

Source Water Assessment Public Summary
Erie Water Works
June 2003

Introduction

The Pennsylvania Department of Environmental Protection (DEP), Bureau of Water Supply Management is completing assessments of the threat of contamination to the raw water quality of all public drinking water sources, as required by the 1996 Safe Drinking Water Act. The Erie Water Works (EWW) was contracted by DEP to conduct the assessment and prepare this summary to provide information to support local and state efforts to protect the raw water quality of the Erie Water Works. The information provided within this report, relates to the watershed that provides water to the Erie Water Works that is treated at the two treatment facilities, Chestnut and Sommerheim Treatment Plants to provide drinking water to the region. The assessment is a study of the “source water” (Lake Erie) and not of the EWW drinking water (tap water). Information regarding the quality of the drinking water is available by contacting the EWW at (814) 870-8000 and requesting a copy of the most recent Consumer Confidence Report (CCR).

Where Does Your Water Come From?

The source of water for the Erie Water Works comes from Lake Erie. An average of about 28 million gallons of water is drawn from the Lake each day to be treated at the two treatment plants. The system serves approximately 52,000 customers. The watershed, which for Lake Erie

actually comprises an enormous area including land in five states and the Canadian Province of Ontario. The more immediate watershed area is actually the second smallest watershed in Pennsylvania and occupies a relatively narrow strip of land sloping North toward Lake Erie between the New York and Ohio borders. Interstate 90, very roughly approximates the boundary between the Lake Erie and Ohio River watersheds. The watershed area is roughly half occupied by urban and suburban development and half by forested areas and some agriculture. The drainage area is interspersed by streams flowing south to north into Lake Erie from the natural topography created by the past glaciations of the region.

Methodology

The evaluation of impacts on water supply sources in other areas of the state for surface and groundwater sources varies greatly from the methodology for intakes located on the Great Lakes. For this reason, a separate protocol was developed for raw water intakes on the Great Lakes that would allow for accurate and consistent methods for evaluation. The Great Lakes protocol relies on the intake distance from shore and the depth below the surface of the lake, to establish a zone in which the occurrence of pollution would potentially have a noticeable effect on water quality at the particular raw water intake. By the nature of this assessment, shallow intakes close to shore would be more likely to be impacted by on shore pollution events than deep intakes farther out in the Lake. The location of both intakes for the Erie Water Works is more than one mile off shore and are over twenty feet deep. Consequently, the established “Critical Assessment Zone” (CAZ) was

established far offshore. As a result the sensitivity and susceptibility of the EWW intakes to land based pollution is very low

Evaluation of Potential Sources of Contamination

This assessment is meant to evaluate contaminants that may enter the water drawn from Lake Erie before treatment by the Erie Water Works. The contaminants considered during the assessment are those regulated under the federal Safe Drinking Water Act. A description of the potential sources of contamination in the immediate Lake Erie watershed is provided below.

Each potential source of contamination has been reviewed and given a qualitative susceptibility rating (A = high priority through F = low priority) according by the potential for the contaminant to impact the water supply.

<u>Potential Sources of Contamination</u>	<u>Contaminants of Concern</u>	<u>Description</u>	<u>Protection Priority</u>
Sewage Discharges	Bacteria and pathogens	Wastewater discharged from wastewater treatment plants and on site septic systems.	F
Stormwater Discharges	Phosphate, hydrocarbons and PCB's.	Drainage from streets, parking lots and other paved surfaces.	F

Landfill leachate	PCB's, PAH's, heavy metals, VOC's	Permitted and tested treatment system waste from the Mill Creek Dump	F
Freighter traffic on Lake Erie shipping lanes	Hydrocarbons, sediments.	Leakage spills, from Lake Erie cargo traffic.	F

As indicated above, there are sources of potential contaminants that could emanate from sources within the watershed, however, the location of the intakes render most contaminant sources low for susceptibility and consequently the intakes are low sensitivity for these contaminants.

Ongoing Watershed Protection Activities

County, state and federal programs address direct discharge of regulated contaminants into Lake Erie and its watershed. Existing water quality data indicates that these programs have been adequate to protect the source water for the Erie Water Works and that they will continue to do so.

Obtaining Additional Information

The EWW publishes a Consumer Confidence Report each year that is available by calling (814) 870-8000. You can call this number to obtain additional information about the water system and the watershed.