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

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## **Bioassessment of Water Resources (I)**

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133 citations from AGRICOLA

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Water Quality Information Center

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#### Bioassessment of Water Resources

1 NAL Call. No.: SB108.R9I52  
Storage reservoirs of mine waters as an object of biological recultivation  
Povkh, V.N.  
Kiev : Naukova Dumka; 1985.  
Introduktsiia i akklimatizatsiia rastenii (3): p. 67-69; 1985.  
Includes 10 references.

Language: Russian

Descriptors: Ukrainian ssr; Water pollution; Mine spoil; Water purification; Biological techniques; Storage; Reservoirs

2 NAL Call. No.: QH545.A1E52  
Accumulation of heavy metals from polluted soils by the earthworm, *Lumbricus rubellus*: can laboratory exposure of 'control' worms reduce biomonitoring problems?.  
Corp, N.; Morgan, A.J.  
Essex : Elsevier Applied Science; 1991.  
Environmental pollution v. 74 (1): p. 39-52; 1991. Includes references.

Language: English

Descriptors: Soil pollution; Heavy metals; Earthworms; Soil ph; Organic matter; Monitoring

3 NAL Call. No.: Q1.A3M5  
Adaptation of rapid bioassessment protocols for non-wadable waters. Gaunt, G.A.; Thorpe, P.A.  
Ann Arbor, Mich. : The Michigan Academy of Science, Arts, and Letters; 1993. Michigan academician v. 25 (4): p. 363-381; 1993. Includes references.

Language: English

Descriptors: Michigan; Cabt; Water quality; Bioassays; Rapid methods; Aquatic insects; Sampling

4 NAL Call. No.: 56.8 J822  
Agriculture and the everglades.  
Stone, J.A.; Legg, D.E.  
Ankeny, Iowa : Soil and Water Conservation Society of America;

1992 May. Journal of soil and water conservation v. 47 (3): p. 207-215; 1992 May. Includes references.

Language: English

Descriptors: Florida; Agricultural development; Crop production; Drained conditions; Agricultural land; Muck soils; Environmental impact; Drainage water; Natural grasslands; Swamps; Aquatic environment; Water pollution; Runoff; Phosphorus; Eutrophication; Water flow; Irrigation; Flood control; Water allocation; Agricultural policy; Environmental legislation; Water quality; Natural history

5

NAL Call. No.: SD143.S64

Amenity, conservation and environmental uses and values: the United States perspective.

Cordell, H.K.

Bethesda, Md. : The Society; 1991.

Proceedings of the ... Society of American Foresters National Convention. p. 19-24; 1991. Meeting held Aug 4-7, 1991, San Francisco, California. Includes references.

Language: English

Descriptors: U.S.A.; Natural resources; Resource management; Recreation; Conservation; Environmental factors; Public domain; Wildlife; Fisheries; Habitat destruction; Water quality; Water resources; Environmental assessment

6

NAL Call. No.: 281.9 P942

Animal agriculture and the environment: the human context of decision making. Wu, L.S.; Molnar, J.J.

Tuskegee, Ala. : Tuskegee University; 1989.

Proceedings of the ... Annual Professional Agricultural Workers Conference (47th): p. 189-196; 1989. In the series analytic: Outreach to the Rural Disadvantaged: issues and strategies for the 21st century / edited by N. Baharanyi, R. Zabawa, W. Hill. Meeting held December 3-5, 1989, Tuskegee, Alabama. Includes references.

Language: English

Descriptors: U.S.A.; Groundwater pollution; Animal wastes; Environmental degradation; Water quality; Environmental protection

7

NAL Call. No.: QH96.8.B5E43

Applicability of ambient toxicity testing to national or regional water-quality assessment.

Elder, John F.

Reston, Va.? : U.S. Dept. of the Interior, U.S. Geological Survey ; Denver, CO : Books and Open-File Reports Section [distributor]; 1990. iv, 49 p. : ill. ; 28 cm. (U.S.

Geological Survey circular ; 1049). Includes bibliographical

references (p. 30-42).

Language: English; English

Descriptors: Water quality bioassay; Toxicity testing

8 NAL Call. No.: RA1211.A1C7  
Aquatic insects and trace metals: bioavailability,  
bioaccumulation, and toxicity.  
Hare, L.  
Boca Raton, Fla. : CRC Press; 1992.  
Critical reviews in toxicology v. 22 (5/6): p. 327-369; 1992.  
Literature review. Includes references.

Language: English

Descriptors: Aquatic insects; Trace elements; Contaminants;  
Uptake; Bioavailability; Toxicity; Binding proteins; Temporal  
variation; Biological indicators; Fresh water; Aquatic  
environment; Literature reviews

9 NAL Call. No.: QH545.W3S95  
Aquatic toxicology and environmental fate a symposium.  
ASTM Committee E-47 on Biological Effects and Environmental  
Fate Symposium on Aquatic Toxicology. Symposium on Aquatic  
Toxicology and Hazard Assessment.  
Philadelphia, PA : ASTM, c1986-; 1985-9999.  
Aquatic toxicology and environmental fate. v. : ill. ; 24 cm;  
1985-9999. (ASTM special technical publication). Some vols.  
have title: Aquatic toxicology and hazard assessment.  
Contains papers presented at: the Symposium on Aquatic  
Toxicology, 9th v.; Symposium on Aquatic Toxicology and Hazard  
Assessment, 10th v.-.

Language: English; English

Descriptors: Aquatic animals; Effect of water pollution on;  
Congresses; Aquatic plants; Effect of water pollution on;  
Congresses; Water; Pollution; Toxicology; Congresses;  
Environmental impact analysis; Congresses; Water quality  
bioassay; Congresses

10 NAL Call. No.: QH545.W3S95 1985  
Aquatic toxicology and hazard assessment, seventh symposium a  
symposium. Cardwell, Rick D.; Purdy, Rich; Bahner, Rita  
Comotto  
ASTM Committee E-47 on Biological Effects and Environmental  
Fate Symposium on Aquatic Toxicology 7th : 1983 : Milwaukee,  
Wis. Philadelphia, Pa. : ASTM,; 1985.  
587 p. : ill. ; 24 cm.. (ASTM special technical publication ;  
854). Papers presented at the seventh in a series of annual  
symposia on Aquatic Toxicology, held 17-19 Apr. 1983 in  
Milwaukee, Wis. ASTM publication code number (PCN)  
04-854000-16. Includes bibliographies and index.

Language: English

Descriptors: Water; Pollution; Environmental aspects;  
Congresses; Water; Pollution; Toxicology; Congresses; Water  
quality bioassay; Congresses; Environmental impact analysis;  
Congresses

11 NAL Call. No.: QH545.W3S95  
Aquatic toxicology and risk assessment.  
ASTM Committee E-47 on Biological Effects and Environmental  
Fate, ASTM Committee E-47 on Biological Effects and  
Environmental Fate, Subcommittee E47.01 on Aquatic Toxicology  
Symposium on Aquatic Toxicology and Risk Assessment.  
Philadelphia, PA : ASTM, 1990-; 1989-9999.  
Aquatic toxicology and risk assessment. v. : ill. ; 24 cm;  
1989-9999. (ASTM special technical publication.). Contains  
papers from the Symposium on Aquatic Toxicology and Risk  
Assessment, sponsored by ASTM Committee E-47 on Biological  
Effects and Environmental Fate and its Subcommittee E47.01 on  
Aquatic Toxicology.

Language: English; English

Descriptors: Aquatic animals; Aquatic plants; Water; Water  
quality bioassay

12 NAL Call. No.: NBUQH545 W3 A676 1991  
Aquatic toxicology and risk assessment fourteenth volume.  
Mayes, Monte A.; Barron, Mace G.  
ASTM Committee E-47 on Biological Effects and Environmental  
Fate Symposium on Aquatic Toxicology and Risk Assessment 14th  
: 1990 : San Francisco, Calif.  
Philadelphia, Pa. : ASTM,; 1991.  
383 p. : ill. ; 24 cm. (ASTM special technical publication ;  
1124). The 14th Symposium on Aquatic Toxicology and Risk  
Assessment, held in San Francisco, Calif., 22-24 April, 1990,  
was sponsored by ASTM Committee E-47 on Biological Effects and  
Environmental Fate. Includes bibliographical references and  
index.

Language: English

Descriptors: Water; Water quality bioassay; Environmental  
impact analysis

13 NAL Call. No.: QD1.A45  
Aseptic sampling of unconsolidated heaving soils in saturated  
zones. Leach, L.E.; Ross, R.R.  
Washington, D.C. : The Society; 1991.  
ACS Symposium series - American Chemical Society (465): p.  
334-348; 1991. In the series analytic: Groundwater residue  
sampling design / edited by R.G. Nash and A.R. Leslie.  
Includes references.

Language: English

Descriptors: Groundwater; Water pollution; Agricultural chemicals; Soil; Sampling

Abstract: Collecting undisturbed subsurface soil samples in noncohesive, heaving sandy environments below the water table has been extremely difficult using conventional soil sampling equipment. Several modifications of the conventional hollow-stem auger coring procedures were adapted, which allowed collection of depth-discreet soil samples in very fluid, heaving sands. These methods were used where accurate subsurface characterization of the contamination of RCRA and CERCLA sites was essential. Cohesionless cores were consistently retrieved, aseptically extruded from the core barrel inside an anaerobic environmental chamber, and preserved in the field. The physical, chemical, and biological integrity of discreet soil intervals was maintained for laboratory analysis. Statistical analysis of repeated collection of soil samples from the same depth intervals in nearby boreholes was documented.

14

NAL Call. No.: TD224.I3A84

Assessing biological integrity in running waters a method and its rationale. Karr, James R.

Illinois, Natural History Survey Division

Champaign, Ill. : Illinois Natural History Survey,; 1986. 28 leaves : ill. ; 28 cm. (Special publication (Illinois. Natural History Survey Division) ; 5.). Cover title. September 1986. Photocopy. Bibliography: leaves 20-22.

Language: English; English

Descriptors: Biodegradation; Water; Pollution; Illinois; Water quality; Illinois

15

NAL Call. No.: NBULD3656 1992 C475

Assessing environmental [sic] quality using aquatic biological communities and a multiple criterion technique.. University of Nebraska--Lincoln thesis : Civil Engineering Assessing environmental quality using aquatic biological communities and a multiple criterion technique

Christiansen, Curtis

1992; 1992.

98 leaves : ill. ; 28 cm. Includes bibliographical references.

Language: English

16

NAL Call. No.: QH96.8.B5G7

Automated biomonitoring living sensors as environmental monitors. Gruber, D.; Diamond, J.

Chichester : E. Horwood ; New York : Halsted Press,; 1988. 208

p. : ill., maps ; 25 cm. (Ellis Horwood books in aquaculture and fisheries support). Includes bibliographies and index.

Language: English

Descriptors: Water quality bioassay; Indicators (Biology)

17 NAL Call. No.: GB701.W375 no.85-4227  
Benthic invertebrate population characteristics as affected by water quality in coal-bearing regions of Tennessee.  
Bradfield, Arthur D.  
Geological Survey (U.S.)  
Nashville, Tenn. : U.S. Dept. of the Interior, Geological Survey; Lakewood, Colo. : Open-File Services Section, Western Distribution Branch, ; 1986; I 19.42/4:85-4227.  
iii, 19 p. : 1 map ; 28 cm. (Water-resources investigations report ; 85-4227). Bibliography: p. 17-19.

Language: English; English

Descriptors: Water quality bioassay; Tennessee; Coal mines and mining; Environmental aspects; Tennessee; Freshwater invertebrates; Tennessee

18 NAL Call. No.: 448.3 AP5  
Biodegradation of creosote and pentachlorophenol in contaminated groundwater: chemical and biological assessment.  
Mueller, J.G.; Middaugh, D.P.; Lantz, S.E.; Chapman, P.J.  
Washington, D.C. : American Society for Microbiology; 1991 May. Applied and environmental microbiology v. 57 (5): p. 1277-1285; 1991 May. Includes references.

Language: English

Descriptors: Pentachlorophenol; Creosote; Groundwater pollution; Microbial degradation; Soil flora; Toxicity

Abstract: Shake flask studies examined the rate and extent of biodegradation of pentachlorophenol (PCP) and 42 components of coal-tar creosote present in contaminated groundwater recovered from the American Creosote Works Superfund site, Pensacola, Fla. The ability of indigenous soil microorganisms to remove these contaminants from aqueous solutions was determined by gas chromatographic analysis of organic extracts of biotreated groundwater. Changes in potential environmental and human health hazards associated with the biodegradation of this material were determined at intervals by Microtox assays and fish toxicity and teratogenicity tests. After 14 days of incubation at 30 degrees C, indigenous microorganisms effectively removed 100, 99, 94, 88, and 87% of measured phenolic and lower-molecular-weight polycyclic aromatic hydrocarbons (PAHs) and S-heterocyclic, N-heterocyclic, and O-heterocyclic constituents of creosote, respectively. However, only 53% of the higher-molecular-weight PAHs were degraded; PCP was not removed. Despite the removal of a majority of the

organic contaminants through biotreatment, only a slight decrease in the toxicity and teratogenicity of biotreated groundwater was observed. Data suggest that toxicity and teratogenicity are associated with compounds difficult to treat biologically and that one may not necessarily rely on indigenous microorganisms to effectively remove these compounds in a reasonable time span; to this end, alternative or supplemental approaches may be necessary. Similar measures of the toxicity and teratogenicity of treated material may offer a simple, yet important, guide to bioremediation effectiveness.

19 NAL Call. No.: TD224.03B56 1987  
Biological criteria for the protection of aquatic life.  
Ohio EPA, Division of Water Quality Planning & Assessment,  
Ecological Assessment Section  
Columbus : Ohio EPA,; 1987; OEP 249.2:B615/987.  
3 v. : ill., maps, charts ; 28 cm. Cover title. At head of  
title v. 1.: Biological criteria/role in WQS. Doc.  
0055e/0015e.

Language: English; English

Descriptors: Water quality; Aquatic ecology; Freshwater  
microbiology

20 NAL Call. No.: QH96.8.B5H43 1986  
Biological indicators of freshwater pollution and  
environmental management. Hellowell, J. M.,  
London ; New York : Elsevier Applied Science Publishers ; New  
York, NY, USA : Sole distributor in the USA and Canada,  
Elsevier Pub. Co.,; 1986. xiii, 546 p. : ill. ; 23 cm.  
(Pollution monitoring series). Includes index. Bibliography:  
p. 452-508.

Language: English

Descriptors: Water quality bioassay; Indicators (Biology);  
Water quality management; Freshwater ecology; Water

21 NAL Call. No.: GB823.W3 no.82-83  
Biological monitoring in freshwaters proceedings of a seminar,  
Hamilton, 21-23 November 1984.  
Pridmore, R. D.\_1953-; Cooper, A. B.  
New Zealand, National Water & Soil Conservation Authority, New  
Zealand, Water and Soil Directorate  
Wellington : Published for the National Water and Soil  
Conservation Authority, by the Water and Soil Directorate,  
Ministry of Works and Development,; 1985. 2 v. : ill. ; 30 cm.  
(Water & soil miscellaneous publication, no. 82-83). Includes  
bibliographies.

Language: English; English

Descriptors: Water quality bioassay; New Zealand; Congresses;  
Freshwater biology; New Zealand; Congresses; Biological  
monitoring; New Zealand; Congresses

22 NAL Call. No.: QH541.5.S3I57 1987  
Biological monitoring of environmental pollution proceedings  
of the fourth IUBS International Symposium on Biomonitoring of  
the State of the Environment (Bioindicators), 6-8 November  
1987, Tokyo, Japan.  
Yasuno, M.; Whitton, B. A.  
International Union of Biological Sciences  
International Symposium on Biomonitoring of the State of the  
Environment Bioindicators (4th : 1987 : Tokyo).  
Tokyo : Tokai University Press,; 1988.  
291 p. : ill. ; 25 cm. Includes bibliographical references  
and index.

Language: English

Descriptors: Marine pollution

23 NAL Call. No.: QH545.W3M37 1991  
Biology of freshwater pollution., 2nd ed..  
Mason, C. F.  
Harlow, Essex, England : Longman Scientific & Technical ; New  
York : Wiley,; 1991.  
xiii, 351 p. : ill., maps ; 24 cm. Includes bibliographical  
references (p. [295]-338) and indexes.

Language: English

Descriptors: Water; Freshwater biology; Water quality bioassay

24 NAL Call. No.: TD194.M32 1991  
Biomarker-based biomonitoring for evaluating health and  
ecological effects of environmental contamination.  
McCarthy, John F.,; Shugart, Lee R.; Jimenez, Braulio D.  
Oak Ridge National Laboratory, Environmental Sciences Division  
Oak Ridge : Tenn. : Environmental Sciences Division, Oak Ridge  
National Laboratory,; 1991.  
31, [12] p. : ill. Includes bibliographical references (p.  
24-29).

Language: English

Descriptors: Pollution

25 NAL Call. No.: TD419.R47  
Biomonitoring.  
Isom, B.G.  
Alexandria, Va. : The Federation; 1991 Jun.  
Research journal of the Water Pollution Control Federation v.  
63 (4): p. 746-749; 1991 Jun. Includes references.

Language: English

Descriptors: Pollution; Monitoring; Biological techniques;  
Phytotoxicity; Aquatic organisms; Reviews

26

NAL Call. No.: TD419.R47

Biomonitoring.

Isom, B.G.

Alexandria, Va. : The Federation; 1990 Jun.

Research journal of the Water Pollution Control Federation v.  
62 (4): p. 641-644; 1990 Jun. Includes references.

Language: English

Descriptors: Pollution; Toxic substances; Environmental  
protection; Monitoring; Biology; Toxicity; Tests

27

NAL Call. No.: QH91.57.B5B56 1989

Biomonitoring for control of toxicity in effluent discharges  
to the marine environment.

Center for Environmental Research Information

(U.S.), Environmental Research Laboratory (Narragansett, R.I.)

Cincinnati, OH : Center for Environmental Research

Information, Office of Research and Development, U.S.

Environmental Protection Agency ; Narragansett, RI :

Environmental Research Laboratory, Office of Research and

Development, U.S. Environmental Protection Agency, ; 1989; EP

7.2:B 52/2. vii, 58 p. ill. ; 28 cm. Shipping list no.:

89-741-P. September 1989. EPA/625/8-89/015. Includes

bibliographical references (p. 35-37).

Language: English

Descriptors: Water quality bioassay; Water quality management;  
Effluent quality

28

NAL Call. No.: TD735.B56 1990

Biomonitoring of industrial effluents.

Stringer, D. A.

European Chemical Industry, Ecology & Toxicology Centre

Brussels : ECETOC, ; 1990.

62 p. ; 30 cm. (Rapport technique (European Chemical Industry,

Ecology & Toxicology Centre) ; no. 36.). 2 April 1990.

"Responsible editor: D.A. Stringer"--P. 62. D-1990-3001-62.

Includes bibliographic references.

Language: English

Descriptors: Factory and trade waste; Sewage

29

NAL Call. No.: QD142.B56 1987

Biomonitoring to achieve control of toxic effluents.

United States, Environmental Protection Agency, Office of  
Technology Transfer Cincinnati, Ohio : United States  
Environmental Protection Agency, Technology Transfer, ; 1987.  
iv, 48 p. : ill., maps ; 28 cm. September 1987.  
EPA/625/8-87/013. Includes bibliographical references (p.  
45-46).

Language: English

Descriptors: Water; Water quality bioassay

30 NAL Call. No.: RA1270.P35A1  
Calibration of the freshwater mussel, *Elliptio complanata*, for  
quantitative biomonitoring of hexachlorobenzene and  
octachlorostyrene in aquatic systems. Russell, R.W.; Gobas,  
F.A.P.C.  
New York, N.Y. : Springer-Verlag; 1989 Oct.  
Bulletin of environmental contamination and toxicology v. 43  
(4): p. 576-582; 1989 Oct. Includes references.

Language: English

Descriptors: Mollusca; Hexachlorobenzene; Quantitative  
analysis; Uptake; Excretion; Concentrations

31 NAL Call. No.: TD187.5.I4C8  
Cardiophysiological and enzymatic bioindices for biomonitoring  
freshwater pollution.  
Tonapi, G.T.; Varghese, G.  
Karad, India : Environmental Publications; 1985.  
Current pollution researches in India / edited by R.K.  
Trivedy, P.K. Goel. p. 221-231; 1985. Literature review.  
Includes references.

Language: English

Descriptors: Water pollution; Fresh water; Monitoring;  
Crustacea; Freshwater fishes; Freshwater molluscs; Enzymes;  
Physiology; Responses to environment; Aquatic animals

32 NAL Call. No.: QH545.W3C438  
Chemicals in the aquatic environment advanced hazard  
assessment. Landner, Lars  
Berlin ; New York : Springer-Verlag, ; 1989.  
xxii, 415 p. : ill. ; 24 cm. (Springer series on environmental  
management). Includes bibliographies and indexes.

Language: English

Descriptors: Water; Water quality; Water chemistry;  
Environmental impact analysis

33

NAL Call. No.: TD930.A32

Ciliated protozoa as indicators of a wastewater treatment system performance. Luna-Pabello, V.M.; Mayen, R.; Olvera-Viascan, V.; Saavedra, J.; Duran de Bazua, C. Essex : Elsevier Applied Science Publishers; 1990. Biological wastes v. 32 (2): p. 81-90. ill; 1990. Includes references.

Language: English

Descriptors: Food industry; Maize; Processing; Waste water treatment; Systems; Performance; Evaluation; Protozoa; Biological techniques

34 NAL Call. No.: TD420.A1P7 The clogging capacity of reclaimed wastewater: a new quality criterion for drip irrigation. Teltsch, B.; Juanico, M.; Azov, Y.; Ben-Harim, I.; Shelef, G. Oxford : Pergamon Press; 1991. Water science and technology : a journal of the International Association on Water Pollution Research and Control v. 24 (9): p. 123-131; 1991. In the series analytic: Wastewater Reclamation and Reuse/edited by R. Mujeriego and T. Asano. Proceedings of the International Symposium of Wastewater Reclamation and Reuse, September 24-26, 1991, Costa Brava, Spain. Includes references.

Language: English

Descriptors: Israel; Waste water treatment; Water reuse; Irrigation water; Trickle irrigation; Water quality; Requirements; Filtration; Capacity; Water pollution; Particles; Control methods; Biological techniques; Freshwater fishes; Plankton; Concentration

35 NAL Call. No.: QH541.5.E8036 Coastal environmental quality in the United States, 1990 chemical contamination in sediment and tissues. O'Connor, Thomas P., United States, Ocean Assessments Division, Coastal and Estuarine Assessment Branch Rockville, Md. : Coastal and Estuarine Assessment Branch, Ocean Assessments Division, Office of Oceanography and Marine Assessment, National Ocean Service, National Oceanic and Atmospheric Administration, [1990?]; 1990. 34 p. : ill., maps ; 28 cm. A special NOAA 20th anniversary report. "October 1990."--P. 4 of cover. Includes bibliographical references (p. 19-21).

Language: English; English

Descriptors: Marine sediments; Marine fauna; Estuarine fauna

36 NAL Call. No.: 293.8 SE8 Colorado's biomonitoring regulation: a blueprint for the

future. Michael, G.Y.; Egan, J.T.; Grimes, M.M.  
Alexandria, Va. : The Federation; 1989 Mar.  
Journal - Water Pollution Control Federation v. 61 (3): p.  
304-309. ill; 1989 Mar. Includes references.

Language: English

Descriptors: Colorado; Toxic substances; Waste water  
treatment; Regulations; Monitoring; Water composition and  
quality; Water pollution; Law enforcement; Effluents

37 NAL Call. No.: T57.6.A1I5 no.RR-91-13 A  
computer-based approach to environmental impact assessment.  
Fedra, K.  
International Institute for Applied Systems Analysis  
Laxenburg, Austria : International Institute for Applied  
Systems Analysis,; 1990, reprinted 1991.  
iii, p. 11-40 : ill. (some col.) ; 23 cm. (Research report  
(International Institute for Applied Systems Analysis) ;  
RR-91-13.). Reprinted from A.G. Colombo and G. Premazzi  
(eds.), Proceedings of the Workshop on Indicators and Indices  
for Environmental Impact Assessment and Risk analysis, p.  
11-40. July 1991. Includes bibliographical references (p.  
36-40).

Language: English

Descriptors: Environmental impact analysis

38 NAL Call. No.: TD181.M92B4  
Contaminant biomonitoring at the Benton Lake National Wildlife  
Refuge in 1988. Palawski, Donald U.  
Fish and Wildlife Enhancement (U.S.), Montana State Office  
Helena, Mont. : U.S. Fish and Wildlife Service, Fish and  
Wildlife Enhancement, Montana State Office,; 1991.  
v, 35 p. : maps ; 28 cm. Cover title. Includes  
bibliographical references (p. 33-35).

Language: English; English

Descriptors: Benton Lake National Wildlife Refuge (Mont.);  
Pollution; Birds; Trace elements

39 NAL Call. No.: RA1221.T69 Cr  
and Hg toxicity assessed in situ using the structural and  
functional characteristics of algal communities.  
Singh, A.K.; Rai, L.C.  
New York, N.Y. : John Wiley & Sons; 1991 Feb.  
Environmental toxicology and water quality v. 6 (1): p.  
97-107; 1991 Feb. Includes references.

Language: English

Descriptors: India; Phytoplankton; Algae; Cyanobacteria;

Phytotoxicity; Mercury; Chromium; Heavy metals; Nitrogenase; Enzyme activity; Nitrogen fixation; Nutrient uptake; Carbon; Inhibition; Metal tolerance; Carotenoids; Chlorophyll; Susceptibility; Field tests; Aquatic environment; Water pollution

Abstract: The toxicity of mercury and chromium on algal community structure have been assessed using in situ N<sub>2</sub>ase activity, pigment diversity, autotrophic index, and <sup>14</sup>C uptake of algae. The location was in the river Ganga and controlled ecosystem pollution experiment enclosures were used. Maximum inhibition of algal number was observed at 0.8 micrograms Hg mL<sup>-1</sup> followed by 8.0 micrograms Cr mL<sup>-1</sup>. Unicellular forms, except for *Anorthoneis excentrica*, were very sensitive to test metals used. The decline in algal number was concentration dependent and metal specific at generic and species levels. Complete elimination of three and six species was observed respectively at 8.0 micrograms Cr mL<sup>-1</sup> and 0.8 micrograms Hg mL<sup>-1</sup> after 12 days' exposure. Likewise, a concentration-dependent and metal-specific increase in autotrophic index and pigment diversity of phytoplankton was recorded for Hg and Cr. Inhibition of <sup>14</sup>C uptake of phytoplankton in Ganga water was almost equal (79%) at 0.8 micrograms Hg mL<sup>-1</sup> and 8.0 micrograms Cr mL<sup>-1</sup> (78%). Although complete inhibition of in situ N(2)ase was observed at 0.8 micrograms Hg mL<sup>-1</sup>, it was only 80% with 8.0 micrograms Cr mL<sup>-1</sup>. Our study suggests that heavy metals inhibit both structural and functional variables of phytoplankton in field microcosms. Hence this technique seems to hold potential for the biomonitoring of heavy metal toxicity in the field.

40 NAL Call. No.: SH174.T37 1990  
Determination of the chemical suitability of a dredged material containment area for aquaculture.  
Tatem, Henry E.  
United States, Army, Corps of Engineers, U.S. Army Engineer Waterways Experiment Station  
Vicksburg : Miss. : U.S. Army Engineer Waterways Experiment Station ; Springfield, Va. : Available from National Technical Information Service, ; 1990.  
33, [42] p. : ill. ; 28 cm. (Technical report (U.S. Army Engineer Waterways Experiment Station) ; EL-90-12.). Cover title. At head of title: "Contaminant Area Aquaculture Program.". December 1990. Final report. Bibliography: p. 30-33.

Language: English

Descriptors: Spoil banks; Water quality bioassay; Dredging spoil; Marine sediments

41 NAL Call. No.: TD172.A7  
Detoxification of pentachlorophenol and creosote contaminated groundwater by physical extraction: chemical and biological assessment.

Middaugh, D.P.; Mueller, J.G.; Thomas, R.L.; Lantz, S.E.; Hemmer, M.H.; Brooks, G.T.; Chapman, P.J.  
New York, N.Y. : Springer-Verlag; 1991 Aug.  
Archives of environmental contamination and toxicology v. 21  
(2): p. 233-244; 1991 Aug. Includes references.

Language: English

Descriptors: Florida; Groundwater pollution; Polycyclic hydrocarbons; Aromatic hydrocarbons; Water purification; Ultrafiltration; Toxicity; Teratogenesis; Bioassays; Fish; Embryos; Larvae

42 NAL Call. No.: CoFSQL120.H37 1991  
Developing protocols for monitoring water quality using stream macroinvertebrates.  
Harris, Mitchell A.  
1991; 1991.  
xiv, 181 leaves : ill., maps ; 28 cm. Includes bibliographical references.

Language: English

Descriptors: Aquatic invertebrates; Aquatic ecology; Water quality management; Environmental monitoring

43 NAL Call. No.: HC79.E5E5  
Development and use of site-specific chemical and biological criteria for assessing New Bedford Harbor pilot dredging project.  
Nelson, W.G.; Hansen, D.J.  
New York, N.Y. : Springer-Verlag; 1991 Jan.  
Environmental management v. 15 (1): p. 105-112. maps; 1991 Jan. Includes references.

Language: English

Descriptors: Massachusetts; Water quality; Harbors; Dredging; Pilot projects; Decision making; Site factors; Environmental assessment; Environmental impact; Chemicals; Biology; Monitoring

44 NAL Call. No.: S3.S8  
Development of a sensitive biological method for the determination of a low-level toxic contamination in soils.  
Skujins, J.; Nohrstedt, H.O.; Oden, S.  
Uppsala : Swedish University of Agricultural Sciences; 1986.  
Swedish journal of agricultural research v. 16 (3): p. 113-118; 1986. Includes references.

Language: English

Descriptors: Soil pollution; Nitrogenase; Enzyme activity in soils; Biological techniques

45

NAL Call. No.: SF597.E3E2

Earthworm toxicological tests, hazard assessment and  
biomonitoring. A methodological approach.

Bouche, M.B.

The Hague : SPB Academic Publishing; 1988.

Earthworms in waste and environmental management / edited by  
Clive A. Edwards and Edward F. Neuhauser. p. 315-320; 1988.

Literature review. Includes references.

Language: English

Descriptors: Oligochaeta; Pesticide side effects; Fertilizers;  
Hazards; Bioassays; Laboratory methods; Field tests;  
Monitoring; Pollution by agriculture

46

NAL Call. No.: SF597.E3E2

Eisenia foetida used as a biomonitoring tool to predict the  
potential bioaccumulation of contaminants from contaminated  
dredged material. Rhett, R.G.; Simmers, J.W.; Lee, C.R.

The Hague : SPB Academic Publishing; 1988.

Earthworms in waste and environmental management / edited by  
Clive A. Edwards and Edward F. Neuhauser. p. 321-328; 1988.

Includes references.

Language: English

Descriptors: Connecticut; New York; Illinois; Oligochaeta;  
Soil fauna; Dredgings; Hazards; Chemicals; Monitoring;  
Bioassays; Heavy metals; Tissue analysis; Organic matter in  
soil; Sediment pollution; Saline water

47

NAL Call. No.: Q1.A1I5

Environmental aspects of Amazonian development projects in  
Brazil. Goodland, R.

Caracas, Venezuela : Pergamon Press; 1986 Jan.

Interciencia v. 11 (1): p. 16-24, 50-52. maps; 1986 Jan.

Includes references.

Language: English

Descriptors: Brazil; Environmental assessment; Project  
appraisal; Environmental control; Natural resources; Resource  
conservation; Forest resources; Dams; Hydraulic engineering;  
Settlement; Population pressure

48

NAL Call. No.: OUVK369.6.03H47 1985

Environmental assessment of a proposed marina development  
project on the Portage River, Port Clinton, Ohio.

Herdendorf, Charles E.

Columbus, Ohio : Ohio State University, Center for Lake Erie  
Area Research; 1985.

ii, 27 leaves : ill., map ; 28 cm. (CLEAR technical report ;

no. 292). Cover title. Prepared for R.B. Chase Company, Port Clinton, Ohio. January 1985. Bibliography: leaf 15.

Language: English

Descriptors: Portage River (Ohio); Marinas; Environmental aspects; Ohio; Port Clinton; Environmental impact analysis; Ohio; Port Clinton

49 NAL Call. No.: aS21.A8U5/ARS An environmental assessment of Moon Lake, Mississippi and its watershed. Cooper, C.M. Washington, D.C. : The Service; 1989 Mar. Reprints - U.S. Department of Agriculture, Agricultural Research Service [31]: 135 p. maps; 1989 Mar. Includes references.

Language: English

Descriptors: Mississippi; Lakes; Watersheds; Water pollution; Hydrology; Limnology; Pesticides; Pollution by agriculture; Sediments; Water composition and quality

50 NAL Call. No.: QH540.I55 Environmental impact analysis in water pollution control. Lumbers, J.P. London : Gordon and Breach Science Publishers; 1985. International journal of environmental studies v. 25 (3): p. 177-187; 1985. Includes 15 references.

Language: English

Descriptors: Water pollution; Environmental assessment; Water policy; Water composition and quality; Hydraulic engineering

51 NAL Call. No.: S900.N34 Environmental impact assessment for the Aswan High Dam. Abu-Zeid, M. London : Tycooly International Publishing; 1987. Natural resources and the environment series v. 19: p. 168-190. maps; 1987. In the series analytic: Environmental impact assessment for developing countries / edited by A.K. Biswas and G.P. Qu.

Language: English

Descriptors: Egypt; Dams; Environmental impact reporting; Development projects; Water composition and quality

52 NAL Call. No.: QH540.A52 Environmental impact assessment in the Yangtze Valley. Ziyun, F. Stockholm : Royal Swedish Academy of Sciences; 1986.

Ambio v. 15 (6): p. 347-349. ill., maps; 1986.

Language: English

Descriptors: China; River basins; Environmental impact reporting; Water resource management; Water conservation; Project appraisal; Assessment

53 NAL Call. No.: RA1221.T69  
Environmental toxicology and water quality.  
New York, NY : John Wiley, c1991-; 1991-9999.  
Environmental toxicology and water quality. v. : ill. ; 23 cm;  
1991-9999. Title from cover.

Language: English; English

Descriptors: Water quality bioassay; Water; Pollution

54 NAL Call. No.: HC79.E5E5  
Environmental variation, life history attributes, and community structure in stream fishes: implications for environmental management and assessment. Schlosser, I.J.  
New York, N.Y. : Springer-Verlag; 1990 Sep.  
Environmental management v. 14 (5): p. 621-628; 1990 Sep. In the series analytic: Recovery of lotic communities and ecosystems following disturbance: theory and application / edited by J.D. Yount and G.J. Niemi. Includes references.

Language: English

Descriptors: Illinois; Freshwater fishes; Streams; Aquatic communities; Environmental management; Environmental assessment; Recovery; Environmental degradation; Life history; Temporal variation

55 NAL Call. No.: VtUQH541.15.M64M69 1987b  
Evaluation des modifications apportees a l'utilisation des terres dans les bassins versants jauges (TGDPA) au Canada [Land use change evaluation of Canadian LRTAP calibrated watersheds].. Land use change evaluation of Canadian LRTAP calibrated Watersheds  
Moyes, J.C.  
Canada, Inland Waters and Lands. Directorate, Canada, Conservation and Protection  
Ottawa, Ont. : Direction generale des eaux interieures et terres, Conservation et protection, Environment Canada,; 1987.  
ix, 108 p. : ill., maps ; 28 cm. (Working paper (Canada. Inland Waters and Lands Directorate) ; no. 51.). "Recherche sur les precipitations acides."--Cover. Issued also in English under title : Land use change evaluation of Canadian LRTAP calibrated watersheds. Bibliography: p. 87-90.

Language: French

Descriptors: Environmental Monitoring; Canada; Land use;  
Environmental aspects; Canada; Water quality; Environmental  
aspects; Canada

56 NAL Call. No.: RA1221.T69 The  
evaluation of bacterial biosensors for screening of water  
pollutants. Hoof, F.M. van; Jonghe, E.G. de; Briers, M.G.;  
Hansen, P.D.; Pluta, H.J.; Rawson, D.M.; Wilmer, A.J.  
New York, N.Y. : John Wiley & Sons; 1992 Feb.  
Environmental toxicology and water quality v. 7 (1): p. 19-33;  
1992 Feb. Includes references.

Language: English

Descriptors: Linuron; Atrazine; Water pollution; Pollutants;  
Synechococcus; Biosensors; Catalysts; Monitoring; On line;  
Electron transfer; Photosynthesis

Abstract: Bacterial biosensors incorporating the  
cyanobacterium *Synechococcus* as the biocatalyst have been  
evaluated by three laboratories as potential biomonitors for  
detecting water pollutants. The biosensors were capable of  
detecting at low concentrations herbicides that interact with  
photosynthetic electron transfer chains. Statistical  
evaluation of the interlaboratory comparison results for  
linuron and atrazine indicated that these compounds can be  
detected rapidly at 50 micrograms/L concentrations.

57 NAL Call. No.: GB701.W375 no.85-4289  
Evaluation of coal-mining impacts using numerical  
classification of benthic invertebrate data from streams  
draining a heavily mined basin in eastern Tennessee.  
Bradfield, Arthur D.  
Geological Survey (U.S.)  
Nashville, Tenn. : U.S. Dept. of the Interior, Geological  
Survey ; Lakewood, Colo. : Open-File Services Section, Western  
Distribution Branch, U.S. Geological Survey,; 1986; I  
19.42/4:85-4289.  
v, 59 p. : ill., 1 map ; 28 cm. (Water-resources  
investigations report ; 85-4289). Bibliography: p. 58-59.

Language: English; English

Descriptors: Coal mines and mining; Environmental aspects;  
Tennessee; Freshwater invertebrates; Tennessee; Water quality  
bioassay; Tennessee

58 NAL Call. No.: QH545.A1E58  
Evaluation of EPA's rapid bioassessment benthic metrics:  
metric redundancy and variability among reference stream  
sites.  
Barbour, M.T.; Plafkin, J.L.; Bradley, B.P.; Graves, C.G.;  
Wisseman, R.W. Elmsford, N.Y. : Pergamon Press; 1992.

Environmental toxicology and chemistry v. 11 (4): p. 432-449; 1992. Paper presented at the Symposium on Community Metrics to Detect Ecosystem Effects, 10th Annual Meeting of the Society of Environmental Toxicology, October 28-November 2, 1989, Toronto, Ontario, Canada. Includes references.

Language: English

Descriptors: Oregon; Colorado; Kentucky; Aquatic insects; Aquatic communities; Aquatic environment; Water pollution; Pollutants; Toxicity; Community ecology; Species diversity; Benthos; Streams; Statistical analysis; River valleys; Mountain areas; Plains; Public agencies; Rapid methods

59 NAL Call. No.: HC79.E5E5  
Evolution of environmental impact assessment as applied to watershed modification projects in Canada.  
Dirschl, H.J.; Novakowski, N.S.; Sadar, M.H.  
New York, N.Y. : Springer-Verlag; 1993 Jul.  
Environmental management v. 17 (4): p. 545-555; 1993 Jul.  
Includes references.

Language: English

Descriptors: Canada; Watershed management; Environmental impact; Assessment; Rivers

60 NAL Call. No.: TD172.A7 A  
field study on stress indices in the sea mussel, *Mytilus edulis*: application of the "stress approach" in biomonitoring.  
Veldhuizen-Tsoerkan, M.B.; Holwerda, D.A.; Bont, A.M.T. de; Smaal, A.C.; Zandee, D.I.  
New York, N.Y. : Springer-Verlag; 1991 Nov.  
Archives of environmental contamination and toxicology v. 21 (4): p. 497-504; 1991 Nov. Includes references.

Language: English

Descriptors: Netherlands; Sea water; Water pollution; *Mytilus edulis*; Exposure; Stress; Responses

61 NAL Call. No.: QH540.J6  
Foliar absorption of atmospheric ammonia by ryegrass in the field. Sommer, S.G.; Jensen, E.S.  
Madison, Wis. : American Society of Agronomy; 1991 Jan.  
Journal of environmental quality v. 20 (1): p. 153-156; 1991 Jan. Includes references.

Language: English

Descriptors: Denmark; *Lolium multiflorum*; Leaves; Growth; Absorption; Ammonia; Foliar diagnosis; Indicator plants; Isotope labeling; Nitrogen; Air pollution; Dairy farms; Rain; Water pollution

Abstract: The dry deposition of ammonia (NH<sub>3</sub>) in the field was measured simultaneously at increasing distances from a point source (a dairy farm) using a biomonitor. The biomonitor was Italian ryegrass (*Lolium multiflorum* Lam.) grown in pots and supplied with <sup>15</sup>N-labeled N. The use of <sup>15</sup>N improved the precision and lowered the detection limit of the method compared with calculating the NH<sub>3</sub> deposition using the difference method (N-balance method). Atmospheric NH<sub>3</sub>-concentrations were measured by drawing air through traps containing sulfuric acid. At the end of a 6-wk period in the growing season, the deposition of N was 3.0 g N/m<sup>2</sup> and 0.7 g N/m<sup>2</sup> at average atmospheric concentrations of 89 and 6 microgram NH<sub>3</sub>-N/m<sup>3</sup>, respectively. Estimated deposition velocities ranged from 0.7 to 3.4 cm/s with an average of 1.6 cm/s (s.d. 1.2 cm/s).

62 NAL Call. No.: TP370.5.F67 1991  
Food Industry Environmental Conference proceedings of the 1991 Food Industry Environmental Conference, November 11-13, 1991, Omni International Hotel, Atlanta, Georgia.. Proceedings of the 1991 food industry environmental conference 1991 Food Industry Environmental Conference  
Georgia Tech Research Institute  
Food Industry Environmental Conference 1991 : Atlanta, Ga. Atlanta, Ga. : Georgia Tech Research Institute, [c1991]; 1991. 486 p. : ill. ; 28 cm. Cover title: Proceedings of the 1991 Food Industry Environmental Conference. Spine title: 1991 Food Industry Environmental Conference. Contains abstracts and papers. Includes bibliographical references.

Language: English

Descriptors: Food industry and trade

Abstract: Contains papers or abstracts of papers on various topics relating to the food industry and the environment. Includes chapters on stormwater management, anaerobic systems, regulatory issues, land treatment, biomonitoring, physical/chemical treatment, nutrient removal, aerobic treatment, instrumentation and controls, and case studies.

63 NAL Call. No.: QH96.8.B5F75 1992  
Freshwater biomonitoring and benthic macroinvertebrates. Rosenberg, David M.; Resh, Vincent H.  
New York : Chapman & Hall, ; 1993. ix, 488 p. : ill. ; 24 cm. Includes bibliographical references and indexes.

Language: English

Descriptors: Water quality bioassay; Indicators (Biology); Water quality; Freshwater invertebrates; Environmental monitoring

64

NAL Call. No.: QH90.57.B5F86

Fundamentals of aquatic toxicology methods and applications.  
Rand, Gary M.,\_1945-; Petrocelli, Sam R.  
Washington : Hemisphere Pub. Corp.,; 1985.  
xviii, 666 p. : ill. ; 24 cm. Includes bibliographies and  
index.

Language: English

Descriptors: Water quality bioassay; Toxicity testing; Water;  
Pollution; Toxicology; Aquatic organisms; Effect of water  
pollution on

65

NAL Call. No.: TC187.S78

Guidance for contracting biological and chemical evaluations  
of dredged material.  
Sturgis, Thomas C.  
Dredging Operations Technical Support Program (U.S. Army  
Engineer Waterways Experiment Station. Environmental  
Laboratory),United States, Army, Corps of Engineers, U.S. Army  
Engineer Waterways Experiment Station Vicksburg, Miss. : U.S.  
Army Engineer Waterways Experiment Station ; [Springfield, Va.  
: Available from National Technical Information Service,;  
1990.  
1 v. (various pagings) : ill. ; 28 cm. (Technical report (U.S.  
Army Engineer Waterways Experiment Station) ; D-90-10.).  
September 1990. At head of title: Dredging operations  
technical support program. Cover title. Includes  
bibliographies. Final report.

Language: English

Descriptors: Contracting out; Dredging spoil; Water quality  
bioassay; Water

66

NAL Call. No.: QH541.15.M64G84

Guidelines for physical and biological monitoring of aquatic  
dredged material disposal sites / by Thomas J. Fredette ...  
[et al.] ; prepared for Department of the Army, US Army Corps  
of Engineers.  
Fredette, Thomas J.  
Dredging Operations Technical Support Program (U.S. Army  
Engineer Waterways Experiment Station. Environmental  
Laboratory),United States, Army, Corps of Engineers, Coastal  
Engineering Research Center (U.S.),U.S. Army Engineer  
Waterways Experiment Station  
Vicksburg, Miss. : U.S. Army Engineer Waterways Experiment  
Station ; [Springfield, Va. : Available from National  
Technical Information Service,; 1990.  
29, [13] p. ; 28 cm. (Technical report (U.S. Army Engineer  
Waterways Experiment Station) ; D-90-12.). Cover title.  
September 1990. At head of title: Dredging Operations  
Technical Support Program. Final report. Bibliography: p.  
28-29.

Language: English

Descriptors: Dredging; Water quality management; Environmental monitoring; Dredging spoil

67 NAL Call. No.: TD423.B67  
Guidelines for the selection of laboratories to perform chronic toxicity tests using *Ceriodaphnia dubia* and fatheads minnows, (*Pimephales promelas*). Borton, Dennis L.; Streblov, William; Bradley, Kenneth  
National Council of the Paper Industry for Air and Stream Improvement (U.S.) New York, N.Y. (260 Madison Ave., New York, N.Y. 10016) : National Council of the Paper Industry for Air and Stream Improvement, [1990?]; 1990. 16, 1, 3 p. ; 28 cm. (NCASI technical bulletin ; no. 589). May 1990. Includes bibliographical references (p. 15-16).

Language: English

Descriptors: Water quality bioassay; Wood-pulp industry; Environmental aspects

68 NAL Call. No.: 281.9 P942  
Health, water quality and environment: moving into the 21st century. Brown, N.B. Jr; Willis, W.L.; Jones, E.  
Tuskegee, Ala. : Tuskegee University; 1989.  
Proceedings of the ... Annual Professional Agricultural Workers Conference (47th): p. 207-216; 1989. In the series analytic: Outreach to the Rural Disadvantaged: issues and strategies for the 21st century / edited by N. Baharanyi, R. Zabawa, W. Hill. Meeting held December 3-5, 1989, Tuskegee, Alabama. Includes references.

Language: English

Descriptors: U.S.A.; Health; Water quality; Drinking water; Environmental protection; Natural resources; Contaminants

69 NAL Call. No.: SH157.7.I58 no.98  
History of acute toxicity tests with fish, 1863-1987.  
Hunn, Joseph B.  
LaCrosse, Wis. (P.O. Box 818, LaCrosse 54602) : U.S. Fish and Wildlife Service, National Fisheries Research Center--LaCrosse ; Springfield, VA : May be purchased from NTIS,; 1989.  
10 p. : ill. ; 26 cm. (Investigations in fish control ; 98).  
Bibliography: p. 8-10.

Language: English

Descriptors: Fishes; Water quality bioassay; Toxicity testing

70

NAL Call. No.: aS21.R44A7

Hydrology of the Little Washita River Watershed, Oklahoma:  
data and analyses. Allen, P.B.; Naney, J.W.  
Beltsville, Md. : The Service; 1991 Dec.  
ARS - U.S. Department of Agriculture, Agricultural Research  
Service (90): 82 p.; 1991 Dec. Includes references.

Language: English

Descriptors: Oklahoma; Watersheds; Hydrology; Data collection;  
Information retrieval; Computers; Water quality; Climate;  
Erosion; Environmental impact; Runoff water

71 NAL Call. No.: 10 OU8 The  
impact of agriculture on water quality.  
Cartwright, N.; Clark, L.; Bird, P.  
Oxon : C.A.B. International; 1991.  
Outlook on agriculture v. 20 (3): p. 145-152; 1991. Includes  
references.

Language: English

Descriptors: Europe; Uk; Water pollution; Water quality;  
Agriculture; Environmental impact; Eutrophication; European  
communities; Groundwater; Legislation; Losses from soil  
systems; Nitrates; Pesticide residues

72 NAL Call. No.: HN787.Z9C65 The  
impact of improved rural water supplies on the environment:  
the case of East Kordofan District.  
Al-Awad, A.A.; Mohammed, Y.A.; El-Tayeb, S.A.  
Tokyo, Japan : United Nations University; 1985.  
Natural resources and rural development in arid lands : case  
studies from Sudan / edited by H.R.J. Davies. p. 16-29. maps;  
1985. Includes references.

Language: English

Descriptors: Sudan; Rural environment; Water supplies; Rural  
economy; Land use; Living conditions; Government; Program  
evaluation; Environmental assessment; Appropriate technology

73 NAL Call. No.: QH545.A1E52 The  
impact of livestock-farming on Welsh streams: the development  
and testing of a rapid biological method for use in the  
assessment and control of organic pollution from farms.  
Rutt, G.P.; Pickering, T.D.; Reynolds, N.R.M.  
Essex : Elsevier Applied Science; 1993.  
Environmental pollution v. 81 (3): p. 217-228; 1993. Includes  
references.

Language: English

Descriptors: Wales; Water pollution; Streams; Organic wastes;  
Intensive livestock farming; Aquatic invertebrates; Biological

indicators; Environmental assessment; Methodology

74

NAL Call. No.: HC79.E5E5

Impacts of hydroelectric development on riparian vegetation in the Sierra Nevada region, California, USA.

Harriss, R.R.; Fox, C.A.; Risser, R.

New York : Springer-Verlag; 1987 Aug.

Environmental management v. 11 (4): p. 519-527. maps; 1987 Aug. Includes references.

Language: English

Descriptors: California; Riparian vegetation; Stream flow; Hydroelectric schemes; Environmental assessment

75

NAL Call. No.: TD196.P38L66 An

integrated model of atmospheric and aquatic chemical fate useful for guiding regulatory decisions: a proposal.

Rodgers, P.W.; Dilks, D.W.; Samson, P.

Chelsea, Mich. : Lewis Publishers; 1990.

Long range transport of pesticides / David A. Kurtz, editor. p. 405-415; 1990. Includes references.

Language: English

Descriptors: U.S.A.; Toxic substances; Water pollution; Water quality; Air pollutants; Air quality; Environmental protection; Lakes; Mathematical models; Pesticides; Regulations

76

NAL Call. No.: TD365.S97 1987 The

interaction between water quality, environmental legislation, and economics in a hypothetical river basin., 1st ed.

Yearsley, J.R.

Oxford : Pergamon Press; 1987.

Systems analysis in water quality management : proceedings of a symposium held in London, U.K., 30 June-2 July 1987 / editor, M.B. Beck. p. 195-200; 1987. (Advances in water pollution control). Includes references.

Language: English

Descriptors: U.S.A.; River basins; River water; Water composition and quality; Environmental legislation; Economics; Dynamic models

77

NAL Call. No.: TD195.W3I58 1985

International Seminar on Environmental Impact Assessment of Water Resources Projects, December 12-14, 1985 proceedings..

Environmental impact assessment of water resources projects

University of Roorkee, Water Resources Development Training

Centre International Seminar on Environmental Impact

Assessment of Water Resources Projects 1985 : University of

Roorkee.

Roorkee, U.P., India : Water Resources Development Training Centre, University of Roorkee,; 1986.

2 v. : ill., maps ; 25 cm. Cover title: Environmental impact assessment of water resources projects. "Organised and sponsored by Water Resources Development Training Centre"--P. [4] of cover. Includes bibliographical references.

Language: English; English

Descriptors: Water resources development; Environmental impact analysis

78 NAL Call. No.: DLCQH541.15.M64 M69 1987tUQH541.15.M64M69  
1987 Land use change evaluation of Canadian LRTAP calibrated watersheds.. Evaluation des modifications apportees a l'utilisation des terres dans les bassins versants jauges (TGDPA) au Canada

Moyes, J .C.

Canada, Inland Waters and Land Directorate, Canada, Conservation and Protection

Ottawa, Ont. : Inland Waters/Lands Directorate, Conservation and Protection, Environment Canada,; 1987.

viii, 111 p. : ill. , maps ; 28 cm. (Working paper (Canada. Inland Waters and Land Directorate); no.51.). On cover: Acid precipitation research. Issued also in French under title : Evaluation des Modifications apportees a l'utilisation des terres dans les bassins versants jauges (TGDPA) au Canada. Bibliography: p. 83-87.

Language: English

Descriptors: Environmental monitoring; Canada; Land use; Environmental aspects; Canada; Water quality; Environmental aspects; Canada

79 NAL Call. No.: HC79.E5E5

Land use change in California, USA: nonpoint source water quality impacts. Charbonneau, R.; Kondolf, G.M.

New York, N.Y. : Springer-Verlag; 1993 Jul.

Environmental management v. 17 (4): p. 453-460; 1993 Jul.

Includes references.

Language: English

Descriptors: California; Land use; Water quality; Environmental impact; Erosion; Land diversion; Farmland; Watershed management; Water pollution

80 NAL Call. No.: QH540.J6 The measurement of bioavailable phosphorus in agricultural runoff. Sharpley, A.N.; Troeger, W.W.; Smith, S.J.

Madison, Wis. : American Society of Agronomy; 1991 Jan.

Journal of environmental quality v. 20 (1): p. 235-238; 1991

Jan. Includes references.

Language: English

Descriptors: Oklahoma; Phosphorus fertilizers; Losses from soil systems; Runoff; Sediment; Surface water; Bioavailability; Extraction; Methodology; Nutrient uptake; Algae; Growth; Indicator plants; Water pollution

Abstract: The role of sediment-bound or particulate P in agricultural runoff in accelerating the biological productivity of surface water can be assessed if the biological availability of particulate P (PP) is known. Previous research has indicated amounts of P extracted from deposited river and lake sediments by 0.1 M NaOH to be correlated with P uptake by the alga *Selenastrum capricornutum*. This study investigates a modification of this extraction to allow routine quantification of potentially bioavailable particulate P (BPP) content of agricultural runoff from the Reddish Prairies and Rolling Red Plains land resource areas. In the proposed method, 20 mL of unfiltered runoff is shaken with 180 mL of 0.11 M NaOH for 17 h and BPP concentration calculated by subtraction of the soluble P (SP) concentration of the runoff sample. Total bioavailable P concentration (TBP) of runoff can be represented by BPP plus SP concentration. Growth of P-starved *S. capricornutum*, incubated for up to 29 d with runoff sediment from nine watersheds, as the sole P source, was correlated ( $r^2 = 0.76$  to  $0.95$ ) with potentially BPP content of the added sediment. Sample dilution had no effect on the amount of P extracted from runoff sediment by NaOH across a range in sediment concentration of the extraction medium, equivalent to that observed for 95% of the runoff events. If the sediment concentration of runoff exceeds  $20 \text{ g L}^{-1}$ , a smaller runoff sample is used in the extraction. The results indicate the applicability of the proposed extraction method to quantify the bioavailability of P transported in agricultural runoff.

81

NAL Call. No.: 292.9 AM34

Meeting the challenge of policy-relevant science: lessons from a water resource project.

Lamb, B.L.

Minneapolis, Minn. : American Water Resources Association; 1986 Oct. Water resources bulletin v. 22 (5): p. 811-815; 1986 Oct. Includes references.

Language: English

Descriptors: Alaska; Water resource management; Water conservation; Environmental policy; Regional planning; Stream flow; Environmental assessment; Decision making; Scientists

82

NAL Call. No.: RA565.A1E5

Metal amounts in the lichen *Ramalina duriaei* (De Not.) Bagl. transplanted at biomonitoring sites around a new coal-fired

power station after 1 year of operation.  
Garty, J.  
Duluth, Minn. : Academic Press; 1987 Jun.  
Environmental research v. 43 (1): p. 104-116. maps; 1987 Jun.  
Includes references.

Language: English

Descriptors: Israel; Lichens; Monitoring; Environmental factors; Metals; Transplanting; Industrial wastes

83 NAL Call. No.: QH90.57.B5M48 1985  
Methods for measuring the acute toxicity of effluents to freshwater and marine organisms., 3rd ed..  
Peltier, William H.; Weber, Cornelius I.  
Environmental Monitoring and Support Laboratory (Cincinnati, Ohio), United States, Environmental Protection Agency, Office of Research and Development Cincinnati, Ohio : Environmental Monitoring and Support Laboratory, Office of Research and Development, U.S. Environmental Protection Agency,; 1985, reprinted 1985.  
xv, 216 p. : ill. ; 28 cm. March 1985. EPA/600/4-85/013.  
Includes bibliographical references.

Language: English

Descriptors: Water quality bioassay; Water

84 NAL Call. No.: RA1270.P35A1  
Mining area environmental mercury assessment using *Abies alba*.  
Barghigiani, C.; Bauleo, R.  
New York, N.Y. : Springer-Verlag; 1992 Jul.  
Bulletin of environmental contamination and toxicology v. 49 (1): p. 31-36; 1992 Jul. Includes references.

Language: English

Descriptors: Tuscany; *Abies alba*; Pine needles; Pine bark; Mercury; Contamination; Monitors; Mined land

85 NAL Call. No.: SK361.F47  
Monitoring fish and wildlife for environmental contaminants: The National Contaminant Biomonitoring Program.  
Jacknow, J.; Ludke, J.L.; Coon, N.C.  
Washington, D.C. : U.S. Department of Interior, Fish and Wildlife Service; 1986.  
Fish and wildlife leaflet (4): 15 p. maps; 1986.

Language: English

Descriptors: U.S.A.; Pesticides; Contaminants; Environmental pollution; Fishes; Wildlife; Birds; Residues; Monitoring; National planning; Projects

86 NAL Call. No.: ViBlbVLD5655.V856 1992.R544  
Multivariate nonparametric trend assessment with environmental applications. Rheem, Sungsue, 1992; 1992.  
x, 91 leaves : ill. ; 28 cm. Vita. Abstract. Bibliography: leaves 88-90.

Language: English

Descriptors: Environmental monitoring; Multivariate analysis; Water quality

87 NAL Call. No.: GB746.W33  
Multiwave laser biomonitoring of the aquatic environment. Babichenko, S.M.; Lapimaa, Yu.Yu; Poryvkina, L.V. New York, N.Y. : Consultants Bureau; 1992 Sep.  
Water resources v. 18 (6): p. 638-643; 1992 Sep. Translated from: Vodnye Resursy, v. 18 (6), 1991, p. 162-168. (GB746.V55). Includes references.

Language: English; Russian

Descriptors: Phytoplankton; Algae; Lasers; Monitoring; Aquatic environment; Remote sensing; Spectrometers; Spectral data; Satellite imagery; Species; Composition; Biological production; Ecological balance

88 NAL Call. No.: TD172.A7  
National Contaminant biomonitoring program: concentrations of seven elements in freshwater fish, 1978-1981. Lowe, T.P.; May, T.W.; Brumbaugh, W.G.; Kane, D.A. New York, N.Y. : Springer-Verlag; 1985 May.  
Archives of environmental contamination and toxicology v. 14 (3): p. 363-388. maps; 1985 May. Includes references.

Language: English

Descriptors: U.S.A.; Contaminants; Pesticides; Monitoring; Environmental pollution; Freshwater fishes

89 NAL Call. No.: 60.18 UN33 On course with nature: concern for surface runoff--more on water quality. Sadlon, N.P. Far Hills, N.J. : United States Golf Association; 1992 Nov. USGA Green Section record v. 30 (6): p. 19; 1992 Nov.

Language: English

Descriptors: U.S.A.; Lawns and turf; Golf courses; Runoff water; Water quality; Water pollution; Environmental impact; Erosion; Landscaping; Sediment; Erosion control

90

NAL Call. No.: HC79.E5E5

Oregon, USA, ecological regions and subregions for water quality management. Clarke, S.E.; White, D.; Schaedel, A.L. New York, N.Y. : Springer-Verlag; 1991 Nov. Environmental management v. 15 (6): p. 847-856; 1991 Nov. Includes references.

Language: English

Descriptors: Oregon; Freshwater ecology; Water quality; Water management; Mapping; Environmental protection; Regions

91

NAL Call. No.: HC79.E5E5

Overview of case studies on recovery of aquatic systems from disturbance. Niemi, G.J.; DeVore, P.; Detenbeck, N.; Taylor, D.; Lima, A.; Pastor, J.; Yount, J.D.; Naiman, R.J. New York, N.Y. : Springer-Verlag; 1990 Sep. Environmental management v. 14 (5): p. 571-587; 1990 Sep. In the series analytic: Recovery of lotic communities and ecosystems following disturbance: theory and application / edited by J.D. Yount and G.J. Niemi. Includes references.

Language: English

Descriptors: Fish; Aquatic invertebrates; Aquatic environment; Freshwater ecology; Recovery; Case studies; Environmental assessment; Variation

92

NAL Call. No.: HD1773.A2N6

Physical and economic model integration for measurement of the environmental impacts of agricultural chemical use. Antle, J.M.; Capalbo, S.M. Morgantown, W.Va. : The Northeastern Agricultural and Resource Economics Association; 1991 Apr. Northeastern journal of agricultural and resource economics v. 20 (1): p. 68-82; 1991 Apr. Paper submitted in response to call for papers on the theme "The Effects of Agricultural Production on Environmental Quality.". Includes references.

Language: English

Descriptors: Groundwater; Surface water; Water quality; Agricultural chemicals; Usage; Environmental impact; Measurement; Agricultural production; Cost benefit analysis; Models

93

NAL Call. No.: HC79.E5E5

Physical habitat template of lotic systems: recovery in the context of historical pattern of spatiotemporal heterogeneity. Poff, N.L.; Ward, J.V. New York, N.Y. : Springer-Verlag; 1990 Sep. Environmental management v. 14 (5): p. 629-645; 1990 Sep. In the series analytic: Recovery of lotic communities and ecosystems following disturbance: theory and application /

edited by J.D. Yount and G.J. Niemi. Includes references.

Language: English

Descriptors: Streams; Aquatic environment; Spatial variation;  
Temporal variation; Habitats; Heterogeneity; History;  
Recovery; Responses; Environmental assessment; Geomorphology

94 NAL Call. No.: TD171.U5

Practicing the art of biomonitoring.

Wann, D.

Washington, D.C. : Office of Public Awareness; 1986 Oct.

EPA Environmental Protection Agency journal v. 12 (8): p.  
15-16; 1986 Oct.

Language: English

Descriptors: Water composition and quality; Water pollution;  
Monitoring; Crustacea; Toxicity; Biotechnology

95 NAL Call. No.: TD423.P68

Precision of the EPA seven-day Ceriodaphnia dubia survival and  
reproduction test intra- and interlaboratory study.

National Council of the Paper Industry for Air and Stream  
Improvement (U.S.) New York, N.Y. (260 Madison Ave., New York,  
N.Y. 10016) : National Council of the Paper Industry for Air  
and Stream Improvement, [c1990]; 1990. 1 v. (various pagings)  
; 28 cm. (NCASI technical bulletin ; no. 588). Cover title.  
May 1990. Includes bibliographical references (p. 6-1 - 6-5).

Language: English

Descriptors: Water quality bioassay; Wood-pulp industry;  
Environmental aspects

96 NAL Call. No.: QH301.M6

Problems of assessment of biological activity of xenobiotics.  
Ostroumov, S.A.

New York, N.Y. : Allerton Press; 1990.

Moscow University biological sciences bulletin v. 45 (2): p.  
26-32; 1990. Translated from: Vestnik Moskovskogo Universiteta  
Biologiya, v. 45 (2), 1990, p. 27-34. (QH301.M58). Includes  
references.

Language: English; Russian

Descriptors: Pesticides; Pollutants; Water pollution;  
Bioassays; Indicator plants; Seed germination

97 NAL Call. No.: GB701.W375 no.86-4111 A

procedure for estimating reaeration coefficients for  
Massachusetts streams. Parker, Gene W.; Gay, Frederick B.  
Massachusetts, Division of Water Pollution Control, Geological

Survey (U.S.) Boston, Mass. : Dept. of the Interior, U.S. Geological Survey ; Denver, CO : Books and Open-File Reports Section [distributor],; 1987. iv, 34 p. : ill., maps ; 28 cm. (Water-resources investigations report ; 86-4111).  
Bibliography: p. 28-30.

Language: English; English

Descriptors: Stream self-purification; Mathematical models; Rivers; Aeration; Rivers; Massachusetts

98 NAL Call. No.: TC401.A5 no.92-2  
Proceedings of the first International conference on ground water ecology, Tampa, Florida, April 26-27, 1992.  
Stanford, Jack A.; Simons, John J.  
United States, Environmental Protection Agency, American Water Resources Association, Ecological Society of America  
International Conference on Ground Water Ecology 1st : 1992 : Tampa, Fl. Bethesda, Md. : American Water Resources Assoc.,; 1992.  
vii, 419 p. : ill. ; 28 cm. (Technical publication series (American Water Resources Association) ; TPS-92-2). Includes bibliographical references and indexes.

Language: English

Descriptors: Water, underground; Water quality management

99 NAL Call. No.: QH90.57.B5R36 1989  
Rapid bioassessment protocols for use in streams and rivers benthic macroinvertebrates and fish.  
Plafkin, James L.  
United States, Environmental Protection Agency, Assessment and Watershed Protection Division  
Washington, D.C. : U.St. Environmental Protection Agency, Office of Water,; 1989.  
1 v. (various pagings) : ill. ; 28 cm. "EPA/444/4-89-001". "May 1989"--Cover. Includes bibliographical references.

Language: English

Descriptors: Water quality bioassay

100 NAL Call. No.: HC79.E5E5 A  
regional framework for establishing recovery criteria.  
Hughes, R.M.; Whittier, T.R.; Rohm, C.M.; Larsen, D.P.  
New York, N.Y. : Springer-Verlag; 1990 Sep.  
Environmental management v. 14 (5): p. 673-683; 1990 Sep. In the series analytic: Recovery of lotic communities and ecosystems following disturbance: theory and application / edited by J.D. Yount and G.J. Niemi. Includes references.

Language: English

Descriptors: Arkansas; Ohio; Oregon; Fish; Aquatic communities; Regions; Ecosystems; Recovery; Assessment; Selection criteria; Evaluation; Literature reviews; Water pollution; Models; Case studies

101 NAL Call. No.: QH545.A1E29  
Representativity of mosses as biomonitor organisms for the accumulation of environmental chemicals in plants and soils. Thomas, W.  
Orlando, Fla. : Academic Press; 1986 Jun.  
Ecotoxicology and environmental safety v. 11 (3): p. 339-346. maps; 1986 Jun. Includes references.

Language: English

Descriptors: Europe; Mosses; Indicator plants; Monitoring; Air pollution; Pollutants; Heavy metals; Residues

102 NAL Call. No.: QH21.N8T76 nr.61  
Resipientundersokelser i Batsfjord 1985 blotbunnsfauna, fjaereundersokelser og hydrografi.. Assessment of biological effects of organic pollution in the Batsfjord harbour, 1985 Oug, Eivind  
Tromso : Universitetet i Tromso, Institutt for museumsvirksomhet,; 1987. ii, 52 p. : ill., maps ; 30 cm. (Tromura. Naturvitenskap, nr. 61). Cover title. Summary in English, with title: Assessment of biological effects of organic pollution in the Batsfjord harbour, 1985. Softbottom macrofauna and rocky-shore communities studies. Bibliography: p. 40-42.

Language: Norwegian

Descriptors: Water; Pollution; Norway; Batsfjord; Physiological effect; Marine pollution; Environmental aspects; Norway; Batsfjord

103 NAL Call. No.: QH540.U562 no.88(20) A  
resource manager's guide for using aquatic organisms to assess water quality for evaluation of contaminants. Krueger, Henry O.; Ward, John P.; Anderson, Stanley H.  
U.S. Fish and Wildlife Service  
Washington, DC : U.S. Dept. of the Interior, Fish and Wildlife Service, Research and Development,; 1988.  
v, 45 p. : ill. ; 28 cm. (Biological report ; 88(20)). August 1988. Bibliography: p. 34-45.

Language: English

Descriptors: Water quality bioassay; Water; Pollution; Measurement; Indicators (Biology)

104 NAL Call. No.: QH90.57.B5N3 The

role of biochemical indicators in the assessment of aquatic ecosystem health their development and validation..  
Biochemical indicators National Research Council Canada.  
Subcommittee on Pesticides and Industrial Organic Chemicals;  
National Research Council Canada, Associate Committee on  
Scientific Criteria for Environmental Quality, National  
Research Council Canada, Environmental Secretariat  
Ottawa : National Research Council of Canada, NRCC Associate  
Committee on Scientific Criteria for Environmental Quality,;  
1985.

119, vii p. : ill. (1 fold.) ; 28 cm. (Publication ... of the  
Environmental Secretariat ; no. NRCC - 24371). Includes  
abstract in French. Spine title: Biochemical indicators.  
Includes bibliographical references.

Language: English

Descriptors: Water quality bioassay; Aquatic organisms; Effect  
of water pollution on; Pesticides; Environmental aspects;  
Biotic communities

105 NAL Call. No.: QK1.D5 Bd.164  
Schwermetallaufnahme von Mnium hornum Hedw. im Hinblick auf  
seine Eignung als Biomonitor [Heavy metal uptake by Mnium  
hornum Hedw. in regard to its suitability as a biomonitor].  
Clement, Marion  
Berlin : J. Cramer,; 1990.  
v, 146 p. : ill. ; 23 cm. (Dissertationes botanicae ; Bd.  
164). Includes bibliographical references (p. 136-146) and  
appendices.

Language: German

106 NAL Call. No.: QE471.2.S22 1991  
Sediment and stream water quality in a changing environment  
trends and explanation.  
Peters, Norman E.; Walling, D. E.  
International Union of Geodesy and Geophysics, General  
Assembly\_1991 :\_Vienna, Austria), International Association of  
Hydrological Sciences Wallingford, Oxfordshire, UK :  
International Association of Hydrological Sciences,; 1991.  
ix, 374 p. : ill., maps ; 25 cm. (IAHS-AISH publication ; no.  
203.). Proceedings of an international symposium held during  
the XXth General Assembly of the International Union of  
Geodesy and Geophysics in Vienna, Austria, 11-24 August 1991.  
Includes bibliographical references.

Language: English

Descriptors: Sediments (Geology)

107 NAL Call. No.: QH84.8.B46 A  
simple biomonitor for measuring ammonia deposition in rural  
areas. Sommer, S.G.

Berlin : Springer International; 1988 Mar.  
Biology and fertility of soils v. 6 (1): p. 61-64; 1988 Mar.  
Includes references.

Language: English

Descriptors: Denmark; Ammonia; Deposition; Environmental  
pollution; Hordeum vulgare; Indicator plants; Nitrogen cycle;  
Rural areas

108 NAL Call. No.: 56.8 J822  
Soil conservation in Canada.  
Dumanski, J.; Coote, D.R.; Luciuk, G.; Lok, C.  
Ankeny, Iowa : Soil Conservation Society of America; 1986 Jul.  
Journal of soil and water conservation v. 41 (4): p. 204-210.  
ill; 1986 Jul. Includes references.

Language: English

Descriptors: Canada; Soil and water conservation; Land  
resources; Water resources; Erosion; Agricultural situation;  
Soil surveys; Environmental assessment

109 NAL Call. No.: TC524.G85 1985  
Special report and environmental assessment potential water  
resources development, Guam.. Potential water resources  
development, Guam United States. Bureau of Reclamation. Guam  
Study Office  
Agana, Guam : Bureau of Reclamation, Guam Study Office,; 1985.  
6, vi, 87, [57] p., [11] leaves of plates (some folded) :  
ill., maps ; 28 cm. December 1985. Bibliography: p. 83-87.

Language: English; English

Descriptors: Water resources development

110 NAL Call. No.: GB701.W375 no.90-4051  
Summary of biological investigations relating to surface-water  
quality in the Kentucky River basin, Kentucky.  
Bradfield, Arthur D.; Porter, Stephen D.  
Geological Survey (U.S.)  
Louisville, Ky. : Dept. of the Interior, U.S. Geological  
Survey ; Denver, Colo. : U.S. Geological Survey, Books and  
Open-File Reports [distributor],; 1990; I 19.42/4:90-4051.  
iv, 63 p. : maps ; 28 cm. (Water-resources investigations  
report ; 90-4051). "National Water-Quality Assessment  
Program"--Cover. Includes bibliographical references (p.  
47-63).

Language: English; English

Descriptors: Water quality bioassay; Kentucky River Watershed;  
Water quality; Kentucky River Watershed

111 NAL Call. No.: TD420.E44 1989

Surface water pollution and its control.

Ellis, K. V.; White, G.; Warn, A. E.

Houndmills, Basingstoke, Hampshire : Macmillan,; 1989.

xii, 373 p. : ill. ; 25 cm. Includes bibliographical references (p. [344]-366) and index.

Language: English

Descriptors: Water; Water quality; Water quality management;  
Water quality bioassay

112 NAL Call. No.: DT365.A2J6

Sustainability in exploitation, development and management of hydrological resources of Turkana District.

Msangi, J.P.

Nairobi : The Journal; 1991.

Journal of Eastern African research and development v. 21: p. 21-39; 1991. Includes references.

Language: English

Descriptors: Kenya; Sustainability; Water resources; Resource development; Resource utilization; Water quality; Water management; Environmental factors; Lakes; Rivers; Groundwater; Rain; Runoff water

113 NAL Call. No.: TD424.35.T2W37

Sustainable agriculture and environmental quality symposium.

Johnson, L.A.

Knoxville, Tenn. : The Service; 1992 Feb.

Water protection conservation management v. 5 (1): p. 1-2; 1992 Feb.

Language: English

Descriptors: Tennessee; Water conservation; Water policy; Water pollution; Water resources; Law

114 NAL Call. No.: 56.8 J822

Swampbusting in perspective.

Heimlich, R.E.; Langner, L.L.

Ankeny, Iowa : Soil Conservation Society of America; 1986 Jul.

Journal of soil and water conservation v. 41 (4): p. 219-224. maps; 1986 Jul. Includes 16 references.

Language: English

Descriptors: U.S.A.; Soil and water conservation; Environmental assessment; Water resources; Land resources; Land development; Federal programs; Agricultural policy; Environmental degradation; Wetlands; Swamps

115 NAL Call. No.: 282.9 G7992  
Task force findings and recommendations for enhancing Great  
Plains water quality.  
Lacewell, R.D.  
Lincoln, Neb. : The Council; 1992.  
Proceedings - Great Plains Agricultural Council. p. 62-68;  
1992. Meeting held June 9-11, 1992 in Lincoln, Nebraska.

Language: English

Descriptors: Northern plains states of U.S.A.; Southern plains  
states of U.S.A.; Groundwater; Surface water; Water quality;  
Environmental impact; Water pollution; Water policy

116 NAL Call. No.: SH174.L35 1990  
Teneurs en metaux, BPC, pesticides organochlores, HAP et  
composes phenoliques des sediments et des poissons des  
rivieres du Quebec en 1987 [Percentages of mercury, lead,  
cadmium and organochloride pesticides in sediments and the  
flesh of fish in the Saint Lawrence River and the Outaouais  
River in 1985]. Laliberte, Denis  
Quebec (Province), Direction de la qualite du milieu aquatique  
Quebec : Gouvernement du Quebec, Ministere de l'environnement,  
Direction generale de l'assainissement des eaux; 1990.  
116 p. : ill. ; 28 cm. (Qualite de l'eau ; QE 90-3). At head  
of title: Direction de la qualite du milieu aquatique. Reseau  
de surveillance des substances toxiques dans le milieu  
aquatique. Avril 1990. "Envirodoq 900016"--T.p. verso.  
"QEN/QE-90-3/2"--T.p. verso. Includes bibliographical  
references (p. [75]-79).

Language: French

Descriptors: Fishes; River sediments; Water quality bioassay

117 NAL Call. No.: HC79.E5N3 The  
ultimate "advisor": rights of a downstream state under the  
Clean Water Act.  
O'Brien, M.  
Albuquerque, N.M. : University of New Mexico School of Law;  
1991. Natural resources journal v. 31 (4): p. 949-966; 1991.  
Includes references.

Language: English

Descriptors: Arkansas; Oklahoma; Rivers; Water quality;  
Environmental legislation; Federal government; Government  
organizations; Quality standards; Courts; Decision making;  
State government

118 NAL Call. No.: HC79.E5E5 Use  
of sequential sampling of amphipod abundance to classify the  
biotic integrity of acid-sensitive lakes.

France, R.  
New York, N.Y. : Springer-Verlag; 1992 Mar.  
Environmental management v. 16 (2): p. 157-166; 1992 Mar.  
Includes references.

Language: English

Descriptors: Ontario; Amphipoda; Lakes; Acidification;  
Monitoring; Toxicity; Sampling; Classification

119 NAL Call. No.: aSD11.A352 no.149  
Using the index of biotic integrity (IBI) to measure  
environmental quality in warmwater streams of Wisconsin.  
Lyons, John  
North Central Forest Experiment Station (St. Paul, Minn.) St.  
Paul., Minn. : U.S. Dept. of Agriculture, Forest Service,  
North Central Forest Experiment Station,; 1992.  
51 p. : ill. ; 28 cm. (General technical report NC ; 149).  
Includes bibliographical references (p. 26-28).

Language: English

Descriptors: Water quality bioassay; Indicators (Biology);  
Water quality; Freshwater fishes; Environmental monitoring

120 NAL Call. No.: TD223.S49 1991  
Volunteer lake monitoring a methods manual.  
Simpson, Jonathan T.  
United States, Environmental Protection Agency, Office of  
Wetlands, Oceans, and Watersheds, Assessment & Watershed  
Protection Division Washington, D.C. (401 M St., S.W.,  
Washington 20460) : U.S. Environmental Protection Agency,  
Office of Wetlands, Oceans, and Watersheds, Assessment &  
Watershed Protection Division,; 1991; EP 1.8:V 88.  
viii, 121 p. : ill. ; 23 cm. "December, 1991"--Cover. "EPA  
440/4-91-002"--Cover. Includes bibliographical references.

Language: English

Descriptors: Water quality management; Water; Environmental  
monitoring

121 NAL Call. No.: TD420.T7  
Water pollution.  
Tripathi, A. K.; Pandey, S. N.  
New Delhi : Ashish Pub. House,; 1990.  
ix, 326 p. : ill. ; 23 cm. Includes bibliographical  
references and index.

Language: English

Descriptors: Algae; Effect of water pollution on; Algae;  
India; Effect of water pollution on; Water; Pollution; Water;  
Pollution; India; Plant indicators; Plant indicators; India;

Water quality bioassay; Water quality bioassay; India

122

NAL Call. No.: QH545.W3A24

Water pollution biology.

Abel, P. D.,

Chichester, West Sussex, England : Ellis Horwood ; New York : Halsted Press, ; 1989.

231 p. : ill. ; 24 cm. (Ellis Horwood series in wastewater technology). Includes bibliographical references.

Language: English

Descriptors: Water; Pollution; Environmental aspects; Water; Pollution; Toxicology; Water quality bioassay; Environmental monitoring

123

NAL Call. No.: RA592.A1S9 1984

Water quality and environmental health proceedings of the symposium held November 9, 1984, Tucson, Arizona..

Proceedings of the Symposium on Water Quality and Environmental Health

American Water Resources Association, Arizona Section Symposium on Water Quality and Environmental Health 1984 : Tucson, Ariz. Tucson : The Association, ; 1985.

v, 156 p. : ill., maps ; 28 cm. Cover title: Proceedings of the Symposium on Water Quality and Environmental Health. Includes bibliographic references.

Language: English

Descriptors: Water quality management

124

NAL Call. No.: 281.9 P942

Water quality and the environment: threats from agriculture. Stockbridge, D.A.

Tuskegee, Ala. : Tuskegee University; 1989.

Proceedings of the ... Annual Professional Agricultural Workers Conference (47th): p. 197-198; 1989. In the series analytic: Outreach to the Rural Disadvantaged: issues and strategies for the 21st century / edited by N. Baharanyi, R. Zabawa, W. Hill. Meeting held December 3-5, 1989, Tuskegee, Alabama.

Language: English

Descriptors: Water quality; Evaluation; Environmental protection; Agricultural chemicals

125

NAL Call. No.: TD365.W38 1992

Water quality assessments a guide to the use of biota, sediments and water in environmental monitoring., 1st ed..

Chapman, Deborah V.

Unesco, World Health Organization, United Nations Environment

Programme London ; New York : Chapman & Hall,; 1992.  
xx, 585 p. : ill., maps ; 24 cm. Includes bibliographical  
references and index.

Language: English

Descriptors: Water quality management; Water quality  
monitoring stations; Environmental monitoring

126 NAL Call. No.: Videocassette no.954  
Water quality III Procedures for water quality management  
written & produced by Chuck Weirich, Tom Schwedler, David  
Wise.. Procedures for water quality management  
Clemson University, Cooperative Extension Service  
Clemson, S.C.? : Clemson University, Cooperative Extension  
Service, [1990?]; 1990.  
1 videocassette (41 min.) : sd., col. ; 3/4 in. U-matic.  
Funded by Southern Regional Aquaculture Center.

Language: English

Descriptors: Water quality management; Ponds; Water quality  
bioassay; Water

Abstract: Describes testing procedures and the water quality  
parameters tested. Provides information on the corrective  
measures for good fish production. Measurements for algae,  
dissolved oxygen, carbon dioxide, pH, and nitrogenous  
compounds are illustrated. Included are maintenance  
suggestions for several meters.

127 NAL Call. No.: 275.29 F22  
Water quality issues: the need for a new approach.  
Schroeder, L.  
Oak Brook, Ill. : Farm Foundation; 1989.  
Increasing understanding of public problems and policies. p.  
117-123; 1989. Paper presented at the 39th National Public  
Policy Education Conference, September 18-21, 1989, New  
Orleans, Louisiana.

Language: English

Descriptors: U.S.A.; Water quality; Water policy;  
Environmental degradation

128 NAL Call. No.: GB701.W375 no.85-4254  
Water quality of selected lakes in Mount Rainier National  
Park, Washington with respect to lake acidification.  
Turney, G. L.; Dion, N. P.; Sumioka, S. S.  
United States, National Park Service  
Tacoma, Wash. : U.S. Geological Survey,; 1986.  
v, 45 p. : ill., maps ; 28 cm.. (Water-resources  
investigations report ; 85-4254). Bibliography: p. 23-24.

Language: English

Descriptors: Limnology; Washington (State); Mount Rainier National Park; Acid precipitation (Meteorology); Environmental aspects; Washington (State); Mount Rainier National Park; Water quality; Environmental aspects; Washington (State); Mount Rainier National Park

129 NAL Call. No.: GB701.W375 no.86-4202  
Water quality of the Malheur Lake system and Malheur River, and simulated water-quality effects of routing Malheur Lake Water into Malheur River, Oregon, 1984-85.  
Fuste, Luis A.; McKenzie, Stuart W.  
United States, Army, Corps of Engineers, Oregon, Dept. of Environmental Quality, Geological Survey (U.S.)  
Portland, Or. : Dept. of the Interior, U.S. Geological Survey ; Denver, Colo. : Books and Open-File Reports [distributor], ; 1987; I 19.42/4:86-4202. viii, 74 p. : ill., maps ; 28 cm. (Water-resources investigations report ; 86-4202). One map on folded leaf in pocket. Bibliography: p. 54-55.

Language: English; English

Descriptors: Water quality; Oregon; Malheur River; Water quality; Oregon; Malheur Lake

130 NAL Call. No.: 60.18 UN33  
"Water watch" programs: stream water quality monitoring.  
Sadlon, N.P.  
Far Hills, N.J. : United States Golf Association; 1992 Jul. USGA Green Section record v. 30 (4): p. 19-20; 1992 Jul.

Language: English

Descriptors: Water quality; Streams; Monitoring

131 NAL Call. No.: GB701.W375 no.85-4120  
Water-quality assessment and wastewater-management alternatives for Dardenne Creek in St. Charles County, Missouri.  
Berkas, Wayne R.; Lodderhose, John R.  
Missouri, Division of Environmental Quality  
Rolla, Mo. : U.S. Geological Survey, ; 1985.  
vi, 51 p. : ill., map ; 28 cm.. (Water-resources investigations report ; 85-4120). Bibliography: p. 30-31.

Language: English

Descriptors: Water quality; Missouri; Water; Pollution; Missouri

132 NAL Call. No.: GB701.W375 no.90-4176  
Water-quality characterization of the Spring River basin,

southwestern Missouri and southeastern Kansas.. Water quality characterization of the Spring River basin, southwestern Missouri and southeastern Kansas Davis, Jerri V.; Schumacher, John G.

Missouri, Division of Environmental Quality, Geological Survey (U.S.) Rolla, Mo. : U.S. Dept. of the Interior, U.S. Geological Survey ; Denver, Colo. : Books and Open-File Reports Section [distributor],; 1992; I 19.42/4:90-4176. viii, 112 p. : ill., maps ; 28 cm. (Water-resources investigations report ; 90-4176). Includes bibliographical references (p. 92-98).

Language: English

Descriptors: Water quality

133 NAL Call. No.: aTC424.C6W3  
Watershed plan and environmental assessment Shavano Valley watershed, Montrose County, Colorado.  
Denver, Colo. : U.S. Dept. of Agriculture, Soil Conservation Service,; 1986; A 57.2-Sh 2.  
1 v. (various pagings) : ill., maps (1 folded) ; 28 cm. Cover title. July 1986.

Language: English; English

Descriptors: Shavano Valley Watershed (Colo.); Watershed management; Colorado; Flood damage prevention; Colorado; Soil conservation; Colorado; Water; Pollution

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