

TITLE: Introduction to Constructed Wetlands Bibliography.  
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CONTACT: Water Quality Information Center (wgic@nalusda.gov)  
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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 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 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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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)

#### 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:

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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 Wengrzyneck, 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 feasibility 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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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 Aquatic 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 metallic ions

similar to acid mine drainage, but the aggregate flow from many seeps along one ash pond dike may be orders of magnitude 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 Meeting St. 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, vegetational, 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 papers from 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 pyrite 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 m<sup>2</sup>).

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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 Macheimer, 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 immobilization 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<sup>-1</sup> 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<sup>-1</sup>). Manganese retention in peat was small compared with that of Fe, and Mn was retained in peat almost exclusively as exchangeable Mn<sup>2+</sup>. Retention of Fe<sup>2+</sup> in peat was not affected by the presence of Mn<sup>2+</sup> 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 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 DuBow, 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 Reasource 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 interspersions 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 microsities 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<sub>2</sub> 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 resentizing 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 australis* 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.  
Macrophytes 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<sup>-1</sup> (aerobic incubations) and from 32 to 1415 mg P kg<sup>-1</sup> (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. I.; 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 Nostrand 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 Austrian 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 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 enhancement: 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 m<sup>3</sup>/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 of 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 intermittent 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 is 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  
Otfresen 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 mid-sized 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 Reviews 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. Maitiski, 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 processing 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 landfill.  
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 Mandan, 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 S083  
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 Gainesville, 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 in these wetlands was likely due  
to the use of organic substrates construction.

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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  
DOCUMENT SIZE: 16K

PLEASE NOTE: The information on document delivery services, interlibrary loan requests and copyright restrictions that follows is also appended to the "Constructed Wetlands Bibliography" files. If "Constructed Wetlands Bibliography" files are copied and/or distributed, please include this information in all copies.

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February 1995

United States Department of Agriculture  
National Agricultural Library  
Public Services Division  
Document Delivery Services Branch  
Beltsville, Maryland 20705-2351

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10301 Baltimore Blvd., NAL Bldg.  
Beltsville, Maryland 20705-2351

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February 1995

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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
|
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3. Provide authorizing official's name (request will be rejected if not included).
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37 C.F.R. 201.14  
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