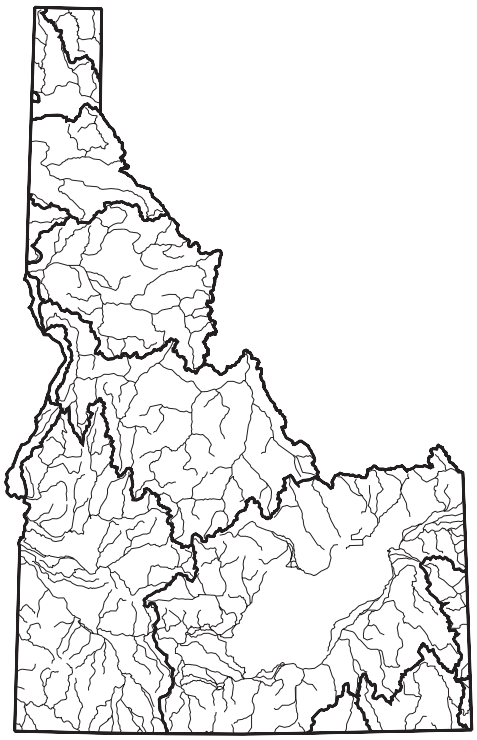
Idaho



Rivers
Basin Boundaries
(USGS 6-Digit Hydrologic Unit)
State Border

For a copy of the Idaho 2000 305(b) report, contact:

Michael McIntyre
Idaho Department of Health
and Welfare
Division of Environmental Quality
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Statehouse Mall
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(208) 373-0502
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Surface Water Quality

Idaho reports that 53% of river and stream miles support aquatic life. Based on the state's approved 1998 Section 303(d) list (approved by EPA in 1999), the major causes of impairment in Idaho's rivers and streams include siltation, nutrients, flow alterations, thermal modifications, and bacteria. Information on lake use support was not included in Idaho's 2000 305(b) report because the state is currently developing a lake and reservoir beneficial use assessment process. Based on the state's Section 303(d) list, the major causes of impairment in Idaho's lakes and reservoirs include siltation, nutrients, low dissolved oxygen, and flow alterations. There is also a fish consumption advisory for mercury in place for the Brownlee Reservoir. The state has not yet determined the sources of impairment to any surface water system. Idaho did not report on the condition of wetlands.

Ground Water Quality

More than 90% of Idaho's residents use ground water as their domestic water supply. The major sources of ground water contamination in Idaho are agricultural activities, waste storage and disposal, mining, and hazardous material transportation.

Data on ground water quality in Idaho come primarily from the Statewide Ambient Ground Water Quality Monitoring Network and the Public Water Systems. On a statewide basis, the ground water contaminants of greatest concern are nitrates, pesticides, and volatile organic compounds.

Programs To Restore Water Quality

EPA has primary responsibility for issuing National Pollutant Discharge Elimination System (NPDES) permits in Idaho. The Idaho Division of Environmental Quality (DEQ) is concerned that EPA does not have the staff to issue new permits or revise and reissue old permits. Major discharges are inspected annually but minor discharges do not receive this attention.

The nonpoint source program in Idaho is administered on a watershed basis and includes provisions for public education and technical protocol development. Project emphasis is placed on management effectiveness, beneficial use monitoring, public awareness, antidegradation, and endangered species issues.

Programs To Assess Water Quality

The DEQ is responsible for water quality monitoring in Idaho. Monitoring activities have focused on beneficial uses and ambient water quality trends. Sampling at 56 monitoring stations is conducted on a rotating basis to provide data for assessing trends in river water quality. A synoptic monitoring program was carried out in 1997, 1998, and 2000 to monitor lakes and reservoirs. Thus far, 60 lakes and reservoirs have been monitored.

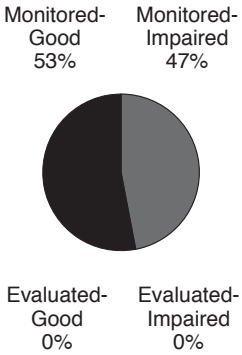
Idaho currently bases their 305(b) assessment on their 303(d) listing of impaired waters. This practice biases the assessment toward more impaired waters, and may not be representative of overall water quality. Only monitored data were incorporated into the designated use assessment.

Idaho is planning to modify their Beneficial Use Reconnaissance Program (BURP) to include a plan on monitoring and assessing lakes, an expanded river monitoring system, and a new rotating basin monitoring plan. DEQ has reserved $50,000 from Section 319 grant funds to support this process. Idaho also plans to implement EPA's Assessment Database before the 2002 305(b) reporting cycle.

Data Quality

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. This pie chart shows the proportions of waters assessed for Summary of Use Support that were based on each type of data.

Rivers



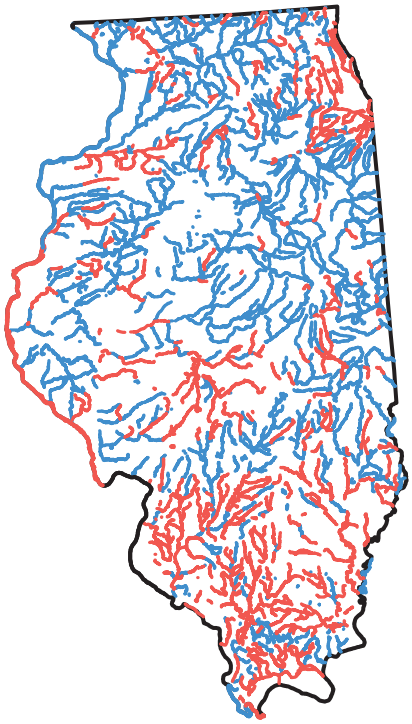
Individual Use Support in Idaho

Designated Use[a]	Percent: Good (Fully Supporting or Threatened)	Percent: Impaired (Partially Supporting or Not Supporting)
Rivers and Streams (Total Miles = 115,595)[b]		
Total Miles Assessed 17,333	53	47

[a] A subset of Idaho's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes nonperennial streams that dry up and do not flow all year.

Note: Figures may not add to 100% due to rounding.

Illinois



For a copy of the Illinois 2000 305(b) report, contact:

Teri Holland
Illinois Environmental Protection Agency
Division of Water Pollution Control
P.O. Box 19276
Springfield, IL 62794-9276
(217) 782-3363
e-mail: Teri.Holland@epa.state.il.us

For more information, visit IEPA on the Internet at: **http://www.epa.state.il.us/water/water-quality/**

Surface Water Quality

The Illinois Environmental Protection Agency (IEPA) reported that over 62% of assessed stream miles fully support aquatic life use, which the state considers the single best indicator of overall stream conditions. The major causes of impairment in Illinois's rivers include nutrients, siltation, habitat/flow alteration, organic enrichment/dissolved oxygen depletion, metals, and suspended solids. Major sources include agriculture, point sources, hydrological/habitat modification, urban runoff, and resource extraction.

Fifty-two percent of Illinois's inland lake acres fully support aquatic life uses.

The major causes of impairment to Illinois's inland lakes include nutrients, siltation, suspended solids, and organic enrichment/dissolved oxygen depletion. Major sources include agriculture, contaminated sediments (in-place contaminants such as sediment or phosphorus attached to particles), and hydrological/habitat modification.

In the Illinois portion of Lake Michigan, all 63 miles support aquatic life use. Trophic status of Lake Michigan has improved from mesotrophic/eutrophic conditions in the 1970s to oligotrophic conditions today.

Illinois did not report on the condition of wetlands.

Ground Water Quality

Ground water quality is generally good, but past and present activities contaminate ground water in isolated areas. Major sources of ground water contamination include agricultural chemical operations, fertilizer and pesticide applications, above- and belowground storage tanks, septic systems, manufacturing/repair shops, surface impoundments, and waste piles.

Programs To Restore Water Quality

The IEPA has directed program resources toward a watershed-based framework to effectively protect and restore natural resources. This comprehensive approach will focus on the total spectrum of water resource

issues, emphasizing involvement of citizens and the regulated community. The IEPA has restructured its program activities using a priority watershed management approach.

Illinois established a Great Lakes Program Office in FY93 to oversee all Lake Michigan programs on a multimedia basis. Activities include promotion of pollution prevention for all sources of toxics in all media (such as air and water).

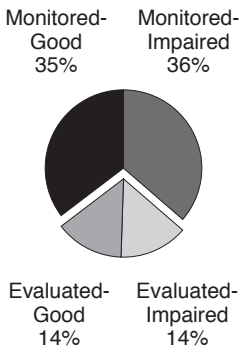
Programs To Assess Water Quality

The IEPA conducts a variety of water quality monitoring programs. Among these programs are the Ambient Water Quality Monitoring Network, Intensive River Basin Survey (in cooperation with the Illinois Department of Natural Resources), Facility-Related Stream Survey, Ambient and Volunteer Lake Monitoring Programs, and the National Nonpoint Source Monitoring Program. Data from more than 4,000 stations have been used in the assessment of surface water quality conditions. In addition, over 600 volunteers have participated in citizen monitoring of over 300 lakes as part of IEPA's Volunteer Lake Monitoring Program, which has been incorporated into the state's water quality assessments.

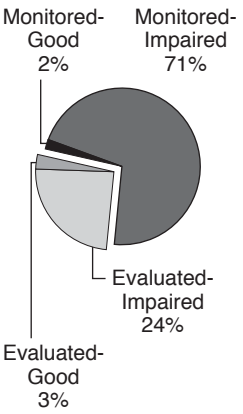
Data Quality

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. These pie charts show the proportions of waters assessed for Summary of Use Support that were based on each type of data.

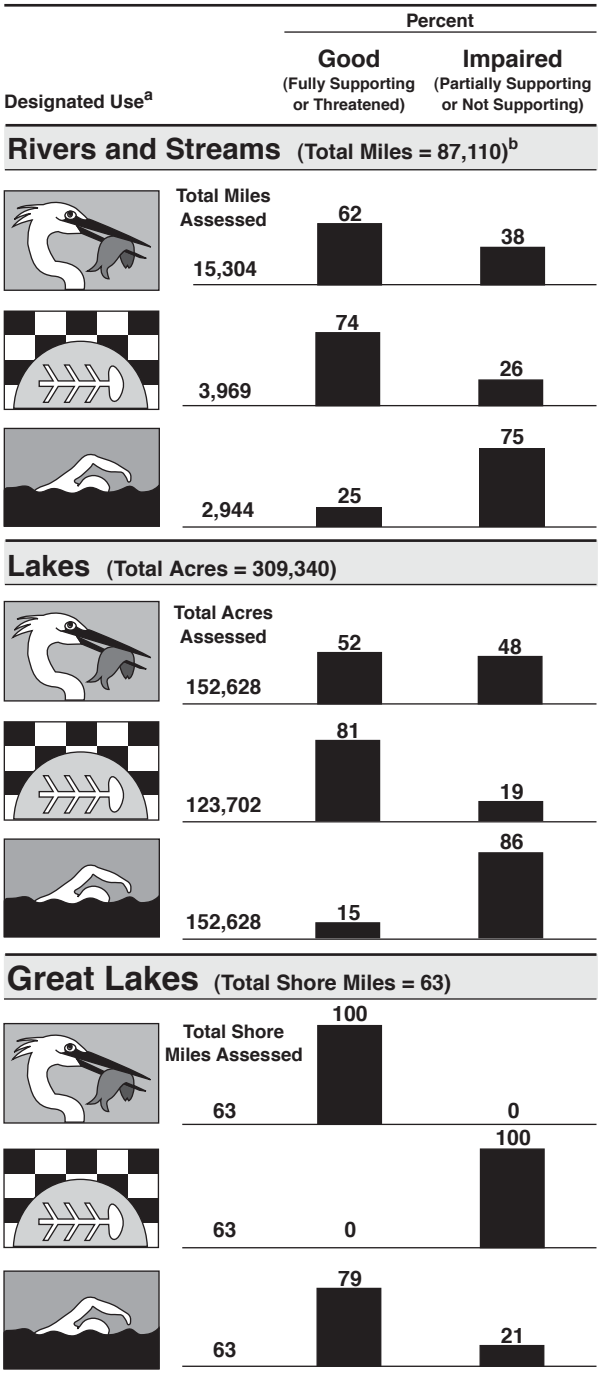
Rivers



Lakes



Individual Use Support in Illinois



[a] A subset of Illinois's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes nonperennial streams that dry up and do not flow all year.

Note: Figures may not add to 100% due to rounding.

Indiana

Rivers
State Border

For a copy of the Indiana 2000 305(b) report, contact:

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Indiana Department of
Environmental Management
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Indianapolis, IN 46206-6015
(317) 233-1432
e-mail: lschmidt@dem.state.in.us

The report is also available on the Internet at: **http://www.in.gov/idem/water/planbr/wqs/quality/IN305b00.pdf**

Surface Water Quality

All of the surveyed lake acres, Great Lakes shoreline, and 76% of the surveyed river miles have good water quality that fully supports aquatic life. However, 38% of the surveyed river miles do not support swimming due to high bacteria concentrations. All of the waters of the state are under a limited consumption advisory for at least some species of fish based on concentrations of polychlorinated biphenyls (PCBs) and mercury. The pollutants most frequently identified in Indiana waters include PCBs, metals (predominantly mercury), and pathogens. The sources of these pollutants most often identified include nonpoint sources, agricultural runoff, municipal point sources, and hydrologic modification. Many sources are unknown.

Ground Water Quality

Indiana has a plentiful ground water resource serving approximately 50% of the state's population for drinking water and filling many of the water needs of business, industry, and agriculture. In 1998, the state began sampling nearly 400 wells representing 22 hydrogeologic setting types. The major sources of ground water contamination in Indiana are commercial fertilizer application, confined animal feeding operations, underground storage tanks, surface impoundments, landfills constructed prior to 1989, septic systems, shallow injection wells, industrial facilities, materials spills, and salt storage and road salting. Contaminants from these sources include nitrate, salts, pesticides, petroleum compounds, metals, radionuclides, and bacteria. There are programs at all governmental levels to monitor, evaluate, and protect ground water resources in Indiana. The state is currently developing ground water quality standards. In addition, the source water assessment program will identify the watersheds and wellheads that supply drinking water, and 4,300 source water assessments are scheduled to be completed by May 2003.

Programs To Restore Water Quality

In February 1997, the Indiana Water Pollution Control Board adopted revised water quality standards for Great Lakes Basin waters. Water quality standards, including proposed sediment and wetland narrative criteria, for the area outside the Great Lakes Basin are being developed. Macroinvertebrate and fish community data are being evaluated for the purpose of developing biocriteria.

Point sources are regulated primarily through the NPDES program in Indiana. In 1999, the program focused on issuing new permits and renewing existing permits within state-required time frames. The Nonpoint Source Management Plan for Indiana was updated and approved by EPA in October 1999. This enables the state to receive a full allocation of Section 319 funding.

Programs To Assess Water Quality

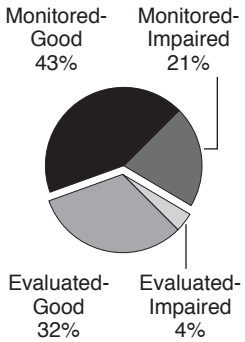
A new surface water monitoring strategy for Indiana was implemented in 1996 with the goal of monitoring all waters of the state by 2001 and reporting the assessments by 2003. Each year, approximately 20% of the waterbodies in the state will be assessed and reported the following year. Assessments highlighted in the 2000 305(b) report are the Upper Wabash, Whitewater, White, and East Fork basins. Elements of Indiana's sampling program include fixed station monitoring, TMDL development, trace metals monitoring, pesticide water column monitoring, bacteriological sampling, and targeted fish tissue and surficial aquatic sediment sites. The program also includes sites selected by probabilistic design and sampled for fish community biotic integrity, benthic aquatic macroinvertebrate community biotic integrity, fish tissue contaminants, surficial aquatic sediment contaminants, and water column chemistry.

Wetlands water quality standards are under development in Indiana.

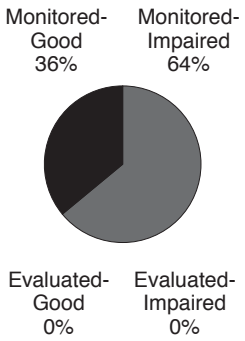
Data Quality

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. These pie charts show the proportions of waters assessed for Summary of Use Support that were based on each type of data.

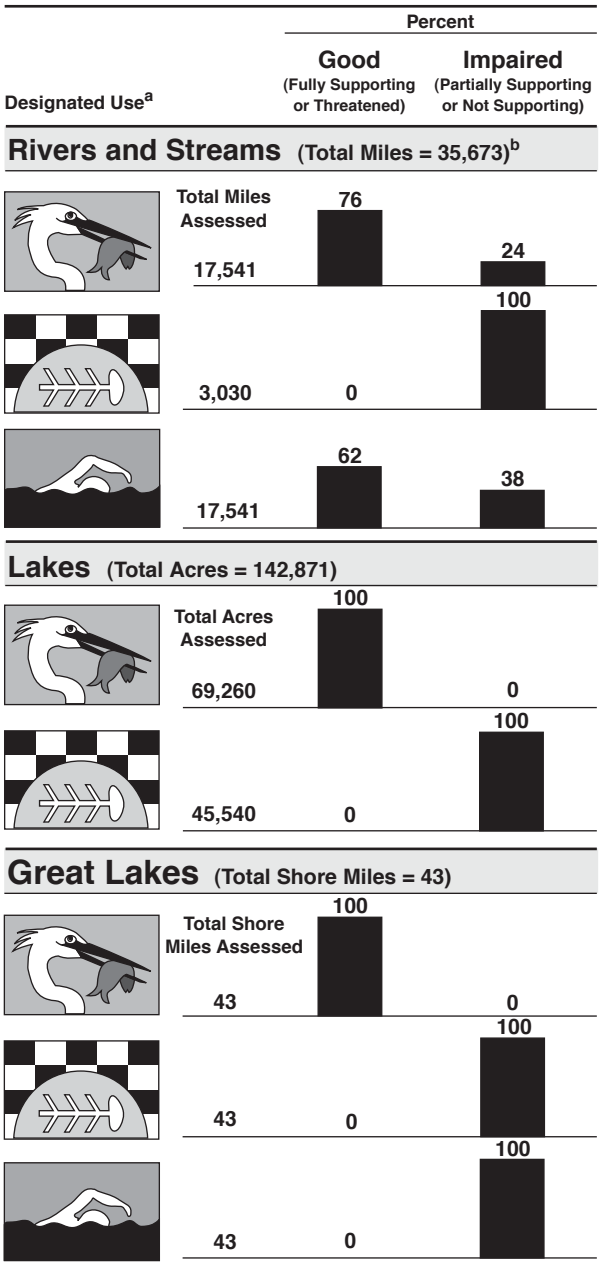
Rivers



Lakes



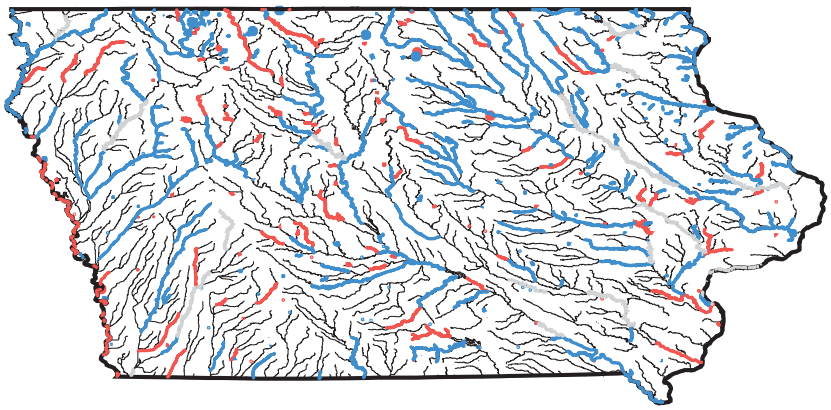
Individual Use Support in Indiana



[a] A subset of Indiana's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes nonperennial streams that dry up and do not flow all year.

Note: Figures may not add to 100% due to rounding.

Iowa



Aquatic Life Use Support
- Good
- Impaired
- Indeterminate
- Not Assessed
- State Border

For a copy of the Iowa 2000 305(b) report, contact:

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Surface Water Quality

Aquatic life use is impaired in 26% of Iowa's assessed rivers and 32% of assessed lakes. Swimming use is impaired in 52% of surveyed river miles and 25% of assessed lakes. Siltation threatens beneficial uses at all reservoirs. Other common sources of lake and reservoir impairment include organic enrichment, siltation, and nutrients. Leading sources of lake and reservoir pollution include natural sources, agriculture, and internal nutrient recycling. Point sources still pollute about 2% of the assessed stream miles and two lakes. Pollution-caused fish kills are an increasing source of impairment in Iowa streams. Leading pollutants in Iowa's streams include habitat alteration, organic enrichment, pathogens, and un-ionized ammonia. Sources of river and stream contamination include agriculture, hydrologic modification, and channelization.

Ground Water Quality

Ground water supplies about 80% of Iowa's drinking water. Agricultural chemicals, underground storage tanks, agricultural drainage wells, livestock wastes, and improper management of hazardous substances all contribute to ground water contamination. Several studies have detected low levels of common agricultural pesticides and synthetic organic compounds in both untreated and treated ground water. The fuel oxygenate methyl tertiary butyl ether (MTBE) was the most frequently detected volatile organic compound (VOC) in a 1997 study of ground water quality in eastern Iowa. In most cases, the small concentrations of contaminants are thought to pose no immediate threat to public health, but little is known about the health effects of long-term exposure to low concentrations of these chemicals.

Programs To Restore Water Quality

Pollution from municipal and industrial point sources is controlled primarily through the Clean Water Act's National Pollutant Discharge Elimination System through permits, development and enforcement of water quality standards, and legal action. The program also includes control of stormwater runoff from urban and industrial areas.

Sediment is the greatest pollutant by volume in Iowa. The state adopted a nonpoint control strategy of education projects and cost-share programs. Later, it adopted rules requiring that land disposal of animal wastes not contaminate surface and ground

waters. Landfill rules require annual inspections and permit renewals every 3 years. Iowa regulates construction in floodplains to limit erosion and impacts on aquatic life. In 1990, a Nonpoint Source Program was developed whereby state and federal agencies cooperate to implement water quality projects including education, demonstrations, and implementation of best management practices.

Programs To Assess Water Quality

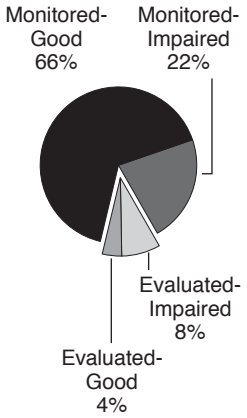
Iowa's Department of Natural Resources (DNR) either maintains or cooperates in long-term sampling networks for both surface and ground waters. DNR routinely monitors metals, ammonia, and residual chlorine at fixed sampling sites. Limited sampling for agricultural pesticides began in 1995 and was greatly expanded in 1999.

Information about toxic contaminants in fish is available from long-term DNR/EPA and other monitoring programs. Toxins in sediment are monitored as part of a special studies program. The role of biological sampling is growing, with over 100 reference sites sampled so far, and data assessment methods have been implemented. The continued expansion of Iowa's volunteer monitoring program (IOWATER) will provide an additional source of water quality information.

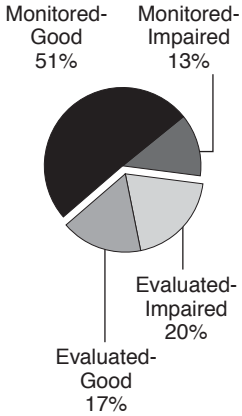
Data Quality

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. These pie charts show the proportions of waters assessed for Summary of Use Support that were based on each type of data.

Rivers



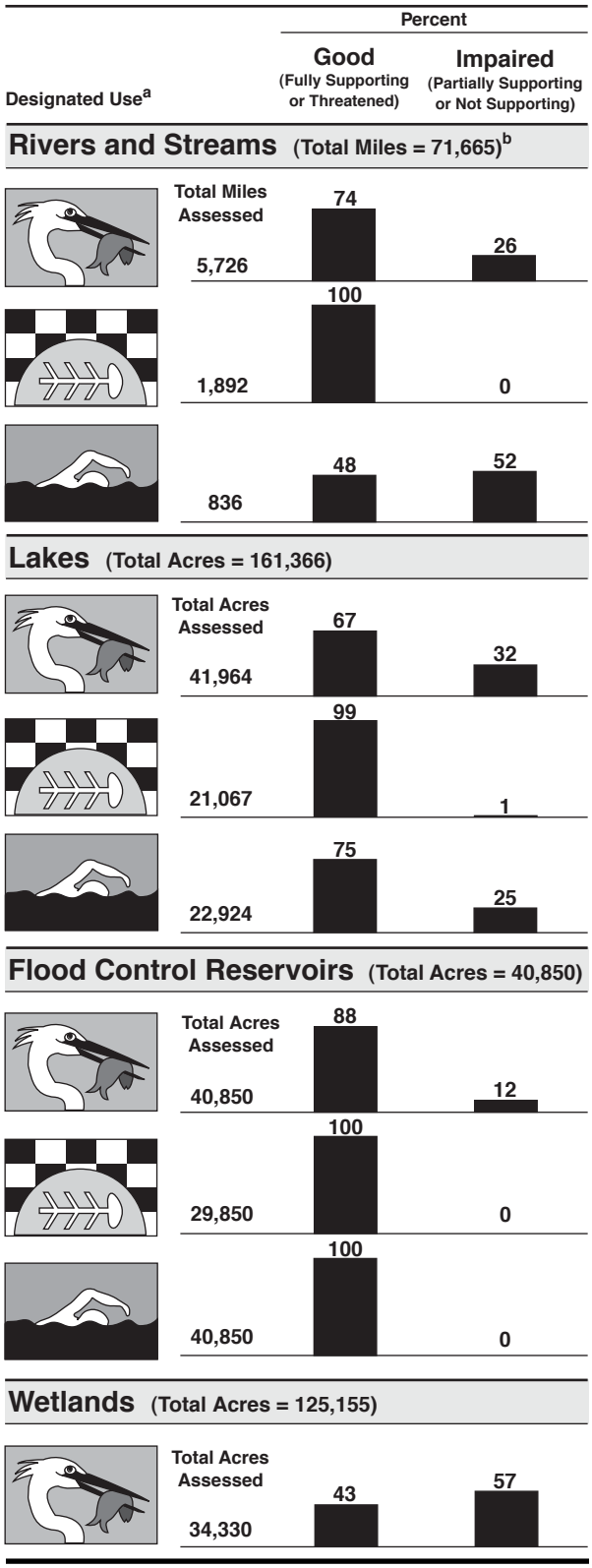
Lakes



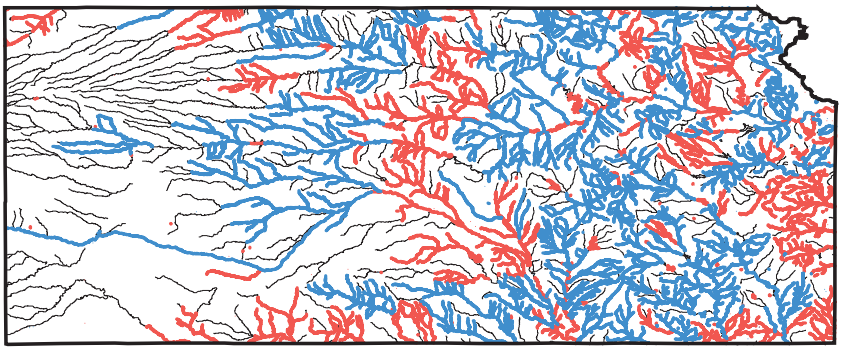
[a] A subset of Iowa's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes nonperennial streams that dry up and do not flow all year.
[c] Excludes flood control reservoirs.

Note: Figures may not add to 100% due to rounding.

Individual Use Support in Iowa



Kansas



Aquatic Life Use Support
- Good
- Impaired
- Indeterminate
- Not Assessed
- State Border

For a copy of the Kansas 2000 305(b) report, contact:

Theresa Hodges
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The report is also available on the Internet at: **http://www.kdhe.state.ks.us/befs/305b_2000/**

Surface Water Quality

The Kansas Department of Health and Environment (KDHE) assessed water quality for 18,200 miles of rivers and streams for the 2000 reporting cycle. Of these, 64% support aquatic life use. KDHE determines aquatic life use support based on acute criteria only. Major causes of non-support are fecal coliform bacteria, organic enrichment, sulfates, chlorides, and metals. Impairment of streams is attributed to agriculture, natural sources, hydrologic modification, municipal point sources, and ground water withdrawal. Of the public lake acres assessed during the reporting period, 53% support but are threatened for aquatic life use. The major causes of impairment are sediment, turbidity, nutrients/eutrophication, and taste and odor problems. Agriculture and natural processes are the major sources of impairment for lakes. The trophic status of 53% of the assessed lake acreage is stable over time.

Most Kansas wetlands are on private lands. Of the public wetlands assessed, 26% support aquatic life use but are considered threatened. The major impairments are excessive nutrient load, heavy metals, salinity, elevated pH, flow alterations, low dissolved oxygen, and turbidity/siltation. Agriculture, hydrologic modifications in watersheds, and natural processes are the sources of impairment. Trophic status studies indicate that 65% of the wetland acres are stable over time.

Ground Water Quality

The KDHE conducts the primary ambient ground water monitoring in the state. Of the ground water samples that exceeded federal drinking water maximum contaminant levels, 76% were due to nitrate contamination. Other ground water concerns included volatile organic compounds, heavy metals, petroleum products, and/or bacteria. The major sources of these contaminants included active industrial facilities, spills, leaking storage tanks, mineral extraction, and agricultural activities.

Programs To Restore Water Quality

The Local Environmental Protection Program provides financial assistance to 98 of the state's 105 counties to develop and implement a comprehensive plan for protection of the local environment.

The Point Source Pollution Program regulates wastewater treatment systems of municipal, federal, industrial, and commercial sewage

facilities, stormwater, and larger livestock operations. Smaller livestock facilities and other sources of pollutants are addressed by the Nonpoint Source Control Program. Directed funds, mainly to upgrade large wastewater treatment facilities serving cities, have resulted in documented water quality improvements at several locations.

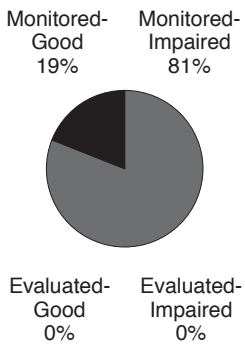
Programs To Assess Water Quality

Every year, KDHE collects and analyzes about 1,500 surface water samples, 50 aquatic macroinvertebrate samples, and 40 composite fish tissue samples from stations located throughout the state. Wastewater samples are collected at about 50 municipal sewage treatment plants, 20 industrial facilities, and 3 federal facilities to evaluate compliance with discharge permit requirements. KDHE also conducts special studies and prepares about 100 site-specific water quality summaries at the request of private citizens or other interested parties.

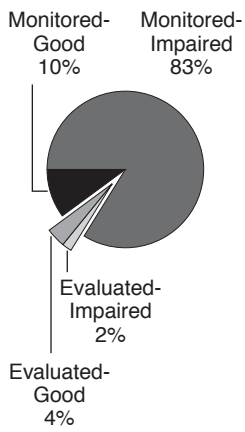
Data Quality

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. These pie charts show the proportions of waters assessed for Summary of Use Support that were based on each type of data.

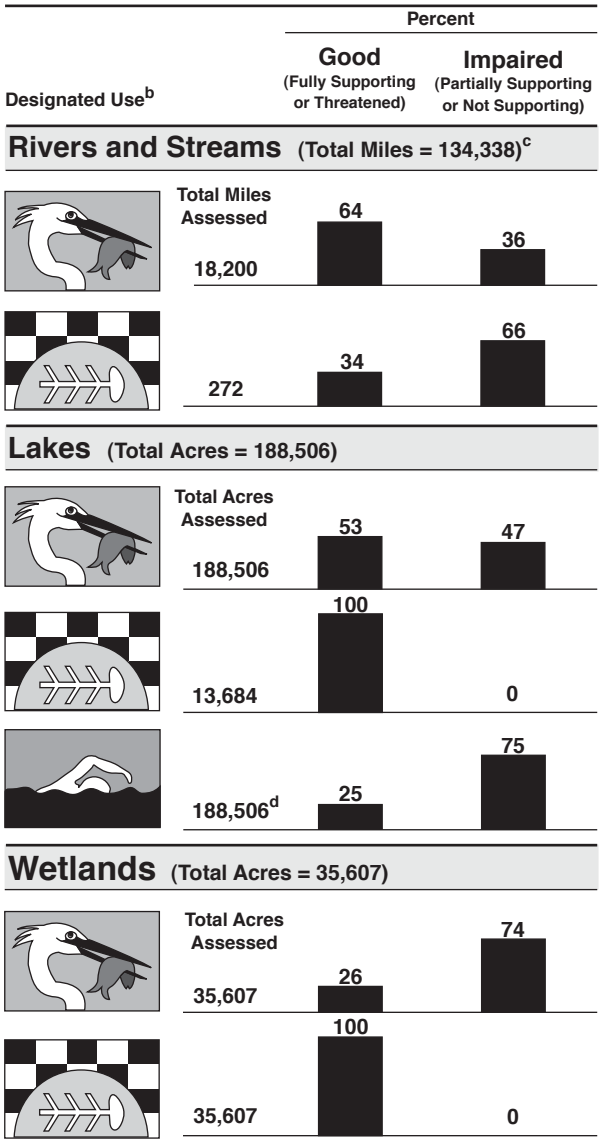
Rivers



Lakes



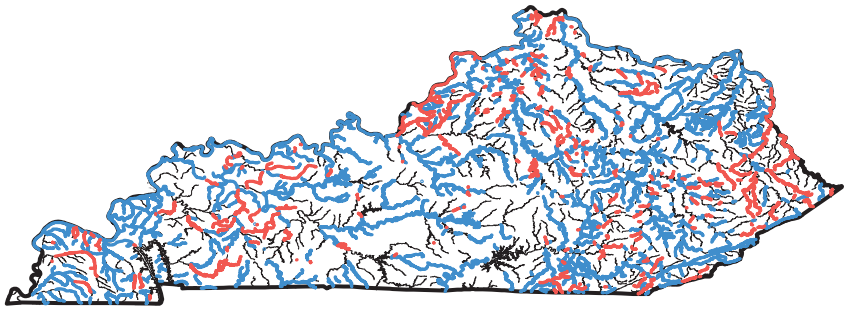
Individual Use Support in Kansas[a]



[a] Kansas determines aquatic life use support based on acute monitoring criteria only.
[b] A subset of Kansas's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[c] Includes nonperennial streams that dry up and do not flow all year.
[d] Kansas's designated uses do not address swimming beaches. Refer to the Kansas 305(b) report on contact recreational use.

Note: Figures may not add to 100% due to rounding.

Kentucky



Aquatic Life Use Support
- Good
- Impaired
- Indeterminate
- Not Assessed
- State Border

For a copy of the Kentucky 2000 305(b) report, contact:

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Department for Environmental Protection
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Frankfort, KY 40601
(502) 564-3410
e-mail: tom.vanarsdall@mail.state.ky.us

The report is also available on the Internet at: **http://water.nr.state.ky.us/wq/305b/2000/2000_305b.pdf**

Surface Water Quality

About 78% of Kentucky's surveyed rivers (excluding the Ohio River) and 95% of surveyed lake acres have good water quality that fully supports aquatic life. Swimming use is fully supported in about 100% of the surveyed lake acres, but 73% of the river miles surveyed for bacteria do not fully support swimming. Fecal coliform bacteria, siltation, polychlorinated biphenyls (PCBs), and priority organics are the most common pollutants in Kentucky rivers. Frequently identified sources include urban runoff, resource extraction, sewage treatment facilities, land disposal of wastes, and agricultural activities. Nutrients, priority organics, and PCBs have the most widespread impacts on lakes. Potential sources include resource extraction, agriculture, land disposal, and industrial and municipal discharges.

Declining trends in chloride concentrations and nutrients provide evidence of improving water quality in Kentucky's rivers and streams. Swimming advisories remain in effect on 86 miles of the North Fork Kentucky River and in several streams in the Upper Cumberland River basin. Since the period covered in the 2000 305(b) report, the Kentucky Department for Environmental Protection (DEP) changed to a risk-based approach to evaluate fish tissue data. In April 2000, the DEP issued a limited statewide fish consumption advisory because of mercury.

Ground Water Quality

Since 1995, the Kentucky Division of Water has sampled ground water at approximately 170 sites. Underground storage tanks, septic tanks, spills, urban runoff, mining activities, agricultural activities, and landfills have been identified as the major sources of ground water contamination in Kentucky. Pathogens are the major pollutant in ground water. The state is concerned about the lack of ground water data, absence of ground water regulations, and the potential for ground water pollution in karst regions of the state.

Programs To Restore Water Quality

Kentucky requires toxicity testing for 160 point source discharges and permits for stormwater outfalls and combined sewer overflows. The state's

Nonpoint Source Pollution Control Program oversees projects addressing education, training, enforcement, technical assistance, and evaluation of best management practices.

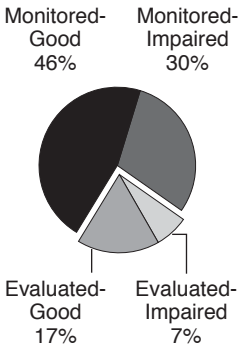
Programs To Assess Water Quality

Kentucky uses ambient water quality monitoring to assess conditions and detect long-term trends in the larger streams and rivers of the state. The state's ambient water quality network expanded from 44 to 71 fixed stations in May 1998. The ambient monitoring stations for each basin are sampled monthly during the year the unit is in the monitoring phase of the characterization cycle. During non-targeted years, sampling takes place bimonthly. The targeted basin for 1999 sampling was the Kentucky River Basin, which has 16 fixed stations. The state also conducts biological monitoring and fish tissue sampling. Approximately 25 water quality and 250 biological sites are sampled each year under the rotating watershed approach. A random survey of wadeable streams is also conducted to increase the miles assessed for aquatic life use. Seventeen lakes were sampled in the Kentucky basin to determine trophic status. Other data sources used by the state include discharge monitoring data, reports from the Kentucky Department of Fish and Wildlife Resources, and data from agencies such as the U.S. Geological Survey, the U.S. Army Corps of Engineers, the U.S. Forest Service, the Ohio River Valley Sanitation Commission, and the Lexington and Louisville local governments.

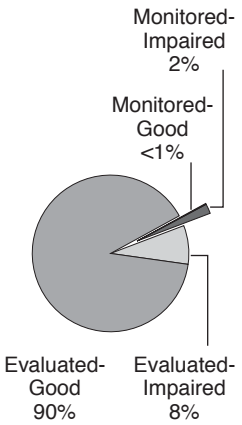
Data Quality

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. These pie charts show the proportions of waters assessed for Summary of Use Support that were based on each type of data.

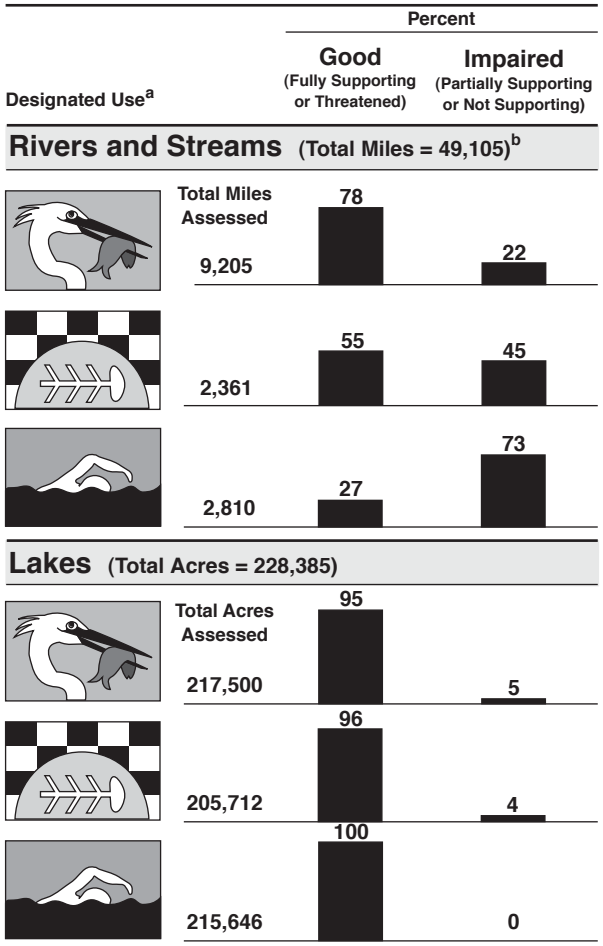
Rivers



Lakes



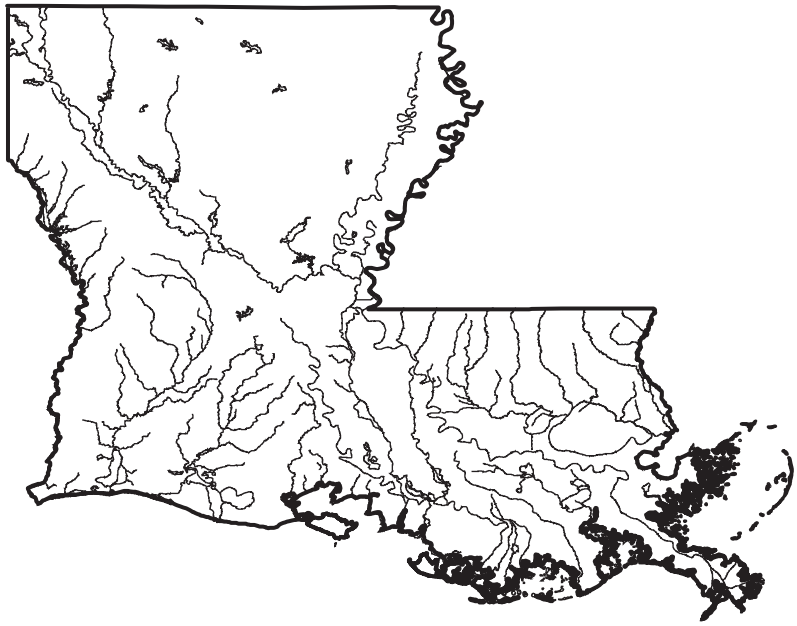
Individual Use Support in Kentucky



[a] A subset of Kentucky's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes nonperennial streams that dry up and do not flow all year.

Note: Figures may not add to 100% due to rounding.

Louisiana



Rivers
State Border

For a copy of the Louisiana 2000 305(b) report, contact:

Albert E. Hindrichs
Louisiana Department of Environmental Quality
Office of Water Resources
Watershed Support Division
P.O. Box 82215
Baton Rouge, LA 70884-2215
(225) 765-0511
e-mail: al_h@deq.state.la.us

The report is also available on the Internet at: **http://www.deq.state.la.us/planning/305b/**

Surface Water Quality

About 16% of the assessed stream miles, 8% of the assessed lake acres, 8% of the assessed estuarine square miles, and 10% of assessed wetland acres in Louisiana have good water quality that fully supports aquatic life. Metals are cited as the largest suspected cause of impairment to the state's rivers, lakes, estuaries, and wetlands. This is due to closer scrutiny of metals criteria for water quality and the increased sampling of fish for mercury contamination. Contamination of samples may also have led to a high number of metals criteria exceedences – a follow-up study in 1999 found that all but one of the waterbodies tested were below metals criteria levels. As a result of that study, waterbodies with metals criteria exceedences will be reevaluated before any TMDLs are developed.

Organic enrichment/low dissolved oxygen and pathogens are also cited as major causes of stream impairment. Major sources of pollution to streams include agricultural practices, municipal point sources, and natural sources. Primary causes of lake impairment include organic enrichment/low dissolved oxygen, salinity/total dissolved solids, and pathogens. Major sources of lake impairment include natural sources, hydrologic modification, and agriculture. A large number of pollution sources to lakes are unknown. In estuarine waters, major causes of impairment include pathogen indicators and nutrients. Major sources of estuarine impairment include municipal point sources and land disposal although many sources are unknown. Atmospheric deposition and unknown sources are the pathways for metals impairing water quality in wetlands.

Ground Water Quality

Water in the state's major aquifer systems continues to be of good quality. For this reporting cycle, EPA encouraged states to select an aquifer of hydrogeologic unit setting and discuss available data that best reflect the quality of the resources. Louisiana chose to discuss the baseline monitoring network for the Mississippi River Alluvial Aquifer. The data show that water from this aquifer is of good quality to meet public health standards with the exception of two wells where arsenic levels were elevated. However, this aquifer is only of fair quality when considering aesthetic factors such as taste, odor, and appearance.

Programs To Restore Water Quality

The water pollution controls employed by the Louisiana Department of Environmental

Quality (LDEQ) include municipal and industrial wastewater discharge permits, enforcement of permit requirements, review and certification of projects affecting water quality, and implementation of best management practices for nonpoint sources. In 1997, LDEQ was granted NPDES delegation by EPA. The LDEQ's Water Quality Management Division has implemented a nonpoint source management program and has been successful in implementing voluntary controls and education efforts. This has been done through coordination with other concerned agencies, such as the State Department of Agriculture and Forestry, the U.S. Natural Resource Conservation Service, and the Louisiana State University Cooperative Extension Service.

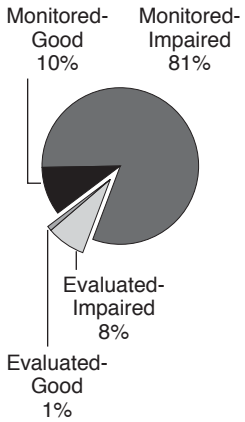
Programs To Assess Water Quality

Louisiana's surface water monitoring program consists of fixed-station long-term network sampling, intensive surveys, special studies, and wastewater discharge compliance sampling. The LDEQ has revised its fixed-station monitoring program to operate on a 5-year cycle with sample collections occurring in two or three basins each year and rotating from year to year. In addition, long-term trend sites on large rivers and Lake Pontchartrain will continue to be monitored statewide. While the state does not maintain a regular fish tissue monitoring program for organic compounds, fish are frequently sampled in response to complaints or as a result of enforcement actions. Louisiana does maintain an extensive fish tissue monitoring program to test for mercury contamination. This program samples approximately 100 locations per year.

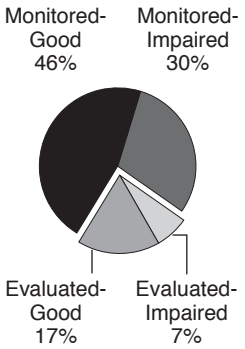
Data Quality

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. These pie charts show the proportions of waters assessed for Summary of Use Support that were based on each type of data.

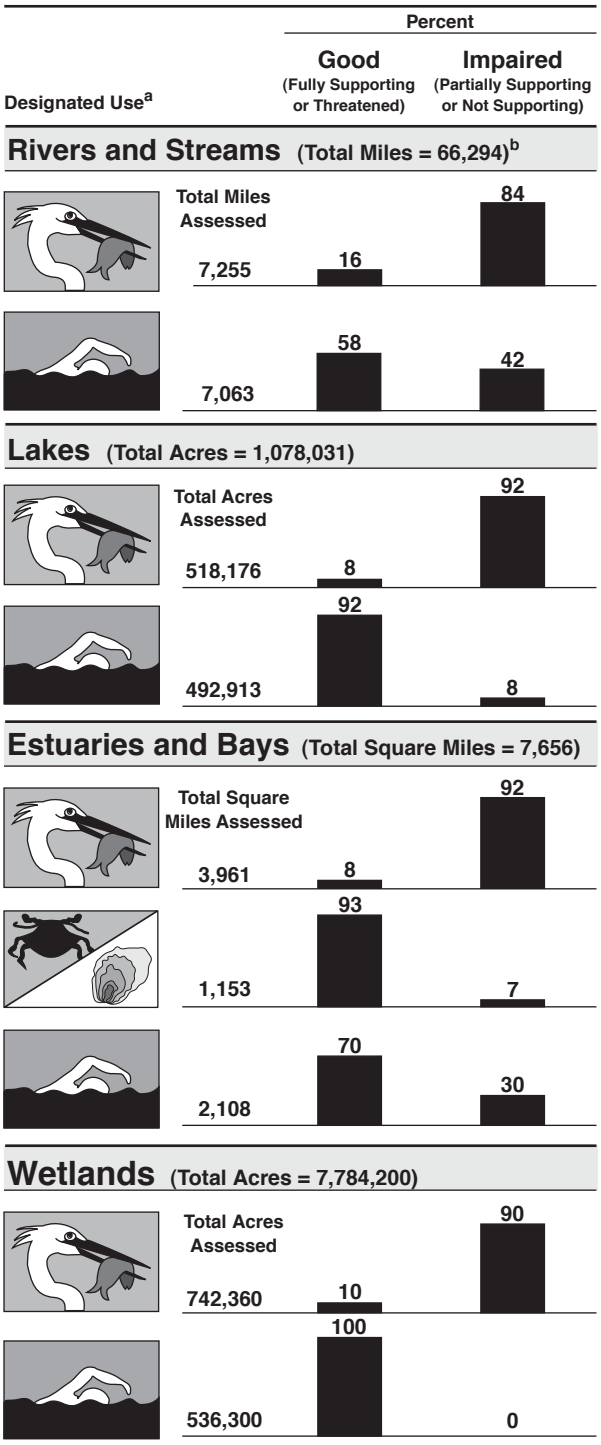
Rivers



Lakes



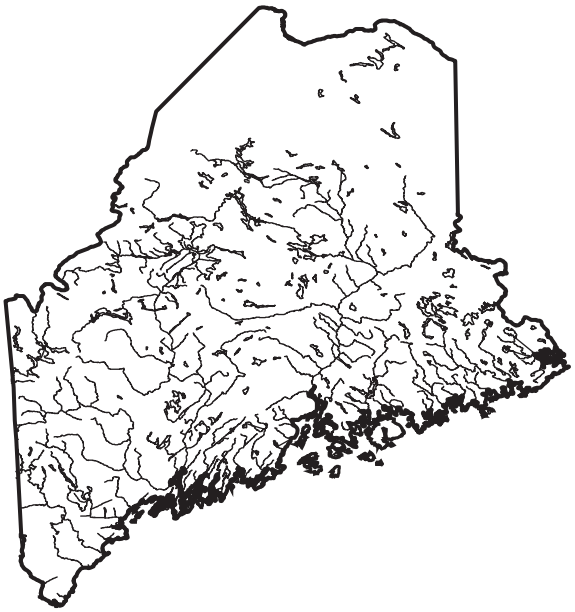
Individual Use Support in Louisiana



[a] A subset of Louisiana's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes nonperennial streams that dry up and do not flow all year.

Note: Figures may not add to 100% due to rounding.

Maine



Rivers
State Border

For a copy of the Maine 2000 305(b) report, contact:

Dave Courtemanch
Bureau of Land and Water Quality
Maine Department of Environmental Protection
State House Station 17
Augusta, ME 04333
(207) 287-7789
e-mail: dave.l.courtemanch@state.me.us

Surface Water Quality

Most of Maine's surface waters support aquatic life and swimming. Approximately 99% of all river miles support both of these uses. Industrial discharges, agriculture, and combined sewer overflows (CSOs) are the major sources of organic compounds and pathogens that contaminate streams and rivers. For lakes, 90% of the acres support aquatic life and 96% support swimming. Hydrologic modifications have impaired some lakes by altering water flow. Agriculture and urban runoff often result in excessive organic and nutrient enrichment that leads to oxygen depletion. Less than 1% of estuaries and bays are impaired for aquatic life and swimming. Although 100% of all Maine surface waters are included in this designated use summary, some waters were not assessed but were included into the estimates by assuming they fully supported these two uses.

All freshwater in Maine is classified as partially supporting fish consumption due to a statewide mercury advisory that limits fish consumption for a subpopulation of the state. Statewide consumption advisories are also in effect for coastal waters due to mercury and PCB contamination. About 11% of estuaries are impaired for shellfish consumption, primarily due to an advisory for lobster tomalley (an organ that concentrates dioxins). Maine currently does not have designated uses or criteria to assess wetlands.

Ground Water Quality

More than 60% of Maine households draw drinking water from ground water sources. A significant portion of Maine's ground water may be contaminated, particularly in unforested areas. Contaminants include arsenic, MTBE, petroleum compounds and halogenated solvents (from leaking storage tanks), and bacteria. Petroleum compounds and halogenated solvents contaminate ground water. Bacterial contamination occurs from injection of untreated wastewater into the subsurface. Ground water protection in Maine suffers from a lack of monitoring data, funding, and a centralized database. Although some ground water may be highly contaminated, none has been classified as undrinkable. Nonattainment areas have not been designated.

Programs To Restore Water Quality

The Department of Environmental Protection (DEP) is attempting to reduce point source pollution by seeking control of the NPDES program from EPA. In addition, new technology is being implemented to

reduce dioxin loadings from pulp and paper mills.

Although CSOs serve 48 Maine communities, the DEP is trying to eliminate these systems. Since the 1998 report, 41 additional miles of river have met the swimming criteria as a result of eliminating CSOs.

Maine requires that all underground tanks be registered and that inadequate tanks be removed. Since 1986, approximately 23,000 tanks have been removed. Maine also regulates installation of new underground storage tanks and closure of landfills to protect ground water resources from future leaks.

Maine is implementing measures to protect the state's fish populations. In 1999, the Federal Energy Regulatory Agency ordered the removal of Edwards Dam from the Kennebec River to improve water quality and increase fish runs. An aggressive management program was adopted to aid the Atlantic salmon, which may be listed as a threatened species. A future goal is to manage excessive water withdrawals that result in fish kills.

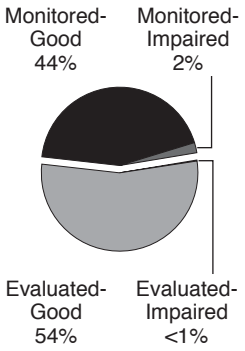
Programs To Assess Water Quality

Maine is divided into six major drainage basins. The DEP maintains a 5-year monitoring rotation. The ambient ground water quality monitoring network comprises 2,198 public water supplies. The Bureau of Remediation and Waste Management is responsible for sampling ground water to determine the impact of spills and landfills and to locate new water supplies when old supplies become contaminated from storage tanks. Volunteers collected 40% of the marine samples in 1999. Toxic pollutants are monitored by the Surface Water Ambient Toxics Program, the Dioxin Monitoring Program, Gulfwatch of the Gulf of Maine Council, and the Casco Bay Estuary Project.

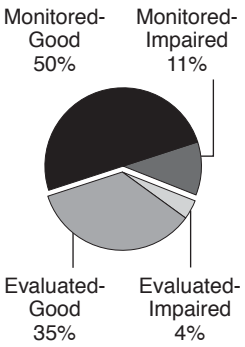
Data Quality

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. These pie charts show the proportions of waters assessed for Summary of Use Support that were based on each type of data.

Rivers



Lakes

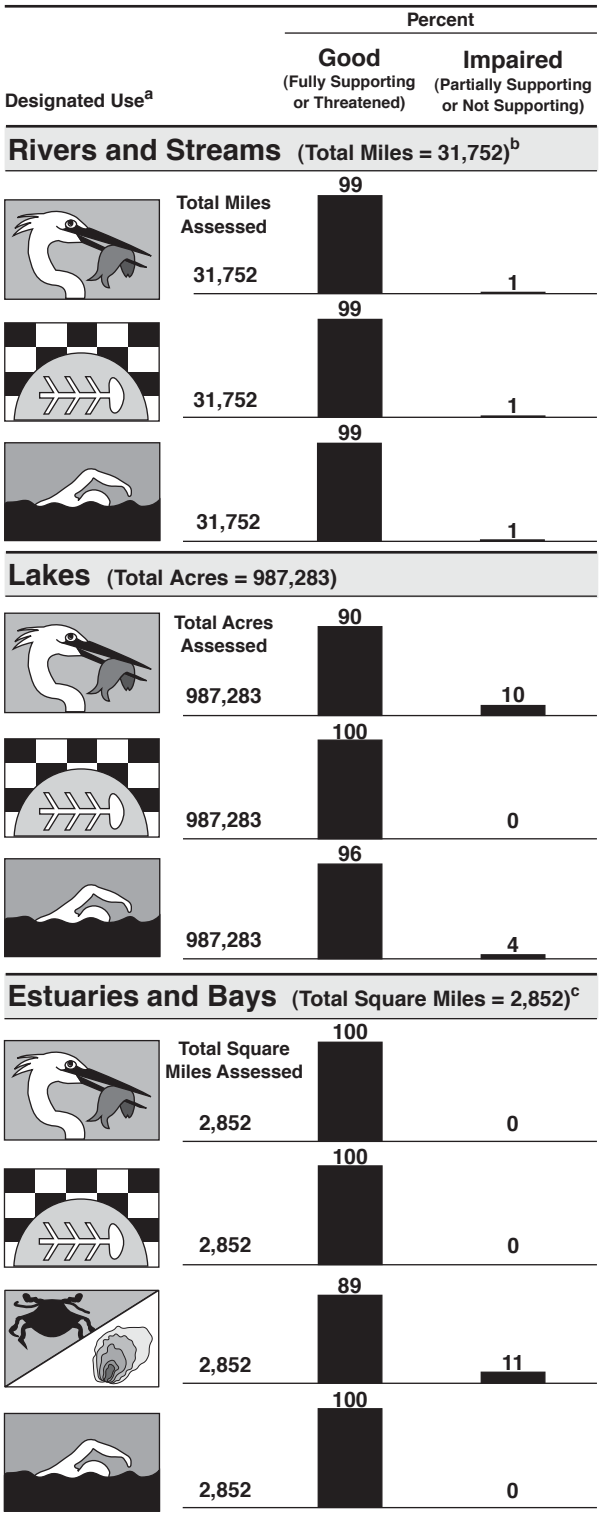


[a] A subset of Maine's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.

[b] Includes nonperennial streams that dry up and do not flow all year.

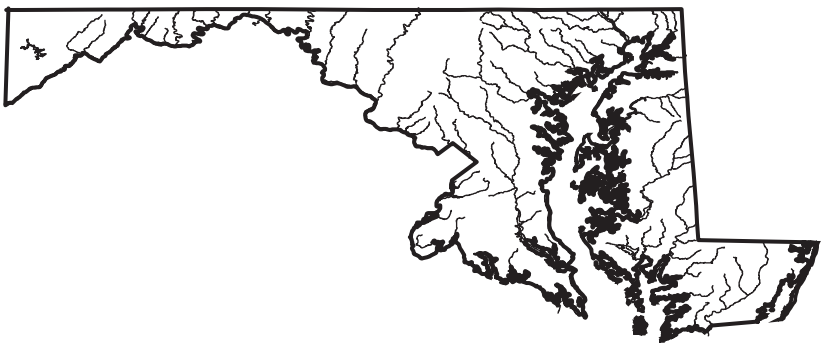
[c] Maine includes coastal shoreline waters in their assessment of estuarine waters.

Individual Use Support in Maine



Note: Figures may not add to 100% due to rounding

Maryland



Rivers
State Border

For a copy of the Maryland 2000 305(b) report, contact:

Sherm Garrison
Maryland Department of Natural Resources
Resource Assessment Service/TEA
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Annapolis, MD 21401
(410) 260-8624
e-mail: sgarrison@dnr.state.md.us

Surface Water Quality

Approximately 54% of Maryland's surveyed river and stream miles and 100% of the ocean shoreline support aquatic life. Siltation, loss of stream habitat, stream channelization, excess nutrients, or bacteria impact some rivers. In western Maryland, acidic waters from abandoned coal mines severely impact over 35 miles of streams. More than half of the assessed areas of lakes and estuaries in Maryland have impaired water quality that does not fully support aquatic life. Lake and estuarine waters are most often impaired due to low levels of oxygen that are a result of excess nutrients from agricultural runoff, urban runoff, atmospheric deposition, and natural nonpoint source runoff. Excess nutrients stimulate algal blooms and low dissolved oxygen levels that adversely affect aquatic life. Bacteria from agricultural, urban, and natural runoff and failing septic systems can affect shellfish harvesting and swimming in estuaries. PCBs and pesticides that accumulate in fish tissue impact a small percentage of lakes and estuaries. Harmful algal blooms and potentially toxic algae such as *Pfiesteria* are issues of concern, but currently do not negatively impact water quality in the state.

Maryland did not report on the condition of wetlands.

Ground Water Quality

Ground water is the only source of drinking water for the Eastern Shore and residents of southern Maryland. The state's ground water is generally of acceptable quality, although ground water is not used in metropolitan areas because of local contamination. Other localized problems with ground water quality are most common in the coastal plain and central and western areas of the state, where shallow aquifers and fractured bedrock cause the ground water supply to be more easily impacted by land use practices. Improper waste disposal, agricultural practices, and metals and acid mine drainage from abandoned coal mines all contribute to impairment of ground water quality in these areas. Across the state, extensive surveys for pesticides have revealed very little contamination. The state has been testing ground water for methyl tertiary butyl ether (MTBE) since 1995, and has found that 6.2% of public water suppliers detected the substance in their ground water sources.

Programs To Restore Water Quality

Maryland's General Assembly passed the Water Quality Improvement Act in 1998, a landmark piece of legislation designed to establish strategies for reducing nutrient levels in streams, rivers, and the Chesapeake Bay. Under this act, almost all farms in the state will be required to have nutrient management plans. The state will provide financial and technical assistance to farmers and offer cost-share assistance of up to 50% for farmers to have their nutrient management planes developed by a private consultant. The Agricultural Water Quality Cost-Share Program also pays up to 87.5% of the cost for farmers to install certain best management practices (BMPs) to protect water quality. As part of the Chesapeake Bay cleanup effort, Maryland has pledged to reforest 600 miles of streams and rivers by 2010. With federal and state funds, the Conservation Reserve Enhancement Program will help farmers create protective buffers of trees between farmland and streams in order to reduce harmful runoff to surface waters.

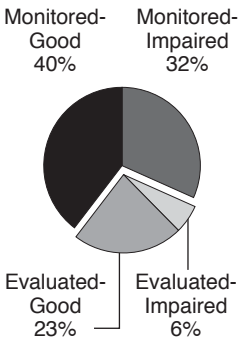
Programs To Assess Water Quality

Maryland's monitoring programs include a combination of water chemistry, compliance, aquatic resource, and habitat monitoring programs. In addition to traditional monitoring, Maryland also conducts an innovative randomized sampling program using a probabilistic approach to site selection, which has greatly increased the state's ability to assess more of its waters. Besides these programs, data from the Susquehanna River Basin Commission, local governments, and volunteer groups provide additional monitoring coverage in some areas of the state.

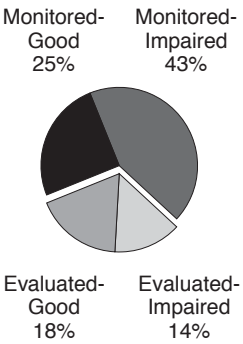
Data Quality

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. These pie charts show the proportions of waters assessed for Summary of Use Support that were based on each type of data.

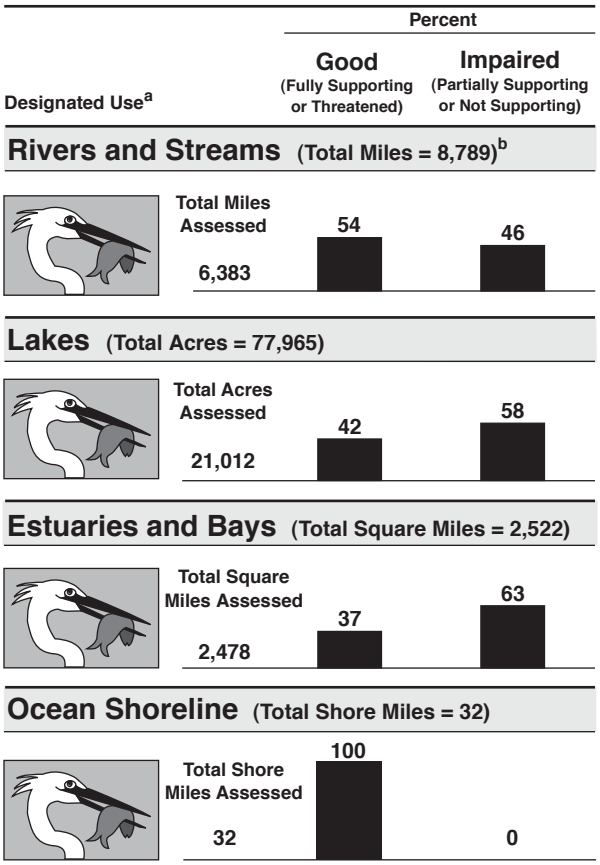
Rivers



Lakes



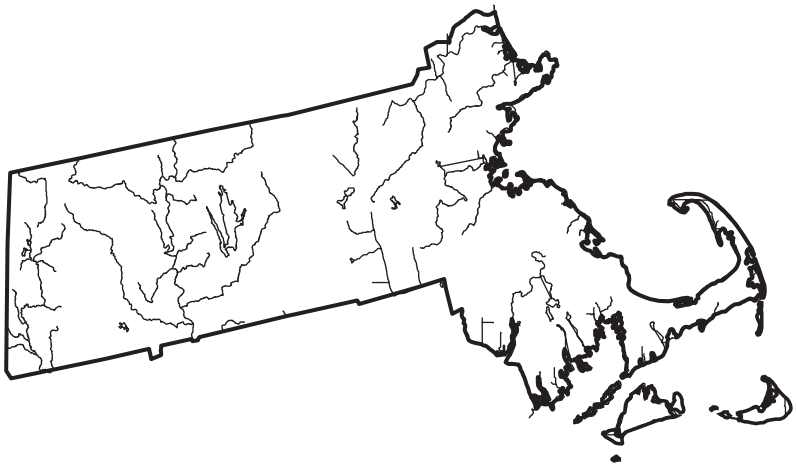
Individual Use Support in Maryland



[a] A subset of Maryland's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes nonperennial streams that dry up and do not flow all year.

Note: Figures may not add to 100% due to rounding.

Massachusetts



Rivers
State Border

For a copy of the Massachusetts 2000 305(b) report, contact:

Richard McVoy, Ph.D.
Massachusetts Department of Environmental Protection
Division of Watershed Management
627 Main Street, 2nd Floor
Worcester, MA 01608
(508) 767-2877
e-mail: Richard.Mcvoy@state.ma.us

Surface Water Quality

Nearly half of the 1,344 river miles assessed by Massachusetts now fully support aquatic life. Over 30% of assessed miles fully support swimming. Swimming and boating in most of these waters 25 years ago would have been unthinkable. The state has seen marked success in efforts to reduce water quality impairment from municipal and industrial point sources. The completion of river cleanup will require targeting primarily nonpoint source pollution from stormwater runoff and combined sewer overflows (CSOs), and toxic contamination in sediments (largely historical).

Of the lake acres assessed, 49% support aquatic life and 69% support swimming. The causes of nonsupport include the presence of nonnative plants and the proliferation of aquatic plants. Nonpoint sources such as stormwater runoff and onsite wastewater systems may promote problems related to eutrophication. For lakes, 99% of the water assessed for fish consumption was impaired due to metals, PCBs, and dioxins that accumulate in fish tissue. Most assessments of Massachusetts's bays and estuaries were targeted toward areas of known pollution. The majority of estuarine area assessed fully supported swimming (69%) and aquatic life (52%). All 9.5 estuarine acres assessed for fish consumption were impaired for that use. Municipal point sources and other unknown sources are responsible for water quality impairment of estuaries.

Ground Water Quality

Protection of ground water from point sources of pollution is achieved through a Ground Water Discharge Permit Program. The permits require varying degrees of wastewater treatment based on the quality and use of the receiving ground water. However, additional controls are needed to eliminate contamination from septic systems and sludge disposal. Contamination of ground water supplies used for drinking water has been a problem in densely populated areas where septic systems are used. Other contaminants to ground water include metals, chlorides, bacteria, inorganic chemicals, radiation, nutrients, and pesticides.

Programs To Restore Water Quality

Although construction of wastewater treatment plants has significantly improved water quality, $4 billion worth of wastewater needs remain unfunded. The Nonpoint

Source Management Plan was updated in 1999 and is being implemented on a prioritized watershed basis to prevent, control, and reduce pollution from nonpoint sources. This watershed-based program uses state and federal Section 319 funds to provide technical assistance, regulatory enforcement, training, and watershed restoration efforts to combat nonpoint sources. The state has also adopted a CSO policy that provides engineering targets for cleanup and abatement projects.

Programs To Assess Water Quality

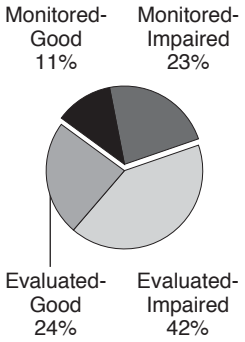
The Department of Environmental Protection (DEP) adopted a watershed planning approach to coordinate stream monitoring with wastewater discharge permitting, water withdrawal permitting, and nonpoint source control on a 5-year rotating schedule. The DEP is also adapting its monitoring strategies to provide information on nonpoint source pollution. For example, DEP will focus more on wet weather sampling and biological monitoring and less on chemical monitoring during dry periods in order to gain a more complete understanding of the integrity of water resources.

Massachusetts is also working with EPA under the 1999 Environmental Performance Partnership Agreement to expand the current monitoring and assessment program to include more resources for data collection, identification of impaired waters, and development of TMDLs. The state DEP relies largely on other organizations at the federal, state, and local levels (such as the Division of Marine Fisheries, the state Water Resources Authority, and the Buzzards Bay Program) to collect monitoring data for coastal areas.

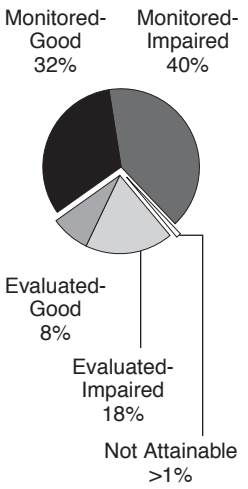
Data Quality

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. These pie charts show the proportions of waters assessed for Summary of Use Support that were based on each type of data.

Rivers

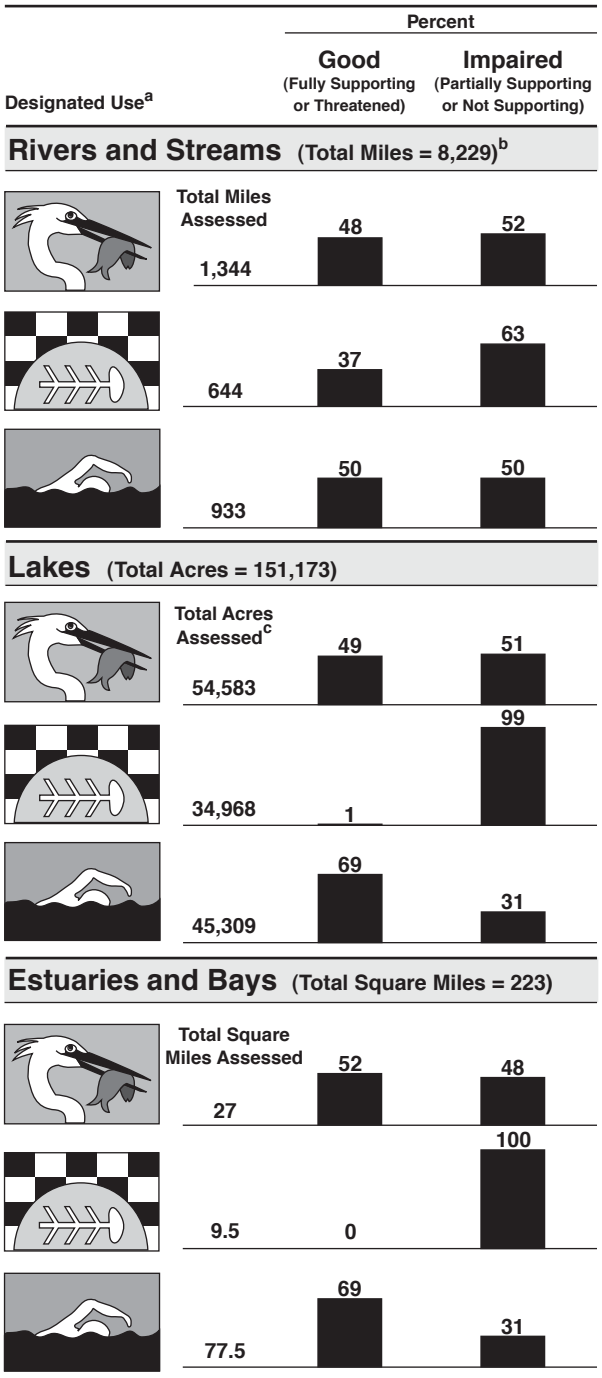


Lakes*



* Excludes the Quabbin Reservoir (25,000 acres).

Individual Use Support in Massachusetts



[a] A subset of Massachusetts's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes nonperennial streams that dry up and do not flow all year.
[c] Includes the Quabbin Reservoir (25,000 acres).

Note: Figures may not add to 100% due to rounding.

Michigan

For a copy of the Michigan 2000 305(b) report, contact:

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A copy of the report may be downloaded from the Internet at: **http://www.deq.state.mi.us/documents/deq-swq-gleas-305b2000Report.doc**

Surface Water Quality

The majority of Michigan's assessed river miles support designated uses (76%). PCB concentrations in fish are the major cause of nonsupport in rivers, followed by sediments, pathogens, mercury, and nutrients. Leading sources of pollution include unspecified nonpoint sources, agriculture, contaminated sediments, municipal and industrial discharges, combined sewer overflows (CSOs), and urban runoff. Water quality in Michigan's inland lakes is generally good; however, a general fish consumption advisory for all inland lakes is in effect due to widespread mercury contamination. Excessive nutrient loadings from sewage, fertilizers, detergents, and runoff cause nuisance plant and algal growth in some lakes.

Four of the five Great Lakes border Michigan. In general, Lakes Superior, Michigan, and Huron have good water quality except for a few degraded locations near their shores. Although water quality in the lakes has been greatly improved by reduced point source pollution, CSOs and urban stormwater runoff continue to cause bacterial contamination. All of the Great Lakes are under a fish consumption advisory due to contamination from PCBs, chlordane, and/or dioxin.

Michigan does not have a program that routinely monitors wetlands.

Ground Water Quality

Most of the ground water is of excellent quality, but certain aquifers have been contaminated with toxic materials leaking from waste disposal sites, businesses, or government facilities. The Michigan Ground Water Protection Strategy and Implementation Plan identifies specific program initiatives, schedules, and agency responsibilities for protecting the state's ground water resources.

Programs To Restore Water Quality

Major point source reductions in phosphorus and organic materials have been obtained through the NPDES program and legislation that requires detergents sold in Michigan to contain <0.5% phosphorous by weight. However, expanded efforts are needed to control nonpoint source pollution, eliminate CSOs, and reduce toxic contamination.

The Clean Michigan Initiative controls $50 million to fund programs that implement watershed management plans or address nonpoint sources of pollution. Section 319 grants are used to provide local governments with educational and technical assistance on watershed management. Michigan is also trying to implement a Water Quality Trad-

ing Program. This program would reduce costs of the TMDL Program and provide economic incentives for reduced loadings.

Michigan may attempt to remove contaminated sediments from White, Muskegon, and Deer Lakes. Contaminated sediments and fish were removed from Newburgh Lake in 1998. After the contaminated species were removed, the lake was repopulated with healthy fish. Although the effort was completed in 1999, its effectiveness has yet to be documented.

Programs To Assess Water Quality

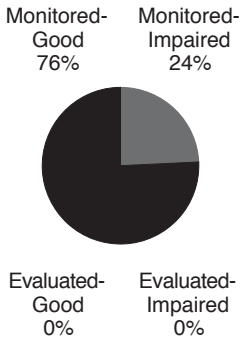
Michigan employs a 5-year watershed monitoring program to determine if state waters meet water quality standards. Each year the state focuses on 9 to 19 of the 57 major watersheds in Michigan. The state's surface water monitoring strategy was recently updated, and additional funding of $500,000 per year was provided to bolster both local and state monitoring efforts. The enhanced program consists of eight interrelated monitoring elements: fish contaminants, water chemistry, sediment chemistry, biological integrity, physical habitat, wildlife contaminants, inland lake quality and eutrophication, and stream flow. Michigan supplements water quality monitoring through volunteer programs.

Michigan is currently developing an inventory of all the wetlands in the state. The Department of Environmental Quality developed an Index of Biotic Integrity that may be used to assess coastal wetlands in the future.

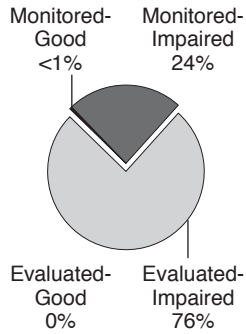
Data Quality

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. These pie charts show the proportions of waters assessed for Summary of Use Support that were based on each type of data.

Rivers



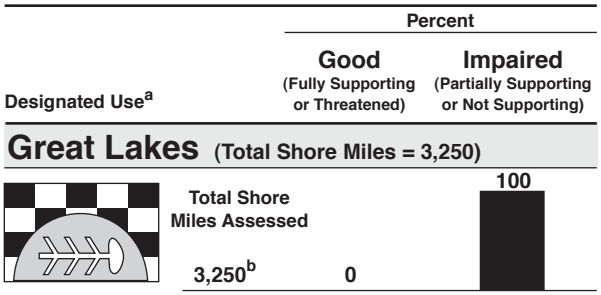
Lakes*



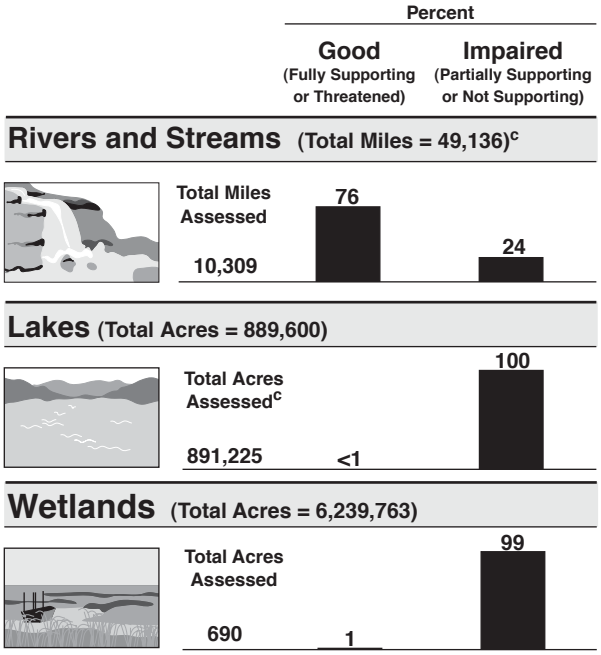
* Michigan considers all lakes impaired due to a statewide fish consumption advisory.

Note: Figures may not add to 100% due to rounding.

Individual Use Support in Michigan

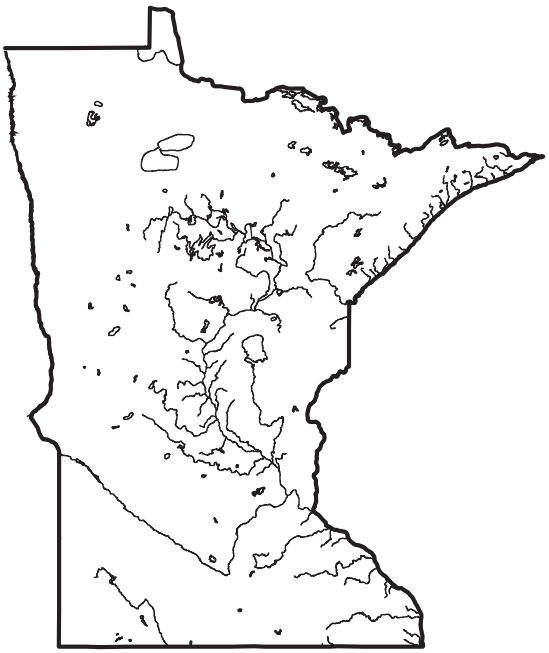


Summary of Use Support in Michigan



[a] A subset of Michigan's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes the effects of statewide fish advisories in assessments of lake waters.
[c] Includes nonperennial streams that dry up and do not flow all year.

Minnesota



Rivers
State Border

For a copy of the Minnesota 2000 305(b) report, contact:

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Surface Water Quality

As part of its basin management approach, Minnesota updated assessments for three basins for the 2000 305(b) report—the Cedar and Des Moines, Missouri, and Rainy River basins. Statewide, about 50% of the assessed river miles have good quality that supports aquatic life, and 26% of the assessed river miles and 68% of the assessed lake acres support primary contact. The most common problems identified in rivers are turbidity, pathogens, low dissolved oxygen, suspended solids, and nutrients. Nonpoint sources, such as land disposal and runoff, generate most of the pollution in rivers. Nutrients are the primary cause of pollution in lakes. Nonpoint sources contribute most of these nutrients. Minnesota's 272 miles of Lake Superior shoreline have consumption advisories for certain species and size classes of fish. Most of the pollution from point sources has been controlled, but atmospheric deposition and runoff still degrade water quality, particularly in agricultural regions. Each of the three river basins addressed in the 2000 report contain rivers and lakes with fish advisories due to elevated mercury and PCBs.

Ground Water Quality

Ground water supplies the drinking water needs for 70% of Minnesota's population. The Minnesota Pollution Control Agency's (MPCA) Ground Water Monitoring and Assessment Program evaluates the quality of ground water. The program published several major reports in 1998, including statewide assessments of over 100 ground water constituents, including nitrates. The program has now shifted its emphasis to problem investigation and effectiveness monitoring at local and small-regional scales.

Programs To Restore Water Quality

Minnesota will target specific waterbodies and watersheds for protection, restoration, or monitoring based on forthcoming Basin Information Documents (BIDs). These documents will include the 305(b) assessments as well as information on various water resource issues. The BIDs will also include GIS maps depicting the locations of permitted feedlots and relative numbers of animal units per feedlot by major watershed. In addition, Minnesota has identified specific contaminants that significantly contribute to water quality degradation. Excessive inputs of nitrogen in some river basins have contributed to the hypoxic zone in the Gulf of Mexico. Atmospheric deposition of mercury has resulted in widespread contamination of waterbodies.

Phosphorous from wastewater discharges and runoff has led to eutrophication in some surface waters. The MPCA is developing plans to reduce each of these contaminants.

Programs To Assess Water Quality

In the 2000 assessments, in addition to monitoring data collected by MPCA, data from the Big Fork River Watch, U.S. Geological Survey, South Dakota Environmental Natural Resources and Clean Water Partnership projects were used. Starting with the year 2000, Minnesota will only use monitored data in their surface water assessments.

Minnesota is developing a random sampling approach to select monitoring sites within river basins. Monitoring will focus on flow, basic measures of water quality, and biological measures. Criteria to assess stream health are being developed from the first phase of monitoring. Minnesota also maintains an Ambient Stream Monitoring Program with 82 sampling stations. Approximately half of these stations are sampled each year. The state also performs fish tissue sampling and lake assessments, and supports citizen monitoring programs.

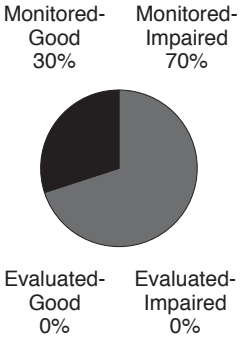
The MPCA continues to be involved with field investigations into the cause of frog malformations. Partnerships with the National Institute of Environmental Health Sciences and the USGS Water Resources Division and Biological Resources Division have been useful in carrying out teratogenic assays, histopathological studies, and water flow patterns at study sites.

The state is developing methods and criteria to assess depressional and riparian wetlands. A pilot effort is underway to develop a citizen wetland assessment program in cooperation with selected local governments.

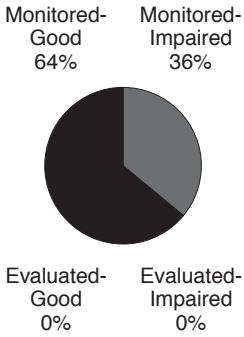
Data Quality*

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. These pie charts show the proportions of waters assessed for Summary of Use Support that were based on each type of data.

Rivers



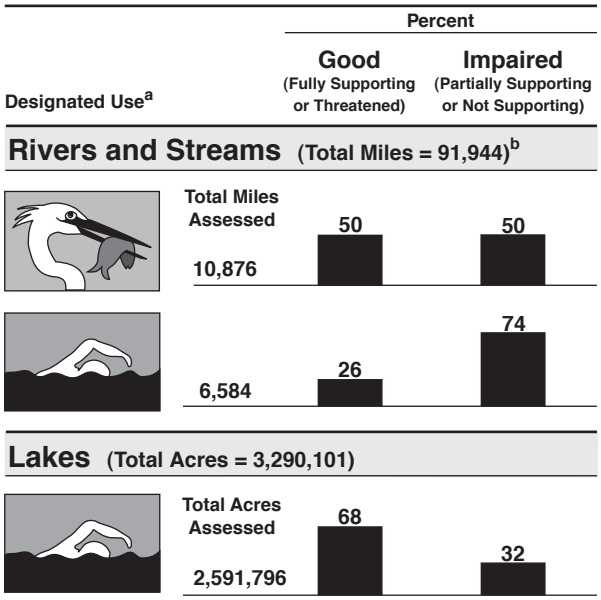
Lakes



* Minnesota does not use evaluated data for assessment purposes.

Note: Figures may not add to 100% due to rounding.

Individual Use Support in Minnesota



[a] A subset of Minnesota's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes nonperennial streams that dry up and do not flow all year.

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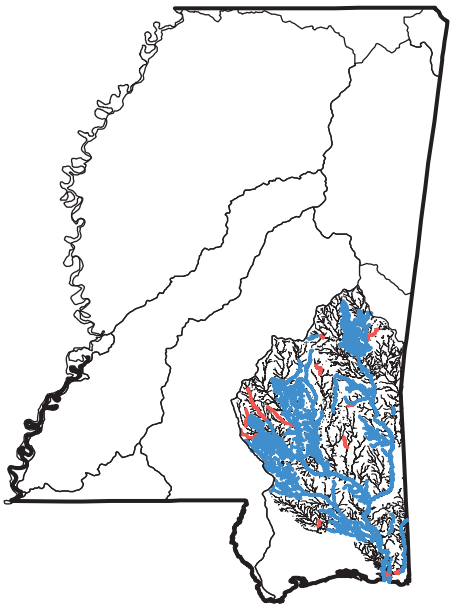
Mississippi



Aquatic Life Use Support
- Good
- Impaired
- Indeterminate
- Not Assessed
- State Border

Mississippi uses a rotating basin approach. The Pascagoula Basin was most recently assessed.

For a copy of the Mississippi 2000 305(b) report, contact:

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Water Quality Assessment Branch
Office of Pollution Control,
Surface Water Division
Mississippi Department of
Environmental Quality
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(601) 961-5150
e-mail: Natalie_Guedon@deq.state.ms.us

A copy of the report may be downloaded from: **http://www.deq.state.ms.us/newweb/homepages.nsf**

Surface Water Quality

Surface waters in Mississippi are used for drinking, fishing, harvesting shellfish, processing food, and supporting aquatic life and recreational activities. Sources of nonpoint pollution, such as urban runoff and failing septic systems, are responsible for the majority of impaired surface waters. Of the river miles assessed, 72% have fair to poor ratings for aquatic life and 88% do not fully support swimming. For the 2000 report, most river assessments were based on evaluated data from areas of known or suspected contamination. Sediment, turbidity, and pesticides are the primary sources of contamination in rivers. DDT contamination of fish in the Mississippi Delta is also a concern, although concentrations in fish have decreased tenfold since 1972 when DDT use was banned. Most assessed lake acres support aquatic life (97%), swimming (100%), and fish consumption (90%). Organic enrichment, pesticides, and pathogens are the primary causes of contamination when impairment occurs. Most of the assessed bays and estuaries support aquatic life (90%), primary contact (98%), and fish consumption (100%). Metals and nutrients are the most common pollutants impacting bays and estuaries.

In the past, coastal waters suffered from elevated bacterial counts due to wastewater discharge from private and public sewage systems. This problem has been partially alleviated by the construction of regional wastewater treatment facilities, although expansions are needed to meet demand. Currently, the majority of assessed coastal waters support aquatic life (100%), swimming (82%), and fish consumption (100%).

Mississippi did not report on the condition of its wetlands. Some wetlands have been lost due to the conversion of land for agriculture and residential and commercial development.

Ground Water Quality

Ground water in Mississippi is of good quality because clay layers prevent widespread contamination in most aquifers. When contamination does occur, the most frequent sources are petroleum compounds from leaking underground storage tanks, bacteria and viruses from failing septic systems, and brine from petroleum exploration and production. Few data exist for domestic wells.

Programs To Restore Water Quality

Mississippi adopted comprehensive regulations for conducting Section 401 Water Quality Certifications, enabling the state to review federal licenses and permits for

compliance with state water quality standards. Mississippi also expanded its definition of state waters to include wetlands and ground waters. Ground water protection efforts are focused on the Wellhead Protection Program, which addresses the compatibility between water quality databases and geographic information systems. The immediate goals of the Department of Environmental Quality (DEQ) are to establish sufficient wastewater collection and treatment along the coast and address nonpoint source pollution problems. Installing a weir, closing four distributaries, and enlarging the channel addressed the problem of low flow in the Pearl River. The increased flow rate should help to preserve the natural mussel habitat.

Programs To Assess Water Quality

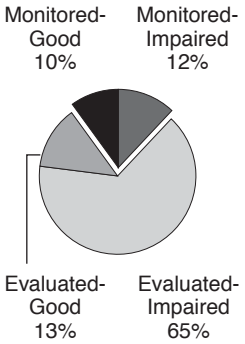
Mississippi has adopted a basin rotation approach to water quality monitoring and assessment. The state is divided into five basin management groups. Targeted waters in one basin management group are assessed each year. Under this plan, comprehensive statewide assessments will be completed every 5 years. The first of these annual assessments, of the Pascagoula River Basin, was reported in the 2000 305(b) report. Mississippi routinely monitors 143 stations per year.

Mississippi is developing an Index of Biological Integrity to ensure a reliable and scientifically defensible biological assessment methodology for wadeable streams and rivers. This effort involved sampling at more than 475 streams. These data will be used to reevaluate the 303(d) listing of impaired waters for streams that were listed without site-specific monitoring data.

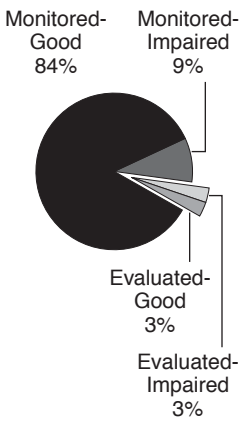
Data Quality

States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. These pie charts show the proportions of waters assessed for Summary of Use Support that were based on each type of data.

Rivers

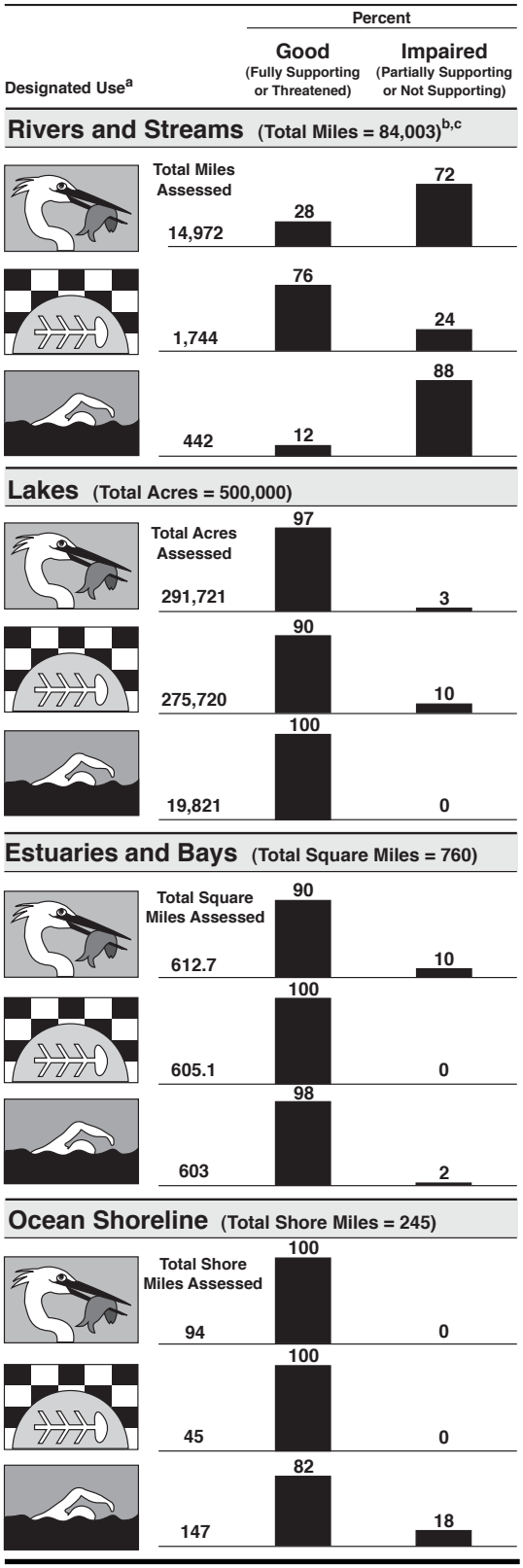


Lakes



[a] A subset of Mississippi's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes nonperennial streams that dry up and do not flow all year.
[c] Mississippi notes its assessments are biased due to the state's extensive use of evaluated nonpoint source assessment data, which focused on problem areas.

Individual Use Support in Mississippi



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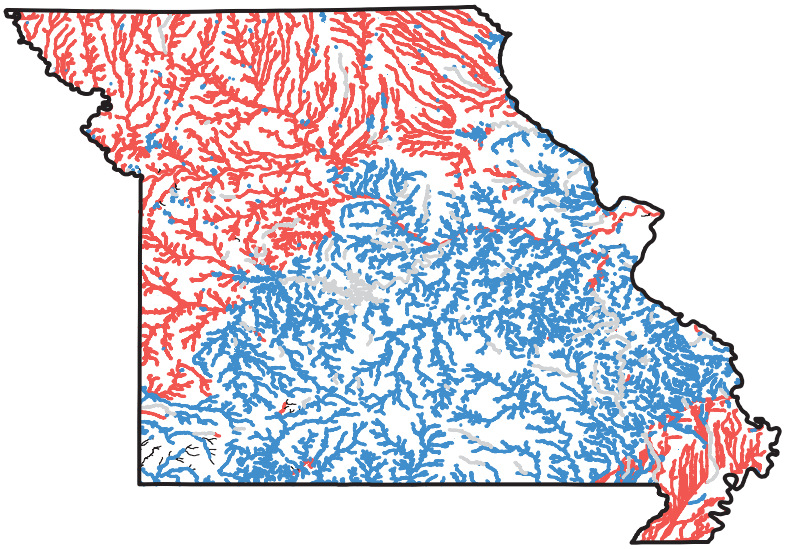
Missouri



Aquatic Life Use Support
- Good
- Impaired
- Indeterminate
- Not Assessed
- State Border

For a copy of the Missouri 2000 305(b) report, contact:

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Missouri Department of Natural Resources
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Surface Water Quality

Almost half of Missouri's rivers and streams have impaired aquatic habitat due to a combination of factors including natural geology, climate, and agricultural land use. As a result of these factors, many streams suffer from low water volume, organic enrichment, channelization, and excessive siltation. In lakes, low dissolved oxygen from upstream dam releases, pesticides, and metals are the most common impairments. Agriculture, hydrologic modification, contaminated sediments, and urban runoff are the leading sources of lake degradation.

The Missouri Department of Health advises that the public restrict consumption of bottom-feeding fish (such as catfish, carp, and suckers) from urban waters and non-Ozark streams or lakes to 1 pound per week due to concentrations of chlordane, PCBs, and other contaminants in these fish. Mercury levels in fish in Arkansas and Missouri appear to be increasing over time. Atmospheric deposition is suspected as a major cause.

Missouri did not report on the condition of wetlands.

Ground Water Quality

In general, ground water quantity and quality increases from north to south and west to east. Deep ground water aquifers in northern and western Missouri are not suitable for drinking water due to high concentrations of minerals from natural sources. Nitrates, bacteria, and pesticides also contaminate wells in this region. It is estimated that 30% of the private wells occasionally exceed drinking water standards for nitrates, 30% for bacteria, and about 5% for pesticides. Statewide, the highest priority concerns include ground water contamination from septic tanks, pesticide and fertilizer applications, and underground storage tanks.

Programs To Restore Water Quality

The Missouri Clean Water Commission has revised its regulations to bring confined animal operations into the point source permit program consistent with federal requirements. Nonpoint source control efforts have been greatly expanded over the past few years. A dedicated state sales tax provides funds for watershed-level soil erosion control programs.

Programs To Assess Water Quality

In 1998, a task force from state and federal agencies outlined a statewide aquatic resources monitoring plan. Missouri's water quality monitoring strategy features fixed-station chemical ambient monitoring sites, short-term intensive chemical monitoring studies, a rapid visual/aquatic invertebrate assessment program, and detailed biological sampling in support of development of biocriteria. Missouri now has in place programs that register and inspect underground storage tanks, programs for wellhead protection, sealing of abandoned wells, and closing of hazardous waste sites.

Missouri requires toxicity testing of effluents for all major dischargers; has a fish tissue monitoring program for selected metals, pesticides and PCBs; and monitors river sediments for toxic metals and organics and sediment pore water for toxicity. Several nonpoint source watershed projects related to management of manure or farm chemicals have their own monitoring programs.

Data Quality

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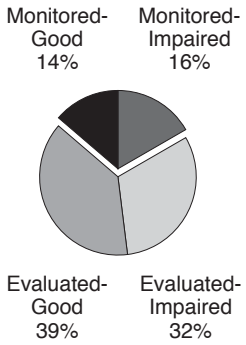
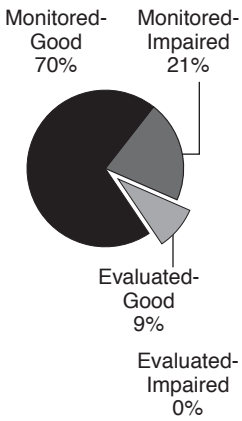
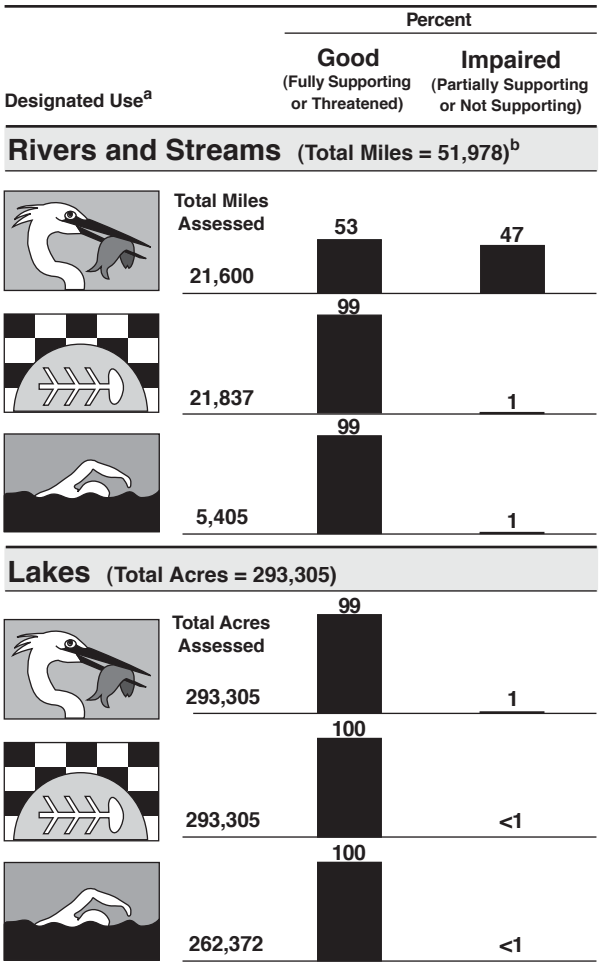
Rivers



Lakes



Individual Use Support in Missouri



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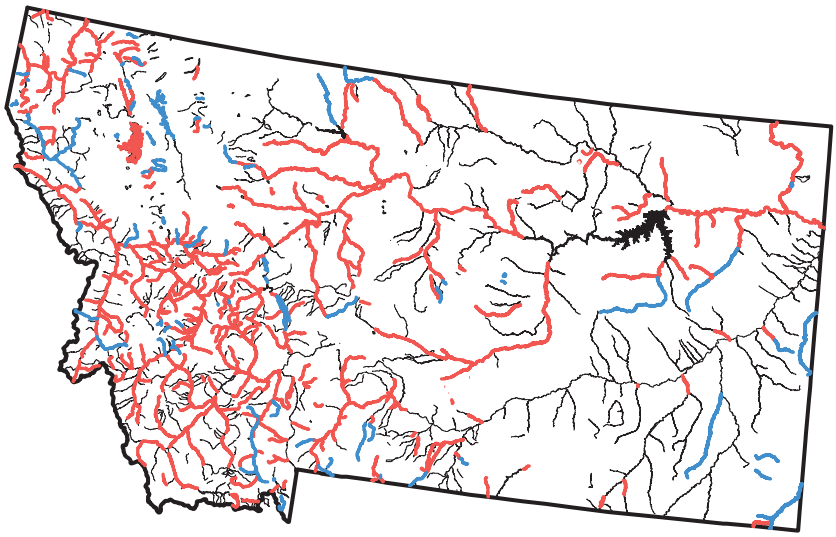
Montana



Aquatic Life Use Support
- Good
- Impaired
- Indeterminate
- Not Assessed
- State Border

For information about Montana's assessment program or 305(b) reporting process, contact:

Robert L. Barry
Montana Department of
Environmental Quality
2209 Phoenix Building
Helena, MT 59601
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e-mail: rbarry@state.mt.us

Montana's 2000 assessment data may be accessed in an interactive format on the Internet at: **http://nris.state.mt.us/wis/environet/**

Surface Water Quality

Most perennial streams, major lakes, and reservoirs are included in Montana's assessment database, but the coverage of intermittent streams and small, nonpublic lakes is limited. Of the river miles assessed, 18% fully support aquatic life and 51% fully support swimming. The primary causes of river impairment include flow and other habitat alterations, siltation, metals, and nutrients. The majority of lakes and reservoirs are impaired for aquatic life (69%) and swimming (60%). The main causes of impairment in lakes are metals, noxious plants, nutrients, siltation, and organic enrichment. Agriculture and resource extraction are the major sources of these impairments. Montana did not report on the condition of its wetlands.

Ground Water Quality

More than 50% of the state's population utilizes ground water sources for their domestic water supply. Ground water is plentiful and the quality is generally excellent, but Montana's aquifers are vulnerable to pollution from increased human activity associated with population growth.

Programs To Restore Water Quality

The Department of Environmental Quality (DEQ) administers several programs to restore surface water quality. Point source discharges are limited under the Montana Pollutant Discharge Elimination System (MPDES) permit program and Nondegradation Rules. The Source Water Protection Program helps identify the causes and sources of contamination in public water supplies, assess susceptibility to further contamination, implement protection programs, and communicate information to the public. The Water Pollution Control State Revolving Fund Loan Program is available to fund water pollution control projects. The DEQ is currently evaluating wetlands to determine their restoration and management needs.

The Ground Water Remediation Program is responsible for contaminated ground water sites that are not addressed by other state authorities. The Montana Ground Water Pollution Control System administers permits for sources that may pollute ground water (e.g., tailings and waste storage ponds) to minimize future contamination.

Programs To Assess Water Quality

Montana law mandates that "sufficient credible data" be used to

designate waters as threatened or impaired. During the 2000 assessment cycle, Montana developed a new methodology to comply with this law. The revised protocol uses physical, chemical, and biological factors to determine when water quality standards are being violated. Waters that were designated as impaired using the previous methodology with insufficient data have been removed from the threatened and impaired list and are prioritized for future monitoring. Ambient water quality monitoring is also used to supplement monitoring data and provide unbiased information on statewide water quality and trends.

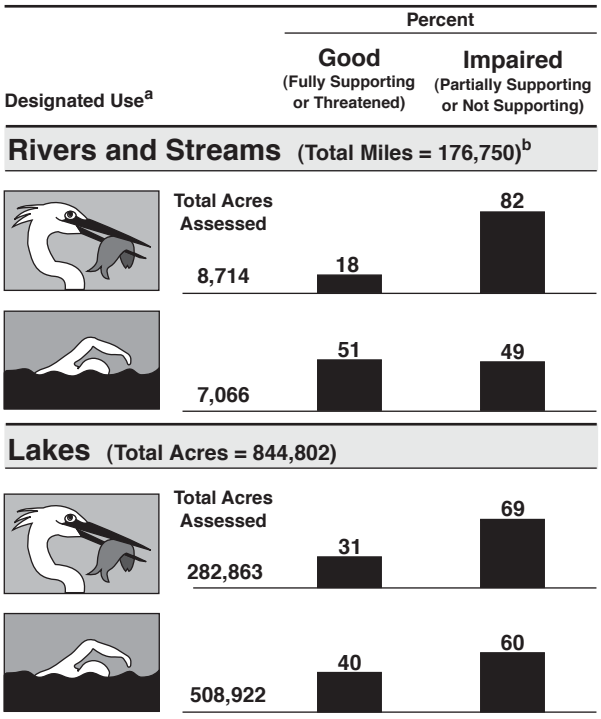
The Montana Bureau of Mines and Geology is primarily responsible for characterizing ground water quality. The Ground Water Monitoring Program provides a long-term record of ground water quality and levels. The statewide monitoring network currently contains about 830 wells that are monitored monthly or quarterly. The Ground Water Characterization Program maps the distribution, water quality, and physical properties of the state's aquifers. Ground water from aquifers in 28 areas will be characterized for availability, quality, vulnerability, and interaction with surface water. The USGS also monitors water level at 10 sites under a cooperative agreement.

All of Montana's assessment information is available on the Internet. Surface water assessments are maintained in the EnviroNet database. Ground water data are contained in the Ground Water Information Center (GWIC) database. Both systems are interactive and can be used to view individual or summary reports on water quality.

Data Quality

Due to recent changes in Montana's assessment program, a display of monitored and evaluated information is not an accurate representation of water quality in the state.

Individual Use Support in Montana



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