



# LakeLinks

Fall /Winter 2002

*A multi-disciplinary forum for dialogue and expression of diverse viewpoints  
on issues of importance to the Great Lakes region*

## Special Points of Interest

### National Water Crisis:

#### GREAT LAKES NEIGHBORS:

#### MANAGING INTERNATIONAL WATERS IN CRISIS

NOVEMBER 14 & 15,  
2002

University of Toledo

*See page 3 for more information*

### Watch for LIGL's

#### Spring 2003 Fisheries Conference

Responsibilities & Challenges  
of  
Interjurisdictional Fisheries  
Management

*See page 5 for more information*

LIGL'S Spring 2002 conference on  
**Brownfields Remediation**  
was a huge success.

*See pages 8-9 for conference highlights.*



*The Detroit River is a significant migration route for fish, waterfowl, butterflies, raptors, and other birds.  
Photo courtesy of EPA*

## Governance of Recent Great Lakes Fishery Management and Considerations for the Future

W.-Dieter N. Busch

Former Chief - Lower Great Lakes Fisheries Resources Office (USFWS), Amherst, NY  
and former Director, Interstate Fisheries Management, Atlantic States Marine Fisheries Commission, Washington, DC

Fisheries management has historically focused on managing harvest by limiting pounds, sizes and/or numbers of fish, seasonal and/or area closures, and limiting gear size and/or type. The states and 1<sup>st</sup> Nations perform this management function in the  
(*Governance: Continued on page 2*)

## Flame Retardants: A Threat to the Environment?

Reprinted with permission from Environment Canada  
Science and the Environment Bulletin  
Issue No. 30 - May/June 2002

Flame retardants have been used since ancient times to protect people from the dangers of fire. Today, they are found in many products we use every day, including textiles, plastics, paints, televisions and computers. But there is growing evidence that these chemicals may be protecting us in one way and harming us in others.

(*Flame Retardants: Continued on page 4*)

## Economic Analysis Required under the Magnuson-Stevens Act

Kristen M. Fletcher

Director, Sea Grant Law Center, Mississippi-Alabama Sea Grant Legal Program

National Standard Eight was added to the primary U.S. fisheries statute, the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson Act), in 1996. *16 U.S.C. §§ 1801 - 1882 (2002)*. The Act's overarching objective is to prevent overfishing while achieving optimum yields from each fishery. It established eight

(*Economic Analysis: Continued on page 6*)

## Early Mortality Syndrome in Salmonids

Reprinted with permission from Environment Canada  
Science and the Environment Bulletin  
Issue No. 21 - Nov./Dec. 2000

Early mortality syndrome (EMS) is an international problem that affects various species of salmon and trout and can cause catastrophic losses of very young fish. In the Great Lakes Basin, for example, salmonids have suffered a post-hatch mortality of up to 90 per cent, depending on the year, species and location.

(*Salmonids: Continued on page 2*)

*(Governance: Continued from page 1)*

United States. The National Marine Fisheries Service (a federal agency) manages the resources in the offshore Exclusive Economic Zone (3 to 200 miles offshore). If through management actions or inactions, a species or subspecies becomes severely depressed, that species may receive federal protection by being listed as a threatened or endangered species with management provided by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service.

Many fish species move seasonally, either along the coast or inshore to offshore and back again. Therefore, fish frequently move across various political boundaries and are potentially exposed to different management regimes. To legalize interstate management in the marine setting, Congress has approved interstate/federal cooperation through coastal marine fisheries commissions, i.e. The Atlantic, Gulf, and Pacific States Marine Fisheries Commissions. Congress, however, never approved such interstate/federal cooperation for the Great Lakes. Instead, the interagency fishery management is practiced by state and provincial agencies who serve as advisors to the 'lake committees' that agree on management policy and regulations and take those recommendations back to their respective states. However, they can not require binding interjurisdictional regulations and the states do not allow federal agencies to be full committee members.

Recently, fishery management has taken on a new perspective. Ecosystem-based management, which had been on the backburner for two decades, has gained a great deal of attention. This recent enlightenment is driven by the technological improvements and by the frustrations felt by the fishing public. For example, when low fish abundance necessitates fishing restrictions, over harvest is often identified as the culprit, and fishing pressure is reduced as the solution. However, habitat losses and the introductions of exotic species also contribute to the low abundance of the native fish. These factors must also be addressed in order to increase and sustain fish abundance.

However, habitat related regulations are the responsibility of agencies other than those managing the fish. While counties and states have direct habitat protection responsibilities, major responsibilities also rest with federal agencies, such as the US Environmental Protection Agency, the US Army Corps of Engineers, and the Federal Energy Regulatory Commission.

In the Great Lakes, the Great Lakes Water Quality Agreement directs habitat agencies to resolve ecosystem issues using an interdisciplinary approach. The agencies must identify the desired future conditions by gathering input from various sources including the public and

*(Governance: Continued on page 4)*

*(Salmonids: Continued from page 1)*

The exact cause of the syndrome is not well understood, but scientists at Environment Canada's National Water Research Institute (NWRI) are working with fishery and resource managers in Canada and the United States to study the interactions among contaminants, thiamine deficiency and antioxidant vitamins—work they believe will shed new light on the problem.

Symptoms of EMS appear between hatching and first feeding, and include loss of equilibrium, lethargy, swimming in a spiral pattern, hyper-excitability, hemorrhaging and death. The species affected include coho and chinook salmon, and rainbow (steelhead), brown and lake trout. Atlantic salmon in the Finger Lakes of New York State and the Baltic Sea experience similar early life-stage mortality syndromes, called the Cayuga Syndrome and M74 respectively.

Thiamine deficiency in eggs is a common link among these three syndromes, and treatments of thiamine on eggs or fry have been shown to enhance survival and reverse their effects. Although the cause of this deficiency is not known, it appears to result from thiamine-degrading enzymes in the salmonids' diets. In the Great Lakes, certain salmonids feed on non-native fish species, such as alewife and smelt. Quantities of thiamine-degrading enzymes in these species have been documented at up to a hundred times that of native species, and implicate them as a likely cause in the development of thiamine deficiency.

The fact that EMS and M74 are more common in contaminated ecosystems points to the possibility of thiamine- or thiaminase-contaminant interactions. Contaminants may increase the thiamine requirements of salmonids, or the effects of contaminants may only show up when the environmental availability of thiamine is low. In Finland, researchers discovered higher concentrations of dioxin-like contaminants called planar halogenated hydrocarbons (PHHs) in the muscles of female salmon that had M74 appear in their offspring.

So far, no link between any particular contaminant and EMS has been established in North American studies, but research to date has been short-term. Longer-term investigations are needed to determine whether salmon stock with elevated PHHs and low thiamine levels experience an increase in the syndrome's occurrence.

Another line of inquiry is a possible link between the thiamine deficiency and antioxidant vitamins. In a Lake Ontario study, researchers analyzed female lake trout for antioxidants and found that adults whose offspring developed EMS had lower vitamin E (an antioxidant) levels compared to those whose offspring did not. More work is needed now to clarify the link between thiamine deficiency and other factors like antioxidant vita-

*(Salmonids: Continued on page 5)*

# THE NATIONAL WATER CRISIS:

## GREAT LAKES NEIGHBORS:

### MANAGING INTERNATIONAL WATERS IN CRISIS

**NOVEMBER 14 & 15, 2002**

UNIVERSITY OF TOLEDO  
COLLEGE OF LAW AUDITORIUM  
TOLEDO, OHIO

#### Thursday, November 14

**6:00 PM**      **RECEPTION & DINNER**      Student Union Ingman Room  
                 **KEYNOTE SPEAKERS:**      *Dennis Schormack* - U.S. Chair International Joint Commission, IJC  
                                                      *The Right Honorable Herb Gray* - Canadian Chair International Joint Commission, IJC

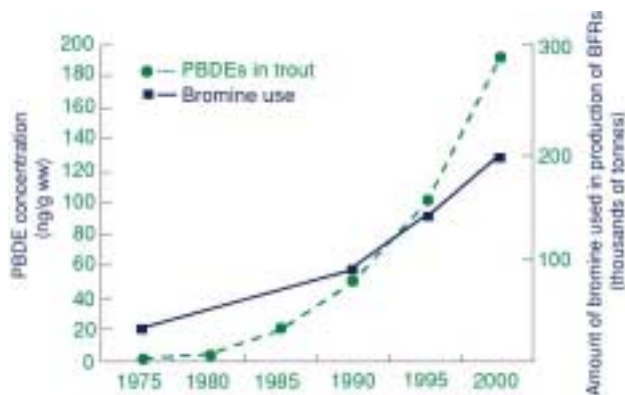
#### Friday, November 15

**8:30 AM**      **WELCOME**      *Dean Phillip Closius*  
**8:40**              **OPENING & KEYNOTE SPEECH**  
   *John Mills* - Director General, Ontario Region, Environment Canada  
**9:15**              **PANEL 1: *The Canadian View: Resolving Regulatory Disputes at Home and Abroad***  
                                 **MODERATOR:**  
   *Professor Robert Abrams* - Wayne State University Law School  
                                 **SPEAKERS:**  
   *David DeLauney* - Director, Lands and Waters Branch, Ministry of Natural Resources, Ontario  
   *Louise Lapierre* - Advisor: Direction of Intergovernmental Affairs, Ministry of the Environment, Quebec  
**10:30**              **BREAK**  
**10:45**              **PANEL 2: *Tribes & First Nations: The Other Sovereignty***  
                                 **MODERATOR:**  
   *Professor Sandra Zellmer* - The University of Toledo College of Law  
                                 **SPEAKERS:**  
   *Ellen Kohler* - Attorney, Traverse City, Michigan  
   *Andrew McDonald* - Solicitor, Ontario Ministry of Natural Resources  
   *Patty O'Donnell* - Environmental Stewardship Director, Grand Traverse Band of Ottawa and Chippewa Indians  
**12:15 PM**      **LUNCH & KEYNOTE SPEECH**  
**1:45**              **PANEL 3: *Interstate Compacts and International Agreements for the Great Lakes: Looking Forward***  
                                 **MODERATOR:**  
   *Professor Mark Squillace* - University of Toledo College of Law  
                                 **SPEAKERS:**  
   *Mike Donahue* - President, CEO, Great Lakes Commission  
   *Maggie Grant* - Executive Director, Council of Great Lakes Governors  
   *Sam Speck* - Director, Ohio Department of Natural Resources; Vice Chair, Great Lakes Commission  
                                 **INVITED PANELIST:**  
   *Gerry Galloway* - Secretary, International Joint Commission  
**3:15**              **CLOSING & KEYNOTE SPEECH**  
                                 **INVITED KEYNOTE SPEAKERS:**  
   *Senator Mike DeWine*, Ohio  
   *Attorney General Jennifer Granholm*, Michigan  
   *Representative Marcy Kaptur*, Ohio  
   *Tom Ridge*, Director of Homeland Security  
   *Governor George Ryan*, Illinois  
   *Governor Bob Taft*, Ohio

3.5 HOURS OF FREE CLE: Application has been made for Ohio CLE credit from the Ohio Supreme Court Commission on Continuing Legal Education for 3.5 of CLE credit including 0.0 hours of Ethics, Substance Abuse and Professionalism.

*(Flame Retardants: Continued from page 1)*

Advances in chemistry have come a long way since the Egyptians and Romans first used alum to reduce the flammability of wood. There are now more than 175 different flame-retarding chemicals, which fall into four major groups: inorganic, halogenated organic, organophosphorous and nitrogen-based. Brominated flame retardants (BFRs)—the most common organic retardant—may be chemically bonded into plastics (reactive) or mixed with polymers and resins (additive).



Mean concentrations of total polybrominated diphenyl ether detected in Lake Ontario trout and the amount of bromine used globally for the production of brominated flame retardants between 1975 and 2000. Graph courtesy of Environment Canada

Additive retardants are believed to be more easily released into the environment than reactive ones. In 1979, the additive polybrominated diphenyl ether (PBDE) was detected in soil and sludge samples around a PBDE-manufacturing facility in the United States. Since then, studies in Europe, North America and Japan have pointed to the widespread distribution of these contaminants in fish, shellfish, fish-eating birds, marine mammals, and sediments. In the late 1990s, international concern increased when an analysis of breast-milk samples in Sweden showed that levels of PBDEs have increased exponentially since the early 1970s.

BDE molecules are similar in structure to polychlorinated biphenyls (PCBs), industrial chemicals that are classified as probable carcinogens and are known to cause birth defects, neurological damage and thyroid imbalances. Initial studies also indicate that BDEs—whose chemical structure resembles thyroxine—could interfere with the metabolism of thyroid hormones and their transport throughout the body.

Environment Canada's National Water Research Institute is leading national and international efforts to understand the sources, environmental behaviour and toxicity of brominated flame retardants, and help determine the risks they pose to human health. The Institute has organized and hosted three international workshops at

which researchers from governments and universities have pooled their knowledge on the issue, including the problem of accurately measuring trace levels of PBDEs in different sectors of the environment.

Environment Canada and partners from Fisheries and Oceans Canada, Health Canada and the universities of Guelph and Trent have completed a multi-year investigation of the impact of PBDEs in Canada. Their study, which examined the levels of these chemicals in breast-milk, wildlife, biota, bird eggs, sediment and air in different parts of the country, confirms that they are a ubiquitous pollutant in Canada.

PBDEs were found in air samples from the Great Lakes and the Arctic, surface sediment from Lake Ontario, suspended sediment from Wapiti River in Alberta, and sludge from sewage-treatment plants in Ontario. They were detected in lake trout from the Great Lakes, fish and marine mammals from the St. Lawrence estuary, biota from the Canadian west coast, seals from Holman Island in the Northwest Territories, and Herring Gull eggs from the Great Lakes basin. Results from archived samples provide evidence that levels are on the rise in North America, unlike Europe and Japan, where they are on the decline.

*(Flame Retardants: Continued on page 6)*

*(Governance: Continued from page 2)*

members of the fishing community. Therefore, when the environmental agencies seek input on the health of the fish communities for their ecosystem restoration plans, the only game in town for these data is the “official” input from the ‘lake committees’ whose members are only to be a coalition of advisors.

Is their input unbiased, proactive, and based on healthy ecosystems, within historic constraints and limitations? If Great Lakes fish were synonymous to miner’s canaries as indicators of ecosystem health, fishery management agencies should not have to follow the environmental agencies. They, instead, should be leading the efforts to restore the Great Lakes ecosystems. However, the current management structure has difficulty visualizing what “a desired healthy future condition” includes. This is in part driven by the many anthropogenic changes to the ecosystems, loss of native species, and introductions of exotics. Some of these changes are perceived as permanent, for example, current management relies on exotic fish species as needed members of the forage fish community. Although habitat conditions are improving, little effort is being placed on long-term initiatives such as restoring native forage fish species.

It will be interesting to see how the future governance of Great Lakes natural resource management changes. Will environmental agencies keep the lead that

*(Governance: Continued on page 5)*

(Governance: Continued from page 4)

they have been given? Will the Great Lakes fishery management agencies update their organizational structure to be in line with the U.S. Constitution, as are the Atlantic, Gulf, and Pacific States Marine Fisheries Commission? Will fish and ecosystem health and sustainability be the driving force in restoring the Great Lakes or will fish harvest just be another indicator of ecosystem uses such as the annual tons of goods moved by commercial navigation, cubic yards for dredging, acres of wetlands, miles of shoreline armoring, quantity of water withdrawn for commercial use, etc.?

The author can be reached by e-mail at: wdnbusch@comcast.net

(Salmonids: Continued from page 2)

mins.

NWRI scientists and their partners in Fisheries and Ocean Canada, the United States Geological Survey, the Michigan and Wisconsin departments of Natural Resources, the United States Fish and Wildlife Service and the Chippewa-Ottawa Treaty Fishery Management Authority are undertaking a broad range of activities as part of their research. These include quantifying the thiamine and thiaminase in the food web, determining the extent of the syndrome in salmonids, improving procedures for thiamine therapy, developing a laboratory model, and testing a large range of chemicals and contaminants to see if they act synergistically with thiamine deficiency.

Other areas to be explored are the long-term effects on fish surviving EMS, whether other species that consume alewife and smelt experience reproductive difficulties related to thiamine deficiency, and whether blue-green algae may act as a source of thiaminase. The findings will help to protect self-sustaining fish populations and to rehabilitate degraded populations of native species in the Great Lakes.

For additional information on Environment Canada's science activities, visit the Bulletin's Web site at [www.ec.gc.ca/science](http://www.ec.gc.ca/science). Information on the department's National Water Research Institute where the research featured in this story is conducted, can be obtained @ [www.nwri.ca](http://www.nwri.ca).



Salmon eggs are fertilized in the laboratory, exposed to chemicals such as vitamins, vitamin antagonists or contaminants, and then incubated until swim-up to monitor for early mortality syndrome. Photo Courtesy of Environment Canada

# Mark your Calendars

For

Lig'l's Spring

F I S H E R I E S  
C O N F E R E N C E

A P R I L 10 & 11,  
2003

T o l e d o , O H

\*\*\* DRAFT \*\*\*

*Responsibilities and Challenges of  
Interjurisdictional Fisheries  
Management*

Federal Agencies and States

National Marine Fisheries Service  
State fisheries managers  
Environmental Protection Agency  
Federal Energy Regulatory Commission  
Fish and Wildlife Service  
Corps of Engineers

Interstate and International  
Commissions

Atlantic States Marine Fisheries Commission and  
other ocean fisheries commissions  
Great Lakes Fisheries Commission

American Indians and First Nations

*(Economic Analysis: Continued from page 1)*

regional fisheries management councils and required them to create management plans for each federally managed fish species to accomplish this goal. *See 16 U.S.C. § 1851(a)(1)*. Plans may include seasonal closures, catch allocations, size limits, and gear restrictions.

One of ten national standards that the Secretary of Commerce and National Marine Fisheries Service (NMFS) must meet when adopting federal fisheries management rules, National Standard Eight (NS 8) requires that the Secretary "take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities." *16 U.S.C. § 1851(a)(8) (2002)*.

Since the 1996 amendments, litigation over fisheries regulations has increased dramatically. The cases challenging the Secretary's economic analysis conducted under the mandate of NS 8 show the tightwire that the Secretary and NMFS walk between minimizing economic impacts and carrying out the conservation mandate of the Magnuson Act. The agency noted that while "[d]eliberations regarding the importance of fishery resources to affected fishing communities . . . must not compromise the achievement of conservation requirements . . . where two alternatives achieve similar conservation goals, the alternative which provides the greater potential for sustained participation of communities and minimizes the adverse economic impacts is preferred." *50 C.F.R. § 600.345(b) (2002)*.

The primary issues litigated in challenges under NS 8 are whether the Secretary has correctly defined "fishing community" in the NS 8 economic analysis, whether appropriate alternatives to the selected management measure were considered, and whether the analysis adequately assesses the effects on the communities and how to minimize them. The cases indicate that when "defining the universe" for the economic analysis, the agency cannot merely use all fishing permit holders or an entire geographic area (such as a state) as the fishing community. Rather, evaluation of the actual effort of permit holders is necessary to convey the number of fishers that will be affected by a rule. One court recommended that the agency use the Internet to assist in determining the size of fishing communities. *North Carolina Fisheries Ass'n, Inc. v. Daley*, 27 F. Supp. 2d 650, 664 (E.D. Va. 1998).

The objective of the economic analysis is to describe the effects of various alternatives but not to require a particular result. To meet its mandate, the agency must review a sufficient number of viable alternatives to ascertain whether or not the chosen alternative offers the least economic hardship. While there is no magic number of-

ferred, the decisions reveal that certifying the decision without considering any alternatives other than the proffered one and the status quo was inadequate while the examination of twelve different options was determined to be more than adequate.

Arguably the most difficult component in the economic analysis is determining the effects on the parties and how to minimize them. In assessing the effects on fishing communities, the analysis must include a number of characteristics such as changes in prices or quantities, changes in operating costs, biological conditions, fleet size and composition. *Id.* at 5

The Magnuson Act requires that these effects be minimized to the extent practicable. In several cases, the conservation mandate was shown to take priority over minimization of economic impacts. However, when fishing interests successfully challenged the agency, courts have found that either the economic analyses lacked sufficient detail to determine economic impacts of the measures or how effective the measures would be in terms of restoring fish stocks.

This article is an abridged version of *When Economics and Conservation Clash: Challenges to Economic Analysis in Fisheries Management*, originally published in the ENVIRONMENTAL LAW REPORTER.



Eastern Lake Superior



Eastern Georgian Bay  
Photos Courtesy of EPA



Door County Peninsula

*(Flame Retardants: Continued from page 4)*

Environment Canada recently co-edited a special issue of the international journal *Chemosphere* presenting the current state of science on polybrominated diphenyl ethers and discussing challenges still to be met in determining their impact on the environment and human health. An emerging concern for both scientists and regulatory agencies is new evidence of high levels of PBDEs in human fatty tissue and blood serum, as well as in breast-milk.

Departmental researchers will continue to work with Canadian and international colleagues to clear up uncertainties about the release and long-range global transport of these pollutants, and to contribute to the assessment of their potential toxicity to humans.

For additional information on Environment Canada's science activities, visit the Bulletin's Web site at [www.ec.gc.ca/science](http://www.ec.gc.ca/science). Information on the department's National Water Research Institute where the research featured in this story is conducted, can be obtained @ [www.nwri.ca](http://www.nwri.ca).

# FYI

## *Insightful Sources for Information on Fisheries*

- I.P. Aidarov et al., *On the Problem of Environmental Rehabilitation of River Basins*, Vol. 29, Issue 2 Water Resources (March-April 2002).
- David G. Angeler et al., *Assessment of Exotic Fish Impacts on Water Quality and Zooplankton in a Degraded Semi-arid Floodplain Wetland*, Vol. 64, Issue 1 Aquatic Sciences 76 (April 2002).
- Rebecca Bratspies, *Finessing King Neptune: Fisheries Management and the Limits of International Law*, 25 Harv. Env'tl. L. Rev. 213 (2001).
- Jeff Brax, *Zoning the Oceans: Using the National Marine Sanctuaries Act and the Antiquities Act to Establish Marine Protection Areas and Marine Reserves in America*, 29 Ecology L.Q. 71 (2002).
- Christopher J. Carr and Harry N. Scheiber, *Dealing With a Resource Crisis: Regulatory Regimes For Managing the World's Marine Fisheries*, 21 Stan. Env'tl. L.J. 45 (2002).
- Stuart E. Findlay, *Functional Assessment of a Reference Wetland Set As a Tool For Science, Management and Restoration*, Vol. 64, Issue 2 Aquatic Sciences 107 (June 2002).
- Gabriela Friedl, *Disrupting Biogeochemical Cycles – Consequences of Damming*, Vol. 64, Issue 1 Aquatic Sciences 55 (April 2002).
- Sarah E. Gergel, *Landscape Indicators of Human Impacts to Riverine Systems*, Vol. 64, Issue 2, Aquatic Sciences 118 (June 2002).
- Mark R. Goldschmidt, *The Role of Transparency and Public Participation In International Environmental Agreements: The North American Agreement On Environmental Cooperation*, 29 B.C. Env'tl. Aff. L. Rev. 343 (2002).
- Michael C. Laurence, *A Call to Action: Saving America's Commercial Fisherman*, 26 Wm. & Mary Env'tl. L. & Policy Rev. 825 (2002).
- E. Michael Linscheid, *Living to Fish, Fishing to Live: The Fishery Conservation and Management Act and Its Implications for Fishing – Dependent Communities*, 36 U.S.F. L. Rev. 181 (2001).
- Lawrence J. Prelli and Mimi Larsen-Becker, *Learning From the Limits of an Adjudicatory Strategy for Resolving United States – Canada Fisheries Conflicts: Lessons From the Gulf of Maine*, 41 Natural Resources J. 445 (2001).
- Richard J. Silk, Jr., *Nonbinding Dispute Resolution Processes in Fisheries Conflicts: Fish Out of Water?*, Ohio St. J. on Dis. Res. 791 (2001).
- **American Fisheries Society:** [www.fisheries.org](http://www.fisheries.org)
- **Fisheries and Oceans Canada:** [www.ncr.dfo.ca](http://www.ncr.dfo.ca)
- **Food and Agriculture Organization of the United Nations, Fisheries division:** [www.fao.org](http://www.fao.org)
- **National Fisheries Institute:** [www.nfi.org](http://www.nfi.org)
- **NOAA Fisheries, National Marine Fisheries Service:** [www.nmfs.noaa.gov](http://www.nmfs.noaa.gov)
- **Environment Canada, Science and Environment Bulletin:** [www.ec.gc.ca/science](http://www.ec.gc.ca/science)
- **Canadian Journal of Fisheries and Aquatic Sciences:** [www.nrc.ca/cgibin/cisti/journals/rp/rp2\\_desc\\_e?cjfas](http://www.nrc.ca/cgibin/cisti/journals/rp/rp2_desc_e?cjfas)

*Highlights of the*  
**FIFTH ANNUAL CONFERENCE  
ON GREAT LAKES LAW, SCIENCE AND POLICY  
AT THE UNIVERSITY OF TOLEDO COLLEGE OF LAW,  
APRIL 25 & 26, 2002**

***BROWNFIELDS REMEDIATION***

On April 25 & 26, 2002, The University of Toledo College of Law and the Legal Institute of the Great Lakes (LIGL) sponsored the fifth annual conference on Great Lakes' law, science, and policy, "Taking The Brown Out Of Brownfields." The conference promoted interdisciplinary understanding of contemporary issues related to economic, social and environmental effects, remediation and future uses of contaminated lands. Speakers addressed recent Brownfields legislation (federal, state and provincial), demographic trends, and balancing growth to save greenfields through the redevelopment of brownfields.

Panels and breakout sessions over the course of the two-day conference discussed new techniques for remediation and the effects of brownfields on water and environmental quality as well as on local communities. The presentations demonstrated the dual aims of Brownfields remediation: promoting environmental quality and stimulating redevelopment and rejuvenation of metropolitan areas.

Several examples of Brownfield "success stories" were explored, including a description by Ron Clark, Environmental Design Group, of the remediation of the old B.F. Goodrich plant in Akron, now used for offices and commercial space. Todd S. Davis of Hemisphere Corporation, who literally wrote the book on brownfields redevelopment for the American Bar Association, discussed the creative ways to structure and finance brownfields redevelopment utilizing as his example a parcel in northern Toledo, near the new Jeep plant, where his company was in the process of redeveloping a parcel formerly occupied by a fertilizer plant. Before his corporation acquired this parcel, it



Timothy J. O'Brian, Vice President of Ford Motor Company's Real Estate Division  
Keynote Speaker at LIGL's Spring 2002 Brownfields Remediation Conference

had been used as an illegal dumping site for drums of chemicals. Among the techniques described was the sale of clean dirt from a portion of the site to cap a neighboring landfill thereby financing the creation of a proper disposal pit for the contaminated soil on his property. Alma Lowry, of the Sugar Law Center, and James Clift, Michigan Environmental Council, described effects on surrounding communities as well as the implications of State Voluntary Action programs.

The program on Friday included an excellent overview of current brownfield redevelopment law and liabilities by John Byl, a private practitioner in Grand Rapids, Michigan, Professor Heidi Robertson, Cleveland State School of Law, and Greg Madden, US EPA. Sarah Powell commented on the Canadian experience in addressing the problems and contrasted new provincial brownfields laws with the American approach. Chris Hart, Counsel for General Electric Canada, addressed the process employed by GE to determine whether to remediate a parcel which may be contaminated. His presentation provided a rare insight into the corporate decisional process in the context of a brownfields prob-

*(Brownfields: Continued on page 9)*

*(Brownfields: Continued from page 8)*

lem. Susan Martyn, University of Toledo Stoeppler Professor of Law and Values and member of the ABA's Ethics 2000 Committee, led a discussion on ethical rules governing disclosure and confidentiality.

Keynote speaker Timothy J. O'Brien, vice president of Ford Motor Company's Real Estate Division, spoke about the redevelopment of the Ford Rouge Center, one of the oldest continuing automobile manufacturing facilities in the country. Ford is utilizing a variety of innovative technologies to remediate this Brownfield site, including phytoremediation of contaminated soils, and various measures to control stormwater runoff from impervious surfaces such as pavement and roofing. One of the stormwater measures being implemented at the Rouge facility is a vegetative roof, which uses plant material to control polluted runoff from the roof of the assembly plant.

Professors Sandi Zellmer and Frank Merritt of the University of Toledo College of Law organized the event. Zellmer also moderated the opening panel, "The Economic, Social and Biological Impact of Brownfields of Communities: From Blight to Renewal." The conference drew participants from across the United States and Canada, with over seventy participants from a variety of disciplines.

University of Toledo Students from  
Professor Sandi B. Zellmer's  
Environmental Law class  
recently toured the Ford Rouge Phytoremediation Center.



**FOR MORE INFORMATION  
ABOUT THE  
LEGAL INSTITUTE OF THE  
GREAT LAKES,  
CONTACT US AT:**

Legal Institute of the Great Lakes  
University of Toledo  
College of Law  
Toledo, OH 43606-3390  
(419) 530-4179  
[Http://www.law.utoledo.edu/ligl](http://www.law.utoledo.edu/ligl)



Faculty Committee (l to r):  
Prof. Frank S. Merritt (Chair), Prof. Roger  
W. Andersen, Prof. Sandi B. Zellmer



Research Fellows (l to r):  
Suzi Zazycki, Andrea Jones

Legal Institute of the Great Lakes  
College of Law  
The University of Toledo  
Toledo, OH 43606-3390

### Address Service Requested

The University of Toledo is committed to a policy of Equal Opportunity in education, employment, membership and contracts, and no differentiation will be made based on race, color, religion, sex, age, national origin, sexual orientation, veteran status or the presence of a disability.

**The Legal Institute of the Great Lakes** serves as a forum for the development and exchange of solutions to legal problems of the Great Lakes region. We welcome correspondence.

**Mailing Address:**

Legal Institute of the Great Lakes  
University of Toledo  
College of Law  
Toledo, OH 43606-3390

**Institute Office:**

Telephone: (419) 530-4179  
Fax: (419) 530-2821  
Home page: <http://www.law.utoledo.edu/ligl>

**Faculty Committee:**

Professor Frank S. Merritt (Chair)  
Professor Roger W. Andersen  
Professor Sandi B. Zellmer

Printed on recycled paper