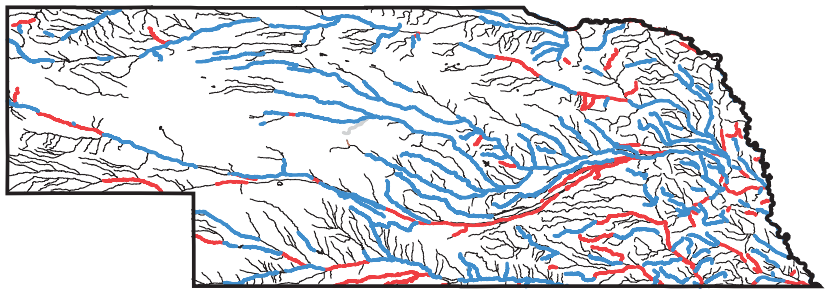
Nebraska



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

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

Michael Callam
Nebraska DEQ
Water Quality Division,
Surface Water Section
Suite 400, The Atrium
1200 N Street
P.O. Box 98922
Lincoln, NE 68509-8922
(402) 471-4249
e-mail: michael.callam@ndeq.state.ne.us

Surface Water Quality

Agriculture is the most widespread source of water quality problems in Nebraska, but urban runoff is also a concern. Agricultural runoff introduces excess sedimentation, bacteria, suspended solids, pesticides, and nutrients into surface waters. Municipal and industrial facilities may contribute ammonia, bacteria, and metals. Channelization and hydrologic modifications have impacted aquatic life in Nebraska streams by reducing the diversity and availability of habitat. Monitoring has revealed that current water quality criteria for the herbicide atrazine is being exceeded.

Nutrient enrichment and sedimentation were the most common water quality problems identified in lakes, followed by siltation, suspended solids, and nutrients. Sources of pollution in lakes include agriculture, construction, and urban runoff. Nebraska also has 35 fish consumption advisories in effect. The contaminants of concern include methylmercury, dieldrin, and PCBs.

Ground Water Quality

Although natural ground water quality in Nebraska is good, hundreds of individual cases of ground water contamination have been documented. Major sources of ground water contamination include agricultural activities, industrial facilities, leaking underground storage tanks, oil or hazardous substance spills, solid waste landfills, wastewater lagoons, brine disposal pits, and septic systems.

Programs To Restore Water Quality

Nebraska's Nonpoint Source (NPS) Management Program concentrates on protecting ground and surface water resources by performing watershed assessments and promoting implementation projects. Nebraska funded 19 major NPS-related projects under Section 319 of the federal Clean Water Act during 1998-1999.

Nebraska revised wetland water quality standards to protect beneficial uses of aquatic life, aesthetics, wildlife, and agricultural water supply. The state also protects wetlands with the water quality certification program and water quality monitoring.

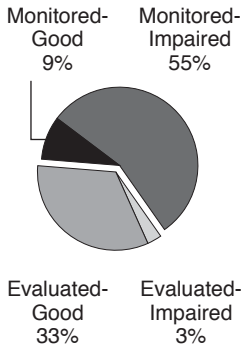
Programs To Assess Water Quality

The state's NPS Management Program cannot be effective without monitoring information to identify and prioritize waters impacted by NPS, develop NPS control plans, and evaluate the effectiveness of implemented best management practices. In response to this need, Nebraska developed an NPS surface water quality monitoring strategy that uses a rotating basin approach. In 1998, the Loup, Niobrara, and White/Hat Basins were assessed. In 1999, the Lower Platte and Nemaha Basins were assessed.

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

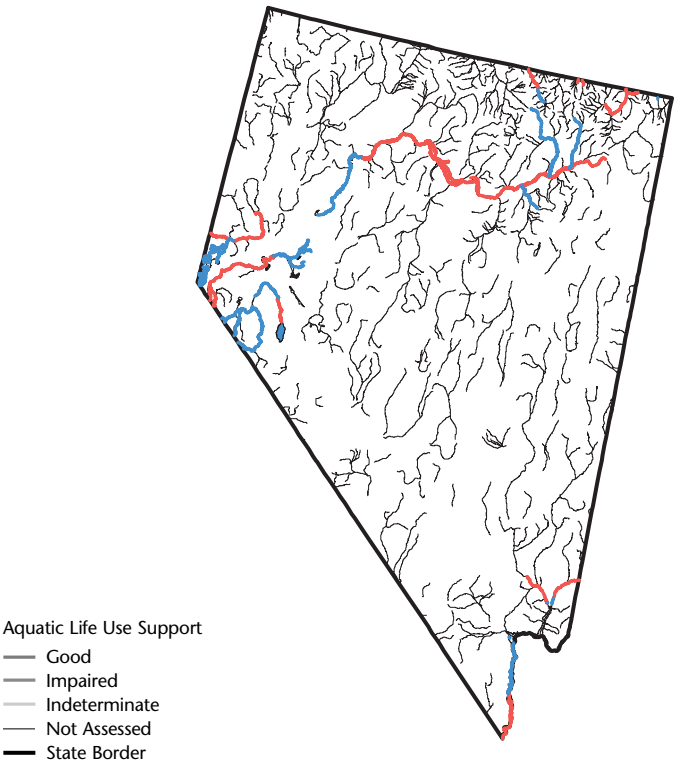
Individual Use Support in Nebraska

Designated Use[a]	Percent Good (Fully Supporting or Threatened)	Percent Impaired (Partially Supporting or Not Supporting)
Rivers and Streams (Total Miles = 81,573)[b]		
Total Miles Assessed	76	24
6,193		
2,056	100	0
3,239	11	89
Lakes (Total Acres = 280,000)		
Total Acres Assessed	91	9
89,764		
114,734	100	0
4,083	100	0

[a] A subset of Nebraska'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.

Nevada



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

Glen Gentry
Division of Environmental Protection
Bureau of Water Quality Planning
333 West Nye Lane, Suite 138
Carson City, NV 89706-0851
(775) 687-4670
e-mail: ggentry@ndep.carson-city.nv.us

Surface Water Quality

Only 10% (about 15,000 miles) of Nevada's rivers and streams flow year round, and most of these waters are inaccessible. For this reporting cycle, Nevada assessed 1,559 miles of the 3,000 miles of accessible perennial streams for aquatic life uses. Thirty-nine percent of the assessed stream miles fully supported this use. In lakes, 100% of the assessed acres fully supported aquatic life uses. Nevada assessed 19,326 acres of wetlands in this reporting cycle, all of which fully supported all assessed uses.

Agricultural practices (irrigation, grazing, and flow regulation) have the greatest impact on Nevada's water resources. Urban drainage systems contribute nutrients, heavy metals, and organic substances that deplete oxygen. Flow reductions also have a great impact on streams, limiting dilution of salts, minerals, and pollutants. A no-consumption fish advisory is in effect for portions of the Carson River and all of the waters in the Lahontan Valley. The advisory is in place due to high levels of mercury in fish tissue.

Ground Water Quality

Nevada lacks comprehensive ground water protection legislation, but the state does have statutes that control individual sources of contamination, including mining, underground storage tanks, septic systems, handling of hazardous materials and waste, solid waste disposal, underground injection wells, agricultural practices, and wastewater disposal. Land use statutes also enable local authorities to implement Wellhead Protection Plans by adopting zoning ordinances, subdivision regulations, and site plan review procedures. Local authorities can implement certain source control programs.

Programs To Restore Water Quality

Nevada's Nonpoint Source (NPS) Management Plan aims to reduce NPS pollution with interagency coordination, education programs, and incentives that encourage voluntary installation of best management

practices. The program promotes public awareness, grazing and irrigation practices, and erosion control measures. The state's current approach to controlling NPSs is to seek voluntary compliance through nonregulatory programs of technical and financial assistance, training, technology transfer, demonstration projects, and education. Nevada has developed a Comprehensive State Ground Water Protection Program (CSGWPP). The core of the CSGWPP was endorsed by the EPA in November 1997.

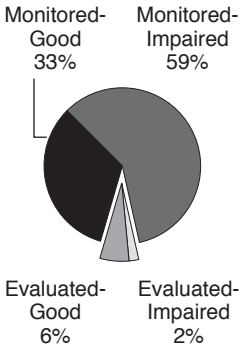
Programs To Assess Water Quality

Several state, federal, and local agencies regularly sample chemical and physical parameters in the 14 hydrologic regions of the state. The state also coordinates intensive field studies on Nevada's major river systems, the Truckee River Basin, Carson River Basin, Walker River Basin, and the Humboldt River Basin. The state also monitors several lakes and reservoirs. Additional monitoring data are provided by the U.S. Geological Survey and the Nevada Division of Agriculture.

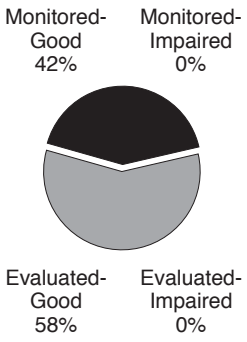
Data Quality

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 Nevada

Designated Use[a]	Percent Good (Fully Supporting or Threatened)	Percent Impaired (Partially Supporting or Not Supporting)
Rivers and Streams (Total Miles = 143,578)[b]		
Total Miles Assessed	39	61
1,559		
	100	
5		0
	100	
1,393		0
Lakes (Total Acres = 553,279)		
Total Acres Assessed	100	
168,446		0
	100	
168,354		0

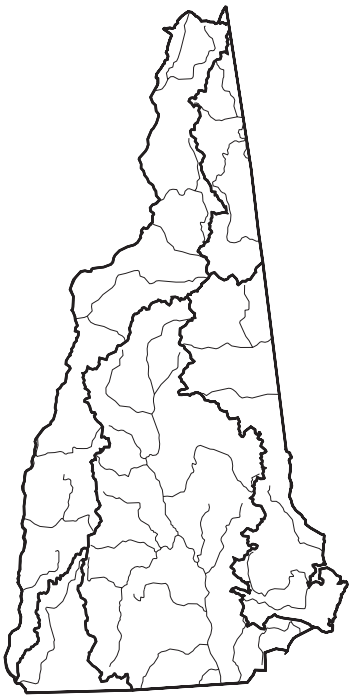
Summary of Use Support in Nevada

Wetlands (Total Acres = 136,650)		
Total Acres Assessed	100	
19,326		0

[a] A subset of Nevada'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.

New Hampshire



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

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

Gregg Comstock
Water Division
Department of Environmental Services
State of New Hampshire
6 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095
(603) 271-2457
e-mail: gcomstock@des.state.nh.us

A copy of the report may be downloaded from: **www.des.state.nh.us/wmb/wmbpubs.htm**

Surface Water Quality

In 1994, New Hampshire issued a statewide freshwater fish consumption advisory due to mercury levels found in fish tissue. The primary source of mercury is believed to be atmospheric deposition from both in-state and out-of-state sources. When this advisory is included in the assessment, all fresh surface waters are, by definition, less than fully supporting all uses. However, if this advisory is not included in the assessment, over 83% of assessed river and stream miles and 96% of assessed lake acres fully support all uses.

With respect to tidal waters, approximately 99% support swimming and aquatic life. However, none of New Hampshire's 18 miles of coastal shoreline, 54 miles of open ocean waters, or 21.24 square miles of estuaries fully supports all uses. This is primarily due to a bluefish consumption advisory for polychlorinated biphenyls (PCBs) in fish tissue. Portions of the estuaries are also considered impaired due to elevated PCB concentrations in lobster tomalley and bacteria contamination in waters designated for shellfish harvesting.

Excluding the statewide freshwater fish advisory, metals, PCBs, and bacteria are the leading causes of impairment in rivers. Low pH, exotic weeds, and nutrients are the major causes of impairment in lakes. Nonpoint sources are believed to be responsible for most of the pollution entering New Hampshire's waters.

New Hampshire has an estimated 7,500 acres of tidal wetlands, and 400,000 to 600,000 acres of nontidal wetlands. Permitted projects and violations over the past 2 years have impacted less than 0.04 percent of the state's nontidal wetlands and there have not been any net losses of tidal wetlands.

Ground Water Quality

New Hampshire is highly dependent on ground water for drinking water. Although natural ground water quality from stratified aquifers is generally good, aesthetic concerns such as taste, odor, and iron content exist. Water from bedrock wells is also generally of good quality, although this water can be impacted by naturally occurring contaminants (e.g. fluoride, arsenic, mineral radioactivity, and radon gas).

In addition to naturally occurring contamination, many areas are impacted by releases of petroleum and volatile organic compounds from local petroleum facilities, commercial and industrial operations, and landfills. Sodium used during winter as road salt is also a contaminant of concern.

Programs To Restore Water Quality

New Hampshire has numerous laws, regulations, and programs to abate pollution from point and nonpoint sources. All significant discharges of untreated municipal and industrial wastewater have been eliminated. To resolve remaining water pollution problems, the Department of Environmental Services (DES) created the Watershed Management Bureau in 1999 and is currently refining and implementing a watershed assessment approach.

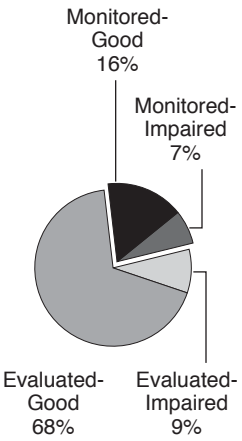
Programs To Assess Water Quality

The DES has several lake assessment programs, including an excellent volunteer monitoring program that was initiated in 1985. Additional programs include acid pond monitoring, beach monitoring, and trophic surveys. The DES implemented an in-stream biological monitoring program in 1985, a 3-year rotating watershed monitoring program for rivers in 1989, and a volunteer monitoring program for rivers in 1997. In the future, the DES will investigate alternatives to increase the percentage of assessed waters.

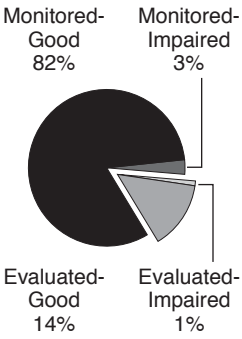
Data Quality

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

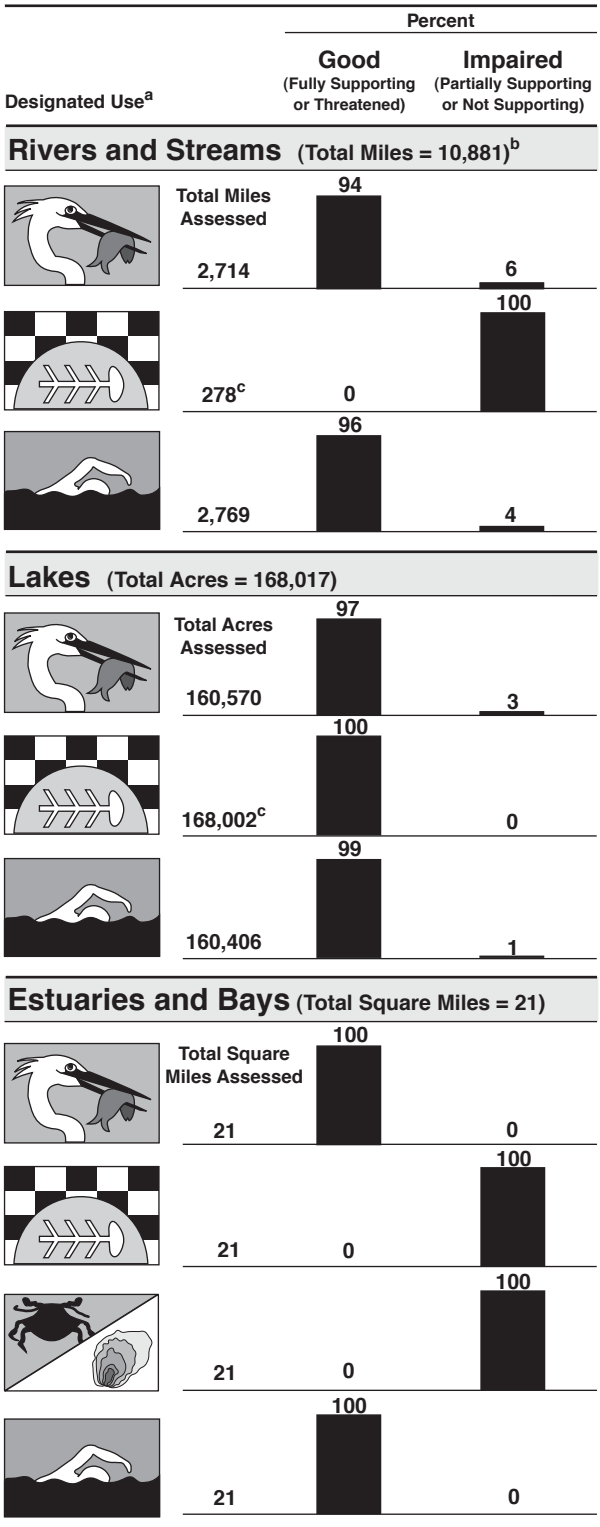


Lakes



[a] A subset of New Hampshire'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] Does not include statewide fish advisory.

Individual Use Support in New Hampshire



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

New Jersey

Rivers
State Border

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

Kevin Berry
Division of Science Research and Technology
New Jersey Department of Environmental Protection
401 East State Street, 1st Floor
P.O. Box 409
Trenton, NJ 08625-0409
e-mail: kberry@dep.state.nj.us

A copy of the report may be downloaded from: **http://www.state.nj.us/dep/dsr/watershed/305b/305b.htm**

Surface Water Quality

The majority of river and stream miles assessed for this reporting cycle are impaired for aquatic life support (63%), fish consumption (76%), and swimming (83%), although monitoring does not specifically target swimming areas. Most pineland rivers fully support swimming. Fish communities improved in the Passaic, Raritan, and Delaware basins. Of the lake acres assessed, 87% support aquatic life and 67% support swimming. Lakes in New Jersey are typically shallow impoundments that are prone to eutrophication. Only 1% of the assessed lake acres support fish consumption. This is due to statewide fish consumption advisories for chain pickerel and largemouth bass issued as a result of mercury contamination. New Jersey did not assess wetlands for designated use support.

Marine waters in New Jersey are typically of good quality. Of the estuarine area assessed, 77% support aquatic life and 98% support swimming. All coastal waters support aquatic life, fish consumption, and swimming. Fish consumption use was threatened due to advisories for striped bass, American eel, lobster, and bluefish due to organics contamination.

Fecal bacteria, nutrients, and mercury contribute to impairments identified in surface waters. Nutrients and fecal bacteria enter waterways from nonpoint sources such as geese, erosion, stormwater, and runoff. Localized issues arise from combined sewer overflows (CSOs), septic systems, occasional wastewater treatment plant malfunctions, and possibly livestock. Air deposition is a major source of mercury and nitrogen.

Ground Water Quality

There is generally an ample supply of good quality ground water in New Jersey. However, localized ground water quality issues occur from naturally occurring contaminants (e.g., radium, radon, arsenic) and pollutants (e.g., mercury, bacteria, pesticides). Over 6,000 sites are contaminated. New Jersey has established a Maximum Contaminant Level (MCL) of 10 parts per billion for arsenic. Six percent of wells sampled in the piedmont area exceeded this standard, although none exceeded the national MCL of 50 parts per billion.

Programs To Restore Water Quality

The Department of Environmental Protection (DEP) continues to implement traditional water pollution control programs as well as watershed management programs. Total Maximum Daily Loads

(TMDLs) were developed for nutrients in two lakes, volatile organic compounds in the Delaware River, and fecal bacteria in the Whippany River. Nonpoint source projects were focused on reducing biological impairments, nutrients, and bacteria. Further improvements are expected through municipal stormwater permitting and the CSO program. A Lake Restoration Task Force will issue recommendations on financing lake management and restoration activities. A Shellfish Action Plan aims to increase shellfish beds available for harvest from 88% to 90% by 2005.

Programs To Assess Water Quality

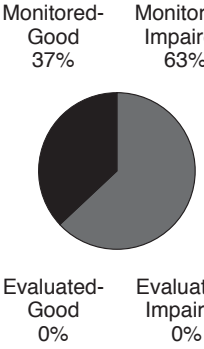
The 151 watersheds in New Jersey are aggregated into 20 Watershed Management Areas. River assessments were based on data from 79 stations in the Ambient Stream Monitoring Network and 200 additional sites that will be sampled for 2 years. Aquatic life assessments were based on data from fisheries and 820 stations in the Ambient Biological Monitoring Network. Contaminants in fish tissue were evaluated through special projects.

Marine waters are monitored through the Cooperative Coastal Monitoring Program, Marine and Coastal Water Quality Monitoring Program, and EPA Ocean Monitoring Program. The Shellfish Sanitation Program monitors coliform bacteria at 2,500 stations in shellfish harvesting areas. The DEP and U.S. Geological Survey redesigned the ground water monitoring network. The new Private Well Testing Act mandates sampling for domestic wells. Site-specific monitoring is conducted at contaminated sites.

Data Quality

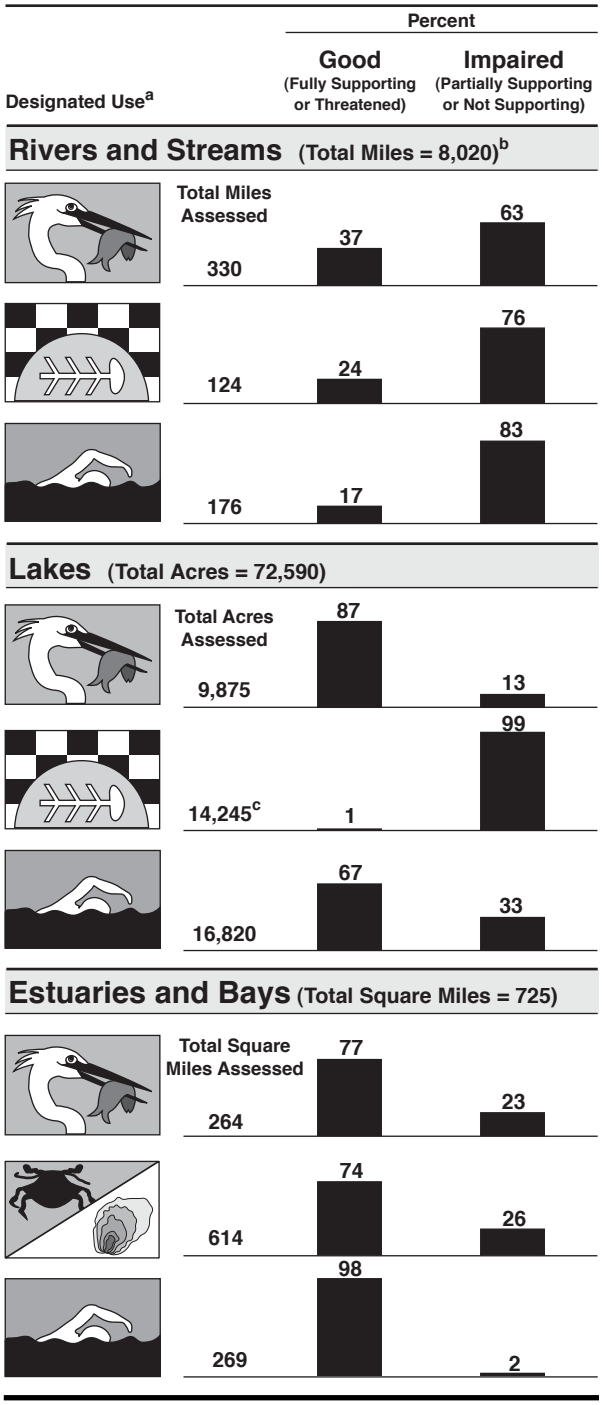
States report whether their assessments are based on recent monitoring data or older, more qualitative evaluated data. This pie chart shows the proportions of waters assessed for Aquatic Life Use Support that was based on each type of data.

Rivers*



* Data for aquatic life use are given because a Summary of Use Support was not available.

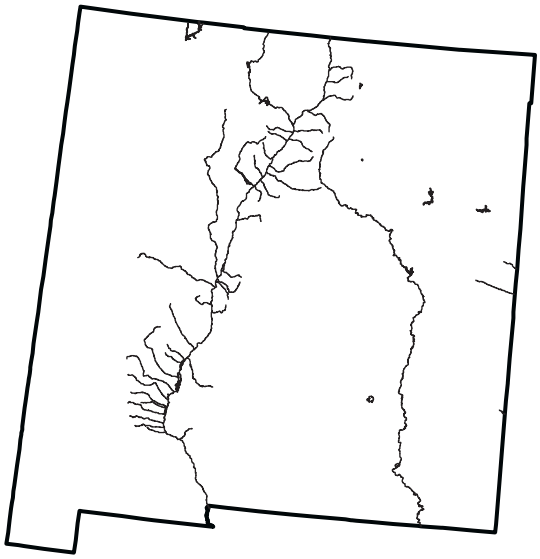
Individual Use Support in New Jersey



[a] A subset of New Jersey'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 intermittent streams.
[c] Includes statewide fish consumption advisory.

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

New Mexico



Rivers
State Border

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

Gary King
New Mexico Environment Department
Surface Water Quality Bureau
P.O. Box 26110
Santa Fe, NM 87502-6110
(505) 827-2928
e-mail: gary_king@nmenv.state.nm.us

Surface Water Quality

About 30% of New Mexico's surveyed stream miles have good water quality that supports aquatic life uses. Ninety-nine percent of the surveyed river and stream miles support swimming. The leading problems in streams include turbidity, thermal modifications, pathogens, and metals. Nonpoint sources are responsible for over 91% of the degradation in New Mexico's 2,675 impaired river and stream miles. Sources of impairment include agriculture, hydrologic and habitat modification, recreational activities, and resource extraction.

Agriculture and recreational activities are the primary sources of nutrients, siltation, reduced shoreline vegetation, and bank destabilization that impairs aquatic life use in 89% of New Mexico's surveyed lake acres. Mercury contamination from unknown sources appears in fish caught at 23 reservoirs. However, water and sediment samples from surveyed lakes and reservoirs have not detected high concentrations of mercury. Fish may contain high concentrations of mercury in waters with minute quantities of mercury because the process of bioaccumulation concentrates mercury in fish tissue.

New Mexico did not report on the condition of wetlands.

Ground Water Quality

Approximately 90% of the population of New Mexico depends on ground water for drinking water. The Environment Department identified at least 1,235 cases of ground water contamination between 1927 and December 1999. Contamination most often occurs in areas where the aquifer is vulnerable due to a shallow water table. Nonpoint sources of ground water contamination, which account for about 13% of contamination statewide, include small household septic tanks and cesspools, animal feedlot operations, urban runoff, and application of agricultural chemicals. Leaking underground storage tanks, injection wells, landfills, mining and milling, and miscellaneous industrial sources also contaminate ground water in New Mexico. New Mexico operates a ground water discharger permit program that includes ground water standards for intentional discharges and a spill cleanup provision for other discharges.

Programs To Restore Water Quality

New Mexico uses a variety of state, federal, and local programs to protect surface water quality. The federal NPDES program is used to protect waters from point source discharges. Nonpoint source surface water pollution is addressed by the State Nonpoint Source Water Pollution Management Program to prevent and abate pollution by implementing best management practices (BMPs). This program helps insure that state water quality standards are met and that wetlands are protected through the water quality certification process for Section 404 permits. The New Mexico Environment Department has also worked with the U.S. Forest Service to reduce nonpoint source pollution in many of the state's highest quality waters. These efforts have been quite successful in many cases and have resulted in the elimination of some longstanding nonpoint source problems.

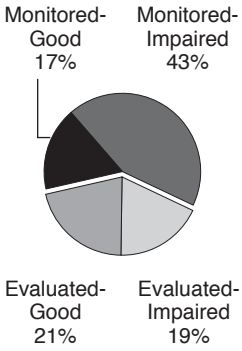
Programs To Assess Water Quality

New Mexico uses a wide variety of methods to assess its water quality. Second-party data including dischargers' reports, published literature, data stored in EPA's database, as well as data generated by the U.S. Geological Survey are routinely reviewed. The New Mexico Environment Department generates large amounts of data through intensive surveys, assessment of citizen complaints, special studies aimed at areas of special concern (e.g., mercury concentrations in water, sediments, and fish), volunteer monitoring programs, short- and long-term nonpoint source pollution monitoring, and effluent monitoring.

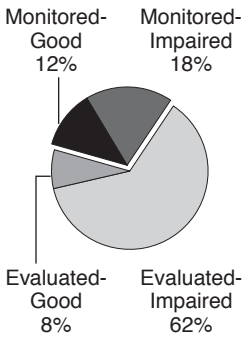
Data Quality

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



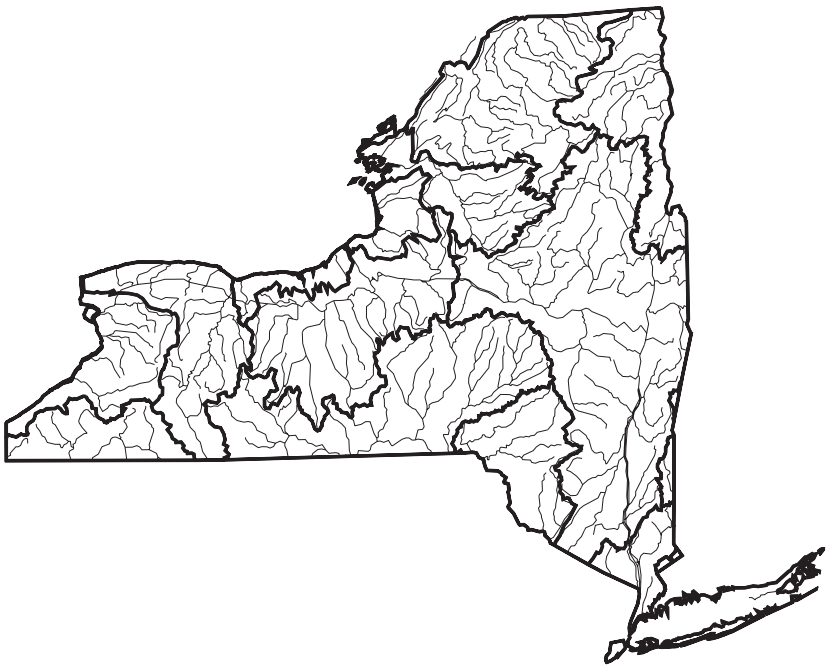
Individual Use Support in New Mexico

Designated Use[a]	Total Miles Assessed	Percent Good (Fully Supporting or Threatened)	Percent Impaired (Partially Supporting or Not Supporting)
Rivers and Streams (Total Miles = 110,741)[b]			
	3,804	30	70
	93	0	100
	4,134	99	1
Lakes (Total Acres = 997,467)			
	124,827	11	89
	109,909	0	100

[a] A subset of New Mexico'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.

New York



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

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

Jeff Myers
New York State Department of Environmental Conservation
Bureau of Watershed Assessment and Research
50 Wolf Road
Albany, NY 12233
(518) 457-7130
e-mail: jamyers@gw.dec.state.ny.us

Surface Water Quality

In previous years, New York has focused monitoring efforts on areas where water quality problems were reported or suspected to occur, and has assumed that all other waters in the state were unimpaired. During this reporting cycle, the state began revising their methods so that more good quality waters are monitored. In light of this transition, the assessment information reported for 2000 may underestimate the size of fully supporting waters in the state. Seventy-two percent of New York's assessed river and stream miles and 16% of assessed lake acres have good water quality that supports aquatic life uses. Swimming is supported in 52% of assessed river and stream miles and 26% of assessed lake acres. All of the 374 surveyed Great Lakes shoreline miles were impaired for fish consumption.

Agriculture is a major source of nutrients and silt that impact New York's rivers, lakes, and reservoirs. Erosion and urban runoff are other major sources of water quality impairment in rivers and lakes. Urban runoff, combined sewer overflows, and municipal wastewater treatment plants are the primary sources of pathogens and other contaminants causing impairment to 100% of the assessed square miles of estuaries. It should be noted that New York assessed only about one-quarter of the state's total estuarine area, and the remaining estuarine areas were not targeted for assessment because problems were not suspected. New York did not report on the condition of wetlands.

Ground Water Quality

One-third of New York residents (approximately 6 million people) use ground water as a source of drinking water. The state reports that 312 wells or springs statewide have been contaminated to some degree by organic pollutants. Nonpoint source contaminants such as bacteria, viruses, synthetic organic chemicals, nitrate, and chloride threaten ground water quality throughout the state. Of private wells contaminated by organic chemicals in upstate New York, the majority (65%) of cases results from petroleum-related contaminants such as methyl tertiary butyl ether (MTBE) and benzene.

Programs To Restore Water Quality

New York has recently begun a program to develop Watershed Restoration and Protection Action Strategies for all state watersheds. These strategies propose the priorities for

water quality restoration in each watershed. A wide range of stakeholders including federal, state, local, and tribal representatives is involved in developing restoration strategies for the state's watersheds. New York's watershed approach has already focused on priority watersheds for various activities including water quality monitoring and restoration. For instance, over $5 million was allocated in 1999 to fund projects under the Water Resources Development Act to protect and enhance New York City's drinking water supply.

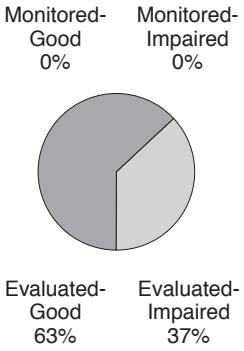
Programs To Assess Water Quality

In 1987, New York implemented the Rotating Intensive Basin Studies (RIBS), an ambient monitoring program that concentrates monitoring activities on one-third of the state's hydrologic basins for 2-year periods. The RIBS strategy employs a tiered approach in which rapid biological screening methods are applied at a large number of sites during the first year of a 2-year study, and more intensive chemical monitoring is used to follow up the results of this biological effort in the second year. Historically, the Department of Environmental Conservation's limited resources were used to focus monitoring efforts on areas where pollution problems were reported or suspected to occur. The state began to address this bias in 1998, and the new RIBS strategy places emphasis on the monitoring and documentation of good quality waters.

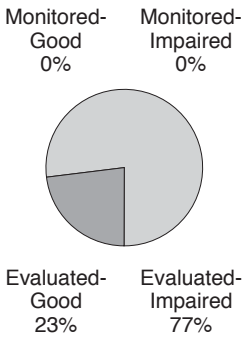
Data Quality*

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



* New York assessments are based only on evaluated data.

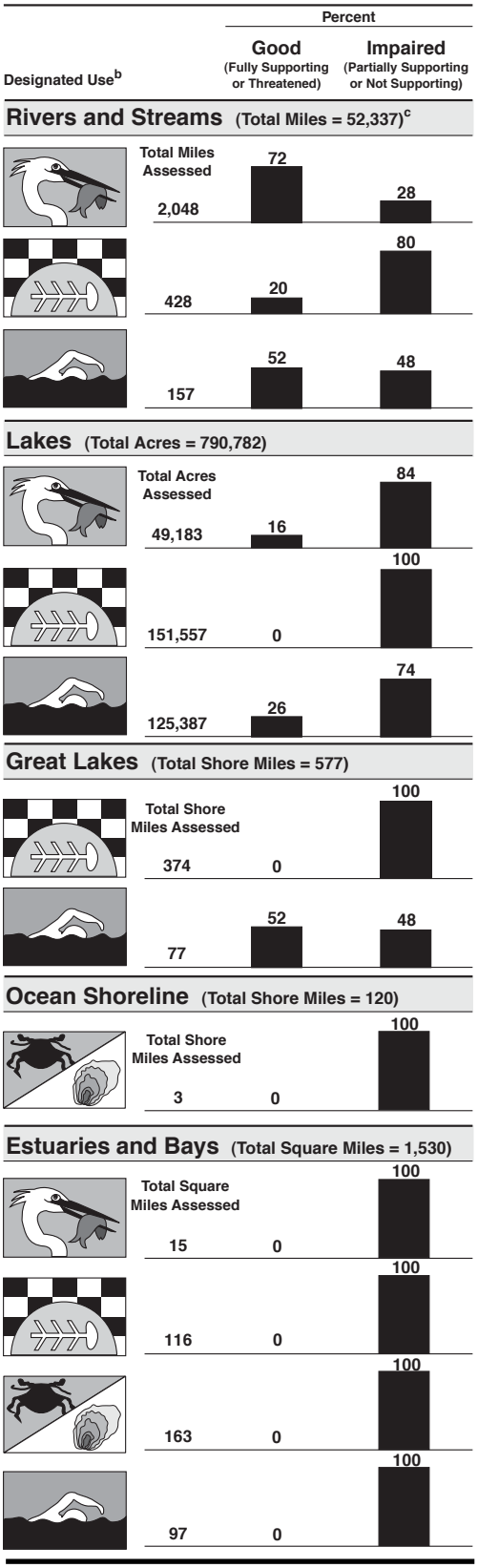
[a] New York notes its assessments are biased toward those waters with known impairments.

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

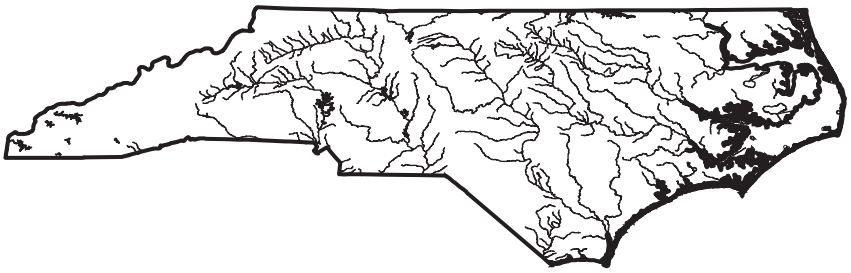
[c] Includes nonperennial streams that dry up and do not flow all year.

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

Individual Use Support in New York[a]



North Carolina



Rivers
State Border

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

Deanna Doohaluk
North Carolina Department of Environment and Natural Resources
Division of Water Quality
1617 Mail Service Center
Raleigh, NC 27699-1617
(919) 733-5083 ext. 577
e-mail: Deanna.Doohaluk@ncmail.net

The report is also available on the Internet at: **http://h2o.enr.state.nc.us/bepu/download.html**

Surface Water Quality

The majority of assessed lake acres support aquatic life (98%), primary contact (98%), and fish consumption (89%). Impaired lakes are impacted by excessive nutrient enrichment, siltation, and noxious aquatic plants. About 93% of the state's assessed river and stream miles have good water quality that supports overall use. North Carolina also surveyed about 5,600 river and stream miles but did not have sufficient data to assign a use support rating, so these waters were designated as "not rated" by the state (not assessed).

The major sources of impairment to rivers are agriculture, urban runoff, municipal point sources, and construction. These sources generate siltation, turbidity, and organic wastes that deplete dissolved oxygen and lead to habitat degradation. About 96% of the assessed estuarine area support designated uses. Urban runoff, leaking septic tanks, agriculture, wastewater treatment plants, and marinas are probable sources of bacteria, low dissolved oxygen, and chlorophyll *a* that degrade estuaries. As assessed by soil maps and aerial photographs, about 66% of the state's wetland area fully supports designated uses. Silviculture, agriculture, and urban development are the leading sources of wetland degradation. The state has 17 fish consumption advisories in effect, including an advisory for mercury in king mackerel covering all coastal waters.

Ground Water Quality

About half of the state's population uses ground water as their primary supply of drinking water. Ground water quality is generally good. The leading source of contamination is leaking underground storage tanks, which contaminate ground water with gasoline, diesel fuel, and heating oil. Comprehensive programs are underway to assess potential contamination sites and develop a ground water protection strategy for the state.

Programs To Restore Water Quality

North Carolina uses a watershed-level approach to address water quality problems. In 2000, the NC Division of Water Quality (DWQ) was working on its second set of basinwide management plans, which summarize water quality and develop strategies for addressing problems for each of 17 river basins. Through the Unified Watershed Assessment process, the DWQ identified 23 watersheds in need of restoration. Within these areas, 11 smaller catchments that are biologically impaired are being studied intensively to identify causes and

sources of pollution and develop strategies to restore aquatic system health.

Addressing nonpoint source (NPS) pollution continues to be a state priority. The NPS program comprises a cooperative network of state and local agencies that extends to all counties. The DWQ has begun implementing rules that address nitrogen pollution from urban areas, agriculture, and fertilizer application across the entire Neuse and Tar-Pamlico River basins. In addition, a temporary rule is being implemented in these basins that protects riparian buffers adjacent to all perennial and intermittent streams, ponds, lakes, and estuaries. Riparian buffers are also being proposed for waters in the Catawba River basin. North Carolina is seeking final approval of its Coastal NPS Program from NOAA and EPA, and continues implementation of its Section 319 funding program for innovative NPS best management practices, public education and outreach, and restoration of impaired waters.

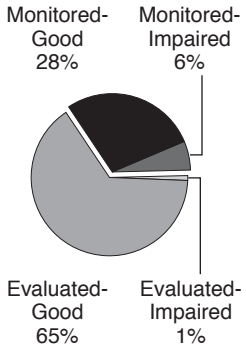
Programs To Assess Water Quality

Surface water quality in North Carolina was primarily evaluated using physical and chemical data collected by the DWQ from a statewide fixed-station network, in addition to biological assessments. These include macroinvertebrate (aquatic insect) community surveys, fish community structure analyses, fish tissue analyses, toxicity testing, phytoplankton analyses, bioassays, and limnological review of lakes and watersheds. Other sources of information were point source monitoring data, shellfish closure reports, lake trophic state studies, and reports prepared by other local, state, and federal agencies.

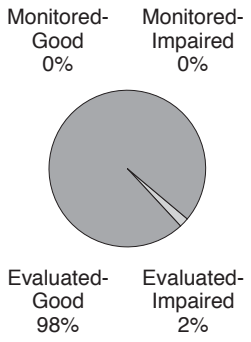
Data Quality

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



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

Individual Use Support in North Carolina

Designated Use[a]		Percent Good (Fully Supporting or Threatened)	Percent Impaired (Partially Supporting or Not Supporting)
Lakes (Total Acres = 311,236)			
	Total Acres Assessed	98	2
	310,513		
		89	11
	310,727		
		98	2
	209,820		

Summary of Use Support in North Carolina[b]

		Percent Good (Fully Supporting or Threatened)	Percent Impaired (Partially Supporting or Not Supporting)
Rivers and Streams (Total Miles = 37,662)[c,d]			
	Total Miles Assessed	93	7
	32,072		
Estuaries and Bays (Total Square Miles = 3,121)			
	Total Square Miles Assessed	96	4
	3,115		
Wetlands (Total Miles = 7,175,000)[e]			
	Total Miles Assessed	66	34
	7,175,000		

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

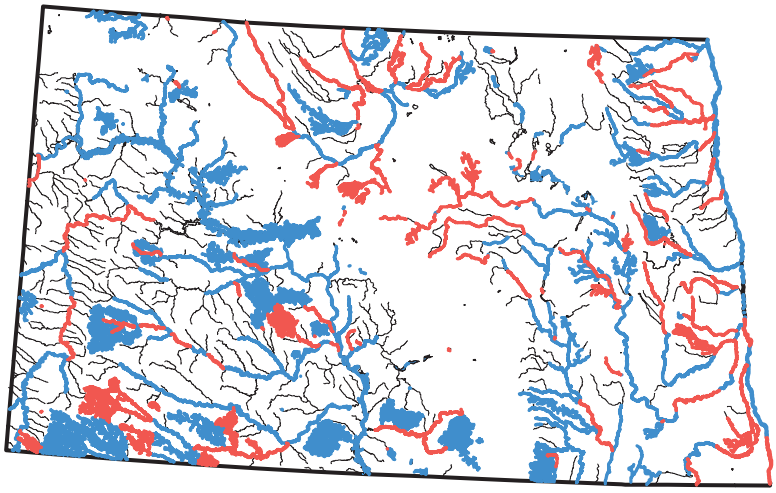
[b] A summary of use support data is presented because North Carolina did not report individual use support in rivers and estuaries in their 2000 305(b) report.

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

[d] The good category includes some stream miles that were not assessed, but were assumed to support designated uses because they had no known impairments.

[e] Assessment of wetlands was conducted with soil maps and aerial photographs.

North Dakota



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

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

Michael Ell
North Dakota Department of Health
Division of Water Quality
P.O. Box 5520
Bismark, ND 58506-5520
(701) 328-5214
e-mail: mell@state.nd.us

The report is also available on the Internet at: **http://www.health.state.nd.us/ndhd/environ/wq/**

Surface Water Quality

North Dakota reports that 69% of its assessed rivers and streams have good water quality that fully support aquatic life uses, but use support is threatened in most of these streams. Fifty-six percent of the assessed rivers and streams fully support swimming. Monitoring data for 147 miles of rivers and streams are the basis of fish consumption use impairment in the state. Fish tissues have shown elevated methylmercury content. The major causes of impaired use support in the state are pathogens, habitat alterations, siltation, nutrients, and oxygen-depleting wastes. The leading sources of contamination are agriculture, drainage and filling of wetlands, hydromodification, and upstream impoundments. Natural conditions, such as low flows caused by water regulation, also contribute to aquatic life use impairment.

In lakes, 97% of the surveyed acres have good water quality that fully support aquatic life uses, and 79% of the surveyed acres fully support swimming. Twenty-one lakes and reservoirs are considered impaired for fish consumption use due to methylmercury contamination. The remaining 198 lakes and reservoirs were not assessed for this reporting cycle. Metals, siltation, nutrients, and oxygen-depleting substances are the most widespread pollutants in North Dakota's lakes. The leading sources of pollution in lakes are agricultural activities, urban runoff/storm sewers, hydrologic modification, and habitat modification. Natural conditions also prevent some waters from fully supporting designated uses.

Ground Water Quality

North Dakota has not identified widespread ground water contamination, although some naturally occurring compounds may make the quality of ground water undesirable in a few aquifers. Where human-induced ground water contamination has occurred, the impacts have been attributed primarily to petroleum storage facilities, agricultural storage facilities, feedlots, poorly designed wells, abandoned wells, wastewater treatment lagoons, landfills, septic systems, and the underground injection of waste.

Programs To Restore Water Quality

North Dakota's Nonpoint Source (NPS) Pollution Management Program was established to: (1) increase public awareness of NPS pollution, (2) reduce or prevent the delivery of NPS pollutants to waters of the state, and (3) disseminate information on effective solutions to NPS pollution. Since 1990, 39 projects have been completed and 32 are currently active.

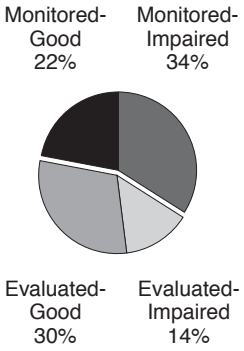
Programs To Assess Water Quality

The North Dakota Department of Health monitors physical and chemical parameters (such as dissolved oxygen, pH, total dissolved solids, nutrients, and toxic metals), toxic contaminants in fish, whole effluent toxicity, and fish and macroinvertebrate community structure. North Dakota's ambient water quality monitoring network consists of 27 sampling sites on 24 rivers and streams. The Department's biological assessment program has grown since 1993. Currently, biosurveys are conducted at approximately 50 sites each year.

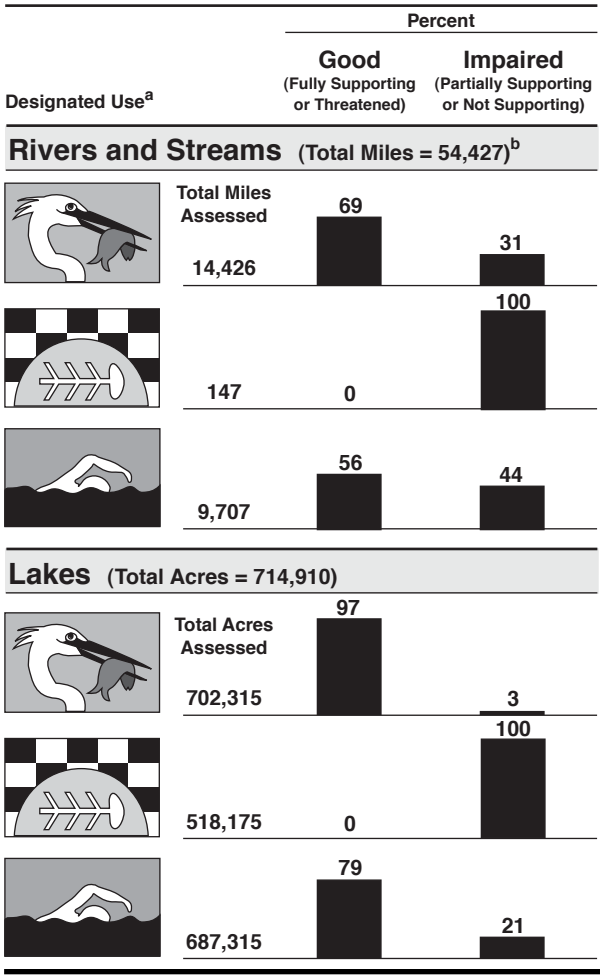
Data Quality

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 North Dakota

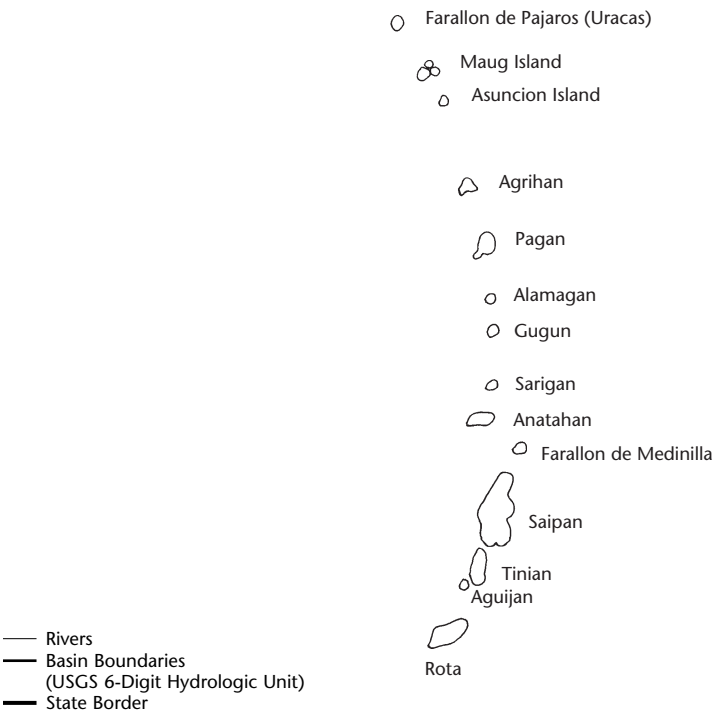


[a] A subset of North Dakota's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.

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

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

Commonwealth of the Northern Mariana Islands



For a copy of the Commonwealth of the Northern Mariana Islands 2000 305(b) report, contact:

Ike Cabrera
Commonwealth of the Northern Mariana Islands
Division of Environmental Quality
P.O. Box 1304
Saipan, MP 96950
(670) 664-8500

Surface Water Quality

The Commonwealth of the Northern Mariana Islands (CNMI) is an archipelago of 15 islands in the Western Pacific Ocean located north of Guam. The largest and most populated island is Saipan, with an area of 46 square miles and 52 miles of coastline.

Streams and wetlands are not currently monitored because they are not used for drinking water or recreation. Coastal marine waters are monitored because their quality affects the health of the coral reef ecosystem on which subsistence, recreation, storm protection, and tourism depend.

Both point and nonpoint sources affect water quality. Sewage outfalls, dredging, sedimentation from unpaved roads and development, and nutrients from golf courses and agriculture are the most significant stressors on coral reefs and marine water quality.

It is estimated that over 60% of Saipan's wetlands were lost as a result of farming prior to World War II. Increasing development continues to threaten wetlands on all of the islands.

Ground Water Quality

Ground water supplies 99% of the islands' drinking water. Ground water is also used for agriculture and irrigation of golf courses. Increasing demands for water have led to excessive ground water withdrawal. Overpumping ground water results in elevated chloride concentrations and saltwater intrusion. Garment factories, failing septic systems, and service industries (e.g., gasoline stations, automobile repair shops, and power generators) also affect ground water quality. Septic tanks can result in bacteriological and nitrate contamination, particularly when the systems are poorly designed. There is also concern about historical contamination resulting from military activities during the 1940-1960s (World War II and post-World War II), although the extent of this contamination has not been fully investigated.

The Division of Environmental Quality (DEQ) requires that all wells be permitted prior to exploration. Operators submit semiannual water quality data that includes chlorides, hardness, nitrates, total dissolved solids, conductivity, pH, and fecal coliform. Wells with elevated chloride concentrations are required to reduce their pumping rate. The DEQ is developing a database to maintain the monitoring data.

Programs To Restore Water Quality

The Puerto Rico dump threatens both surface and ground water quality on Saipan. Leachate from this area

contains contaminants such as metals and synthetic organic compounds. The DEQ has prioritized closing this dump and improving water quality in the surrounding area.

The Nonpoint Source Program successfully constructed a wetland within the grounds of the American Memorial Park to reduce sediments discharged into the nearby shoreline.

The DEQ administers permitting programs for septic systems and earthmoving and erosion control. The DEQ also manages pesticide, underground and aboveground storage tank, and well drilling programs.

Programs To Assess Water Quality

Surface water monitoring in the CMNI focuses on marine waters and coral reefs. Thirty-one sites at the Saipan lagoon are monitored weekly for traditional water quality parameters and two sites are monitored for biological parameters. The DEQ uses Enterococci and fecal coliform as indicators of human or animal waste contamination. Marine water and ground water sampling was conducted to support the final closure design for the Puerto Rico dump.

The Marine Monitoring Team assesses the condition of coral reefs in the CNMI. The DEQ developed a Long Term Marine Monitoring Plan that uses biological criteria to determine ambient conditions and to determine long-term changes in the health of the coral reefs. Eight fixed monitoring stations are incorporated into this plan. Four stations are located on Saipan, two are located on Tinian, and two are located on Rota.

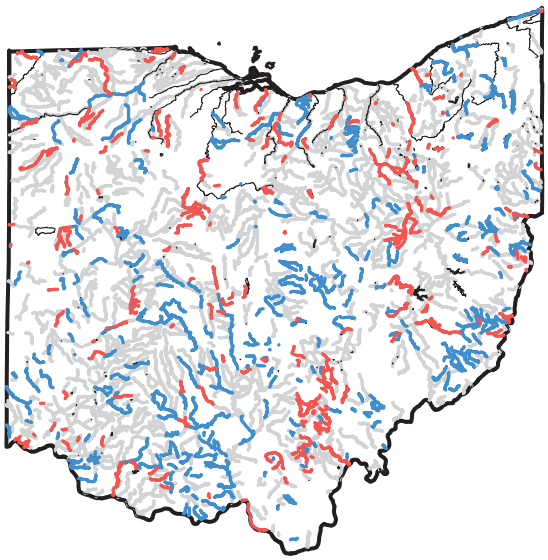
Summary of Use Support in Northern Mariana Islands[a]

	Percent	
	Good (Fully Supporting or Threatened)	**Impaired** (Partially Supporting or Not Supporting)
Estuaries and Bays (Total Square Miles =15,989)		
Total Square Miles Assessed	0.8	0
		100

[a] A summary of use support data is presented because the Northern Mariana Islands did not report individual use support in their 2000 305(b) report.

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

Ohio



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

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

Ed Rankin
Division of Surface Water
Ohio Environmental Protection Agency
1685 Westbelt Drive
Columbus, OH 43228
(614) 728-3388
e-mail: Ed.Rankin@epa.state.oh.us

A copy of the report may be downloaded from: **http://www.epa.state.oh.us/dsw/document_index/305b.html**

Surface Water Quality

Aquatic life and swimming are supported in half of the river and stream miles assessed in Ohio. Fish consumption is impaired due to mercury and PCB contamination in some rivers. The Ohio Environmental Protection Agency (EPA) would like to increase the percentage of river and stream miles that support aquatic life to 80% by 2010. The majority of lake acres support aquatic life (61%), swimming (67%), and fish consumption (88%). Of the assessed miles of Lake Erie shoreline, 84% support aquatic life and 100% swimming.

Ohio advises sensitive subpopulations such as children and pregnant women to restrict consumption of all fish caught in the state due to widespread mercury contamination. Individual waterbodies have fish consumption advisories due to lead, mercury, and PCB contamination.

The most common contaminants impairing Ohio's waterways are sediments, nutrients, pathogens, and toxic chemicals. Most surface waters are impacted by nonpoint source pollution that originates from combined storm and sewer systems, runoff, habitat modifications, and flow alterations. Although most point sources have been reduced through the NPDES program, permit violations from municipal and industrial facilities and small treatment plants also contribute to contamination. An increasing concern in some areas is the potential impact of exotic species such as the zebra mussel on the ecosystem.

Ground Water Quality

About 4.5 million Ohio residents depend on wells for domestic water. Each of the three main aquifer types (sand and gravel, carbonate, and sandstone) exhibits distinct water quality. Waste disposal, underground storage tank leaks, and spills are the dominant sources of ground water contamination in Ohio.

Programs To Restore Water Quality

To fully restore water quality, the Ohio EPA advocates an ecosystem approach that addresses degradation on shore as well as in the water. Ohio's programs aim to correct impacts, such as channel modification and the destruction of shoreline vegetation, that are not related to chemical contamination. The Nonpoint Source Program emphasizes voluntary actions to reduce pollution, especially through land management practices.

The Watershed Resource Restoration Sponsor Program utilizes loan interest to fund stream restoration

projects at no cost to the loan applicant. The most important criterion for these projects is that they provide complete protection or restoration of aquatic habitat that is sufficient to meet the designated uses.

Programs To Assess Water Quality

In 1990, Ohio adopted a 5-year approach to watershed-based monitoring and NPDES permit issuance. However, given the current funding situation, some watersheds will only be monitored every 10 to 15 years. Ohio utilizes volunteers for qualitative sampling to screen potential problem areas.

Ohio pioneered the use of an ecosystem approach that incorporates physical, chemical, and biological factors into surface water assessments. Each year, the Ohio EPA conducts surveys in six to ten study areas with a total of 350 to 400 sampling sites.

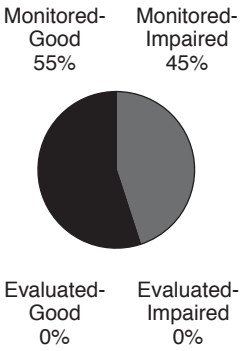
Lakes are assessed with a Lake Condition Index that includes 14 parameters. A lake is considered assessed if at least seven parameters have values. The Index of Biotic Integrity is used to assess the overall health of fish communities in rivers. Lake Erie is assessed using biological criteria involving fish and macroinvertebrate communities. Ohio is developing biological assessment methods and criteria for depressional and riparian wetlands.

The Ohio EPA is also responsible for monitoring ground water sources and assessing the extent of contamination. A database on untreated ground water has been collected through the Ambient Ground Water Monitoring Network. Information on treated ground water is compiled in the public water system compliance database.

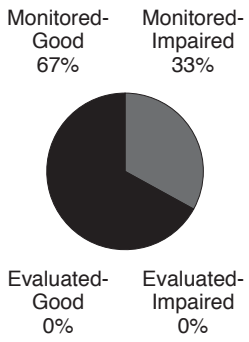
Data Quality

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.

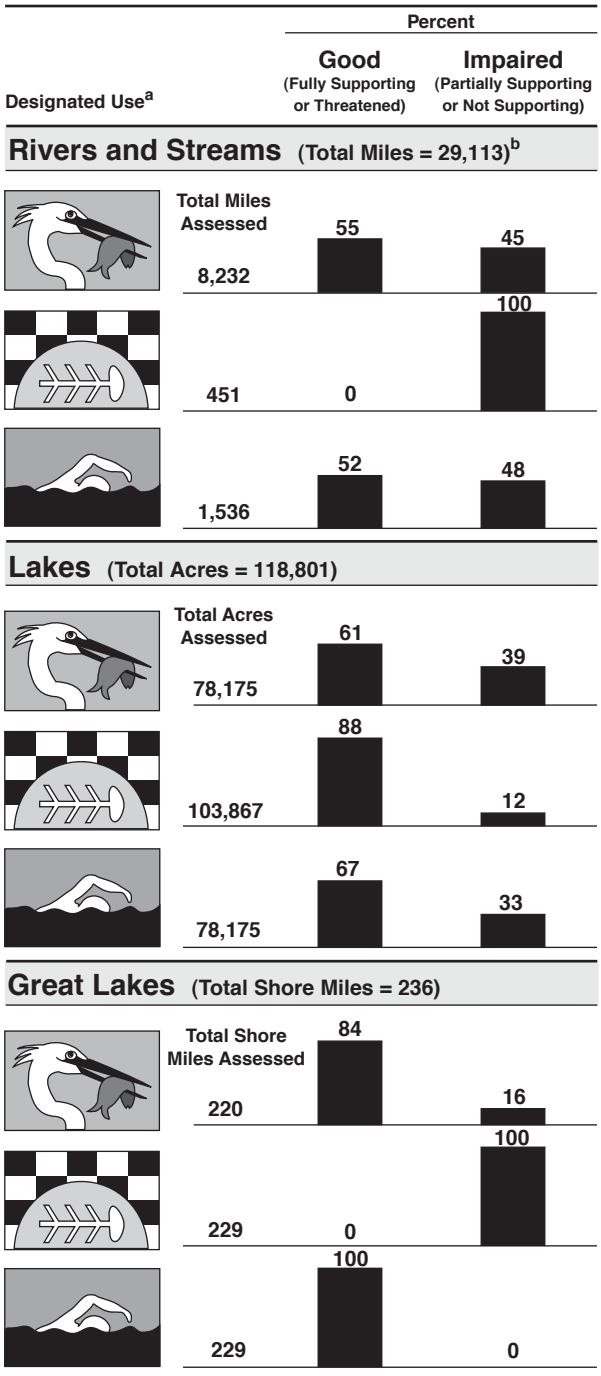
Rivers



Lakes



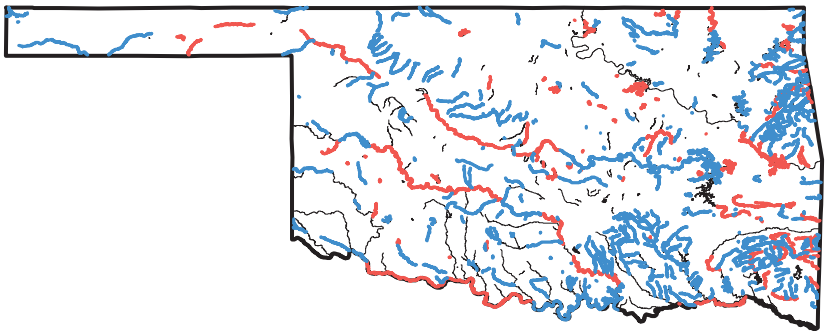
Individual Use Support in Ohio



[a] A subset of Ohio'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.

Oklahoma



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

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

David Gann
Water Quality Division
Oklahoma Department of
Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73101-1677
(405) 702-8100
e-mail: David.Gann@deq.state.ok.us

A copy of the report may be found on the Internet at: **http://www.deq.state.ok.us/wqdnew/305b_303d/**

Surface Water Quality

Fifty-three percent of the assessed river and stream miles have good water quality that support aquatic life. Over 60% of the assessed miles support swimming. Fifty-nine percent of the assessed lake acres support aquatic life and 63% support swimming. The most widespread pollutants in Oklahoma's lakes, rivers, and streams are siltation, nutrients, suspended solids, and pesticides. Oklahoma rates agriculture (including animal feeding operations), hydrologic modification, resource extraction, and urban runoff as leading sources of pollution in both rivers and lakes. Several lakes are impacted by acid mine drainage, including the Gaines Creek arm of Lake Eufaula and the Lake O' the Cherokees. Oklahoma did not report on the condition of wetlands.

Ground Water Quality

Ambient ground water monitoring has detected elevated nitrate concentrations in some monitoring wells, isolated cases of hydrocarbon contamination, elevated selenium and fluoride concentrations (partially due to natural sources), chloride contamination from discontinued oil field activities, metals from past mining operations, and gross alpha activity. Industrial solvents contaminate a few sites around Tinker Air Force Base. The state rates agricultural activities, injection wells, septic tanks, surface impoundments, and underground storage tanks among the highest priority sources of ground water contamination.

Programs To Restore Water Quality

The Oklahoma Department of Environmental Quality (DEQ) coordinates development of total maximum daily loads (TMDLs). About 15 projects addressing a range of impairments are in various stages of development. The DEQ administers point source pollution control programs except for agriculture and oil production sources. The DEQ issues NPDES permits, is responsible for monitoring dischargers to ensure compliance, and reviews facilities' self-monitoring data. The DEQ also administers the stormwater permitting program.

Oklahoma's nonpoint source control program is a cooperative effort of state, federal, and local agencies, with the Conservation Commission serving as the lead technical agency. The program sponsors best management practices (BMPs), water quality monitoring before and after BMP implementation, technical assistance, education, and development of comprehensive watershed management plans.

Programs To Assess Water Quality

The Oklahoma Water Resources Board (OWRB) collects data through the Beneficial Use Monitoring Program (BUMP) to document impairments and sources, detect water quality trends, and provide information for Oklahoma's water quality standards. BUMP includes both fixed and rotating stations. Working with other agencies, the OWRB has developed Use Support Assessment Protocols to make impairment determinations consistently. The OWRB also administers the Clean Lakes Program, which comprises lake assessment, citizen monitoring, and diagnostic/feasibility studies.

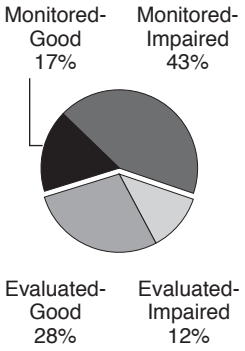
The U.S. Geological Survey (USGS) monitoring program gathers water quality, sediment, flow rate, and stream gauging data. The USGS has approximately 32 monitoring stations in the state.

The DEQ monitors toxic contaminants through the Toxic Monitoring in Reservoirs Program. The program began in 1980 and has monitored over 50 lakes in the state. Oklahoma also participates in the EPA Region 6 Ambient Biotoxicity Network that began sampling in 1990. The DEQ conducts project-specific monitoring and assessment related to TMDL development and impairment verification. The DEQ has developed a centralized, online database for water quality information. The map-based system may be accessed at: *http://www.deq.state.ok.us/wqdnew/305b_303d/2000_305b_report_final.pdf/*.

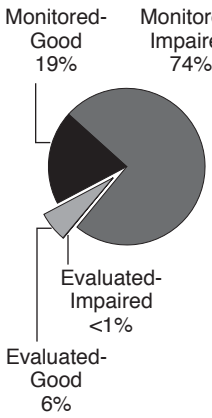
Data Quality

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



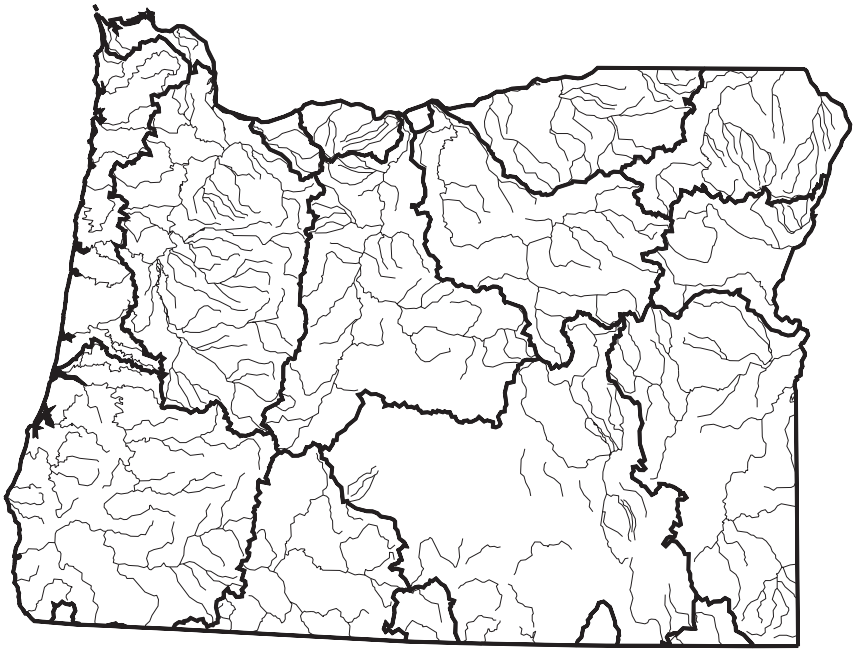
Individual Use Support in Oklahoma

Designated Use[a]	Total Miles/Acres Assessed	Percent Good (Fully Supporting or Threatened)	Percent Impaired (Partially Supporting or Not Supporting)
Rivers and Streams (Total Miles = 78,778)[b]			
	12,177	53	47
	5,096	61	39
Lakes (Total Acres = 1,041,884)			
	583,941	59	41
	530,124	63	37

[a] A subset of Oklahoma'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.

Oregon



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

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

Dick Pedersen
Oregon Department of Environmental Quality
Water Quality Division
811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-6345
email: pedersen.dick@deq.state.or.us

The report is also available on the Internet at: **http://www.deq.state.or.us/wq/305bRpt/305bReport00a.pdf**

Surface Water Quality

Seventy-four percent of Oregon's surveyed rivers have good water quality that fully support aquatic life use. The most commonly reported problems in the state's rivers and streams include thermal modifications, pathogens, and habitat alterations. Suspected sources include agriculture, silviculture, and habitat and hydrologic modifications.

In lakes, 51% of the surveyed acres fully support aquatic life uses. Common problems in Oregon's lakes include nutrients, algae, acidity, organic enrichment, and metals. Agriculture, natural sources, and urban runoff/storm sewers are the most commonly reported sources of lake impairment.

Six percent of Oregon's surveyed estuarine waters fully support shellfishing use due to periodic violations of bacteria standards. Suspected sources of bacteria include municipal and industrial point sources, agriculture, collection system failures, and urban runoff/storm sewers.

In Oregon, 13,687 river miles and 30 lakes do not meet state water quality standards and are listed on the Water Quality Limited Waterbodies 303(d) list. Although the list is significantly larger than in the past, the increase does not signify that Oregon's waters are more degraded than a few years ago. The increase simply reflects the amount of new information considered in developing the list.

Oregon did not report on the condition of wetlands.

Ground Water Quality

Oregon has two ground water management areas and is studying ground water quality in several other parts of the state. Contaminants of concern include nitrate, pesticides, volatile organic compounds (VOCs) and bacteria. Suspected sources of contamination include agricultural activities, above- and belowground storage tanks, landfills, septic systems, hazardous waste sites, spills, and urban runoff.

Programs To Restore Water Quality

The Department of Environmental Quality (DEQ) is the state agency responsible for protecting Oregon's public water for a wide range of uses. The DEQ sets water quality standards to protect "beneficial uses" such as recreation, fish habitat, drinking water supplies, and aesthetics. The DEQ's

top priorities have been and will continue to be developing Total Maximum Daily Loads for those waterbodies that appear on the state's 303(d) list and to participate in the Oregon plan to restore salmon populations.

The DEQ regulates approximately 630 municipal wastewater sewage treatment plants and 211 industrial dischargers through individual permits that set limits on pollutants discharged. In addition, approximately 2,880 facilities have general permits that limit discharges and 1,480 facilities are covered by stormwater general permits. The DEQ also permits and inspects septic system installations.

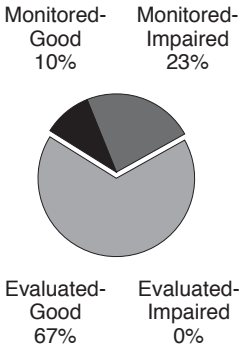
Programs To Assess Water Quality

The DEQ monitors water quality with regular sampling of more than 50 rivers and streams in the 18 designated river basins in Oregon. This sampling produces conventional pollutant data for determining trends, standards compliance, and problem identification. Biological monitoring is also conducted under one of three sampling strategies: probabilistic sampling for extrapolation of conditions of study units (e.g., ecoregion), best management practices effectiveness monitoring, and reference site monitoring. Other monitoring includes studies of mixing zones at effluent discharges, volunteer monitoring, and sampling of shellfish areas for bacteria.

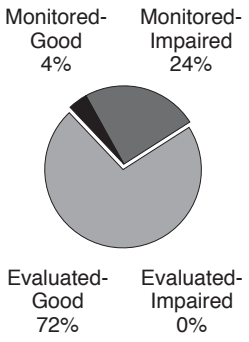
Data Quality

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.

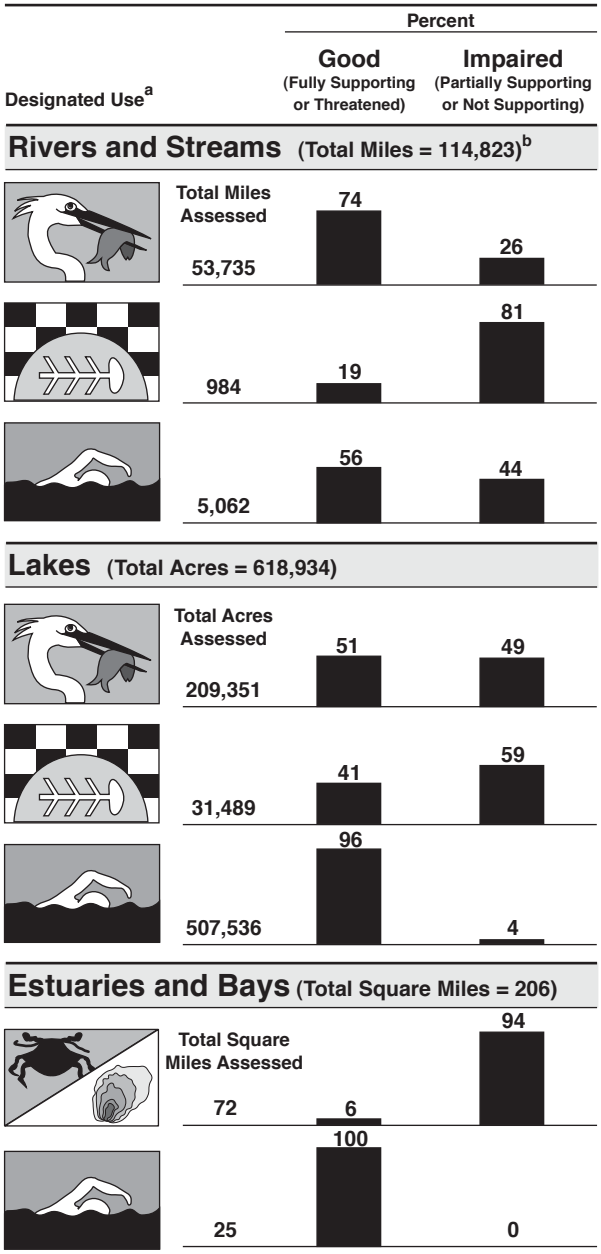
Rivers



Lakes



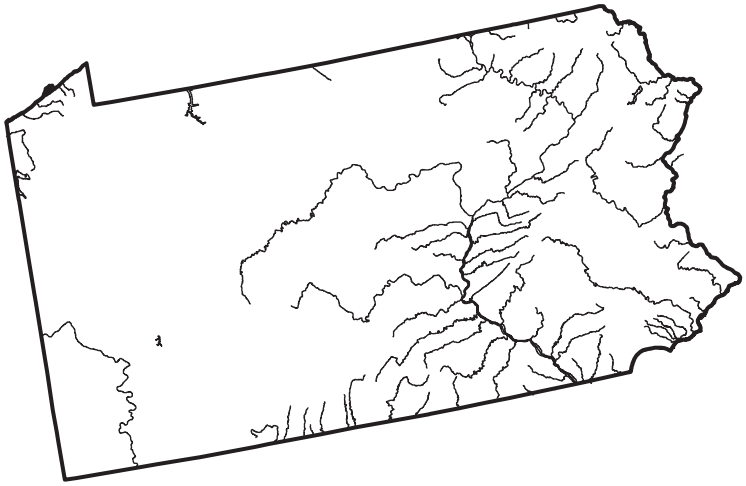
Individual Use Support in Oregon



[a] A subset of Oregon'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.

Pennsylvania



Rivers
State Border

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

Robert Frey
Pennsylvania Department of Environmental Protection
Bureau of Water Supply and Wastewater Management
Division of Water Quality Assessment and Standards
P.O. Box 8467
Harrisburg, PA 17105-8467
(717) 787-9637
e-mail: rofrey@state.pa.us

The report is also available on the Internet at: **http://www.dep.state.pa.us/dep/deputate/watermgt/wc/subjects/wqstandards.htm**

Surface Water Quality

Approximately 80% of the surveyed 35,496 river and stream miles in Pennsylvania have good water quality that support aquatic life uses. The most widespread pollutants impairing the remaining miles are siltation, which impacts 3,016 miles, and metals, which affect 2,536 miles. Other causes of impairment include nutrients and pH. Agriculture is the most significant source of surface water quality degradation, impacting 2,736 river and stream miles. Drainage from abandoned mining sites pollutes at least 2,711 miles of streams. Other sources of degradation include urban runoff/storm sewers and habitat modification. Of the lake acres assessed, 38% support aquatic life use. Organic enrichment, nutrients, thermal modifications, and suspended solids are commonly cited for impacting lakes. While agriculture is a large source of contamination, a significant portion of the contaminant sources remains unknown. Pennsylvania has issued 33 fish consumption advisories. Most are due to elevated concentrations of PCBs and chlordane in fish tissue, but two advisories have been issued for mirex and one for mercury.

Ground Water Quality

Pennsylvania has evaluated 10% of its ground water using data from its ambient ground water monitoring program. For 2000, Pennsylvania augmented ambient monitoring data from 49 ground water basins with information that was collected using the 20 major sub-basins of the state as reporting units. Major sources of ground water contamination include mining and mine drainage, aboveground and underground storage tanks, pipelines and sewer lines, surface impoundments, spills, landfills, hazardous waste sites, industrial facilities, and pesticide application. Petroleum and petroleum byproducts are the most common pollutants in ground water. Coal mining and oil and gas production have also elevated concentrations of several elements (e.g., chlorides and metals) in some regions. Pennsylvania continues to develop its Comprehensive State Ground Water Protection Program (CSGWPP) that provides a mechanism for Pennsylvania and EPA to collaboratively develop a comprehensive statewide approach to ground water protection.

Programs To Restore Water Quality

A new program in Pennsylvania called Growing Greener is the largest single environmental investment in its history. Growing Greener directs nearly $650 million over 5 years to the new Watershed Protection and

Environmental Stewardship Fund to protect watersheds, preserve open farmland, invest in parks and outdoor recreation, reclaim abandoned mines and wells, and upgrade water and sewer infrastructure. This program will provide grants to watershed groups, local governments, and others for the protection of Pennsylvania's water resources, including management and reduction of nonpoint pollution sources. The impact of acid mine drainage from abandoned mines is a widespread concern in Pennsylvania. The U.S. Office of Surface Mining and EPA Region 3 created the Appalachian Clean Streams Initiative to address water quality problems associated with mine drainage in Maryland, Ohio, Pennsylvania, and West Virginia. It is hoped that this initiative will involve private organizations and local citizens as well as government agencies in implementing solutions.

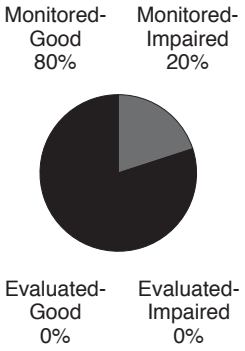
Programs To Assess Water Quality

The Water Quality Network monitors chemical and physical parameters almost monthly and biological parameters annually at fixed stations on rivers, streams, and Lake Erie. In addition, at least 3,000 sampling stations have been monitored by more than 140 volunteer citizen groups to help collect water quality data and to foster community stewardship of local water resources. Pennsylvania also conducts ambient ground water monitoring at 537 monitoring sites. A fund has been established, in cooperation with the National Fish and Wildlife Foundation, to assist permit applicants with the wetlands replacement requirements in commonwealth regulations. In addition, a Wetlands Net Gain Strategy has been developed.

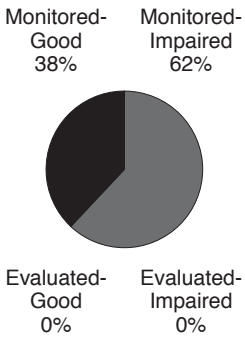
Data Quality

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 Pennsylvania

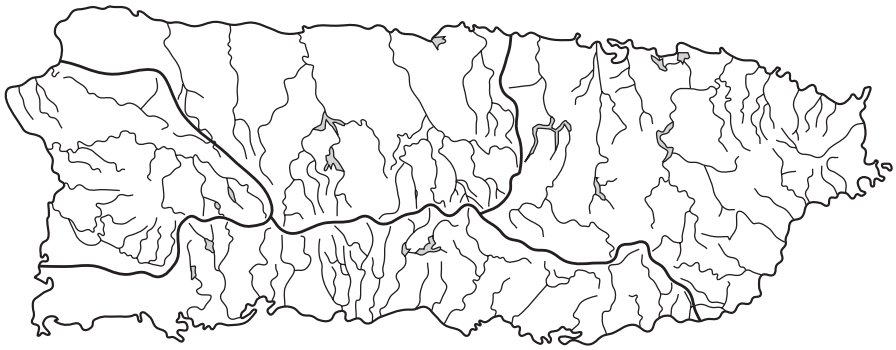
Designated Use[a]	Percent Good (Fully Supporting or Threatened)	Percent Impaired (Partially Supporting or Not Supporting)
Rivers and Streams (Total Miles = 83,260)[b]		
Total Miles Assessed	35,496	80 / 20
Lakes (Total Acres = 161,445)		
Total Acres Assessed	42,421	38 / 62

[a] A subset of Pennsylvania'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.

Puerto Rico



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

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

Rubén González
Puerto Rico Environmental Quality Board
Water Quality Area
Box 11488
Santurce, PR 00910
(787) 751-5548

Surface Water Quality

Most of the rivers and streams in Puerto Rico are impaired for aquatic life (68%) and swimming (77%). The primary contaminants responsible for impairment include nonpriority organics, metals, and pathogens. They originate from onsite land disposal, agricultural activities, and sanitary collection system failures.

Lake water quality in Puerto Rico is generally good, with most assessed acres supporting aquatic life (74%) and swimming (79%). Low dissolved oxygen and high metal concentrations are responsible for most of the impaired lake acres.

Although Puerto Rico reports on the quality of their estuaries, they report in linear miles, which prevents comparison with other state estimates. Of 175 estuarine miles assessed for this reporting cycle, 23% support aquatic life and 28% support swimming. Pathogens, nonpriority organics, and metals are cited as causes of impairment. This does not include any monitoring data from the San Juan Bay Estuary System.

Eighty-six percent of coastal areas assessed support aquatic life and 88% support swimming. Urban runoff and sanitary sewer overflows are the primary sources of pathogens contaminating coastal waters.

Puerto Rico did not report on the condition of wetlands.

Ground Water Quality

Ground water supplies 16% of the population with drinking water. It is also used for various industrial and agricultural applications. During this reporting cycle, 86 wells were closed for various reasons. Volatile organic compounds and nitrates are frequently detected at concentrations that exceed national maximum contaminant levels. Bacteria, pesticides, halogenated solvents, and petroleum compounds are also common contaminants. The major sources of ground water contamination include agricultural activities, septic tanks, industrial facilities, storage tanks, and landfills.

Programs To Restore Water Quality

The Puerto Rico Environmental Quality Board (PREQB) administers a Nonpoint Source Control Program. In the past 2 years, regulations were passed to reduce sedimentation and confine animal wastes. A pilot project is operating in the Lake Plata watershed to reduce nutrient loadings to the lake. A compost processing plant converts poultry fecal waste into organic fertilizer that will be marketed to farmers.

The Point Source Control Program focuses activities on administering NPDES permits, controlling underground injection wells and storage tanks, and monitoring ground and surface water quality.

Programs To Assess Water Quality

For this reporting cycle, the PREQB included monitoring data from its fixed-station monitoring network. The PREQB has also developed a rotating watershed monitoring plan to prioritize Puerto Rico's 101 watersheds. The 2002 305(b) report will include a combination of data from the existing fixed monitoring network and the new rotating watershed approach. The PREQB established a Permanent Ground Water Monitoring Network to collect samples from 100 drinking water wells.

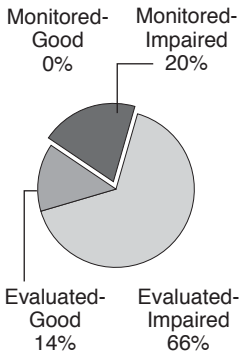
Eighty-eight coastal stations are sampled for fecal coliform and enterococcus bacteria. In 1999, the PREQB implemented volunteer monitoring at six of the stations.

To date, most monitoring has been limited to physical and chemical parameters. However, in 1996, the PREQB and EPA conducted a pilot project to determine if a Rapid Bioassessment Protocol could be implemented. Unfortunately, the study results indicated that no relationship was found between macroinvertebrates and chemical values or habitat assessment. Further studies will be conducted to develop biological water quality indicators and new bacteria and nutrient criteria.

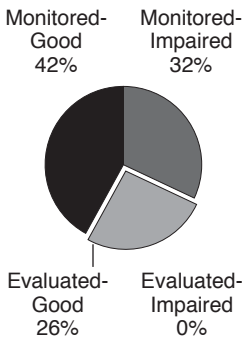
Data Quality

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.

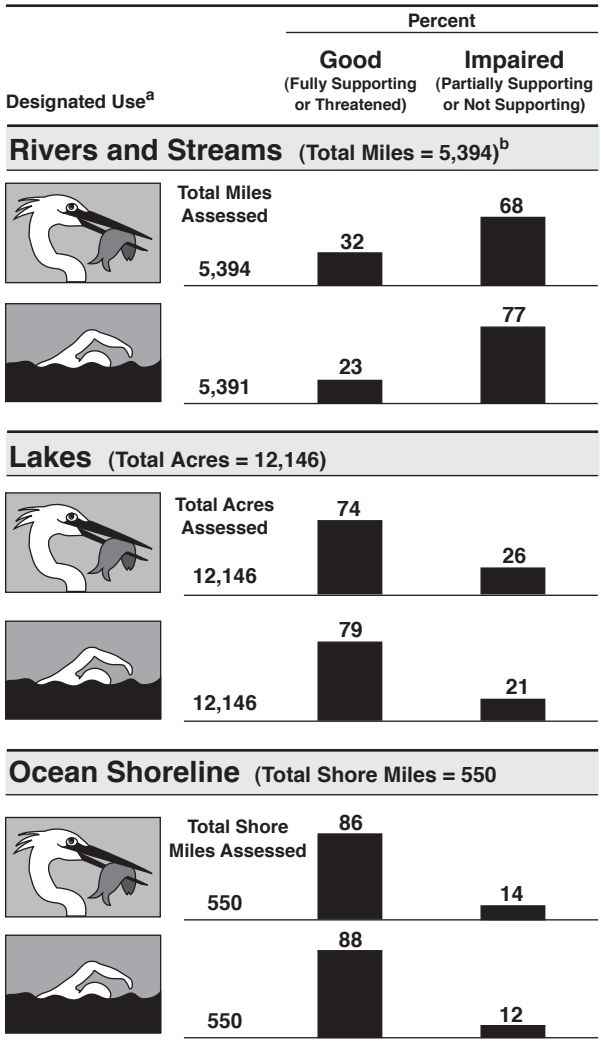
Rivers



Lakes



Individual Use Support in Puerto Rico



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