Glossary

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Adipose tissue: Connective tissue in which fat is stored and which has the cells distended by droplets of fat.
Adsorption: The adhesion in an extremely thin layer of molecules to the surfaces of solid bodies or liquids with which they are in contact.
Advisory (New York State health advisory for fish consumption): Annual New York State Department of Health advisory, based on monitoring of fish tissue, that recommends fish consumption limits for specific species caught in specific bodies of water. Waterfowl and snapping turtles are included in the advisory.
Anthropogenic: Relating to or resulting from the influence of humans on nature.
Area of Concern: One of the 43 specific areas on the Great Lakes, particularly harbors and bays, where the International Joint Commission has identified serious water quality problems. (One AOC has since been "delisted.")
Autofertilization: recycling of nutrients in the natural environment.
Benthos: Community of organisms living on the bottom of a body of water.
Best Management Practices: Agricultural best management practices are proven strategies custom designed to prevent or reduce the availability, release or transport of substances that adversely affect surface and groundwater quality.
Bioaccumulation: The net accumulation of a substance by an organism as a result of uptake from all environmental sources.
Bioaccumulation factor: The ratio of a substance's concentration in tissue of an aquatic organism to its concentration in the ambient water, in situations where both the organism and its food are exposed and the ratio does not change substantially over time.
Bioaccumulative chemical of concern: Any chemical that has the potential to cause adverse effects and accumulates in aquatic organisms by a bioaccumulation factor greater than 1000. Toxic transformation products and other factors are considered in the calculation. Bioaccumulative chemicals of concern are listed in the federal Water Quality Guidance for the Great Lakes System (Great Lakes Guidance).
Bioconcentration: The net accumulation of a substance by an aquatic organism directly from water.
Bioconcentration factor: The ratio of a substance's concentration in tissue of an aquatic organism to its concentration in the ambient water.
Biodiversity: A measure of the number and variety of different organisms in ecosystems that may be used to identify the ecosystem's health.
Bioengineering: Biological or medical application of engineering principles or engineering equipment.
Biomagnification: Process of increasing concentrations of bioaccumulated chemicals due to movement up the food chain.
Chironomid: Any of a family of midge flies (*Chironomidae*) that lack piercing mouthparts.
Chromatography: A process in which a chemical mixture carried by a liquid or gas is separated into components as a result of differential distribution of the solutes as they flow around or over a stationary liquid or solid phase.
Cladophora: A genus of filamentous green algae commonly known as "maidens hair" which provides shelter and breeding habitat to many aquatic invertebrates and, in excessive quantities,

causes unsanitary beach conditions.
Coliform: The type of bacilli commonly found in the intestines of humans and other vertebrates.
Combined sewer overflow: When a sewer, intended to receive both wastewater and storm or surface water, overflows without treatment, usually following rainstorms.
Control: A parallel to an experiment, in which the agent being tested is omitted. It is used as a standard for comparison.
Cultural eutrophication: Progressive enrichment of a body of water due to human-caused activities.
Degradation: A decline to a state of lower quality.
Dielectric: A nonconductor of direct electric current but can sustain an electric field.
Dioxin: A highly toxic family of synthetic chemicals, formed when chlorinated compounds are burned, or during paper manufacturing when chlorine, used as a bleaching agent, reacts with compounds in the wood lining.
Discharge Restriction Categories: Categories added to the New York State water use classification system to define sensitive waters that cannot assimilate the effects of additional wastewater discharges or additional discharges of specified substances.
Dredging: A method for deepening waterways by scraping and removing solids from the bottom.
Dry basin: A detention basin that retains stormwater for short periods of time only during large storm events. Between storm events, the basin is dry.
Ecosystem: The interacting system of biological communities (plants and animals, including humans) and their environment.
Ecosystem approach: A planning approach that recognizes that all of our systems (air, water, land) are connected, and that calls for consideration of all possible pollutant sources and transport methods in any plans to protect and/or improve water resources.
Effluent: A discharge of pollutants into the environment, partially or completely treated or completely untreated. Generally used in regard to discharges to waters.
Environmental Notice Bulletin (ENB): Official weekly publication of the New York State Department of Environmental Conservation for government officials and environmental professionals concerned with environmental policy and local and state government actions in New York State.
Environmental Protection Agency: Established in 1970, the U.S. Environmental Protection Agency sets and enforces national standards for air and water quality and the management of solid and hazardous waste. It also regulates pesticides and toxic substances, examines the causes and effects of environmental problems, and helps states and local governments deal with environmental issues. The EPA is charged with restoring and maintaining the physical, biological and chemical integrity of the Great Lakes ecosystem.
Epilimnion: The upper layer of warm water in a stratified lake.
Eutrophic: Describes the state of some lakes and ponds with high productivity due to dissolved nutrients, such as phosphates, that stimulate the growth of aquatic plant life. This condition usually results in the depletion of dissolved oxygen.
Eutrophication: The normally slow aging process by which a lake evolves into a bog or marsh and ultimately assumes a completely terrestrial state and disappears. Although it occurs naturally, eutrophication can accelerate when human activity adds nutrients, such as phosphate detergents and inorganic fertilizers, to the water. These nutrients stimulate the growth of algae, which will

eventually die, settle to the bottom and decompose. Decomposition of the plant material uses up oxygen and can make water intolerable for fish and other aquatic creatures.

Exotic species: Describes plants or animals that are not native to a specific environment, but have been introduced, intentionally or inadvertently, by human activity.

Goal: A statement of purpose about the end result (desired state of being) of a proposed management activity.

Great Lakes Water Quality Agreement: The U.S.-Canadian Agreement, signed in 1972 and modified in 1978, that describes the objectives of the two countries for restoring and maintaining the chemical, physical and biological integrity of the waters of the Great Lakes Basin.

Great Lakes Water Quality Guidance: The Guidance developed by the U.S. Environmental Protection Agency to meet requirements of the Clean Water Act as amended by the Great Lakes Critical Programs Act of 1990.

Great Lakes Water Quality Initiative: A project initiated by the U.S. Environmental Protection Agency to provide a forum for the Great Lakes States and EPA to develop uniform water quality criteria and implementation procedures. Resulted in the Great Lakes Water Quality Guidance.

Groundwater: Subsurface water from which wells and springs are fed. The term generally applies only to water below the water table.

Habitat: The sum total of environmental conditions of a specific place that is occupied by an organism, a population or a community.

Heterotrophic: Describes an organism that cannot create its own food and relies on other organisms for food.

Hydric: Relating to or requiring an abundance of moisture.

Hydrophobic: Lacking an attractive force for water.

Hypolimnion: The lower layer of cold water in a stratified lake.

Impairment of beneficial use(s): A change in the chemical, physical or biological integrity of the Great Lakes System sufficient to cause any of the following:

- Restrictions on fish and wildlife consumption;
- Tainting of fish and wildlife flavor;
- Degradation of fish and wildlife populations;
- Fish tumors or other deformities;
- Bird or animal deformities or reproduction problems;
- Degradation of benthos;
- Restrictions on dredging activities;
- Eutrophication or undesirable algae;
- Restrictions on drinking water consumption, or taste and odor problems;
- Beach closings;
- Degradation of aesthetics;
- Added costs to agriculture or industry;
- Degradation of phytoplankton and zooplankton populations;
- Loss of fish and wildlife habitat.

International Joint Commission: The Commission, established by the United States and Canada in the Boundary Waters Treaty of 1909, that makes binding decisions regarding water uses that affect Great lakes levels or flows on either side of the border. Also investigates Great Lakes issues at the request of the two federal governments, provides advice on issues of water

quality and quantity, and encourages cooperation among different government jurisdictions.
Littoral: Relating to or situated or growing on or near a shore.
Lipid: Substance that is soluble in nonpolar organic solvents, including fat.
Littoral zone: Nearshore area where light penetration is adequate to support plant life (depth of approximately 10-15 meters).
Loading: The amount of a material that enters a water body per unit of time, such as pounds/year.
Macroinvertebrates: Aquatic animals without backbones that are large enough to be seen with the unaided eye. The most common macroinvertebrates are aquatic insects, crustaceans, worms and mollusks.
Major source: A source of 10 tons per year of any hazardous air pollutant listed by the Clean Air Act or 25 tons per year of any combination of such pollutants. (The definition of "major source" differs for different categories of chemicals.)
Mesotrophic: Describes a lake or pond having a moderate amount of dissolved nutrients and moderate productivity.
Metalimnion: The narrow stratum between the epilimnion and hypolimnion in a stratified lake; a stratum of rapidly changing temperature.
Microbiological: Dealing with microscopic forms of life.
Microgram: One-millionth of a gram.
Mirex: Dodecachloropentacyclodecane. Used as an insecticide and a fire retardant. Now banned for use in the United States.
Morphology: The form and structure of an organism or any of its parts.
Multi-media: Incorporates all types of pollution (air, land, water).
Multimedia pollution prevention: A source reduction program at a facility that incorporates all types of pollution (air, land, water).
Nanogram: One-trillionth of a gram.
Neoplasia: A tumorous condition.
Nonindigenous species: Describes plants or animals that are not native to a specific environment, but have been introduced, intentionally or inadvertently, by human activity.
Nonpoint sources: Sources of pollutants that enter the environment and cannot be traced to a single, identifiable point. Examples include atmospheric deposition, erosion and runoff from parking lots, streets and farms.
Oligotrophic: Describes lakes or ponds that are deficient in plant nutrients and low productivity.
Passerine: Of or relating to the largest order of birds that consists chiefly of songbirds of perching habits.
Persistent toxic substance: A chemical with a half-life (the time required for the concentration of a substance to diminish to one-half of its original value) in water of greater than eight weeks that can cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological or reproductive or physical deformities in any living species or its offspring. The chemical can become poisonous after concentration in the food chain or in combination with other substances.
pH: A measure of acidity and alkalinity of a solution that is a number on a scale on which a value of 7 represents neutrality. Lower numbers indicate increasing acidity and higher numbers indicate increasing alkalinity. Each unit of change represents a tenfold change in acidity or alkalinity.
Phytoplankton: Microscopic algae suspended in that part of the water column of lakes and seas

that is penetrated by light.
Point source: A source of pollution that can be easily identified, such as a municipal sewer outfall or industrial discharge pipe.
Polycyclic aromatic hydrocarbons: Compounds composed entirely of carbon and hydrogen, with two or more rings containing multiple conjugated double bonds.
Pollutant: Any substance that directly or indirectly creates an adverse human health or environmental effect when introduced into any environmental media.
Pollution prevention: Source reduction or other practices that reduce the amount of pollutants that enter the waste stream prior to out-of-process recycling, treatment or disposal.
Ponar: A sediment dredging appliance.
Precision goals: A series of goals established by the U.S. Environmental Protection Agency for deviation of plankton identification and enumeration results between duplicates. Precision is expressed in units of relative percent difference.
Raptors: Birds of prey.
Raw water: Water that is drawn directly from surface water or groundwater and has not been treated.
Remedial action: Corrective action; remedy.
Remedial Action Plan: The plan, required by the International Joint Commission and produced for an Area of Concern, that lists specific water quality problems, and describes methods for correcting them and the means by which the solutions will be implemented.
Remediation: Corrective action; remedy.
Runoff: Stormwater flow over natural and manmade surfaces.
Sanitary sewers: Sewers that carry only domestic or commercial sewage. Stormwater runoff is carried in a separate system.
Sentinel species: A species found only in environments having certain set characteristics, and therefore that indicates the nature of the environment in which it is found.
Septic system: Sewage treatment and disposal for homes and other buildings not connected to sewer lines. Usually the system includes a tank and drain field. Solids settle to the bottom of the tank; liquid percolates through the drain field.
Source reduction: Any activity that eliminates or decreases wastes by avoiding their creation, typically by materials substitution, process design, or product redesign.
SPDES (State Pollution Discharge Elimination System) permit: Permit granted to a facility by the New York State Department of Environmental Conservation that limits the amounts and concentrations of pollutants in wastewater, with the purpose of assuring that State water quality standards are met.
Storm sewers: Sewers that collect and transport rain and snow runoff. In areas that have sanitary sewers, stormwater is not mixed with sanitary sewage.
Sublethal: Damaging to an organism, but not causing death.
Swirl concentrator: A device that, when installed in a storm sewer, uses centrifugal force to concentrate solids and direct them to a sanitary sewer.
Teratogen: An agent that causes developmental malformations in organisms.
Teratogenicity: Likelihood of a substance causing developmental malformations in organisms.
Toxic chemical: Any substance which 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 concentration in the food

chain or in combination with other substances.
Toxic substance: See "toxic chemical".
Urban runoff: Stormwater from city streets and gutters that usually contains a great deal of litter and organic and bacterial waste.
Use impairment: A change in the chemical, physical or biological integrity of the Great Lakes system that causes a degradation of water quality, habitat or wildlife populations, or a restriction in a water use.
Wastewater disposal district: A special district that can be established by towns or counties under Chapter 388 of the Laws of New York. The purpose of the district is for planning, installation, rehabilitation, replacement, operation and maintenance (including pumping and inspections), monitoring, and regulation of private onsite wastewater disposal systems.
Watershed: A region or area bounded peripherally by a divide and draining ultimately to a particular watercourse or body of water.
Virtual elimination: An overall strategy, applying to all media and all sources, that requires different approaches, some preventative and some remedial, to control or eliminate different inputs and *in situ* contamination. Specifically, virtual elimination is defined as achieving an absence of injury, and achieving the goals of restoring and maintaining ecosystem health.
Zooplankton: Microscopic aquatic animals.

Acronyms and Abbreviations

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AOC	Area of Concern
BAF	Bioaccumulation factor
BCC	Bioaccumulative chemical of concern
BMPs	Best Management Practices
BOD	Biological Oxygen Demand
COE	(U.S.) Army Corps of Engineers
CSO	Combined sewer overflow
CSOAP	Combined sewer overflow abatement project
DDE	Dichlorodiphenyl dichloroethylene (banned pesticide)
DDT	Dichlorodiphenyl trichloroethane (banned pesticide)
DRC	Discharge Restriction Categories
EPA	(U.S.) Environmental Protection Agency
FDA	(U.S.) Food and Drug Administration
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
GCO	Gates-Chili-Ogden Wastewater Treatment Plant
GIS	Geographic information systems
GLI	Great Lakes (Water Quality) Initiative
GLWQA	Great Lakes Water Quality Agreement
HAP	Hazardous air pollutant
α-HCH	Hexachlorocyclohexane (the prefix designates the isomer, or structural arrangement)
IGA	Intergovernmental agreement
IJC	International Joint Commission
LaMP	Lakewide Management Plan
LOTMP	Lake Ontario Toxics Management Plan
mgd	Million gallons per day
mg/l	Milligrams per liter
µg/l	Micrograms per liter
M2P2	Multi-media pollution prevention
MCDOH	Monroe County Department of Health
NRCS	Natural Resources Conservation Service (a federal agency)
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
P2	Pollution prevention
PAH	Polycyclic aromatic hydrocarbon
PCBs	Polychlorinated biphenyls
PISCES	Passive In-Situ Chemical Extraction Samplers
POTW	Publicly owned treatment works
ppm	Parts per million
RAP	Remedial Action Plan
RG&E	Rochester Gas and Electric Corporation

RIBS	(New York State Department of Environmental Conservation) Rotating Intensive Basin Studies
SPDES	(New York) State Pollution Discharge Elimination System
STP	Sewage treatment plant
SWCD	Soil and Water Conservation District
TCDD	Tetrachlorodibenzo-p-dioxin (preceding numbers 2,3,7,8 designate where chlorine atoms are attached to the rest of the molecule)
TCDF	Tetrachlorodibenzofuran (preceding numbers 2,3,7,8 designate where chlorine atoms are attached to the rest of the molecule)
TRI	Toxics Release Inventory
TSCA	(Federal) Toxic Substances Control Act
WQEPP	(New York State) Water Quality Enhancement and Protection Policy
WQMAC	(Monroe County) Water Quality Management Advisory Committee
WSAC	(Monroe County) Waste Site Advisory Committee
WWTP	Wastewater treatment plant