

In February 1987, Environment Canada, the U.S. Environment Protection Agency, the Ontario Ministry of the Environment, and the New York State Department of Environmental Conservation (1999), the Four Parties, signed a Declaration of Intent (DOI). The purpose of the DOI is to achieve significant reductions of toxic contaminants in the Niagara River. Based on the DOI, a contaminant-specific Niagara River effort called the Niagara River Toxics Management Plan (NRTMP) was designed to achieve reductions in contaminant loadings to the Niagara River. Upstream/Downstream monitoring and bio-monitoring, important subsets of the NRTMP, are conducted by Environment Canada and the Ontario Ministry of the Environment, respectively. Data from this monitoring of NRTMP implementation efforts provide evidence of progress toward the goals of the DOI.

Environmental problems in the Niagara River AOC include: inactive hazardous waste sites, contaminated sediment, combined sewer overflows, habitat degradation, and nonpoint source pollution, including urban and rural runoff (Environment Canada 1997) (U.S. EPA 1997).

Table 1, pursuant to Annex 2 of the Agreement, presents the 14 possible beneficial use impairments, their reported status by jurisdiction, and comments of the Commission concerning the reported status.

## Setting and Sources of Contamination

The Niagara River is the connecting channel between Lake Erie and Lake Ontario. The flow of the drainage basin of the upstream Great Lakes system drains into the Niagara River. The Niagara River carries an average flow of approximately 200,000 cubic feet per second (5,666 cubic meters per second). This flow represents 83 percent of the tributary flow to Lake Ontario (New York State Department of Environmental Conservation 1994). Discharge from the Ontario portion of the AOC contributes less than 1 percent to the total flow in the Niagara River (Environment Canada 1997).

Prior to the 1940's, the Niagara River was subject to pollutants such as excessive levels of bacteria, oil, phosphorus, chloride, phenol, mercury and discoloration (NYSDEC 1994). During and after World War II, an increasing array of compounds were discharged from chemical plants to the municipal sewerage system. In its examination of the municipal/industrial waste situation, the Lakes Erie-Ontario Advisory Board (1967) to the Commission on Control of Pollution of Boundary Waters noted the complexity of rectifying this problem. At that time, waste received by the Niagara Falls, New York sewage treatment plant was 75 percent industrial in origin. Consequently, loading information for the sewage treatment plant indicated it to be a larger contributor to the trace organics load in the Niagara River than all Ontario point sources combined (Environment Canada and Ontario Ministry of the Environment 1981).

Numerous point sources primarily on the New York side historically discharged to the Niagara River. In 1981, 12 municipal wastewater treatment plants and 89 industrial facilities were permitted to discharge to the Niagara River or its tributaries (Environment Canada and Ontario Ministry of the Environment 1981). Within the New York drainage area of the Niagara River, over 310 industrial operations were documented to discharge via municipal wastewater treatment plants. The Buffalo River flows into Lake Erie near the headwaters of the Niagara River, hence pollution in the Buffalo River may contribute to water quality impairments of the Niagara River.

4 Land use in the Niagara River AOC includes industrial, residential, urban, agricultural, natural areas and parks. Most industrial dischargers are located within the New York portion of the AOC. Availability of abundant hydro power for industrial operations has resulted in a legacy of hazardous waste sites, the best known of which is Love Canal.