatment Systems have been constructed in Western Europe since 1984. Removal efficiencies range from 80-90% for biochemical oxygen demand, 20-30% for nitrogen, and 30-40% for phosphorous. The purpose of this paper in not necessarily to recommend how to design the best working system, since the present knowledge does not allow this, but to advise constructors of items that should not be incorporated into system design.

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CATEGORY HW
SUBCATEGOR reed beds--Egypt

TITLE Reed-bed system purifies sewage, British research team to build full-scale test site in Egypt.
AUTHOR _____.
SOURCE BioCycle
PUBLISHER
PAGES
DATE 1987, Feb.
CALLNUM 57.8 C734
ANNOTATION

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CATEGORY HW
SUBCATEGOR reed beds--UK

TITLE Sewage treatment by reed bed systems: the present situation in the United Kingdom.
AUTHOR Cooper, P.F. and J.A. Hobson.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 153-171
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The United Kingdom's Water Authority agreed that reed bed treatment system had potential for sewage systems for small rural situations, but it was clear that there were several areas of uncertainty. To make rapid progress and prevent duplication, a group was formed to coordinate research and development. This paper presents principles behind reed bed technology systems and

outline progress made to December 1987.

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CATEGORY HW
SUBCATEGOR reed beds--UK

TITLE Use of reed bed systems in th UK.
AUTHOR Cooper, P.F., J.A. Hobson and C. Findlater.
SOURCE Water Science and Technology, Vol. 22, No. 3/4.
PUBLISHER
PAGES pp. 57-64
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR root-zone method

TITLE The applicability of the wastewater treatment plant in Otffresen as scientific documentation of the root-zone method.
AUTHOR Brix, H.
SOURCE Water Science and Technology. 1987. v. 19 (10) p. 19-24.
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR secondary treatment

TITLE Constructed wetlands for secondary treatment.
AUTHOR Mingee, T.J. and R.W. Crites.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI, Lewis Publishers, Inc.
PAGES pp. 622-627
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Constructed wetlands can provide a low-cost wastewater treatment alternative to achieve secondary treatment for small to midsized communities. This paper presents a case study of a constructed wetland system utilizing emergent aquatic vegetation. The history, pilot-study effort, construction problems, construction costs, and initial performance data are included in this study.

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CATEGORY HW
SUBCATEGOR secondary treatment--tertiary treatment

TITLE Design, construction, establishment and operation of gravel bed hydroponic (GBH) systems for secondary and tertiary sewage treatment.
AUTHOR Butler, J.E., M.G. Ford, R.F. Loveridge and E. May.
SOURCE Constructed Wetlands for Water Pollution Control.
PUBLISHER Pergamon Press, Inc.
PAGES pp. 539-542
DATE 1990
CALLNUM TD 756. 5 C66
ANNOTATION Gravel bed hydroponic (GPH) system based on features presented in this paper have been operating satisfactorily for a number of years in both the United Kingdom and Egypt. GPH systems can provide a cost-effective and environmentally acceptable alternative to conventional biological sewage treatment. Important design features include bed length and depth, aggregate size and type, channel gradient, maintenance of an adequate water depth and choice of hydrophyte.

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CATEGORY HW
SUBCATEGOR secondary treatment--tertiary treatment

TITLE Gravel bed hydroponic systems used for secondary and tertiary treatment of sewage effluent.
AUTHOR Butler, J.E., R.F. Loveridge, M.G. Ford, D.A. Bone and R.F. Ashworth.
SOURCE Journal of the Institution of Water and Environmental Management, Vol. 4, No. 3.
PUBLISHER
PAGES pp. 276-284.
DATE 1990
CALLNUM
ANNOTATION Gravel bed hydroponic (GBH) systems planted with emergent hydrophytes can treat domestic sewage effluent to acceptable environmental standards in an economic and efficient manner. A discussion of Portsmouth Polytechnic reed-bed sewage treatment GBH projects in the UK and Egypt are presented in this paper along with an assessment of current progress.

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CATEGORY HW
SUBCATEGOR septage--case studies--MA

TITLE Solar aquatic treatment of septage.
AUTHOR Spencer, R.
SOURCE Biocycle. 31(5):66-70 (May 1990)
PUBLISHER
PAGES
DATE 1990. May

CALLNUM 57.8 C734
ANNOTATION

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CATEGORY HW
SUBCATEGOR septic tank effluent

TITLE Aquatic plant/microbial filters for treating septic tank effluent.
AUTHOR Wolverton, B.C.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 173-178
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Problems with septic tank systems are not normally associated with properly installed, sealed tanks, but with the leach fields. The authors studies indicate that septic tank effluent from single homes can be treated to advanced secondary levels or better by using a washed gravel filter. If a point source discharge is undesirable, a perforated leach field tubing should be used to disperse the treated rock/plant filter effluent beneath the soil according to soil tolerances.

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CATEGORY HW
SUBCATEGOR STP upgrades

TITLE Town uses constructed wetlands to upgrade treatment.
AUTHOR Schutz, F.R.
SOURCE Small Flows, Vol. 4, No. 4. may 1990
PUBLISHER West Virginia Univ.
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR STP upgrades

TITLE Utilization of created wetlands to upgrade small municipal wastewater treatment systems.
AUTHOR Pride, R.E., J.S. Nohrstedt and L.D. Benefield.
SOURCE Water, Air, and Soil Pollution 50:371-385, 1990
PUBLISHER
PAGES 371-3815
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR tertiary treatment

TITLE Artificial wetlands as tertiary treatment systems.
AUTHOR Greiner, R.W. and G.D. Butijn.
SOURCE Water Science and Technology, Vol. 17, No. 8.
PUBLISHER
PAGES pp. 1429
DATE 1985
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR tertiary treatment

TITLE The use of freshwater wetlands as a tertiary wastewater treatment alternative.
AUTHOR Kadlec, R.H. and D.L. Tilton.
SOURCE CRC Critical Rewiews in Environmental Control
PUBLISHER
PAGES pp. 185-201
DATE 1979
CALLNUM QH 545 A1C7
ANNOTATION

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CATEGORY HW
SUBCATEGOR tertiary treatment

TITLE The use of wetands as a tertiary treatment procedure.
AUTHOR Kadlec, R.H. and J.A. Tilton.
SOURCE CRC Crit. Rev. Environ. Control. 1979. v. 9 p. 185-212.
PUBLISHER
PAGES
DATE 1979
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR tertiary treatment

TITLE Use of a forested wetland in South Carolina for tertiary treatment of municipal wastewater.
AUTHOR Baughman, D.S., et al.
SOURCE Water: Laws and Management.

PUBLISHER Bethesda, Md: Am. Water Resources Assc.
PAGES pp. 7A-25--7A-37
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR tertiary treatment

TITLE Wetlands for tertiary treatment.
AUTHOR Kadlec, R.H.
SOURCE Wetlands Functions and Values: The State of Our Understanding.
PUBLISHER Minneapolis, MN: American Water Resoruce Association
PAGES pp. 490-504.
DATE 1979.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR upgrade--design concepts--case studies, AL

TITLE Design of the Fort Deposit, Alabama, constructed wetlands treatment system.
AUTHOR Knight, R.L. and M.E. Inverson.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Oxford, UK: Pergamon Press.
PAGES pp. 521-524
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Small wastewater reclamation systems: a necessity in drought-plagued California.
AUTHOR Dawyot, R.A.
SOURCE Small Flows, Vol. 5
PUBLISHER West Virginia Univ.
PAGES
DATE 1991, July 3.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR water hyacinths--design

TITLE Evolution and performance of city of San Diego pilot wastewater treatment system using water hyacinths.
AUTHOR Tchobanoglous, G., F. Maitski, K. Thompson and T.H. Chadwick.
SOURCE Presented at the 60th Annual Conference of the Water Pollution Control Federation, Philadelphia, PA, October 5-8, 1987.
PUBLISHER
PAGES 36p.
DATE 1987
CALLNUM
ANNOTATION Since 1981, the city of San Diego has been experimenting with an aquatic system for the secondary treatment of wastewater. The aquatic system is based on the use of water hyacinth ponds. The purpose of this paper is to chronicle the evolution and performance of the water hyacinth based treatment system and to present a discussion of the important engineering and related considerations that must be addressed in the design of these systems.

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE, AS OF OCTOBER 24, 1995, TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

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

2 NAL Call No.: TD756.5.S74--1993
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

3 NAL Call No.: TD420.A1P7
Investigation into the use of constructed reedbeds for municipal waste dump

leachate treatment.
Urbanc Bercic, O.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: landfill leachates; biological treatment; wetlands; phragmites australis; gravel; biochemical oxygen demand; chemical oxygen demand; waste water treatment; yugoslavia; artificial wetlands; slovenia; constructed wetlands

4 NAL Call No.: TD420.A1P7
Factors affecting nitrogen removal in horizontal flow reed beds.
Platzer, C.; Netter, R.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

5 NAL Call No.: TD420.A1P7
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 science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: wetlands; water reuse; waste water treatment; sewage effluent; nutrients; removal; nutrient uptake; florida; constructed wetlands; artificial wetlands

6 NAL Call No.: KF27.P89632-1992
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

7 NAL Call No.: TD420.A1P7
Treatment of nitrogen and phosphorus by a constructed upland-wetland wastewater treatment system.
House, C. H.; Broome, S. W.; Hoover, M. T.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

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Water Quality Information Center of the National Agricultural Library
Agricultural Research Service, U.S. Department of Agriculture

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Constructed Wetlands Bibliography, Part VI: Industrial Waste.

This file, "Constructed Wetlands Bibliography Part VI: Industrial Waste" is one section of a seven-part constructed wetlands bibliography on using constructed wetlands for wastewater treatment. The bibliography was compiled by United States Department of Agriculture staff from the Ecological Sciences Division of the Natural Resources Conservation Service, formerly the Soil Conservation Service, and the Water Quality Information Center at the National Agricultural Library. The complete bibliography can be accessed as either a single large (450K) file containing more than 600 citations or in parts organized by topic.

To locate a publication cited in this bibliography, please contact your local, state, or university library. If you are unable to locate a particular publication, your library can contact the National Agricultural Library (see instructions given at the end of this file).

For WWW access to these files: point your browser at
http://www.nal.usda.gov/wqic/Constructed_Wetlands_all/index.html

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IW
CATEGORY    IW
SUBCATEGOR

TITLE       Artificial marsh treats industrial wastewater.
AUTHOR      Gillette, B.
SOURCE      BioCycle, February, 1989.
PUBLISHER
PAGES
DATE        1989
CALLNUM     57.8 C734
ANNOTATION
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CATEGORY    IW
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SUBCATEGOR

TITLE Considerations for wetland treatment of spent geothermal fluids.
AUTHOR Kaczynski, V.W.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold, Co.
PAGES pp. 48-65
DATE 1985
CALLNUM QH 545 549 E3
ANNOTATION

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CATEGORY IW
SUBCATEGOR

TITLE Natural processes for treatment of organic chemical waste.
AUTHOR Wolverton, B.C.
SOURCE The Environmental Professional, Vol. 3.
PUBLISHER
PAGES
DATE 1981
CALLNUM
ANNOTATION

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CATEGORY IW
SUBCATEGOR

TITLE Treatability assessment of industrial wastes by a portable wetland unit.
AUTHOR Davies, T.H., J.T. Watson and D.B. Jenkins.
SOURCE Constructed Wetlands for Water pollution Control.
PUBLISHER Oxford: Pergamon Press
PAGES pp. 403-410
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION

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CATEGORY IW
SUBCATEGOR aquaculture

TITLE Utilization and treatment of thermal discharges by establishment of a wetlands plant nursery.
AUTHOR Ailstock, M.S.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 719-726

DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION As part of a water discharging permit, Nevamar Corporation study methods to improve holding pond thermal efficiency. These improvements were compatible with and would be optimized with a wetlands plants nursery. Thermal treatment pond/aquatic nursery design, efficiency of modifications for improving wastewater treatment, nursery productivity during the first year, and a summary of potential applications are presented in this paper.

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CATEGORY IW
SUBCATEGOR auto manufacturing

TITLE Reuse of an industrial wastewater at Saturn.
AUTHOR Barnett, M., et al.
SOURCE Environmental Engineering Proc 91 Spec Conf Environ Eng.
PUBLISHER New York: ASCE
PAGES
DATE 1991.
CALLNUM
ANNOTATION

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CATEGORY IW
SUBCATEGOR clam proccessing water

TITLE Feasibility and modeling of the use of New Jersey salt marshes to treat clam processing wastewater.
AUTHOR Guida, V.G. and I.J. Kugelman.
SOURCE Final Report to the National Marine Fisheries Service
PUBLISHER (1988).
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY IW
SUBCATEGOR clam processing water--effluent polishing

TITLE Experiments in wastewater polishing in constructed tidal marshes: does it work? Are the results predictable?
AUTHOR Guida, V.G. and I.J. Kugelman.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 727- 734
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Natural tidal salt marshes may have limited use in wastewater

treatment applications. Three environmental factors were addressed using experimental results: (1) does tidal flooding frequency prevent effective treatment, (2) marshes demonstrate either net import or export of organic material and nutrients to surrounding water, (3) is the outcome of effluent polishing readily predictable.

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CATEGORY IW
SUBCATEGOR landfill leachate

TITLE Natural renovation of leachate-degraded groundwater in excavated ponds at a refuse landfil.
AUTHOR Dornbush, J.N.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 743-752.
DATE 1989
CALLNUM TD 756. 5 C66

ANNOTATION The trench and wetland ponds at Brookings Landfill have remediated the effect of excessive contaminant concentrations in the "downstream" groundwater. It is hoped that other landfill (active or closed) might benefit by the use of man-made wetlands in the form of trenches and ponds to protect against, or possibly correct excessive groundwater degradation.

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CATEGORY IW
SUBCATEGOR landfill leachate

TITLE Potential use of constructed wetlands to treat landfill leachate.
AUTHOR Staubitz, W.W., et al.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 735-742
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Infiltration of precipitation and migration of water through municipal solid waste landfills produce leachate that contain undesirable or toxic chemicals. This study was designed to investigate the fate and transport of landfill leachate in a constructed wetland and provide engineering design data for construction and operation of full-size leachate treatment systems.

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CATEGORY IW
SUBCATEGOR landfill leachate

TITLE Potential use of constructed wetlands to treat landfill leachate.
AUTHOR Surface, J.M., et al.
SOURCE USGS second national symposium on water quality; abstracts of the technical sessions, Orlando, FL, Nov. 12-17, 1989.
PUBLISHER
PAGES pp. 98-99
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY IW
SUBCATEGOR landfill leachate

TITLE Use of artificial wetlands for treatment of municipal solid waste landfill leachate.
AUTHOR Trautmann, N.M., J.H. Martin, K.S. Porter and K.C. Hawk.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 245-251
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Leachate treatment at municipal wastewater treatment facilities is one option for meeting water quality; however, this can be expensive and energy intensive. One possible method to reduce cost and energy requirements is to treat the leachate on-site using artificially constructed wetlands. This paper presents a proposed study to evaluate the feasibility of this approach at a municipal sanitary landfill.

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CATEGORY IW
SUBCATEGOR leachate

TITLE Application of natural and engineered wetlands for treatment of low-strength leachate.
AUTHOR Birkbeck, A.E., D. Reil and R. Hunter.
SOURCE Constructed Wetlands for Water Pollution Control.
PUBLISHER Pergamon Press, Inc.
PAGES pp. 411-418
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION Six experimental marsh systems were constructed to examine the feasibility of using the marsh (root zone) treatment method to treat landfill leachate. The effluent quality needed for discharge into the environment was not achieved in the test marsh systems. The marsh must be made several times longer to obtain the desired effluent quality.

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CATEGORY IW
SUBCATEGOR oil refining

TITLE Constructed wetlands for wastewater treatment at Amoco oil company's Mandan, North Dakota refinery.
AUTHOR Litchfield, D.K. and D.D. Schatz
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 233-237
DATE 1989
CALLNUM TD 756.5 C66
ANNOTATION To comply with new environmental standards, Amoco decided to expand the Manden, North Dakota refinery's existing biooxidation systems. Secondary wastewater is discharged into a six hectare lagoon for initial secondary treatment. It is pumped to a high point for distribution among several routes through a series of cascading ponds and ditches before discharge.

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CATEGORY IW
SUBCATEGOR paper mills

TITLE Utilization of artificial marshes for treatment of pulp mill effluents.
AUTHOR Thut, R.N.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 239-244
DATE 1989
CALLNUM TD 756 .5 C66
ANNOTATION Two studies, 24-hour static test and a 96-hr flow-through test, were conducted with secondary effluent from a bleached kraft mill in a pilot scale anaerobic-filter reed treatments system. The system was effective in removing nitrogen, phosphorus, total organic carbon, and color. These encouraging results led to a more rigorous, long-term study which is the subject of this paper.

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CATEGORY IW
SUBCATEGOR paper mills

TITLE Water quality improvement of pulp and paper mill effluents by aquatic plants.
AUTHOR Allender, B.M.
SOURCE Appita 37:303-306 (1984)

PUBLISHER
PAGES
DATE
CALLNUM 302.8 AU7
ANNOTATION

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CATEGORY IW
SUBCATEGOR pollutant removal, TOC

TITLE Capacity of a swamp forest to assimilate the TOC loading from a sugar refinery wastewater stream.
AUTHOR Gambrell, R.P., R.A. Khalid and W.H. Patrick, Jr.
SOURCE Journal of the Water Pollution Control Federation, Vol. 59, No. 10.
PUBLISHER
PAGES pp. 897-904
DATE 1987. October
CALLNUM 293.8 SE8
ANNOTATION A Louisiana sugar refinery has been discharging soluble organic carbon into a swamp which is a tributary for the Blind River and Lake Maurepas. Governmental agencies have expressed concerned about the affects from the effluent on the river and lake's biochemical oxygen demand; however, the refinery contends that the swamp serves as an effective wastewater treatment system. This paper present the results of an investigation that measures the effluent affects on these water bodies.

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CATEGORY IW
SUBCATEGOR pollutant removal--metals

TITLE Potential use of constructed wetlands for treatment of industrial wastewaters containing metals.
AUTHOR Dunbabin, J.S. and K.H. Bowmer.
SOURCE Science of the Total Environment. III(2-3):151-69 (15 Jan 1992).
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY IW
SUBCATEGOR sugar mill

TITLE Artificial wetlands for the treatment of mill effluent.
AUTHOR Schmann, G.T.
SOURCE Sugar Journal:54:10, pp 26-30, 1992
PUBLISHER

PAGES pp 26-30
DATE 1992
CALLNUM 65.9 SO83
ANNOTATION

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE AS OF OCTOBER 24, 1995, TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

1 NAL Call No.: LU 378.76-L930-1992-batu
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

2 NAL Call No.: TD420.A1P7
Microbial ecology of constructed wetlands used for treating pulp mill wastewater.
Hatano, K.; Frederick, D. J.; Moore, J. A.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

3 NAL Call No.: 302.8-T162
Operating experience with constructed wetlands for wastewater treatment.
Knight, R. L.
Tappi Journal v.75, p.109-112. (1993).
Includes references.

Descriptors: wetlands; waste water treatment; water quality; pulp and paper industry; pulp mill effluent

4 NAL Call No.: TD420.A1P7
The use of constructed wetlands for treating industrial effluent (textiles dyes).
Davies, T. H.; Cottingham, P. D.
Water science and technology: a journal of the International Association on Water Pollution Research and Control v.29, p.227-232. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell. Australia.

Descriptors: factory effluents; textile industry; dyes; waste water treatment; biological treatment; wetlands; phragmites; phragmites australis; microbial degradation; artificial wetlands

5 NAL Call No.: 290.9-Am32P
Variability in treatment by constructed wetlands.

Kuehn, E.; Moore, J. A.
Paper American Society of Agricultural Engineers St. Joseph, Mich. : American Society of Agricultural Engineers,. Winter 1993. (932578) 19 p.
Paper presented at the "1993 International Winter Meeting of the American Society of Agricultural Engineers," December 14-17, 1993, Chicago, Illinois.

Descriptors: wetlands; waste treatment; pulp mill effluent

6 NAL Call No.: TD420.A1P7
Wetland treatment of pulp mill wastewater.
Moore, J. A.; Skarda, S. M.; Sherwood, R.
Water science and technology: a journal of the International Association on Water Pollution Research and Control v.29, p.233-239. (1994). v.29, p.241-247. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell. Australia.

Descriptors: pulp mill effluent; waste water treatment; biological treatment; aquatic plants; ponds; biochemical oxygen demand; color; removal; oregon; constructed wetlands; artificial wetlands

7 NAL Call No.: 57.8-C734
Constructed wetlands for industrial wastewater.
Gillette, B.
Biocycle v.35, p.80, 82-83. (1994).

Descriptors: waste water; waste water treatment; wetlands; kentucky

8 NAL Call No.: Z5853.S22S38--1993
Sewage and industrial waste treatment, wetlands : (Oct 87 - present) : citations from the Selected Water Resources Abstracts database. Citations from the Selected Water Resources Abstracts database.
United States. National Technical Information Service. [Springfield, Va.] : U.S. Dept. of Commerce, National Technical Information Service, [1993] 1 v. (unpaged).
"Dec 93"--P. [v].

Descriptors: Sewage Purification Bibliography; Sewage disposal in the ground-Bibliography; Land treatment of wastewater-Bibliography; Constructed wetlands-Bibliography

9 NAL Call No.: TD420.A1P7
Phosphorus removal in constructed wetlands using gravel and industrial waste substrata.
Mann, R. A.; Bavor, H. J.
Water science and technology: a journal of the International Association on Water Pollution Research and 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

10 NAL Call No.: KyU Thesis-1992-Mitchell

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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

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Questions about full-text documents represented by these citations? See current NAL document delivery information.

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Agricultural Research Service, U.S. Department of Agriculture

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Constructed Wetlands Bibliography, Part VII: Urban Runoff

This file, "Constructed Wetlands Bibliography, Part VII: Urban Runoff" is one section of a seven-part constructed wetlands bibliography on using constructed wetlands for wastewater treatment. The bibliography was compiled by United States Department of Agriculture staff from the Ecological Sciences Division of the Natural Resources Conservation Service, formerly the Soil Conservation Service, and the Water Quality Information Center at the National Agricultural Library. The complete bibliography can be accessed as either a single large (450K) file containing more than 600 citations or in parts organized by topic.

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UR
CATEGORY    UR
SUBCATEGOR

TITLE       A current assessment of urban best management practices.
AUTHOR      Schueler, T.
SOURCE
PUBLISHER   Washington, DC: Metropolitan Washington Council of
            Governments
PAGES
DATE        1992
CALLNUM
ANNOTATION
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CATEGORY UR
SUBCATEGOR

TITLE A detention basin-artificial wetland treatment system to renovate stormwater runoff from urban highway and industrial areas.
AUTHOR Meyer, J.L.
SOURCE Wetlands 5 (0). 1985
PUBLISHER
PAGES pp 135-146
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Creation of wetlands for the improvement of water quality: a proposal for the joint use of highway right-of-way.
AUTHOR Linker, L.C.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 695-701.
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION This paper presents a proposal for joint use of a highway right-of-way with an engineered wetland to control urban nonpoint source pollution. A preliminary analysis of the site's control effectiveness and design life are presented in this paper.

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CATEGORY UR
SUBCATEGOR

TITLE Environmental feasibility of using wetlands to treat runoff pollution.
AUTHOR Gadbois, L.E.
SOURCE Naval Ocean Systems Center, San Diego, CA.
PUBLISHER
PAGES
DATE 1989 October
CALLNUM TD433 G32
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Greenwood urban wetland: a manmade stormwater treatment facility.
AUTHOR Palmer, C. N. and J. D. Hunt.
SOURCE Wetlands: Concerns and Successes.
PUBLISHER Bethesda, MD: Am. Water Resources Assc.
PAGES pp. 205-214
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Guidelines for constructing wetland stormwater basins.
AUTHOR Maryland Department of Natural Resources.
SOURCE Maryland Department of Natural Resources, Water Resources Administration, Annapolis, MD, March 1987.
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Overview of the Lake Jackson restoration project with artificially created wetlands for treatment of urban runoff.
AUTHOR Esry, D.H., and D.J. Cairns
SOURCE Wetlands: Concerns and Successes
PUBLISHER Bethesda, MD: American Water Resources Association
PAGES pp 247-257
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Percentage entrainment of constituent loads urban runoff, south Florida.
AUTHOR Miller, R.A.
SOURCE USGS WRI 84-4319 (1985).
PUBLISHER
PAGES
DATE 1985
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Regional BMP master plans.
AUTHOR Hartigan, J.P.
SOURCE Urban Runoff Quality-Impaction Conference, Henniker, NH, June 23-27, 1986. p. 351-356.
PUBLISHER
PAGES pp. 351-356.
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Retention of an Existing Wetland for Stormwater Management: A New Approach for Calgary, Alberta
AUTHOR van Duin, B., J. Gareau, Pjalkotsky and J. McCauley
SOURCE Stormwater and Water Quality Management Modeling Conference, March 2-3, 1995, Toronto, Ontario

PUBLISHER
PAGES 11 pp.
DATE 1995
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Seasonal freshwater wetlands development and potential for urban runoff treatment in the San Francisco Bay area.
AUTHOR Silverman, G.S.
SOURCE Sci & Eng, Vol 44, No. 5
PUBLISHER
PAGES 202p.
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Stormwater treatment by natural systems.

AUTHOR Harper, H.H., et al.
SOURCE Report submitted to the Florida Department of Environmental Regulation.
PUBLISHER
PAGES
DATE December 1986
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE The use of wetlands for stormwater managment and nonpoint pollution control: a review of the literature.
AUTHOR Stockdale, E.C.
SOURCE report submitted to the Washington State Department of Ecology
PUBLISHER
PAGES
DATE 1986, October
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Use of wetlands for controlling stormwater pollution.
AUTHOR Strecker, E.W., et al.
SOURCE
PUBLISHER Washington, DC: The Terrene Institute
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Use of wetlands for urban stormwater management.
AUTHOR Livingston, E.H.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 253-262
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The use of wetlands for urban stormwater management should not be considered a panacea to stormwater problems. The

availability of scientific information concerning short term or long term effects on wetlands is not known. This paper presents a review of the current state of the art and a discussion the design and performance standards used for wetland stormwater treatment systems.

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CATEGORY UR
SUBCATEGOR

TITLE Water-quality effectiveness of a detention/wetland treatment system and its effect on an urban lake.
AUTHOR Oberts, G.L. and R.A. Osgood.
SOURCE Environmental Management, 15(1):131-138
PUBLISHER
PAGES pp. 131-138
DATE 1991
CALLNUM HC79 E5E5
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Water-quality variability in a central Florida wetland receiving highway runoff.
AUTHOR Schiffer, D.M.
SOURCE Water: Laws and Management.
PUBLISHER Bethesda, MD: American Water Resources Association.
PAGES p 7A-1--7A-11
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Wetlands for stormwater treatment.
AUTHOR Schiffer, D.M.
SOURCE
PUBLISHER Gainsville, FL: Department of Transportation. Office of Materials and Research. Avail. thru NTIS
PAGES 63p
DATE 1990
CALLNUM TE215 S3
ANNOTATION

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CATEGORY UR
SUBCATEGOR case studies--FL

TITLE Tampa office wet detention stormwater treatment.
AUTHOR Rushton, B.T. and C.W. Dye.
SOURCE Annual Report for Stormwater Research Program Fiscal Year 1989-90.
PUBLISHER
PAGES pp. 39-74
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR case studies--CA

TITLE Development of an urban runoff treatment wetlands in Freemont, California.
AUTHOR Silverman, G.S.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 669-76.
DATE 1989 .
CALLNUM TD 756. 5 C66
ANNOTATION Developing wetlands to treat wastewater presents a different set of problems than developing a system to treat urban stormwater runoff. Municipal wastewater (from an area with separate storm and septic systems) tends to have a consistent flow with characteristic water quality while urban storm water is variable in water quantity and quality. The differences and creation of particular wetlands are presented in this paper.

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CATEGORY UR
SUBCATEGOR case studies--CA

TITLE Urban runoff treatment in a fresh/brackish water marsh in Fremont, California.
AUTHOR Meiorin, E.C.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 677-685
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The Urban Stormwater Treatment Marsh was designed to treat stormwater runoff and is divided into the three separate subsystems A, B, and C. Each of the subsystems performs a different subsystems function: System A simulates pretreatment; system B provides a combination overland flow and pond system; and system C provides secondary treatment. Marsh development

and treatment effectiveness were monitored during the wet seasons of 1984-1985 and 1985-1986.

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CATEGORY UR
SUBCATEGOR case studies--CA

TITLE Use of wetlands for nutrient removal from surface runoff in a cold climate region of California-results from a newly constructed wetland at Lake Tahoe.
AUTHOR Reuter, J.E., T. Djohan and C.R. Goldman.
SOURCE Journal of Environmental Management, Sep 92, v36, p35(19).
PUBLISHER
PAGES
DATE 1992
CALLNUM HC75 E5J6
ANNOTATION

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CATEGORY UR
SUBCATEGOR design considerations

TITLE Artificial wetlands for stormwater treatment: processes and designs.
AUTHOR Rhode Island Dept. of Environmental Management.
SOURCE Rhode Island Nonpoint Source Management Program, Office of Environmental Coordination, Rhode Island Dept. of Environmental Management.
PUBLISHER
PAGES
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR design considerations

TITLE Controlling urban runoff: a practical manual for planning and designing urban BMPs.
AUTHOR Schueler, T. R.
SOURCE
PUBLISHER Order from Metro. Info. Center: (202) 223-6800
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR design considerations

TITLE Design of wet detention basins and constructed wetlands for treatment of stormwater runoff from a regional shopping mall in Massachusetts.
AUTHOR Daukas, P., D. Lowry, and W. Walker.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 686-694
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Runoff from parking lots and roadways contains high concentration of suspended solids, nutrients, trace metals, oil and grease, and deicing salts. This paper presents the design of a stormwater management system, creation of the wetland basins, effectiveness of the wet detention/wetland system, and evaluation of the pollution removal efficiency for a 83,600 m2 shopping mall.

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CATEGORY UR
SUBCATEGOR perception

TITLE Attitudes towards artificial wetlands in Ontario for stormwater control and waterfowl habitat.
AUTHOR Carlisle, T., G. Mulamoottil and B. Mitchell.
SOURCE Water Resources Bulletin, Vol 27, No. 3
PUBLISHER
PAGES p. 419
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR policy

TITLE Nationwide urban runoff program--evaluation of urban stormwater runoff and management practices for controlling urban stormwater runoff.
AUTHOR Scherger, D.A., J.A. Davis and J.L. Bruestle.
SOURCE Available from NTIS as PB83-199257
PUBLISHER
PAGES 517p.
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal

TITLE Effects of an urban wetland on sediment and nutrient loads in runoff.
AUTHOR Brown, R.G.
SOURCE Wetlands, Vol 4
PUBLISHER
PAGES pp. 147-158
DATE 1984
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal

TITLE Nutrient removal from urban stromwater by wetland filtration: the Clear Lake restoration project.
AUTHOR Barten, J.
SOURCE Lake Reservoir Management, 2: 297-305
PUBLISHER
PAGES pp. 297-305
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal

TITLE Processes affecting retention of water-quality constituents in a detention pond-wetland system.
AUTHOR Gain, W.S. and R.A. Miller.
SOURCE Water: Laws and Management.
PUBLISHER American Water Resources Association, Bethesda, Maryland.
PAGES p 7A-13--7A-23
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR Pollutant removal

TITLE Stormwater runoff treatment in a wetland filter: effects on water quality of Clear Lake.
AUTHOR Barten, J.
SOURCE 6th Annual International Symposium. Lake and Reservoir Management: Influences of Nonpoint Source Pollutants and Acid Precipitation. Nov. 5-8, 1986, Portland, OR

PUBLISHER
PAGES p. 4
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal

TITLE Water quality performance of a detention basin-wetland treatment system in an urban area.
AUTHOR Wotzka, P. and G. Oberts.
SOURCE Nonpoint Pollution: 1988-Policy, Economy, Management, and Appropriate Technology. Proceedings of a Symposium.
PUBLISHER American Water Resources Association, Bethesda, Maryland.
PAGES pp. 237-247
DATE 1988
CALLNUM TC 401 A5 no. 88-4
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal

TITLE Wetlands and stormwater management: a case study of Lake Munson. Part II: impacts on sediment and water quality.
AUTHOR Barrtel, R.L. and A.E. Maristany.
SOURCE Wetlands: Concerns and Successes.
PUBLISHER Bethesda, MD: Amer. Water Resources Assc.
PAGES pp. 231-246
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal (long term)

TITLE Wetlands and stormwater management: a case study of Lake Munson. Part I: long-term treatment efficiencies.
AUTHOR Maristany, A.E. and R.L. Bartel.
SOURCE Wetlands: Concerns and Successes. Proceedings of a Symposium held September 17-22, 1989, Tampa, Florida.
PUBLISHER American Water Resources Association, Bethesda, Maryland.
PAGES p 215-229
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal, P

TITLE Phosphorus removal by urban runoff detention basins.
AUTHOR Walker, W.W.
SOURCE NALMS, Portland, OR, November 5-8, 1986.
PUBLISHER
PAGES
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal--FL

TITLE An evaluation of the Lake Jackson (Florida) filter system and artificial marsh on nutrient and particulate removal from stormwater runoff.
AUTHOR Touvila, B.J., et al.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing, Inc.
PAGES pp. 271-278.
DATE 1987
CALLNUM
ANNOTATION A sediment filtration plant and artificial marsh were constructed to treat stormwater runoff before it entered Lake Jackson. Water samples collected during storm events were analyzed for a wide range of particulate and dissolved parameters (including suspended solids and various nitrogen and phosphorus species). Results from the first year of study indicate that the system is capable of removing a large fraction of both suspended and dissolved solids and particulate nutrient material.

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CATEGORY UR
SUBCATEGOR processes--design

TITLE Artificial wetlands for stormwater treatment: processes and designs.
AUTHOR Carlson, L.
SOURCE Rhode Island Department of Environmental Management
PUBLISHER
PAGES
DATE 1989
CALLNUM
ANNOTATION

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE, AS OF OCTOBER 24, 1995, TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

1 NAL Call No.: TD420.A1P7
Constructed "source" wetland concepts applied to urban landscapes.
Hopkins, B.; Argue, J. R. u. r.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: wetlands; water management; runoff; urban areas; groundwater recharge; aquifers; south australia; constructed wetlands; artificial wetlands; urban runoff; stormwater

2 NAL Call No.: TD420.A1P7
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 science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

3 NAL Call No.: QH540.J6
Comparing microbial parameters in natural and constructed wetlands.
Duncan, C. P.; Groffman, P. M.
Journal of environmental quality 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 n these wetlands was likely due to the use of organic substrates construction.

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| Canadian Journal of Soil Science 1988 v 68(1): 17-27
| DeJong, R.  Comparison of two soil-water models under semi-arid growing
| conditions
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| Ver:  AGRICOLA     Remarks:  Not available at AU or in region.
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J. R. Makuch /USDA-ARS-NAL-WQIC/ wqic@ars.usda.gov

TITLE: Introduction to Constructed Wetlands Bibliography.
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ENTRY DATE: April 1995
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Introduction to the Constructed Wetlands Bibliography

This constructed wetlands bibliography compiled by the United States Department of Agriculture's Natural Resources Conservation Service (formerly the Soil Conservation Service) and the Water Quality Information Center at the National Agricultural Library consists of more than600 citations. One hundred and sixty-one of these have abstracts. The bibliography has been divided into seven major categories:

AGNPS: Agricultural Nonpoint Source Pollution
AMD: Acid Mine Drainage
AW: Agricultural Wastes
BG: Basic and General
HW: Household Wastes
IW: Industrial Wastes
UR: Urban Runoff

Within each major category, many, but not all, of the citations were subcategorized. Each of the citations in the original document has 10 fields as shown in the example below from the Acid Mine Drainage category.
There are 76 additional records which have the major citation fields, but are in a different format.

Sample record:

CATEGORY AMD
SUBCATEGOR case studies--TVA, AL

TITLE Treatment of acid drainage with a constructed wetlands at the Tennessee Valley Authority 950 coal mine.
AUTHOR Brodie, G.A., D.A. Hammer and D.A. Tomljanovich.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publisher, Inc.
PAGES pp. 201-209
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION A Jackson County Alabama sediment pond that received acid mine drainage was cited for chronic effluent discharges. Because the impoundment had acceptable characteristics (moderate water quality, adequate siting characteristics,

and suitable geology and hydrology) a constructed wetland was built to treat acid drainage. The constructed wetland was environmentally effective and cost-beneficial in treating the acidic mine drainage.

This bibliography is available on the Internet in several different forms:

1 large ASCII text file containing all 605 citations
7 smaller ASCII files corresponding to each of the seven categories listed above.

These files are accessible via gopher and world wide web:

Gopher: gopher gopher.nalusda.gov
-NAL Information Centers
-Water Quality Information Center
-Constructed Wetland Bibliography

World Wide Web: http://www.inform.umd.edu/EdRes/Topic/AgrEnv/Water

Menu Structure on Gopher and World Wide Web Servers

1. Introduction to Constructed Wetlands Bibliography
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4. Constructed Wetlands Bibliography, Part II: Acid Mine Drainage
5. Constructed Wetlands Bibliography, Part III: Agricultural Waste
6. Constructed Wetlands Bibliography, Part IV: Basic and General
7. Constructed Wetlands Bibliography, Part V: Household Waste
8. Constructed Wetlands Bibliography, Part VI: Industrial Waste
9. Constructed Wetlands Bibliography, Part VII: Urban Runoff
10. Constructed Wetlands Bibliography (Complete Document)

Contact Information and Document History

This "Constructed Wetlands Bibliography" was compiled by the United States Department of Agriculture staff from the Ecological Sciences Division of the Natural Resources Conservation Service (NRCS), formerly the Soil Conservation Service, and the Water Quality Information Center of the National Agricultural Library (NAL). The bibliography consists of 527 citations, of which 160 are annotated. It was assembled by:

Charles R. Terrell, NRCS, (editor)
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The bibliography was developed over a period of two years in response to concerns by private organizations, consultants, state and federal agencies that information about constructed wetlands was not readily available nor easily accessible.

These groups, realizing that the lack of a bibliography was a deterrent to having others know about the advantages and values of constructed wetlands, advocated and supported the idea of building a bibliography. Additionally, the groups recognized that a bibliography would help to advance the knowledge base and the technology of constructed wetlands.

The Natural Resources Conservation Service provided personnel to develop the bibliographic references and annotations, while the National Agricultural Library provided the computer expertise to establish the bibliographic format and to make the document available via Internet.

This bibliography is considered an "open file" and a "work--in-progress" and represents the efforts by the authors as of December 1994.

If you have a constructed wetland reference that you believe should be part of this bibliography, please contact Mr. Terrell at the above address.

To locate a publication cited in this bibliography, please contact your local, state, or university library. If you are unable to locate a particular publication, your library can contact the National

Agricultural Library (see instructions given at the end of this file).

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CONSTRUCTED WETLANDS BIBLIOGRAPHY

AGNPS
CATEGORY AGNPS
SUBCATEGOR

TITLE Constructed wetlands to control nonpoint source pollution.
AUTHOR Wengrzynek, R.L.
SOURCE Patent application. Report No. PAT-APPL-7-764 924.
PUBLISHER
PAGES
DATE 1991, September 24
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE Evaluating the role of created and natural wetlands in controlling nonpoint source pollution.
AUTHOR Olson, R.K.
SOURCE Ecological Engineering. 1: xi-xv.
PUBLISHER
PAGES
DATE
CALLNUM IPS 27176
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE Evaluation of wetland buffer areas for treatment of pumped agricultural drainage water.
AUTHOR Chescheir, G. M., R. W. Skaggs and J. W. Gilliam.
SOURCE TRANS ASAE Vol. 35, No. 1, Jan/Feb. 1992, p175-182.
PUBLISHER
PAGES pp 175-182
DATE 1992
CALLNUM 290.9 Am32T
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE Introduction to nonpoint source pollution in the United States and prospects for wetland use.
AUTHOR Baker, L.A.
SOURCE Ecological Engineering. 1:1-26.
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE Landscape design and the role of created, restored, and natural riparian wetlands in controlling nonpoint source pollution.
AUTHOR Mitsch, W.J.
SOURCE Ecological Engineering. 1: 27-47.
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE Potential role of marsh creation in restoration of hypertrophic lakes.
AUTHOR Lowe, E.F., D.L. Stites and L.E. Battoe.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 710-18
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The authors propose the use of wetlands for the restoration of a hypertrophic lake. The lake water laden with high concentration of nutrients would pass through the wetland system many times. The goals of this approach are to maximize power (nutrient quantity removed per unit of time) and capacity (nutrients permanently stored) rather than efficiency (nutrient fraction removed in a single pass.)

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CATEGORY AGNPS
SUBCATEGOR

TITLE Strategy for evaluating the potential of constructed wetlands for mitigation of non-point source agricultural runoff.
AUTHOR Rodgers, J.H., K. Mauermann and A. Dunn.
SOURCE Paper No. 331. Society for Environmental Toxicology and Chemistry '90 - Global Environmental Issues: Challenges for the 90's
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE The use of constructed wetland systems in treating agricultural runoff: 1990 data summary.
AUTHOR Higgins, M.
SOURCE Report to the Dept. of Civil Engineering, Univ. of Maine, Orono, ME.
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR

TITLE Using constructed wetlands to control agricultural nonpoint source pollution.
AUTHOR Wengrzynck, R.J. and C.R. Terrell.
SOURCE Proc. Int. Conf. Use of Constructed Wetlands in Water Pollution Control, 24-28 September, 1990, Churchhill College, Cambridge, UK.
PUBLISHER Oxford, UK: Pergamon Press
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR aesthetics

TITLE Aesthetic implementation of nonpoint source controls.
AUTHOR Roesner, L.A.
SOURCE Nonpoint Pollution: 1988-Policy, Economics, Management, and Appropriate Technology.
PUBLISHER Bethesda, MD: Am. Water Resources Assc.
PAGES pp. 213-233
DATE 1988
CALLNUM TC 401 A% no. 88-4
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR ancillary benefits

TITLE Ancillary benefits and potential problems with the use of wetlands for nonpoint source pollution control.
AUTHOR Knight, R.L.
SOURCE Ecological Engineering. 1: 97-113.
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR case studies--midwestern USA (OH)

TITLE Wetlands for the control of nonpoint source pollution: Preliminary feasability study for swan creek watershed of northwestern Ohio.
AUTHOR Mitsch, W.J.
SOURCE
PUBLISHER Columbus, OH: Ohio Environmental Protection Agency,
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR Design

TITLE Designing constructed wetlands systems to treat agricultural nonpoint source pollution.
AUTHOR Hammer, D.A.
SOURCE Ecological Engineering. 1:49-82.
PUBLISHER
PAGES
DATE 1992
CALLNUM TD 153 .E26
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR ecology

TITLE Long-term impacts of agricultural runoff in a Louisiana swamp forest.
AUTHOR Day, J.W., Jr. and G.P. Kemp.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold
PAGES p. 317.
DATE 1985
CALLNUM QH 545. 549E3
ANNOTATION An analysis of the long-term effects from nitrogen and phosphorus from agricultural runoff on a swamp "crayfish farm" was performed. This paper presents the results which indicate that the swamp can serve as a long-term sink for significant quantities on nitrogen and phosphorus and that the burial in sediments and denitrification are mechanisms for permanent losses.

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CATEGORY AGNPS
SUBCATEGOR hydrology

TITLE The impact of wetlands on the movement of water and nonpoint pollutants from agricultural watersheds.
AUTHOR Dickerman, J.A., A.J. Stuart and J.C. Lance.
SOURCE USDA-ARS-Water Quality and Watershed Research Laboratory, Durant, OK
PUBLISHER
PAGES
DATE 1985, Feb.
CALLNUM
ANNOTATION

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CATEGORY AGNPS

SUBCATEGOR policy

TITLE NPSP abatement program for the lagoon of Venice.
AUTHOR Bendoricchio, G.
SOURCE Nonpoint Pollution: 1988-Policy, Economy, Management, and Appropriate Technology."
PUBLISHER Bethesda, MD: American Water Resources Assc.
PAGES pp. 249-260
DATE 1988
CALLNUM TC 401 A5 no.88-4
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy

TITLE Regulations and policies relating to the use of wetlands for nonpoint source pollution control.
AUTHOR Fields, S.
SOURCE Ecological Engineering. 1: 135-41.
PUBLISHER
PAGES 135-41
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy

TITLE The role of wetland water quality standards in nonpoint source pollution control strategies.
AUTHOR Robb, D.M.
SOURCE Ecological Engineering. 1: 143-48.
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy/institutional aspects

TITLE Federal programs for wetland restoration and use of wetlands for nonpoint source pollution control.
AUTHOR Whitaker, G. and C.R. Terrell.
SOURCE Ecological Engineering. 1: 157-70.

PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy/institutional aspects

TITLE Fiscal year 1990 program report.
AUTHOR Maine Environmental Studies Center
SOURCE NTIS # PB91-242834
PUBLISHER
PAGES 36p.
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy/institutional aspects

TITLE Research and information needs related to nonpoint source pollution and wetlands in the watershed: an EPA perspective.
AUTHOR Ethridge, B.J. and R.K. Olson.
SOURCE Ecological Engineering, 1:149-156
PUBLISHER
PAGES
DATE 1992
CALLNUM IPS 27176
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR policy/institutional aspects--research needs

TITLE Recommendations for research to develop guidelines for the use of wetlands to control rural nonpoint source pollution.
AUTHOR Van der Valk, A.G. and R.W. Jolly.
SOURCE Ecological Engineering. 1: 115-34.
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR pollutant removal

TITLE The efficiency of constructed wetland-pond systems in reducing sediment and nutrient discharges from agricultural watersheds.
AUTHOR White, G.K.
SOURCE Fiscal Year 1990 Report. Maine Univ. at Orono. Environmental Studies Center.
PUBLISHER Available from NTIS, Springfield, VA 22161, PB91-242834. USGS Project No. G1566-03.
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AGNPS
SUBCATEGOR pollutant removal

TITLE The efficiency of constructed wetlands-pond systems in the reduction of sediment and nutrient discharges from agricultural watersheds.
AUTHOR Jolley, J.W.
SOURCE Thesis (M.S.) in Civil Envineering, University of Maine, 1990.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE, AS OF OCTOBER 24, 1995, TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

1 NAL Call No.: TD420.A1P7
Constructed wetlands for river water quality improvement.
Kadlec, R. H.; Hey, D. L.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: wetlands; water quality; sediment; phosphorus; nitrogen; removal; atrazine; nutrients; hydrology; water pollution; watersheds; illinois; non point source pollution; artificial wetlands

2 NAL Call No.: TD223.C73-1993

Created and natural wetlands for controlling nonpoint source pollution.
Olson, R. K.; United States.Environmental Protection Agency. Office of Research and Development. and Watersheds. 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-UnitedStates; Wetland conservation-United States; Constructed wetlands-United States

3 NAL Call No.: TD420.A1P7
Planted soil filter--a wastewater treatment system for rural areas.
Netter, R.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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

4 NAL Call No.: 57.8-C734
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

5 NAL Call No.: 290.9-Am32P
Usage of drainmod-creams in evaluating constructed wetlands.
Shirmohammadi, A.; Cronk, J. K.
Paper American Society of Agricultural Engineers. 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

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AMD
CATEGORY AMD
SUBCATEGOR

TITLE Achieving compliance with staged, aerobic, constructed wetlands.

AUTHOR Brodie, G.A.
SOURCE Proc. 1991 Annual Mtg. of the ASSMR, Durango, CO.
PUBLISHER
PAGES pp. 151-174
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Acid mine water treatment in wetlands: an overview of an emergent technology.
AUTHOR Kleinmann, R.L.P. and M.A. Girts.
SOURCE Aqutic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing
PAGES pp. 255-261
DATE 1987
CALLNUM
ANNOTATION The U.S. Bureau of Mines is conducting an inventory of wetlands that treat acid mine water. Preliminary results indicate that the wetlands dominated by emergent species are out-performing the Sphagnum-dominated wetlands and that much of the water treatment is accomplished by other aspects of the wetland, including bacteria, algae, amendments and other plants. Iron and manganese concentrations are reduced after flow through the constructed wetlands.

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CATEGORY AMD
SUBCATEGOR

TITLE An evaluation of mine drainage and surface mine reclamation.
AUTHOR Brodie, G.A., et al.
SOURCE Mine Drainage and Surface Mine Reclamation.
PUBLISHER Washington, DC: U.S. GPO
PAGES
DATE 1988
CALLNUM 156. 61 C49
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Bilateral wastewater land treatment research.
AUTHOR Leach, L.E., et al.
SOURCE Water Environment and Technology, Vol. 2, No. 12.
PUBLISHER
PAGES
DATE
CALLNUM TD419 W37
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Biochemical treatment of mine drainage through a reedgrass wetland.
AUTHOR Nawrot, J.R. and W.B. Klimstra.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 353-363
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Biological treatment of mine water: an update.
AUTHOR Kleinmann, R.L.P. and R. Hedin.
SOURCE Proceedings on the International Symposium on Tailings and Effluent Management, Halifax, August 20-24, 1989.
PUBLISHER New York: Pergamon Press
PAGES pp. 173-179
DATE 1989
CALLNUM
ANNOTATION In general, constructed wetlands treating acidic coal mine drainage improves water quality, although supplementary chemical treatment is usually required to meet effluent limitations. The principal reaction mechanism is believed to be microbially catalyzed oxidation of dissolved iron. Since many metals react with hydrogen sulfide to form virtually insoluble precipitates, the U.S. Bureau of mines has focused on the mechanisms of bacterial conversion of sulfate to hydrogen sulfide.

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CATEGORY AMD
SUBCATEGOR

TITLE Biological treatment of mine water: an update.
AUTHOR Hedin, R. and Kleinmann.
SOURCE U.S. Bureau of Mines, Pittsburg Research Center.
PUBLISHER
PAGES
DATE no date
CALLNUM
ANNOTATION Research by the U.S. Bureau of Mines has focused on the bacterial conversion of sulfate to hydrogen sulfide (an acid-consuming reaction) because many metals react rapidly with hydrogen sulfide to form virtually insoluble precipitates. Bacterial sulfate reduction and the formation of metal sulfides have been confirmed in constructed wetlands. Research is continuing on how to best route the drainage water through wetlands to optimize the desired biological processes.

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CATEGORY AMD
SUBCATEGOR

TITLE Biology and chemistry of generation, prevention and abatement of acid mine drainage.
AUTHOR Silver, M.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 753-760
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Microbially mediated reactions are presented with their relevance to the generation, prevention, and abatement of acidic drainage. Reactions involved in the solubilization and reprecipitation of polluting metals such as iron, copper, zinc, and aluminum will also be presented.

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CATEGORY AMD
SUBCATEGOR

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

AUTHOR Brodie, G.A., et al.
SOURCE Mine Drainage and Surface Mine Reclamation.
PUBLISHER Washington, D.C.: U. S. GPO
PAGES pp 325-331.
DATE 1988
CALLNUM 156. 61 C49
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for acid drainage control in the Tennessee Valley.
AUTHOR Brodie, G.A., et al.
SOURCE Wetlands: Increasing Our Wetlands Resources.
PUBLISHER Washington: National Wildlife Federation
PAGES pp 173-80.
DATE 1987.
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for acid water treatment: an overview of emerging technology.
AUTHOR Hammer, D.A.
SOURCE TVA Resource Center
PUBLISHER
PAGES
DATE 1990, May
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for the treatment of acid mine drainage.
AUTHOR Donlan, R.
SOURCE Water Pollution Control Association of Pennsylvania.
PUBLISHER
PAGES
DATE March/April 1989
CALLNUM

ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for the treatment of mine water: course notes.
AUTHOR Kleinmann, R.L.P., R.P. Brooks, B.E. Huntsman and B. Pesavento.
SOURCE Short course at the 1986 Symposium on Surface Mining, Hydrology, Sedimentology, and Reclamation; Lexington, KY.
PUBLISHER
PAGES
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for treatment of acid mine drainage: a preliminary review.
AUTHOR Girts, M.A. and R.L.P. Kleinmann.
SOURCE National Symposium on Surface Mining, Hydrology, Sedimentology, and Reclamation.
PUBLISHER Lexington, KY: Univ. of Kentucky Press
PAGES pp. 165-171
DATE 1986.
CALLNUM TD756.5 G57 1986
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for treatment of ash pond seepage.
AUTHOR Brodie, G.A., D.A. Hammer and D.A. Tomljanovich.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 211-219
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Coal processing and coal ash storage frequently results in acid drainage similar to seepage from surface and underground mine areas. Ash pond seepage has concentrations metalic ions

similar to acid mine drainage, but the aggreagate flow from many seeps along one ash pond dike may be orders of magnitued greater than individual mine drainage seeps. Constructed wetlands were built to treat ash pond seepage at three different Tennessee Valley coal-fired generating plants.

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands for treatment of mine water.
AUTHOR Girts, M.A. and R.L.P. Kleinmann.
SOURCE Paper presented at the 1986 Society of Mining Engineers Fall MeetingSt. Louis, MO; Sept. 7-10 1986.
PUBLISHER
PAGES
DATE 1986.
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands to treat acid mine drainage, 1990 course notes.
AUTHOR Hedin, R.S., R.L.P. Kleinmann and G. Brodie.
SOURCE
PUBLISHER
PAGES 41p.
DATE 1990
CALLNUM
ANNOTATION This paper is not a manual nor a publication, simply an informal framework of observations to help one construct wetlands that treat acid mine water. The paper presents a brief description of: wetland processes which can affect mine drainage chemistry; components of a constructed wetland; sizing a wetland; constructing a wetland; and operation and maintenance of a constructed wetland.

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CATEGORY AMD
SUBCATEGOR

TITLE Constructed wetlands to treat acid mine drainage.

AUTHOR Kleinmann, R.L.P., R.S. Hedin, D. Hyman and G.A. Brodie.
SOURCE Course Manual for a Workshop Presented at the 1990 Natn. Mining Symposium, Knoxville, TN.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

****

CATEGORY AMD
SUBCATEGOR

TITLE Hydrochemical, vegatational, and microbiological effects of a natural and a constructed wetland on the control of acid mine drainage.
AUTHOR Dollhopf, D.J., et al.
SOURCE Final Report 1987-88, rru 8804, pp. 1-52, 1988.
PUBLISHER
PAGES pp 1-52.
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Impacts of volunteer cattail wetlands on drainage quality from reclaimed mined land in northern West Virginia.
AUTHOR Jamison, E. and H. W. Rauch.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 349
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Ion input/output budgets for five wetlands constructed for acid mine drainage.
AUTHOR Wieder, R.K.
SOURCE
PUBLISHER In Press

PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Man-made wetlands for acid mine drainage control.
AUTHOR Brodie, G.A., et al.
SOURCE Proceedings of the 8th Annual National Abandoned Mine Land Conference.
PUBLISHER 1986.
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Mine-built ponds economically clear acid mine waters.
AUTHOR Chironis, N.P.
SOURCE Coal Age. 92(1):58-61(1987)
PUBLISHER
PAGES 58-61
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Passive anoxic alkaline drains to increase effectiveness of wetlands acid drainage systems.
AUTHOR Brodie, G.A., et al.
SOURCE Proc. 12th Annual Natn. Assc. of Abandoned Mine Land Programs Conf., Breckenridge, CO.
PUBLISHER
PAGES pp. 89-102
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Passive mine drainage treatment systems: a theoretical assessment and experimental evaluation.
AUTHOR Guertin, deF., J.C. Emerick and E.A. Howard.
SOURCE Unpublished report submitted to the Colorado Mined Land Reclamation Division; Cooperative Agreement No. 202-317.
PUBLISHER
PAGES
DATE 1985
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Potential importance of sulfate reduction processes in wetlands constructed to treat mine drainage.
AUTHOR Hedin, R.S., R. Hammack and D. Hyman
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 508-514
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Reduction of sulfate in wetlands constructed to treat acid mine drainage is desirable because hydrogen sulfide readily reacts with dissolved metals, precipitating them as sulfides, and alkalinity neutralizes drainage acidity. This paper presents factors which affect the importance of sulfide formation in aquatic systems and the theoretical process in constructed wetlands that treat acid mine drainage.

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CATEGORY AMD
SUBCATEGOR

TITLE Processes of iron and manganese retention in laboratory peat microcosms subjected to acid mine drainage.
AUTHOR Henrot, J. and R.K. Wieder.
SOURCE Journal of Environmental Quality. 19(2):312-320
PUBLISHER
PAGES
DATE April/June 1990

CALLNUM QH 540. J6
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Soil and water characteristics of a young surface mine wetland.
AUTHOR Cole, C.A. and E.A. Lefebvre.
SOURCE Environmental Management, Vol. 15, No. 3.
PUBLISHER
PAGES pp. 403-410
DATE 1991 May/June
CALLNUM HC79 E5 E5
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Staged, aerobic constructed wetlands for acid drainage and stormwater control.
AUTHOR Brodie, G.A.
SOURCE Manual of Short Course Presented at the 34th Annual Mtg. of the Assc. of Engineering Geologists, Chicago, IL.
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE The acid mine drainage.
AUTHOR Barton, P.
SOURCE Sulfur in the Environment--Part II: Ecological Impacts.
PUBLISHER New York: Wiley
PAGES pp. 314-358
DATE 1978
CALLNUM TD196 S95S84
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE The use of constructed wetlands in the treatment of acid mine drainage.
AUTHOR Perry, A. and R.P.L. Kleinmann.
SOURCE Natural Resources Forum, Vol. 15, No. 3.
PUBLISHER
PAGES pp. 81
DATE 1991, August
CALLNUM DNAL HC55.N3
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Treatment of acid drainage from coal facilities with man-made wetlands.
AUTHOR Brodie, G.A., et al.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, Florida: Magnolia
PAGES pp 903-912.
DATE 1987.
CALLNUM DNAL TD475.C65-1986
ANNOTATION A series of shallow impoundments planted with a variety of wetland emergents was constructed to treat acidic drainage emanating from the toe of a fine coal refuse impoundment dike. Flora and fauna within the wetlands (both transplants and invaders) showed rapid growth and expansion. Comparisons between the seeps and final effluent showed substantial reductions in manganese, iron, and suspended solids.

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CATEGORY AMD
SUBCATEGOR

TITLE Treatment of acid mine water by wetlands.
AUTHOR Kleinmann, R.L.P.
SOURCE Control of Acid Mine Drainage
PUBLISHER
PAGES pp 48-51
DATE 1985
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Treatment of coal mine drainage with constructed wetlands.
AUTHOR Hedin, R.S.
SOURCE Constructed wetlands for treatment of agricultural waste.
PUBLISHER The Pennsylvania Academy of Science
PAGES
DATE 1989
CALLNUM
ANNOTATION Coal mine drainage is a common water pollution problem on active and abandoned coal mine sites. Many mining companies and engineering firms have experimented with wetland systems to treat mine drainage. The status of constructed wetland technology is presented with respect to the construction and performance of systems; chemical and biological processes that affect acid mine drainage chemistry within constructed wetlands; and the future of this technology as perceived by the Bureau of Mines.

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CATEGORY AMD
SUBCATEGOR

TITLE Treatment of coal mine drainage with constructed wetlands.
AUTHOR Hedin, R.S. and D.M. Hyman.
SOURCE Biotechnology in minerals and metal processing.
PUBLISHER Littleton, CO: Soc. Min. Eng.
PAGES p. 113-120.
DATE 1989.
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Unpublished results of current research using alkaline beds for increasing constructed wetlands effluent pH.
AUTHOR Brodie, G.A.
SOURCE Unpublished results of current research using alkaline beds for increasing constructed wetlands effluent pH. Project cofunded by the Pennsylvania Electric Company and the Tennessee Valley Authority.
PUBLISHER
PAGES
DATE 1990

CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Use of constructed wetlands for the control of acid mine drainage.
AUTHOR Kleinmann, R.L.P.
SOURCE Annual Report and Proceedings--American Mining Congress. Vol. 1987.
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Use of constructed wetlands for the control of acid mine drainage.
AUTHOR Kolbash, R.L., and E.R. Murphy.
SOURCE Coal mining technology, economics and policy 1987; session papersfrom the American Mining Congress coal convention, Cincinnati, OH, May 3-6, 1987.
PUBLISHER
PAGES 6p.
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Use of passive anoxic drains to enhance performance of acid drainage constructed wetlands.
AUTHOR Brodie, G.A., C.R. Britt and H.N. Taylor.
SOURCE Proc. 1991 Natn. Mtg. of the ASSMR, Durango, CO.
PUBLISHER
PAGES pp. 211-228
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Use of wetlands for treatment of environmental problems in mining: non-coal-mining applications.
AUTHOR Wildeman, T.R. and L.S. Laudon.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 221-231
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION This paper presents a review of the chemistry of metal mine drainages and the differences from coal mine drainages; analyzes the geochemistry of metals removal within wetlands; and summarizes the results in the few pioneer examples. Throughout the paper, arguments are made that effluent from a base- or precious-metal mining operation containing abundant purite will be most difficult for wetland system application.

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CATEGORY AMD
SUBCATEGOR

TITLE Using laboratory mesocosms to evaluate the potential effectiveness of constructed wetlands for acid mine drainage treatment.
AUTHOR Wieder, R.K., M.N. Linton and K.P. Heston.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 615
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Utilization of Sphagnum species dominated bog for coal acid mine drainage abatement.
AUTHOR Huntsman, B.E., J.G. Solch and M.D. Porter.
SOURCE 91st Annual Meeting of the Geological Society of America.

Toronto, Ontario.
PUBLISHER
PAGES pp. 322
DATE 1978
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR

TITLE Water pollution mitigation in two national park service units affected by energy and mining activities.
AUTHOR Flora, M., S. Kunkle and D. Kimball.
SOURCE Water Resources related to Mining and Energy-Preparing for the Future.
PUBLISHER Bethesda, MD: Am. Water Resources Assc.
PAGES pp. 231-238
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR ancillary benefits

TITLE Mine-drainage treatment wetland as habitat for heptofaunal wildlife.
AUTHOR Lacki, M.J., W. Hummer and H.J. Webster.
SOURCE Environmental Management 16 (4). 1992, p163-179.
PUBLISHER
PAGES pp 163-179
DATE 1992
CALLNUM HC 79 ESE5
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--eastern USA

TITLE A survey of constructed wetlands for acid coal mine drainage treatment in the eastern USA.
AUTHOR Wieder, R.K.
SOURCE Wetlands 9 (2). 1989
PUBLISHER
PAGES pp 299-316
DATE 1989
CALLNUM

ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--mountain west CO

TITLE Passive treatment technology cleans up Colorado mining waste.
AUTHOR Morea, S., R. Olsen and T. Wildeman.
SOURCE Water Environment and Technology, Vol. 2, No. 12.
PUBLISHER
PAGES pp. 6, 9
DATE 1990, December.
CALLNUM TD419 W37
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--NE USA (MD)

TITLE Constructing treatment wetlands: Maryland's experience.
AUTHOR Bagley, F.L. and A. Lyons.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 599
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--NW USA (MT)

TITLE The Tracy wetlands: a case study of two passive mine drainage treatment systems in Montana.
AUTHOR Hiel, M.T. and F.J. Kerins.
SOURCE Mine Drainage and Surface Mine Reclamation.
PUBLISHER Washington, DC: U.S. GPO
PAGES pp. 352-358.
DATE 1988.
CALLNUM 156. 61 C49
ANNOTATION

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CATEGORY AMD

SUBCATEGOR case studies--SE USA (KY)

TITLE The Kentucky wetlands project: a field study to evaluate man-made wetlands for acid coal mine drainage treatment.
AUTHOR Wieder, R.K.
SOURCE First report made on Cooperative Agreement GR 896422 between the US Office of Surface Mining, Reclamation and Enforcement and Villanova Univ.
PUBLISHER
PAGES
DATE 1992.
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--SE USA (TN Valley)

TITLE Engineered wetlands for effective treatment of acid drainage-applications, results, and prospects in the Tennessee Valley.
AUTHOR Brodie, G.A.
SOURCE Proc. 34th Annual Mtg. of the Assc. of Engineering Geologists. Greensburg, PA.
PUBLISHER
PAGES pp. 558-568
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--SE USA (WV)

TITLE Windsor Coal Company wetland: an overview.
AUTHOR Kolbash, R.L., and T.L. Romanoski.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp.788-792
DATE 1989
CALLNUM TD 756.5 C66
ANNOTATION High operating cost of conventional mine drainage cleanup and the lack of potential bond releases have encouraged the coal industry to consider wetlands for a reclamation alternative. The American Electric Power Service Corporation's Fuel Supply Department is actively involved in the overall reclamation plan for its abandoned Simco Number 4 mine, in which the wetland is an important component. Depending on the success of the Simco Number 4 wetland, the Windsor Coal Company will

build a constructed wetland to reuse pile seep waters.

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Anoxic limestone drains to enhance performance of aerobic acid drainage treatment wetlands--experiences of the TVA.
AUTHOR Brodie, G.A., C.R. Britt, T.M. Tomaszewski and H.N. Taylor.
SOURCE Constructed Wetlands for Water Quality Improvements.
PUBLISHER Chelsea, MI: Lewis Publisher, Inc
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Constructed wetlands for treating acid drainage at TVA coal facilities.
AUTHOR Brodie, G.A.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Oxford, UK: Pergamon Press
PAGES pp. 461-470
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Constructed wetlands for treating acid drainage at TVA coal facilities.
AUTHOR Brodie, G.A.
SOURCE Proc. Annual Natn. Assc. of Abandoned Mined Lands Prog. Conf., Breckenridge, CO.
PUBLISHER
PAGES pp. 127-143
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Constructed wetlands for treating acid drainage at TVA facilities: a progress report.
AUTHOR Tomljanovich, D.A., G.A. Brodie and D.A. Hammer.
SOURCE TVA/ONRED/WRF-88/2
PUBLISHER NTIS Accession No. DE88016102/XAB
PAGES 145p.
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Constructed wetlands for treating acid drainage at TVA facilities: status report.
AUTHOR Tomljanovich, D.A., G.A. Brodie and H.N. Taylor.
SOURCE TVA
PUBLISHER Knoxville, TN: Tennessee Valley Authority
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Staged, aerobic constructed wetlands to treat acid drainage--case history of Fabius impoundment 1 and overview of the TVA's program.
AUTHOR Brodie, G.A.
SOURCE Constructed Wetlands for Water Quality Improvement.
PUBLISHER Chelsea, MI: Lewis Publishers
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA

TITLE Treatment of acid drainage using constructed wetlands--experience of the Tennessee Valley Authority.
AUTHOR Brodie, G.A.
SOURCE Proceedings 1990 National Symposium of Mining.
PUBLISHER Lexington, KY: Univ. of Kentucky
PAGES pp. 77-83
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR case studies--TVA, AL

TITLE Treatment of acid drainage with a constructed wetlands at the Tennessee Valley Authority 950 coal mine.
AUTHOR Brodie, G.A., D.A. Hammer and D.A. Tomljanovich.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publisher, Inc.
PAGES pp. 201-209
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION A Jackson County Alabama sediment pond that received acid mine drainage was cited for chronic effluent discharges. Because the impoundment had acceptable characteristics (moderate water quality, adequate siting characteristics, and suitable geology and hydrology) a constructed wetland was built to treat acid drainage. The constructed wetland was environmentally effective and cost-beneficial in treating the acidic mine drainage.

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CATEGORY AMD
SUBCATEGOR chemical aspects

TITLE Implication of sulfate-reduction and pyrite formation processes for water quality in a constructed wetland: preliminary observation.
AUTHOR Hedin, R.S., D.M. Hyman and R.W. Hammack.
SOURCE Mine Drainage and Surface Mine Reclamation.
PUBLISHER Washington, D.C.: U.S. GPO
PAGES pp. 382-388.
DATE 1988
CALLNUM 156. 61 C49
ANNOTATION

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CATEGORY AMD
SUBCATEGOR chemical aspects

TITLE Sulfate reduction in freshwater sediments receiving acid mine drainage.
AUTHOR Herlihy, A.T. and A.L. Mills.
SOURCE Applied Environmental Microbiology. 49:179-186
PUBLISHER 1985.
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR chemical aspects

TITLE The importance of sediment sulfate reduction to the sulfate budget of an impoundment receiving acid mine drainage.
AUTHOR Herlihy, A.T., et al.
SOURCE Water Resources Research. 23:287-292.
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR chemical aspects

TITLE The use of bacterial sulfate reduction in the treatment of drainage from coal mines.
AUTHOR McIntire, P.E. and H.M. Edenborn.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 409-415
DATE 1990
CALLNUM
ANNOTATION Bacterial sulfate reduction is a naturally-occurring process in wetlands. An experimental wetland was designed and built to maximize contact between mine drainage and the anaerobic zone of the organic substrate, where sulfate reduction takes place. The sulfate-reducing bacteria effectively precipitate many heavy metals as insoluble sulfides and may be useful in treatment processes designed to improve the water quality of metallic mine drainage.

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CATEGORY AMD
SUBCATEGOR design--construction--operation

TITLE Constructed wetlands for treating acid drainage--practical considerations of design, construction, and operation.
AUTHOR Brodie, G.A.
SOURCE Manual for Workshop Presented at 12th Annual Natn. Assc. of Abandoned Mine Land Programs Conference. Breckenridge, CO.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR design--construction--operation

TITLE Design, construction and operation of staged aerobic wetlands system to treat acid drainage.
AUTHOR Brodie, G.A.
SOURCE Manual of Workshop, Presented at 1991 Annual Mtg. of ASSMR, Durango, CO.
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering consideration--sizing--performance

TITLE Sizing and performance of constructed wetlands: case studies.
AUTHOR Hedin, R.S. and R.W. Nairn.
SOURCE Proceedings of the 1990 Mining and Reclamation Conference and Exhibition Volume II, Charlestown, WV, April 23-26, 1990.
PUBLISHER
PAGES pp. 385-392.
DATE 1990
CALLNUM
ANNOTATION The iron removal in three Pennsylvania constructed wetlands that treat acid mine drainage was evaluated. All wetlands

were constructed using a mushroom compost substrate and were planted with Typha spp. The performance was evaluated by calculating area-adjusted iron loading and removal as FE (g/day m2).

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CATEGORY AMD
SUBCATEGOR engineering considerations

TITLE Effectiveness of wetlands constructed with different types of organic matter for acid coal mine drainage amd treatment
AUTHOR Wieder, R.K., M.N. Linton and S.T. Starr.
SOURCE Bulletin of Ecological Society of America 71(2SUPPL.) 1990. 368
PUBLISHER
PAGES
DATE 1990
CALLNUM 410.9 EC7
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering considerations--design

TITLE Wetland design for mining operations.
AUTHOR Wildeman, T.R., J. Gusek and G.A. Brodie.
SOURCE Manual for a Short Course Presented at the 8th Natn. Mtg. ASSMR. Durango, CO.
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering considerations--design--construction

TITLE Design and construction of a research site for passive mine drainage treatment in Idaho Springs, Colorado.
AUTHOR Howard, E. A., J. C. Emerick and T. R. Wildeman.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 761-764
DATE 1989

CALLNUM TD 756. 5 C66
ANNOTATION Only a few wetlands have been constructed to treat noncoal mine drainage at the higher elevations of Colorado. A demonstration treatment system was built at the Big Five Tunnel to determine the fate of metals. Other objectives of the study were to determine vegetation survival with exposure to elevated metals in a mountain climate, to study function and distribution of bacteria in the system, and to identify appropriate organic substrates and plant species.

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CATEGORY AMD
SUBCATEGOR engineering considerations--design--operation

TITLE Design and use of wetlands for renovation of drainage from coal mines.
AUTHOR Fennessy, S. and W.J. Mitsch.
SOURCE Ecological Engineering: An Introduction to Ecotechnology.
PUBLISHER
PAGES
DATE in press
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering considerations--design--sizing--pollutant remova

TITLE Wetland sizing, design, and treatment effectiveness for coal mine drainage.
AUTHOR Kepler, D.A.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 403-408
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering considerations--design--substrate

TITLE An evaluation of substrate types in constructed wetlands acid drainage treatment systems.
AUTHOR Brodie, G.A., et al.

SOURCE Mine Drainage and Surface Mine Reclamation.
PUBLISHER Washington: U. S. GPO
PAGES pp. 389-398.
DATE 1988.
CALLNUM 156. 61 C49
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering considerations--design--substrate

TITLE Preliminary results of an experiment to assess the effect of substrate type on treatment of acid drainage using constructed wetlands.
AUTHOR Tomljanovich, D.A., et al.
SOURCE NTIS # DE88-016102
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering--pollutant removal, Fe

TITLE Iron loading, efficiency and sizing in a constructed wetland receiving mine drainage.
AUTHOR Stark, L.R., S.E. Stevens, Jr., H.J. Webster and W.R. Wenerick.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo., Morgantown, WV. WVU Publ. Serv.: No. 2, P393-401
PUBLISHER WV Univ. Publications Service
PAGES pp 393-401
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR engineering/design considerations--economic modelling

TITLE Designing wetlands for controlling coal mine drainage: An economic modelling approach.
AUTHOR Baker, K.A., M.S. Fennessy and W.J. Mitsch.
SOURCE Ecological Economics, Vol. 3, No. 1.
PUBLISHER
PAGES pp. 1-24

DATE 1991, March
CALLNUM QH 540 E26
ANNOTATION

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CATEGORY AMD
SUBCATEGOR microbial aspects

TITLE Bacteriological tests from the constructed wetlands of the big five tunnel, Idaho Springs, Colorado.
AUTHOR Batal, W., L.S. Laudon, T.R. Wileman and N. Mohdnoordin.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 550-557
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Acid mine drainage originates from the metabolic activity of iron-oxidizing bacteria. Wetlands are a potential treatment for small flows of acid mine drainage waters. This paper presents the occurrence, depth, and position of bacteria in the Big Five Tunnel, a precious metal mine, wetland pilot system located at Idaho Springs Colorado.

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CATEGORY AMD
SUBCATEGOR microbiological aspects

TITLE Isolation and culture of a manganese-oxidizing bacterium from a man-made cattail wetland.
AUTHOR Vail, W.J., S. Wilson and R.K. Reiley.
SOURCE Mine Drainage and Surface Mine Reclamation. Vol. 1.
PUBLISHER
PAGES
DATE 1988
CALLNUM 156. 61 C49
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pathogens/vectors/pests

TITLE Control of army worm, Simyra henrici (Lepidoptera: Noctuidae), on cattail plantings in acid drainage treatment wetlands at Widows Creek steam-electric plant.
AUTHOR Snoddy, E.L., et al.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.

PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 808-811
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Due to the monocultural nature of the macrophytes used in constructed wetlands, some plants are subject to damage by lepidopterous insect pests, mainly the armyworm complex. Measures for controlling army worms in constructed wetlands treating acid waters are presented in this paper.

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CATEGORY AMD
SUBCATEGOR plants

TITLE A low-cost, low-maintenance treatment system for acid mine drainage using Sphagnum moss and limestone.
AUTHOR Kleinmann, R.L.P.
SOURCE Symposium on Surface Mining, Hydrology, Sedimentology and Reclamation.
PUBLISHER Lexington, KY: University of Kentucky
PAGES
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR plants

TITLE Tolerance of three wetland plant species to acid mine drainage: a greenhouse study.
AUTHOR Wenerick, W.R., S.E. Stevens, Jr., H.J. Webster, L.R. Stark and E. DeVeau.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 801-807
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Tolerance of wetland plants to acid mine drainage is not well understood. The purpose of the authors' investigation was to determine the tolerance levels of three wetland plants to acid mine drainage under semicontrolled conditions in a greenhouse simulation study.

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CATEGORY AMD
SUBCATEGOR policy institutional aspects

TITLE Fiscal year 1989 report (Kentucky Water Resources Research Institute).
AUTHOR Barfield, B.J. and R.R. Huffsey.
SOURCE NTIS PB91-104315/AS
PUBLISHER
PAGES 21p.
DATE 1990, July
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal

TITLE Performance data on Typha and Sphagnum wetlands constructed to treat coal mine drainage.
AUTHOR Girts, M.A., R.L.P. Kleinmann and P.M. Erickson.
SOURCE Eighth Annual Surface Mine Drainage Task Force Symposium; Morgantown, WV
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal

TITLE Role of dissimilatory sulfate reduction in wetlands constructed for acid coal mine drainage treatment.
AUTHOR Taddeo, F.J.
SOURCE Master's thesis, Villanova U., Dept. Biology
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Al--plants, sphagnum

TITLE Aluminum retention in a man-made Sphagnum wetland.
AUTHOR Wieder, R.K., et al.

SOURCE Wat. Air Soil Poll. 37(1988):177-196.
PUBLISHER
PAGES pp 117-196
DATE 1988
CALLNUM TD172 W36
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Co,Ni,Cu,As,Zn,Cd,Cr,Pb

TITLE Effects of mine effluent on uptake of Co, Ni, Cu, As, Zn, Cd, Cr, Pb by aquatic macrophytes.
AUTHOR Mudroch, A.
SOURCE Hydrobiologia 64 (3) pp. 233-231
PUBLISHER
PAGES pp 233-231.
DATE 1979
CALLNUM 410 H992
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe

TITLE Iron retention in wetlands created for acid coal mine drainage and treatment: short-term responses to a major precipitation event.
AUTHOR Wieder, R.K.
SOURCE 76th Annual Ecological Society of America Meeting, San Antonio, TX, August 3-8, 1991, Bulletin of the Ecological Society of America 72 (2 suppl.). 1991
PUBLISHER
PAGES 288-289
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe

TITLE Wetland treatment of coal mine drainage: controlled studies of iron retention in model wetland systems.
AUTHOR Henrot, J., et al.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.

PAGES pp. 793-800
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION For evaluating the process involved in chemical modifications of mine drainage wetland systems, smaller scale laboratory studies may be more useful than field monitoring of constructed wetlands. This paper presents the results of a laboratory pilot study in which replicate model wetland systems were subjected to inputs of water at uniform flow rates but differing iron concentrations.

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe, Mn

TITLE Manganese and iron encrustation of green algae living in acid mine drainage.
AUTHOR Stevens, S.E., Jr., K. Dionis and L.R. Stark.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 765-773
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Filamentous algae species are known to tolerate acid mine drainage resulting from coal companies. The authors have observed encrustation that are rust colored or colored dark brown on filamentous algae. If there is significant accumulation of encrustation, then these filamentous algae may play a role in water quality improvements.

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe, Mn

TITLE Removal of iron and manganese from water by sphagnum moss.
AUTHOR Burris, J.E., D.W. Gerber and L.E. McHeron.
SOURCE Treatment of Mine Drainage by Wetlands.
PUBLISHER University Park, PA: Pennsylvania State Univ.
PAGES pp. 1-13
DATE 1984
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe, Mn

TITLE Simulated Typha wetlands applied to removal of iron and manganese from acid mine drainage.
AUTHOR Calabrese, J.P., et al.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 351
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe,Al,Mn,Ca,Mg

TITLE Laboratory mesocosm studies of Fe, Al, Mn, Ca, and Mg dynamics in wetlands exposed to synthetic acid coal mine drainage.
AUTHOR Wieder, R.K., M.N. Linton and K.P. Heston.
SOURCE Water, Air and Soil Pollution. WAPLAC. 51 (1/2);181-196
PUBLISHER
PAGES pp. 181-196
DATE 1990, May
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Fe,Mn

TITLE Long-term removal and retention of iron and manganese from acidic mine drainage.
AUTHOR Brooks, R.P., et al.
SOURCE Long-Term Removal and Retention of Iron and Manganese from Acidic Mine Drainage.
PUBLISHER Washington: Bureau of Mines
PAGES
DATE 1990.
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, metals

TITLE Adsorption compared with sulfide precipitation as metal removal processes from acid mine drainage in a constructed wetland.
AUTHOR Machemer, S.D. and T.R. Wildeman.
SOURCE Journal of Contaminated Hydrology Vol. 9, No. 1/2, P115-131, 1992.
PUBLISHER
PAGES pp 115-131
DATE 1992
CALLNUM TD 426. J68
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, metals

TITLE Metal removal efficiencies from acid mine drainage in the big five wetland.
AUTHOR Wildeman, T.R., et al.
SOURCE Proceedings of the Mining and Reclamation Conference and Expo. Morgantown, WV, WV Univ. Publ. Serv.: No. 2, 1990.
PUBLISHER WV Univ. Publ. Serv.
PAGES pp 417-424
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, metals

TITLE Metal removal in Sphagnum-dominated wetlands: experience with a man-made wetland system.
AUTHOR Wieder, R.K., G.E. Lang and A.E. Whitehouse.
SOURCE Wetlands and water Management of mined lands: proceedings of a conference. October 23-24, 1985. The Penn. State Univ.
PUBLISHER University Park, PA: Penn State Univ.
PAGES pp 353-364.
DATE 1985?
CALLNUM DNAL QH541.5.M3W46-1985
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, metals

TITLE Metal speciation and inmobilization reactions affecting the

true efficiency of artificial wetlands to treat acid mine drainage.
AUTHOR Karathanasis, A.D. and Y.L. Thompson.
SOURCE US Geological Survey, Report No. RR-175, USGS/G-1564-02.
PUBLISHER
PAGES
DATE 1990.
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, metals--plants, sphagnum

TITLE Metal cation binding to Sphagnum peat and sawdust: relation to wetland treatment of metal-polluted waters.
AUTHOR Weider, R.K.
SOURCE Water, Air, and Soil Pollution, Vol. 53, No. 3/4.
PUBLISHER
PAGES pp. 391-400
DATE 1990, October
CALLNUM
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Mn

TITLE Treatment of manganese from mining seep using packed columns.
AUTHOR Gordon, J.A. and J.L. Burr.
SOURCE Journal of Environmental Engineering. 115(2)
PUBLISHER
PAGES
DATE 1989
CALLNUM 290. 9 aM3Ps (EE)
ANNOTATION

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CATEGORY AMD
SUBCATEGOR pollutant removal, Ni, Cu

TITLE Use of wetlands to remove nickel and copper from mine drainage.
AUTHOR Eger, P. and K. Lapakko.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.

PAGES pp. 780-787
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Drainage from a northeastern Minnesota mine had increased the levels of nickel, copper, cobalt, and zinc concentrations in nearby receiving waters. Reduced concentration levels might be achieved though a series of passive, low cost, and low maintenance procedures combining infiltration reduction, alkaline treatment, and wetland treatment. Although previous work has demonstrated peat effectiveness in removing trace metals from mine drainage, an actual treatment system has not been built.

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CATEGORY AMD
SUBCATEGOR pollutant removal, Pb

TITLE Removing lead from wastewater using zeolite.
AUTHOR Groffman, A., S. Peterson and D. Brookins.
SOURCE Water Environment and T

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE, AS OF OCTOBER 24, 1995 TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

1 NAL Call No.: S591.55.K4S64
A new concept in treating wastewater--constructed wetlands.
Karathanasis, A. D.
Soil science news and views-Cooperative Extension Service and University of Kentucky, College of Agriculture, Department of Agronomy, Lexington, Ky. : The Department. 1991. v. 12 (3) 3 p.

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

2 NAL Call No.: TD420.A1P7
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 science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

3 NAL Call No.: QH540.J6
Processes of iron and manganese retention in laboratory peat microsomes subjected to acid mine drainage.

Henrot, J.; Wieder, R. K.
Journal of environmental quality 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.

4 NAL Call No.: TD796.5.C58
The roles of spent mushroom substrate for the mitigation of coal mine drainage.
Stark, L. R.; Williams, F. M.
Compost science and utilization 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

5 NAL Call No.: TD420.A1P7
Using decomposition kinetics to model the removal of mine water pollutants in constructed wetlands.
Tarutis, W. J. Jr.; Unz, R. F.
Water science and technology:a journal of of the International Association on Water Pollution Research and Control v.29, p.219-226. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell. Australia.

Descriptors: wetlands; ferrous ions; removal; pollutants; mine spoil; mined land; drainage water; decomposition; organic compounds; biological treatment; mathematical models; anaerobic conditions; artificial wetlands

6 NAL Call No.: TD420.A1P7
Wetland treatment for trace metal removal from mine drainage: the importance of aerobic and anaerobic processes.
Eger, P.
Water science and technology: a journal of the International Association on Water Pollution Research and Control v.29, p.249-256. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell. Australia.

Descriptors: wetlands; metals; metal ions; removal; drainage water; mine spoil; mined land; nickel; drainage; aerobiosis; anaerobic-conditions; minnesota; constructed wetlands; artificial wetlands; acid mine drainage

7 NAL Call No.: TD756.5.G57-1986
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. University of Kentucky, Lexington, Kentucky, December 8-11, 1986.

Descriptor: Constructed wetlands

8 NAL Call No.: TD756.5.B76-1987
Constructed wetlands for acid drainage control in the Tennessee Valley.
Brodie, G. A.
[Chattanooga, Tenn.? : Tennessee Valley Authority?, 1987?] 1 v. (unpaged).
Caption title.

Descriptor: Constructed wetlands

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AW
CATEGORY AW
SUBCATEGOR

TITLE Agricultural waste treatment with constructed wetlands.

AUTHOR Hammer, D.A. and J.T. Watson.
SOURCE Proceedings of the National Symposium on Protection of Wetlands from Agricultural Impacts. U.S. Fish & Wildlife Service Biol. Report 88:16 (1988)
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Constructed wetland systems for agricultural waste water treatment.
AUTHOR Soil Conservation Service
SOURCE (WP6)(National Bulletin No. 210-1-17)
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Constructed wetlands for agricultural wastewater treatment: technical requirements.
AUTHOR Soil Conservation Service
SOURCE
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Constructed wetlands for treatment of agricultural waste and urban stormwater.
AUTHOR Majumdar, S.K., et al.
SOURCE Wetlands ecology and conservation: emphasis in Pennsylvania.
PUBLISHER Tenn. Valley Authority.
PAGES pp. 333-348

DATE 1989
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Constructed wetlands for treatment of agricultural waste and urban stormwater.
AUTHOR Hammer, D.A.
SOURCE Wetlands Ecology and Conservation: Empahsis in Pennsylvania.
PUBLISHER Philadelphia, PA: Penn. Academy of Science
PAGES pp 333-248
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Effects of pumped agricultural drainage water on wetland water quality.
AUTHOR Gilliam, J.W., et al.
SOURCE paper presented at the National Symposium on Wetland Hydrology. Chicago, IL
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Establishment of a constructed wetland to treat wastewater from a confined animal operation.
AUTHOR Strong, L., R.L. Ulmer, T.P. Cathcart and J.W. Pote.
SOURCE Proceedings, 21st Annual Mississippi Water Resource Conference, 1991
PUBLISHER
PAGES pp. 112-117
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Treatment of waste from a combined hog feeding unit by using artificial marshes.
AUTHOR Werblan, D., et al.
SOURCE n. d. Journal Paper No. J-9160 of the Iowa Agricultural and Home Economics Experiment Station, Ames, IA.
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR

TITLE Use of constructed wetlands to clean up animal waste.
AUTHOR Eddleman, R.L., Jr.
SOURCE 7th Annual Meeting of the Soil and Water Conservation Society, Baltimore, MD, 9-12 August 1992.
PUBLISHER (515) 289-2331 voice (515) 289-1227 fax
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR case studies--Ireland

TITLE Wetlands treatment of dairy animal waste in Irish drumlin landscape.
AUTHOR Costello, C.J.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 702-709
DATE 1989
CALLNUM TD756. 5 C66
ANNOTATION Lough Gara Farms Limited (an intensive dairy farm) existing treatment system uses a natural wetland that drains into a lake. In response to Sligo County Council issuance of a Local Water Pollution Notice, Gara Farms decided to commission an independent environmental study. This paper presents the results of the wetland treatment system portion

of the study.

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CATEGORY AW
SUBCATEGOR case studies--SE USA (MS)

TITLE Evaluation of ARS and SCS constructed wetland/animal waste treatment project at Hernando, Mississippi. Interim report 1990-1991.
AUTHOR Cooper, C.M., et al.
SOURCE USDA-ARS Technology Application Project Report No. 17
PUBLISHER
PAGES 28p.
DATE 1992, March
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR case studies--SE USA (MS)

TITLE Project description--use of constructed wetlands to treat wastewater from confined animal operations in Mississippi.
AUTHOR Soil Conservation Service
SOURCE USDA-SCS
PUBLISHER
PAGES
DATE 1989, May
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR dairy

TITLE Vegetative filter treatment of dairy milkhouse wastewater.
AUTHOR Schwer, C.B. and J.C. Clausen.
SOURCE Journal of Environmental Quality, 18:446-451.
PUBLISHER
PAGES pp. 446-451
DATE 1989
CALLNUM QH540 J6
ANNOTATION

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CATEGORY AW

SUBCATEGOR engineering considerations--design--monitoring--dairy

TITLE Wetland for treating liquid dairy waste: design and monitoring.
AUTHOR Lanier, A.L., D. Fox and D.W. Smith.
SOURCE Paper-American Society of Agricultural Engineers: No. 91-4020, 11p, 1991
PUBLISHER
PAGES 11p
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR livestock

TITLE Constructed wetlands for animal waste management, 1994--Conference Proceedings.
AUTHOR DuBowy, P.J. and R.P. Reaves (eds).
SOURCE Papers from the Constructed Wetlands for Animal Waste Management Workshop. Lafayette, IN. Apr 4-6, 1994.
PUBLISHER Lafayette, IN: Purdue University
PAGES 188 p.
DATE 1994
CALLNUM TD930.C644 ISBN: 0-931682-46-0
ANNOTATION Proceedings are the result of the first national workshop on the use of constructed wetlands for animal waste. Contains 18 papers (with abstracts).

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CATEGORY AW
SUBCATEGOR livestock

TITLE Constructed wetlands for livestock waste treatment.
AUTHOR Hammer, D.A., B.P. Pullin and J.T. Watson.
SOURCE
PUBLISHER Tennessee Valley Authority, Knoxville, TN.
PAGES
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR livestock

TITLE Draft interim standard constructed wetlands for livestock waste treatment.

AUTHOR Wengrynek, R.
SOURCE
PUBLISHER Soil Conservation Service, Orono Maine
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR livestock--economic aspects

TITLE Environmental and economic aspects of recycling livestock wastes.
AUTHOR Martin, J.B. and C.E. Madewell.
SOURCE Southern Journal of Agricultural Economics. 3:137-42 (1971).
PUBLISHER
PAGES
DATE 1971
CALLNUM HD101 S6
ANNOTATION

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CATEGORY AW
SUBCATEGOR reed beds

TITLE Treatment of agricultural effluents by reed bed systems. Report on the operation of the Rugeley reed bed. November 1986 to July 1988. Report for the MAFF and WRC.
AUTHOR Gray, K.R., A.J. Biddlestone and K. Thurairajan.
SOURCE
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY AW
SUBCATEGOR swine--aquaculture

TITLE Waste treatment for confined swine with an integrated artificial wetland and aquaculture system.
AUTHOR Maddox, J.J. and J.B. Kingsley.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.

PAGES pp. 191-200
DATE 1989
CALLNUM TD756. 5 C66
ANNOTATION

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE, AS OF OCTOBER 24,1995,TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

1 NAL Call No.: S591.55.K4S64
A new concept in treating wastewater--constructed wetlands.
Karathanasis, A. D.
Soil science news and views-Cooperative Extension Service and University of Kentucky, College of Agriculture, Department of Agronomy, Lexington, Ky. : The Department. 1991. v. 12 (3) 3 p.

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

2 NAL Call No.: 44.8-J822
Components of dairy manure management systems.
Van Horn, H. H.; Wilkie, A. C.; Powers, W. J.; Nordstedt, R. A.
Journal of dairy science v.77, p.2008-2030. (1994).
Includes references.

Descriptors: cattle manure; dairy farms; application to land; dairy cows; excretion; waste treatment; waste disposal; waste utilization; energy balance; water use; ammonia; methane; nitrogen; phosphorus

Abstract: Dairy manure management systems should account for the fate of excreted nutrients that may be of environmental concern. Currently, regulatory oversight is directed primarily at the assurance of water quality; N is the most monitored element. Land application of manure at acceptable fertilizer levels to crops produced on the farm by hauling or by pumping flushed manure effluent through irrigation systems is the basis of most systems. Nutrient losses to surface and groundwaters can be avoided, and significant economic value can be obtained from manure as fertilizer if adequate crop production is possible. Dairies with insufficient crop production potential need affordable systems to concentrate manure nutrients, thereby reducing hauling costs and possibly producing a salable product. Precipitation of additional nutrients from flushed manures with sedimented solids may be possible. Composting of separated manure solids offers a possible method to stabilize solids for distribution, but, most often, solids separated from dairy manures are fibrous and low in fertility. Manure solids combined with wastes from other sources may have potential if a marketable product can be produced or if sufficient subsidy is received for processing supplementary wastes. Solutions to odor problems are needed. Energy generated from manure organic matter, via anaerobic digestion, reduces atmospheric emissions of methane and

odorous compounds. Use of constructed wetlands or harvesting of photosynthetic biomass from wastewater has the potential to improve water quality, making extensive recycling possible.

3 NAL Call No.: S37.F72
Constructed wetlands: an approach for animal waste treatment.
Rieck, A.; Langston, J.; VanDevender, K.
FAS-Cooperative Extension Service, University of Arkansas. Little Rock, Ark. : The Service. Apr 1993. (3005) 4 p.
Includes references.

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

4 NAL Call No.: 1.98-Ag84
Constructed wetlands clean up: they could be an inexpensive, low-tech cure for farm pollution headaches.
Becker, H.
Agricultural research- U.S. Department of Agriculture, Agricultural Research Sep.20. (1993).

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

5 NAL Call No.: TD930.C644--1994
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

6 NAL Call No.: 290.9-Am32P
Constructed wetlands for dairy wastewater treatment.
Davis, S. H.; Ulmer, R.; Strong, L.; Cathcart, T.; Pote, J.; Brock, W.
Paper American Society of Agricultural Engineers. 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

7 NAL Call No.: aS622.S6
Constructed wetlands handle waste.
Taylor, S.
Soil & water conservation news-U.S Department of Agriculture, Soil Conservation Service v.11, p.5-6. (1991).

Descriptors: wetlands; animal wastes; planting; georgia

8 NAL Call No.: 100-AL1H
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 of agricultural research-Alabama Agricultural Experiment Station v.39, p.13. (1992).

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

9 NAL Call No.: S589.7.E57-1994
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

10 NAL Call No.: 290.9-Am32P
SCS technical requirements for constructed wetlands for agricultural wastewater treatment.
Krider, J. N.; Boyd, W. H.
Paper American Society of Agricultural Engineers. 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," December 15-18, 1992, Nashville, Tennessee.

Descriptors: agricultural wastes; waste water treatment; wetlands; regulations

11 NAL Call No.: S589.7.E57-1994
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

12 NAL Call No.: 290.9-Am32P
Treating dairy waste utilizing laboratory-scale constructed wetlands.
Benham, B. L.; Mote, C. R.

Paper American Society of Agricultural Engineers. St. Joseph, Mich. : American Society of Agricultural Engineers,. Winter 1993. (932576) 11 p.
Paper presented at the "1993 International Winter Meeting of the American Society of Agricultural Engineers," December 14-17, 1993, Chicago, Illinois.

Descriptors: dairy wastes; wetlands; waste treatment

13 NAL Call No.: TD420.A1P7
Treatment of dairy farm wastewaters in horizontal and up-flow gravel-bed constructed wetlands.
Tanner, C. C.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

14 NAL Call No.: S1.N32
Wetlands that work for you.
Bowman, G.; Wetlands that work for you.
The New farm v.14, p.50-53. (1992).

Descriptors: dairy wastes; biological treatment; waste water treatment; wetlands; on farm processing; constructed wetlands

15 NAL Call No.: S544.3.N6N62
Constructed wetlands for animal wastewater treatment.
Humenik, F.; Zublena, J.; Barker, J.
AG-North Carolina Agricultural Extension Service. 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

16 NAL Call No.: 290.9-Am32P
Constructed wetlands for milkhouse wastewater treatment.
Zimmerman, T.; Lefever, J. L.; Warns, M.
Paper American Society of Agricultural Engineers. 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

17 NAL Call No.: 290.9-Am32P
Small constructed wetlands for animal waste treatment.
Evans, J. L.; Webber, D.
Paper American Society of Agricultural Engineers. 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

18 NAL Call No.: QH541.5.M3C66--1993
Constructed wetlands for treating agricultural wastewater.
United States. Environmental Protection Agency. West Lafayette, IN : The Center, [1993?] 1 sheet.
Caption title. Agency and CTIC.".

Descriptors: Wetland ecology; Agricultural pollution

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BG
CATEGORY BG
SUBCATEGOR

TITLE A desert wetland created by wastewater flows: current trends and problems.
AUTHOR Morris, F.A. and L.J. Paulson.
SOURCE Wetlands, Vol. 2.
PUBLISHER
PAGES pp. 191-206
DATE 1982
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE A new concept in treating wastewater--constructed wetlands.
AUTHOR Karathanasis, A.D.
SOURCE Soil Science News & Views, Cooperative Extension Service and Univ. of Kentucky, College of Agriculture, Dept of Agronomy. 1991. v.12 (3) 3p.
PUBLISHER
PAGES 3p.
DATE 1991
CALLNUM DNAL S591.55.K4S64
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Abstracts of symposium: innovative applications of constructed wetlands.
AUTHOR Kentucky Academy of Science.
SOURCE Univ. of Kentucky, College of Agriculture. (July 24-25, 1990).
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Aquatic plants improve wastewater treatment.
AUTHOR Pullin, B.P. and D.A. Hammer.
SOURCE Water Environment & Technology, Vol. 3, No. 3.
PUBLISHER
PAGES pp. 36-40
DATE 1991, March
CALLNUM TD419 W37
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Artificial marshes for wastewater treatment.
AUTHOR Wolverton, B.C.
SOURCE Aquatic Plants for Wastewater Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing Inc.
PAGES pp. 141-152.
DATE 1987
CALLNUM TD 475 C65 1986
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Artificial wetlands for wastewater treatment.
AUTHOR Wood, A. and M. Rowley.
SOURCE Paper presented at the Symposium Ecology and Conservation of Wetlands in South Africa
PUBLISHER October 15-16, 1987.
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Assessing the use of aquatic plants for wastewater treatment in a high elevation tropical lake.
AUTHOR Riviera, R.C., et al.
SOURCE Internationale Vereinigung fuer Theoretische und Angewandte Limnologie. Verhandlungen, Vol. 24, No. 2.
PUBLISHER
PAGES pp. 1178-1182
DATE 1991, March
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Constructed wetlands handle waste.
AUTHOR Taylor, S.
SOURCE Soil & Water Conservation News, USDA, Soil Cons. Service. March/April 1991. v. 11 (8) p. 5-6
PUBLISHER
PAGES pp. 5-6
DATE 1991
CALLNUM TD755 U74 1980
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Constructed wetlands treatment will be a first for Colorado.
AUTHOR _____.
SOURCE US Water News
PUBLISHER
PAGES

DATE 1990, May
CALLNUM TD370 U57
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Constructed wetlands--a low cost reliable alternative for waste water treatment.
AUTHOR Griggs, J.
SOURCE J. Soil & Water Cons. 21(4):13 (1988).

PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Constructed wetlands--technology provides opportunities and challenges for contractors.
AUTHOR Hammer, D.A.
SOURCE Land and Water Conservation
PUBLISHER
PAGES
DATE 1990, Feb/Mar
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Cumulative impacts on water quality functions of wetlands.
AUTHOR Hemond, H.F. and J. Benoit.
SOURCE Cumulative Effects on Landscape Systems of Wetlands.
PUBLISHER
PAGES
DATE 1988, June
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Herculean labors to clean wastewater.
AUTHOR Hawley, T.M.
SOURCE Oceanus, Vol. 33, No. 2.
PUBLISHER
PAGES pp. 72-75
DATE 1990, Summer
CALLNUM GCl 035
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Land application of wastewater.
AUTHOR Zirschky, J. and A.R. Abernathy.
SOURCE Water Pollution Control Federation. JWPFA5 60(6):857-858
PUBLISHER
PAGES
DATE June 1988.
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Low-cost and energy-saving wastewater treatment technology.
AUTHOR Wang, B. Z. et al, (eds.)
SOURCE Water Science and Technology, Vol. 24, No. 5. Proceedings of ISLEWTT Harbin '90, Harbin Institute of Architecture and Civil Engineering., Harbin, China, 6-10 August 1990.
PUBLISHER
PAGES 256p
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Made-to-order-wetlands.
AUTHOR Oertel, B.
SOURCE Land and Water Conservation. October 1990.

PUBLISHER
PAGES
DATE 1990, October
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Mechanisms of water quality improvement in wetland treatment systems.
AUTHOR Kadlec, R.H. and H. Alvord, Jr.
SOURCE Wetlands: Concerns and Successes.
PUBLISHER Bethesda, MD: AWRA
PAGES
DATE 1989.
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Mississippi Agricultural and Forestry Experiment Station (MAPES) on solid ground with wastewater cleanup project.
AUTHOR Drapala, P.
SOURCE MAPES Research Highlights. December 1991. v. 54 (12) p. 5.
PUBLISHER
PAGES pp 5
DATE 1991
CALLNUM 100 M69MI
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Nationwide inventory: constructed wetlands for wastewater treatment.
AUTHOR Reed, S.C.
SOURCE Biocycle. 32(1):44-49
PUBLISHER
PAGES
DATE 1991, January
CALLNUM DNAL 57.8-C734
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Natural systems for waste management and treatment.
AUTHOR Reed, S.C., et al.
SOURCE
PUBLISHER New York, NY: McGraw Hill Book Co.
PAGES
DATE 1988
CALLNUM TD645 R44
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Natural systems for wastewater treatment and water reuse for space and earthly applications.
AUTHOR Wolverton, B.C.
SOURCE Water Reuse Conference, Denver, CO, August 2-7, 1987, AWWA Research Foundation.
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Natural systems for wastewater treatment, manual of practice FD-16.
AUTHOR Water Pollution Control Federation.
SOURCE
PUBLISHER Alexandria, VA: WPCF.
PAGES
DATE 1990
CALLNUM TD745 N37
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Natural systems vs. the 'black box'".
AUTHOR _____.
SOURCE BioCycle, Vol. 30, No. 6.
PUBLISHER
PAGES pp. 68-69
DATE 1989
CALLNUM 57.8 C734
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Natural wastewater treatment systems.
AUTHOR Jensen, R.
SOURCE Texas Water Resources. 1988. v. 14 (2).
PUBLISHER
PAGES
DATE 1988
CALLNUM TD 224 T4T42
ANNOTATION Some of the natural systems that show considerable promise in providing cost-effective treatment of domestic and industrial wastewater include floating aquatic plants, artificial wetlands, and systems combining aquatic plants and animals. Although these systems offer potential alternative to conventional wastewater treatment, more information is needed. Natural systems must be properly designed to prevent problems with the release of pathogens, heavy metals, and other pollutants into the environment.

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CATEGORY BG
SUBCATEGOR

TITLE Overview and future directions.
AUTHOR Zedler, J.B. and M.W. Weller.
SOURCE Wetland Creation and Restoration: The Status of the Science.
PUBLISHER Island Press
PAGES pp 405-14
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Porewater chemistry of natural and created marsh soils.

AUTHOR Craft, C.B., E.D. Seneca, and S.W. Broome.
SOURCE Journal of Experimental Marine Biology and Ecology JEMBAM, Vol. 152, No.2
PUBLISHER
PAGES pp 187-200
DATE 1991, October 11
CALLNUM QH91A1J6
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Root-water-sediment interface processes.
AUTHOR Good, B.J. and W.H. Patrick, Jr.
SOURCE Aquatic Plants for Water Treatment and Reasourse Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing Inc.
PAGES pp. 359-371
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE State-of-the-art utilization of aquatic plants in water pollution control.
AUTHOR Reddy, K.R. and T.A. DeBusk.
SOURCE Water Science and Technology, Vol. 19, No. 10.
PUBLISHER
PAGES pp. 61-79
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Status of current technology on constructed wetlands.
AUTHOR Cooper, C.M.
SOURCE Submitted to the DEC Task Force, Natn. Sedimentation Lab., USDA-ARS, Oxford, MS.
PUBLISHER
PAGES
DATE 1989
CALLNUM

ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE The use of wetland treatment processes in water reuse.
AUTHOR Gearheart, R.J. et al.
SOURCE Proceedings of the Water Reuse Symposium III, San Diego, CA, August 26-31, 1984. v. 2. p. 617-638.
PUBLISHER
PAGES pp 617-38
DATE 1984
CALLNUM TD429 W3 1984
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE The use of wetlands for treating wastes--wisdom in diversity?
AUTHOR Blumer, K.
SOURCE Paper presented at the Symposium on Freshwater Wetlands, Tallahassee, FL, March 2, 1978. Brookhaven Natn. Laboratory # BNL-24611
PUBLISHER
PAGES 26p.
DATE 1978
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE The use of wetlands for water pollution control.
AUTHOR Chan, E., et al.
SOURCE USEPA, Municipal Environmental Research Laboratory, Research and Development, EPA-600/S2-82-088.
PUBLISHER
PAGES
DATE 1982, November.
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Treating wastewater in constructed wetlands.
AUTHOR Huack, R.D.
SOURCE Biocycle Vol. 33 (9), Sept 1992, P72
PUBLISHER
PAGES pp 72
DATE 1992
CALLNUM 57.8 C734
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Treatment of wastewater in the rhizosphere of wetland plants--the root-zone method.
AUTHOR Brix, H.
SOURCE Water Science and Technology. 1987. v. 19 (1-2) p. 107-118.
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Use of wetlands for wastewater treatment.
AUTHOR Sereico, P. and C. Larneo.
SOURCE Civil Engineering Practice. Volume 5: Water Resources/Environmental.
PUBLISHER Lancaster, PA: Technomic Publishing Co., Inc.
PAGES pp. 767-787
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Washing up with wetlands.
AUTHOR _____.
SOURCE Country Journal, Vol. 16 (Sept./Oct. 1989)

PUBLISHER
PAGES p. 28
DATE 1989
CALLNUM S 521. C65
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Wastewater treatment by artificial wetlands.
AUTHOR Gersberg, R.M., B.V. Elkins and C.R. Goldman.
SOURCE Water Science Technology. 17:443-50
PUBLISHER
PAGES
DATE 1984
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Wastewaters: a perspective.
AUTHOR Smith, A.J.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 3-4
DATE 1989
CALLNUM TD 756. 5C66
ANNOTATION The water quality protection field is undergoing major changes. Both the reduction in available federal dollars and increasing focus on water quality underscore the need for a continual effort to identify and encourage technologies that provide effective-low-cost treatment. Wetlands may effectively balance the need for reliable wastewater treatment with need for minimal cost.

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CATEGORY BG
SUBCATEGOR

TITLE Water improvement functions of natural and constructed wetlands.
AUTHOR Hammer, D.A.
SOURCE Proceedings Newman Teleconference Seminar Series - Protection and Management Issues for South Carolina

Wetlands, Clemson University, March 28, 1990.
PUBLISHER
PAGES pp. 129-157
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Wetland systems.
AUTHOR Knight, R.L.
SOURCE Natural Systems for Wastewater Treatment, Manual of Practices FD-16.
PUBLISHER Water Pollution Control Federation
PAGES
DATE 1990
CALLNUM TD 745 N37
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Wetlands ecosystems: natural water purifiers?
AUTHOR Hammer, D.A. and R.K. Bastian.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES p. 5-19
DATE 1989
CALLNUM TD 756.5 C66
ANNOTATION There is no single correct-all-purpose definition of a wetland. Most definitions of wetland are in terms of soil characteristics and type of vegetation. In this article, the authors discuss wetland dynamics, functions of natural wetlands, and the applicability of constructed wetlands to treat polluted water.

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CATEGORY BG
SUBCATEGOR

TITLE Wetlands-Increasing Our Resources.
AUTHOR Steiner, G.R., J.T. Watson and D.A. Hammer.
SOURCE

PUBLISHER Washington, DC: National Wildlife Federation
PAGES
DATE 363p.
CALLNUM QH87.4 W47 1987
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Wetlands.
AUTHOR Rucker, D.J.
SOURCE IMPACT--TVA Natural Resources and the Environment, March/June 1988
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR

TITLE Yesterday's swamp.
AUTHOR Austin, T.
SOURCE Civil Engineering. 60(8):36-39(Aug. 1990)
PUBLISHER
PAGES
DATE 1990
CALLNUM 290.8 C49
ANNOTATION

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CATEGORY BG
SUBCATEGOR abstract/proceedings

TITLE Constructed wetlands for wastewater treatment: An overview of an emerging technology.
AUTHOR Hammer, D.A.
SOURCE Program with abstracts--Geological Association of Canada, Mineralogical Association of Canada, Canadian Geophysical Union, Joint Annual Meeting, 1990. v. 15 p. 53.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR abstracts/bibliographies

TITLE International conference on constructed wetlands for wastewater treatment: abstracts.
AUTHOR _____.
SOURCE Chattanooga, TN Trade and Convention Center, June 13-17 1988.
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR abstracts/bibliographies

TITLE Sewage and industrial waste treatment: wetlands (Jan 77-Dec 89).
AUTHOR _____.
SOURCE NTIS Accession No. PB90-853722
PUBLISHER
PAGES 78p.
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR abstracts/bibliographies

TITLE Wetland creation and restoration in the United States from 1970 to 1985: an annotated bibliography.
AUTHOR Wolf, R.B., L.C. Lee and R.R. Sharitz.
SOURCE Wetlands, Special Issue. 6(1):88
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY BG

SUBCATEGOR abstracts/proceedings

TITLE Constructed Wetlands in Water Pollution Control:
AUTHOR Cooper, P.F. and B.C. Findlater, eds.
SOURCE Proceedings of the international conference on the use of constucted wetlands in water pollution control, held in Cambridge, UK, 24-28 September 1990.
PUBLISHER Oxford, UK: Pergamon Press.
PAGES 605p.
DATE 1990
CALLNUM DNAL TD756.5.I57-1990
ANNOTATION There is a growing interest in the use of hydrophyte-based systems for treating sewage and mining and industrial wastewater. This book includes reports of practical experience and the latest research results from Australasia, South Africa, North America and China as well as all across Europe, and provides an essential guide to one of the most promising water pollution control options.

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CATEGORY BG
SUBCATEGOR abstracts/proceedings/bibliographies

TITLE Wetlands areas: natural water treatment systems (Jan 78 - Aug 89). citations from the pollution abstracts database.
AUTHOR Davis Associates, Inc.
SOURCE NTIS Accession No. PB90-862244
PUBLISHER
PAGES pp 99.
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR ancillary benefits

TITLE Ancillary benefits of wetlands constructed primarily for wastewater treatment.
AUTHOR Sather, J.H.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 353-358
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION A highly diversified wetland ecosystem may not only handle a greater variety of wastewater substances but may attract and support wildlife for human enjoyment and provide various visual-cultural benefits. Full manifestation of ancillary

benefits in constructed wetlands is contingent upon species composition and degree of interspersion of plant communities, location with respect to human population centers, and location with respect to other wetlands.

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CATEGORY BG
SUBCATEGOR ancillary benefits

TITLE Developing artificial wetlands to benefit wildlife and livestock.
AUTHOR Olson, R.
SOURCE Bull. Wyo. Univ. Coop. Ext. Serv. Laramie, WY: The Service May 1990 (938) 21p.
PUBLISHER Laramie, WY: The Service
PAGES 21p.
DATE 1990
CALLNUM DNAL 275.29-W99B
ANNOTATION

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CATEGORY BG
SUBCATEGOR ancillary benefits

TITLE Some ancillary benefits of a natural land treatment system.
AUTHOR Schwartz, L.A. and R.L. Knight.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 643-645
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The Grand Strand Water and Sewer Authority is conducting studies in riverine wetlands and Carolina Bays to treat domestic wastewater. These wetlands will help confirm long-term feasibility and the integrity of using natural systems to treat wastewater. Visitors will have the opportunity to venture into the heart of Carolina Bays or into a swamp to view plant and animal natural habitats.

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CATEGORY BG
SUBCATEGOR ancillary benefits

TITLE Wetlands: the lifeblood of wildlife.
AUTHOR Feierabend, J.S.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.

PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 107-118
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Naturally occurring wetlands are usually attractive to wildlife. Constructed or man made wetlands have the potential to attract wildlife. The author gives an overview on the importance of wetland ecosystems as a wildlife habitat and the types of wildlife associated with them.

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CATEGORY BG
SUBCATEGOR aquaculture

TITLE Aquaculture in resource recovery.
AUTHOR Golueke, C.G.
SOURCE Compost Science/Land Utilization. 1979. v. 20 (3) p. 16-23.
PUBLISHER
PAGES
DATE
CALLNUM 57.8 C734
ANNOTATION

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CATEGORY BG
SUBCATEGOR aquaculture

TITLE Engineering assessment of aquaculture systems for wastewater treatment: an overview.
AUTHOR Reed, S.C., R. Bastian and W. Jewel.
SOURCE Aquaculture Systems for Wastewater Treatment. Seminar Proceedings and Engineering Assessment, Sept. 11-12, 1979, University of California--Davis.
PUBLISHER
PAGES
DATE 1979
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR aquaculture

TITLE Engineers assess aquaculture systems for wastewater treatment.
AUTHOR Bastian, R.K., W.J. Jewell and S.C. Reed.
SOURCE Civil Engineering ASCE

PUBLISHER
PAGES pp. 64-67
DATE 1981, July
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR aquaculture

TITLE The use of aquatic plants and animals for the treatment of wastewater: an overview.
AUTHOR Tchobanoblous, G., et al.
SOURCE Presented at A Seminar on Aquaculture Systems for Wastewater Treatment, Davis, CA, Sept. 11-12, 1979.
PUBLISHER
PAGES 21p.
DATE 1979
CALLNUM TD 755 U74 1980
ANNOTATION Aquatic wastewater treatment systems treat wastewater at a slow rate in an essentially unmanaged environment compared to conventional wastewater systems which treat wastewater rapidly in highly managed environments. The major stimulus for further research into design and management of aquatic systems is the potential for reducing the construction, operation, and maintenance costs for wastewater treatment. This paper presents the general concepts involved in the design and use of aquatic systems and an overview of their implications.

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CATEGORY BG
SUBCATEGOR aquaculture--nutrient removal

TITLE Aquatic crops of economic value for removing N and P from nutrient-enriched waters in the everglades.
AUTHOR Snyder, G.H. and C.A. Sanchez.
SOURCE Soil and Crop Science Society, Florida Proceedings.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR case studies--western USA (CA)

TITLE The use of artificial wetlands for water treatment in high elevation, cold regions of California.
AUTHOR Goldman, C.R.
SOURCE Rep-Calif-Water-Resour-Cent-Univ-Calif. December 1987. p. 68.
PUBLISHER
PAGES p. 68
DATE Dec 1987
CALLNUM 292.9 C12182
ANNOTATION

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CATEGORY BG
SUBCATEGOR case study

TITLE Wetlands and wastewater: Kinross, Michigan.
AUTHOR Kadlec, R.H. and F.B. Bevis.
SOURCE Journal of the Society of Wetland Scientists, Vol. 10, No. 1.
PUBLISHER
PAGES
DATE 1990, June
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR chemical aspects

TITLE Quantitative assessment of natural purification in wetlands for linear alkylbenzenesulfonates.
AUTHOR Inaba, K.
SOURCE Water Res. 1992, 26(7) 893-8
PUBLISHER
PAGES pp 893-898
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR chemical aspects--transformations

TITLE Transformation of manganese in a waterlogged soil as affected by redox potential and pH.
AUTHOR Gotoh, S. and W.H. Patrick.
SOURCE Soil Sci. Soc. Am. J. 1972. v. 36 p. 1738-1742.
PUBLISHER

PAGES
DATE 1972
CALLNUM 56.9 S03
ANNOTATION

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CATEGORY BG
SUBCATEGOR design

TITLE Constructed wetlands design--the first generation.
AUTHOR Reed, S.C. and D.S. Brown.
SOURCE Water Environment Research Sept/Oct 1992. v. 64 (6) p. 776-781.
PUBLISHER
PAGES pp 776-781
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design

TITLE Technical summary--a guide to wetland functional design.
AUTHOR US Dept. of Transportation.
SOURCE Publication No. FHWA-IP-90-010, US Dept. of Transportation, Federal Highway Administration.
PUBLISHER
PAGES
DATE 1990, July
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Basic design rationale for artificial wetlands.
AUTHOR Zirschky, J.
SOURCE Contract Report 68-01-7108
PUBLISHER Washington, DC:
PAGES
DATE 1986, June
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Configuration and substrate design considerations for constructed wetlands wastewater treatment.
AUTHOR Steiner, G.R. and R.J. Freeman.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 363-377
DATE 1989
CALLNUM TD 756. 5C66
ANNOTATION Depending on specific pollutant removal needs and other factors, a variety of configurations and substrates can be used for a constructed wetland. Major pollutant removal mechanisms include sedimentation and filtration, precipitation and adsorption, and bacterial metabolism. Constructed wetland systems can be designed to achieve various levels of secondary and advanced level treatment for biochemical oxygen demand, suspended solids, nutrients, pathogens, metals, and other substances.

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Constructed wetland design--the second generation.
AUTHOR Reed, S.C. and D. Brown.
SOURCE S.C. Reed, E.C.C. , RR 1 Box 572, Norwick, VT 05055
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Design and use of artificial wetlands.
AUTHOR Wile, I., G. Miller and S. Black.
SOURCE Ecological Considerations in Wetland Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold
PAGES pp 26-7.
DATE 1985.
CALLNUM QH 545 .549 E3
ANNOTATION Artificial wetlands offer greater scope for use as sewage treatment systems than natural wetlands. They can be

constructed on a variety of sites and problems associated with the use of natural wetlands can be minimized. Key design considerations for continuous flow systems in cold climates include: hydraulic loading rates and associated and requirements, system configuration, degree of pretreatment of raw wastewater and selection of appropriate vegetation.

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Design principles for wetlands treatment systems.
AUTHOR Hammer, D.A. and R.H. Kadlec.
SOURCE Available from NTIS as PB83-188722
PUBLISHER
PAGES
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Preliminary considerations regarding constructed wetlands for wastewater treatment.
AUTHOR Wieder, R.K., G. Tchobanoglous and R.W. Tuttle.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 297-305
DATE 1989
CALLNUM TD 756.5 C66
ANNOTATION Preliminary design factors are important in considering constructed wetland treatment of municipal wastewaters and coal mine drainage. In addition, the importance of maximizing aesthetics without compromising treatment effectiveness is discussed as a key component of preliminary design.

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Project summary--design principles for wetland treatment systems.
AUTHOR Hammer, D.A. and R.H. Kadlec.

SOURCE EPA Report 600/S2-83-026
PUBLISHER
PAGES
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design considerations

TITLE Wetland systems for wastewater treatment: operating mechanisms and implications for design.
AUTHOR Heliotis, F.D.
SOURCE Report 117
PUBLISHER Institute of Environmental Studies
PAGES
DATE 1982
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR design considerations--hydraulics--reed bed

TITLE Hydraulic considerations and the design of a reed bed treatment system.
AUTHOR Hobson, J.A.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 628-635
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION All of the information in this paper deals with reed bed treatment systems planted with Phragmites australis. The paper concentrates on the hydraulics of reed beds and possible mechanisms for wastewater treatment.

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CATEGORY BG
SUBCATEGOR design considerations--plants

TITLE Considerations and techniques for vegetation establishment in constructed wetlands.
AUTHOR Allen, H.H., G.J. Pierce and R. van Wormer.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.

PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 405-415
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The author describes considerations and techniques relating to domestic wastewater treatment in constructed wetlands. It focuses on herbaceous macrophytes and in-situ substrates.

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CATEGORY BG
SUBCATEGOR design considerations--site selection

TITLE Selection and evaluation of sites for constructed wastewater treatment wetlands.
AUTHOR Brodie, G.A.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 307-317
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Constructed wetlands are practical alternatives to conventional treatment of liquid agricultural wastes, storm water runoff, acid mine drainage, and domestic and municipal wastewater. Siting a constructed wetland is often dictated by the location of the wastewater source, geological, geotechnical, hydrological, and other environmental information.

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CATEGORY BG
SUBCATEGOR design--economic aspects

TITLE The economic and environmental feasibility of using constructed wetlands for treatment of municipal wastewater in small communities in maine.
AUTHOR Hesheth, P.S.
SOURCE M.S. Thesis in Agricultural and Resource Economics, Univ. of Maine, Orono, ME, 1990.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR ecology

TITLE Aging phenomenon in wastewater wetlands.
AUTHOR Kadlec, R.H.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold, Co.
PAGES pp. 338-347
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR ecology

TITLE Ecological features of an artificial wetlands area.
AUTHOR Magmedov, V.G. and L.I. Yakovleva.
SOURCE Proceedings of the International Symposium on the Hydrology of Wetlands in Temperate and Cold Regions. Joensuu, Finland, 6-8 June 1988, Vol. 1. The Academy of Finland, Helsinki, Finland.
PUBLISHER
PAGES pp. 72-75
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR ecology

TITLE Ecological limitations on wetland use for wastewater treatment.
AUTHOR Guntenspergen, G.R. and F. Stearns.
SOURCE Wetland Values and Management.
PUBLISHER St. Paul, MN: Water Planning Board
PAGES pp. 273-284.
DATE 1981
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR ecology

TITLE Ecological perspectives on wetland systems.
AUTHOR Guntenspergen, G.R. and F. Stearns.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal

Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold Company
PAGES pp. 69-97
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR ecology

TITLE Natural and artificial wetland ecosystems: ecological opportunities and limitations.
AUTHOR Richardson, C.J. and J.A. Davis.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando: Magnolia Publishing Inc.
PAGES pp 819-54.
DATE 1987.
CALLNUM
ANNOTATION Natural and artificial wetland capabilities and weaknesses to filter, transform, and store nutrients are presented with an analysis of the mechanisms controlling nutrient cycling and retention of nitrogen and phosphorus. Management guidelines for the selection and potential utilization of natural wetlands for effluent treatment as well as the impacts of using wetland systems for wastewater are also presented.

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CATEGORY BG
SUBCATEGOR ecology

TITLE Responses of wetlands and neighboring ecosystems to wastewater.
AUTHOR Ewel, K.C.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold, Co.
PAGES pp. 435-438
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR ecology

TITLE Some chemical aspects of wetland ecology.
AUTHOR Gorham, E.

SOURCE Tech. Mem No. 90, 12th Anm. Muskeg. Res. Conf.
PUBLISHER
PAGES
DATE 1967
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR engineering considerations

TITLE Aquatic plant systems for wastewater treatment: engineering considerations.
AUTHOR Tchobanoglous, G.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing, Inc.
PAGES PP. 27-48
DATE 1987
CALLNUM
ANNOTATION This paper presents a review of important engineering considerations in the design of aquatic plant systems used for the treatment of wastewater. Special attention is focused on odor control techniques, mosquito control strategies, and contaminant removal kinetics as they affect the physical design and management of aquatic plant-based wastewater treatment systems. Based on an evaluation of these and other considerations, some alternative physical designs and operating strategies are proposed.

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CATEGORY BG
SUBCATEGOR engineering considerations

TITLE Hydraulics and solids accumulation in a gravel bed treatment wetland.
AUTHOR Kadlec, R.H. and J.T. Watson.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 227-235
DATE 1993
CALLNUM
ANNOTATION The design of a subsurface gravel bed permits only one flow rate if the water surface remains parallel to the gravel surface. The front twenty percent of the gravel bed (gravel cell Number 3 at Benton, KY) was found to be partly plugged with a gelatinous (80% inorganic) mud which caused major flow alterations. The downstream zones of the gravel were dry to a depth of many centimeters and the downstream vegetation was changing to a terrestrial mix.

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CATEGORY BG
SUBCATEGOR engineering considerations

TITLE Operations optimization.
AUTHOR Girts, M.A. and R.L. Knight.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 417-429
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Optimizing constructed wetland to minimize expense and maximize treatment efficiency is a compromise between system design and operations management. The authors examine conditions under which flexibility in operation improves treatment efficiency and longevity of a well-designed system; methods by which operation changes can help a system adapt to unanticipated demands; and associated labor requirements.

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CATEGORY BG
SUBCATEGOR engineering considerations

TITLE Wetland systems for wastewater treatment in cold climates--an engineering assessment.
AUTHOR Tchobanoglous, G.
SOURCE US Army Corps of Engineers, Hanover, NH.
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION The purpose of this paper is to present an engineering assessment of the use of both natural and artificial wetlands for the treatment and disposal of wastewater. Another objective is to answer the question of whether the technology of using natural and artificial wetlands for the treatment of wastewater is ready for widespread use and what must be done remove uncertainties from the design.

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CATEGORY BG
SUBCATEGOR engineering considerations

TITLE Wetland systems for wastewater treatment: engineering applications.
AUTHOR Hantzsche, N.N.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal

Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold
PAGES pp 7-25
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR engineering considerations--hydraulics

TITLE Hydraulic design considerations and control structures for constructed wetlands wastewater treatment.
AUTHOR Watson, J.T. and J.A. Hobson.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES 379-391
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Performance of constructed wetlands is based on first-order plug flow equations. The objectives of this paper are to summarize information on these parameters, identify considerations for each parameter importance to performance of wetlands systems, and identify the type and general design of structures needed to establish and control the hydraulic regime.

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CATEGORY BG
SUBCATEGOR engineering considerations--hydrology

TITLE Hydrologic factors in wetland water treatment.
AUTHOR Kadlec, R.H.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 21-40
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The purpose of this paper is to present the hydrologic factors in wetland treatment processes. Water movement in these systems is affected by precipitation, evapotranspiration, infiltration, and plant vegetation density.

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CATEGORY BG

SUBCATEGOR engineering considerations--performance

TITLE Performance expectations and loading rates for constructed wetlands.
AUTHOR Watson, J.T., et al.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 319-351
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Constructed wetlands technology is emerging as a low-key, easily operated, and efficient wastewater treatment system. This paper presents an overview on normally regulated parameters, loading factors of existing systems, and reaction kinetics. Summaries for performance expectations and loading rates are also presented.

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CATEGORY BG
SUBCATEGOR harvesting

TITLE Wetland harvesting with cable systems.
AUTHOR Aulerich, S.P.
SOURCE ASAE Winter Meeting, Dec. 18-21, 1990, Paper No. 907574.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR hydrology

TITLE Hydrologic processes in a southern Ontario wetland.
AUTHOR Gehrels, J. and G. Mulamoottil
SOURCE Hydrobiologia. 208(3): 221-234
PUBLISHER
PAGES 221-234
DATE 1990, Dec. 10
CALLNUM 410 H992
ANNOTATION

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CATEGORY BG
SUBCATEGOR hydrology

TITLE Storm event effects on constructed wetlands discharges.
AUTHOR Taylor, H.N., K.D. Choate and G.A. Brodie.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 139-145
DATE 1993
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR hydrology--nutrient cycling

TITLE Significance of hydrology to wetland nutrient processing.
AUTHOR Hemond, H.F. and W. Nuttle.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewater.
PUBLISHER Van Nostrand Reinhold, Co.
PAGES pp. 190-195
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR microbial ecology

TITLE Microbial populations and decomposition activity in three subsurface flow constructed wetlands.
AUTHOR Hatano, K., et al.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 541-547
DATE 1993
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR microbiology

TITLE Evaluation of specific microbiological assays for constructed wetlands wastewater treatment management.
AUTHOR Portier, R.J.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 515-524

DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION

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CATEGORY BG
SUBCATEGOR microbiology

TITLE Wetlands microbiology: form, function, processes.
AUTHOR Portier, R.J. and S.J. Palmer.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 89-105
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION This paper presents an overview of important microbial processes of waste water treatment in constructed wetlands. Bacterial processes are the primary focus but fungal and actinomycetous contributions are also discussed. Information on microbial transformation processes, fate of anthropogenic organics, metals metabolism, and habitat for optimal microbial enzymology in a constructed wetland is also presented.

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CATEGORY BG
SUBCATEGOR nutrient cycling

TITLE A conceptual model of nutrient cycling in wetlands used for wastewater treatment: a literature analysis.
AUTHOR Heliotis, F.D. and C.B. DeWitt.
SOURCE Wetlands: Vol. 3, pp. 134-152, 1983
PUBLISHER
PAGES pp. 134-152
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient cycling

TITLE Decomposition in wastewater wetlands.
AUTHOR Kadlec, R.H.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.

PAGES pp 459-468
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The role of biomass accretion and decomposition for water quality improvement in constructed municipal wastewater wetlands is very important. The key biomass processes of accumulation, dieback, litterfall, litter accumulation, litter leaching, decomposition, and soil accretion are presented.

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CATEGORY BG
SUBCATEGOR nutrient cycling

TITLE Managing landscapes for humanity and nature; the role of wetlands in regional nutrient dynamics.
AUTHOR Brown, M.T.
SOURCE Wetlands of the Chesapeake. Proceedings of the Conference April 9-11, 1985, Easton, Maryland.
PUBLISHER
PAGES pp 63-75
DATE 1985
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient cycling

TITLE Modeling nutrient behavior in wetlands.
AUTHOR Kadlec, R.H. and D.E. Hammer.
SOURCE 189th National Meeting of the American Chemical Society.
PUBLISHER Washington: ACS
PAGES pp 244-246.
DATE 1985.
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient cycling

TITLE Phosphorus accumulation-discharge cycles in marshes.
AUTHOR Spangler, F.L., C.W. Fetter and W.E. Sloey.
SOURCE Water Resources Bulletin, Vol. 13, No. 6.
PUBLISHER
PAGES pp. 1191-1201
DATE 1977, Dec.

CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal

TITLE A mass balance method for assessing the potential of artificial wetlands for wastewater treatment.
AUTHOR Breen, P.F.
SOURCE Water Research. 24:689-98(1990).
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal

TITLE An assessment of wetlands management and sediment phosphorus inactivation Kezar Lake, New Hampshire.
AUTHOR New Hampshire Dept. of Environmental Services.
SOURCE NH Dept. of Environmental Services, Water Supply Pollution Control Division, Biology Bureau.
PUBLISHER
PAGES
DATE 1989, Feb.
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal

TITLE Nutrient removal from effluents by an artificial wetland: influence of rhizosphere aeration and preferential flow studied using bromide and dye tracers.
AUTHOR Bowmer, K.H.
SOURCE Water Research. 21(5):591-600(1987).
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal N,P

TITLE Use of shallow reservoir and flooded organic soil systems for wastewater treatment: nitrogen and phosphorus transformations.
AUTHOR Graetz, D.A. and K.R. Reddy.
SOURCE Journal of Environmental Quality, Vol. 10, No. 1
PUBLISHER
PAGES pp. 113-119
DATE 1981
CALLNUM QH 540 H6
ANNOTATION Under simulated conditions, the use of a shallow reservoir (with a marly clay loam bottom) and flooded organic soil (Histosol) for inorganic nitrogen and ortho-P removal from wastewater (agricultural drainage effluent) was evaluated. Both the shallow reservoir and flooded soils were effective in removing inorganic nitrogen. However, ortho-P removal was found to be effective in the marly clay loam bottoms and ineffective in the flooded organic soils.

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CATEGORY BG
SUBCATEGOR nutrient removal, Cu--plants

TITLE Removal and uptake of copper (II) by Salvinia natans from waste water.
AUTHOR Sen, A.K. and N.G. Mondal.
SOURCE Water, Air and Soil Pollution, Vol. 49, No. 1/2.
PUBLISHER
PAGES pp. 1-6
DATE 1990, January
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal, N

TITLE Nitrogen removal from freshwater wetlands: nitrification-denitrification coupling potential.
AUTHOR Hsieh, Y.P. and C.L. Coultas.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 493-500
DATE 1989
CALLNUM TD 756. 5 C66

ANNOTATION Wetlands may be an economically and ecologically feasible alternatives to removing nitrogen and other nutrients from secondary wastewater. The existence of heterogeneous microsites or layers in soil systems permits the coexistence of the nitrogen and denitrification processes. However, biological and/or chemical denitrification are key processes of long-term nitrogen removal.

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CATEGORY BG
SUBCATEGOR nutrient removal, N

TITLE Nitrogen removal in experimental wetlands treatment system: evidence for the role of aquatic plants.
AUTHOR Rodger, K.H., P.F. Breen and A.J. Chick.
SOURCE Research Journal of the Water Pollution Control Federation: 63:7 p934-941, 1991
PUBLISHER
PAGES pp 934-941
DATE 1991
CALLNUM TD419 R47
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal, N

TITLE Pilot-scale nitrification studies using vertical flow and shallow horizontal flow constructed wetland cells.
AUTHOR Watson, J.T. and A.J. Danzig.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 301-313
DATE 1993
CALLNUM
ANNOTATION A pilot-scale, shallow horizontal and vertical flow cells have been built in Kentucky to develop design information for full-scale constructed wetlands systems for removing ammonia-nitrogen. Variables include hydraulic loading rates and different sizes and depths of sand and gravel. The initial operation of these facilities are presented in this paper.

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CATEGORY BG
SUBCATEGOR nutrient removal--hydraulics

TITLE Model of flow and nutrient absorption in artificial wetland

systems.
AUTHOR Hearn, C.J., J.M. Chambers and A.J. McComb.
SOURCE Applied Mathematical Modelling. 15(5): 267-273.
PUBLISHER
PAGES
DATE 1991, May
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal--plants

TITLE Nutrient removal of selected aquatic macrophytes.
AUTHOR Reddy, K.R. and W.F. DeBusk.
SOURCE Journal of Environmental Quality, Vol. 14, No. 4, Oct/Dec 1985.
PUBLISHER
PAGES
DATE 1985
CALLNUM QH 540. J6
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal--reed bed

TITLE Nutrient removal in a reed bed system.
AUTHOR Haberl, R. and R. Perfler.
SOURCE Water Science and Technology, Vol. 23, No. 4/6.
PUBLISHER
PAGES pp. 729-737.
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR nutrient removal--water hyacinths

TITLE Nutrient removal by water hyacinths.
AUTHOR Cornwell, D.A., et al.
SOURCE Journal WPCF, January 1977
PUBLISHER
PAGES pp. 57-65
DATE 1977, Jan.
CALLNUM 293. 8 SE8
ANNOTATION The use of aquatic plants for nitrogen and phosphorous

removal is not a new concept. The authors' research concluded that nutrient removal capability of water hyacinths was directly related to the pond surface area. In designing a nutrient removal system with water hyacinths, the depth and the detention time in the pond must be set so as to provide a given amount of surface area per unit flow through the pond.

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CATEGORY BG
SUBCATEGOR pathogens/vectors

TITLE Insecticides for insect pest control in constructed wetlands for wastewater treatment: a dilemma.
AUTHOR Snoddy, E.L. and J.C. Cooney.
SOURCE Pesticides in Terrestrial and Aquatic Environments. Proceedings of a National Research Conference. Blacksburg, VA.
PUBLISHER Virginia Water Resources
PAGES
DATE 1989, May 11-12
CALLNUM QH545.P4P4844
ANNOTATION

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CATEGORY BG
SUBCATEGOR pathogens/vectors

TITLE Mosquito considerations in the design of wetland systems for the treatment of wastewaters.
AUTHOR Stowell, R., et al.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold Company
PAGES pp. 38-47.
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR pathogens/vectors

TITLE Pathogen removal in constructed wetlands.
AUTHOR Gersberg, R.M., R.A. Gearheart and M. Ives.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.

PAGES pp. 431-445
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION This article focuses on human health risks associated with constructed wetlands that are used to treat municipal wastewater. The overall objectives were to study the degree of removal of fecal contamination and viral pollution from two constructed wetlands in California.

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CATEGORY BG
SUBCATEGOR pathogens/vectors--mosquitos

TITLE California's experience with mosquitos in aquatic wastewater treatment systems.
AUTHOR Martin, C.V. and B.F. Eldridge.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 393-398
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Aquatic macrophytes added to oxidation ponds improved wastewater treatment. However, with the introduction of macropyhtes, the mosquitoes population increased. Careful design before construction and monitoring after construction can keep mosquito breeding within acceptable levels.

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CATEGORY BG
SUBCATEGOR pathogens/vectors--mosquitos

TITLE Production and suppression of pest mosquitos in constructed wetlands.
AUTHOR Tennessen, K.J.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 591-601
DATE 1993
CALLNUM
ANNOTATION Two types of wastewater wetlands constructed in the Tennessee Valley region were sampled for mosquito species composition and population levels. In wetlands receiving acidic runoff from coal mining operations, there were relatively few mosquito species while high levels of mosquito production occurred in wetlands treating domestic sewage. Therefore, recognition of potential mosquito problems in organically laden wetlands should be taken into consideration during the planning stages for both construction and operation.

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CATEGORY BG
SUBCATEGOR pathogens/vectors--mosquitos

TITLE Wastewater wetlands: user friendly mosquito habitats.
AUTHOR Dill, C.H.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 664-667
DATE 1989
CALLNUM TD 756.5 C66
ANNOTATION Early input by mosquito-control professionals can keep wetlands from becoming a public health risk. Mosquito problems can be minimized with a good preventive design coupled with water management, vegetation control, and biological control.

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CATEGORY BG
SUBCATEGOR pathogens/vectors/pests

TITLE Fate of viruses in artificial wetlands.
AUTHOR Gersberg, R.M., et al.
SOURCE Applied Environmental Microbiology. 53:731-736
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR Performance

TITLE Wastewater treatment using artificial wetlands: The hydrology and treatment performance of horizontal and vertical flow systems.
AUTHOR Breen, P.F. and A.J. Chick.
SOURCE Proceedings of 13th federal convention, Australian Water and Waste Association,
PUBLISHER Canberra, Australia, 1990.
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR performance (limitations)

TITLE The performance limitations of wetland treatment systems--a discussion.
AUTHOR Hiley, P.D.
SOURCE Use of Constructed Wetlands in Water Pollution Control.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE A constructed wetland with a declining growth gradient of soft-stem bulrush (Scirpus validus) plants.
AUTHOR Edwards, M.E., K.C. Brinkmann and J.T. Watson.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 415-425
DATE 1993
CALLNUM
ANNOTATION A constructed wetland cell with gravel substrate, designed to polish subsurface flowing effluent from a package treatment plant, was planted exclusively with soft-stem bulrush. In the second year of plant growth, quantitative procedures were undertaken to determine if a plant growth gradient existed along the path of wastewater flow. Because of the declining growth gradient, bulrush plants grew most in the influent end, less in the middle section, and least in the effluent end of the wetland cell.

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CATEGORY BG
SUBCATEGOR plants

TITLE A study of soft-stem bulrush (Scirpus validus) growth in a constructed wetland, Hardin, Kentucky.
AUTHOR Edwards, M.E.
SOURCE Report prepared for the TVA
PUBLISHER
PAGES
DATE 1990, December
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Analysis of survival and condition of planted vegetation at the Benton, Hardin, and Pembroke, Kentucky constructed wetland treatment systems.
AUTHOR Knight, R.L.
SOURCE Report prepared for the TVA by CH2MHill
PUBLISHER
PAGES
DATE 1991, November
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Aquatic plant wastewater treatment systems.
AUTHOR Wolverton, B.C.
SOURCE Mobile Bay Audubon Society, May 6, 1988.
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Aquatic plants for wastewater treatment: an overview.
AUTHOR Wolverton, B.C.
SOURCE Aquatic Plants for Wastewater Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing Inc.
PAGES pp. 3-15.
DATE 1987
CALLNUM TD 475 C65 1986
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Aquatic plants for water treatment and resource recovery.
AUTHOR Reddy, K.R. and W.H. Smith. (Eds.)
SOURCE
PUBLISHER Orlando, FL: Magnolia Publishing.
PAGES 1032p.
DATE 1987
CALLNUM TD475 C65 1986
ANNOTATION This book contains papers selected by a review panel from those presented at an International Conference on Research and Recovery. Much of the attention focused on vascular aquatic plants has been directed primarily toward their elimination from water bodies. Sufficient biological, engineering, economic, ecologic and environmental data are now emerging to make possible the design and operation of water treatment/resources systems using aquatic plants.

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CATEGORY BG
SUBCATEGOR plants

TITLE Effects of Phragmites australis roots and rhizomes on redox potentials, nitrification, and bacterial numbers in the sediment.
AUTHOR Hansen, J.I. and F.O. Andersen.
SOURCE Proceedings of the 9th Nordic Symposium on Sediments.
PUBLISHER Norr Malmo, Sweden: Scripta Limnologica
PAGES pp. 72-88
DATE 1981
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Evaluation of aquatic plants for constructed wetlands.
AUTHOR Surrency, D.
SOURCE USDA, Soil Conservation Service, Athens, GA. 30601
PUBLISHER
PAGES 14p.
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE High hopes for cattails.
AUTHOR Dawson, B.
SOURCE Civil Engineering
PUBLISHER
PAGES
DATE 1989, May
CALLNUM 290.8 C49
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Plants that purify.
AUTHOR Hallowell, C.
SOURCE Audubon, Vol. 94 (Jan./Feb. 1992)
PUBLISHER
PAGES pp. 76-80
DATE 1992
CALLNUM S900 A8
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Preliminary survey of vegetative growth and survival factors in constructed wetlands, selected TVA projects.
AUTHOR Edwards, M.E.
SOURCE Report prepared for the TVA
PUBLISHER
PAGES
DATE 1990, Sept.
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Propagation of wetland species.
AUTHOR Brumback, W.E.
SOURCE Combined Proceedings - International Plant Propagator's Society:40: p507-511, 1990, publ. 1991
PUBLISHER
PAGES pp 507-511
DATE 1991

CALLNUM 451 P692
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Relative radial oxygen loss in five wetland plants.
AUTHOR Michaud, S.C. and C.J. Richardson.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES WRA - WETLANDS.DOC -EPA S
DATE pp 501-507.
CALLNUM TD 756. 5 C66
ANNOTATION Obtaining reproducible toxic chemical impact in aquatic/marine environments is a major difficulty for assessing field test information. This paper presents economical in-situ approaches for evaluating wastewater impacts and effects on constructed wetlands soil/sediment microenvironments.

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CATEGORY BG
SUBCATEGOR plants

TITLE Response of wetland plants to effluents in water and sediment.
AUTHOR Walsh, G.E., D.E. Weber, M.T. Nguyen and L.K. Esry.
SOURCE Environmental and Experimental Botany, Vol. 31, No. 3.
PUBLISHER
PAGES pp. 351-358
DATE 1991, July
CALLNUM 450 R11
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Role of aquatic plants in wastewater treatment by artificial wetlands.
AUTHOR Gersberg, R.M., B.V. Elkins, S.R. Lyon and C.R. Goldman.
SOURCE Water Research. 20(3):363-368
PUBLISHER
PAGES
DATE 1986
CALLNUM

ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Selection and evaluation of plant materials for constructed wetlands.
AUTHOR Surrency, D.
SOURCE Soil and Water Conservation Society 47th Annual Meeting, Aug. 9-12, 1992, Baltimore, MD.
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Soil oxygenation in constructed reed beds: the role of macrophyte and soil-atmosphere interface on oxygen transport.
AUTHOR Brix, H. and H.H. Schierup.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Pergamon Press, Inc.
PAGES pp. 53-66
DATE 1989
CALLNUM TD 756. 5 I57
ANNOTATION The flux of metabolic gases through the soil-atmosphere interface and through the hollow reed (Phragmites australis) columns was quantified. The respiratory oxygen consumption of roots and rhizomes almost perfectly balanced the oxygen influx through the columns leaving only 0.02 grams of oxygen per day to be released to the surrounding soil. Therefore, the macrophyte-induced rhizosphere oxygenation was of no quantitative importance for aerobic biochemical oxygen demand degradation and microbial degradation.

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CATEGORY BG
SUBCATEGOR plants

TITLE The role of heavy metals and toxic materials in the physiological ecology of submerged macrophytes.
AUTHOR Guilizzoni, P.
SOURCE Aquatic Biology, Vol. 41.
PUBLISHER

PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE The use of duckweed for wastewater treatment.
AUTHOR Zirschky, J. and S.C. Reed.
SOURCE J. Water Pollution Control Federation. 60(7):1253-58.
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Thermoosmotic air transport in aquatic plants affecting growth activities and oxygen diffusion in wetland soil.
AUTHOR Grosse, W.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 469-476
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Many water lily species are cultivated in lakes and constructed ponds as ornamental plants. Diffusion through the plant's aerenchyma can supply atmospheric air to a depth of four meters. For greater depths, plants with aerial or floating leaves generate a ventilating airflow by thermodiffusion.

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CATEGORY BG
SUBCATEGOR plants

TITLE Treating wastewater with hyacinths.
AUTHOR Doersam, J.
SOURCE BioCycle. August 1987.
PUBLISHER
PAGES pp. 30-32
DATE 1987, August

CALLNUM
ANNOTATION To protect vegetation from freezing, a natural treatment system (treating wastewater) consisting of three parallel hyacinth ponds was enclosed in a five acre greenhouse to provide for year-round operation. The system has been effective in removing 80% of total suspended solids and 40-50% effective in removing biochemical oxygen demand. The hyacinths are harvested to help facilitate the removal of nitrogen and phosphorus the system.

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CATEGORY BG
SUBCATEGOR plants

TITLE Vegetation dynamics in relation to wetland creation.
AUTHOR Niering, W.A.
SOURCE
PUBLISHER Island Press
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Vegetation in wetlands receiving sewage effluent: the importance of the seed bank.
AUTHOR Whigham, D.
SOURCE Paper presented at conference "Ecological considerations in wetlands treatment of municipal wastewater, Univ. of Mass., June 24-25, 1982.
PUBLISHER
PAGES 13p.
DATE 1982
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants

TITLE Water hyacinths--not just a pretty plant.
AUTHOR _____.
SOURCE BioCycle, ??
PUBLISHER
PAGES pp. 40-42

DATE ??
CALLNUM 57.8 C734
ANNOTATION For some southern wastewater treatment facilities, the water hyacinth is a good filtration system for primary effluent. The plants adsorb harmful by-products and significantly reduce nitrogen and phosphorus levels in sewage. Keeping the crop healthy and weed-free and harvesting the hyacinth requires much of the operator's time.

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CATEGORY BG
SUBCATEGOR plants

TITLE Wetland vegetation.
AUTHOR Guntenspergen, G.R., F. Stearns and J.A. Kadlec.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 73-88
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Any one type of artificial wetland may be unable to treat all contaminants coming into it, so a variety of plant species are used in constructed wetland systems to address this situation. In this paper the authors discuss major wetland vegetational categories, physiological adaptations to environmental gradients, and the abilities of plants to affect their environment to transform different types of wastewater.

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CATEGORY BG
SUBCATEGOR plants--aquaculture

TITLE Harvesting reed sweetgrass Glyceria-maxima poaceae effects on growth and rhizome storage of carbohydrates.
AUTHOR Sundblad, K. and K. Robertson.
SOURCE Economic Botany ECON BOT 42 (4). 1988. 495-502.
PUBLISHER
PAGES pp 495-502
DATE 1988
CALLNUM 450 Ec7
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants--microbes

TITLE Microorganisms and higher plants for wastewater treatment.
AUTHOR Wolverton, B.C., R.C. McDonald and W.R. Duffer.
SOURCE Journal of Environmental Quality, Vol. 12, No. 2.
PUBLISHER
PAGES
DATE 1983
CALLNUM QH 540 J6
ANNOTATION

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CATEGORY BG
SUBCATEGOR plants--typha--bioaccumulation--zinc

TITLE Distribution and accumulation of zinc in Typha latifolia.
AUTHOR Blake, G., et al.
SOURCE Proc. Seminar on Aquatic Plants for Water Treatment and Resource Recovery. Orlando. FL, 20-24 July 1986
PUBLISHER
PAGES
DATE 1986
CALLNUM
ANNOTATION The use of the rooted macrophyte Typha latifolia in metal water treatment is presented. The authors studied the distribution and the accumulation of Zinc-65 ($ZnCl_2$ and Zn-EDTA) in plants grown in batch tank experiments. Highest concentration of the metal are found in underground parts of the plant.

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CATEGORY BG
SUBCATEGOR plants--water hyacinths

TITLE Influence of potassium supply on growth and nutrient storage by water hyacinth.
AUTHOR Reddy, K.R., M. Agami, E.M. D'Angelo and J.C. Tucker.
SOURCE Bioresource Technology, Vol. 37, No. 1.
PUBLISHER
PAGES pp. 79-84
DATE 1991
CALLNUM TD930 A32
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal--metals

TITLE Bioaccumulation of selected heavy metals by the water fern,

Azolla filiculoides lam. in a wetland ecosystem affected by sewage, mine and industrial pollution.
AUTHOR De Wet, L.P.D., H.J. Schoonbee and J. Pretorius.
SOURCE Water SA WASADV. 16(4): 281-286, October 1990
PUBLISHER
PAGES
DATE 1990, October
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR policy

TITLE Practices, EPA policies for wastewater-wetlands project evolve.
AUTHOR Bastian, R.
SOURCE Water Environment and Technology. v. 1 (4)
PUBLISHER
PAGES p. 483-485.
DATE
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR policy

TITLE States' activities, attitudes and policies concerning constructed wetlands for wastewater treatment.
AUTHOR Slayden, R.L. and L.N. Schwartz.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 279-286
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION This paper presents a cross section of current activities, attitudes, and policies of individual states concerning constructed wetlands for wastewater treatment. Few states have hard-and-fast policies or criteria on this technology which leads to a wide spectrum of activities and attitudes concerning constructed wetlands.

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CATEGORY BG
SUBCATEGOR policy

TITLE U.S. Environmental Protection Agency's SITE emerging technology.
AUTHOR Bates, E.R., et al.
SOURCE Journal of the Air Pollution Control Association. July 1989. v. 39 (7). p. 927-35.
PUBLISHER
PAGES
DATE 1989
CALLNUM 449. 9 Ai7
ANNOTATION

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CATEGORY BG
SUBCATEGOR policy

TITLE Use of wetlands for water quality improvement under the USEPA region V clean lakes program.
AUTHOR Landers, J.C. and B.A. Knuth.
SOURCE Environmental Management. 15(2): 151-162.
PUBLISHER
PAGES
DATE
CALLNUM HC 79 E5E5
ANNOTATION

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CATEGORY BG
SUBCATEGOR policy

TITLE Wetland treatment systems--FY 91-96 research plan for the USEPA wetlands research program.
AUTHOR _____.
SOURCE NSI Technology Services Corp, Corvallis, OR
PUBLISHER
PAGES
DATE 1990, October
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR policy

TITLE Wetlands and water quality: EPA's research and monitoring implementation plan for the years 1989-1994.
AUTHOR Adamus, P.R. and E. Preston.
SOURCE EPA, Environmental Research Laboratory, Office of Research and Development, Corvallis, OR 97333.

PUBLISHER
PAGES 53p.
DATE 1989, March
CALLNUM
ANNOTATION The EPA wishes to demonstrate that existing surface water quality criteria for protecting the chemical, hydrological, and biological integrity of wetland resources is adequate. The agency wishes to develop technical information to support designation of particular wetlands for certain "uses"; estimate the limits of different wetland types, both constructed and natural, for intentionally or passively assimilating nutrients and contaminants.

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CATEGORY BG
SUBCATEGOR policy, institution

TITLE Use of wetlands for wastewater treatment and effluent disposal: institutional constraints.
AUTHOR Rusincovitch, F.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold, Co.
PAGES pp. 427-432
DATE 1985
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR policy/perception

TITLE Human perception of utilization of wetlands for waste assimilation, or how do you make a silk purse out of a sow's ear.
AUTHOR Smardon, R.C.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES 18 ref. WRA - WETLANDS.DO
DATE pp 287-295.
CALLNUM TD 756. 5 C66
ANNOTATION Recent emphasis on ecological values and multifunctional aspects of wetlands have improved the public's image of wetlands; however, loading wetlands with wastewater risks resenitizing all the historical negative imagery. This paper will present human perception of wetlands from a historical perspective; review the literature on how people perceive environmental quality in relation to odor, water quality, and wetland quality; and outline a data gathering

framework to assess public perceptions on the role of wetlands in water quality enhancements.

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CATEGORY BG
SUBCATEGOR pollutant removal

TITLE Aquatic plants for pH adjustment and removal of toxic chemicals and dissolved minerals from water supplies.
AUTHOR Wolverton, B.C. and B.K. Bounds.
SOURCE Journal of the Mississippi Academy of Science, Vol. 33, 1988.
PUBLISHER
PAGES
DATE 1988
CALLNUM 500 m697
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal

TITLE Aquatic plants for removal of mevinphos from the aquatic environment.
AUTHOR Wolverton, B.C. and D.D. Harrison.
SOURCE Jour. Miss. Acad. Sci., 19: 84-88.
PUBLISHER
PAGES
DATE 1975
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal

TITLE Purification efficiency of planted soil filters for wastewater treatment.
AUTHOR Netter, R.
SOURCE Water Science and Technology v 26 n 9-11 1992. pp 2317-2320.
PUBLISHER
PAGES pp 2317-2320
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal

TITLE Water quality functions of wetlands: natural and manmade systems.
AUTHOR Bastian, R.K. and J. Benforado.
SOURCE Proceedings of the International Symposium on Ecology and Management of Wetlands--Vol. 1: Ecology of Wetlands.
PUBLISHER Kent, UK: Croom Helm
PAGES pp. 87-97
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal N,P

TITLE Amplification of total dry matter, nitrogen, and phosphorus removal from stands of Phragmites australis by harvesting and reharvesting regenerated shoots.
AUTHOR Suzuki, T., W.G.A. Nissanka and Y. Kurihara.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 530-535
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Investigations have shown the Phragmites austrails are effective in removing nitrogen and phosphorus from wastewater. Harvesting the shoots could remove a large quantity of these nutrients. The experiment was designed to establish the best timing for harvesting and reharvesting the regenerated shoots and to amplify removal of total dry matter, nitrogen and phosphorus.

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CATEGORY BG
SUBCATEGOR pollutant removal, BOD

TITLE Vegetated submerged beds with artificial substrates. I: BOD removal.
AUTHOR Burgoon, P.S., T.A. Debusk, K.R. Reddy and B. Koopman.
SOURCE Journal of Engineering Mechanics, Vol. 117, No. 8.
PUBLISHER
PAGES pp. 394-407
DATE 1991, August.
CALLNUM 290. 9 AM3PS (EM)
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, metals

TITLE Uptake and losses of heavy metals in sewage sludge by a New England salt marsh.
AUTHOR Giblin, A.E., A. Bourg, I. Valiela and J.M. Teal.
SOURCE American Journal of Botany. 1980. v. 67 p. 1059-1068.
PUBLISHER
PAGES
DATE 1980
CALLNUM 450 Am36
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, N

TITLE Denitrification in artificial wetlands.
AUTHOR Stengel, E. and R. Schultz-Hock.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES Enviroline - WETLANDS.DOC
DATE pp 484-92.
CALLNUM TD 756. 5 C66
ANNOTATION Small artificial wetlands were examined for their potential to purify nitrate contaminated water into potable water. Macropytes were used for denitrification because of the low-oxygen content of wetland water. Denitrification in relation to oxygen concentration, organic carbon sources, and temperature; and oxygen conditions in the root horizon is presented in this paper.

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CATEGORY BG
SUBCATEGOR pollutant removal, N

TITLE Dentrification in wetlands as a means of water quality improvement.
AUTHOR Graetz, D.A., et al.
SOURCE Publication No. 48
PUBLISHER Gainesville, FL: University of Florida
PAGES
DATE 1980
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, N

TITLE Nitrogen removal in artificial wetlands.
AUTHOR Gersberg, R.M., B.V. Elkins and C.R. Goldman.
SOURCE Water Research. 17(9):1009-1014
PUBLISHER
PAGES
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, N

TITLE Use of artificial wetlands to remove nitrogen from wastewater.
AUTHOR Gersberg, R.M., B.V. Elkins and C.R. Goldman.
SOURCE Journal of the Water Pollution Control Federation. 56(2):152-156
PUBLISHER
PAGES
DATE 1984, February
CALLNUM 293.8 SE8
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, N,P

TITLE Vegetated submerged beds with artificial substrates. II: N and P removal.
AUTHOR Burgoon, P.S., K.R. Reddy, T.A. DeBusk and B. Koopman.
SOURCE Journal of Engineering Mechanics (ASCE), Vol. 117, No. 8.
PUBLISHER
PAGES pp. 408-424
DATE 1991, August
CALLNUM 290. 9 AM3PS (EM)
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, N--hydraulics

TITLE Hydraulic conductivity and nitrogen removal in an artificial wetland system.
AUTHOR McIntyre, B.D. and S.J. Riha.
SOURCE Journal of Environmental Quality. 20(1): 259-263.
PUBLISHER 2 fig, 2tab, 16 ref. CWET.TXT
PAGES
DATE
CALLNUM DNAL QH540.J6
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, P

TITLE Particulate phosphorous removal via wetland filtration: An examination of potential for hypertrophic lake restoration.
AUTHOR Lowe, E.F., et al.
SOURCE Environmental Management. Jan/Feb 1992. v. 16 (1) p. 67-74.
PUBLISHER
PAGES pp 67-74
DATE 1992
CALLNUM HC79 E5E5
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, P

TITLE Phosphorus removal efficiency of a constructed wetland treatment system.
AUTHOR Mann, R.A.
SOURCE M. App. Sci. (Thesis)
PUBLISHER 1990.
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal, P

TITLE Removal of phosphorus from wastewater by soil under aerobic and aerobic conditions.
AUTHOR Hill, D.E. and B.L. Sawhney.
SOURCE J. Environ. Qual. 10:401-405.
PUBLISHER

PAGES
DATE 1981
CALLNUM QH 540 J6
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal--metals

TITLE Comparisons of the processing of elements by ecosystems II: Metals.
AUTHOR Giblin, A.E.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold
PAGES pp. 158-179.
DATE 1985.
CALLNUM QH 545 549E3
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal--metals

TITLE Removal of heavy metals by artificial wetlands.
AUTHOR Gersberg, R.M., S.R. Lyon, B.V. Elkins and C.R. Goldman.
SOURCE Future of Water Reuse. Vol. 2.
PUBLISHER Denver, CO: American Water Works Association
PAGES pp. 639-648
DATE 1984
CALLNUM TD 429. W3 1984
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal--metals, Cd--plant--water hyacinth

TITLE Incorporation of cadmium by water hyacinth.
AUTHOR Blake, G., B. Kaigate, A. Fourcy and C. Boutin.
SOURCE Wat. Sci. Tech. 19 (10), 123-128
PUBLISHER
PAGES
DATE 1987
CALLNUM TD420 A1P7
ANNOTATION

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CATEGORY BG
SUBCATEGOR pollutant removal--plants

TITLE Biotransformation of priority pollutants using biofilms and vascular plants.
AUTHOR Wolverton, B.C. and R.C. McDonald-McCaleb.
SOURCE Journal of the Mississippi Academy of Science, Vol. 31.
PUBLISHER
PAGES
DATE 1986
CALLNUM 500 M697
ANNOTATION

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CATEGORY BG
SUBCATEGOR proceedings/abstracts/bibliographies

TITLE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
AUTHOR Hammer, D.A., ed.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial, and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES 831p.
DATE 1989
CALLNUM DNAL TD756.5.C66
ANNOTATION This volume contains the proceedings from the first comprehensive conference on constructed wetlands for water quality improvement. It represents the state-of-the-art in 1988; however, as new developments occur the information presented in this book will need revising. The goal of this book is to provide information to improve acceptance and increase application of constructed wetlands for water quality improvements.

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CATEGORY BG
SUBCATEGOR proceedings/abstracts/bibliographies

TITLE Constructed wetlands for water quality improvement.
AUTHOR _____.
SOURCE Paper Presented at the International Symposium on Constructed Wetlands for Water Quality Improvement, Pensacola, FL, October 2.
PUBLISHER
PAGES pp 10
DATE 1991
CALLNUM
ANNOTATION The author identifies various components of agricultural

wastewater and compiles and evaluates the parameters that need to be considered in treating agricultural wastewaters in wetlands. Some of the various components of agricultural wastewater include milk house wastewater, barnyard runoff, roof and upstream runoff, barn/confined animal flush water, leachate from stacked manure systems, silage leachate, nonpoint surface runoff from cropland, and tile drainage water. Each of the components possesses unique characteristics which creates specific problems for treatment.

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CATEGORY BG
SUBCATEGOR reed beds--design/operation

TITLE Draft design and operations guidelines for reed bed treatment system.
AUTHOR Cooper, P.F.
SOURCE Draft WRC Report
PUBLISHER April 1989.
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR root zone method

TITLE An assessment of the root zone method of wastewater treatment.
AUTHOR Conley, L.M., et al.
SOURCE Journal of the Water Pollution Control Federation. 63(3):239-48(May-June 1991).
PUBLISHER
PAGES
DATE 1991, May/June
CALLNUM TD419 R47
ANNOTATION

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CATEGORY BG
SUBCATEGOR soils

TITLE Physical and chemical characteristics of freshwater wetlands soils.
AUTHOR Faulkner, S.P. and C.J. Richardson.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal,

Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 41-72
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The chemical and physical parameters of soils, particularly freshwater wetland soils, influence their ability to effectively treat wastewater. This article describes soil properties, soil classifications, and saturated soil chemical processes of wetlands.

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CATEGORY BG
SUBCATEGOR thesis

TITLE Aspects of wetlands treatment.
AUTHOR Greaves, J.
SOURCE MSc Thesis
PUBLISHER
PAGES
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY BG
SUBCATEGOR water hyacinths--pollutant removal, NH4

TITLE Use of water hyacinth aquatic treatment systems for ammonia control and effluent polishing.
AUTHOR Hauser, J.R.
SOURCE Journal of the Water Pollution Control Federation. 56:219-226
PUBLISHER
PAGES
DATE 1984
CALLNUM 293. 8 SE8
ANNOTATION This paper presents the results of a 2-year pilot program investigating the use of water hyacinth aquatic treatment systems for ammonia removal and effluent polishing at a wastewater treatment plant. The aims of the pilot investigation were to determine if water hyacinth aquatic treatment systems could be used successfully for ammonia control, effluent polishing and to gain actual operational experience that could be used in a full-scale system design.

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE AS OF OCTOBER 24, 1995, TO

THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

1 NAL Call No.: 290.9-Am32P
A modified procedure for design of constructed wetlands.
Chen, S.; Malone, R. F.; Fall, L.
Paper American Society of Agricultural Engineers. 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

2 NAL Call No.: aQK130.R48--1992
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

3 NAL Call No.: 290.9-Am32T
A theoretical approach for minimization of excavation and media costs of constructed wetlands for BOD5 removal.
Chen, S.; Malone, R. F.; Fall, L. J.
Transactions of the 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.

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

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

5 NAL Call No.: TD420.A1P7
Design criteria and practice for constructed wetlands.
Crites, R. W.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: waste water treatment; wetlands; design; water flow; hydrology; biological treatment; aquatic plants; artificial wetlands

6 NAL Call No.: TD420.A1P7
Designing constructed wetlands for nitrogen removal.
Hammer, D. A.; Knight, R. L.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

7 NAL Call No.: QH545.A1E58
Effects of acidification on metal accumulation by aquatic plants and invertebrates. 1. Constructed wetlands.
Albers, P. H.; Camardese, M. B.
Environmental toxicology and chemistry 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

8 NAL Call No.: TD420.A1P7
Establishing wetland plants in artificial systems.
Chambers, J. M.; McComb, A. J.L.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

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

10 NAL Call No.: TD420.A1P7
Flow characteristics of planted soil filters.
Netter, R.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: waste water treatment; biological treatment; wetlands; water flow; measurement; aquatic plants; tracers; constructed wetlands; artificial wetlands

11 NAL Call No.: TD420.A1P7
Functions of macrophytes in constructed wetlands.
Brix, H.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

12 NAL Call No.: 290.9-Am32P
Hydraulic properties of bed media for constructed wetlands.
Turner, G. A.; Lesikar, B. J.; Fipps, G.
Paper American Society of Agricultural Engineers. 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

13 NAL Call No.: TD420.A1P7

Inventory of constructed wetlands in the United States.
Brown, D. S.; Reed, S. C.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

14 NAL Call No.: QH540.E23
Limited response of cordgrass (Spartina foliosa) to soil amendments in a constructed marsh.
Gibson, K. D.; Zedler, J. B.; Langis, R. Ecological applications 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

15 NAL Call No.: 290.9-Am32P
Phosphorus retention and distribution in constructed wetlands.
Cronk, J. K.; Mitsch, W. J.
Paper American Society of Agricultural Engineers. 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

16 NAL Call No.: QH540.J6
Phosphorus retention by wetland soils used for treated wastewater disposal.
Gale, P. M.; Reddy, K. R.; Graetz, D. A.
Journal of environmental quality 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.

17 NAL Call No.: TD420.A1P7
Potential use of constructed wetlands for wastewater treatment in Northern environments.
Jenssen, P. D.; Maehlum, T.; Krogstad, T.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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

18 NAL Call No.: TD899.C59K37--1993
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.

19 NAL Call No.: TD756.5.C67-1987
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.

Descriptor: Constructed wetlands

20 NAL Call No.: TD756.5.R44--1993
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.

Descriptor: Constructed wetlands

21 NAL Call No.: MeU Univ.-1990-H461
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. 1990.

22 NAL Call No.: TP248.2.B562
The use of macrophytes in bioremediation.
Wood, B.; McAtamney, C.
Biotechnology advances v.12, p.653-662. (1994).
In the special issue: Biotechnology and industry: Present and future / edited by C.R. Barnett, J.S.G. Dooley, A.P. McHale, and P.G. McKenna.

Descriptors: waste water treatment; bioremediation; wetlands; reviews; reed bed systems; constructed wetlands

23 NAL Call No.: TD755.T68-1980
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

24 NAL Call No.: TD420.A1P7
Use of artificial wetlands for the treatment of recreational wastewater.
Vincent, G.
Water science and technology: a journal of the International Association on Water Pollution Research and Control. v.29, p.67-70. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell. Australia.

Descriptors: water purification; wetlands; biological treatment; aquatic plants; nutrient uptake; phosphorus; nitrogen; nitrate; lakes; water-recreation; beaches ; waste water; waste water treatment; quebec; constructed-wetlands; artificial-lakes

25 NAL Call No.: TD420.A1P7--v.29-no.4
Wetland systems in water pollution control : proceedings of the IAWQ 3rd International Specialist Conference on Wetland Systems in Water Pollution Control, held in Sydney, Australia, 23-25 November, 1992.
1st ed. Bavor, H. J.; Mitchell, D. S.;
International Specialist Conference on Wetland Systems in Water Pollution Control (3rd : 1992 : Sydney, A. Oxford, U.K. ; Tarrytown, N.Y. : Pergamon : Elsevier Science, 1994. x, 336 p. : ill., maps.
On cover: IAWQ, International Association on Water Quality.

Descriptors: Water Pollution-Congresses; Wetlands-Congresses; Constructed wetlands-Congresses; Water quality management-Congresses

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HW
CATEGORY HW
SUBCATEGOR

TITLE A new community approach to waste treatment with higher water plants.
AUTHOR Burka, U. and P.C. Lawrence.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Pergamon Press, Inc.
PAGES pp. 359-371
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION The success of the two sewage treatment systems based on aquatic plants has attracted the attention of the industry, and communities. The industry has been impressed by the systems' performances while communities are impressed by a treatment systems' efficiency and aesthetics that can be an attractive community amenity.

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CATEGORY HW
SUBCATEGOR

TITLE An assessment of using artificial wetlands to treat sewage.
AUTHOR Fisher, P.J.
SOURCE Proceedings of the 13th annual federal convention,
PUBLISHER Canberra, Australia, 1989. p. 21-31.
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Constructed wetlands for municipal wastewater treatment.
AUTHOR Watson, J.T., G.R. Steiner and D.A. Hammer.
SOURCE Proceedings, Mississippi Water Resources Conference,
PUBLISHER
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Constructed wetlands for municipal wastewater treatment: prepared for presentation at the Miss. Water Resources Conf., Jackson, MS, March 29-30, 1988.
AUTHOR Steiner, G.R., J.T. Watson and D.A. Hammer.
SOURCE
PUBLISHER Chattanooga, TN: Tenn. Valley Authority, Office of Natural Resources and Economic Development.
PAGES 12p
DATE 1988?
CALLNUM DNAL TD755.S7
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Constructed wetlands for municipal wastewater treatment: state-of-the-art.
AUTHOR Watson, J.T.
SOURCE Presented at the Sym. Epuration Des Eaux Usees Par Les Plants: Perspectives D'Avenir Au Quebec, Montreal, Quebec, Canada, March 20, 1992.
PUBLISHER
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Constructed wetlands in effluent disposal.
AUTHOR Sfackney, B.J.
SOURCE Sixth National Local Government Engineering Conference, Hobart, Australia, August 25-30, 1991.
PUBLISHER Barton, Australia: IE
PAGES pp 179-83.
DATE 1991.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Constructed wetlands in effluent disposal.
AUTHOR Mackney, B.J.
SOURCE Effective Management of Assests and Environment National Conference Publication - Institution of Engineers, Australia n 91 pt 14.
PUBLISHER Barton, Australia: IE Aust.
PAGES pp. 179-183
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Constructed wetlands: a viable alternative to sewage treatment plants?
AUTHOR Groark, E.
SOURCE Splash! [A newsletter of the Save Our Streams program] 10(2)
PUBLISHER Izaak Walton League of America
PAGES p. 3
DATE 1990, Spring
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Domestic wastewater treatment in tanks planted with rooted macrophytes, case study, description of system, design criteria, efficiency.
AUTHOR Boutin, C.
SOURCE Post-Conference IAWPRC. Piracicaba, Brazil, 24-27 August 1986. Wat. Sci. Tech., 19 (12), pp 29-40
PUBLISHER
PAGES
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY HW

SUBCATEGOR

TITLE Ecological considerations in wetlands treatment of municipal wastewaters.
AUTHOR Godfrey, P.J., et al., eds.
SOURCE
PUBLISHER New York: Van Rostrand Reinhold
PAGES
DATE 1985
CALLNUM QH545. S49E3
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Environmental protection agency municipal wastewater treatment technology forum, Orlando, Florida, March 20-22 1990.
AUTHOR Environmental Protection Agency.
SOURCE
PUBLISHER Washington: EPA
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR
TITLE Etude experimentale de traitement des eaux usees par des lagunes facultatives et a hydrophytes libres au Niger. (Experimentation of wastewater treatment in facultative pond and lagoons with floating macrophytes in Niger)
AUTHOR Laouali, Garba et al.
SOURCE Water Quality Research Journal Canada, v. 31, No. 1
PUBLISHER
PAGES 37-50
DATE 1996
CALLNUM
ANNOTATION Article is in French, with an English abstract.

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CATEGORY HW
SUBCATEGOR

TITLE Gas exchange through the soil-atmosphere interphase and through dead culms of Phragmites australis in a constructed

reed bed receiving domestic sewage.
AUTHOR Brix, H.
SOURCE Water Research. 1990. v. 24 p. 259-266.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE General design, construction, and operation guidelines: constructed wetlands wastewater treatment systems for small users including individual residences.
AUTHOR Steiner, G.R., J.T. Watson and K.D. Choate.
SOURCE Tennessee Valley Authority, Chattanooga. Aquatic Biology Dept. Report: TVA/WR/WQ-91/2.
PUBLISHER NTIS Accession No. DE91015968XAB
PAGES
DATE 1991, March
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Inland marshes are saving dollars.
AUTHOR Birmingham, T.H.
SOURCE Public Works, Vol. 119, No.12
PUBLISHER
PAGES pp. 50-52
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Innovative solutions to small community wastewater problems.
AUTHOR Schutz, F.P.
SOURCE Operations Forum: Water Environment Federation Vol. 9, No. 6, p 12-15, 1992
PUBLISHER
PAGES pp 12-15

DATE 1992
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Inventory of constructed wetlands for municipal wastewater treatment in the U.S.
AUTHOR Brown, D.S. and S.C. Reed.
SOURCE Pub. in Proc., ASCE Nat. Env. Eng Conference. Report No. EPA/600/D-91/087; NTIS Accession No. PB91-191247/XAB.
PUBLISHER
PAGES
DATE 1991, July
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Natural sewage recycling systems.
AUTHOR Small, M.M.
SOURCE Brookhaven National Laboratory BNL-50630
PUBLISHER NTIS BNL-50630
PAGES 36p.
DATE 1977
CALLNUM
ANNOTATION This paper presents a review of the development of the natural treatment systems, Marsh/Pond and Meadow/Marsh/Pond, which produces potable water from sewage. No conventional treatment plant hardware beyond aeration was used. Experiments for the two prototype systems are described and performance data are presented in detail for the Marsh/Pond systems.

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CATEGORY HW
SUBCATEGOR

TITLE Needs and problems in sewage treatment and effluent disposal facing small communities: the role of wetland treatment alternatives.
AUTHOR Bastian, R.K.
SOURCE Transactions of the Kentucky Academy of Sciences. 52(1/2): 41-49.
PUBLISHER

PAGES
DATE 1991, March
CALLNUM 500 K41
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE On-site alternatives for treatment and disposal.
AUTHOR Pause, S.M.
SOURCE Journal-Water Pollution Control Federation, Vol.61, No. 6
PUBLISHER
PAGES pp. 844-845
DATE 1989, June
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Performance of solid-matrix wetland systems, viewed as fixed-film bioreactors.
AUTHOR Bavor, H.J., et al.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 646-656
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Wastewater treatment of solid-matrix constructed wetland systems has been investigated during the design, operation, and maintenance of seven large-scale units. Removal of suspended solids, biochemical oxygen demand, nitrogen, phosphorus, and fecal coliforms were investigated with respect to loading, detention time, and temperature parameters to allow predictive modeling of the system performance.

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CATEGORY HW
SUBCATEGOR

TITLE Potential replacement of septic tank drain fields by artificial marsh wastewater treatment systems.
AUTHOR Fetter, C.W., W.E. Sloey, and F.L. Spangler.
SOURCE Ground-water. 1976. v. 14 p. 396-402.

PUBLISHER
PAGES
DATE 1976
CALLNUM TD 403 G7
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Removal of nutrients from treated municipal wastewater by wetland vegetation.
AUTHOR Boyt, R.L. et al.
SOURCE Journal of the Water Pollution Control Federation. 1977. v. 49. p. 780.
PUBLISHER
PAGES
DATE 1977
CALLNUM 293. 8 SE8
ANNOTATION The town of Wildwood Florida had been releasing secondary treated wastewater into a mixed hardwood swamp for 20 years. The Florida Department of Environmental Regulation was concerned that nutrients from the wastewater effluent might reach Lake Panasoffkee. This paper presents a description of the study area, experimental design, and the results of the swamp's effectiveness in nutrient uptake.

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CATEGORY HW
SUBCATEGOR

TITLE Report on the use of wetlands for municipal wastewater treatment and disposal.
AUTHOR Environmental Protection Agency.
SOURCE EPA Report 430/09-88-005.
PUBLISHER NTIS Accession No.: PB88-233481/XAB
PAGES 32p.
DATE 1987
CALLNUM IPM 911118407
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Revolution in wastewater treatment.
AUTHOR Gillette, B.
SOURCE Biocycle, Vol. 29, No. 3.

PUBLISHER
PAGES pp. 49-51
DATE 1988
CALLNUM 57.8 C734
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Secondary treatment of domestic wastewater using floating emergent macrophytes.
AUTHOR Debusk, T.A., P.S. Burgoon and K.R. Reddy.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 525-529
DATE 1989
CALLNUM TD 756.5 C66
ANNOTATION Studies in Florida have demonstrated that shallow ponds containing large-leaved floating macrophytes, such as pennywort and water hyacinth, can remove biochemical oxygen demand (BOD) from domestic wastewaters. Because pennywort and water hyacinth cannot grow year long in cooler climates, the authors examined BOD and suspended solids removal rates from primary effluent using floating and emergent macrophytes cultured in pond and gravel-bed systems.

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CATEGORY HW
SUBCATEGOR

TITLE Sewage treatment in helophyte beds--first experiences with a new treatment procedure.
AUTHOR Bucksteeg, K.
SOURCE Wat. Sci. Tech. 19 (10) 1987, 1-10
PUBLISHER
PAGES
DATE
CALLNUM TD420 A1P7
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Sewage treatment with plants.

AUTHOR Stott, R.F. and S.J.L. Wright.
SOURCE Letters in Applied Microbiology. 12(4): 99-105.
PUBLISHER
PAGES
DATE April 1991.
CALLNUM QR1 L47
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Technical report: the effects of wastewater treatment facilities on wetlands in the midwest.
AUTHOR USEPA
SOURCE EPA-905/3-83-002
PUBLISHER
PAGES
DATE 1983, Sept.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE The use of Phragmites for wastewater treatment by the root zone method--the UK approach.
AUTHOR Cooper, P.F. and A.G. Boon.
SOURCE Aqautic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, Fl: Magnolia Publishing, Inc.
PAGES pp. 153-174
DATE 1987
CALLNUM TD475 C65 1986
ANNOTATION The root zone method of wastewater treatment is being evaluated in the United Kingdom. It may have significant benefits in relation to operational costs and performance for the treatment of sewage for small populations, especially in rural areas. The treatment process is described and compared with similar processes.

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CATEGORY HW
SUBCATEGOR

TITLE Treatment of wastewater using artificial wetlands: Large-scale, fixed-film bioreactors.
AUTHOR Bavor, H.J., et al.

SOURCE Austrialian Biotechnology. 1987 v. 1 (4).
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE TVA's constructed wetlands demonstration.
AUTHOR Choate, K.D., J.T. Watson and G.R. Steiner.
SOURCE Constructed Wetlands for Water Quality Improvement
PUBLISHER CRC Press, Inc.
PAGES pp 509-516
DATE 1993
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Use of artificial wetlands for wastewater treatment.
AUTHOR Wile, I., G. Palmateer, and G. Miller.
SOURCE Presented at Minnesota Water Planning Board, Wetlands Values & Management Conference, St. Paul, MN, June 17-19, 1981.
PUBLISHER Original doc. avail. from Bowker
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Utilization of natural ecosystems for wastewater renovation.
AUTHOR Burton, T.M., D.L. King, R.C. Ball and T.G. Bar.
SOURCE EPA-905/3-79-003 USEPA Region V, Great Lakes National Programs Office.
PUBLISHER
PAGES 155p.
DATE 1979, April
CALLNUM TD 746 U78
ANNOTATION Michigan State University in cooperation with the City of East Lansing, Michigan, constructed a permanent facility

for the experimental treatment, recycle and reuse of municipal sewage plant effluent. The waste flow is directed into an intensely managed aquatic and terrestrial nutrient recycling system. This report presents the preliminary research results.

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CATEGORY HW
SUBCATEGOR

TITLE Wastewater treatment by artificial wetlands.
AUTHOR Gersberg, R.M., B.V. Elkins, and C.R. Goldman.
SOURCE Water Science and Technology. 1984. v. 17 p. 443-50.
PUBLISHER
PAGES
DATE 1984
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Wastewater treatment by constructed wetlands: Using nature's way with an engineered constructed wetlands may be the solution to your wastewater treatment problems.
AUTHOR Tennessee Valley Authority.
SOURCE TVA Water Quality Branch.
PUBLISHER Chattanooga
PAGES
DATE 1987
CALLNUM TD756.5 W3
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Wastewater treatment using aquatic plants.
AUTHOR Fisher, P.J.
SOURCE Alternative Waste Treatment Systems.
PUBLISHER New York: Elsevier Science Publishing Co.
PAGES pp. 34-44
DATE 1988
CALLNUM TD511 A53
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Wetlands and wastewater management: questions, answers, advice, and guidance.
AUTHOR Wernstedt, K.
SOURCE EPA, Office of Cooperative Environmental Management, Report No.:EPA/600/9-89/028
PUBLISHER
PAGES 178p.
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Wetlands wastewater treatment systems.
AUTHOR Small, M.M.
SOURCE Proceedings of the International Symposium, State of Knowledge in Land Treatment of Wastewater, Hanover, NH, August 20-25, 1978.
PUBLISHER
PAGES
DATE 1978, June
CALLNUM TD760. S8 1978 Vol. 2
ANNOTATION Judging from the demonstrated performance of two artificial wetland prototypes, it appears that these systems are technically superior to conventional secondary treatment plants and can be the equivalent of advanced water treatment plants. Construction, operating cost, design constraints of the wetlands, and a discussions of extensions for other prototype designs are presented in this paper.

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CATEGORY HW
SUBCATEGOR ancillary benefits

TITLE Creation and management of wetlands using municipal wastewater in northern Arizona: a status report.
AUTHOR Wilhelm, M., S.R. Lawry and D.D. Hardy.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 179-185
DATE 1989
CALLNUM TD 756. 5 C66

ANNOTATION Appropriation of water for agricultural, industrial and municipal uses has decreased natural wetland habitats. Municipal wastewater used to create new wetlands in northwestern Arizona may offse natural wetland losses.

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CATEGORY HW
SUBCATEGOR ancillary benefits

TITLE Land treatment of municipal wastewater on Mississippi Sandhill Crane National Wildlife Refuge for wetlands/crane habitat enhncement: a status report.
AUTHOR Hardy, J.W.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 186-190
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION One of the primary objectives for recovery and survival of the Mississippi sandhill crane is to restore desirable habitats, including plant communities and water regimes. Following lengthy feasibility reviews, governmental agencies signed a memorandum of understanding to allow land treatment of primary-treated effluent on the Mississippi Sandhill Crane National Wildlife Refuge. The two components of the project are a lagoon system and the land treatment system.

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CATEGORY HW
SUBCATEGOR ancillary benefits

TITLE Wastewater treatment/disposal in a combined marsh and forest system provides for wildlife habitat and recreational use.
AUTHOR James, B.B. and R. Bogaert.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 597-605.
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The Mt. View Sanitary District treatment plant treats sewage flows averaging 5300 m3/day with comminution, primary sedimentation, two-stage high-rate biofiltration, secondary sedimentation, chlorination, and dechlorination. This paper presents a summary of 15 years of operating experience on two wetland areas constructed in the 1970's and the marsh/forest pilot project, receiving secondary effluent from the district's wastewater treatment plant as the sole water source.

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CATEGORY HW
SUBCATEGOR aquaculture

TITLE Aquatic plant culture for waste treatment and resoure recovery.
AUTHOR Kingsley, J.B., J.J. Maddox and P.M. Giordano.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 542-549
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION There has been limited efforts to recover useful products from artificial wetland systems that treat liquid waste streams from municipalities, industries, and agricultural enterprises. Some of the aquatic plants with potential uses in industry and agriculture are Chinese water chestnuts, cattails, and common reeds. This project demonstrated the potential of three aquatic macrophytes to remove pollutants from wastewater and produce useful crops.

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CATEGORY HW
SUBCATEGOR aquaculture

TITLE Assessment of aquaculture for reclamation of wastewater.
AUTHOR Duffer, W.R.
SOURCE Water Reuse.
PUBLISHER Ann Arbor, MI: Ann Arbor Science.
PAGES pp. 349-367
DATE 1982
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR aquaculture

TITLE Combined artificial wetlands and high rate algal pond for wastewater treatment and protein production.
AUTHOR Wood, A., J. Scheepers and M. Hills.
SOURCE Water Science and Technology Vol. 2 (of 5). p659-668.
PUBLISHER
PAGES pp 659-668
DATE 1989
CALLNUM

ANNOTATION

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CATEGORY HW
SUBCATEGOR aquaculture

TITLE Municipal wastewater aquaculture.
AUTHOR Duffer, W.R. and J.E. Moyer.
SOURCE NTIS PB-284. EPA-600/2-78-110
PUBLISHER
PAGES 46p
DATE 1978, June
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies

TITLE Marsh-pond-meadow treatment facility.
AUTHOR Walters, D.H.
SOURCE Case Study 1 of the Case Study Series. Small Flows. January 1986.
PUBLISHER Morgantown, WV: West Virginia University.
PAGES
DATE 1986, Jan 17.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies, KY

TITLE Analysis of gravel cell number three, Benton, KY wetlands.
AUTHOR Kadlec, R. H.
SOURCE Report prepared for the TVA.
PUBLISHER
PAGES
DATE 1991, April
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies, PA pollutant removal, N

TITLE Nitrification and denitrification at the Iselin, Pennsylvania marsh/pond/meadow facility.
AUTHOR Davido, R.L. and T.E. Conway.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 477-83
DATE 1989
CALLNUM TD756.5 C66
ANNOTATION Combinations of marshes, ponds and meadows can be effective wastewater treatment systems. The Iselin Marsh/Pond/Meadow is an example of an active wetland system that has proven effective in removing nitrogen from wastewater. The authors intend to define major zones of nitrification and denitrification and provide base data for future work at the site for optimizing removal capacities.

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CATEGORY HW
SUBCATEGOR case studies--CA

TITLE Constructed free surface wetlands to treat and receive wastewater: pilot project to full scale.
AUTHOR Gearheart, R.A., F. Klopp, and G. Allen.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 121-137
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The city of Arcata, California has completed four years of a pilot project study that polished secondary-treated wastewater with constructed freshwater wetlands. The pilot study demonstrated that a constructed wetland can provide reliable tertiary treatment for municipal wastewater. This paper presents the pilot studies results and conclusions, two years of full-scale wetland operation. In addition the pilot's wetland management and design criteria for wastewater treatment are presented.

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CATEGORY HW
SUBCATEGOR case studies--MN

TITLE Minnesota's experience with the biologically activated soil filtration unit.
AUTHOR Tomasek, M.D., G.E. Johnson and P.J. Mulloy.
SOURCE Water Quality Division, Minnesota Pollution Control Agency, 6th Annual International Symposium, Lake and Reservoir Management: Influences of Nonpoint Source Pollutants and

Acid Precipitation,
PUBLISHER
PAGES
DATE November 1986.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--NY

TITLE Data report, marsh/pond sewage treatment plants.
AUTHOR Small, M.M.
SOURCE Dept. of Applied Science, Brookhaven National Laboratory, Upton, NY.
PUBLISHER
PAGES
DATE 1976, May
CALLNUM
ANNOTATION The Marsh/Pond located at Brookhaven National Laboratory is a prototype natural wastewater treatment facility whose purpose is to continuously renovate sewage to groundwater rechargeable quality. Since the system is still under study, it is premature to draw detailed observations; however, the purpose of this paper is to present the principal data from one year of test observations.

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CATEGORY HW
SUBCATEGOR case studies--NY

TITLE Data report, meadow/marsh/pond system.
AUTHOR Small, M.M. and C. Wurm.
SOURCE Brookhaven National Laboratory
PUBLISHER NTIS BNL-50675
PAGES 28p.
DATE 1977
CALLNUM TD760 S7
ANNOTATION The Meadow/Marsh/Pond has been in various modes of continuous operation since 1973 for the purpose of renovating blends of septage and weak sewage to groundwater recharge quality. The system is economical to build and operate, attractive, free of disease vectors, aerosols and objectionable odors. This paper presents a report that summarizes 13 months of operating data.

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CATEGORY HW

SUBCATEGOR case studies--NY

TITLE Meadow/marsh systems as sewage treatment plants.
AUTHOR Small, M.M.
SOURCE Brookhaven National Laboratory, Upton, NY.
PUBLISHER NTIS BNL-20757
PAGES
DATE 1975
CALLNUM
ANNOTATION For the past three years Brookhaven National Laboratory has been building, operating and testing Marsh/Meadow/Pond and Marsh/Pond sewage treatment systems. Presently, there is no clear choice on which system is better. Therefore, it is expected that land availability, terrain, and crop value will be the principal determinants in a choosing a system.

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CATEGORY HW
SUBCATEGOR case studies--New Zealand

TITLE Constructed wetlands for wastewater treatment: The New Zealand experience.
AUTHOR Bhamidimarri, R., et al.
SOURCE Water Science and Technology. 1991. v. 24 (5) p. 247-53.
PUBLISHER
PAGES
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--Ontario, CAN.

TITLE Listowel artificial marsh treatment project.
AUTHOR Herskowitz, J., S. Black and W. Lewandowski.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing, Inc.
PAGES pp. 247-254
DATE 1987
CALLNUM
ANNOTATION Complete mix aeration cell effluent and lagoon effluent were treated in five separate cattail marsh treatment systems for four years. The marsh systems demonstrated large reductions in biochemical oxygen demand, suspended solids and bacteria on a year round basis. The marsh effluent treatment quality ranged between conventional secondary and tertiary treatment levels.

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CATEGORY HW
SUBCATEGOR case studies--Ontario, CAN.

TITLE Use of artificial cattail marshes to treat sewage in northern Ontario, Canada.
AUTHOR Miller, G.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 636-642
DATE 1989
CALLNUM td 796.5 c66
ANNOTATION A southwestern Ontario marsh project established that a properly configured cattail marsh has the capacity to significantly improve the quality of sewage wastewater. This inexpensive marsh treatment technology seemed ideally suited for some northern Ontario communities that could not afford the capital costs of conventional sewage treatment. This paper presents the findings of the study.

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CATEGORY HW
SUBCATEGOR case studies--S. Africa

TITLE Experimental investigations into the use of emergent plants to treat sewage in South Africa.
AUTHOR Alexander, W.V. and A. Wood.
SOURCE Water Science and Technology, Vol. 19, No. 10.
PUBLISHER
PAGES pp. 51-59
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--S. Africa

TITLE Low-cost and low-energy wastewater treatment systems: A South-African perspective.
AUTHOR Batchelor, A. et al.
SOURCE Water Science and Technology. 1991. v. 24 (5) p. 241-246.
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--SE USA

TITLE Demonstration of constructed wetlands for treatment of municipal wastewaters, monitoring report for the period: March 1988 to October 1989.
AUTHOR Choate, K.D., J.T. Watson and G.R. Steiner.
SOURCE TVA/WR/WQ--90/11
PUBLISHER
PAGES 107p.
DATE 1990, August
CALLNUM
ANNOTATION Three full-scale wetland treatment systems were constructed for the purpose of investigating and promoting the feasibility and benefits of using constructed wetlands for treating domestic wastewater. The constructed wetlands designs, operation status, and performance are presented in this report. Based on the findings, changes in the monitoring and operation of each system are addressed.

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CATEGORY HW
SUBCATEGOR case studies--SE USA

TITLE First semiannual monitoring report: demonstration of constructed wetlands for treatment of municipal wastewater, March to December 1988.
AUTHOR Choate, K.D., G.R. Steiner and J.T. Watson.
SOURCE TVA/WR/WQ--89/5
PUBLISHER
PAGES 36p.
DATE 1989, July
CALLNUM
ANNOTATION Since standardized design criteria are currently not available to engineers and regulators, several governmental agencies implemented a demonstration to investigate and promote the feasibility and benefits of using constructed wetlands for treating domestic wastewater. Three full-scale wetland treatment systems were constructed and a description of the systems are presented in this report. Also the initial ten months of monthly monitoring data and a dye study for the Benton system is presented.

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CATEGORY HW
SUBCATEGOR case studies--FL

TITLE Community waste research at the Walt Disney World resort complex.
AUTHOR _____.
SOURCE unpublished
PUBLISHER
PAGES
DATE no date
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--FL

TITLE Man-made wetlands for wastewater treatment: two case studies.
AUTHOR Jackson, J.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 574-580
DATE 1989
CALLNUM TD756. 5 C55
ANNOTATION State and federal agencies are discouraging the traditional practice of discharging treated wastewater directly to surface waters. Wastewater treatment technologies must develop effluent methods that use low-lying or otherwise less desirable lands while adequately protecting surface water resources. Two constructed wetlands that meet both of these criteria are presented in this paper.

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CATEGORY HW
SUBCATEGOR case studies--KY

TITLE Municipal waste water treatment by constucted wetlands--a TVA demonstration in western Kentucky.
AUTHOR Steiner, G.R., J.T. Watson and D.A. Hammer.
SOURCE Prepared for Presentation at the Conference on Increaseing our Wetland Resources, Washington, DC, October 4-7, 1987.
PUBLISHER TVA, Office of Nat. Resources and Economic Development, Div. of Air and Water Resources.
PAGES
DATE 1987
CALLNUM GH87.4 W47 1987
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--KY

TITLE Performance of constructed wetland treatment systems at Benton, Hardin, and Pembroke, Kentucky during the early vegetation establishment phase.
AUTHOR Watson, J.T., K.D. Choate and G.R. Steiner.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Oxford: Pergamon Press
PAGES pp. 171-182
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--SC

TITLE Performance of the boggy gut wetland treatment system, Hilton Head, South Carolina.
AUTHOR Knight, R.L. and K.A. Ferda.
SOURCE Wetlands: Concerns and Successes.
PUBLISHER Bethesda, MD: Am. Water Resources Assc.
PAGES pp. 439-450
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--TN,KY

TITLE Municipal wastewater treatment with artificial wetlands--a TVA/Kentucky demonstration.
AUTHOR Steiner, G.R., et al.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing, Inc.
PAGES pp. 923-932
DATE 1987
CALLNUM
ANNOTATION The use of artificial wetlands is neither widely known nor accepted by engineering firms and regulatory agencies. To circumvent this problem, the Tennessee Valley Authority in cooperation with the Kentucky Division of Water has implemented a project to demonstrate the feasibility and benefits of artificial wetlands sewage treatment systems. Three full scale treatment systems, marsh-pond-meadow, the root-zone method, and the gravel marsh, will be constructed for technology demonstration and technology transfer.

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CATEGORY HW
SUBCATEGOR case studies--NV

TITLE Constructed wetlands at Mesquite, Nevada.
AUTHOR Crites, R.W., et al.
SOURCE Proceedings of the 1991 Specialty Conference on Environmental Engineering.
PUBLISHER New York: ASCE
PAGES p. 390-95.
DATE 1991.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--CA

TITLE Final report City of Arcata marsh pilot project.
AUTHOR Gearheart, R.J. et al.
SOURCE Report C-06-2270.
PUBLISHER Arcata, CA: City of Arcata Dept. of Public Works
PAGES
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--CA

TITLE Wastewater reclamation and reuse for Malibu, California.
AUTHOR Stone, H. and A. Bouchard.
SOURCE Water Resources Planning and Management and Urban Water Resources.
PUBLISHER New York, NY: ASCE
PAGES pp 249-253.
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--CA--ancillary benefits

TITLE Wetlands creation for habitat and treatment at Mt. View

sanitary district, California.
AUTHOR Demgen, F.C., et al.
SOURCE Aquatic Systems for Wastewater Treatment: Seminar Proceedings and Engineering Assessment.
PUBLISHER Washington: EPA Office of Water Programs Operaitons, Municipal Division
PAGES
DATE pp 61-73.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR case studies--OR

TITLE Cannon Beach, Oregon wetlands/marsh.
AUTHOR Walters, D.H.
SOURCE Case Study 7 of the Case Study Series. Small Flows. March 1986.
PUBLISHER Morgantown, WV: West Virginia Univ.
PAGES
DATE 1986, March 6
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR Denmark

TITLE Danish experience with emergent hydrophyte treatment systems (EHTS) and prospects in the light of future requirements to outlet water quality.
AUTHOR Schierup H.H. and H. Brix.
SOURCE Small Wastewater Treatment Plants, Water Science and Technology. 1989. v. 22 (3/4) p. 65-72.
PUBLISHER
PAGES
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR Denmark

TITLE Danish experience with sewage treatment in constructed wetlands.
AUTHOR Brix, H. and H.H. Schierup.

SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 565-573
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Treating wastewater with the root-zone method was introduced as a low-cost, low technology decentralized solution capable of producing an effluent quality equivalent to or even exceeding, conventional tertiary treatment technology. The process depends on a horizontal subsurface flow through the common reed rhizosphere. The most important functions of macrophytes in the reeds beds are to supply oxygen to the aerobic microorganisms in the rhizosphere and to increase/ stabilize the hydraulic permeability of the soil.

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CATEGORY HW
SUBCATEGOR Denmark--reed beds

TITLE Sewage treatment in constructed reed beds--danish experiences.
AUTHOR Brix, H. and H.H. Schierup.
SOURCE Water Science Technology J. Int. Assc. Water Pollut. Res. Cont. Vol. 21 (12) p. 1665-1668, 1989.
PUBLISHER
PAGES pp 1665-1668
DATE 1989
CALLNUM DNAL TD420.A1P7
ANNOTATION

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CATEGORY HW
SUBCATEGOR design considerations

TITLE Constructed wetlands and aquatic plant systems for municipal wastewater treatment process design manual.
AUTHOR Environmental Protection Agency.
SOURCE EPA Report 625/1-88/022.
PUBLISHER Cincinnati: U. S. EPA Center for Environmental Information
PAGES
DATE 1988
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR design considerations--operations

TITLE Integrated wastewater treatment using artificial wetlands: a gravel marsh case study.
AUTHOR Gersberg, R.M., S.R. Lyon, R. Brenner and B.V. Elkins.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 145-152
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Artificial wetlands have the capability to perform integrated wastewater treatment using natural processes, with low energy input, and capital and operation and maintenance expense, make them very attractive for use by small to medium-sized communities for meeting discharge limitations. The primary objective of this paper is to present design and operational data on the use of artificial wetlands to perform secondary treatment of municipal wastewater. A second objective is to describe the mechanisms of nitrogen and total coliform bacteria removal.

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CATEGORY HW
SUBCATEGOR design considerations--performance--reed beds

TITLE Land-treatment systems: design and performance with special reference to reed beds.
AUTHOR Bayes, C.D., D.H. Bache and R.A. Dickson.
SOURCE Journal of the Institution of Water Engineers and Scientists, Vol. 3, No. 6.
PUBLISHER
PAGES 1989, December
DATE
CALLNUM TD 420 W374
ANNOTATION

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CATEGORY HW
SUBCATEGOR design--construction--costs

TITLE Constructed wetlands: design, construction, and costs.
AUTHOR Whalen, K.J., P.S. Lombardo, D.B. Wile, and T.H. Neel.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 590-96
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The Mayo Water Reclamation Subdistrict Large Communal Water Reclamation Facility will treat septic tank effluent

collected from 2000 homes. The reclamation facility consists of a recirculating sand filters, bulrush wetlands, ultraviolet disinfection, peat wetlands, a posteration aspirator, and an offshore wetland. Design and construction issues presented in this paper include process design, basin design, process control features, storm impact, construction, and construction costs.

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CATEGORY HW
SUBCATEGOR design--performance

TITLE Design and performance of the constructed wetland wastewater treatment system at Phillips High School, Bear Creek, Alabama.
AUTHOR Watson, J.T.
SOURCE TVA/WR/WQ-90/5.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR design--performance--case studies--PA

TITLE Design and performance of the artificial wetlands wastewater treatment plant at Iselin, Pennsylvania.
AUTHOR Watson, J.T., F.D. Diodatao and M. Luach.
SOURCE
PUBLISHER Chatanooga, TN: Tenn. Valley Authority. Office of Natural Resources and Economic Development.
PAGES 15p
DATE 1986?
CALLNUM TD525 P4W3
ANNOTATION

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CATEGORY HW
SUBCATEGOR energy conservation

TITLE Energy conservation in municipal wastewater treatment.
AUTHOR Wesner, G.M., et al.
SOURCE MCD-32
PUBLISHER Washington, DC: EPA 430-9-77-011
PAGES
DATE 1978, March

CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR engineering considerations

TITLE Domestic wastewater treatment using emergent plants cultured in gravel and plastic substrates.
AUTHOR Burgoon, P.S., K.R. Reddy and T.A. DeBusk.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 536-541
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Wetland substrate (except in the case of a soil matrix) is generally thought of as inert material that provides surface area for bacteria colinization. The use of high-specific-surface-area substrates in the trickling filter process has improved biochemical oxygen demand removal and nitrification when compared to the traditional gravel substrates. This study compared plant growth and wastewater treatment in two plastic substrates and in a one-centimeter-diameter gravel, each subtrate had different specific surface areas.

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CATEGORY HW
SUBCATEGOR engineering considerations

TITLE Wetlands for wastewater treatment: an engineering perspective.
AUTHOR Reed, S.C. and R.K. Bastian.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold Co.
PAGES pp. 444-450
DATE 1985
CALLNUM QH 545 549 E3
ANNOTATION

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CATEGORY HW
SUBCATEGOR engineering considerations--Africa

TITLE Research to develop engineering guidelines for implementation of constructed wetlands for wastewater treatment in southern Africa.

AUTHOR Wood, A. and L.C. Hensman.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 581-589
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Increasing production and disposal of domestic wastewaters have caused accelerated eutrophication of many of South Africa's evaluate the potential for constructed wetlands in wastewater treatment. This paper presents current research designed to provide engineering data on the biological and physiogeochemical constraints of the constructed wetland concept.

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CATEGORY HW
SUBCATEGOR engineering considerations--construction

TITLE Constructing the wastewater treatment wetlands: some factors to consider.
AUTHOR Tomljanovich, D.A. and O. Pereze.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 399-404
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The size of constructed wetlands treating wastewater may range from several square meters to several hectares. Design parameters vary with size, site characteristics, hydrologic group, pollutant type and loading rate, geographic locale, watershed characteristics, proximity to residential development, and anticipated operation and maintenance requirements. Construction process of wastewater treatment wetland and some important factors that influence success are presented in this paper.

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CATEGORY HW
SUBCATEGOR engineering considerations--design--sizing

TITLE TVA's new design guidelines for constructed wetlands alter size, shape, design process.
AUTHOR Schutz, F.R.
SOURCE Small Flows. January 1992. v. 6 (1) p. 1.
PUBLISHER
PAGES
DATE 1992, Jan
CALLNUM

ANNOTATION

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CATEGORY HW
SUBCATEGOR Germany

TITLE Treatment of domestic sewage in emergent helophyte beds--German experiences and ATV-guidelines H 262.
AUTHOR Bucksteeg, K.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Pergamon Press, Inc
PAGES pp. 505-515
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION Approximately 300 sewage treatment plants consisting of helophyte beds may be in operation in Germany. The beds consist of either gravel, sand, cohesive soil, or artificial mixtures of sand and soil, and many different varieties of helophyte were used. Experiences from several reed beds with cohesive soil are disappointing while ones with a specific helophyte bed consisting or iron-containing uniform sand shows good effluent results.

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CATEGORY HW
SUBCATEGOR gravel beds

TITLE Wastewater treatment by rooted aquatic plants in sand and gravel trenches.
AUTHOR Pope, P.
SOURCE Available from NTIS as PB81-213241
PUBLISHER
PAGES
DATE 1981
CALLNUM
ANNOTATION A process to treat municipal wastewater using a biological treatment process (utilizes higher aquatic plants and a series of trenches) that requires a minimal amount of mechanical equipment and manpower for normal operation was evaluated. The major goal was to achieve effluent meeting the U.S. Federal Effluent Standards. This paper presents a description of the system and a discussion of the results.

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CATEGORY HW
SUBCATEGOR gravel/reed beds

TITLE Reed bed treatment systems: experimental gravel beds at

Gravesend--the southern water experience.
AUTHOR Christian, J.N.W.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Pergamon Press, Inc.
PAGES pp. 309-319
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION Various types of domestic wastewaters were treated in experimental reed beds that utilized gravel as the growing medium for common reeds. The beds performed well although several lessons were learned during the design, construction, planting and operational stages. With good weed control, reed beds have a pleasant appearance and provide a habitat for a large bird population.

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CATEGORY HW
SUBCATEGOR monitoring

TITLE Monitoring of constructed wetlands for wastewater.
AUTHOR Hicks, D.B. and Q.J. Stober.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER 1989.
PAGES
DATE pp. 447-455.
CALLNUM TD 756.5 C66
ANNOTATION The use of constructed wetland for the disposal and treatment of wastewater is emerging as an alternative to conventional approaches for small communities and industries. Monitoring data are essential to measure the treatment levels and to indicate the functional status and biological integrity of the wetland system. The cost and effort of monitoring increases with chemical complexity of the influent to be treated and the ecological diversity of the wetlands to be maintained.

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CATEGORY HW
SUBCATEGOR

TITLE Brookhaven's two sewage treatment systems.
AUTHOR Small, M.M.
SOURCE Compost Science, Autumn, 1975.
PUBLISHER
PAGES
DATE 1975
CALLNUM 57.8 C734
ANNOTATION Two novel sewage treatment systems, Marsh/Meadow/Pond and Marsh/Pond, are in operation at the Brookhaven, NY. Both

systems return drinkable water to the ground water supply, neither produces any sludge for further disposal, and both are in competition with one another to determine which is the least expensive to build and operate. This paper presents a description and the advantages and disadvantage of each system.

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CATEGORY HW
SUBCATEGOR

TITLE Iselin marsh pond meadow.
AUTHOR Conway, T.E. and J.M. Murtha.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 139-144
DATE 1989
CALLNUM TD756. 5 C66
ANNOTATION Pennsylvania Sewage Facilities Act of 1966 initially favored large, centralized regional sewage treatment systems which became increasingly difficult for small communities to finance. With 3500 small communities unable to obtain funding, innovative approaches, like the Iselin, PA marsh-pond-meadow, were needed. This paper presents an overview of the Iselin marsh pond system from planning stages to on line treatment.

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CATEGORY HW
SUBCATEGOR NE USA

TITLE Mayo peninsula water reclamation facilities.
AUTHOR Dept. of Utilities, Anne Arundel Co. Maryland.
SOURCE
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR nutrient removal

TITLE Nutrient removal using shallow lagoon-solid matrix macrophyte systems.
AUTHOR Bavor, H.J., W.E. Scott and A. Wood.

SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing, Inc.
PAGES pp. 227-235
DATE 1987
CALLNUM
ANNOTATION This paper presents information on the design, operation, and performance of seven large-scale, shallow lagoon-macrophyte systems that receive secondary treated sewage effluent. The systems consist of gravel filled trenches which have been designed to have dense macrophyte, unplanted gravel, and open water sections. Removal of the effluent components (biochemical oxygen demand, nitrogen, and indicator bacteria) has been effective.

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CATEGORY HW
SUBCATEGOR pathogens/vectors

TITLE Fate of microbial indicators and viruses in a forested wetland.
AUTHOR Scheuerman, P.R., G. Bitton and S.R. Farrah.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 657-63
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Wetlands have been suggested as an inexpensive means for tertiary treatment of sewage effluents. Concern regarding potential contamination of ground and surface waters with heavy metals, trace organics, nitrates, and microbial pathogens must be considered. Little is known regarding the fate of microorganisms in wetland systems, more is known about the fate of bacteria than viruses, and improvement in bacteriological water quality of sewage effluents has been observed.

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CATEGORY HW
SUBCATEGOR pathogens/vectors

TITLE Mosquito production in constructed wetlands for treatment of municipal wastewater.
AUTHOR Tennessen, K.J. and M.K. Painter.
SOURCE TVA/WR/AB--90/4, March 1990
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR pathogens/vectors

TITLE Survival of bacteria and viruses in municipal wastewaters applied to artificial wetlands.
AUTHOR Gersberg, R.M., et al.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando: Magnolia
PAGES pp 237-247.
DATE 1987.
CALLNUM
ANNOTATION This paper presents a study where the survival of indigenous total coliform bacteria and seeded MS-2 bacteriophage was examined in artificial wetlands which received primary municipal wastewaters. The results demonstrate that artificial wetlands may serve as low-cost alternatives to conventional treatment systems for reducing the load of disease-causing bacteria and viruses to the aquatic environment.

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CATEGORY HW
SUBCATEGOR plants

TITLE Pennywort and duckweed marsh systems for upgrading wastewater effluent from a mechanical package plant.
AUTHOR Wolverton, B.C. and R.C. McCaleb.
SOURCE Aquatic Palnts for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing
PAGES pp. 289-294
DATE 1987
CALLNUM TD475 C65 1986
ANNOTATION

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CATEGORY HW
SUBCATEGOR plants

TITLE The use of aquatic macrophytes in water-pollution control.
AUTHOR Brix, H. and H.H. Schierup.
SOURCE Ambio. 1989. v. 18 p. 100-107.
PUBLISHER
PAGES
DATE 1989
CALLNUM QH 540. A52
ANNOTATION

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CATEGORY HW
SUBCATEGOR plants--water hyacinths

TITLE Multiple applications for water hyacinth.
AUTHOR Joglekar, V.R. and V.G. Sonar
SOURCE BioCycle, January, 1987.
PUBLISHER
PAGES pp. 46-48
DATE 1987
CALLNUM 57.8 C734
ANNOTATION The rapid urbanization of thousands of Indian towns has led to an urgent need to develop a financially self-sustaining composite system for recycling domestic wastewater. This paper presents a description of one such system and the research associated with its development.

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CATEGORY HW
SUBCATEGOR plants--water hyacinths

TITLE Upgrading wastewater treatment by water hyacinth in developing countries.
AUTHOR Kumar, P. and R.J. Garde.
SOURCE Water Science and Technology, Vol. 22, No. 7/8.
PUBLISHER
PAGES pp. 153-160
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR policy

TITLE Use of wetlands for municipal wastewater treatment and disposal: regulatory issues and EPA policies.
AUTHOR Bastian, R.K., P.E. Shanaghan and B.P. Thompson.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 265-278
DATE 1989
CALLNUM TD756. 5 C66
ANNOTATION Freshwater, brackish, and saltwater wetlands have served as natural water treatment systems for centuries. Studies have shown that wetlands are able to provide high levels of

wastewater treatment. However, concern has been expressed over possible harmful effects of toxic materials and pathogens in wastewaters and long-term degradation of wetlands due to the additional nutrient and hydraulic loadings from wastewater discharge.

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CATEGORY HW
SUBCATEGOR policy--regulatory issues

TITLE Regulatory and policy considerations on wetlands and municipal wastewater treatment.
AUTHOR Davis, D. and J.C. Montgomery.
SOURCE Paper presented at the Conference on Aquatic Plants for Water Treatment and Resource Recovery, Orlando, FL, July 20-24, 1986.
PUBLISHER
PAGES 16p.
DATE 1986
CALLNUM TD 475 C65 1986
ANNOTATION Under section 404 of the Clean Water Act The Environmental Protection Agency (EPA) seeks to preserve wetlands through its review of Army Corps of Engineers or state permits for discharge of dredged or fill material to waters of the U.S. (which includes wetlands). EPA has identified wetlands values in their ability to utilize nutrients which would otherwise pollute streams, rivers and lakes and to act as buffers for non-point source water pollution. The agency also supports artificial wetland-type treatment land treatment systems as part of its Innovative and Alternative wastewater construction grants program.

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CATEGORY HW
SUBCATEGOR polishing

TITLE Enhancing effluent water quality of sedimentation basins using constructed wetlands technology.
AUTHOR Taylor, H.N.
SOURCE Prodeedings - National Conference on Hydraulic Engineering.
PUBLISHER New York: ASCE
PAGES pp 746-50.
DATE 1991.
CALLNUM TC5 H824 1991
ANNOTATION

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CATEGORY HW

SUBCATEGOR polishing

TITLE The performance of an artificial wetland for the treatment of biological filter effluent.
AUTHOR Furnes, H.D., K.J. Healey, D.A. Kerdachi, and W.N. Richards.
SOURCE Paper presented at the Symposium on Ecology and Conservation of Wetlands in South Africa,
PUBLISHER
PAGES
DATE October 15-16, 1987.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR pollutant removal

TITLE Design criteria for BOD5 removal in constructed reed beds.
AUTHOR Brix, H. et al.
SOURCE Preprints of proceedings of the international conference on design and operation of small wastewater treatment plants,
PUBLISHER Trondheim: Lewis Publishers, Inc.
PAGES p. 565-573.
DATE 1989.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR pollutant removal N,P,COD--reed bed

TITLE Removal of nitrogen, phosphorus and COD from wastewater using sand filtration system with Phragmites australis.
AUTHOR Ariyawathie, G.
SOURCE Water Resources, 21 1217-24
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR pollutant removal--Austria

TITLE Root-zone system: Mannersdorf-new results.
AUTHOR Haberl, R. and R. Perfler.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal,

Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 606-621
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Uncertainties regarding wetland treatment of sewage led to the decision to construct a full-sized experimental treatment plant and to manage it while allowing concurrent scientific studies. Proximity to an existing municipal sewage plant and soil conditions that did not require an impermeable membrane were some of the conditions for placing the site at Mannersdorf. This paper presents experimental results on sewage technology studies, hydraulic investigations, microbiological investigations, plant physiology studies, and soil science investigations.

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CATEGORY HW
SUBCATEGOR pollutant removal--metals

TITLE Removal of heavy metals and sewage sludge using the mud snail, Cipangopaludina chinensis malleata reeve, in paddy fields as artificial wetlands.
AUTHOR Kurihara, Y. and T. Suzuki.
SOURCE Water Science and Technology, Vol. 19, No. 12.
PUBLISHER
PAGES pp. 281-286
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR pollutant removal--plants

TITLE Comparison of plant density and growth forms related to removal efficiencies in constructed wetlands treating municipal wastewaters.
AUTHOR Pullin, B.P. and D.A. Hammer.
SOURCE Tennessee Valley Authority Valley Resource Center, Waste Technology Program.
PUBLISHER
PAGES
DATE 1989, October
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR reed beds

TITLE Purification of domestic sewage with and without faeces by vertical itermittent filtration in reed and rush beds.
AUTHOR Bahlo, K.E. and F.G. Wach.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Pergamon Press, Inc.
PAGES pp. 215-221
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION The description of two sewage treatment plants based on hydrophyte systems working under practical conditions are presented. One plant is fed with a normal domestic sewage and the other is fed with household wastewater without faeces. Both plants were operated from an intermittent application and flow of sewage effluent from septic tanks into this constructed wetland.

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CATEGORY HW
SUBCATEGOR reed beds--China

TITLE Reed-wetland beds for municipal wastewater treatment.
AUTHOR Tang, Y., et al.
SOURCE Journal of Environmental Science (China) 4 (1). 1992, pp 23-31
PUBLISHER
PAGES pp 23-31
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR reed beds--design--operations

TITLE European design and operations guidelines for reed bed treatment systems
AUTHOR Cooper, P.E., (ed.)
SOURCE EC/EWPCA Emergent Hydrophyte Treatment Systems Expert Contact Group Report U1 17, Swindon, Wiltshire.
PUBLISHER
PAGES
DATE 1990
CALLNUM
ANNOTATION Approximately 500 Reed Bed Treatment Systems have been constructed in Western Europe since 1984. Removal efficiencies range from 80-90% for biochemical oxygen demand, 20-30% for nitrogen, and 30-40% for phosphorous.

The purpose of this paper in not necessarily to recommend how to design the best working system, since the present knowledge does not allow this, but to advise constructors of items that should not be incorporated into system design.

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CATEGORY HW
SUBCATEGOR reed beds--Egypt

TITLE Reed-bed system purifies sewage, British research team to build full-scale test site in Egypt.
AUTHOR _____.
SOURCE BioCycle
PUBLISHER
PAGES
DATE 1987, Feb.
CALLNUM 57.8 C734
ANNOTATION

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CATEGORY HW
SUBCATEGOR reed beds--UK

TITLE Sewage treatment by reed bed systems: the present situation in the United Kingdom.
AUTHOR Cooper, P.F. and J.A. Hobson.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 153-171
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The United Kingdom's Water Authority agreed that reed bed treatment system had potential for sewage systems for small rural situations, but it was clear that there were several areas of uncertainty. To make rapid progress and prevent duplication, a group was formed to coordinate research and development. This paper presents principles behind reed bed technology systems and outline progress made to December 1987.

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CATEGORY HW
SUBCATEGOR reed beds--UK

TITLE Use of reed bed systems in th UK.
AUTHOR Cooper, P.F., J.A. Hobson and C. Findlater.
SOURCE Water Science and Technology, Vol. 22, No. 3/4.

PUBLISHER
PAGES pp. 57-64
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR root-zone method

TITLE The applicability of the wastewater treatment plant in Otffresen as scientific documentation of the root-zone method.
AUTHOR Brix, H.
SOURCE Water Science and Technology. 1987. v. 19 (10) p. 19-24.
PUBLISHER
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR secondary treatment

TITLE Constructed wetlands for secondary treatment.
AUTHOR Mingee, T.J. and R.W. Crites.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI, Lewis Publishers, Inc.
PAGES pp. 622-627
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Constructed wetlands can provide a low-cost wastewater treatment alternative to achieve secondary treatment for small to midsized communities. This paper presents a case study of a constructed wetland system utilizing emergent aquatic vegetation. The history, pilot-study effort, construction problems, construction costs, and initial performance data are included in this study.

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CATEGORY HW
SUBCATEGOR secondary treatment--tertiary treatment

TITLE Design, construction, establishment and operation of gravel bed hydroponic (GBH) systems for secondary and tertiary sewage treatment.

AUTHOR Butler, J.E., M.G. Ford, R.F. Loveridge and E. May.
SOURCE Constructed Wetlands for Water Pollution Control.
PUBLISHER Pergamon Press, Inc.
PAGES pp. 539-542
DATE 1990
CALLNUM TD 756. 5 C66
ANNOTATION Gravel bed hydroponic (GPH) system based on features presented in this paper have been operating satisfactorily for a number of years in both the United Kingdom and Egypt. GPH systems can provide a cost-effective and environmentally acceptable alternative to conventional biological sewage treatment. Important design features include bed length and depth, aggregate size and type, channel gradient, maintenance of an adequate water depth and choice of hydrophyte.

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CATEGORY HW
SUBCATEGOR secondary treatment--tertiary treatment

TITLE Gravel bed hydroponic systems used for secondary and tertiary treatment of sewage effluent.
AUTHOR Butler, J.E., R.F. Loveridge, M.G. Ford, D.A. Bone and R.F. Ashworth.
SOURCE Journal of the Institution of Water and Environmental Management, Vol. 4, No. 3.
PUBLISHER
PAGES pp. 276-284.
DATE 1990
CALLNUM
ANNOTATION Gravel bed hydroponic (GBH) systems planted with emergent hydrophytes can treat domestic sewage effluent to acceptable environmental standards in an economic and efficient manner. A discussion of Portsmouth Polytechnic reed-bed sewage treatment GBH projects in the UK and Egypt are presented in this paper along with an assessment of current progress.

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CATEGORY HW
SUBCATEGOR septage--case studies--MA

TITLE Solar aquatic treatment of septage.
AUTHOR Spencer, R.
SOURCE Biocycle. 31(5):66-70 (May 1990)
PUBLISHER
PAGES
DATE 1990. May
CALLNUM 57.8 C734
ANNOTATION

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CATEGORY HW
SUBCATEGOR septic tank effluent

TITLE Aquatic plant/microbial filters for treating septic tank effluent.
AUTHOR Wolverton, B.C.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 173-178
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Problems with septic tank systems are not normally associated with properly installed, sealed tanks, but with the leach fields. The authors studies indicate that septic tank effluent from single homes can be treated to advanced secondary levels or better by using a washed gravel filter. If a point source discharge is undesirable, a perforated leach field tubing should be used to disperse the treated rock/plant filter effluent beneath the soil according to soil tolerances.

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CATEGORY HW
SUBCATEGOR STP upgrades

TITLE Town uses constructed wetlands to upgrade treatment.
AUTHOR Schutz, F.R.
SOURCE Small Flows, Vol. 4, No. 4. may 1990
PUBLISHER West Virginia Univ.
PAGES
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR STP upgrades

TITLE Utilization of created wetlands to upgrade small municipal wastewater treatment systems.
AUTHOR Pride, R.E., J.S. Nohrstedt and L.D. Benefield.
SOURCE Water, Air, and Soil Pollution 50:371-385, 1990
PUBLISHER
PAGES 371-3815
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR tertiary treatment

TITLE Artificial wetlands as tertiary treatment systems.
AUTHOR Greiner, R.W. and G.D. Butijn.
SOURCE Water Science and Technology, Vol. 17, No. 8.
PUBLISHER
PAGES pp. 1429
DATE 1985
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR tertiary treatment

TITLE The use of freshwater wetlands as a tertiary wastewater treatment alternative.
AUTHOR Kadlec, R.H. and D.L. Tilton.
SOURCE CRC Critical Rewiews in Environmental Control
PUBLISHER
PAGES pp. 185-201
DATE 1979
CALLNUM QH 545 A1C7
ANNOTATION

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CATEGORY HW
SUBCATEGOR tertiary treatment

TITLE The use of wetands as a tertiary treatment procedure.
AUTHOR Kadlec, R.H. and J.A. Tilton.
SOURCE CRC Crit. Rev. Environ. Control. 1979. v. 9 p. 185-212.
PUBLISHER
PAGES
DATE 1979
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR tertiary treatment

TITLE Use of a forested wetland in South Carolina for tertiary

treatment of municipal wastewater.
AUTHOR Baughman, D.S., et al.
SOURCE Water: Laws and Management.
PUBLISHER Bethesda, Md: Am. Water Resources Assc.
PAGES pp. 7A-25--7A-37
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR tertiary treatment

TITLE Wetlands for tertiary treatment.
AUTHOR Kadlec, R.H.
SOURCE Wetlands Functions and Values: The State of Our Understanding.
PUBLISHER Minneapolis, MN: American Water Resoruce Association
PAGES pp. 490-504.
DATE 1979.
CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR upgrade--design concepts--case studies, AL

TITLE Design of the Fort Deposit, Alabama, constructed wetlands treatment system.
AUTHOR Knight, R.L. and M.E. Inverson.
SOURCE Constructed Wetlands in Water Pollution Control.
PUBLISHER Oxford, UK: Pergamon Press.
PAGES pp. 521-524
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION

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CATEGORY HW
SUBCATEGOR

TITLE Small wastewater reclamation systems: a necessity in drought-plagued California.
AUTHOR Dawyot, R.A.
SOURCE Small Flows, Vol. 5
PUBLISHER West Virginia Univ.
PAGES
DATE 1991, July 3.

CALLNUM
ANNOTATION

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CATEGORY HW
SUBCATEGOR water hyacinths--design

TITLE Evolution and performance of city of San Diego pilot wastewater treatment system using water hyacinths.
AUTHOR Tchobanoglous, G., F. Maitski, K. Thompson and T.H. Chadwick.
SOURCE Presented at the 60th Annual Conference of the Water Pollution Control Federation, Philadelphia, PA, October 5-8, 1987.
PUBLISHER
PAGES 36p.
DATE 1987
CALLNUM
ANNOTATION Since 1981, the city of San Diego has been experimenting with an aquatic system for the secondary treatment of wastewater. The aquatic system is based on the use of water hyacinth ponds. The purpose of this paper is to chronicle the evolution and performance of the water hyacinth based treatment system and to present a discussion of the important engineering and related considerations that must be addressed in the design of these systems.

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE, AS OF OCTOBER 24, 1995, TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

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

2 NAL Call No.: TD756.5.S74--1993
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

3 NAL Call No.: TD420.A1P7
Investigation into the use of constructed reedbeds for municipal waste dump leachate treatment.
Urbanc Bercic, O.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: landfill leachates; biological treatment; wetlands; phragmites australis; gravel; biochemical oxygen demand; chemical oxygen demand; waste water treatment; yugoslavia; artificial wetlands; slovenia; constructed wetlands

4 NAL Call No.: TD420.A1P7
Factors affecting nitrogen removal in horizontal flow reed beds.
Platzer, C.; Netter, R.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

5 NAL Call No.: TD420.A1P7
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 science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: wetlands; water reuse; waste water treatment; sewage effluent; nutrients; removal; nutrient uptake; florida; constructed wetlands; artificial wetlands

6 NAL Call No.: KF27.P89632-1992
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

7 NAL Call No.: TD420.A1P7
Treatment of nitrogen and phosphorus by a constructed upland-wetland wastewater treatment system.
House, C. H.; Broome, S. W.; Hoover, M. T.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

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IW
CATEGORY IW
SUBCATEGOR

TITLE Artificial marsh treats industrial wastewater.
AUTHOR Gillette, B.
SOURCE BioCycle, February, 1989.
PUBLISHER
PAGES
DATE 1989
CALLNUM 57.8 C734
ANNOTATION

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CATEGORY IW
SUBCATEGOR

TITLE Considerations for wetland treatment of spent geothermal fluids.
AUTHOR Kaczynski, V.W.
SOURCE Ecological Considerations in Wetlands Treatment of Municipal Wastewaters.
PUBLISHER New York: Van Nostrand Reinhold, Co.
PAGES pp. 48-65

DATE 1985
CALLNUM QH 545 549 E3
ANNOTATION

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CATEGORY IW
SUBCATEGOR

TITLE Natural processes for treatment of organic chemical waste.
AUTHOR Wolverton, B.C.
SOURCE The Environmental Professional, Vol. 3.
PUBLISHER
PAGES
DATE 1981
CALLNUM
ANNOTATION

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CATEGORY IW
SUBCATEGOR

TITLE Treatability assessment of industrial wastes by a portable wetland unit.
AUTHOR Davies, T.H., J.T. Watson and D.B. Jenkins.
SOURCE Constructed Wetlands for Water pollution Control.
PUBLISHER Oxford: Pergamon Press
PAGES pp. 403-410
DATE 1990
CALLNUM TD 756. 5 I57
ANNOTATION

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CATEGORY IW
SUBCATEGOR aquaculture

TITLE Utilization and treatment of thermal discharges by establishment of a wetlands plant nursery.
AUTHOR Ailstock, M.S.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 719-726
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION As part of a water discharging permit, Nevamar Corporation study methods to improve holding pond thermal efficiency. These improvements were compatible with and would be optimized with a wetlands plants nursery. Thermal

treatment pond/aquatic nursery design, efficiency of modifications for improving wastewater treatment, nursery productivity during the first year, and a summary of potential applications are presented in this paper.

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CATEGORY IW
SUBCATEGOR auto manufacturing

TITLE Reuse of an industrial wastewater at Saturn.
AUTHOR Barnett, M., et al.
SOURCE Environmental Engineering Proc 91 Spec Conf Environ Eng.
PUBLISHER New York: ASCE
PAGES
DATE 1991.
CALLNUM
ANNOTATION

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CATEGORY IW
SUBCATEGOR clam proccessing water

TITLE Feasibility and modeling of the use of New Jersey salt marshes to treat clam processing wastewater.
AUTHOR Guida, V.G. and I.J. Kugelman.
SOURCE Final Report to the National Marine Fisheries Service
PUBLISHER (1988).
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY IW
SUBCATEGOR clam processing water--effluent polishing

TITLE Experiments in wastewater polishing in constructed tidal marshes: does it work? Are the results predictable?
AUTHOR Guida, V.G. and I.J. Kugelman.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 727- 734
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Natural tidal salt marshes may have limited use in wastewater treatment applications. Three environmental factors were addressed using experimental results: (1) does tidal flooding

frequency prevent effective treatment, (2) marshes demonstrate either net import or export of organic material and nutrients to surrounding water, (3) is the outcome of effluent polishing readily predictable.

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CATEGORY IW
SUBCATEGOR landfill leachate

TITLE Natural renovation of leachate-degraded groundwater in excavated ponds at a refuse landfil.
AUTHOR Dornbush, J.N.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 743-752.
DATE 1989
CALLNUM TD 756. 5 C66

ANNOTATION The trench and wetland ponds at Brookings Landfill have remediated the effect of excessive contaminant concentrations in the "downstream" groundwater. It is hoped that other landfill (active or closed) might benefit by the use of man-made wetlands in the form of trenches and ponds to protect against, or possibly correct excessive groundwater degradation.

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CATEGORY IW
SUBCATEGOR landfill leachate

TITLE Potential use of constructed wetlands to treat landfill leachate.
AUTHOR Staubitz, W.W., et al.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 735-742
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Infiltration of precipitation and migration of water through municipal solid waste landfills produce leachate that contain undesirable or toxic chemicals. This study was designed to investigate the fate and transport of landfill leachate in a constructed wetland and provide engineering design data for construction and operation of full-size leachate treatment systems.

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CATEGORY IW
SUBCATEGOR landfill leachate

TITLE Potential use of constructed wetlands to treat landfill leachate.
AUTHOR Surface, J.M., et al.
SOURCE USGS second national symposium on water quality; abstracts of the technical sessions, Orlando, FL, Nov. 12-17, 1989.
PUBLISHER
PAGES pp. 98-99
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY IW
SUBCATEGOR landfill leachate

TITLE Use of artificial wetlands for treatment of municipal solid waste landfill leachate.
AUTHOR Trautmann, N.M., J.H. Martin, K.S. Porter and K.C. Hawk.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 245-251
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Leachate treatment at municipal wastewater treatment facilities is one option for meeting water quality; however, this can be expensive and energy intensive. One possible method to reduce cost and energy requirements is to treat the leachate on-site using artificially constructed wetlands. This paper presents a proposed study to evaluate the feasibility of this approach at a municipal sanitary landfill.

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CATEGORY IW
SUBCATEGOR leachate

TITLE Application of natural and engineered wetlands for treatment of low-strength leachate.
AUTHOR Birkbeck, A.E., D. Reil and R. Hunter.
SOURCE Constructed Wetlands for Water Pollution Control.
PUBLISHER Pergamon Press, Inc.
PAGES pp. 411-418
DATE 1990
CALLNUM TD 756. 5 I57

ANNOTATION Six experimental marsh systems were constructed to examine the feasibility of using the marsh (root zone) treatment method to treat landfill leachate. The effluent quality needed for discharge into the environment was not achieved in the test marsh systems. The marsh must be made several times longer to obtain the desired effluent quality.

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CATEGORY IW
SUBCATEGOR oil refining

TITLE Constructed wetlands for wastewater treatment at Amoco oil company's Mandan, North Dakota refinery.
AUTHOR Litchfield, D.K. and D.D. Schatz
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp. 233-237
DATE 1989
CALLNUM TD 756.5 C66
ANNOTATION To comply with new environmental standards, Amoco decided to expand the Manden, North Dakota refinery's existing biooxidation systems. Secondary wastewater is discharged into a six hectare lagoon for initial secondary treatment. It is pumped to a high point for distribution among several routes through a series of cascading ponds and ditches before discharge.

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CATEGORY IW
SUBCATEGOR paper mills

TITLE Utilization of artificial marshes for treatment of pulp mill effluents.
AUTHOR Thut, R.N.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 239-244
DATE 1989
CALLNUM TD 756 .5 C66
ANNOTATION Two studies, 24-hour static test and a 96-hr flow-through test, were conducted with secondary effluent from a bleached kraft mill in a pilot scale anaerobic-filter reed treatments system. The system was effective in removing nitrogen, phosphorus, total organic carbon, and color. These encouraging results led to a more rigorous, long-term study which is the subject of this paper.

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CATEGORY IW
SUBCATEGOR paper mills

TITLE Water quality improvement of pulp and paper mill effluents by aquatic plants.
AUTHOR Allender, B.M.
SOURCE Appita 37:303-306 (1984)
PUBLISHER
PAGES
DATE
CALLNUM 302.8 AU7
ANNOTATION

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CATEGORY IW
SUBCATEGOR pollutant removal, TOC

TITLE Capacity of a swamp forest to assimilate the TOC loading from a sugar refinery wastewater stream.
AUTHOR Gambrell, R.P., R.A. Khalid and W.H. Patrick, Jr.
SOURCE Journal of the Water Pollution Control Federation, Vol. 59, No. 10.
PUBLISHER
PAGES pp. 897-904
DATE 1987. October
CALLNUM 293.8 SE8
ANNOTATION A Louisiana sugar refinery has been discharging soluble organic carbon into a swamp which is a tributary for the Blind River and Lake Maurepas. Governmental agencies have expressed concerned about the affects from the effluent on the river and lake's biochemical oxygen demand; however, the refinery contends that the swamp serves as an effective wastewater treatment system. This paper present the results of an investigation that measures the effluent affects on these water bodies.

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CATEGORY IW
SUBCATEGOR pollutant removal--metals

TITLE Potential use of constructed wetlands for treatment of industrial wastewaters containing metals.
AUTHOR Dunbabin, J.S. and K.H. Bowmer.
SOURCE Science of the Total Environment. III(2-3):151-69 (15 Jan 1992).
PUBLISHER
PAGES

DATE 1992
CALLNUM
ANNOTATION

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CATEGORY IW
SUBCATEGOR sugar mill

TITLE Artificial wetlands for the treatment of mill effluent.
AUTHOR Schmann, G.T.
SOURCE Sugar Journal:54:10, pp 26-30, 1992
PUBLISHER
PAGES pp 26-30
DATE 1992
CALLNUM 65.9 SO83
ANNOTATION

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE AS OF OCTOBER 24, 1995, TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

1 NAL Call No.: LU 378.76-L930-1992-batu
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

2 NAL Call No.: TD420.A1P7
Microbial ecology of constructed wetlands used for treating pulp mill wastewater.
Hatano, K.; Frederick, D. J.; Moore, J. A.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

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

3 NAL Call No.: 302.8-T162
Operating experience with constructed wetlands for wastewater treatment.
Knight, R. L.
Tappi Journal v.75, p.109-112. (1993).
Includes references.

Descriptors: wetlands; waste water treatment; water quality; pulp and paper industry; pulp mill effluent

4 NAL Call No.: TD420.A1P7
The use of constructed wetlands for treating industrial effluent (textiles dyes).
Davies, T. H.; Cottingham, P. D.
Water science and technology: a journal of the International Association on Water Pollution Research and Control v.29, p.227-232. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell. Australia.

Descriptors: factory effluents; textile industry; dyes; waste water treatment; biological treatment; wetlands; phragmites; phragmites australis; microbial degradation; artificial wetlands

5 NAL Call No.: 290.9-Am32P
Variability in treatment by constructed wetlands.
Kuehn, E.; Moore, J. A.
Paper American Society of Agricultural Engineers St. Joseph, Mich. : American Society of Agricultural Engineers,. Winter 1993. (932578) 19 p.
Paper presented at the "1993 International Winter Meeting of the American Society of Agricultural Engineers," December 14-17, 1993, Chicago, Illinois.

Descriptors: wetlands; waste treatment; pulp mill effluent

6 NAL Call No.: TD420.A1P7
Wetland treatment of pulp mill wastewater.
Moore, J. A.; Skarda, S. M.; Sherwood, R.
Water science and technology: a journal of the International Association on Water Pollution Research and Control v.29, p.233-239. (1994). v.29, p.241-247. (1994).
In the series analytic: Wetlands systems in water pollution control / edited by H.J. Bavor and D.S. Mitchell. Australia.

Descriptors: pulp mill effluent; waste water treatment; biological treatment; aquatic plants; ponds; biochemical oxygen demand; color; removal; oregon; constructed wetlands; artificial wetlands

7 NAL Call No.: 57.8-C734
Constructed wetlands for industrial wastewater.
Gillette, B.
Biocycle v.35, p.80, 82-83. (1994).

Descriptors: waste water; waste water treatment; wetlands; kentucky

8 NAL Call No.: Z5853.S22S38--1993
Sewage and industrial waste treatment, wetlands : (Oct 87 - present) : citations from the Selected Water Resources Abstracts database.
Citations from the Selected Water Resources Abstracts database.
United States. National Technical Information Service. [Springfield, Va.] : U.S. Dept. of Commerce, National Technical Information Service,

[1993] 1 v. (unpaged).
"Dec 93"--P. [v].

Descriptors: Sewage Purification Bibliography; Sewage disposal in the ground-Bibliography; Land treatment of wastewater-Bibliography; Constructed wetlands-Bibliography

9 NAL Call No.: TD420.A1P7
Phosphorus removal in constructed wetlands using gravel and industrial waste substrata.
Mann, R. A.; Bavor, H. J.
Water science and technology: a journal of the International Association on Water Pollution Research and 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

10 NAL Call No.: KyU Thesis-1992-Mitchell
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

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UR
CATEGORY UR
SUBCATEGOR

TITLE A current assessment of urban best management practices.
AUTHOR Schueler, T.
SOURCE
PUBLISHER Washington, DC: Metropolitan Washington Council of Governments
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE A detention basin-artificial wetland treatment system to renovate stormwater runoff from urban highway and industrial areas.
AUTHOR Meyer, J.L.

SOURCE Wetlands 5 (0). 1985
PUBLISHER
PAGES pp 135-146
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Creation of wetlands for the improvement of water quality: a proposal for the joint use of highway right-of-way.
AUTHOR Linker, L.C.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 695-701.
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION This paper presents a proposal for joint use of a highway right-of-way with an engineered wetland to control urban nonpoint source pollution. A preliminary analysis of the site's control effectiveness and design life are presented in this paper.

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CATEGORY UR
SUBCATEGOR

TITLE Environmental feasibility of using wetlands to treat runoff pollution.
AUTHOR Gadbois, L.E.
SOURCE Naval Ocean Systems Center, San Diego, CA.
PUBLISHER
PAGES
DATE 1989 October
CALLNUM TD433 G32
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Greenwood urban wetland: a manmade stormwater treatment facility.
AUTHOR Palmer, C. N. and J. D. Hunt.
SOURCE Wetlands: Concerns and Successes.

PUBLISHER Bethesda, MD: Am. Water Resources Assc.
PAGES pp. 205-214
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Guidelines for constructing wetland stormwater basins.
AUTHOR Maryland Department of Natural Resources.
SOURCE Maryland Department of Natural Resources, Water Resources Administration, Annapolis, MD, March 1987.
PUBLISHER
PAGES
DATE
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Overview of the Lake Jackson restoration project with artificially created wetlands for treatment of urban runoff.
AUTHOR Esry, D.H., and D.J. Cairns
SOURCE Wetlands: Concerns and Successes
PUBLISHER Bethesda, MD: Americam Water Resources Association
PAGES pp 247-257
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Percentage entrainment of constituent loads urban runoff, south Florida.
AUTHOR Miller, R.A.
SOURCE USGS WRI 84-4319 (1985).
PUBLISHER
PAGES
DATE 1985
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Regional BMP master plans.
AUTHOR Hartigan, J.P.
SOURCE Urban Runoff Quality-Impaction Conference, Henniker, NH, June 23-27, 1986. p. 351-356.
PUBLISHER
PAGES pp. 351-356
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Retention of an Existing Wetland for Stormwater Management: A New Approach for Calgary, Alberta.
AUTHOR van Duin, B., J. Gareau, P. Jalkotsky and J. McCauley
SOURCE Stormwater and Water Quality Management Modeling Conference, March 2-3, 1995, Toronto, Ontario
PUBLISHER
PAGES 11 pp.
DATE 1995
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Seasonal freshwater wetlands development and potential for urban runoff treatment in the San Francisco Bay area.
AUTHOR Silverman, G.S.
SOURCE Sci & Eng, Vol 44, No. 5
PUBLISHER
PAGES 202p.
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Stormwater treatment by natural systems.
AUTHOR Harper, H.H., et al.
SOURCE Report submitted to the Florida Department of Environmental Regulation.
PUBLISHER
PAGES
DATE December 1986
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE The use of wetlands for stormwater managment and nonpoint pollution control: a review of the literature.
AUTHOR Stockdale, E.C.
SOURCE report submitted to the Washington State Department of Ecology
PUBLISHER
PAGES
DATE 1986, October
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Use of wetlands for controlling stormwater pollution.
AUTHOR Strecker, E.W., et al.
SOURCE
PUBLISHER Washington, DC: The Terrene Institute
PAGES
DATE 1992
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Use of wetlands for urban stormwater management.
AUTHOR Livingston, E.H.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp. 253-262

DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The use of wetlands for urban stormwater management should not be considered a panacea to stormwater problems. The availability of scientific information concerning short term or long term effects on wetlands is not known. This paper presents a review of the current state of the art and a discussion the design and performance standards used for wetland stormwater treatment systems.

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CATEGORY UR
SUBCATEGOR

TITLE Water-quality effectiveness of a detention/wetland treatment system and its effect on an urban lake.
AUTHOR Oberts, G.L. and R.A. Osgood.
SOURCE Environmental Management, 15(1):131-138
PUBLISHER
PAGES pp. 131-138
DATE 1991
CALLNUM HC79 E5E5
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Water-quality variability in a central Florida wetland receiving highway runoff.
AUTHOR Schiffer, D.M.
SOURCE Water: Laws and Management.
PUBLISHER Bethesda, MD: American Water Resources Association.
PAGES p 7A-1--7A-11
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR

TITLE Wetlands for stormwater treatment.
AUTHOR Schiffer, D.M.
SOURCE
PUBLISHER Gainsville, FL: Department of Transportation. Office of Materials and Research. Avail. thru NTIS
PAGES 63p

DATE 1990
CALLNUM TE215 S3
ANNOTATION

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CATEGORY UR
SUBCATEGOR case studies--FL

TITLE Tampa office wet detention stormwater treatment.
AUTHOR Rushton, B.T. and C.W. Dye.
SOURCE Annual Report for Stormwater Research Program Fiscal Year 1989-90.
PUBLISHER
PAGES pp. 39-74
DATE 1990
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR case studies--CA

TITLE Development of an urban runoff treatment wetlands in Freemont, California.
AUTHOR Silverman, G.S.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 669-76.
DATE 1989 .
CALLNUM TD 756. 5 C66
ANNOTATION Developing wetlands to treat wastewater presents a different set of problems than developing a system to treat urban stormwater runoff. Municipal wastewater (from an area with separate storm and septic systems) tends to have a consistent flow with characteristic water quality while urban storm water is variable in water quantity and quality. The differences and creation of particular wetlands are presented in this paper.

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CATEGORY UR
SUBCATEGOR case studies--CA

TITLE Urban runoff treatment in a fresh/brackish water marsh in Fremont, California.
AUTHOR Meiorin, E.C.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal,

Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishers, Inc.
PAGES pp 677-685
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION The Urban Stormwater Treatment Marsh was designed to treat stormwater runoff and is divided into the three separate subsystems A, B, and C. Each of the subsystems performs a different subsystems function: System A simulates pretreatment; system B provides a combination overland flow and pond system; and system C provides secondary treatment. Marsh development and treatment effectiveness were monitored during the wet seasons of 1984-1985 and 1985-1986.

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CATEGORY UR
SUBCATEGOR case studies--CA

TITLE Use of wetlands for nutrient removal from surface runoff in a cold climate region of California-results from a newly constructed wetland at Lake Tahoe.
AUTHOR Reuter, J.E., T. Djohan and C.R. Goldman.
SOURCE Journal of Environmental Management, Sep 92, v36, p35(19).
PUBLISHER
PAGES
DATE 1992
CALLNUM HC75 E5J6
ANNOTATION

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CATEGORY UR
SUBCATEGOR design considerations

TITLE Artificial wetlands for stormwater treatment: processes and designs.
AUTHOR Rhode Island Dept. of Environmental Management.
SOURCE Rhode Island Nonpoint Source Management Program, Office of Environmental Coordination, Rhode Island Dept. of Environmental Management.
PUBLISHER
PAGES
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR design considerations

TITLE Controlling urban runoff: a practical manual for planning and designing urban BMPs.
AUTHOR Schueler, T. R.
SOURCE
PUBLISHER Order from Metro. Info. Center: (202) 223-6800
PAGES
DATE 1987
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR design considerations

TITLE Design of wet detention basins and constructed wetlands for treatment of stormwater runoff from a regional shopping mall in Massachusetts.
AUTHOR Daukas, P., D. Lowry, and W. Walker.
SOURCE Constructed Wetlands for Wastewater Treatment: Municipal, Industrial and Agricultural.
PUBLISHER Chelsea, MI: Lewis Publishing, Inc.
PAGES pp 686-694
DATE 1989
CALLNUM TD 756. 5 C66
ANNOTATION Runoff from parking lots and roadways contains high concentration of suspended solids, nutrients, trace metals, oil and grease, and deicing salts. This paper presents the design of a stormwater management system, creation of the wetland basins, effectiveness of the wet detention/wetland system, and evaluation of the pollution removal efficiency for a 83,600 m2 shopping mall.

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CATEGORY UR
SUBCATEGOR perception

TITLE Attitudes towards artificial wetlands in Ontario for stormwater control and waterfowl habitat.
AUTHOR Carlisle, T., G. Mulamoottil and B. Mitchell.
SOURCE Water Resources Bulletin, Vol 27, No. 3
PUBLISHER
PAGES p. 419
DATE 1991
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR policy

TITLE Nationwide urban runoff program--evaluation of urban stormwater runoff and management practices for controlling urban stormwater runoff.
AUTHOR Scherger, D.A., J.A. Davis and J.L. Bruestle.
SOURCE Available from NTIS as PB83-199257
PUBLISHER
PAGES 517p.
DATE 1983
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal

TITLE Effects of an urban wetland on sediment and nutrient loads in runoff.
AUTHOR Brown, R.G.
SOURCE Wetlands, Vol 4
PUBLISHER
PAGES pp. 147-158
DATE 1984
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal

TITLE Nutrient removal from urban stromwater by wetland filtration: the Clear Lake restoration project.
AUTHOR Barten, J.
SOURCE Lake Reservoir Management, 2: 297-305
PUBLISHER
PAGES pp. 297-305
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal

TITLE Processes affecting retention of water-quality constituents in a detention pond-wetland system.

AUTHOR Gain, W.S. and R.A. Miller.
SOURCE Water: Laws and Management.
PUBLISHER American Water Resources Association, Bethesda, Maryland.
PAGES p 7A-13--7A-23
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR Pollutant removal

TITLE Stormwater runoff treatment in a wetland filter: effects on water quality of Clear Lake.
AUTHOR Barten, J.
SOURCE 6th Annual International Symposium. Lake and Reservoir Management: Influences of Nonpoint Source Pollutants and Acid Precipitation. Nov. 5-8, 1986, Portland, OR
PUBLISHER
PAGES p. 4
DATE 1986
CALLNUM
ANNOTATION

****

CATEGORY UR
SUBCATEGOR pollutant removal

TITLE Water quality performance of a detention basin-wetland treatment system in an urban area.
AUTHOR Wotzka, P. and G. Oberts.
SOURCE Nonpoint Pollution: 1988-Policy, Economy, Management, and Appropriate Technology. Proceedings of a Symposium.
PUBLISHER American Water Resources Association, Bethesda, Maryland.
PAGES pp. 237-247
DATE 1988
CALLNUM TC 401 A5 no. 88-4
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal

TITLE Wetlands and stormwater management: a case study of Lake Munson. Part II: impacts on sediment and water quality.
AUTHOR Barrtel, R.L. and A.E. Maristany.
SOURCE Wetlands: Concerns and Successes.
PUBLISHER Bethesda, MD: Amer. Water Resources Assc.

PAGES pp. 231-246
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal (long term)

TITLE Wetlands and stormwater management: a case study of Lake Munson. Part I: long-term treatment efficiencies.
AUTHOR Maristany, A.E. and R.L. Bartel.
SOURCE Wetlands: Concerns and Successes. Proceedings of a Symposium held September 17-22, 1989, Tampa, Florida.
PUBLISHER American Water Resources Association, Bethesda, Maryland.
PAGES p 215-229
DATE 1989
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal, P

TITLE Phosphorus removal by urban runoff detention basins.
AUTHOR Walker, W.W.
SOURCE NALMS, Portland, OR, November 5-8, 1986.
PUBLISHER
PAGES
DATE 1986
CALLNUM
ANNOTATION

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CATEGORY UR
SUBCATEGOR pollutant removal--FL

TITLE An evaluation of the Lake Jackson (Florida) filter system and artificial marsh on nutrient and particulate removal from stormwater runoff.
AUTHOR Touvila, B.J., et al.
SOURCE Aquatic Plants for Water Treatment and Resource Recovery.
PUBLISHER Orlando, FL: Magnolia Publishing, Inc.
PAGES pp. 271-278.
DATE 1987
CALLNUM
ANNOTATION A sediment filtration plant and artificial marsh were constructed to treat stormwater runoff before it entered

Lake Jackson. Water samples collected during storm events were analyzed for a wide range of particulate and dissolved parameters (including suspended solids and various nitrogen and phosphorus species). Results from the first year of study indicate that the system is capable of removing a large fraction of both suspended and dissolved solids and particulate nutrient material.

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CATEGORY UR
SUBCATEGOR processes--design

TITLE Artificial wetlands for stormwater treatment: processes and designs.
AUTHOR Carlson, L.
SOURCE Rhode Island Department of Environmental Management
PUBLISHER
PAGES
DATE 1989
CALLNUM
ANNOTATION

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NOTE: THE FOLLOWING CITATIONS ARE AN UPDATE, AS OF OCTOBER 24, 1995, TO THE ORIGINAL DOCUMENT AND THEREFORE ARE IN A DIFFERENT FORMAT.

1 NAL Call No.: TD420.A1P7
Constructed "source" wetland concepts applied to urban landscapes.
Hopkins, B.; Argue, J. R. u. r.
Water science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: wetlands; water management; runoff; urban areas; groundwater recharge; aquifers; south australia; constructed wetlands; artificial wetlands; urban runoff; stormwater

2 NAL Call No.: TD420.A1P7
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 science and technology: a journal of the International Association on Water Pollution Research and Control 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. Australia.

Descriptors: wetlands; flood control; runoff; runoff water; urban areas;

aquatic plants; waste water treatment; biological treatment; victoria; artificial wetlands; constructed wetlands

3 NAL Call No.: QH540.J6
Comparing microbial parameters in natural and constructed wetlands.
Duncan, C. P.; Groffman, P. M.
Journal of environmental quality 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 n these wetlands was likely due to the use of organic substrates construction.

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TITLE: NAL Document Delivery Information
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February 1995

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| Canadian Journal of Soil Science 1988 v 68(1): 17-27
| DeJong, R.  Comparison of two soil-water models under semi-arid growing
| conditions
|
| Ver:  AGRICOLA     Remarks:  Not available at AU or in region.
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