



FACT SHEET

NATIONAL WATER QUALITY INVENTORY 1992 REPORT TO CONGRESS

Background

The National Water Quality Inventory Report to Congress is prepared every two years under Section 305(b) of the Clean Water Act. The 1992 Report is the ninth in its series.

The Clean Water Act gives states the responsibility to monitor and assess their waters and report the results to EPA. EPA provides technical assistance and guidance on monitoring and reporting, and summarizes the results of the state assessments in this Report to Congress.

This 1992 Report is based on water quality assessments submitted by 57 states, territories, interstate jurisdictions, and an American Indian Tribe (hereafter collectively referred to as states). These State assessments describe water quality conditions during 1990-1991.

Rivers, lakes, estuaries, wetlands, coastal waters, Great Lakes, and ground water are all covered in this Report. This Report also contains information on public health and aquatic life concerns, water quality monitoring, and state and federal water pollution control programs.

States measure water quality by determining if individual waters are clean enough to support uses such as fishing, swimming, and drinking. These uses are part of the state water quality standards, are set by the States, and are approved by EPA.

A Summary of Findings

For their 1992 reports to EPA, the States assessed the quality of roughly the same amount of waters as in previous reporting cycles. Many waters remained unassessed in the 2-year report period. States assessed:

- 18% of the Nation's 3.5 million river miles
- 46% of the Nation's 39.9 million lake acres
- 74% of the Nation's 37,000 estuary square miles.

This represents a near doubling of waters assessed in the initial

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two year period for 1984 when EPA first started to gather this type of information.

About two thirds of assessed waters are of good enough quality to support the uses states set for them such as fishing and swimming, and therefore meet the Clean Water Act goals established by Congress. The re-

Five Leading Sources of Water Quality Impairment

Rank	Rivers	Lakes	Estuaries
1	Agriculture	Agriculture	Municipal Point Sources
2	Municipal Point Sources	Urban Runoff/ Storm Sewers	Urban Runoff/ Storm Sewers
3	Urban Runoff/ Storm Sewers	Hydrologic/Habitat Modification	Agriculture
4	Resource Extraction	Municipal Point Sources	Industrial Point Sources
5	Industrial Point Sources	Onsite Wastewater Disposal	Resource Extraction

Source: 1992 Report to Congress.



Five Leading Causes of Water Quality Impairment			
Rank	Rivers	Lakes	Estuaries
1	Siltation	Metals	Nutrients
2	Nutrients	Nutrients	Pathogens
3	Pathogens	Organic Enrichment/ Low DO	Organic Enrichment/ Low DO
4	Pesticides	Siltation	Siltation
5	Organic Enrichment/ Low DO	Priority Organic Chemicals	Suspended Solids

Source: 1992 Report to Congress.

maining waters are impaired to varying degrees.

In the one third of assessed waters that have water quality problems, the leading contributors to problems are agricultural runoff, municipal sewage treatment plant discharges, storm sewers and urban runoff. Agricultural runoff is the most extensive source of pollution in the Nation's waters.

Nutrients, siltation, pathogens, metals, and organic enrichment are the most commonly reported pollutants in impaired waters. Nutrients can overstimulate the growth of algae and weeds; siltation smothers bottom-dwelling organisms and destroys stream habitat; pathogens cause shellfish harvesting restrictions, drinking water restrictions, and recreational beach closures; and organic enrichment leads to reduced levels of dissolved oxygen in water.

Municipal sewage treatment facilities, industries, and others that discharge into waterways from "points" such as pipes con-

tinue to contribute to water quality problems. Municipal discharges, for example, are the leading pollution source in estuaries and the second leading source in rivers. Industrial discharges are often the source of severe problems due to toxicants

Agriculture is the leading source of impairment in the Nation's rivers affecting 72% of the impaired river miles.

and are the leading source of fish consumption restrictions and the second leading source of fish kills. Storm sewers and urban runoff have emerged as significant problems nationwide and are the second leading source of impairment in lakes and estuaries.

Wetland loss continues at a significant rate and is attributed primarily to residential and urban development, agriculture, resource extraction activities such as mining, and the building of impoundments and high-

ways. Loss of these resources (1) reduces the biological productivity of waters because wetlands are nurseries and breeding grounds for many fish, shellfish, and birds; (2) increases the impacts of floods and storm sewers that wetlands would otherwise attenuate; and (3) deprives open waters of a natural "filter" for the removal of pollutants.

Toxic substances, though not as widely found as other pollutants, continue to cause locally severe impacts. Among these impacts are fish consumption restrictions, fish kills, and contamination of bottom sediments.

Although, in general, the quality of the Nation's ground water is good, an increasing number of pollution incidents affecting ground water have been reported. Underground storage tanks, septic systems, municipal landfills, agriculture, and abandoned hazardous waste sites are sources of ground water pollution cited by the states.

In ground water, the leading pollutants include nitrates, metals, pesticides, petroleum products, and volatile organic compounds.

River and Stream Water Quality

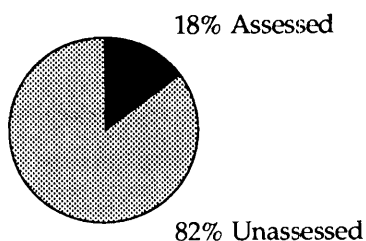
For 1990-1991, fifty-five states assessed the quality of 642,881 miles of rivers and streams, or 18% of the Nation's total 3.5 million miles of rivers and streams.

Of these 642,881 miles:

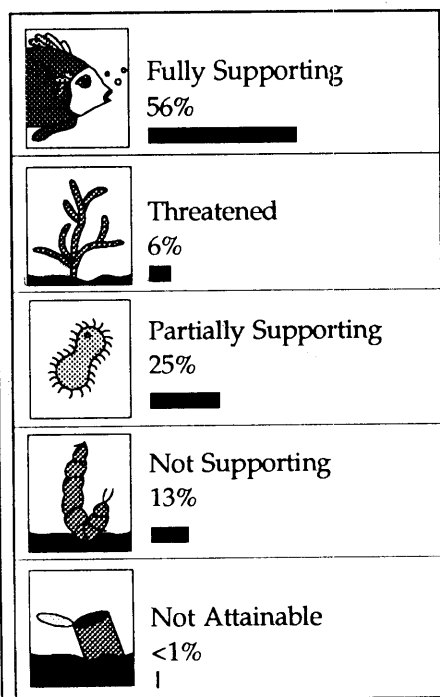
- 56% fully support swimming, fishing, and other uses, and an additional 6% currently support uses but are threatened and could become impaired if pollution control actions are not taken;
- 38% are impaired. Of these, 25% are considered partially supporting uses and the re-

**River Miles Assessed
(For 1990-1991)**

Total rivers = 3.5 million miles
Total assessed = 642,881 miles



**Levels of Overall
Use Support – Rivers**



maining 13% are not supporting uses.

Leading sources - States attribute 72% of problems in assessed rivers to agriculture; 15% to municipal dischargers; 11% to resource extraction; and 11% to storm sewers and urban runoff.

Leading pollutants - States attribute 45% of problems in assessed rivers to siltation; 37% to nutrients; 27% to pathogens; 26% to pesticides; and 24% to organic enrichment.

NOTE
Any single river mile, lake acre, or estuarine square mile is counted only once in tabulating total waters impaired. Since the waterbody can be impaired by multiple sources and causes, the sum of specific impairment categories may total more than 100%.

Lake and Reservoir Quality

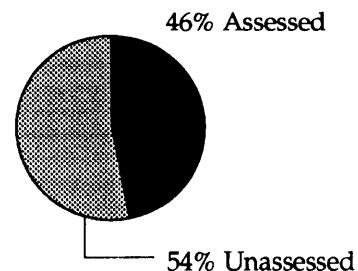
For 1990-1991, forty-nine states assessed the quality of 18.3 million acres of lakes, ponds, and reservoirs, or 46% of the Nation's 39.9 million lake acres.

Of these 18.3 million acres:

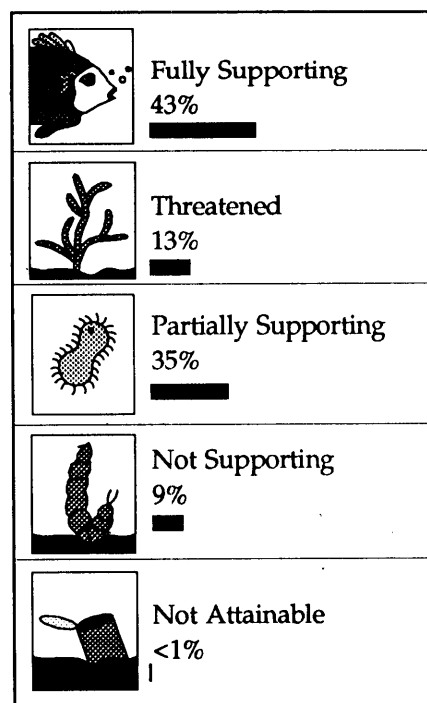
- 43% fully support fishing, swimming, and other uses, and an additional 13% currently support uses but are threatened and could become impaired if pollution control actions are not taken;

**Lake Acres Assessed
(For 1990-1991)**

Total lakes = 39,920,000 acres
Total assessed = 18,300,000 acres



**Levels of Overall
Use Support – Lakes**



- 44% are impaired. Of these, 35% are considered partially supporting uses, and the remaining 9% are not supporting uses.

Leading sources - States attribute 56% of problems in lakes to agriculture; 24% to storm sewers and urban runoff; 23% to hydrologic modifications; 21% to

municipal dischargers; and 16% to onsite wastewater disposal.

Leading pollutants - States attribute 47% of problems in assessed lakes to metals; 40% to nutrients; 24% to organic enrichment; and 22% to siltation.

Pollution can accelerate the natural aging process of lakes, known as eutrophication. Eutrophic lakes are characterized by vari-

ous conditions, such as the growth of weeds and algae due to high nutrient levels; reduced water clarity; and reduced lake depth due to buildup of silt and organic matter. Almost half of all lakes assessed (47%) were found to be eutrophic or hypereutrophic.

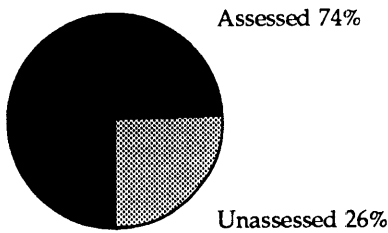
Water quality reporting for ocean coastal waters is limited.

Pathogens are the second leading pollution problem in the Nation's estuaries.

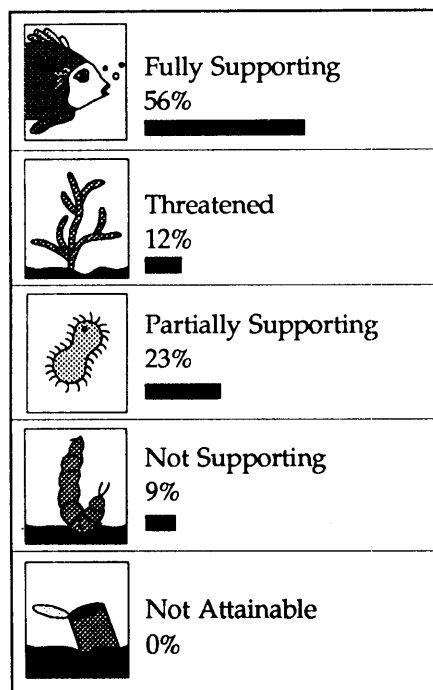
States assessed water quality in about 6% of the U.S. coastline miles. Only 14% of the assessed coastline miles were found to be impaired.

**Estuary Square Miles Assessed
(For 1990-1991)**

Total estuaries = 36,890 square miles
Total assessed = 27,227 square miles



**Levels of Overall
Use Support - Estuaries**



**Estuary and Coastal
Water Quality**

For 1990-1991, twenty-five states assessed the quality of 27,227 square miles of estuaries, or about 74% of the Nation's total 37,000 square miles.

Of these 27,227 square miles:

- 56% fully support fishing, swimming, and other uses, and an additional 12% currently support uses but are threatened and could become impaired if pollution control actions are not taken;
- 32% are impaired. Of these, 23% are considered partially supporting uses and the remaining 9% are not supporting uses.

Leading sources - States attribute 53% of problems in assessed estuaries to municipal discharges; 43% to storm sewers and urban runoff; 43% to agriculture; and 23% to industrial point sources.

Leading pollutants - States attribute 55% of problems in assessed estuaries to nutrients; 42% to pathogens; 34% to organic enrichment; and 12% to siltation.

**Water Quality in the
Chesapeake Bay**

The Chesapeake Bay Program has implemented programs to reduce impacts from nutrients, oxygen-demanding substances, and pathogens. Nutrients (primarily phosphorus and nitrogen) feed the excessive algal growth in the Bay that results in low dissolved oxygen concentrations and losses of underwater grasses that provide critical food and habitat for waterfowl and shellfish. Pathogen contamination in shellfish beds results in shellfish harvesting restrictions.

Wastewater plant upgrades, enhanced compliance with permits, bans on phosphorus detergents in the Bay watersheds, and nonpoint source controls reduced annual discharges of phosphorus into the Chesapeake Bay by 40% (4.7 million pounds) between 1985 and 1991. Overall, water quality monitoring data confirm that the reduction in phosphorus loading is reducing phosphorus concentration

in Bay waters. Total phosphorus concentrations in the Bay decreased by 16% between 1984 and 1992. However, total nitrogen concentrations have remained stable in the mainstem of the Bay and increased in some tributaries.

The Chesapeake Bay Program's nonpoint source program emphasizes controls for runoff generated by agricultural activities, paved surfaces, and construction in urban areas. The program includes nutrient management for applying animal wastes and fertilizers to cropland in amounts calculated to meet crop requirements without contaminating ground and surface waters.

Water Quality in the Great Lakes

For 1990-1991, seven Great Lakes states assessed 5,319 miles of Great Lakes shoreline, or about 99% of the Nation's total Great Lakes' shoreline.

Of these 5,319 miles:

- 2% fully support fishing, swimming, and other uses, and an additional 1% currently support uses but are threatened and could become impaired if pollution control actions are not taken;
- 97% are impaired. Of these, 30% are considered partially supporting uses and 67% are not supporting uses.

These statistics only address nearshore waters, not conditions in the deeper, less stressed central waters of the Great Lakes.

States attribute a high percentage of problem waters in the Great Lakes to fish consumption restrictions in place for nearshore areas.

Information on sources and pollutants in the Great Lakes is limited. Atmospheric deposition, contaminated sediments, and landfills are the leading sources of pollution, and leading pollutants include toxic organic chemi-

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icals, such as PCBs; metals; nutrients; and organic enrichment.

Persistent Great Lakes problems include toxic contamination of fish tissue and sediments. However, the trophic status of the Great Lakes has improved due to declining phosphorus concentrations.

Status of Wetlands

Wetlands are being lost at a significant rate, totaling a net loss of 2.6 million acres over the 9 years of a recent U.S. Fish and Wildlife Survey Report to Con-

gress (*Wetlands Status and Trends in the Conterminous U.S., mid-1970s to mid-1980s*, September 1991).

States report that agriculture and commercial and residential development are the leading sources of wetland losses.

Sedimentation and nutrients are cited as the leading pollution problems in wetlands.

Ground Water Quality

About 53% of the U.S. population relies to some extent on ground water as drinking water.

The most frequently cited sources of ground water contamination are underground storage tanks, agricultural activities, septic systems, municipal landfills, industrial landfills, and abandoned hazardous waste sites.

The most frequently cited pollutants in ground water include nitrates, identified as a ground water problem by 49 States, volatile organic chemicals (48 States), petroleum products (46 States), metals (45 States), and pesticides (43 States).

Public Health and Aquatic Life Impacts

States report elevated concentrations of toxic substances in 8% of monitored river miles, 43% of monitored lake acres, and 13% of monitored estuarine square miles.

Forty-seven States cite 1,279 waterways with fish consumption advisories. Mercury, PCBs, pesticides, dioxin, and other organic chemicals and heavy metals are most commonly cited pollutants causing fish consumption restrictions.

Twenty-seven states discuss problems with toxic contamination of bottom sediments. These states reported 669 incidents of contamination caused primarily by heavy metals, PCBs, dioxin, and pesticides.

Forty-three states reported 930 pollution-caused fish kills affecting more than 5 million fish. Low levels of dissolved oxygen, pesticides, manure and silage, oil and gas, and chlorine are the leading pollutants causing the fish kills, and the leading sources include agriculture, industrial discharges, municipal sewers, spills, and pesticide applications.

Thirty states reported 371 swimming area closures, most of short-term duration and attributed to bacteria from sewage treatment plants, combined sewer overflows, and urban runoff.

Status of Pollution Control Programs

Since the 1990 Report to Congress, EPA and many States have moved toward a more geographically oriented approach to water quality management. In 1991, EPA highlighted the Watershed Protection Approach (WPA), a framework for focus-

ing efforts on carefully chosen watersheds. The WPA is not a new government program, but rather a means of pulling together the resources and expertise of existing local, State/Tribal, and Federal programs.

Point source dischargers are regulated through permits issued by the states or EPA. As of June, 1992, most dischargers were meeting their permit limits, but 10% of major municipal dischargers and 7% of directly-discharging industrial plants were not meeting their permit conditions (i.e., were in "significant noncompliance").

The National Pretreatment Program protects municipal wastewater treatment plants and the environment from the impacts of toxic discharges into sewers from industrial sources. Fifty-four percent of significant industrial users of sewage treatment facilities are reported to be in significant noncompliance with discharge standards and/or self-monitoring and reporting requirements. Thirty-five percent of municipalities required to do so have not fully implemented their pretreatment programs.

All states have assessed their nonpoint source pollution problems, and all have developed nonpoint source management programs to address them. EPA has approved 51 state nonpoint source management programs and portions of all remaining programs. Nonpoint sources are primarily addressed through

management activities implemented at the state and local levels.

The EPA is responsible for 20 programs related to ground water protection. EPA issued the National Guidance to assist States in developing Comprehensive Ground Water Protection Programs (CSGWPPs), which are a key component of the Agency's Ground Water Protection Strategy. The States have adopted a variety of programs to address ground water contamination. These include implementing ground water protection strategies, enacting comprehensive ground water protection legislation, and establishing programs to protect well-head areas.

Over the next few years, EPA and the States are committed to implementing a wide variety of water pollution control programs. These programs include the National Combined Sewer Overflow Strategy, storm sewer permitting requirements; and water quality standards for wetlands.

Improving Nationwide Monitoring: The Intergovernmental Task Force on Monitoring Water Quality

In 1992, the Intergovernmental Task Force on Monitoring Water Quality (ITFM) convened to prepare a strategy for improving water quality monitoring nationwide. The ITFM is a Federal/State partnership of ten Federal agencies, nine State and

Interstate agencies, and one American Indian Tribe. The EPA chairs the ITFM with the U.S. Geological Survey (USGS) as vice chair and Executive Secretariat as part of their Water Information Coordination Program pursuant to OMB memo 92-01.

The mission of the ITFM is to develop and implement a na-

tional strategic plan to achieve effective collection, interpretation, and presentation, of water quality data and to improve the availability of existing information for decisionmaking at all levels of government and the private sector. The ITFM is also producing products that can be used by monitoring programs

nationwide. For a copy of the first and second year ITFM reports contact:

USGS Office of Water Data
Coordination
417 National Center
Reston, VA 22092
(703) 648-5023

For more information about the National Water Quality Inventory Report contact:

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