

**Canada – U.S. Binational Toxics Strategy:  
10 Year Anniversary Evening Reception & Dinner  
An NGO Perspective  
by Michael Murray, Ph.D., National Wildlife Federation  
May 23, 2007**

Thanks to Gary, Danny, Ted and Alan for the invitation, and everyone for contributing to the organization of this event. When Alan approached me in the winter for ideas for an “exciting” and “dynamic” dessert speaker, as a relatively low key Staff Scientist, I was assuming he didn’t have me in mind. So I didn’t ask, assuming he would say “Well no, but I thought...” But after some subsequent discussions, I agreed to step up. I’m not used to delivering this type of talk without PowerPoint slides, so if I periodically refer to images on a non-existing screen behind me, you know what is going on.

I figure it is good to know where people are coming from in our work. As with Tracy Mehan, I am not from the Great Lakes region originally, but from Colorado, where I developed a love of the outdoors following trips to the mountains, in particular hiking some 14ers with my father as a young kid. After attending engineering school in Colorado for my bachelor’s and brief stints in France and at the University of Virginia, I wound up at the University of Wisconsin for graduate school, and then landed at the National Wildlife Federation. In these two decades in the Midwest and periodic forays to the Great Lakes, I recognized my attachment to the land and water of the region may also have some other connection. While I had known my parents were from the region, some genealogy research has shown that the roots are deep into the 19<sup>th</sup> Century, in Minnesota, Iowa and earlier New York (with an off-shoot in Wisconsin) on my father’s side, and the Cleveland area and Pennsylvania on my mother’s.

So that brings me to where I am now, as Staff Scientist with NWF’s Great Lakes office. In an interesting coincidence, I landed at NWF 10 years ago next week, a matter of a few weeks after the signing of the Canada-U.S. Binational Toxics Strategy. Our Great Lakes office had for a number of years a focus on education and advocacy around toxic

chemicals in the Lakes, and with the signing of the Strategy, my new colleagues (in particular Wayne Schmidt and Tim Eder) were wondering about where this newly established initiative would lead.

I recently happened to catch a Monty Python skit, in which members of the Royal Society for Putting Things on Top of Other Things were meeting to discuss accomplishments and challenges. Sir William (Graham Chapman) notes that “This year our members have put more things on top of other things than ever before” and sung the praises of one chapter. But he noted there was a “cloud on the horizon” – namely, the Staffordshire branch had “not succeeded in putting one thing on top of another – shame!”. The Staffordshire representative sheepishly replies that “most of the members in Staffordshire feel... the whole thing's a bit silly.” To which Sir William replies “Silly! Silly?”, and pauses and thinks, and then adds: “I suppose it is, a bit. What have we been doing wasting our lives with all this nonsense (hear, hear). Right, okay, meeting adjourned - for ever!”

While I don't think the charge of “silly” applies to the BTS, I do think the skit emphasizes the importance of periodic frank assessments of our environmental programs, whether the BTS or otherwise. And with this 10<sup>th</sup> Anniversary, I think we can recognize that there have been some clear achievements both under the BTS and related programs addressing toxic chemicals in the Lakes, while challenges – both more longstanding and emerging – have arisen. I'll briefly touch on some of the successes from our perspective, and highlight a few challenges that we see in moving forward.

The BTS is basically a vehicle for more focused implementation of programs to meet the goals of the landmark Great Lakes Water Quality Agreement. For the environmental community, a key goal in the Agreement is contained in the Purpose in Article II, namely that “the discharge of toxic substances in toxic amounts be prohibited, and the discharge of any or all persistent toxic substances be virtually eliminated.” The environmental community has embraced this goal, and has continued to highlight it in the BTS and in various other fora through the years, including biennial meetings on Great Lakes water quality organized by the International Joint Commission, the Great Lakes Regional

Collaboration process, and the ongoing review of the Agreement (for which a draft review document from the Agreement Review Committee has recently been released).

Broadly speaking, we see several ways in which the BTS has been important as a program of its own and in assistance in progress towards goals of the GLWQA. This has included:

- Keeping a high profile on the importance of toxic chemicals as threats to the Lakes
- Having reduction targets and timelines for attaining them
- Establishing partnerships involving industry, government agencies, and NGOs in specific projects aimed at reducing uses and/or releases of toxic chemicals in the Basin
- Having a substance-specific workgroup structure that in general has seemed to be a reasonable way to tackle chemical threats to the Lakes
- Ability of all stakeholders to shape activities, ranging from topics at individual workgroup meetings to broader strategic questions that we are considering now
- Working towards increased binational coordination on assessing progress under the Strategy, and communicating results both within and outside the Basin
- Supporting and highlighting research on transport pathways of toxic chemicals into the Lakes
- Compiling data (including uses, releases, ambient levels) and preparing regular reports helpful in tracking progress towards the goals of the BTS

Much of the work done through these efforts might not be occurring were it not for the BTS.

Looking back, there has been involvement by a number of NGOs in the process, and a number of successes. My group has maintained an active involvement since the start – while we always recognize the importance of regulatory programs (and lawsuits where necessary) in driving environmental protection, we have also seen the clear value in voluntary programs, in particular where individuals may not otherwise be engaged and where programs can foster overall good will among all parties in environmental stewardship and show decent results. NWF has been involved in a number of activities in the BTS (full disclosure - we are grateful for having received funding from EPA's Great

Lakes National Program Office during this period). A few of the key projects NWF has been involved in, as I see it, include:

- Our work on Mercury-Free Medicine, with Molly Chidsey and Guy Williams in coordinating significant growth in that program in the region (working with Health Care Without Harm), and laid the groundwork for the current national program run by Hospitals for a Healthy Environment (with over 4,000 hospitals now involved in U.S.)
- Our work (including Guy Williams and Freya McCamant) with wastewater treatment plants on the importance of pollution prevention measures, including working with upstream dischargers to reduce/eliminate mercury from processes
- NWF's 2000 proposal (in which Andy Buchsbaum was heavily involved) for the development and implementation of comprehensive mercury phase-out strategies as a substitute for costly and complex mercury Total Maximum Daily Loads (a provision under the Clean Water Act). This included development of a general framework, and discussions with EPA and the multiagency Quicksilver Caucus, through which a related National Mercury Reduction Strategy was developed in 2003. And this March, EPA's Office of Water issued new national voluntary TMDL listing guidance through which states can defer development of mercury TMDLs if they have a comprehensive mercury reduction program in place. (This is not as stringent as what NWF originally envisioned, but we are supportive of efforts that promote development of comprehensive programs.)
- We produced a number of reports with resources on pollution prevention, including several on mercury products, and a recent report on environmentally preferable purchasing in the Great Lake states.
- Other areas we have been involved in have included conducting direct outreach to healthcare providers (in particular nurses in OB/GYN practices) on threats of toxic chemicals and importance of following fish consumption advisories, and assessing strengths and limitations of mercury emissions inventories for Great Lakes states

While some of our efforts are often higher level (e.g., preparing general reports or discussions with agency staff on potential programs), we have often been involved in

projects working with individuals making decisions at a smaller scale but with potential significant overall impact. For example, I found it particularly fruitful to be engaged with individuals directly in a recent project involving mercury containing vehicle switches in Ohio. In addition to preparing a report on the problem and highlighting new programs addressing it, it was particularly rewarding to be able to meet directly with auto dismantlers, to discuss their awareness of the issue, concerns, and see in many cases their interest in more information and in doing the right thing to protect the region's environment.

Of course numerous other NGOs have been involved in the BTS through the years, with groups on both the U.S. and Canadian sides having been either funded through or involved one way or another in the BTS. On the Canadian side, that has included groups such as:

- Canadian Environmental Law Association (active in broad legal and policy analysis of measures to protect the Great Lakes)
- Environmental Defence (which has worked with CELA on the Pollution Watch Web site tracking chemical release data, conducted assessments on toxic chemical concentrations in individuals)
- Pollution Probe (active in mapping toxic chemical releases, mercury reduction efforts)
- and the Toronto Environmental Alliance (active in numerous campaigns involving toxic chemicals, air pollution, and other environmental threats in the city)

On the U.S. side, involvement has included groups such as:

- The Delta Institute, which has done innovative technical assistance work in sectors including industrial boilers and wastewater treatment plants
- The Ecology Center, where staff have been national and international leaders in work in a number of areas, including on toxic chemicals in vehicles (including mercury as well as organic compounds in interiors)
- Sierra Club, which has been active on a number of issues, including addressing contaminated sediments

- The Mercury Policy Project, where Michael Bender has covered a broad terrain, including mercury stockpile issues
- and Alliance for the Great Lakes (formerly Lake Michigan Federation), which among other areas helped promote the Great Lakes Legacy Act and weighed in on the review of the Great Lakes Water Quality Agreement

And bridging the border through these years has been Great Lakes United, which has been absolutely indispensable in efforts to protect and restore the Lakes, behind the efforts of individuals such as John Jackson, Rachel Heckl, Reg Gilbert, Alexandra McPherson and others. In the pre-BTS days, GLU spearheaded efforts to engage the public in discussions around the GLWQA, and in opening up the biennial meetings to more public involvement. Concerning the BTS, GLU has been supportive of the collaborative governance model of the BTS, where various stakeholders can maintain long-term partnerships in support of the reduction goals. You heard from John Jackson this afternoon about some of GLU's activities on mercury. GLU's general activities related to BTS goals have been numerous, including in recent years:

- Working with Ecology Center and Environmental Defense on the Clean Car Campaign
- Organizing a workshop on extended producer responsibility and clean production
- Solely or in collaboration organizing green chemistry presentations/workshops at BTS meetings and at the State of the Lakes Ecosystem Conference (fall 2006)

GLU has also recently played an integral role in consideration of new directions for the BTS, including addressing both legacy contamination sources and chemicals of emerging concern, and will surely be key in helping to determine the future of the BTS.

Work on Great Lakes protection has also included individuals involved with various organizations such as Lee Botts, who has been a tireless advocate of protecting the lakes, and Lin Kaatz Chary, who is coordinating development of the Great Lakes Green Chemistry Network.

I also wanted to note the importance of a diversity of strategies for achieving environmental protection in the Basin. Most of the work of NGOs I briefly described involved preparation of reports, meetings and negotiations, education and outreach, and other approaches – all important. But some groups and individuals have been somewhat more aggressive in their approaches. I recall when TEA mounted a press conference (complete with gas masks) following a BTS morning session in Toronto. And the late Mary Beth Doyle of the Ecology Center was equally at home in hard-headed negotiations with industry or agency staff as she was in a giant fish costume protesting toxic chemical pollution, and in all cases doing the work with passion and having fun.

I have surely left out many groups and individuals working with NGOs (as well as private citizens) who have been active at some point in efforts to protect the Great Lakes, through the BTS process. But it is clear that the broader community involved in protecting the Great Lakes has extended to many thousands of individuals, including those who provided input to the International Joint Commission and through Great Lakes United in efforts over the past couple years to solicit ideas in the GLWQA review process.

This involvement and interest attests to the value and importance of the Great Lakes, which surely no one here needs reminding of – nearly one-fifth of the planet's surface freshwater, supplier of drinking water to over 30 million people, supporting a sport fishery that generates over \$6 billion annually in the eight Great Lakes states, the largest freshwater river delta on Earth (St. Clair River Delta), the largest assemblage of freshwater generated sand dunes on the planet, and home to 185 rare plants, animals, and natural communities.

While the presence of toxic chemicals is not the only impairment to the ecosystem, it remains an important threat. We heard this afternoon about significant progress that has been made in reducing releases of Level I substances in both the U.S. and Canada. But we still have 40 Areas of Concern in the region needing additional attention before delisting, and fish advisories for toxic chemicals such as mercury, PCBs and dioxins persist throughout the lakes and/or in many inland waters (with numerous statewide advisories in

the case of mercury). And of course numerous chemicals of emerging concern have been either measured in the lakes or identified as threats. So it seems there is a natural need for a forum such as the BTS to continue.

## **Challenges**

Yet there remain at least three challenges to forging a stronger approach to protecting the lakes from toxic chemicals through the BTS – a drop off in participation by various sectors, determining whether we have the appropriate organizing model, and adopting a more proactive approach to chemicals policy in the region.

On the first challenge, one of the same characteristics of the BTS that would have appeal to many in industry (the emphasis on voluntary programs) has possibly been one reason for more limited involvement of NGOs, in particular in more recent years. There remain a number of NGOs working on environmental issues in the Basin, and quite a few maintain some work on toxic chemicals. But direct or indirect involvement in the Strategy has fallen off in recent years. Based on limited conversations and mostly speculation, I assume that much of the concern may be that while the goals of the Strategy have been reasonable, implementation has not been as aggressive as many would like, and there seems to be a question as to whether the Parties remain committed to the overall virtual elimination goal.

NWF and GLU are beginning work on ways to engage more NGOs into the BTS process. But in addition to advocating for increased NGO involvement, we believe it is important for the BTS as a forum to consider ways to modify its work in ways that might have more appeal to NGOs – this could include a clearly articulated commitment to virtual elimination goals, getting additional parties to the table, and considering a more proactive approach to addressing chemical threats in the Basin.

In addition to the need to re-engage more NGOs in the BTS, we believe there is an additional need to engage more industry stakeholders. The Council of Great Lakes Industries has done an admirable job of coordinating industry input and involvement in the



BTS, and representatives from specific sectors (including the chlor-alkali industry, electric utilities, and others who have had longstanding involvement.) And I do also want to acknowledge an entity that we feel has been exemplary in promoting aggressive pollution prevention programs in their purview, and that is the Western Lake Superior Sanitary District in Duluth.

At the same time, we do believe that increased direct participation in the BTS by additional sectors (including:

- potentially renewed involvement by the steel sector
- participation by auto and other manufacturing sectors (such as pharmaceuticals and companies producing personal care products)
- and possibly increased involvement of institutions (e.g. universities and other large purchasers of supplies and services))

would create more momentum for success in the Strategy.

An additional problem, as we see it, has been decreased or limited participation by many of the Great Lakes states and tribes (in particular at stakeholder meetings). This likely reflects in part continuing funding challenges at the state and tribal levels. In any case, our efforts in reinvigorating the BTS should include goals at ramping up state and tribal involvement.

A second challenge for the BTS as we move forward is assessing our organizational structure. As I noted, the substance-specific approach has generally seemed to be appropriate, in focusing on individual chemicals, identifying sources, and potential opportunities for source reduction beyond other requirements. But the BTS has experimented with sector approaches, including forming a Municipal Solid Waste and Incineration workgroup in 2000 and formation of a burn barrel subgroup, also in 2000. As we heard this afternoon, the latter in particular has been quite successful in highlighting a single sector that can be the source of several BTS chemicals of concern and which also – due in part to challenges in regulatory approaches – is amenable to the exact types of activities (namely organized outreach and education) that are core BTS activities. This type

of model should be considered as a potentially useful approach to moving forward (at least in some cases), while keeping in mind targets for specific chemicals of concern.

A third challenge that we should consider is this: Can we adopt a more proactive approach to chemicals policy and management in the Great Lakes Basin and beyond? It would be helpful if we could not solely rely on an approach whereby we first need to confirm the presence of a chemical of concern in Great Lakes waters, verify that it indeed poses ecological or human health threats, that it is present at levels of concern, that we have identified key sources and pathways into the lakes, and then take action to reduce the loadings. As we all know, this process can take many years and often decades. It is not that all of these components are not important, and do not need to be determined – in fact they do. But there should be a way to make decisions on how we produce, use, and dispose of products and how we use services in a way that does not lead to (at least to some degree) predictable problems down the road.

One concept consistent with this approach is the precautionary principle, often discussed (with varying degrees of support) within the BTS. I would argue that the principle (or some minor variation on it) still has a place in our thinking on chemicals policy in the Great Lakes. I think many of us likely use something like the precautionary principle in many of our decisions, ranging from minor to more significant decisions. But as with any decision, we want it to be based on sound knowledge of the issue at hand – for example, we shouldn't be prescribing antibiotics willy-nilly in case of a possible risk of infection in individuals in incomplete diagnoses, given that in many of those cases antibiotics would not be necessary, and in the case of overuse can contribute to antibiotic resistance in bacteria that then threatens the broader population as a whole.

Responding to this third challenge on a broader chemicals policy approach is something I think the BTS can do. As I noted, there have already been discussions on green chemistry within BTS meetings and related fora, and there is clearly increased interest in the field within all sectors, including at EPA (with its Green Chemistry Program), industry (including the American Chemical Society's Green Chemistry Institute, and ancillary

Green Chemistry Resource Exchange, developed with EPA's Design for the Environment Program), academia (where numerous individual researchers in the region are pursuing green chemistry projects), and among NGOs (including the establishment of the Green Chemistry Network noted earlier).

There have been numerous examples of advances in recent years in the academic and industry research communities addressing greener chemistry/clean production in the region. Because of limited time, I'll just note that the SC Johnson Company up the shoreline from here has developed and implemented the Greenlist™ program, through which ingredients going into products are ranked based on criteria (such as biodegradability and aquatic toxicity) and assigned overall scores; the process explicitly addresses PBT chemicals as well. This research and other projects in the region have won Presidential Green Chemistry Challenge Awards, a program dating back to 1996.

There are a number of other examples of innovative pollution prevention/clean production programs throughout the region, ranging from design for environment principles adopted by furniture maker Herman Miller across the lake to the more sustainable building design of Ford's Rouge plant. And in good timing, the New York Times Science Times section yesterday ran a profile on Ray Anderson, founder of the Interface carpet tile company. Though not a Great Lakes firm, the company is surely well known to anyone who has looked into sustainable business models. Since their commitment to sustainability in the mid-1990s, solid waste disposal has been reduced by 80 percent, and fossil fuel consumption is down by 45 percent (reductions in energy consumption will reduce emissions of mercury and other pollutants from coal-fired power plants, on which the Great Lakes region remains heavily reliant for power generation). On the issue of costs, Mr. Anderson notes that the company's profit margins are up, but that this result – and the environmental performance measures the company has achieved – required not just “bolting on these green programs”, but stepping back and saying “Let's look at the whole system.”

So it is clear that sustainable approaches to producing goods and services can be developed and implemented, and these practices will need to expand in the coming years and decades in the Great Lakes region. This is particularly important in the wake of significant transformations in the region's economy, in particular the long-term decline in the manufacturing sector of which everyone is well aware: according to U.S. Census Bureau data, the number of manufacturing jobs declined from 1998 to 2005 for all the Great Lakes states, ranging from 15.4 percent in Indiana to 30.4 percent in New York, with an overall loss of nearly 1.4 million jobs. These changes obviously have significant implications for the tax base, government funds available for environmental protection, and very importantly, the social fabric, which would include opportunities for recreation experiences and the well-being that can come from time spent on our near the Great Lakes, as noted by Gary earlier.

Whether areas hit by these or similar changes experience re-tooled manufacturing plants, conversion to more service-based businesses, cleaner energy development projects, an increasing focus on tourism, or yet other economic activities, it is essential that these efforts be guided by a sustainability philosophy that can avoid many of the stresses (including production or release of toxic chemicals) that we have been putting on the region's environment for many years.

And speaking of the whole systems that Ray Anderson refers to, as we all know, the stresses on the Great Lakes have been many – in addition to the problem of toxic chemicals, additional stresses include ongoing nutrient loadings, habitat degradation, alteration of natural flow patterns, nonpoint source pollution, invasive species, and emerging concerns with climate change. All but climate change were explicitly addressed through the Great Lakes Regional Collaboration effort on the U.S. side. We know that these stresses can interact – invasive species such as zebra mussels can alter contaminant cycling within water bodies, and toxic chemicals such as dioxin-like chemicals can add to other stresses being faced by species such as lake trout. And climate change offers yet another stress that can be significant in combination with toxic chemicals; for example, additional mercury could be mobilized from soils and sediments in a warmer Great Lakes

ecosystem, leading to increased methylation and uptake in the food web. In addition, a warmer planet can lead to increased release to the air from land surfaces of historically deposited toxic chemicals, increasing long-range transport of these chemicals into both the Great Lakes and other regions. (This type of warming could alter the long-range transport simulations shown by Venkatesh this afternoon, with increased releases from numerous land regions.)

The extent to which we might address these types of additional stresses through the Water Quality Agreement was the subject of quite a lot of discussion in the Special Issues Working Group during the Agreement review process, as those involved will recall. But whether or not we believe a revised Agreement should explicitly address them (and become something more like an ecosystem agreement), it is clear that at a minimum, we have to be planning for how these additional stresses might change the picture for toxic chemicals and their impacts in the Lakes.

To close, I'd like to thank all who have been involved in the BTS, but in particular the agency staff who have been involved in the process for part of or even all of the past 10 years. I know as a member of an environmental advocacy group, it can seem that one of our principle purposes is criticizing government policies. But we do appreciate efforts at adopting and implementing sound programs that we believe will lead to environmental protection and restoration, and we acknowledge the work of the dedicated public servants who have been part of the BTS process through the years. Going back to Monty Python, I don't think this project is silly. It is a serious endeavor to help work towards the goals of the unique Great Lakes Water Quality Agreement. And in moving forward, I am hoping we can extend our time frame to not just 2020 or even 2030, but keep in mind the seven generation precept of the Iroquois. So now it is a matter of rolling up our sleeves and figuring out what is next for the Binational Toxics Strategy, and I am looking forward to working with you over the next two days and in the coming years, as we continue in our efforts to protect and restore the Great Lakes. Thank you.