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**ECOLOGICAL
KNOWLEDGE Is
Lost in Wealthier
Communities and
Countries**

Environmental Rights and Wrongs

Screening Out Legal Invaders

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CRITICAL REVIEW

■ 995

Are PFCs Bioaccumulative? A Critical Review and Comparison with Regulatory Criteria and Persistent Lipophilic Compounds

Jason M. Conder, Robert A. Hoke,* Watze de Wolf, Mark H. Russell, and Robert C. Buck

The bioaccumulative potential of perfluorinated carboxylates and perfluorinated sulfonates is evaluated relative to traditional persistent lipophilic compounds.

POLICY ANALYSIS

1004

Ecological Knowledge is Lost in Wealthier Communities and Countries

Sarah E. Pilgrim, Leanne C. Cullen, David J. Smith, and Jules Pretty*

Ecological knowledge is vital to natural resource management; however, it is now being rapidly lost with current patterns of economic growth.

CHARACTERIZATION OF NATURAL AND AFFECTED ENVIRONMENTS

■ 1010

Spatial Characteristics of Net Methylmercury Production Hot Spots in Peatlands

Carl P.J. Mitchell,* Brian A. Branfireun, and Randall K. Kolka

Within peatlands, higher net production of MeHg occurs near the upland-peatland interface than in the peatland interior.

■ 1017

Impact of Artificial Recharge on Dissolved Noble Gases in Groundwater in California

Bradley D. Cey,* G. Bryant Hudson, Jean E. Moran, and Bridget R. Scanlon

Dissolved noble gas concentrations from wells throughout California suggest that artificial recharge has a major impact on dissolved gases in groundwater.

■ 1024

Occurrence and Biomagnification of Polychlorinated Naphthalenes and Non- and Mono-ortho PCBs in Lake Ontario Sediment and Biota

Paul A. Helm,* Sarah B. Gewurtz, D. Michael Whittle, Chris H. Marvin, Aaron T. Fisk, and Gregg T. Tomy

Bioaccumulation behavior and possible metabolism of PCNs in Lake Ontario biota impact relative contributions of toxic congeners in the benthic and pelagic food web.

■ 1032

Nitrosamine Carcinogens Also Swim in Chlorinated Pools

Spencer S. Walse and William A. Mitch*

Nitrosodimethylamine and nitrodimethylamine occur in chlorinated outdoor pools, indoor pools, and indoor hot tubs, with the highest levels in indoor hot tubs.

■ 1038

Cyanide Speciation at Four Gold Leach Operations Undergoing Remediation

Craig A. Johnson,* David J. Grimes, Reinhard W. Leinz, and Robert O. Rye

Chemical analyses of effluents from ore-processing wastes reveal that cyanocomplexes of cobalt may control the long-term persistence of cyanide at gold mines.

■ 1045

Historical Profiles of Chlorinated Paraffins and Polychlorinated Biphenyls in a Dated Sediment Core from Lake Thun (Switzerland)

Saverio Iozza, Claudia E. Müller, Peter Schmid, Christian Bogdal, and Michael Oehme*

A dated sediment core from Lake Thun (Switzerland) is analyzed for the annual CP and PCB deposition as well as for CP homologue and congener profiles.

■ 1051

Speciation and Localization of Arsenic in White and Brown Rice Grains

Andrew A. Meharg,* Enzo Lombi, Paul N. Williams, Kirk G. Scheckel, Joerg Feldmann, Andrea Raab, Yongguan Zhu, and Rafiqul Islam

Inorganic arsenic is highly elevated in the bran layer of unpolished rice.

ENVIRONMENTAL PROCESSES

1058

Bioturbation-Driven Release of Organic Contaminants from Baltic Sea Sediments Mediated by the Invading Polychaete *Marenzelleria neglecta*

Maria E. Granberg,* Jonas S. Gunnarsson, Jenny E. Hedman, Rutger Rosenberg, and Per Jonsson

Marenzelleria neglecta stimulates PCB release from Baltic Sea sediments.

■ 1066

Colloid Transport in a Heterogeneous Partially Saturated Sand Column

Mikhail Mishurov, Alexander Yakirevich,* and Noam Weisbrod

Maximum colloid recovery in heterogeneous sand under unsaturated conditions occurs at intermediate saturation, apparently due to higher lateral solution flux from coarse to fine sand.

■ 1072

NDMA Formation during Chlorination and Chloramination of Aqueous Diuron Solutions

Wei-Hsiang Chen and Thomas M. Young*

Diuron, a widely used herbicide frequently detected in water supplies, is an NDMA precursor during disinfection with chlorine or chloramines.

■ 1078

Trophodynamics of Polybrominated Diphenyl Ethers in the Marine Food Web of Bohai Bay, North China

Yi Wan, Jianying Hu,* Kun Zhang, and Lihui An

The trophodynamics of polybrominated diphenyl ethers and the biotransformation between BDE-99 and BDE-47 along the trophic level in the marine food web are described.

■ 1084

Application of Saturation Transfer Double Difference NMR to Elucidate the Mechanistic Interactions of Pesticides with Humic Acid

Azadeh Shirzadi, Myrna J. Simpson, Yunping Xu, and André J. Simpson*

Saturation transfer double difference (STDD) NMR spectroscopy is employed to determine the mechanistic interactions of pesticides with soil humic acid (HA).