The long-awaited 7th biennial report of the International Joint Commission (IJC) was issued last week. The IJC is a government body with responsibility for maintaining and restoring environmental quality in the Great Lakes. Past IJC reports have recommended policies that, taken together, define an entirely new approach to the problem of persistent toxic substances.

The 7th IJC report once again calls for:

** phase-out ("sunsetting") of all persistent toxic substances from the Great Lakes ecosystem;

** a ban on the manufacture and use of chlorine;

** an end to reliance on risk assessment;

** a ban on solid waste incineration;

** a reversal of the policy that assumes chemicals are innocent until proven guilty;

** adoption of the principle of precautionary action (which says: wherever it is acknowledged that a practice could cause harm, even without conclusive scientific proof that it does cause harm, the practice should be prevented and eliminated);

** An end to chemical-by-chemical regulation, substituting an approach that eliminates whole classes of chemicals by "strategically preventing the formation of the persistent toxic substance in the first place."

The IJC defines toxic substances as anything that can "cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological or reproductive malfunctions or physical deformities in any organism, or its offspring, or which can become poisonous after concentrating in the food chain or in combination with other substances." The IJC defines a PERSISTENT toxic substance as one with a half-life in any medium (air, water, soil, sediment, or living things) greater than 8 weeks, or one that bioaccumulates in the tissue of living organisms. The half-life of a substance is the time it takes for half of the substance to degrade, go away or disappear.

The 1978 Great Lakes Water Quality Agreement, signed by the federal governments of the U.S. and Canada, insists that, "The discharge of toxic substances in toxic amounts be prohibited and the discharge of any or all persistent toxic substances be virtually eliminated." In its SIXTH BIENNIAL REPORT in 1992 the IJC said, "This statement is the cornerstone of the Agreement."

The 7th IJC report says that "conventional scientific concepts of dose-response and acceptable 'risk' can no longer be defined as good scientific and management bases for defining acceptable levels of pollution, They are outmoded and inappropriate ways of thinking about persistent toxics," the report says.

"The production and release of [persistent toxic] substances into the environment must, therefore, be considered contrary to the [1978 Water Quality] Agreement legally, unsupported ecologically, and dangerous to health generally. Above all, they are ethically and morally unacceptable," the report says. It goes on to stress the need for a zero-discharge policy for persistent toxic substances: "The limits of allowable quantities of these substances entering the environment must be effectively zero, and the primary means to achieve zero should be the prevention of their production, use and release, rather than their subsequent removal."

The IJC was created in 1909 by the governments of Canada and the U.S. to oversee the Boundary Waters Treaty, which guides Great Lakes-related behavior of the two nations. Starting in 1912, and again in 1945 and 1964 the IJC was asked by the two governments to report on water quality of the lakes. The studies revealed progressive deterioration. In 1972 and again in 1978 the two nations signed Water Quality Agreements aimed specifically at improving water quality in the lakes. The goal of the 1978 Agreement was broad: "to restore and maintain the chemical, physical and biological integrity of the waters of the Great Lakes Basin Ecosystem." It is up to the IJC to manage and monitor efforts to achieve the goals of the 1978 Agreement. In 1981, the IJC began issuing a report every two years, describing the condition of the lakes in relation to the goals of the 1978 Agreement.

The 7th IJC report says, "The theme of this report is that the time has arrived for a major shift in the way decision-making takes place for the Great Lakes ecosystem. In particular, society must adopt a clear and comprehensive action plan to virtually eliminate persistent toxic substances that are threatening human health and the future of the Great Lakes ecosystem."

Early in the report, the IJC asks what might happen if people refuse to control persistent toxic substances? Here is a long, verbatim quotation from the report:

"We do not know what ALL of the effects of human exposure will be over many years. Future research will clarify whether low-level and long-term exposures, repeated exposures, or isolated short-term exposures at sensitive stages of fetal development are most critical. For the Commission, however, there is sufficient evidence NOW to infer a real risk of serious impacts in humans. Increasingly, human data support this conclusion.

"The questions then become: what--if any--risks of injury are we as individuals and as a society willing to accept? How long can we afford to wait before we act? Why take any risks of having such potentially devastating results? In this vein, the Commission poses a number of other specific but very fundamental questions:

*** What if, as current research suggests, the startling decrease in sperm count and the alarming increase in the incidence of male genital tract disorders are in fact caused in part as a result of IN UTERO [in the womb] exposure to elevated levels of environmental estrogens?

*** What if, as current research suggests, the epidemic in breast cancer is a result in part of the great numbers and quantities of estrogen-like compounds that have been and are being released into the environment?

*** What if the documented declining learning performance and increasing incidence of problem behaviour in school children are not functions of the educational system? What if they are the result of exposure to developmental toxicants that have been and are being released into the children's and parents' environment, or to which they have been exposed IN UTERO [in the womb]?

"The implications of ANY of the above questions being answered in the affirmative are overwhelming. The implications of ALL of the above questions being answered in the affirmative are catastrophic, in terms of human suffering and the potential liability for that suffering and attendant health costs. Mounting evidence points to the latter possibility. Surely, there can be no more compelling self interest to force us to come to grips with this problem than the spectre of damaging the integrity of our own species and its entire environment," the IJC said.

The new report puts risk assessment into perspective: "Risk assessment is useful in decision-making, especially in setting action priorities, but is not directly relevant to the basic virtual elimination commitment. The Commission does not accept the argument that the elimination of persistent toxic substances should be subject to a risk-benefit calculation, as that is not the approach of the [1978 Great Lakes Water Quality] Agreement," the report says.

Users and producers of persistent toxic substances had told the Commission that phase-out of toxic substances would cause job loss
outweighing any long-term health benefits. They said risk-benefit analysis showed that virtual elimination of persistent toxic substances would not pay. The Commission rejected that argument explicitly, saying, "to continue resisting a strategy that changes our production and consumption habits and moves away from reliance on persistent toxic substances, will be disastrous in the long term from all perspectives."

The Commission called upon industry representatives to stop denying toxics problems and to focus on solutions: "Representatives of industry, when presented with evidence of ecosystem health concerns about substances used in commerce, should react by embracing open dialogue, data sharing and fact finding, to resolve rather than deny concerns and effect an orderly and timely transition to those solutions," the IJC says.

The Commission called for an end to incineration anywhere in North America that could affect the Great Lakes: "A growing number of incinators operate within the Great Lakes region, contributing significantly to the load of contaminants, especially from the low-temperature incineration of industrial, commercial and household refuse containing plastics and solvents, coated papers and many other products," the report says. "Any strategy towards virtual elimination and zero discharge of persistent toxic substances must address the significant inputs from incineration," the report says. "The Commission urges the stringent regulation of existing facilities throughout North America, taking into account the need to ensure the zero discharge of persistent toxic substances from those stacks to the Great Lakes."

The report calls upon "Governments, industry and labour [to] begin devising plans to cope with economic and social dislocation that may occur as a result of sunsetting persistent toxic substances." It calls upon "Labour unions [to] include in their negotiations the issue of transition to a sustainable economy without persistent toxic substances." And it calls upon citizens to get involved: "Citizens should constantly ask political, social and industrial leaders about the effects of the use and discharge of pollutants on this and future generations," the report says, noting that "The patience of many citizens seems to be near a breaking point."

"Maintaining a healthy society means more than failing to discover disease," the report says.


--Peter Montague

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Descriptor terms: ijc; water quality; water pollution; treaties; canada; us; regulation; toxic substances; sunsetting; chlorine; incineration; bans; zero discharge; reverse onus; precautionary principle; persistence defined;