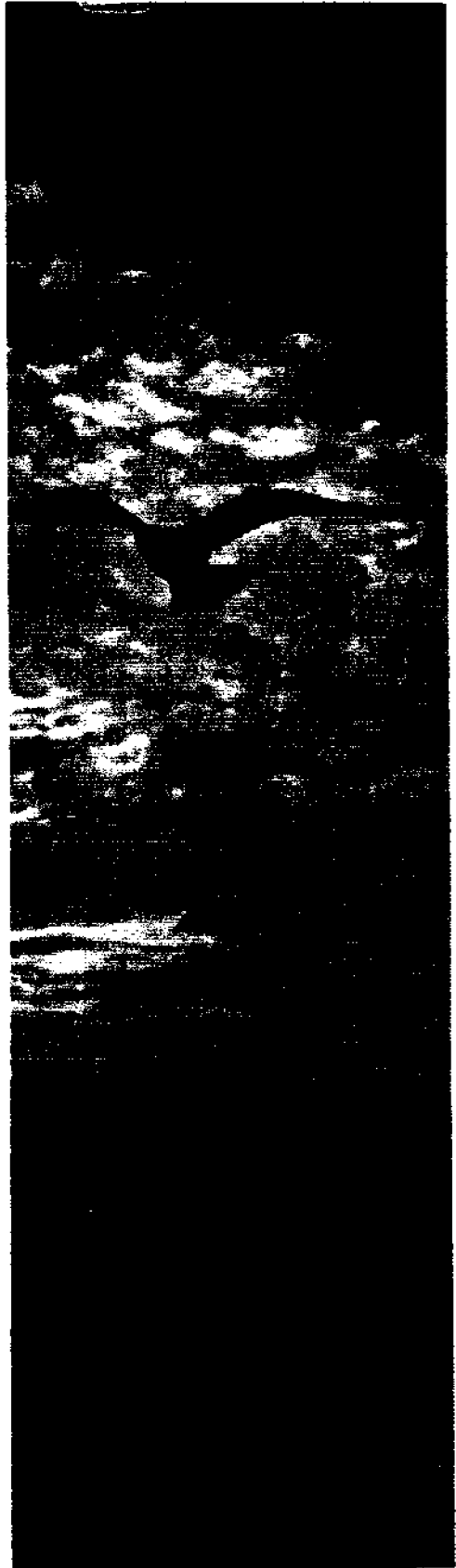


Glossary of the ENVIRONMENT Great Lakes

A Minnesota Perspective
Version One



Minnesota Sea Grant

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Glossary of the Great Lakes

A Minnesota Perspective

Version One 1995

Minnesota Sea Grant
Minnesota Pollution Control Agency
Minnesota Power
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Glossary of the Great Lakes Evaluation

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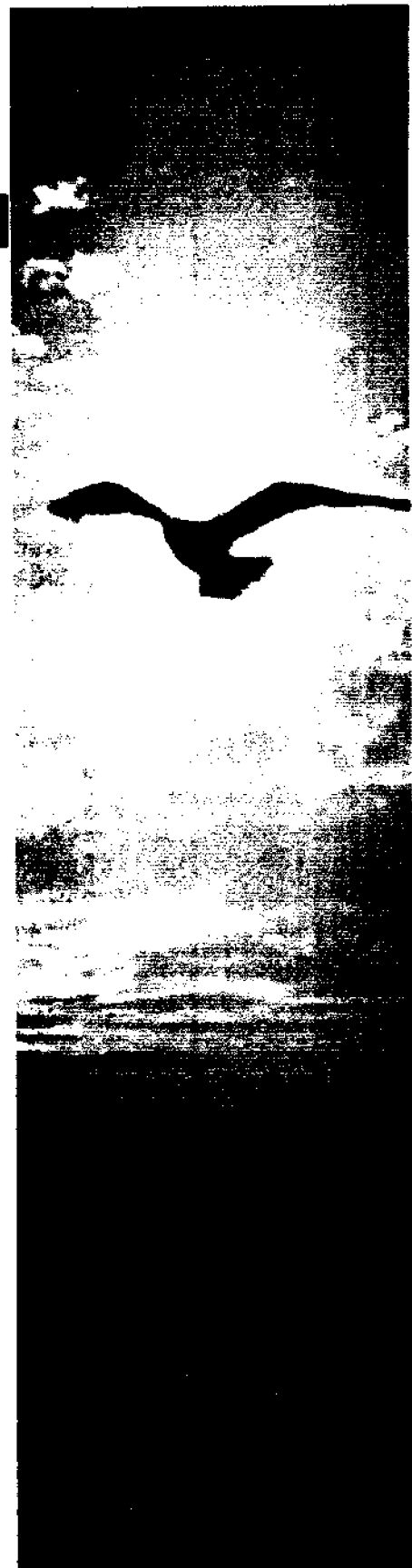


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Minnesota Sea Grant



Glossary of the Great Lakes

The concept of the Glossary of the Great Lakes grew out of confusion about the multitude of local, state, federal and international regulations, initiatives, and programs related to managing the Great Lakes natural environment. In the process of trying to sort out the complex maze of Great Lakes environmental programs, we found that nearly everyone with an interest in the Great Lakes, from private citizens to industry representatives to public agency staff, shared our confusion to some degree. It soon became apparent that a summary document could benefit a large audience. From this the Glossary was born.

The purpose of the Glossary is to provide a quick and easy reference to environmental programs related to the Great Lakes, including organizations, regulations, initiatives, terms, and even acronyms. The Glossary is a work in progress, and is not comprehensive. It was developed primarily from the Minnesota perspective and, as of this printing, does not include all programs from other Great Lakes states or provinces. We encourage involvement from other states and provinces to expand and strengthen the Glossary. We also encourage feedback regarding its contents and structure, to help make the Glossary a more useful document. In order to maintain its usefulness it will need to be updated regularly as programs change.

Clearly this exercise has helped us understand the complex of regulations, initiatives, and programs that relate to the Great Lakes. Despite our better understanding of Great Lakes programs, during the time that we were developing the Glossary, we often found ourselves turning to our draft version to look up some forgotten detail needed for some other aspect of our work. We hope you find the Glossary equally useful in your endeavors to understand environmental programs that relate to the Great Lakes.

Organization and Guidance for Use

The Glossary of the Great Lakes is divided into three sections.

- ▶ **Section I** contains an alphabetically arranged list of scientific terms, as well as state, federal, and international regulations, initiatives, and organizations. The glossary is designed to be useful both for gaining a general sense of what a term means and for getting more detailed answers to questions. Each of the longer entries begins with a simple overview statement, sufficient for many readers, followed by more detail. Terms printed in bold within a definition are defined elsewhere in the glossary. Acronyms are listed below each term.
- ▶ **Section II** contains acronyms and abbreviations with their most commonly used pronunciations and definitions. Acronyms for which no pronunciation is given are typically just spelled out.
- ▶ **Section III** contains flow charts illustrating the relationships among some of the more complex programs and organizations.

Disclaimer

This document has received extensive and intensive review, but each organization described within its pages has not had an opportunity to review entries related to itself. We anticipate the need to make many corrections and updates.

Acknowledgments

Many, many people have contributed their time, expertise, and advice to this project. We'd first like to thank all of those professionals that reviewed and commented on the glossary from EPA's Region 5 and Mid-Continent Ecology Division, the Minnesota Pollution Control Agency, Minnesota DNR, the International Joint Commission, the Minnesota Board of Water and Soil Resources, the National Biological Service, the U.S. Fish and Wildlife Service, and many others.

The following organizations have contributed to the printing costs of this publication:

**International Joint Commission Local Planning Committee
Lake Superior Paper Industries
Minnesota Power
Potlatch Corporation**

Order From:
Minnesota Sea Grant
Publications Dept.
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Section I

**2,3,7,8,
tetrachlorodibenzo-p-dioxin
TCDD**

see **Dioxin**

33 CFR 320-330

Federal regulations which identify **Army Corps of Engineers (ACOE)** general policies to implement **Section 404** of the **Clean Water Act**. Part 320 outlines the **ACOE's** general policies; Part 321 — permit regulations for dams and dikes; Part 322 — permit regulations for structures; Part 323 — permit regulations for dredged materials; Part 324 — permit regulations for ocean dumping; Part 325 — permit regulations for **discharges to navigable waters and wetlands**; Part 326 — enforcement policies; Part 327 — public hearings; Part 328 — definition on navigable waters regulations; and part 330 — **nationwide permit** program regulations.

40 CFR

Federal regulations which address air, waste, and water related programs. Water related regulations include the **National Pollutant Discharge Elimination System (NPDES)**, **water quality standards**, discharges to **navigable waters**, other discharges, and test procedures. See also **Code of Federal Regulations**

Abatement

Refers to the reduction in the degree or the intensity of pollution.

Accumulation

The build-up of a substance in a plant or animal due to repeated exposure to and uptake of that substance from the environment. See also **bioaccumulation**

Acid Deposition

The total amount of **pollutants** that make up what is commonly referred to as **acid rain**. This includes both the **wet deposition** and **dry deposition** components that settle out of the atmosphere. See **acid rain**.

Acid Rain

Occurs when **sulfur dioxide** and **nitrogen oxide** emissions are transformed in the atmosphere and return to the earth in rain, fog or snow. Acid rain can damage lakes, harm forests and buildings, contribute to reduced visibility, and may damage human health. **Regulations** have been implemented at the federal and state (MN) level to reduce acid rain. RELATED PROGRAMS - **Clean Air Act, MN Rule Chapter 7009**

Acute Test

A comparative study in which organisms, are subjected to different treatments, are observed for a short period usually not constituting a substantial portion of the organism's life span.

Acute Toxicity

Adverse effects to a plant or animal that result from an acute exposure to a stimulant such as a pollutant. The exposure usually does not constitute a substantial portion of the life span of the organism. In standard laboratory **toxicity tests** with aquatic organisms, an effect observed in 96 hours or less is typically considered acute. Also described as a stimulus severe enough to induce an effect.

Aerobic

A term that describes organisms or processes that require the presence of molecular oxygen.

- Air Pollution Control Rules-Minnesota** MN State rules regulating air pollution and implementing requirements of the **1990 Clean Air Act Amendments (1990 CAAA)**. See Minnesota Rules Chapters 7007, 7009, 7021
RELATED PROGRAMS - **Clean Air Act**
- Air Toxics** Substances that cause or contribute to air pollution and which can cause serious health and environmental hazards, such as cancer or other illnesses. Also see **Hazardous Air Pollutants**.
RELATED PROGRAMS - **Clean Air Act, Minnesota Air Toxics Strategy**
- Air Toxics Strategy** see **Minnesota Air Toxics Strategy**
- Algae** Simple plants found in water and elsewhere that have no roots, flowers or seeds. These are usually microscopic plants and are the primary producers in lakes. See also **phytoplankton** and **periphyton**.
- Ambient Toxicity** A measurement made, using a standard **toxicity test**, to determine how toxic a natural water body is. In some cases a water body may already possess some degree of toxicity before a known pollutant is discharged into it.
- Anaerobic** A term that describes processes that occur in the absence of molecular oxygen. See also **anoxia**.
- Anoxia** The absence of oxygen or a deficiency of oxygen that is harmful to living organisms. Anoxic conditions can develop in a lake bottom when oxygen is depleted by **decomposition** processes. This often happens in **eutrophic** lakes and can result in fish kills. See also **anaerobic**.
- Anthropogenic** Anything that is human-caused or derived.
- Anti-Backsliding** A federal policy to ensure that water bodies that have been improved are kept at that higher quality. **Point source** dischargers are required by governments to meet **effluent limits**, but if **discharges** become cleaner, or fall below the limit, they are not allowed to go up again. The relaxation of **National Pollutant Discharge Elimination System** permit limits are not allowed, except in certain, limited circumstances.
- Anti-Degradation** A federal policy to protect water quality. The policy states that the existing high quality of a particular water resource cannot get worse unless justified by economic and social development considerations. Contained in U.S. **water quality standards** and applied in the **Water Quality Guidance for the Great Lakes System**.
RELATED PROGRAMS - **Clean Water Act**
- Aquatic Life Criteria** **Water quality criteria** designed to protect aquatic organisms, including fish, plants, and **invertebrates**.
RELATED PROGRAMS - **Great Lakes Initiative, Clean Water Act**



**Aquatic Nuisance Species
ANS**

Water-borne plants or animals that pose a threat to humans, agriculture, fisheries, and/or wildlife resources. See also, **non-indigenous species**, **zebra mussel**, **Bythotrephes**, **Eurasian ruffe**, **Eurasian watermilfoil**.

**Aquatic Nuisance Species
Great Lakes Panel**

A federal organization formed in 1991 by the **Great Lakes Commission** to advance **exotic species** research, monitoring, and control activities. The activities conducted are based on federal legislative and budgetary needs and research and management requirements. Activities include Great Lakes-wide education.

**Aquatic Nuisance Species
Task Force**

An international organization that develops and implements programs to prevent the introduction and distribution of **aquatic nuisance species**. Their goal is to monitor, control, and study these species, and to disseminate technical and educational information. Made up of 19 provincial, state, and federal organizations.

**Area of Concern
AOC**

Areas of the **Great Lakes** identified by the **International Joint Commission** as having serious water pollution problems requiring remedial action and the development of a **Remedial Action Plan**. AOCs are defined in the **Great Lakes Water Quality Agreement** as follows: "... a geographic area that fails to meet the general or specific objectives of the Great Lakes Water Quality Agreement, or where such failure has caused or is likely to cause impairment of **beneficial use** or of the area's ability to support aquatic life." Initially, there were 43 AOCs in the **Great Lakes Basin**. The 8 AOC's in **Lake Superior** are; Deer and Torch Lakes in Michigan, St. Louis River in Minnesota and Wisconsin, Jackfish Bay, Nipigon Bay, Thunder Bay, and Peninsula Harbour in Ontario, and St. Mary's River in Michigan and Ontario.
RELATED PROGRAMS - **Great Lakes Water Quality Agreement, Remedial Action Plans**

**Army Corps of Engineers
ACOE**

The federal agency that administers the **Section 404** permit program on dredging or filling **navigable waters**, including **wetlands**.

**Arrowhead Regional
Development Commission
ARDC**

One of several regional development commissions located throughout Minnesota, this one serves seven counties in northeastern Minnesota. Through its mission to provide local leadership it is involved in many issues related to the environment in the **Lake Superior Basin**.

Atmospheric Deposition

Pollution that travels through the air and falls on land and water.
RELATED PROGRAMS - **Clean Air Act, Great Lakes Toxic Reduction Effort**

Basin

The land area that drains into a lake or river. This area is defined and bounded by topographic high points around the waterbody. See also **watershed**.

- Bayfield Institute** A Canadian federal organization that conducts fisheries research, habitat management, hydrographic surveys and chart production, fisheries and recreational harbor management, and ship support. Together with the work of the Freshwater Institute in Winnipeg, it provides the federal Fisheries and Oceans Program for Central and Arctic Canada.
- Beneficial Use** The role that the government decides a water body will fulfill. Examples of these uses include healthy fish and wildlife populations, fish consumption, aesthetic value, safe drinking water sources, and healthy **phytoplankton** and **zooplankton** communities. Restoring beneficial uses is the primary goal of the **Remedial Action Plans** for the **Areas of Concern** and of the **Lakewide Management Plans** for each **Great Lake**.
RELATED PROGRAMS - **Great Lakes Water Quality Agreement, Lakewide Management Plans, Remedial Action Plans**
- Beneficial Use-Impairment** A negative change in the health of a water body making it unusable for a **beneficial use** that has been assigned to it. Examples of these use impairments as designated in the **Great Lakes Water Quality Agreement** include: restrictions on fish and wildlife consumption, beach closings, degradation to aesthetics, loss of fish and wildlife habitat, and restrictions on drinking water consumption.
RELATED PROGRAMS - **Great Lakes Water Quality Agreement, Lakewide Management Plans, Remedial Action Plans**
- Benthic** A term that describes both organisms and processes that occur in, on, or near, a lake's bottom sediments. See also **benthos**.
- Benthic Invertebrate** Refers to animals with no backbone or internal skeleton that live on the bottom of lakes, ponds, wetlands, rivers and streams and among aquatic plants. Benthic invertebrates provide an essential source of food for young and adult fish, wildlife and other animals. Examples include caddisflies, midge larvae, scuds, waterfleas, crayfish, sponges, snails, worms, leeches, and nymphs of mayflies, dragonflies and damselflies. The **benthic invertebrate** *Diaporeia*, is an **ecosystem indicator**.
- Benthos** A term applied to organisms that live on or in a lake's bottom and/or bottom **sediments**. See also **benthic**.
- Best Available Control Technology**
BACT Technology required to reduce emissions of air **pollutants**. Defined in the **Great Lakes Permitting Agreement** as, "...emission limits, operating stipulations, and/or technology requirements based on the maximum degree of reduction which each **Great Lakes State** determines is achievable through application of processes or available methods, systems, and techniques for the control of listed pollutants, taking into account energy, environmental, and economic impacts, and other costs."
- Best Available Technology**
BAT The most effective, economically-achievable, and state-of-the-art technology currently in use for controlling pollution, as determined by the EPA.



Best Management Practice
BMP

Methods used to control **nonpoint source pollution** by modifying existing management practices. BMPs include the best structural and non-structural controls and operation and maintenance procedures available. BMPs can be applied before, during and after pollution-producing activities, to reduce or eliminate the introduction of **pollutants** into **receiving waters**.

RELATED PROGRAMS - **Clean Water Act, Wetlands Conservation Act, Coastal Zone Management, Section 319**

Binational Policy Task Force

An international organization that provides overall policy coordination for the **Binational Program**. Representation includes federal, provincial, and state government agencies.

RELATED PROGRAMS - **Binational Program**

Binational Program

The commonly-used name for the **Lake Superior Binational Program to Restore and Protect the Lake Superior Basin**, an international program developed by the governments of Canada, the U.S., Minnesota, Michigan, Wisconsin, and Ontario to protect the high quality waters of the **Lake Superior Basin** and to restore those areas that have been degraded. These goals are to be met through **pollution prevention**, enhanced **regulation**, and **special designations**. One specific goal of the program is to achieve **zero discharge** and zero emission of designated **persistent** and **bioaccumulative toxic substances** from **point sources** in the basin.

RELATED PROGRAMS - **Great Lakes Water Quality Agreement, International Joint Commission**

Bioaccumulation

The net accumulation of a substance by an organism as a result of uptake from all environmental sources. As an organism ages it can accumulate more of these substances, either from its food or directly from the environment. Bioaccumulation of a **toxic substance** has the potential to cause harm to organisms, particularly to those at the top of the food chain. The pesticide, **DDT**, is an example of a chemical that bioaccumulates in fish and then in humans, birds, and other animals eating those fish. See also **accumulation and biomagnification**.

Bioaccumulation Factor
BAF

The ratio of a substance's concentration in an organism's tissue to its concentration in the water where the organism lives. BAFs measure a chemical's potential to accumulate in tissue through exposure to both food and water. See also **Bioconcentration Factor**.

RELATED PROGRAMS - **Great Lakes Initiative**

Bioaccumulative Chemicals
of Concern
BCCs

Any chemical which, upon entering **surface waters**, bioaccumulates in aquatic organisms by a **bioaccumulation factor** greater than 1000. This formula takes into account metabolism and other factors that might affect **bioaccumulation**.

RELATED PROGRAMS - **Great Lakes Initiative**

Bioassay

A test used to evaluate the relative potency of a chemical or mixture of chemicals by comparing its effect on a living organism with the effect of a standard preparation on the same organism. Bioassays are frequently used in the pharmaceutical industry to evaluate the potency of vitamins and drugs.

- Bioavailability** A measure of how available a **toxic pollutant** is to the biological processes of an organism. The less the bioavailability of a **toxic substance**, the less its toxic effect on an organism.
- Bioconcentration Factor**
BCF The ratio of a substance's concentration in tissue versus its concentration in water in situations where the organism is exposed through water only. BCF measures a chemical's potential to accumulate in an organism's tissue through direct uptake from water (excludes uptake from food). See also **Bioaccumulation Factor**.
- Biocriteria** See **biological criteria**.
- Bioindicator** An organism and/or biological process whose change in numbers, structure or function points to changes in the integrity or quality of the environment.
- Biological Control** A method of controlling a disease-causing organism or pathogen or an **exotic species**. A biochemical product or bioengineered or naturally-occurring organism is used to cause death, inhibit growth, or inhibit the reproduction of an unwanted organism. One example is the import and use of the European beetle that feeds exclusively on **Purple Loofestrike**.
- Biological Criteria** Biological measures of the health of an environment, such as the incidence of cancer in **benthic** fish species. Biological criteria can consist of narrative statements (in the simplest case) or of numeric statements.
- Biological Oxygen Demand**
BOD This is a measurement of the oxygen depletion in a water sample incubated under controlled conditions over a period of time. The **aerobic decomposition** of organic matter by bacteria in the sample requires oxygen. BOD is an important measurement of the impact that sewage discharge may have upon a water body because a certain amount of oxygen will be used in the breakdown of the wastewater.
- Biomagnification** The process by which the concentration of a substance increases in different organisms at higher levels in the food chain. For example, if an organism is eaten by another organism these substances move up the food chain and become more concentrated at each step. See also **bioaccumulation** and **accumulation**.
- Biomonitoring** The process of assessing the well-being of living organisms. Often used in water quality studies to indicate compliance with **water quality standards** or **effluent limits** and to document water quality trends.
- Biosphere** A term that includes all of the **ecosystems** on the planet along with their interactions; the sphere of all air, water, and land in which all life is found. The **Lake Superior Biosphere** includes all ecosystems within the basin.
RELATED PROGRAMS - **Lake Superior Biosphere Preserve**

- Board of Water and Soil Resources**
BWSR
A Minnesota state agency that oversees a number of state programs designed to protect the state's soil and water. These programs include: the **Soil and Water Conservation Districts**, **Comprehensive Local Water Management Plans**, Conservation Reserve Program, Shoreland Block Grants, Reinvest in Minnesota, among others. BWSR is responsible for the **Wetland Conservation Act** and associated rules.
- Boundary Waters**
See **Interstate Waters**.
- Boundary Waters Treaty**
The international treaty between the United States and Great Britain signed on January 11, 1909, regarding the waters joining the two nations and relating to questions arising between the United States and Canada. It gave rise to the **International Joint Commission**.
RELATED PROGRAMS - **Binational Program**, **International Joint Commission**
- Broader Program**
The portion of the **Lake Superior Binational Program** containing the **Lakewide Management Plan** and **ecosystem** approach per the **Great Lakes Water Quality Agreement**.
- Bythotrephes**
BC
Also called the spiny water flea, this **non-indigenous species** has spread to all of the **Great Lakes** and some inland lakes. The impact this new predator will have on the Great Lakes has yet to be determined though it may compete for food with some fish.
- Canada/Ontario Agreement**
COA
A federal /provincial agreement under which Canada's obligations to the Canada/U.S. **Great Lakes Water Quality Agreement** are coordinated and implemented. This 1994 agreement lists and defines 50 commitments specific to the restoration, protection, and conservation of the **Great Lakes**.
RELATED PROGRAMS - **Great Lakes Water Quality Agreement**
- Canadian Environmental Protection Act**
CEPA
A 1988 federal act designed to protect the people and environment of Canada from the effects of **toxic substances**.
- Carcinogen**
A substance that is known or suspected to cause cancer.
- Causal (Candidate Critical) Pollutants**
A term used to classify substances that are likely to harm Lake Superior and its biota, but that have not been designated as **critical pollutants**. This term has been eliminated from the **Lake Superior Lakewide Management Plan**.
- Center for Lake Superior Environmental Studies**
CLSES
The original name for the **Lake Superior Research Institute**.
RELATED PROGRAMS - University of Wisconsin-Superior

**Center for Water and the Environment
CWE**

One of three centers within the University of Minnesota's **Natural Resources Research Institute**. CWE provides basic environmental information essential to safe and sustainable natural resource development.
RELATED PROGRAMS - **Natural Resources Research Institute**

Chlordane

A **critical pollutant** that was used as a pesticide until banned by the U.S. in 1983 (except for use in controlling underground termites). Chlordane **bioaccumulates** in the food chain. Concentrations are highest in fat and liver tissue of predatory species. It has been detected in lake trout and other wildlife.
RELATED PROGRAMS - **Binational Program**

Chlorinated Organic Compounds

Organic chemicals that contain **chlorine**, including many pesticides and industrial chemicals such as **PCBs**, **DDT**, chlorinated **dioxins** and furans, **dieldrin**, and **hexachlorobenzene**. Also called organochlorines, chlorinated organics.

Chlorination

The addition of chlorine to water for disinfection. Used in drinking water purification and sewage treatment prior to discharge.

Chlorine

A common, naturally-occurring element. One form of chlorine is a highly poisonous gas that is typically used for water disinfection, sewage treatment and the manufacture of bleach and other chemicals.

Chronic Test

A comparative study in which organisms, that are subjected to different treatments, are observed for a long period or a substantial portion of their life span.

Chronic Toxicity

A harmful and delayed response (such as death, unusual growth, reduced reproduction, disorientation) to a chemical that causes adverse effects over a long period of time, relative to an organism's natural life span. In standard laboratory tests an effect observed in 96 hours or more is considered a chronic effect. See also **toxicity test**.

**Clean Air Act
CAA**

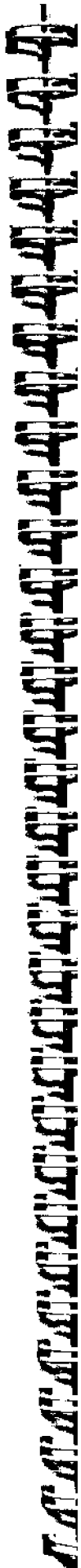
Federal law originally passed in 1970 for the purpose of protecting and enhancing the quality of the nation's air resources. See also the **Clean Air Act Amendments of 1990** (42 U.S.C. 7401-7671).

**Clean Air Act
Amendments of 1990
1990 CAAA**

Federal legislation passed in 1990 that amended the **Clean Air Act**, which resulted in major changes further limiting the generation of air pollution in the United States. Significant sections of the 1990 CAAA include:

- Title I - **National Ambient Air Quality Standards**
- Title II - Mobile Sources (e.g. automobiles)
- Title III - **Air Toxics**
- Title IV - **Acid Rain**
- Title V - Permit Program
- Title VI - **Ozone-depleting Chemicals**

RELATED PROGRAMS - **Clean Air Act**



**Clean Water Act
CWA**

A federal law that identifies national requirements to protect the **nation's waters**. Originally known as the **Federal Water Pollution Control Act**. The act is divided into six Subchapters (33 U.S.C. 1251-1387):

- Subchapter I-Research and Related Programs
- Subchapter II-Grants for Construction of Treatment Works
- Subchapter III-Standards and Enforcement
- Subchapter IV-Permits and Licenses
- Subchapter V-General Provisions
- Subchapter VI-State Water Pollution Control Revolving Fund

The law provides for pretreatment standards, plans involving **point** and **nonpoint source** pollution, and **effluent limitations** that satisfy the act's intent.

**Clean Water Act
Reauthorization
CWAR**

The name for a federal legislative process to amend the **Clean Water Act**. It is anticipated that the CWA will be reauthorized in the mid- to late-1990's.

Coastal Waters

In the **Great Lakes Basin**, coastal waters are defined in the **Coastal Zone Management Act** as the waters within the territorial jurisdiction of the United States consisting of the Great Lakes, their connecting waters, harbors, roadsteads, and **estuary**-type areas such as bays, shallows, and marshes.
RELATED PROGRAMS - **Coastal Zone Management Act**

**Coastal Zone Act
Reauthorization
Amendments of 1990
CZARA**

Federal legislation, the **Coastal Zone Management Act** was reauthorized by Congress in 1990, resulting in states being asked to combat the problems of **coastal water** quality, specifically **nonpoint source pollution**. CZARA also encourages states to tackle issues such as **wetland** loss, cumulative and secondary impacts of growth, increased threats to life and property from coastal hazards, and dwindling opportunities for public access to the shoreline.

RELATED PROGRAMS - **National Oceanic and Atmospheric Administration, Environmental Protection Agency**

**Coastal Zone Management Act
CZMA**

A federal law enacted in 1972 to deal with increasing stresses on the nation's coastal areas, including the **Great Lakes**. Administered by **National Oceanic and Atmospheric Administration**, the CZMA provides money, technical help, and policy guidance to states for balancing conservation and development of coastal resources. Under CZMA, states voluntarily develop their own **Coastal Zone Management** programs.

RELATED PROGRAMS - **National Oceanic and Atmospheric Administration**

**Code of Federal Regulations
CFR**

Federal regulations on how to implement federal law.

Combined Sewer Overflow

Occurs when heavy rainfall or thaw conditions overload a sewer system designed to carry both waste and stormwater. The result is the discharge of untreated sewage into **receiving waters**. Also refers to the **outfall** structures themselves.

Comparative Risk Analysis

A procedure for ranking environmental problems by their seriousness (relative risk) for the purpose of assigning them program priorities. Typically, teams of experts put together a list of problems, sort the problems by types of risk, then rank them by measuring them against standards, such as the severity of effects, the likelihood of the problem occurring among those exposed, the number of people exposed and the like. Relative risk is then used to set priorities. See also **risk assessment**, **risk management**, **ecological risk assessment**.

**Comprehensive
Environmental Response,
Compensation,
and Liability Act
CERCLA, Superfund**

A federal law, better known as **Superfund**, enacted in 1980 to give the **EPA** authority and money to take corrective measures and clean up **hazardous waste** sites. The 1986 **Superfund Amendment Reauthorization Act** outlined preferred cleanup methods, including permanent on-site treatment.

**Comprehensive Local
Water Management Plan**

See **County Water Plan**

**Confined Disposal Facility
CDF**

A facility providing a contained disposal area for contaminated **sediments** removed during dredging operations.

RELATED PROGRAMS - **Clean Water Act**

Cost-Benefit Analysis

The determination of how much it will cost to achieve a benefit from, say, pollution control; and the comparison of this amount to the cost of obtaining a higher or lower level of the benefit, or the cost of using some other alternative method.

**Council of
Great Lakes Governors
CGLG**

An organization comprised of the governors of the eight **Great Lakes States** who declared their shared intention to manage and protect the water resources of the **Great Lakes Basin** through the **Great Lakes Charter** and the **Great Lakes Toxic Substances Control Agreement**.

**Council of Great Lakes
Industries
CGLI**

An organization that represents businesses with significant investments, facilities, products, and/or services in the **Great Lakes Basin**, including manufacturing, utilities, telecommunications, transportation, financial, and trade. CGLI provides a focal point for offering industry's views and resources. It strengthens regional efforts to integrate social, economic, and environmental issues as a way to build a more vital **Great Lakes Basin**.

**Council of Great Lakes
Research Managers**

A binational advisory group to the **International Joint Commission** to evaluate the status of **Great Lakes** research.

- County Water Plan** Also called **Comprehensive Water Management Plans**. These plans are developed by Minnesota counties to identify water resource problems and provide sound planning to prevent future problems. A bill was passed by the Minnesota State Legislature in 1985 encouraging counties to develop and implement County Water Plans.
RELATED PROGRAMS - **Board of Water and Soil Resources, Clean Water Act**
- Criteria** See **water quality criteria**
- Criteria Pollutants** A group of air and water pollutants regulated by the **EPA** under the **Clean Air Act** and **Clean Water Act** on the basis of criteria that includes information on health and environmental effects. Criteria pollutants include **particulates**, some metals, organic compounds and other substances attributable to **discharges**
- Critical Pollutant** Chemicals that persist at levels that are causing or could cause impairment of **beneficial uses** lakewide. Other critical pollutants will be added to the list, but the **Lake Superior Lakewide Management Program** will first focus on the same nine critical pollutants identified in the **zero discharge demonstration program** (**TCDD, OCS, HCB, Chlordane, DDT, Dieldrin, Toxaphene, PCBs, and Mercury**). See also **Great Lakes Critical Pollutants**.
RELATED PROGRAMS - **Lakewide Management Program, Binational Program, Zero Discharge Demonstration Program**
- Decomposition** The breakdown of complex organic substances into more simple **organic chemicals** or substances. The ultimate product of decomposition in an **aerobic** environment is carbon dioxide.
- Designated Scientific and Natural Areas**
SNA See **Scientific and Natural Areas**
- Designated Uses** The role that a water body is slated to fulfill, such as a **drinking water source**. Uses are specified in **water quality standards** for each water body or segment, whether or not the current water quality is high enough to allow the designated use. Other typical uses of a water body include propagation of fish and wildlife, recreation, agriculture, industry, and navigation.
- Dichlorodiphenyltrichloroethane**
DDT DDT, one of the nine **critical pollutants**, was commonly used as an insecticide after World War II and is now banned in the U.S. and Canada. DDT and its metabolites are **toxic pollutants** with long-term persistence in soil and water. They concentrate in the fat of wildlife and humans and may disrupt the human body's chemical system of hormones and enzymes. DDT caused eggshell thinning in a number of fish-eating birds and is associated with the mortality of embryos and sterility in wildlife especially birds. DDT still enters the **Great Lakes**, probably from a number of sources including airborne transport from other countries, leakage from dumps, and the illegal use of old stocks.
RELATED PROGRAM - **Binational Program**

- Dieldrin** Dieldrin, a **critical pollutant**, was used as a pesticide for veterinary uses and to control soil insects. In the U.S. and Canada, its use is now restricted to termite control. Dieldrin has a long **half-life** in shallow waters compared to most **chlorinated organic compounds**. It is **acutely toxic** and poses a potential **carcinogenic** threat to humans. This chemical enters the **Great Lakes System** from the air or contaminated **sediments** and has been detected in fish and wildlife in all of the Great Lakes.
RELATED PROGRAM - **Binational Program**
- Dioxin
TCDD** A **critical pollutant** considered to be highly toxic, **2,3,7,8 tetrachlorodibenzo-p-dioxin** or **TCDD** is a variant in a family of 75 **chlorinated organic compounds** referred to as dioxins. An unwanted chemical byproduct of incineration and some industrial processes that use **chlorine**, dioxin tends to accumulate in the fatty tissue of fish. Dioxin is a suspected human **carcinogen**.
RELATED PROGRAM - **Binational Program**
- Discharge** Any release or unloading of a substance or materials from a pipe, or other emission source. The addition of any **pollutant** to the **Waters of the State** or to any disposal system from a **point source**.
RELATED PROGRAMS - **40 CFR**
- Discharge of Dredged or Fill Material** Any addition of dredged or **fill material** into **navigable waters** or into the **waters of the United States**. This includes the driving of pilings and the addition of any material that changes the bottom elevation or configuration of a water body or material that might destroy or degrade any navigable water
RELATED PROGRAMS - **Section 404, 33 CFR**
- Dry Deposition** The deposition of **pollutants** from the atmosphere that occurs during dry weather periods (such as dust and **particulate** matter). Dry deposition rates are often drastically different than **wet deposition** rates.
- Duluth-Superior Port Plan** A local program where the **MN DNR** is required to establish a port plan before it can authorize the filling of **protected waters** for port development. The plan includes provisions to protect designated natural resources areas, and to adopt a policy of "**no net loss**" for **wetlands**, fish habitat and aquatic communities in the St. Louis River and **Estuary**.
- Ecological Risk Assessment** An organized procedure to evaluate the likelihood that adverse ecological effects will occur as a result of exposure to **stressors** related to human activities, such as the draining of **wetlands** or release of chemicals.
- Ecosystem** A biological community and its environment working together as a functional system, including transferring and circulating energy and matter.



Ecosystem Charter for the Great Lakes Basin

Initiated by the **Great Lakes Commission**, this is a binational statement of goals, objectives, principles, and action items for the **Great Lakes** with a plan for achieving it. This non-binding agreement supports a philosophy of "**ecosystem** management that recognizes natural resources as part of a dynamic and complete matrix that pays no heed to political boundaries or jurisdictions."

RELATED PROGRAMS - **Great Lakes Commission**

Ecosystem Indicator

An organism or community of organisms that is used to assess the health of an **ecosystem** as a whole. For example, the **Binational Program** has selected the lake trout and *Diaporeia* (a **benthic invertebrate**) to be indicator species for **Lake Superior**.

RELATED PROGRAMS - **Binational Program**

Ecosystem Principles and Objectives for Lake Superior

A binational program described in Volume IV of the **Lake Superior Lakewide Management Program**. The report lists specific **ecosystem** principles and objectives for the **Lake Superior Basin**, provides a set of benchmarks, and helps guide decisions pertaining to land and water management in the Lake Superior ecosystem.

RELATED PROGRAMS - **Binational Program**

Effluent

Liquid wastes that are discharged into the environment as a by-product of human-oriented processes, such as waste material, liquid industrial refuse, or sewage.

Effluent Limitation

Any restriction placed on quantities, discharge rates, and concentrations of **pollutants** that are discharged from **point sources** into **waters of the United States** or the ocean.

RELATED PROGRAMS - **40 CFR, Clean Water Act**

**Endangered Species Act
ESA**

Federal **statutes** passed in 1973 that protect endangered and threatened species. The act has 16 sections (16 **U.S.C.** 1531-1544).

**Endangered Species Act
Reauthorization
ESAR**

The name for the federal legislative process to amend the **Endangered Species Act**. It is anticipated that reauthorization will occur in the mid- to late-1990's.

Environment Canada

The lead federal agency responsible for implementing **Great Lakes 2000** and the 1994 **Canada-Ontario Agreement** respecting the Great Lakes Basin ecosystem. Together, **Great Lakes 2000** and the **Canada-Ontario Agreement** represent the Canadian response to the **Great Lakes Water Quality Agreement**.

**Environmental Impact
Assessment
EIA**

A decision-making process mandated under the **National Environmental Policy Act** which may require a detailed **environmental impact statement** analyzing the potential significant environmental impacts and alternatives to the action before the action is permitted. A public comment period takes place on each EIA.

**Environmental Impact
Statement
EIS**

A statement detailing the environmental impacts of and the alternatives to an action. See **Environmental Impact Assessment**.

**Environmental Monitoring and
Assessment Program
EMAP**

A federal program initiated by the **EPA** in 1988 to provide improved information on the current status and long-term trends in the condition of the nation's ecological resources. Seven resource categories are defined: near coastal waters, the **Great Lakes**, inland **surface waters**, **wetlands**, forests, arid lands, and agroecosystems.

RELATED PROGRAMS - **Environmental Protection Agency**

**Environmental Protection
Agency
EPA**

A federal agency whose primary goal is to prevent or mitigate the adverse impacts of pollution on human health and the environment.

**Environmental Research
Laboratory - Duluth
ERL-Duluth**

see **Mid-Continent Ecology Division**.

Erosion

The wearing away of the land surface by running waters, glaciers, winds, and waves. Erosion occurs naturally from weather or runoff but can be intensified by land-clearing practices related to farming, residential or industrial development, road building or timber cutting.

Estuary (Freshwater)

Areas of interaction between rivers and nearshore lake waters, where **seiche** activity and river flow create a mixing of lake and river water. These areas may include bays, mouths of rivers, marshes, and lagoons. These **ecosystems** shelter and feed fish, birds, and wildlife. Most importantly, **Great Lakes** estuaries provide habitat for wildlife and for young-of-the-year and juvenile fish.

Eurasian Ruffe

A **non-indigenous species** now found in **Lake Superior** and **Lake Huron**. This relatively new invader is a member of the perch family. It is usually less than 6 inches long, has a perch-like body shape and is very slimy when handled. This fish may be competing with native perch and other fish for food. There is a great deal of concern over the potential for this fish to expand its range into other North American waters. It has also been called the European ruffe and river ruffe. See also **aquatic nuisance species**.

Eurasian Watermilfoil

An **exotic aquatic macrophyte** that forms thick underwater stands of tangled stems and vast mats of vegetation on the surface of inland lakes. In many shallow areas this plant can crowd out native plants and interfere with water recreation such as boating, fishing and swimming. The plant can spread from lake to lake by stem fragments that cling to boats and trailers. Public education campaigns aimed at preventing unintentional transport of the plant by boaters have successfully slowed its spread in some states. See also **aquatic nuisance species**.

Eutrophic

A term used to classify those lakes of high **primary productivity** as indicated by high **algal** concentrations or high **nutrient** levels. See also **eutrophication**.

Eutrophication	The process of physical, biological, and chemical changes that occurs in a lake when enriched by nutrients , organic matter, and/or silt and sediments . The process can occur naturally, but if accelerated by human activities such as agriculture, urbanization, and industrial discharge, it is called cultural eutrophication.
Exotic Species	See non-indigenous species .
Exposure	Contact with a chemical or physical agent.
Exposure Assessment	Estimates the amount of a substance something is exposed to.
Fecal Coliform	Bacteria that come from intestines of humans and other large animals. A high coliform count in a water body indicates human or animal sewage is leaking or being dumped into the lake.
Federal Insecticide Fungicide, and Rodenticide Act FIFRA	Originally adopted in 1947 and currently enforced by EPA , this law regulates the marketing of pesticides.
Federal Register	The official document of the U.S. government that announces proposed federal rules and regulations . It signals the beginning of a period of time for public review and comment.
Federal Water Pollution Control Act FWPCA	A federal law that identifies national requirements to protect the nation's waters . Commonly referred to as the Clean Water Act (33 U.S.C. 1251-1387). RELATED PROGRAMS - Clean Water Act
Fill Material	Material used to convert a water body into dry land or change its configuration or bottom elevation. RELATED PROGRAMS - Section 404, 33 CFR, Wetlands Conservation Act, Wetlands Conservation Act Rules
Fish Consumption Advisory	An advisory issued by a government agency recommending that the public limit their consumption of fish. Advisories are issued to limit exposure to toxic substances in the fish that have the potential to impact human health. A fish consumption advisory is prepared annually by the Minnesota Department of Health . Fish caught from selected lakes and streams are tested for toxic substances (mercury , sometimes PCB's and dioxins). Many of the lakes tested have restrictions on fish consumption due to high mercury levels. PCBs and dioxin levels in fish have also resulted in suggested restrictions on fish consumption in some lakes and streams. Other states and the federal government also issue advisories.
Five-Year Strategy	See Great Lakes Five-Year Strategy .
Flushing Time	See residence time .

- General Permit** An **Army Corps of Engineers** authorization that is issued on a nationwide or regional basis for categories of human activities within **navigable waters** of the U.S. General permits are issued when: (1) These activities are substantially similar in nature and cause only minimal individual and cumulative environmental impacts; or (2) the general permit would result in avoiding unnecessary duplication of the regulatory control exercised by another federal, state, or local agency provided it has been determined that the environmental consequences of the action are individually and cumulatively minimal. There are three types of general permits, **Regional Permits, Nationwide Permits, and Programmatic Permits.**
RELATED PROGRAMS - **Section 404, 33 CFR**
- Glossary of the Great Lakes GGL** You are reading it !
- Great Lakes** Lake Ontario, Lake Erie, Lake Huron (including Lake St. Clair), Lake Michigan, and Lake Superior, and the connecting channels (Saint Mary's River, Saint Clair River, Detroit River, Niagara River, and Saint Lawrence River to the Canadian border).
- Great Lakes 2000 GL2000** Led and implemented by **Environment Canada**, GL2000 is based on a vision of sustainable development in the **Great Lakes Basin**, with specific objectives of restoring degraded **ecosystems**, preventing and controlling **pollutant** impacts, and conserving human and ecosystem health. Other participating federal agencies include the Department of Fisheries and Oceans, Health Canada, Agriculture and Agri-food Canada, Transport Canada, Canadian Heritage, and Public Works and Government Service Canada.
- Great Lakes Atmospheric Deposition Network** See **Integrated Great Lakes Atmospheric Deposition Network.**
- Great Lakes Basin** See **Great Lakes System.**
- Great Lakes Charter** An international organization formed in 1985 by the premiers of Ontario and Quebec and the governors of the 8 **Great Lakes States** in response to the increased interest in diverting **Great Lakes** water to arid regions of the U.S. The charter does not encourage these diversion proposals but has no enforcement powers to prevent their implementation.
- Great Lakes Commission** A **Great Lakes States** organization formed in 1955 by the states of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin to promote a cleaner environment, stronger economy and better quality of life for residents of the **Great Lakes States**. Although Canada is not an official member of the commission, it is on the task force. Through policy development, intergovernmental coordination, and advocacy, the commission offers a variety of services to member states, and provides a unified and influential regional voice on policy, program and legislative matters affecting the **Great Lakes**. It maintains an active observer program with representation from federal agencies, provincial governments, regional organizations and tribal authorities. The commission also maintains the **Great Lakes Information Network** and initiated the **Ecosystem Charter for the Great Lakes Basin.**

**Great Lakes
Critical Pollutants
GLCP**

Substances (a total of 138) currently identified as most critical to improving water quality under four major Great Lakes initiatives: The **Great Lakes Water Quality Initiative**, the Lake Michigan **Lakewide Management Plan**, the Lake Ontario/Niagara River Four Party agreement, and the **Lake Superior Binational Program** Agreement. Each of the four initiatives may define **critical pollutants** differently.

**Great Lakes Critical
Programs Act**

Federal legislation in which Congress amended **Section 118** of the **Clean Water Act** in 1990 to improve the effectiveness of **EPA's** existing programs in the **Great Lakes**. The Critical Programs Act established the **Great Lakes Water Quality Initiative** and identified key treaty agreements between the United States and Canada in the **Great Lakes Water Quality Agreement**. The act required the EPA to establish statutory deadlines for treaty activities and increased federal resources for the program. It also requires the EPA to publish proposed water quality guidelines for the **Great Lakes System**. The guidelines must specify minimum requirements for waters in the Great Lakes system in three areas: **water quality standards**; **anti-degradation** policies; and implementation procedures.

RELATED PROGRAMS - **Clean Water Act, Great Lakes Initiative**

**Great Lakes Enforcement
Strategy**

A federal program that is a joint effort of the eight **Great Lakes States** and the **EPA**. The strategy is a part of the process for implementing the **Great Lakes Five-Year Strategy** for the **National Pollutant Discharge Elimination System** program by reducing dischargers' non-compliance in the **Great Lakes Basin** and reducing toxics loading. A key element of the strategy is the use of screening criteria that are more stringent than the national definition of significant non-compliance.

**Great Lakes Environmental
Research Laboratory
GLERL**

A federal research facility run by the **National Oceanic and Atmospheric Administration** located in Ann Arbor, Michigan. The GLERL's mission is "to conduct integrated, interdisciplinary environmental research in support of resource management and environmental services in coastal and estuarine water, with special emphasis on the **Great Lakes**." GLERL's research provides federal, state, and international decision and policy makers with scientific understanding of:

- sources, pathways, and fates of toxicants
- natural hazards
- ecosystems and their interactions
- hydrology and Great Lakes water levels
- regional effects related to global climate change.

RELATED PROGRAMS - **National Oceanic and Atmospheric Administration**

**Great Lakes Fishery
Commission
GLFC**

An international organization established in 1955 by Canada and the United States. Located in Ann Arbor, MI the GLFC works to improve the **Great Lakes** fishery, coordinate efforts of the two nations and implement management of the **sea lamprey**. The commission also advises the two governments on other **non-indigenous species**. The **USFWS** is the U.S. agency that acts for the commission.

RELATED PROGRAMS - **United States Fish and Wildlife Service** (Dept. of Fisheries and Oceans), **Sea Lamprey Control Program**

**Great Lakes Five-Year
Strategy (1992)**

A federal (EPA) program that commits the states, tribes, and U.S. federal agencies responsible for environmental protection and resource management in the **Great Lakes Basin** to achieving specific environmental goals. This overarching EPA strategy provides a framework for EPA's Great Lakes Programs and contains three major areas of focus: reduction of **toxic pollutants**; restoration of habitat; and protection of the health of all species. Specifically, in the area of toxics reduction, set forth in the **Great Lakes Water Quality Agreement** with Canada, the strategy calls for "...reducing the level of **toxic substances** in the **Great Lakes System** with an emphasis on **persistent toxic substances**, so that all organisms are adequately protected and toxic substances are virtually eliminated from the Great Lakes **ecosystem**."

RELATED PROGRAMS - **National Pollutant Discharge Elimination System**

**Great Lakes Indian Fish and
Wildlife Commission
GLIFWC**

An organization of Native American tribes from Michigan, Wisconsin, and Minnesota that assists member tribes in the management of natural resources, in **ecosystem** protection, and in the development of institutions of tribal self-government.

**Great Lakes
Information Network
GLIN**

A nationwide Internet information exchange service for the **Great Lakes Basin**. GLIN ties together a host of databases and file servers from a wide range of government and academic groups in an easy-to-access format. Maintained by the **Great Lakes Commission**.

RELATED PROGRAMS - **Great Lakes Commission**

**Great Lakes Initiative
GLI**

The commonly used name for the **Water Quality Guidance for the Great Lakes System**, the federal guidance, drafted in 1993 and finalized on March 23, 1995, that has regulatory implications. The guidance establishes minimum **water quality standards**, **anti-degradation** policies, and implementation procedures for waters in the **Great Lakes System**.

RELATED PROGRAM - **Great Lakes Toxic Reduction Initiative, Great Lakes Toxic Reduction Effort, Clean Water Act**



**Great Lakes Laboratory for
Fisheries and
Aquatic Sciences
GLLFAS**

As a component of the **Bayfield Institute**, this Canadian laboratory conducts research on the persistence and impacts of toxic chemicals on **Great Lakes** fish communities and food chains, and studies fish habitat for factors that affect production, species associations and rehabilitation potential of fish stocks. It is also responsible for implementing the federal Fish Health Regulations for Ontario. Research helps support the 1987 **Great Lakes Water Quality Agreement** and binational concerns related to the long-range transport of atmospheric pollutants.

**Great Lakes Maritime Industry
Voluntary Ballast Water
Management Plan for the
Control of Ruffe
in Lake Superior**

Co-sponsored by the maritime shipping industry **Great Lakes**-wide, the plan is designed to reduce the risk that commercial vessels will transport the **Eurasian ruffe** in ballast water from Duluth-Superior harbor to other ports. It requires that ballast water be exchanged in deep, cold water areas of **Lake Superior**. Commonly referred to as the Voluntary Ballast Water Management Plan.

**Great Lakes National
Program Office
GLNPO**

A federal **EPA** office created in 1978 to oversee the U.S. fulfillment of its obligations under the **Great Lakes Water Quality Agreement** with Canada. It was mandated by the **Clean Water Act** in 1987 to be responsible for coordinating the U.S. response to the water quality agreement. Located in Chicago, IL, GLNPO is made up of scientists, engineers, and other professionals who work with staff throughout the **EPA**, **Great Lake States**, other federal agencies, **Environment Canada**, Ontario Provincial government, **International Joint Commission**, colleges, universities, and the public. GLNPO developed the **Great Lakes Five-Year Strategy** to focus the activities of these groups on the following objectives: reduction of **toxic substance** levels, protection and restoration of habitats, and the protection of health.
RELATED PROGRAMS - **Great Lakes Water Quality Agreement**, **Environmental Protection Agency**, **Great Lakes Five-Year Strategy**, **International Joint Commission**

**Great Lakes Natural
Resource Center**

A center, located in Ann Arbor, MI and run by the National Wildlife Federation, a private wildlife protection group. Their **Lake Superior** Project focuses on the environmental problems of Lake Superior.

**Great Lakes Protection Fund
GLPF**

A program initiated by the governors of the **Great Lakes** as the United States' first multi-state environmental endowment, the fund is guided by principles stressing regional cooperation and communication with the purpose of promoting a healthy and sustainable Great Lakes **ecosystem**.

Great Lakes Regional Office

See **Great Lakes Water Quality Advisory Board**.

- Great Lakes Research Office** This federal office, administered by the **National Oceanic and Atmospheric Administration**, identifies issues relating to **Great Lakes** resources on which research is needed, inventories existing research programs, establishes a mechanism for information exchange, and conducts research through the **Great Lakes Environmental Research Laboratories**, the **National Sea Grant College Program**, and other federal labs and the private sector.
RELATED PROGRAMS - **Clean Water Act, National Oceanic and Atmospheric Administration, Great Lakes Environmental Research Laboratories, National Sea Grant College Program**
- Great Lakes Science Advisory Board
SAB** See Science Advisory Board.
- Great Lakes Sea Grant Network** A U.S. network consisting of **Sea Grant** programs in Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, and New York.
- Great Lakes Sport Fishing Council** A binational organization of the **Great Lakes** sportfishing community concerned with the present and future health of sportfishing, natural resources, and the **Great Lakes ecosystem** in general.
- Great Lakes States** The states of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin.
- Great Lakes States Air Permitting Agreement** A federal program signed by the environmental administrators of the **Great Lakes States** in 1988 to assure consistent implementation of the **Toxic Substances Management in the Great Lakes Basin Through the Permitting Process Agreement**.
- Great Lakes System** All the streams, rivers, lakes, and other bodies of water within the drainage **basin** of the **Great Lakes**.
- Great Lakes Toxic Substances Control Agreement** An interstate agreement signed by the governors of the eight **Great Lakes States** in 1986, this agreement seeks uniform **water quality standards** for the **Great Lakes**. The purpose of the governors' agreement was to establish a framework for coordinated regional action in controlling **toxic substances** entering the Great Lakes system.
- Great Lakes Toxics Reduction Effort
GLTxRE** This is a federal/state partnership that seeks to reduce the generation and release of toxics to the **Great Lakes Basin**, with an emphasis on **nonpoint sources**. It supports the **Great Lakes Water Quality Agreement** and **Great Lakes Five-year Strategy**. EPA and the **Great Lakes States** have established a process to deal with gaps or barriers to effectively preventing, controlling, or eliminating toxics **loadings** from nonpoint sources. An EPA team works with federal and state Great Lakes agencies to enhance efforts to reduce Great Lakes **critical pollutants** through three parallel projects: **Virtual Elimination, Lake Michigan Mass Balance**, and **source pathway analysis**.
RELATED PROGRAMS - **Great Lakes Initiative**

**Great Lakes
Toxics Reduction Initiative
LTxRI**

The original name for the **Great Lakes Toxics Reduction Effort**.

**Great Lakes Water
Quality Advisory Board**

A binational advisory group to the **International Joint Commission** to assist in evaluating progress by Canada and the U.S. in accomplishing the **Great Lakes Water Quality Agreement** goals and to make recommendations regarding the development and implementation of programs.

RELATED PROGRAMS - **Great Lakes Water Quality Agreement, International Joint Commission**

**Great Lakes
Water Quality Agreement
GLWQA**

An international agreement signed by the United States and Canada in 1972 and updated in 1987. The agreement seeks to restore and maintain full **beneficial uses** of the **Great Lakes System**. Language committing the two nations to **virtually eliminate** the input of **persistent toxic substances** in order to protect human health and living aquatic resources was included when the agreement was updated in 1978. The philosophy adopted by the two governments is **zero discharge** of such substances. RELATED PROGRAMS - **Lakewide Management Program, Remedial Action Plans**

**Great Lakes
Water Quality Guidance
GLWQG**

See **Water Quality Guidance for the Great Lakes System** and the **Great Lakes Initiative**.

RELATED PROGRAMS - **Great Lakes Toxic Reduction Initiative, Clean Water Act**

**Great Lakes
Water Quality Initiative
GLWQI**

A federal program initiated in 1989 by the **EPA** and the **Great Lakes States** to further address the environmental concerns identified in the **Great Lakes Toxic Substances Control Agreement**. The **GLWQI** was intended to provide a forum for the Great Lakes States and the **EPA** to develop uniform **water quality criteria** and implementation procedures for the **Great Lakes Basin** so as to create an "even playing field" for all industries in the region. This was proposed in 1993 as the **Water Quality Guidance for the Great Lakes System**.

RELATED PROGRAMS - **Great Lakes Toxic Reduction Initiative, Great Lakes Initiative**

Great Waters Study

See **Great Waters Program**.

Great Waters Program

This program was mandated by Title III of the **1990 Clean Air Act Amendments** to assess the extent of **atmospheric deposition** of **hazardous air pollutants** to the **Great Lakes** and other designated waters. It includes setting up the **Great Lakes Atmospheric Deposition Network** and reporting the monitoring results from the network to investigate sources and deposition rates of **air toxics**, to find out what proportion of **pollutants** come from the atmosphere, and to evaluate any harmful effects to public health or the environment.

RELATED PROGRAMS - **1990 Clean Air Act Amendments**

Groundwater	Water that occurs beneath the ground surface in soils and geologic formations.
Half-Life	The period of time necessary for one half of a substance introduced to a living system or ecosystem to be eliminated or disintegrated by natural processes.
Hazardous Air Pollutants HAPs	Any air pollutant listed as such in Title III of the 1990 Clean Air Act Amendments . These are chemicals that have the potential to cause serious health effects. HAPs are released by mobile sources and industrial sources. Also referred to as air toxics . RELATED PROGRAMS - Clean Air Act
Hazardous Waste	A waste which, because of its quantity, concentration, or characteristics, may be hazardous to human health or the environment when improperly treated, stored, transported, or disposed. Specific definitions of hazardous waste vary by statute or regulation .
Heavy Metals	Metallic elements with relatively high atomic weights that can contaminate groundwater and surface waters , wildlife, and food. Heavy metals have the potential to be toxic at relatively low concentrations. Examples include arsenic, cadmium, chromium, copper, lead, mercury , selenium, and zinc.
Hexachlorobenzene HCB	A critical pollutant once used as a pesticide for grain protection until banned by the U.S. in 1976. It is still produced as a byproduct during the manufacture of other chlorinated hydrocarbons . It is a persistent toxic substance and is found in the tissues of fish, animals, and humans from the Great Lakes Basin . Limited uses of HCB are still permitted. RELATED PROGRAMS - Binational Program
House Great Lakes Task Force	A bipartisan coalition of U.S. Representatives from Great Lakes States that works to advance the economic and environmental health of the Great Lakes region.
Human Health Criteria	These are descriptive or numeric expressions that specify how much of a pollutant can be allowed in a water body and still allow for the protection of human health. See also water quality criteria . RELATED PROGRAMS - Great Lakes Initiative
Hydric Soils	Soils that are saturated, flooded, or ponded long enough during the growing season to develop anoxic conditions in the upper part of the soil profile.
Hydrocarbons	A class of compounds that contain hydrogen and carbon. This group of compounds includes the naturally occurring hydrocarbons produced by plankton , as well as many petroleum-based products like gasoline and motor oil. Chlorinated hydrocarbons, a subclass of hydrocarbons, are human derived and generally toxic.



- Hydrophytic Vegetation** Plant life capable of growing in wet conditions, such as in water or in soil or other substrate that is periodically saturated with water. The presence of hydrophytic plants is one of the indicators used in **wetland** identification and delineation.
RELATED PROGRAMS - **Wetlands Conservation Act, Wetlands Conservation Act Rules**
- Individual Permit** An Army Corps of Engineers permit that is issued following a case-by-case evaluation of an application to perform dredge or fill activities in the **Waters of the U.S.**, including **wetlands**.
RELATED PROGRAMS - **Section 404, 33 CFR**
- Industrial Waste** Any liquid, gaseous or solid waste resulting from any process of industry, manufacturing, trade, or business or from the development of any natural resource.
- Inflow and Infiltration**
I and I The penetration of water from the soil into sewer or other pipes through defective joints or connections and/or the penetration of water through the ground surface into the subsurface soil.
- Institute for Lake Superior Research**
ILSR Original name for the **Large Lakes Observatory**.
- Intake Credits** A process that allows a **point source** discharger to take into account the quality of its source water when determining its **effluent limitation standards**.
- Integrated Great Lakes Atmospheric Deposition Network**
IGLADN A joint effort of the U.S. and Canada to measure **atmospheric deposition** of toxic material to the **Great Lakes**. It was mandated by the **Great Lakes Water Quality Agreement**. The network also fulfills the requirements of the **Great Waters Program** mandated by the **1990 Clean Air Act Amendments** calling for a Great Lakes atmospheric deposition network. One master sampling station was installed at each of the Great Lakes by the end of 1991 to monitor for deposition of selected **toxic pollutants**, including **mercury**.
RELATED PROGRAMS - **Great Lakes National Program Office**
- Integrated Pest Management**
IPM A management system that uses all suitable techniques in an economical and ecologically-sound manner to reduce pest populations and maintain them at levels that do not have an economic impact, while minimizing danger to humans and the environment.
- International Association for Great Lakes Research**
IAGLR An international association of scientists that study the world's large lakes. They publish a research periodical called the Journal of Great Lakes Research and hold yearly meetings somewhere within the **Great Lakes Basin**.

- International Joint Commission**
IJC An international organization formed by Canada and the United States in 1909 as a result of the **Boundary Waters Treaty** to assist in preventing disputes and resolving issues involving all water bodies shared by the U.S. and Canada and to make recommendations about their management, particularly water quality issues and the regulation of water levels. Three commissioners are appointed by each country. Under the **Great Lakes Water Quality Agreement**, the IJC is also required to monitor progress by Canada and the United States as the two countries implement the goals and objectives of the agreement. The IJC analyzes and publishes data, provides advice and recommendations and undertakes other initiatives as requested. Two advisory boards, the **Great Lakes Water Quality Advisory Board** and the **Science Advisory Board**, exist to assist the commission with the agreement-related responsibilities.
RELATED PROGRAMS - **Great Lakes Water Quality Agreement**
- Interstate Waters** Rivers, lakes and other waters that flow across state or international boundaries. These include waters of the **Great Lakes**.
- Invertebrates** The classification for animals that do not have a backbone or internal skeleton. See also **zooplankton** and **benthic invertebrates**.
- Lacey Act** This act, enforced by the **U.S. Fish and Wildlife Service**, is designed to control environmental releases of "injurious" fish and wildlife. This law includes species that threaten non-agricultural interests.
- Lake Carrier's Association** This organization, established in 1880, represents U.S. maritime shipping companies throughout the **Great Lakes**. Its mission includes safe, efficient shipping procedures; Great Lakes shipping statistics; consultation on ice-breaking issues; harbor and channel dredging; sediment disposal; and environment and commerce regulations and legislation.
- Lake Michigan Mass Balance Study** This **mass balance** research project begun in 1994 is part of the Lake Michigan **Lakewide Management Plan** and is designed to develop a sound, scientific base of information that will guide future **toxic pollutant load** reduction and prevention activities.
RELATED PROGRAMS - **Great Lakes Toxic Reduction Effort, Lakewide Management Plan, Clean Air Act, Clean Water Act**
- Lake Superior** At the head of the **Great Lakes System**, Superior is the world's largest freshwater lake by surface area and long considered the cleanest and most pristine of the **Great Lakes**. Industrial activity, shipping and atmospheric inputs of **persistent** and **bioaccumulative toxic substances** have raised concerns about the lake's water quality.
- Lake Superior Basin** Used to describe **Lake Superior** and the surrounding **watersheds** emptying into the lake.

Lake Superior Binational Forum	<p>This international program consists of a cross-section of basin stakeholders, including representatives from environmental and native groups, industries, and municipalities in the Lake Superior Basin. It provides citizen input into the Binational Program concerning reductions in the use and discharge of toxic substances into the basin. The forum identifies barriers to reductions in pollutant use and proposes alternatives for overcoming those barriers.</p> <p>RELATED PROGRAMS - Binational Program</p>
Lake Superior Binational Program to Restore and Protect the Lake Superior Basin	<p>See Binational Program.</p>
Lake Superior Biosphere Reserve	<p>An international undertaking that would identify portions of the lake for special protection or study. Proposals to create a binational Lake Superior Biosphere Reserve as part of the United Nation's Man and the Biosphere program are under review by the United States and Canada.</p>
Lake Superior Center LSC	<p>An education/exhibition facility on freshwater systems and Lake Superior, located in Duluth, MN. Home of Superior Lakewatch.</p>
Lake Superior Lakewide Management Plan LaMP	<p>A binational plan to address threats to the Lake Superior ecosystem. The LaMP embodies a systematic and comprehensive ecosystem approach to restoring and protecting beneficial uses. It will be developed in four stages. The Stage 1 LaMP (current version) applies only to the nine designated critical pollutants from the zero discharge demonstration program for point source discharges. Later stages of the LaMP will address these and additional critical pollutants that are designated during the LaMP process, for point and nonpoint sources. See also State of the Lake Superior Basin Reporting Series.</p> <p>RELATED PROGRAMS - Great Lakes Water Quality Agreement, Binational Program</p>
Lake Superior Partnership	<p>A partnership between the state of Minnesota and the Western Lake Superior Sanitary District in Duluth that conducts multi-media inspections to insure compliance and identify pollution prevention opportunities for dischargers.</p>
Lake Superior Pollution Prevention Strategy P2 Strategy	<p>A federal/state action plan consisting of recommendations for achieving the goal of eliminating pollution at its source and evaluating recycling, treatment, and disposal options where source reduction is not possible. The focus of the Pollution Prevention Strategy is the nine critical pollutants identified by the Zero Discharge Demonstration Program. Commonly called the P2 strategy.</p> <p>RELATED PROGRAMS - Binational Program, Great Lakes National Program Office</p>

- Lake Superior Pollution Prevention Team**
An organization that developed the **Lake Superior Pollution Prevention Strategy**. The team is made up of regulatory staff from Minnesota, Michigan, Wisconsin, and the **Great Lakes National Program Office**.
RELATED PROGRAMS - **Binational Program**
- Lake Superior Project**
An EPA-administered program that establishes a strategy and implementation plan for pollution prevention technical assistance for small and medium-sized businesses in the **Lake Superior Basin**.
RELATED PROGRAMS - **Council of Great Lakes Governors**
- Lake Superior Research Institute**
LSRI
A University of Wisconsin-Superior center that conducts research and education specifically on Lake Superior. Originally called the **Center for Lake Superior Environmental Studies**.
RELATED PROGRAMS - University of Wisconsin-Superior
- Lake Superior Task Force**
An international organization made up of the senior managers who developed the **Binational Program to Restore and Protect Lake Superior** and who continue to provide direction to the Superior workgroup of the **Binational Program**.
- Lakewatch Program**
See **Superior Lakewatch**.
- Lakewide Management Plan**
LaMP
The binational programs called LaMPs provide a process for coordinating and prioritizing activities designed to reduce loadings of **critical pollutants**. The emphasis is on identifying the major sources of these pollutants and concentrating regulatory efforts where they will have the most impact. LaMPs are being developed for each of the Great Lakes. See also **Lake Superior LaMP**.
- Large Lakes Observatory**
LLO
This University of Minnesota organization established in 1994 supports and performs research on large lakes of the world including **Lake Superior**. It was formerly called the **Institute for Lake Superior Research**.
RELATED PROGRAMS - University of Minnesota
- Leachate**
The contaminated liquid resulting from water seeping through a landfill or other materials. Chemicals such as fertilizer are leached from the soil when rainwater travels through the soil.
- Legislative Commission on Minnesota Resources**
LCMR
The LCMR recommends funding for natural resource programs to be financed by the Minnesota Future Resources Fund, the Minnesota Environment And Natural Resources Trust Fund, and Federal Oil Overcharge Funds. Funds have been used for a number of projects related to **Lake Superior**, such as public boat access improvement.

Lethal Concentration 50%
LC50

A statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.

Lethal Dose 50%
LD50

A statistically or graphically estimated dose that is expected to be lethal to 50% of a group of organisms under specified conditions.

Levels Reference Study

A report that suggested methods to alleviate the adverse consequences of fluctuating water levels in the **Great Lakes-St. Lawrence River System**. The Levels Reference Study Board, appointed by the **International Joint Commission**, completed the report in 1993 after an intensive public involvement process in the U.S. and Canada.

Limited Resource Value Waters

Surface waters in Minnesota which are of limited value as a water resource and where water quantities are intermittent. These waters are protected to allow secondary body contact use, to preserve the **groundwater** for use as a drinkable water supply, and to protect aesthetic qualities of the water.

RELATED PROGRAMS - **Minnesota Rule Chapter 7050**

Limnology

The scientific study of freshwater, especially the history, geology, biology, physics, and chemistry of lakes.

Load

An amount of water, **sediment, nutrients, pollutants**, heat etc. that is introduced into a **receiving water**. Loading may be either of **anthropogenic** origin (pollutant loading) or natural (natural background loading).

RELATED PROGRAMS - Water-related **Code of Federal Regulations and Rules (40 CFRs)**, **Clean Water Act**, **MN Rule Chapter 7050**

Load Allocation
LA

The portion of a receiving water's **load capacity** that is attributed either to **nonpoint sources** of pollution or to natural background sources. Load allocations are best estimates depending on the availability of data and prediction techniques. Wherever possible, natural and nonpoint source loads are distinguished.

RELATED PROGRAMS - Water Related **Code of Federal Regulations**

Load Capacity

The greatest amount of **load** that a water body can receive without violating water quality standards.

RELATED PROGRAMS - Water related **Code of Federal Regulations and Rules**, Federal and State **Statutes**

Local Governmental Unit
LGU

A county board, joint county board, **watershed** management organization, watershed district or a township, or city.

RELATED PROGRAMS - **Wetlands Conservation Act**, **Wetlands Conservation Act Rules**

Lowest Observable Effect Concentration
LOEC

For **toxic substances**, it is the lowest tested concentration at which adverse effects are observed in aquatic organisms at a specific time of observation.

Macrophytes This term literally means "large plant." Usually refers to rooted, seed-producing aquatic plants.

Management Measures
MM

A management measure is an economically achievable way to control the addition of **pollutants** from existing and new **nonpoint sources**. These measures call for the best available nonpoint pollution control practices, technologies, processes, **site specific criteria**, operation methods, or other alternatives.

RELATED PROGRAMS - **Coastal Zone Management Act, Clean Water Act**

Mass Balance

A scientific approach that studies the sources, movement, and destination of any substance, for example a contaminant, that enters a lake system. A mass balance budget for a particular pollutant is the amount that enters a lake minus the amount that is "tied-up" in the sediment, broken down by chemical or biological processes, or removed by some other means. This should equal the amount that flows out of the lake system. This exercise enables scientists to assess the possible long-term effects of a pollutant and possible remediation actions. Also see **Lake Michigan Mass Balance Study**.

RELATED PROGRAMS - **Great Lakes Toxic Reduction Effort, Lakewide Management Programs**

Mercury
Hg

A heavy metal, mercury is a **neurotoxin** that is toxic if breathed or ingested at sufficiently high concentrations. Mercury is present naturally in the environment. It has commonly been used in a wide variety of applications including thermometers, fluorescent bulbs, mirrors, hide preservation, paints, for plastic coloring, in inks and stains, and in golf course pesticides. Because of its common use, mercury is released during garbage incineration. It is also released through the combustion of fuels such as coal and wood for energy production. Mercury readily **bioaccumulates** in all aquatic organisms, especially fish and shell fish and in humans and wildlife that consume fish. Many lakes in the **Great Lakes** region have **fish consumption advisories** due to high levels of mercury primarily caused by **atmospheric deposition**. Mercury is one of the nine **critical pollutants**.

RELATED PROGRAMS - **Binational Program**

Mesotrophic

A term used to describe a lake of moderate **primary productivity**. See also **eutrophic** and **oligotrophic**.

Mid-Continent Ecology Division
MED

The EPA's freshwater ecology and water pollution research laboratory in Duluth, Minnesota. Established in 1967, the lab develops methods for predicting and assessing the effects of pollutants on freshwater resources. It is also involved in **Great Lakes** research, such as work in food chain contaminants, modeling, coastal **wetlands**, and the **Environmental Monitoring and Assessment Program**. MED was formerly called the **Environmental Research Lab Duluth**.

RELATED PROGRAMS - **Environmental Protection Agency**



**Minnesota Acid
Deposition Control Act**

A Minnesota law passed in 1982 that required the **MPCA** to (1) identify the areas of the state containing resources sensitive to **acid deposition**, (2) develop a **standard** to protect these resources, (3) adopt a control plan to reduce **sulfur dioxide** emissions, and (4) ensure that all Minnesota emission sources subject to the control plan were in compliance by January 1, 1990.

Minnesota Air Toxics Strategy

A program developed by the **Minnesota Pollution Control Agency** to help achieve smooth, fair implementation of **air toxics** provisions of the **1990 Clean Air Act Amendments**, protection of public health and the environment, and the collection of air toxics information. The strategy mirrors the federal program somewhat but has not gone through rule-making, and is a shift in focus for the state away from air toxics rules.

**Minnesota Department
of Health
MDH**

The state agency responsible for human health protection in Minnesota. Among other duties, the MDH prepares the **fish consumption advisory** each year and establishes drinking water **standards**.

**Minnesota Department of
Natural Resources
MN DNR, DNR**

A Minnesota state agency responsible for the management of the state's timber, waters, minerals and wildlife. The department is organized by division according to the resources it manages: forestry, fish and wildlife, parks and recreation, minerals, trails and waterways, enforcement, and waters.

**Minnesota Environmental
Response and Liability Act
MERLA**

This Minnesota state legislation was patterned after the **Comprehensive Environmental Response, Compensation, and Liability Act**, and provided the state with the authority to deal with uncontrolled releases of hazardous substances to the environment (MN Statute 115B).

**Minnesota Interagency
Exotic Species
Task Force Committee**

Established by Minnesota state legislation in 1989, this task force established a state-wide communications network between agencies that are involved with regulations, management, research, technical assistance, public awareness and educational programming regarding potential and existing **exotic species**.

**Minnesota Pollution
Control Agency
MPCA, PCA**

A Minnesota state agency responsible for setting **standards** and authorizing permits for air quality, solid waste, **hazardous waste** disposal, water quality, and noise pollution. The focus of the MPCA is on compliance to these standards through technical assistance, education and information. The agency is organized into four major divisions: air quality, water quality, **groundwater** and solid waste, and **hazardous waste**.

- Minnesota Rule Chapter 6280**
A Minnesota rule that requires permits for activities which are meant to control aquatic plants and submerged vegetation. These rules are administered by the **MN DNR**.
- Minnesota Rule Chapter 7001**
A Minnesota state regulation that contains the permit process and permit requirements for **hazardous waste** facilities, **National Pollutant Discharge Elimination System**, and water quality certification (**Section 401 Certification**). Administered by the **MPCA**.
RELATED PROGRAMS - **Clean Water Act**
- Minnesota Rule Chapter 7007**
A Minnesota state regulation that contains requirements for a facility to obtain an air emission facility permit. Administered by the **MPCA**.
RELATED PROGRAMS - **Clean Air Act**
- Minnesota Rule Chapter 7009**
A Minnesota state regulation that contains the state ambient air quality standards and methods of measurement to meet those standards. Administered by the **MPCA**.
RELATED PROGRAMS - **Clean Air Act**
- Minnesota Rule Chapter 7021**
The Minnesota rule that includes the acid deposition standard and control requirements which apply to the electric power generating utilities. Also known as the Minnesota Acid Deposition Control Rule. Administered by the **MPCA**.
RELATED PROGRAMS - **Clean Air Act**
- Minnesota Rule Chapter 7050**
A Minnesota rule that sets **standards** for protecting the quality and purity of the **Waters of the State**. Administered by the **MPCA**.
RELATED PROGRAMS - **Clean Water Act**
- Minnesota Rule Chapter 7060**
A Minnesota rule that protects and preserves the underground **Waters of the State**. Administered by the **MPCA**.
- Minnesota Rule Chapter 8420**
A Minnesota rule that identifies replacement plan **criteria** for **wetland** drain and fill activities which require mitigation under the **Wetland Conservation Act**. These rules are administered by the **Board of Water and Soil Resources**.
RELATED PROGRAMS - **Wetland Conservation Act Rules**
- Minnesota Sea Grant Sea Grant**
This University of Minnesota-based program supports research, extension, and education about **Lake Superior**, the other **Great Lakes**, and inland waters of Minnesota, making research accessible to citizens, resource managers, and policy makers.
RELATED PROGRAMS - **National Oceanic and Atmospheric Administration, National Sea Grant College Program**



**Minnesota Toxic
Pollution Prevention Act
TPPA**

State legislation passed into law in 1990, this act creates policies and sets up ways to prevent the release of **toxic pollutants** into the environment by reducing or eliminating toxic pollutants at their source through **pollution prevention**.

Mitigation

See **wetland mitigation**.

Mixing Zone

A limited area or volume of water where initial dilution of a **point source pollutant** discharge takes place. The zone is extended to cover the secondary mixing in the surrounding waterbody. Numeric **water quality criteria** can be exceeded, but acutely toxic conditions are prevented from occurring in this zone.

RELATED PROGRAMS - **Clean Water Act, National Pollutant Discharge Elimination System**

Multi-media Inspections

These are inspections of a discharger's effect on water and air quality and generation of solid and **hazardous waste**. See **Lake Superior Partnership**.

RELATED PROGRAMS - **Western Lake Superior Sanitary District**

Multimedia Risk

The human health risk due to exposure to a **pollutant** through all pathways such as inhalation, ingestion, or skin contact.

**Municipal Industrial Strategy
for Abatement
MISA**

A program initiative of the province of Ontario intended to reduce water pollution.

Mutagen

A substance that is known or suspected to cause **mutations**.

Mutation

A permanent change in the hereditary material involving a physical change in chromosomes or genes.

Nation's Waters

See **Waters of the United States**.

**National Ambient
Air Quality Standards
NAAQS**

Standards that EPA sets under the **Clean Air Act** to protect public health with an adequate margin of safety (primary standards) and to protect the environment (secondary standards). These standards apply to sources that emit **pollutants** into the atmosphere.

RELATED PROGRAMS - **Clean Air Act**

**National Biological Service
NBS**

A federal bureau within the U.S. Department of the Interior. The mission of NBS is "to provide, with others, the scientific understanding and technologies needed to manage the Nation's biological resources."

**National Environmental
Policy Act
NEPA**

A federal law passed in 1990 that promotes efforts to prevent or eliminate damage to the environment and **biosphere** and stimulates the health and welfare of people. It established a Council on Environmental Quality. It is comprised of two Titles: Title I - Declaration of National Environmental Policy; Title II - Council on Environmental Quality (42 U.S.C. 4321-4347).

**National Oceanic and
Atmospheric Administration
NOAA**

A federal agency, NOAA's mandate is to conserve and manage wisely the nation's coastal and marine resources, and describe and predict changes in the Earth's environment to ensure sustainable economic opportunities. NOAA administers the **National Sea Grant College Program**, National Underseas Research Program, National Marine Fisheries Service, National Coastal Resources Research and Development Institute, National Weather Service, and others.

**National Park Service
NPS**

An agency of the U.S. Department of the Interior that manages the national park system. Active participant in the **Binational Program**.

**National Pollutant Discharge
Elimination System
NPDES**

Federal regulations that constitute the national program for issuing, modifying, revoking, re-issuing, terminating, monitoring and enforcing permits, and enforcing **pretreatment** requirements for **point source** discharges to **surface waters** under the **Clean Water Act, Section 402**.
RELATED PROGRAMS - **Clean Water Act, 40 CFR**

**National Priorities List
NPL**

A list of inactive, **hazardous waste** sites designated under **Superfund** as needing long-term remedial actions. Currently, there are about 1,200 sites on the NPL.
RELATED PROGRAMS - **Comprehensive Environmental Response, Compensation, and Liability Act**

**National Sea Grant
College Program
NSGCP**

A nation-wide partnership with public and private sectors combining research, education, and technology transfer for public service. A national network of universities meeting changing environmental and economic needs of people, industry, and government in coastal, ocean, and **Great Lakes States**. Administered by **National Oceanic and Atmospheric Administration**. See also **Minnesota Sea Grant**.
RELATED PROGRAMS - **National Oceanic and Atmospheric Administration**

**Nationwide Permit
NWP**

A type of **general permit** issued by the **Army Corps of Engineers** allowing certain activities to take place in the **Waters of the U.S.** If certain conditions are met, the specified activities can take place without the need for an **individual** or **regional permit**.
RELATED PROGRAMS - **Section 404, 33 CFR**



- Natural Resources Conservation Service
NRCS** A federal agency within the **United States Department of Agriculture** that provides technical assistance to land users in cooperation with other federal, state, and local agencies in carrying out a variety of natural resources-related programs designed to promote protection and wise use of these resources on private lands. Formerly the **Soil Conservation Service**.
- Natural Resources Research Institute
NRRI** A University of Minnesota research institute established in 1983 by the Minnesota legislature to foster economic development of Minnesota's natural resources in an environmentally-sound manner and promote private sector employment. See also **Center for Water and the Environment**.
RELATED PROGRAMS - University of Minnesota
- Naturalized Species** An intentionally or unintentionally introduced species that has adapted to and reproduces successfully in its new environment. Some **Great Lakes** examples include the rainbow smelt, the alewife, and some salmon and trout species.
- Navigable Waters** Navigable waters of the United States are waters subject to the ebb and flow of the tide and/or used to transport interstate or foreign commerce. A determination of navigability, once made, applies over the entire surface of the waterbody, and is not changed by later actions or events which impede or destroy navigable capacity. Also referred to as **Waters of the U.S.**
RELATED PROGRAMS - 33 CFR
- Neurotoxin** A substance that is known or suspected to be poisonous to nerve tissue.
- Nitrogen Oxides
NOx** **Pollutants** that can be a component of smog and also can contribute to acid rain. One of the **criteria pollutants** regulated by the **1990 Clean Air Act Amendments**. Sources include automobiles and industrial **point sources**.
- No Net Loss** A federal and Minnesota state policy to achieve no overall net loss of the nation's remaining **wetlands** base as defined by acreage and function and to restore and create **wetlands** where feasible, to increase the quality and quantity of the nation's wetland resource base.
RELATED PROGRAMS - **Wetland Conservation Act, Section 404**
- No Observable Effect Concentration
NOEC** For **toxic substances**, it is the highest tested concentration at which no adverse effects are observed in an aquatic organism at a specific time of observation.
- Non-Chemical Stressors** Physical and biological factors that can impact water quality or **ecosystem** health. Examples include, heat, sediment, **non-indigenous species**.

**Non-Indigenous Aquatic
Nuisance Prevention and
Control Act of 1990**

A federal law to prevent the unintentional introduction and dispersal of **non-indigenous species** into the **waters of the U.S.** The act mandates the establishment of: a national ballast water control program; the **Aquatic Nuisance Species Task Force**; initial research funding; technical assistance and education for federal and state agencies; state management plans; and grant programs to prevent, monitor, and control the spread of **zebra mussels** and other **exotic species**. It also provides for the establishment of regulations that control the introduction of and dispersal of these organisms. See also **aquatic nuisance species**.

Non-Indigenous Species

Those species found beyond their natural ranges or natural zone of potential dispersal. Also referred to as **exotic species**. See also **aquatic nuisance species**.

Nonpoint Source

See **nonpoint source pollution**.

**Nonpoint Source Pollution
NPS**

Pollution where the sources cannot be traced to a single, distinct, identifiable point. Nonpoint source pollution can come from **atmospheric deposition**, **erosion**, and runoff from parking lots, farms, and streets.

**North Shore
Management Board
NSMB**

A Minnesota joint powers board that represents local governments in decisions about coastline management on Minnesota's North Shore. Implements the **North Shore Management Plan**.

**North Shore Management Plan
NSMP**

A Minnesota plan for the environmental protection and orderly growth of the North Shore of **Lake Superior** developed by the residents of the area. Consists of several planning elements, each dealing with an area needing special attention such as shoreland management, harbors of refuge, transportation, recreation, tourism, and economic development.

**Northeast Minnesota
Waste Exchange
NWWE**

A local program administered by the **Western Lake Superior Sanitary District**, this organization recycles household waste such as paint. Its primary effort is aimed at getting businesses that have unwanted products in touch with potential users of those products.

RELATED PROGRAMS - **Western Lake Superior Sanitary District**

**Northeastern Minnesota
Environmental and
Economic Council
NEMEEC**

An organization of northeastern Minnesota citizens formed in the 1970's in response to the potential for Minnesota's enrollment in the federal **Coastal Zone Management Program**. NEMEEC's approach is to insure that CZM does not ignore or hamper economic development.

Nutrients

Elements or compounds essential as raw materials for organism growth and development, such as carbon, nitrogen, and phosphorus.

- Octachlorostyrene**
OCS A toxic substance and critical pollutant that is a by-product of high temperature industrial processes involving chlorine. Like dioxin, OCS is not produced intentionally. Release to the environment occurs in effluent from chlorine and gas production, aluminum smelting, and other metal production. OCS has been found in leachate from industrial landfills and fly ash from waste incinerators.
RELATED PROGRAMS - Binational Program
- Oligotrophic** Refers to an unproductive, nutrient poor lake that typically has very clear water. Lake Superior is classified as an ultra-oligotrophic lake.
- Ontario Federation of Anglers and Hunters**
OFAN An Ontario conservation organization that promotes sustainable use of natural resources by providing boater education programs on exotic species, fish, wildlife, forestry research and management, and timber management policy.
- Ontario Ministry of Natural Resources**
OMNR This provincial agency is responsible for management of Canadian waters of the Great Lakes to help sustain a healthy ecosystem. Responsibilities of the OMNR include coordinating resource planning with other entities, protecting and enhancing biological resources, managing fish harvest, protecting and rehabilitating habitat and fish communities, enforcing legislation, increasing public awareness of exotic species through educational programming, and monitoring ecosystem health through assessment and research programs.
- Ordinary High Water Mark**
OHW The elevation marking the highest water level which has been maintained for a sufficient time to leave evidence upon the landscape. Defined in Minnesota statutes as the boundary of protected waters. Generally, it is the point where the natural vegetation changes from predominately aquatic to upland species. For streams, the OHW is generally the top of the bank of the channel. The OHW is the elevation from which building and sewage setbacks are measured. OHWL means ordinary high water level.
- Organic Chemicals** Nearly all of the millions of compounds that contain carbon atoms are organic chemicals. More than 90% of all known compounds are organic. The few carbon compounds that are not considered organic include carbon dioxide and bicarbonate. Hydrocarbons like methane are simple organic chemicals that contain only hydrogen and carbon. Other organic chemicals include most pesticides and chemicals based on benzene.
- Outfall** The location or structure where wastewater or drainage empties into the surface water from a sewer, drain, or other conduit.

**Outstanding International
Resource Waters
OIRW**

This proposed designation by the **Binational Program** and the **Great Lakes Initiative** would protect the entire **Lake Superior Basin** from new or expanded **point source** discharges of **persistent toxic substances**.

**Outstanding National
Resource Waters
ONRW**

This proposed designation contained in the **Clean Water Act Reauthorization** would establish special areas within the U.S. portion of the **Lake Superior basin** where new or expanded **point source** discharges of **persistent toxic substances** would be prohibited as part of the **Binational Program** and **Great Lakes Initiative**. See also **MN Rule Chapter 7050**.

RELATED PROGRAMS - **Clean Water Act**

**Outstanding Resource
Value Waters
ORVW**

Waters of the State of Minnesota with high water quality, wilderness characteristics, unique scientific or ecological significance, exceptional recreation value or other special qualities which warrant stringent protection from pollution. See **MN Rule Chapter 7050**.

Ozone

A **pollutant** formed in the lower atmosphere by the reaction of **nitrogen oxides** and **hydrocarbons** in sunlight, commonly called smog, for which **National Ambient Air Quality Standards** have been established. Ozone is also found naturally in the upper atmosphere where it acts as a protective filter, screening out ultra-violet rays.

PAH's

See **Polycyclic Aromatic Hydrocarbons**.

Part 70 Permit

A federal regulation that defines the requirements for permitting facilities for air emissions. States with federally-approved permit programs administer the permitting of facilities within their state.

RELATED PROGRAMS - **Minnesota Rule Chapter 7007, 1990 Clean Air Act Amendments**

Particulates

Very small separate particles composed of organic or inorganic matter.

**Parts per Billion
ppb**

The number of parts of a substance per billion parts of another substance into which it is combined. Often expressed as micrograms per liter for water and micrograms/kilogram for fish and sediments.

**Parts per Million
ppm**

The number of parts of a substance per million parts of another substance into which it is combined. Often expressed as milligrams/liter water or milligrams/kilogram for fish tissue and sediments.

**Parts per Thousand
ppt**

The number of parts of a substance per thousands parts of another substance into which it is combined. Often expressed as grams/liter of water or grams/kilogram for fish tissue and sediments.

Periphyton	Algae that grow attached to surfaces such as rocks or larger plants.
Persistent Toxic Substance	A toxic pollutant that remains in the environment for a substantial period of time, potentially causing injury to ecosystem health.
pH	A numeric value that indicates relative acidity and alkalinity on a scale of 1 to 14. A pH of 7.0 is neutral, higher values indicate increasing alkalinity; lower values indicate increasing acidity.
Phytoplankton	Algae that grow suspended in the water column or open waters of a lake.
Plankton	A term used to describe bacteria, tiny plants (phytoplankton) and animals (zooplankton) that live in the water column of lakes.
Point Source	See point source pollution .
Point Source Pollution	Pollution from a distinct, identifiable source, such as a pipe, smokestack, or exhaust.
Pollutant	Chemicals or refuse material released into the atmosphere or water or onto the land.
Pollution Prevention P2	This is defined in the Minnesota Toxic Pollution Prevention Act as eliminating or reducing at the source the use, generation, or release of toxic pollutants . Methods of reducing pollution include, but are not limited to, industrial process modification, inventory control measures, feedstock substitutions, various housekeeping and management practices, and improved efficiency of machinery. The federal version of this term is source reduction .
Pollution Prevention Act of 1990	A federal law that establishes a national policy of pollution prevention , and requires the EPA to develop and implement a strategy to promote source reduction . This act declares as national policy that pollution prevention is the preferred approach to environmental protection.
Polychlorinated Biphenyls PCBs	One of the nine critical pollutants , PCBs are a group of over 200 nonflammable compounds formerly used in heating and cooling equipment, electrical insulation, hydraulic and lubricating fluids, and various inks, adhesives, and paints. These compounds are highly toxic to aquatic life, persist in the environment for long periods of time, and are bioaccumulative . PCBs are suspected carcinogens , and are linked to infant development problems. Fish from some lakes and streams in Minnesota contain measurable amounts of PCBs. See also Fish Consumption Advisory . RELATED PROGRAM - Binational Program

Polycyclic Aromatic Hydrocarbons PAHs	A family of organic chemicals based on the chemical structure of benzene which result from incomplete combustion of organic chemicals and are associated with grease and other components derived from petroleum byproducts. Some examples of the many PAH compounds include; benzo(a)anthracene, benz(b)fluoranthene, benzo(a)pyrene, chrysene, phenanthrene, and pyrene.
Pretreatment	Partial wastewater treatment required for some industries. Pretreatment removes some types of industrial pollutants before the wastewater is discharged to a municipal wastewater treatment plant .
Primary Productivity	The amount of production of living organic material through photosynthesis by plants, including algae , measured over a period of time.
Primary Treatment	The first step in wastewater treatment in which most of the debris and solids are removed mechanically.
Priority Pollutants	Pollutants identified in certain federal and state regulations. Priority pollutants have different definitions in air, water, and waste programs.
Program Office	See Great Lakes National Program Office .
Protected Waters	Minnesota Waters of the State identified as public waters or wetlands under MN Statutes.
Public Waters	Generally, public waters are water bodies determined by Minnesota statutes to have significant public value. They are controlled by the state (103G.005).
Public Waters Wetlands	A class of wetlands defined by the state of Minnesota as public waters deserving of a certain level of protection under the Wetland Conservation Act . These include all Types 3, 4, and 5 wetlands, as defined in U.S. Fish and Wildlife Service Circular No. 39 (1971 edition), that are ten or more acres in size in unincorporated areas, or 2-1/2 or more acres in size in incorporated areas.
Publicly Owned Treatment Works POTW	Any device or system that is used in treatment, including recycling and reclamation, of municipal sewage. RELATED PROGRAM - Clean Water Act, 40 CFR
Purple Loofestribe	A wetland plant from Eurasia that quickly invades water bodies, including the Great Lakes , forming dense stands unsuitable as cover, food, or nesting sites for fish, amphibians, waterfowl and wildlife. Imported as an ornamental plant, it spread quickly across North America along roads, canals and drainage ditches. Research on the use of European beetles that attack only purple loosestrife shows promise for biological control in North America.

Quagga Mussel	A close cousin to the zebra mussel , this exotic mussel was brought into the Great Lakes in the ballast water of transoceanic ships and is expected to have impacts similar to those of the zebra mussel. Although some evidence suggests that it prefers the deeper waters of the Great Lakes, it has, like the zebra mussel, quickly infested inland river systems. The name "quagga" comes from an extinct member of the zebra family.
Receiving Waters	Rivers, streams, lakes, or any body of water into which wastewater is discharged.
Region 5	The EPA's regional office that covers Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin. RELATED PROGRAM - Environmental Protection Agency
Regional Environmental Monitoring and Assessment Program REMAP	Environmental Monitoring and Assessment Program work on a regional scale. The St. Louis River is a Great Lakes example of a REMAP study. Cooperators include MED, GLNPO, NRRI, MPCA, UWS, and EPA Region 5. RELATED PROGRAMS - Environmental Protection Agency, Environmental Monitoring and Assessment Program
Regional Permit	A type of general permit that may be issued by a division or district engineer (Army Corps of Engineers), after compliance with other procedures, for activities in navigable waters of the U.S. or wetlands. RELATED PROGRAM - Section 404, 33 CFR
Regulation	Rules that outline specific procedures developed by federal or state agencies which are used to implement laws.
Remedial Action Plan RAP	These are federally-mandated local plans designed to restore environmental quality to Areas of Concern on the Great Lakes (there are 8 in Lake Superior and there were initially 43 in the U.S. and Canada). The Areas of Concern were identified for their persistent pollution problems. Remedial Action Plans were called for by a protocol added to the Great Lakes Water Quality Agreement in 1987. RELATED PROGRAM - Great Lakes Water Quality Agreement
Report to Congress on Toxic Air Deposition to the Great Waters	See Great Waters Study.
Residence Time	The time required for a water body to exchange its entire volume of water. Lake Superior takes about 173 to 191 years to flush its entire volume. This is an important factor used in determining the residence time of toxic pollutants in the lake. Also referred to as flushing time.
Resource Conservation and Recovery Act RCRA	A federal law that established a comprehensive "cradle to grave" system for regulating hazardous waste.

- Riparian Area** Vegetated **ecosystems** found along any stream or river. These areas characteristically have a high **water table** and are subject to periodic flooding and influence from the adjacent water body.
- Riprap** Rock or other large material that is placed to protect streambanks or lakeshores from **erosion** due to runoff or wave action.
- Risk Assessment** A complex process by which scientists determine the harm that a substance, activity, lifestyle, or natural phenomenon can inflict on human health or the environment. The process involves analyzing scientific data to describe the form, dimension, and characteristics of risk. Assessments are usually predictive estimates of how risky a particular situation is. See also **risk management**, **ecological risk assessment**, **comparative risk analysis**.
- Risk Management** The process by which **risk assessment** results are used with other information to make regulatory decisions. Risk management asks, "What shall we do about this risk?" See also **risk assessment** and **ecological risk assessment**.
- Risk Reduction** Anything, such as education, regulation, or remediation, that reduces the adverse effects of exposure to risks from a substance, activity, lifestyle, or natural phenomenon.
- Rivers and Harbors Act of 1899** A federal statute that allows the **Army Corps of Engineers** to regulate the creation of obstructions and filling of **navigable waters of the U.S.** (33 U.S.C 401-413).
- River Watch** A citizen-based volunteer water monitoring, education and outreach program on **Lake Superior** sponsored by the **EPA**. The primary emphasis of the program is to work with secondary school teachers and students to incorporate River Watch concepts into existing course curricula. Also see **St. Louis River Watch**.
- Ruffe** See **Eurasian ruffe**.
- Ruffe Control Plan** The **Ruffe Control Task Force Committee** (appointed by the **Aquatic Nuisance Species Task Force**) developed this integrated plan encompassing the legal requirements mandated by the **Non-indigenous Aquatic Nuisance Prevention and Control Act of 1990** to control the **Eurasian ruffe**. The program provides assessment and control measures including range reduction by chemical treatments, prevention of ballast water transport, and monitoring and surveillance. The plan also emphasizes research and public education as essential components of a ruffe control effort.
- Ruffe Control Task Force Committee** An organization representing academic, business, shipping, fisheries management, and fishing interests Great Lakes-wide that developed a five-part plan aimed at controlling the spread of ruffe to western **Lake Superior**. Chaired by the **U.S. Fish and Wildlife Service**, this task force was established in 1991 by the **Great Lakes Fisheries Commission**.
- Rule** See **Regulation**.

- St. Louis River Management Plan**
A local management plan developed by the St. Louis River Board to provide adequate protection to the Whiteface, Cloquet and St. Louis rivers' **ecosystems** in the areas of land use, forestry management, and land acquisition. Once implemented, the plan will result in increased lot sizes, a no-cut zone along the river corridor, mandated forestry management plans, and public purchase of 22,000 acres of river front land. Also known as the "St. Louis, Cloquet, Whiteface Corridor Management Plan."
- St. Louis River Remedial Action Plan
St. Louis River RAP**
A two-state (MN and WI) group representing industry, environmental groups, academic institutions, government, researchers, and community leaders coordinated by the **MPCA** and **WDNR**. Their goal is to develop a plan to combat pollution sources and to protect natural areas on the St. Louis River, an **Area of Concern** and the largest U.S. tributary to **Lake Superior**.
RELATED PROGRAM - **Remedial Action Plan**
- St. Louis Riverwatch**
A citizen-based water quality monitoring, outreach, and education program administered by the **MPCA**. Students and teachers from the communities along the river conduct water chemistry tests and survey the **benthic invertebrate** community as well as monitor frog populations and sediment **toxicity**. See also **River Watch**.
- Science Advisory Board
SAB**
A binational advisory group that provides advice on the adequacy of **Great Lakes** science and research to the **International Joint Commission** and the **Water Quality Board**. The board is "responsible for developing recommendations on all matters related to research and the development of scientific knowledge pertinent to the identification, evaluation, and resolution of current and anticipated problems related to Great Lake water quality."
RELATED PROGRAM - **Great Lakes Water Quality Agreement, International Joint Commission**
- Scientific and Natural Areas
SNA**
These are areas set aside to preserve the ecological diversity of Minnesota's natural heritage. They include landforms, fossil remains, plant and animal communities, rare and endangered species or other biotic features and geologic formations. The areas are preserved for scientific study and public edification as components of a healthy environment. The program is administered by the **MN DNR**, Division of Fish and Wildlife.
- Sea Grant**
See **Minnesota Sea Grant** and **National Sea Grant College Program**.

Sea Lamprey

An exotic, eel-like animal that attaches to fish with a sucking disk and sharp teeth. A native of the Atlantic Ocean, the lamprey made its way into all the **Great Lakes** following the opening of the Welland Canal in 1829 and its deepening in the 1900s. By the 1930s, sea lamprey were found in all of the Great Lakes. During the 1940s and 1950s, lamprey caused the collapse of lake trout, whitefish, and chub populations in all the Great Lakes with the exception of **Lake Superior**. It has been estimated that one sea lamprey can kill up to 40 pounds of lake trout during its lifespan. See also **Sea Lamprey Control Program**.

Sea Lamprey Control Program

The **U.S. Fish and Wildlife Service** and the Department of Fisheries and Oceans in Canada work together, under the direction of the **Great Lakes Fishery Commission**, to minimize **sea lamprey** populations in the **Great Lakes**. Lamprey are controlled by applying a selective toxicant, TFM, to streams during the lamprey's most vulnerable life stage. Other control techniques include barriers, pheromone release, and sterilization of male lamprey.

Seaway Port Authority of Duluth

The Authority, consisting of seven members representing state, county and city (Duluth) interests, promotes growth of international and domestic maritime commerce for Minnesota's World Port, and strives to strengthen the financial condition of the Port while enhancing the regional economy through industrial development and construction of port facilities. The Authority co-sponsored, along with the **Lake Carrier's Association**, the **Voluntary Ballast Water Exchange Plan for the Control of Ruffe in Lake Superior**.

**Secchi Disk Depth
SDD**

An estimate of the transparency of a lake, obtained by lowering a small (20 cm) disk into the water until it is no longer visible and noting the depth at which it disappears from view. **Oligotrophic** lakes are typically more transparent (and have a larger "Secchi depth") than more productive, or **eutrophic** lakes. See also **Superior Lakewatch**.

Secondary Treatment

The second step in most **publicly-owned treatment** systems, where bacteria consume the organic parts of the waste.

**Section 10
10**

Refers to federal statute Section 10 of the **Rivers and Harbors Act of 1899**.

**Section 118
118**

A term used to refer to federal regulation Section 118 of the **Clean Water Act** that identifies program requirements for the **Great Lakes**.
RELATED PROGRAM - **Clean Water Act**

**Section 305 (b)
305(b)**

A report required by the **Clean Water Act** on the status of fishable, swimmable waters. The states submit a biennial report to the **EPA**, which compiles the reports into a report to Congress.
RELATED PROGRAM - **Clean Water Act**

- Section 319**
319 A term used to refer to federal regulation Section 319 of the **Clean Water Act** that identifies the program requirement for **nonpoint source** management programs.
RELATED PROGRAM - **Clean Water Act**
- Section 401**
401 A term used to refer to federal regulation Section 401 of the **Clean Water Act** that requires water quality certification by the appropriate state agency, for example, the **Minnesota Pollution Control Agency**. Under 401, no federal permit to discharge **pollutants** into the waters of the U.S. is valid unless the state where the discharge occurs grants or waives its right to certify that the permit will not violate the state water quality standards. A federal agency cannot issue a permit when the state has denied water quality certification.
RELATED PROGRAM - **Clean Water Act**
- Section 402**
402 A term used to refer to federal regulation Section 402 of the **Clean Water Act** that identifies permit requirements for **point source** discharge, known as the **National Pollutant Discharge Elimination System**.
RELATED PROGRAM - **Clean Water Act**
- Section 404**
404 A term used to refer to federal regulation Section 404 of the **Clean Water Act** that outlines permit requirement for dredging and other filling activities in **waters of the U.S.**. This is the primary federal law that regulates activities affecting **wetlands**. The Section 404 program is administered by the **Army Corps of Engineers** in accordance with the **EPA**.
RELATED PROGRAM - **Clean Water Act**
- Section 6217**
6217 A federal regulation that is a part of the **Coastal Zone Act Reauthorization Amendments of 1990** entitled, "Protecting Coastal Waters." This provision requires states with **Coastal Zone Management Programs** that have received federal approval under Section 306 of the **Coastal Zone Management Act**, to develop and implement Coastal Nonpoint Pollution Control Programs. These programs are to be used to control sources of **nonpoint pollution** which impact coastal water quality.
RELATED PROGRAM - **Coastal Zone Act Reauthorization Amendments of 1990, Coastal Zone Management Act**
- Sediments** Soil particles that are or were at one time suspended in and carried by water as a result of **erosion** and/or resuspension. The particles are deposited in areas where the water flow is slowed such as in harbors, **wetlands**, and lakes.
- Seiche** Seiches are lakewide displacements of water that are wind-induced. Water pushed by the wind can pile up on shore causing noticeable increases in water depth. When the wind is reduced the water mass continues to "slosh" back and forth like water in a bathtub. The *Seiche* is also the name of **Minnesota Sea Grant's** quarterly newsletter.

Sequencing	A term used in wetlands regulations to define a process that involves avoiding, minimizing and mitigating impacts. RELATED PROGRAM - Wetland Conservation Act, Wetland Conservation Act Rules
Shorelands	Refers to Minnesota lands located 1000 feet from the ordinary high water level of a lake, pond, or flowage and 300 feet from a river, stream or the landward extent of floodplains.
Shoreland Management Program	A Minnesota program administered by a local government unit that meets minimum standards and criteria for the subdivision, use, and development of the shorelands of public waters .
Sigurd Olson Environmental Institute	A regional, private, non-profit organization of Northland College in Ashland, WI. Its mission is to protect environmental quality in the greater Lake Superior region and to build a future that is ecologically, socially, and economically sustainable.
Site-Specific Criteria	Water quality criteria that have been developed to be specifically appropriate to the water quality characteristics and/or species composition at a particular location. RELATED PROGRAMS - Great Lakes Initiative, National Pollutant Discharge Elimination System
Soil and Water Conservation Districts SWCDs	Local county units of government in Minnesota that assist landowners with implementation of soil and water conservation measures and practices. RELATED PROGRAMS - Board of Water and Soil Resources
Soil Conservation Service SCS	See Natural Resources Conservation Service .
Source Reduction	A term that means reducing pollution at its source. It includes management systems, technologies, and other practices which reduce or eliminate the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment prior to recycling, treatment, or disposal. The term includes equipment or technology modifications, reformulation or redesign of products, substitution of raw materials and improvements in housekeeping, maintenance, training or inventory control. See also Pollution Prevention . RELATED PROGRAM - Pollution Prevention Strategy, Clean Water Act, Great Lakes Initiative
Special Designation	As part of the Binational Program to Restore and Protect the Lake Superior Basin , governments are encouraged to make "special designations" which favor zero discharge of human made toxins and protect and enhance the "unique character and pristine nature" of the lake basin. The U.S. policy on special designation includes enhanced anti-degradation approaches (including best available technology) for new or proposed expansions to facilities. RELATED PROGRAM - Binational Program

Standard	See water quality standard .
State Implementation Plan SIP	A Minnesota state plan that sets out the process for complying with the Clean Air Act requirements. If approved by the EPA it will give Minnesota the authority to run the federal clean air program in the state. RELATED PROGRAMS - Clean Air Act
State of the Lake Superior Basin Reporting Series SOTLSBRS	A series of reports prepared by the Superior Work Group that will communicate progress on the Lake Superior Binational Program . Volume II is currently being prepared. When completed, the series will consist of 5 volumes. Vol I Introduction to the Basin, Its Economy, and Its Inhabitants; Vol II Lakewide Management Plan (Stages I-IV); Vol III Lakewide Management Plan for Nonchemical Stressors ; Vol IV Ecosystem Principals and Objectives for Lake Superior; Vol V Comprehensive Management Plan to Protect the Lake Superior Ecosystem (an "amalgamation" of volumes I-IV). RELATED PROGRAM - Lake Superior Binational Program, Great Lakes Water Quality Agreement
State of the Lakes Ecosystem Conference SOLEC	A conference sponsored by Environment Canada and EPA , held in 1994, to review and make available information on the state of the chemical, physical, and biological integrity of the Great Lakes Basin Ecosystem . A major purpose of the conference was to cooperate in implementing the Great Lakes Water Quality Agreement by supporting better decision-making through improved availability of information on the condition of the living components of the system and the stresses which affect them. Six working papers were prepared as background for the conference.
State Shoreland Management Plan	See Shoreland Management Program .
Statute	An enactment of the legislative body of a government that is formally expressed and documented as a law.
Storm Sewers	The underground infrastructure designed to collect storm runoff from urban areas which is typically not treated by sewage treatment facilities before discharged into nearby surface waters. Storm sewer runoff has been found to be a major contributor to nonpoint source pollution in the Great Lakes .
Storm Water	Rainwater runoff, snow melt runoff, surface water runoff and discharges that are collected by storm sewers . RELATED PROGRAM - National Pollutant Discharge Elimination System, CFRs, Minnesota Rules
Stressor	Any chemical, physical, or biological entity that can induce adverse effects on individuals, populations, communities, or ecosystems .

Sulfur Dioxide SO₂	A chemical compound that when emitted to the atmosphere is considered to be a major component of acid rain . One of the criteria pollutants regulated by the 1990 Clean Air Act Amendments , SO ₂ is emitted mainly by anthropogenic sources. Sources include industrial point sources , such as coal fired electric utilities.
Sunsetting	A process to restrict, phase out, and eventually ban the manufacture, generation, use, storage, discharge, and disposal of a persistent toxic substance .
Superfund	See Comprehensive Environmental Response, Compensation, and Liability Act and Minnesota Environmental Response and Liability Act .
Superfund Amendment Reauthorization Act SARA	See Comprehensive Environmental Response, Compensation, and Liability Act
Superior Lakewatch	A binational organization coordinated by the Lake Superior Center , the Ontario Ministry of Environment and Energy, and the Sea Grant Offices of Michigan, Wisconsin, and Minnesota that offers volunteers the opportunity to help in monitoring the water quality of Lake Superior by measuring Secchi disk depth throughout the Lake.
Superior Work Group	A binational organization that assembles technical and scientific professionals from each of the six jurisdictions (U.S. and Canada) and key national agencies surrounding Lake Superior to coordinate Binational Program implementation. RELATED PROGRAMS - Binational Program
Surface Water	All water above the surface of the ground including, but not limited to lakes, ponds, reservoirs, artificial impoundments, streams, rivers, springs, seeps, and wetlands .
Teratogen	A substance that can cause malformation in the fetus following exposure of the mother. The malformation or abnormality may be biochemical or anatomic and be of genetic or environmental origin.
Tertiary Treatment	The advanced cleaning of wastewater that goes beyond secondary treatment . This process removes nutrients such as phosphorus and nitrogen and most biological oxygen demand and suspended solids.
Thermal Stratification	The layering of warmer waters over colder waters that can occur in lakes, usually in the summertime. This layering occurs because as surface waters are warmed they become less dense than the underlying colder waters.
Total Maximum Daily Load TMDL	TMDLs are set by regulators to allocate the maximum amount of a pollutant that may be introduced into a water body and still assure attainment and maintenance of water quality standards . RELATED PROGRAM - Water Related CFRs and Rules, Federal and State Statutes

Toxaphene One of the nine **critical pollutants**, toxaphene is an insecticide that was developed as a substitute for **DDT**. Its use is now restricted in the U.S. and Canada. Toxaphene has been detected in wildlife as far north as the Arctic and levels in **Lake Superior** appear to be increasing in fish and **sediments**.

RELATED PROGRAM - **Binational Program**

Toxic Pollutant A substance or combination of substances, including disease-causing agents, which may cause death, disease, behavioral abnormalities, cancer, genetic **mutations**, physiological malfunctions (including reproductive malfunctions), or physical deformation in organisms or their offspring. Also refers to those substances listed under Section 307(a) of the **Clean Water Act** or Minnesota **Statutes**.

RELATED PROGRAM - **Clean Water Act, 40 CFRs**

Toxic Substances See **Toxic Pollutants**.

**Toxic Substances Management
in the Great Lakes Basin
Through the Permitting
Process Agreement**

An binational agreement entered into by the environmental administrators of the **Great Lakes States** in 1986 requiring that **Best Available Control Technology** be installed wherever possible on all new and existing sources of persistent air toxic pollutants which impact the **Great Lakes**. This agreement is pursuant to implementing the governors' **Great Lakes Toxic Substances Control Agreement**.

Toxicity The inherent potential of a substance to cause adverse effects in a living organism. See **acute toxicity** and **chronic toxicity**.

Toxicity Test A procedure that measures the degree of effect caused by a chemical or **effluent**, by exposing living test organisms to the substance. See also **acute toxicity** and **chronic toxicity**.

**U.S. Army Corps of Engineers
ACOE**

See **Army Corps of Engineers**.

**U.S. Ballast Water
Management Regulation**

Mandatory regulations, enforced cooperatively by the U.S. and Canadian Coast Guards, that prohibit a commercial trans-oceanic vessel from importing ballast water having salinity values less than 30 **parts per thousand** into the **Great Lakes** in an effort aimed at preventing further introductions of harmful freshwater **exotic species**.

**U.S. Coast Guard
USCG**

As mandated by federal law, the Coast Guard promotes safe and efficient passage of marine and air traffic of coastal waters by providing: 1) a continuous, accurate, all-weather radio navigation service; 2) warnings of dangers and obstructions by providing visual or electronic signals, buoys and lights; and 3) search and rescue services for commerce and recreation. They also help prevent pollution by inspecting vessels and aiding in pollution clean-up efforts.

- U.S. Coast Guard Auxiliary
CGAUX** A volunteer civilian organization established by Congress in 1939 to assist the **U.S. Coast Guard** in promoting safety in U.S. recreational boating.
- United States Code
USC** An abbreviation used to identify federal **statutes**. It is used when referring to a specific code section(s). For example, the **Clean Water Act** is 33 U.S.C. 1251-1387.
- U.S. Department
of Agriculture
USDA** A federal agency that administers the **Natural Resources Conservation Service** and the U.S. Forest Service, among others.
- U.S. Department of
Agriculture - Animal and
Plant Health
Inspection Service
APHIS** An agency that inspects incoming agriculture, livestock, and produce for disease and pest-related disease.
- U.S. Environmental
Protection Agency
EPA or U.S. EPA** See **Environmental Protection Agency**.
- U.S. Fish and Wildlife Service
USFWS** A federal agency whose mission is "to conserve, protect, and enhance the Nation's fish and wildlife and their habitats for the continuing benefit of people."
- U.S. Geological Survey
USGS** A federal agency that performs surveys, investigations, and research covering topography, geology, and the mineral and water resources of the U.S.
- Variance** A mechanism or provision that allows modification to or waiver of requirements or standards.
- Virtual Elimination** A term that refers to the elimination of inputs and discharges of **persistent toxic substances** with the end goal being their elimination from the **Great Lakes Ecosystem**. Because it is not practical to completely remove persistent toxic substances, especially from contaminated **sediments**, the qualifier "virtual" is appropriate. It may not be possible to achieve total elimination from the Great Lakes System for some persistent toxic substances produced by natural processes and/or by the release of toxins from contaminated sediments. Because of these impediments, virtual elimination is seen by many as a more realistic objective than **zero discharge**. See also **Zero Discharge**.
- Virtual Elimination Pilot Project** A federal project undertaken by the **EPA** in response to the **Great Lakes Water Quality Agreement**, that has as its goal the **virtual elimination** of **persistent bioaccumulative chemicals of concern** from the **Great Lakes Basin**.
RELATED PROGRAM - **Great Lakes National Program Office**

Virtual Elimination Strategy	A binational report produced by the Virtual Elimination Task Force for the International Joint Commission that outlines a conceptual framework to achieve the virtual elimination of persistent toxic substances from the Great Lakes Basin . RELATED PROGRAM - International Joint Commission, Great Lakes Water Quality Agreement
Virtual Elimination Task Force	A binational organization established by the International Joint Commission to address specific virtual elimination issues in the Great Lakes ecosystem .
Volatile Organic Compounds VOCs	Organic chemicals that evaporate readily into the atmosphere, providing a path for transport through the environment.
Voluntary PCB Phasedown Program	A federal program initiated by EPA Region 5 requesting electric utilities in the Great Lakes Basin to voluntarily remove from service all electrical equipment containing PCBs at levels greater than 500 parts per million .
Wasteload Allocation WLA	The portion of a receiving water's total maximum daily load that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water-quality-based effluent limitation . RELATED PROGRAM - Water related CFRs and Rules, Federal and State Statues
Wastewater Treatment Plant WWTP	A facility that receives sewage and stormwater from collection structures, then uses various levels of treatment to "purify" the water. Most modern publicly-owned treatment works in larger municipalities provide primary treatment, secondary treatment, tertiary treatment , and disinfection techniques to kill disease-producing organisms. RELATED PROGRAMS - Western Lake Superior Sanitary District
Water Quality Advisory Board	See Great Lakes Water Quality Advisory Board
Water Quality Agreement of 1987	A binational agreement that amends the Great Lakes Water Quality Agreement of 1978. RELATED PROGRAM - Great Lakes Water Quality Agreement
Water Quality Board	See Great Lakes Water Quality Advisory Board
Water Quality Criteria	Numeric or narrative expressions that specify concentrations of water constituents (such as toxic chemicals or heavy metals) which, if not exceeded, are expected to support an ecosystem suitable for protecting life in water and life dependent on water for its existence. States incorporate water quality criteria into their water quality standards to protect public health or welfare, enhance the quality of water, and serve the purposes of the Clean Water Act . RELATED PROGRAMS - Clean Water Act, 40 CFRs, MN rule Chapter 7050

**Water Quality Guidance
for the Great Lakes System
GLI**

The official name for the **Great Lakes Initiative**. The final version of the guidance was published on March 23, 1995 and has regulatory implications. The guidance establishes minimum **water quality standards**, **anti-degradation** policies, and implementation procedures for waters in the **Great Lakes System**.

RELATED PROGRAM - **Great Lakes Toxic Reduction Initiative, Great Lakes Toxic Reduction Effort, Clean Water Act**

Water Quality Standard

A water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water, by setting **water quality criteria** necessary to protect the uses, and by preventing degradation of water quality through **anti-degradation** provisions. States adopt water quality standards to protect public health or welfare, enhance the quality of water, and serve the purposes of the **Clean Water Act**.

RELATED PROGRAMS - **Clean Water Act, 40 CFRs, MN Rule Chapter 7050**

Water Table

The upper surface of the **groundwater** or that level below which the soil is saturated with water.

Water Use Classification

A classification of **waters of the state** contained in **MN Rule Chapter 7050** for the purpose of water quality protection, consideration of the best use in the interest of the public, and other considerations. **Water quality standards** for each class of waters prescribe the quality of the water that is necessary for the **designated uses**, as follows: Class 1 waters are for domestic consumption; Class 2 waters for aquatic life and recreation; Class 3 waters for industrial consumption; Class 4 waters for agriculture and wildlife; Class 5 waters for aesthetic enjoyment and navigation; Class 6 waters for other uses; and Class 7 waters for **limited resource value waters**.

Waters of the State

A term used in Minnesota **statutes** and **regulations** that refers to all water bodies regulated by the state. They include streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state of Minnesota or any portion thereof.

Waters of the United States

A term used in federal regulations that defines all water bodies regulated as waters of the U.S. It includes: (1) All waters which may be susceptible to use in interstate or foreign commerce; (2) All **interstate waters** including interstate **wetlands**; (3) All other waters such as intrastate lakes rivers, streams (including intermittent streams), mud flats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters; (4) All impoundments of waters otherwise defined as waters of the United States; (5) Tributaries of waters identified in this section; (6) The territorial seas; (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in this section.

RELATED PROGRAMS - **Clean Water Act, 33 CFRs**

Watershed	The drainage basin or area in which surface water drains toward a lake, stream or river at a lower elevation. RELATED PROGRAM - Coastal Zone Management Act, Wetland Conservation Act, Clean Water Act
Western Lake Superior Region Resource Management Cooperative WLSRRMC	A multi-agency/university assemblage established to coordinate programs in the Lake Superior Basin . It provides coordinated research, information exchange, and outreach and education program support. Its goal is to achieve full benefits of Lake Superior regional waters, air, fish, wildlife, forests, and wildlands and associated resources for their cultural, social, commercial, economic, and recreational utilization and enjoyment. Formed in 1989, the cooperative represents eight federal agencies, Wisconsin and Michigan DNR's, Great Lakes Indian Fish and Wildlife Commission , and six academic institutions.
Western Lake Superior Sanitary District WLSDD	A local agency responsible for sewage treatment, hazardous household and solid waste collection, recycling, and waste disposal for a number of municipalities in the greater Duluth, MN, area.
Wet Deposition	The deposition of pollutants from the atmosphere that occurs during precipitation events. Acid rain is one form of wet deposition. Wet deposition is calculated by multiplying precipitation amounts by the pollutant concentration. Wet deposition rates are often very different than dry deposition rates.
Wetland Conservation Act WCA	A Minnesota statute that requires regulation for draining and filling activities in wetlands . This act amended various Minnesota statutes (namely 103A, 103B, and 103C). Also referred to as Chapter 354.
Wetland Conservation Act Rules WCAR	See Minnesota Rule Chapter 8420 .
Wetland Mitigation	A regulatory requirement to replace or enhance wetland areas destroyed or impacted by proposed land disturbances with artificially created or restored wetlands.
Wetlands	The lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. Wetlands must have a predominance of hydric soils ; be inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation . This is a legal definition and controversy still exists among scientists and policy makers as to how many of these characteristics must be present in order for an area to be defined as a wetland. RELATED PROGRAM - Wetland Conservation Act, Wetland Conservation Act Rules, Clean Water Act, Section 404

- Whole Effluent Toxicity Test
WET** The total toxic effect of a complex **effluent** measured directly by a **toxicity test**.
RELATED PROGRAM - **40 CFR, Great Lakes Initiative**
- Wildlife Criteria** **Water quality criteria** designed to protect wildlife. These are surface water concentrations of **toxic substances** that will cause no significant reduction in the viability or usefulness (in a commercial or recreational sense) of a population of animals that use the waters of the **Great Lakes System** as a drinking and/or foraging source over several generations.
RELATED PROGRAM - **Great Lakes Initiative**
- Wisconsin Department of
Natural Resources
WDNR** A Wisconsin state agency responsible for overall management of the state's natural resources and environmental quality.
- Wisconsin Lake Superior Basin
Water Quality
Management Plan** Wisconsin's five-year blueprint for water quality. This plan, prepared by the **WDNR** will be used to set water quality management priorities in the **Lake Superior Basin**.
- Zebra Mussel** An **exotic species** originally introduced into the **Great Lakes** via the ballast water of transoceanic ships. This small bivalve mussel poses a multibillion dollar threat to industrial, agricultural, and municipal water supplies across North America by clogging water intake pipes. It can also have impacts on fisheries, native freshwater mussels, and natural ecosystems. By moving along contiguous waters of the Great Lakes, attached to ships, barges and recreational boats, this Eurasian native has rapidly spread throughout the Mississippi River Basin and many of its major tributaries such as the Ohio River. Free-swimming larvae are also spread by river currents. Boater education campaigns focus on preventing further spread of this species.
- Zero Discharge** Zero discharge refers to halting all inputs from all human sources and pathways to prevent any opportunity for **persistent toxic substances** to enter the environment from human activity. To completely prevent such releases, the manufacture, use, transport, and disposal of these substances would have to stop. The **Binational Program** has designated nine toxic substances (**critical pollutants**) to be part of the **Zero Discharge Demonstration Program** for the **Lake Superior Basin**. These substances are **chlordane**, **dieldrin**, **dichloro-diphenyl-trichloro-ethane (DDT)** and its metabolites such as **DDE**, **hexachlorobenzene (HCB)**, **mercury**, **octachlorostyrene (OCS)**, **polychlorinated biphenyls (PCBs)**, **2, 3, 7, 8 tetrachlorodibenzo-p-dioxin (TCDD)**, and **toxaphene**.

**Zero Discharge
Demonstration Program**

This international program is in response to the recommendation by the **International Joint Commission** that "Lake Superior be designated a **zero discharge** demonstration zone where no **point source** discharge of any persistent **bioaccumulative toxic substance** be permitted." Nine persistent toxic substances (**critical pollutants**) have been designated as critical for the program. The first priority of the program is the goal of achieving zero discharge of the nine substances from point sources. To completely prevent such releases, the manufacture, use, transport, and disposal of these substances must stop. This objective is to be met by:

- 1) pollution prevention;
- 2) enhanced controls and regulations, and;
- 3) protection through special designations of all or part of the basin (See also **Outstanding International Resource Waters** and **Outstanding National Resource Waters**).

RELATED PROGRAM - **Binational Program**

**Zone of Initial Dilution
ZID**

The region of initial mixing surrounding or adjacent to the end of an **outfall** pipe or diffuser. The ZID may not be larger than allowed by **mixing zone** restrictions in applicable **water quality standards**.

Zooplankton

Small, mostly microscopic animals that swim or float freely in open water. Zooplankton eat **algae**, detritus, and other zooplankton and in turn are eaten by fish.

Acronym	How is it pronounced?	Program
10		Section 10
118		Section 118 of the Clean Water Act
305(b)		Section 305(b) of the Clean Water Act
319		Section 319 of the Clean Water Act
401		Section 401 of the Clean Water Act
402		Section 402 of the Clean Water Act
404		Section 404 of the Clean Water Act
1990 CAAA		Clean Air Act Amendments of 1990
6217		Section 6217 of the CZARA
6280		MN Rule Chapter 6280
7001		MN Rule Chapter 7001
7007		MN Rule Chapter 7007
7009		MN Rule Chapter 7009
7021		MN Rule Chapter 7021
7050		MN Rule Chapter 7050
7060		MN Rule Chapter 7060
8420		MN Rule Chapter 8420
ACOE	the Corps	U.S. Army Corps of Engineers
ANS		Aquatic Nuisance Species
AOC		Area of Concern
APHIS	a'-fis	Animal and Plant Health Inspection Service (U.S.D.A.)
ARDC		Arrowhead Regional Development Commission
BAF		Bioaccumulation Factor
BAT		Best Available Technology
BC		Bythotrepes
BCC		Bioaccumulative Chemical of Concern
BCF		Bioconcentration factor
BMP		Best Management Practices
BOD		Biological Oxygen Demand
BWSR	bowser	Board of Water and Soil Resources
CAA		Clean Air Act
CAAA		Clean Air Act Amendments
CDF		Confined Disposal Facility
CEPA		Canadian Environmental Protection Act
CERCLA	sir'-clah	Comprehensive Environmental Response, Compensation, and Liability Act
CFR		Code of Federal Regulations
CGLI		Council of Great Lakes Industries
CGLG		Council of Great Lakes Governors
CLSES		Center for Lake Superior Environmental Studies
COA		Canada/Ontario Agreement
CSO		Combined Sewer Overflow
CWA		Clean Water Act
CWAR		Clean Water Act Reauthorization
CWE		Center for Water and the Environment

Acronym	How is it pronounced?	Program
CZARA	cee-zar'-ah	Coastal Zone Act Reauthorization Amendments of 1990
CZM		Coastal Zone Management
CZMA		Coastal Zone Management Act
DDT		Dichlorodiphenyltrichloroethane
EMAP	ee'-map	Environmental Monitoring and Assessment Program
EPA		U.S. Environmental Protection Agency
ERL-D		Environmental Research Laboratory - Duluth (U.S. EPA)
FWPCA		Federal Water Pollution Control Act
FY		Fiscal Year
GEIS		Generic Environmental Impact statement
GLC		Great Lakes Commission
GLCP		Great Lakes Critical Pollutants
GLERL	glerl	Great Lakes Environmental Research Laboratory
GLFC		Great Lakes Fishery Commission
GLI		Great Lakes Water Quality Initiative
GLIN	glin	Great Lakes Information Network
GLIFWC	glif'-wick	Great Lakes Indian Fish and Wildlife Commission
GLLFAS		Great Lakes Laboratory for Fisheries and Aquatic Sciences
GLNPO	glen'-poe	Great Lakes National Program Office
GLPF		Great Lakes Protection Fund
GLTxRE		Great Lakes Toxic Reduction Effort
GLTxRI		Great Lakes Toxics Reduction Initiative
GLWQA	GLI	Great Lakes Water Quality Agreement
GLWQI		Great Lakes Water Quality Initiative
HAPs	haps	Hazardous Air Pollutants
HCB		Hexachlorobenzene
Hg		Mercury
IAGLR	eye-ag'-ler	International Association of Great Lakes Research
IJC		International Joint Commission
ILSR	ill'-sir	Institute for Lake Superior Research
I and I		Inflow and Infiltration
LA		Load Allocation
LaMP	lamp	Lakewide Management Plan
LGU		local governmental unit
LLO		Large Lakes Observatory
LSC		Lake Superior Center
LSRI		Lake Superior Research Institute
MDH		Minnesota Department of Health
MDNR, DNR		Minnesota Department of Natural Resources

Acronym	How is it pronounced?	Program
MED		Mid-Continent Ecology Division
MERLA	merla	Minnesota Environmental Response and Liability Act
MISA		Municipal Industrial Strategy for Abatement
MM		Management Measures
MPCA, PCA		Minnesota Pollution Control Agency
NAAQS		National Ambient Air Quality Standards
NBS		National Biological Service
NEMEEC	ne'-mick	Northeastern Minnesota Environmental and Economic Council
NMWE		Northeast Minnesota Waste Exchange
NOAA	no'-ah	National Oceanic and Atmospheric Administration
NOx		Nitrogen Oxides
NPDES		National Pollutant Discharge Elimination System
NPL		National Priorities List
NPS		Nonpoint Source Pollution
NPS		U.S. National Park Service
NRRI	enn-are-eye	Natural Resources Research Institute
NSGCP		National Sea Grant College Program
NSMB		North Shore Management Board
NSMP		North Shore Management Plan
NWP's		Nationwide Permits
OCS		Octachlorostyrene
OFAH		Ontario Federation of Anglers and Hunters
OHW		Ordinary High Water Mark
OIRW		Outstanding International Resource Waters
ONRW		Outstanding National Resource Waters
ORVW		Outstanding Resource Value Waters
PAHs		Polyaromatic Hydrocarbons
P2		Pollution Prevention
PCBs		Polychlorinated biphenyls
POTW		Publicly Owned Treatment Works
ppb		parts per billion
ppm		parts per million
ppt		parts per trillion
RAP	rap	Remedial Action Plan
RCRA	rick'-rah	Resource Conservation and Recovery Act
REMAP	ree'-map	Regional Environmental Monitoring and Assessment Program
RfD		Reference Dose
SAB		Science Advisory Board
SARA	sarah	Superfund Amendment Reauthorization Act

Acronym	How is it pronounced?	Program
SCS		Soil Conservation Service
SIP		State Implementation Plan
SNA		Designated Scientific and Natural Areas
SOLEC	so'-leck	State of the Lake Ecosystem Conference
SO ₂		Sulfur Dioxide
SOTLSBRS		State of the Lake Superior Basin Reporting Series
SWCD		Soil and Water Conservation Districts
TMDL		Total Maximum Daily Load
TCDD		dioxin
USC		United States Code
USDA		U.S. Department of Agriculture
USEPA		U.S. Environmental Protection Agency
USFWS		U.S. Fish and Wildlife Service
USGS		U.S. Geological Survey
WCA	wack'-ah	Wetlands Conservation Act
WCAR	wack'-ah rules	Wetland Conservation Act Rules
WDNR, DNR	Wisconsin DNR	Wisconsin Department of Natural Resources
WET		Whole Effluent Toxicity
WLA		Wasteload Allocation
WLSRRMC		Western Lake Superior Region Resource Management Cooperative
WLSSD		Western Lake Superior Sanitary District
ZID		Zone of Initial Dilution
ZDP		Zero Discharge Pilot Program

Boundary Waters Treaty of 1909 U.S. and Canada

IJC

Great Lakes Water Quality Agreement of 1972, 1978, 1987

Treaty responsibilities handled through Canadian & U.S. Section Offices, Ottawa & Washington, D.C.

Great Lakes Regional Office Windsor, Ontario

Science Advisory Board

Council of Great Lakes Research Managers

Water Quality Advisory Board

Annex 2 Coordinating Committee (RAPs and LAMPs)

Regulate Great Lakes Water Levels

Lake Superior Board of Control

Niagra Board of Control

St. Lawrence River Board of Control

Oversee non-Great Lake advisory groups established to resolve border disputes

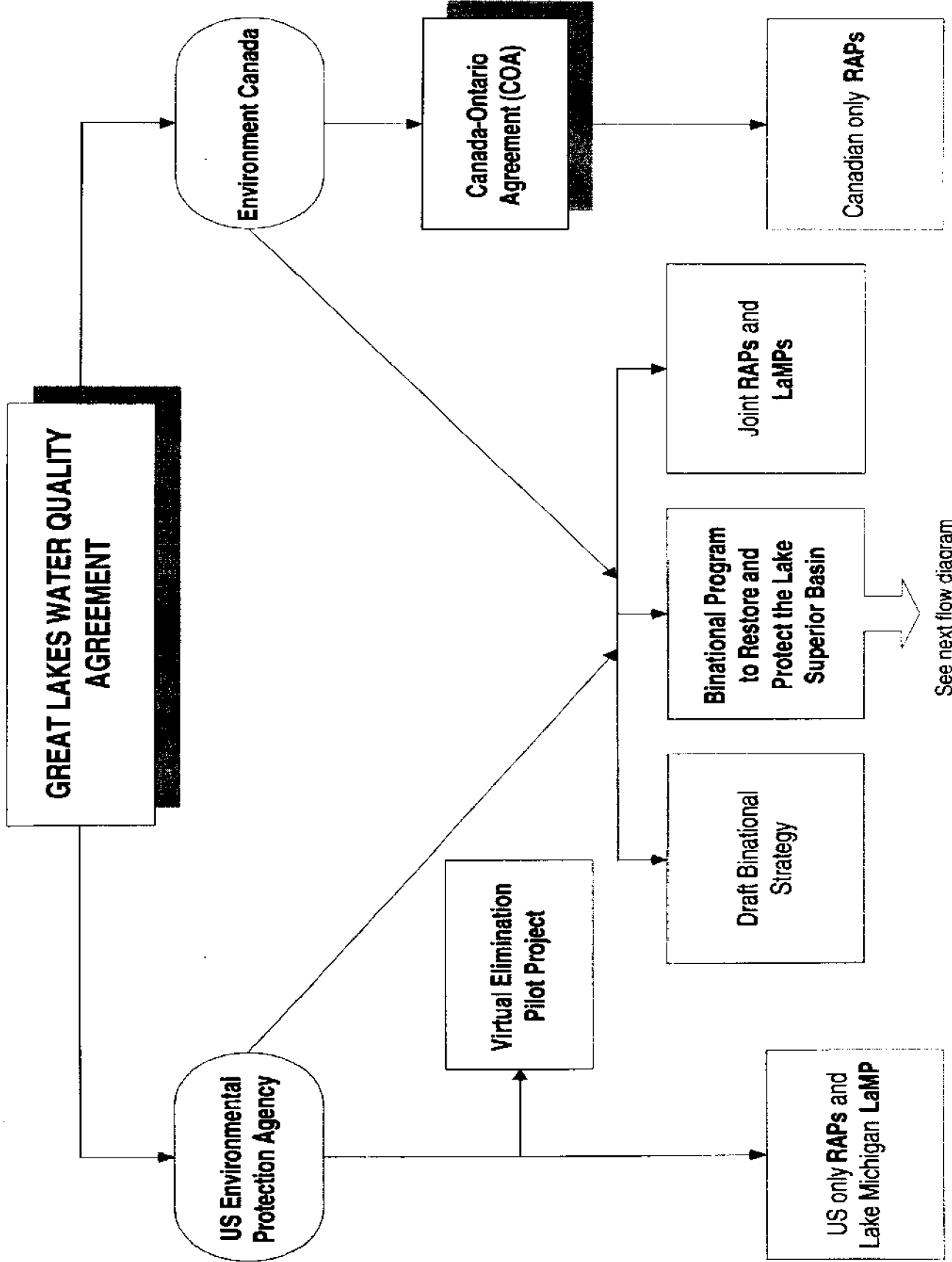
Study non-GLWQA issues as requested by governments

Great Lakes fluctuating water levels (1993)

Air Quality Study for Detroit/Windsor & Port Huron/Sarnia Region (1992)

International Air Quality Advisory Board





BINATIONAL PROGRAM

