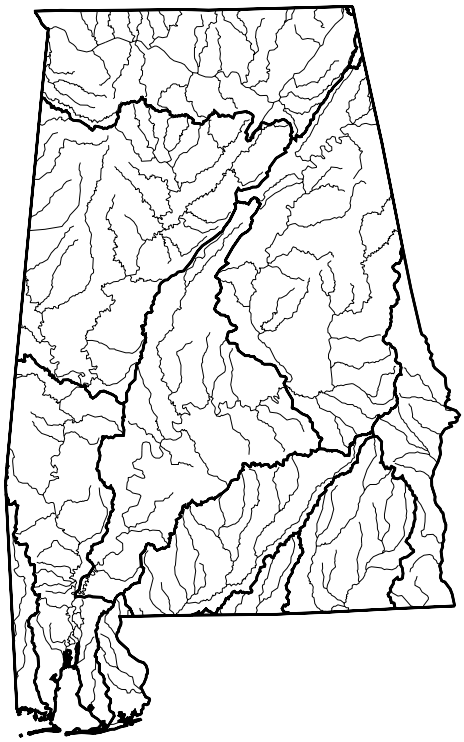
Alabama



Basin Boundaries
(USGS 6-Digit Hydrologic Unit)

For a copy of the Alabama 1998 305(b) report, contact:

Michael J. Rief
Alabama Department of
Environmental Management
Water Quality Branch
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Montgomery, AL 36130-1463
(334) 271-7829
e-mail: mjr@adem.state.al.us

The report is also available on the Internet at: *http://www.adem.state.al.us/305bwebpg.html*

Surface Water Quality

Since enactment of the Clean Water Act of 1972, water quality has substantially improved near industrial and municipal facilities. However, pollution still prevents about 5% of the surveyed stream miles from fully supporting state-defined overall use. In addition, 19% of surveyed lake acres do not fully support aquatic life use and 84% of surveyed estuarine square miles do not fully support shellfishing use. Oxygen-depleting wastes and pathogens are the most common pollutants impacting rivers and coastal waters. The leading sources of river pollution include agriculture, municipal wastewater treatment plants, and urban runoff and storm sewers. In coastal waters, the leading sources of pollution are urban runoff and storm sewers, municipal point sources, and collection system failures.

Toxic priority organic chemicals impact the most lake acres, usually in the form of a fish consumption advisory. These pollutants may accumulate in fish tissue at a concentration that greatly exceeds the concentration in the surrounding water. Unknown sources and industrial dischargers are responsible for the greatest acreage of impaired lake waters.

Special state concerns include impacts from forest clearcutting and lack of streamside management zones. Animal waste runoff is another special concern that is being dealt with through an operation registration rule.

Alabama did not report on the condition of wetlands.

Ground Water Quality

The Geological Survey of Alabama monitoring well network indicates relatively good ground water quality. However, the number of ground water contamination incidents has increased significantly in the past few years due to better reporting under the Underground Storage Tank Program and increased public awareness of ground water issues. Alabama has established pesticide monitoring and a Wellhead Protection Program to identify nonpoint sources of ground water contamination and further protect public water supplies.

Programs to Restore Water Quality

Alabama's nonpoint source management program initiated a 5-year rotational watershed management schedule approach beginning in 1996. The approach involves assessing and identifying the causes and sources of nonpoint source impacts, prioritizing impacted watersheds, and providing resources to protect or improve water quality. The first river basin assessments were conducted in 1996-1997 in the Lower Cahaba and Black Warrior River basins. Other priorities of the nonpoint source program include demonstrating best management practices (BMPs); raising public awareness through education, training, and initiatives; and developing, prioritizing, and implementing nonpoint source total daily maximum loads.

Programs to Assess Water Quality

During the 1980s, Alabama implemented a multifaceted approach to surface water quality monitoring. This approach included a fixed-station monitoring network, reservoir monitoring, intensive waterbody-specific studies, fish tissue sampling, and compliance monitoring of point source discharges. In 1996, the state proposed ASSESS, a watershed-based strategy to integrate surface water quality monitoring with defined water quality objectives and associated environmental indicators. The objectives of ASSESS include improving monitoring coverage within river basins, improving spatial detail of water quality assessments, and increasing total stream miles monitored over the 5-year rotation period.

Summary of Use Support in Alabama

	Percent		
	Good (Fully Supporting)	Good (Threatened)	Impaired (For One or More Uses)
Rivers and Streams (Total Miles = 77,274)[b]			
Total Miles Assessed: 2,987	95	-	5

Individual Use Support in Alabama

Designated Use[a]	Percent				
	Good (Fully Supporting)	Good (Threatened)	Fair (Partially Supporting)	Poor (Not Supporting)	Not Attainable
Lakes (Total Acres = 490,472)					
Total Acres Assessed: 463,115	67	15	17	2	0
463,111	78	5	9	7	0
415,036	77	19	4	<1	0
Estuaries (Total Square Miles = 610)					
Total Square Miles Assessed: 610	100	0	0	0	0
610	100	0	<1	0	0
497	16	0	84	0	0
583	100	0	0	<1	0

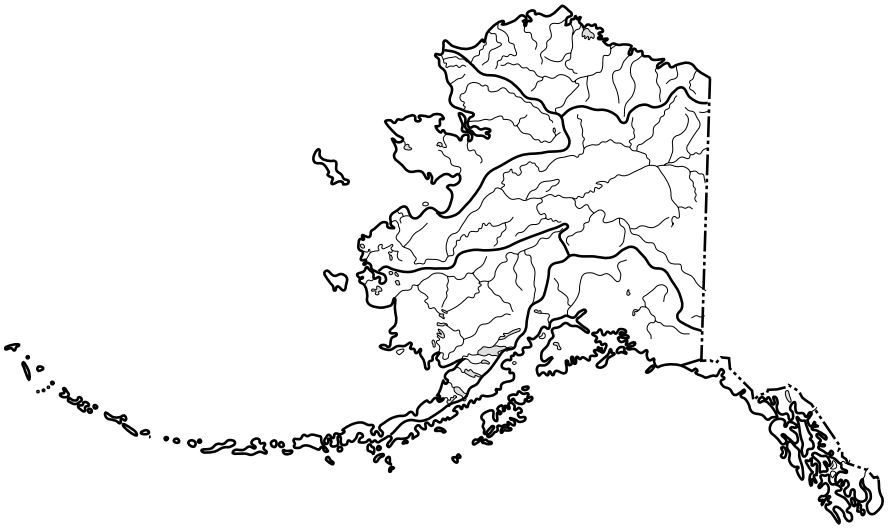
– Not reported in a quantifiable format or unknown.

[a] A subset of Alabama'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.

Alaska



Basin Boundaries
(USGS 6-Digit Hydrologic Unit)

For a copy of the Alaska 1998 305(b) report, contact:

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Alaska Department of Environmental Conservation
Division of Air and Water Quality
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Surface Water Quality

The vast majority of Alaska's watersheds, while not being monitored, are presumed to be in relatively pristine condition due to Alaska's size, sparse population, and general remoteness. However, Alaska has localized water pollution. Surface water quality has been found to be impaired or threatened from sources such as urban runoff (Fairbanks, Anchorage, and Juneau), mining operations in the Interior and Northwest Alaska, seafood processing facilities in the Aleutian Islands, and forest products facilities in southeast Alaska.

Alaska did not report on the condition of wetlands.

Ground Water Quality

Ground water is one of Alaska's least understood natural resources. It is the major source of fresh water for public and private drinking water supply systems, industry, and agricultural development. Although ground water is presumed to be of excellent quality in most areas of the state, specific areas of generally good ground water quality have been degraded by human activities. Ground water impairment has been documented in various areas of the state and has been linked predominantly to aboveground and subsurface petroleum storage facilities, as well as operational and abandoned military installations. Other sources, such as failed septic systems, also contribute to ground water contamination.

Programs to Restore Water Quality

The Alaska Department of Environmental Conservation (ADEC) has developed the Watershed Management Section, within the Division of Air and Water Quality, to implement the watershed protection approach that has been used successfully in other states. The purpose of this approach is to cost-effectively improve the water quality of Alaska's polluted waterbodies and to protect its healthy watersheds in cooperation with other agencies, industry, interest groups, and the public. The process to be used to advance the watershed protection approach in Alaska is outlined in the document *Watershed Partnerships in Alaska*.

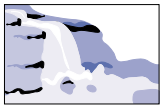
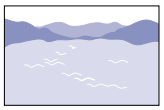
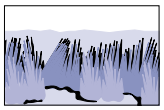
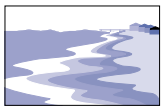
ADEC also supports numerous additional water quality projects and programs statewide, including: pollution prevention, leaking underground storage tanks, contaminated sites, industrial permitting, waterbody assessments and recovery plans, water quality monitoring, water quality technical services, and public outreach and education from statewide public service offices.

Programs to Assess Water Quality

The Alaska Watershed Monitoring and Assessment Project (AWMAP) is a statewide water quality monitoring project involving local, state, and federal agencies; industry; schools; the University of Alaska; and other entities conducting water quality monitoring. A recent AWMAP report identified areas of the state (by USGS hydrologic unit) where water quality monitoring is either absent or insufficient to address the potential pollution sources.

Other water quality monitoring activities are conducted by ADEC, other agencies, industry, and the public. Applicant self-monitoring of receiving waters is a common permit requirement associated with Alaska's major point source dischargers. ADEC, in cooperation with the Alaska Department of Natural Resources (ADNR), has periodically conducted water quality monitoring related to placer mining. Implementation of the State Ground Water Quality Protection Strategy is continuing, encouraging increased ground water monitoring.

Summary of Use Support[a] in Alaska[b]

		Percent		
		Good (Fully Supporting)	Good (Threatened)	Impaired (For One or More Uses)
Rivers and Streams	**(Total Miles = 365,000)**			
	Total Miles Assessed	513	1	-
				99
Lakes	**(Total Acres = 12,787,200**			
	Total Acres Assessed	4,719	0	-
				100
Estuaries	**(Total Square Miles = 33,257)**			
	Total Square Miles Assessed	237	1	-
				99
Ocean Shoreline	**(Total Miles = 44,226)**			
	Total Shoreline Miles Assessed	4	0	-
				100

– Not reported in a quantifiable format or unknown.

[a] A summary of use support data is presented because Alaska did not report individual use support in their 1998 Section 305(b) report.

[b] Alaska notes its assessments are biased toward those waters with known impairments.

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

American Samoa

Basin Boundaries
(USGS 6-Digit Hydrologic Unit)

For a copy of the American Samoa 1998 305(b) report, contact:

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e-mail: goldstein.carl@epa.gov

Surface Water Quality

The Territory of American Samoa (AS) is located about 2,300 miles southwest of Hawaii and consists of five islands with a total of 116 miles of shoreline and approximately 160 streams.

Although becoming more westernized, American Samoa still retains traditional Polynesian systems of leadership, land tenure, and family alliances. Due to cultural differences, environmental policies are not always effective.

Streams in American Samoa serve as sources of potable water and places for recreational and subsistence fishing for many villages. While there are no significant point sources of pollutants, nonpoint sources (stormwater runoff, erosion, agricultural practices, road building, careless solid waste disposal, and individual sewer systems) contribute to a reduction in stream quality. This has resulted in a loss of aquatic habitat as well as increased sedimentation, and turbidity. Monitoring data for fecal coliform indicate that the water quality of almost every stream consistently exceeds the established standards.

Coastal waters immediately adjacent to villages show limited water quality degradation, so the protected uses for open coastal and ocean waters appear to be met. Two to five miles out from the islands, American Samoa's tuna canneries are permitted to dump cannery sludge and other wastes. In general, compliance with the Ocean Dumping permit has been satisfactory.

Because it is subjected to the greatest amount of anthropogenic or human-generated pollution, Pago Pago Harbor has been identified as an impaired waterbody due to elevated levels of lead and tributlytin in sediment and fish tissue. Also, large oil spills occur several times a year. To reduce the impacts of the spills, the U.S. Coast Guard and AS EPA worked together to develop an Oil Spill Protocol and a 24-hour harbor surveillance program.

American Samoa did not report on the condition of wetlands.

Ground Water Quality

The majority of potable water for the government water system comes from ground water in the Tafuna-Leone Plain on Tutuila. In a 1987 study, ground water contamination was attributed to soil bacteria, particulates, human and animal wastes, poor well construction, and the high permeability/low soil

filtration capacity. A 1989 study found that total coliform bacteria concentrations in well waters are readily detectable after heavy rainfall; otherwise, all regulated contaminants are within EPA Safe Drinking Water Standards.

Programs to Restore Water Quality

Based on a 1988 assessment report, the Nonpoint Source Management Program was created to encourage best management practices. Completed projects include soil stabilization demonstration projects, septic tank training, waste oil collection, soil erosion regulations, plan guidelines for developers, watershed cleanup projects, storm water planning, and public education. In 1990, the American Samoa Coastal Nonpoint Pollution Control Program required BMPs for sediment and erosion, stormwater, and construction site controls for all new development.

A Wetlands Management Plan has initiated delineation and restoration programs and the ASEPA has begun riparian habitat restoration projects for 10 streams on Tutuila Island.

Ground water restoration efforts include sewer and sewage treatment plant construction, public education, and a water conservation program.

Programs to Assess Water Quality

A baseline water quality study in 1979 led to the completion of the first water monitoring strategy in 1984. Five rivers and 13 Pago Pago Harbor sites are sampled for physical and chemical parameters, and 15 streams and 21 beaches are tested for biological contamination.

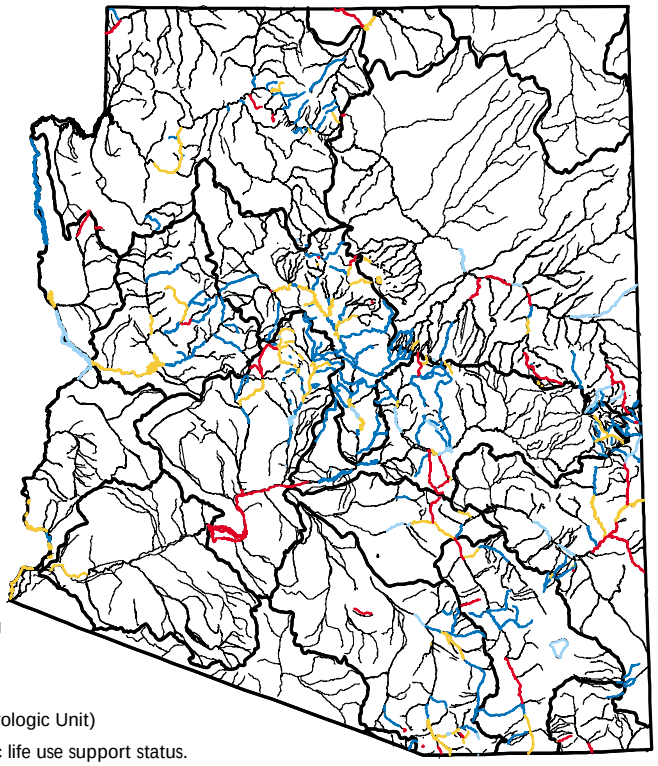
Individual Use Support in American Samoa

Designated Use[a]	Percent				
	Good (Fully Supporting)	Good (Threatened)	Fair (Partially Supporting)	Poor (Not Supporting)	Not Attainable
Rivers and Streams (Total Miles = unknown)					
Total Miles Assessed	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
Ocean Shoreline (Total Miles = 116)					
Total Miles Assessed	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-

– Not reported in a quantifiable format or unknown.

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

Arizona



This map depicts aquatic life use support status.

For a copy of the Arizona 1998 305(b) report, contact:

Diana Marsh
Arizona Department of
Environmental Quality
3033 North Central Avenue
Phoenix, AZ 85012
(602) 207-4545
e-mail: marsh.diana@ev.state.az.us

The report is also available on the Internet at: *http://www.adeq.state.az.us/water/assess*

Surface Water Quality

Good water quality fully supports aquatic life uses in 62% of Arizona's assessed stream miles and 66% of its surveyed lake acres. This means that 38% of its assessed stream miles and over 33% of its lake acres do not fully support aquatic life uses. Turbidity, metals, pathogens, and pH were the four stressors most frequently identified in streams. The leading stressors in lakes were metals, pH, inorganics, and turbidity. Natural sources, agriculture, and resource extraction were the three most common sources of stressors in streams. In lake assessments, flow regulation is added as a primary source of stressors.

Arizona did not report on the condition of wetlands.

Ground Water Quality

Arizona monitors a network of ambient water quality index wells and compiles data from other monitoring programs, which are primarily targeted in areas of known or suspected contamination. Data were reviewed in two watersheds and five "active management areas" (areas targeted as imperiled by overdraft of ground water resources by the Arizona Department of Natural Resources).

Ground water contamination varies significantly across the state. Natural fluoride levels exceed standards and are a major drinking water concern in several basins. In the metropolitan areas, volatile and semivolatile organic compound (VOC and SOC) contamination areas are being remediated by the federal and state Superfund programs.

Programs to Restore Water Quality

Arizona's nonpoint source control program integrates regulatory controls with nonregulatory education and demonstration projects.

Regulatory programs include the Aquifer Protection Permit Program, the Pesticide Contamination Prevention Program, and best management requirements for controlling nitrogen at concentrated animal feeding operations. The state is also developing best management practices for timber activities, grazing activities, urban runoff, and sand and gravel operations. Arizona's point source control program encompasses planning, facility construction loans, permits, pretreatment, inspections, permit compliance, and enforcement.

Additionally, the state's Water Protection Fund provides a source of funding to restore rivers and associated riparian habitats.

Programs to Assess Water Quality

Federal and state agencies continue efforts to coordinate monitoring, provide more consistent monitoring protocols, and provide mechanisms to share data, spurred by tightened budgets. Monitoring programs in Arizona include a fixed station network, stream ecosystem monitoring, priority pollutant monitoring, and monitoring to support development of criteria. Biological and physical integrity criteria are being developed by the Arizona Department of Environmental Quality, which will recognize regional differences in biological community structure and stream morphology.

Individual Use Support in Arizona

Designated Use[a]	Total Miles/Acres Assessed	Percent Good (Fully Supporting)	Percent Good (Threatened)	Percent Fair (Partially Supporting)	Percent Poor (Not Supporting)	Percent Not Attainable
Rivers and Streams (Total Miles = 90,373)[b, c]						
	4,120	55	7	21	17	-
	3,703	90	6	1	3	-
	3,675	85	7	6	2	-
Lakes (Total Acres = 352,588)[c]						
	77,102	18	48	32	1	-
	77,080	69	27	3	1	-
	76,863	90	7	2	1	-

– Not reported in a quantifiable format or unknown.

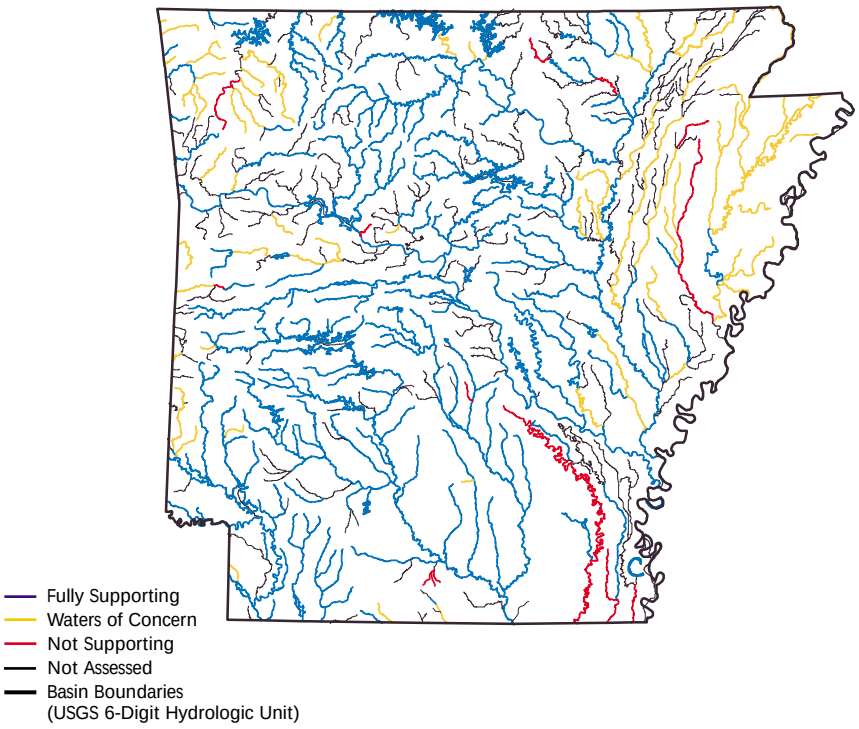
[a] A subset of Arizona's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.

[b] Includes 2,531 miles of nonperennial streams that dry up and do not flow all year.

[c] Does not include waters on tribal lands, which total 37,130 stream miles and 65,128 lake acres.

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

Arkansas



This map depicts aquatic life use support status.

For a copy of the Arkansas 1998 305(b) report, contact:

Bill Keith
Arkansas Department of
Environmental Quality
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Little Rock, AR 72219-8913
(501) 682-0660
e-mail: keith@adeq.state.ar.us

Surface Water Quality

The Arkansas Department of Environmental Quality reported that 69% of their surveyed rivers and streams and 100% of their surveyed lake acres have good water quality that fully supports aquatic life uses. Good water quality also fully supports swimming use in 93% of the surveyed river miles and 100% of the surveyed lake acres. Siltation and turbidity are the most frequently identified pollutants impairing Arkansas' rivers and streams, followed by bacteria, nutrients, and metals. Agriculture is the leading source of pollution in the state's rivers and streams and has been identified as a source of pollution in four lakes. Municipal wastewater treatment plants, mining, industrial discharges, and construction also impact rivers and streams. Arkansas has limited data on the extent of pollution in lakes.

Special state concerns include the development of TMDLs and more effective methods to identify nonpoint source impacts. Arkansas is also concerned about impacts from the expansion of confined animal production operations and major sources of turbidity and silt including road construction, road maintenance, riparian land clearing, streambed gravel removal, and urban construction.

Arkansas did not report on the condition of wetlands.

Ground Water Quality

Aquifer monitoring indicates that ground water quality in Arkansas is generally good. Secondary maximum contaminant wells were exceeded in a number of locations for parameters such as pesticides, iron, and manganese. Potential sources of contamination include disposal sites, underground storage sites, agriculture, and mining operations.

Programs to Restore Water Quality

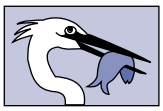
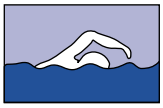
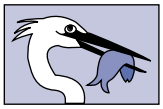
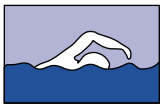
The Arkansas Nonpoint Source Pollution Management Program is currently being revised to include all categories of NPS pollution. It provides for continued monitoring of water quality, research into the effectiveness of BMPs, and implementation strategies for BMPs. Beginning in 1997, a Priority Water Program was developed to target NPS-impacted watersheds for BMP implementation. Ten watersheds were selected for either more intensive survey activities or BMP implementation activities.

Programs to Assess Water Quality

Arkansas classifies its water resources by ecoregion with similar physical, chemical, and biological characteristics. There are six ecoregions including the Delta, Gulf Coastal, Ouchita Mountain, Arkansas River Valley, Boston Mountain, and Ozark Mountain Regions. By classifying water resources in this manner, Arkansas can identify the most common land uses within each region and address the issues that threaten the water quality.

The state's ambient monitoring network includes 133 stations monitored monthly for several key water quality parameters. Many of these stations have been monitored for 15 to 20 years or longer. In addition, 103 additional stations sampled quarterly were added in 1994 to assess previously unassessed waters or waters that have not been monitored in several years. The data analyzed for this report were collected from October 1995 through September 1997.

Individual Use Support in Arkansas

Designated Use[a]		Percent: Good (Fully Supporting)	Good (Threatened)	Fair (Partially Supporting)	Poor (Not Supporting)	Not Attainable
Rivers and Streams (Total Miles = 87,617)[b]						
	Total Miles Assessed	69	-	22	8	-
	8,668					
		95	-	<1	5	-
	8,668					
		93	-	7	<1	-
	7,479					
Lakes (Total Acres = 514,245)						
	Total Acres Assessed	100	-	0	0	-
	356,254					
		95	-	-	5	-
	356,254					
		100	-	0	0	-
	356,254					

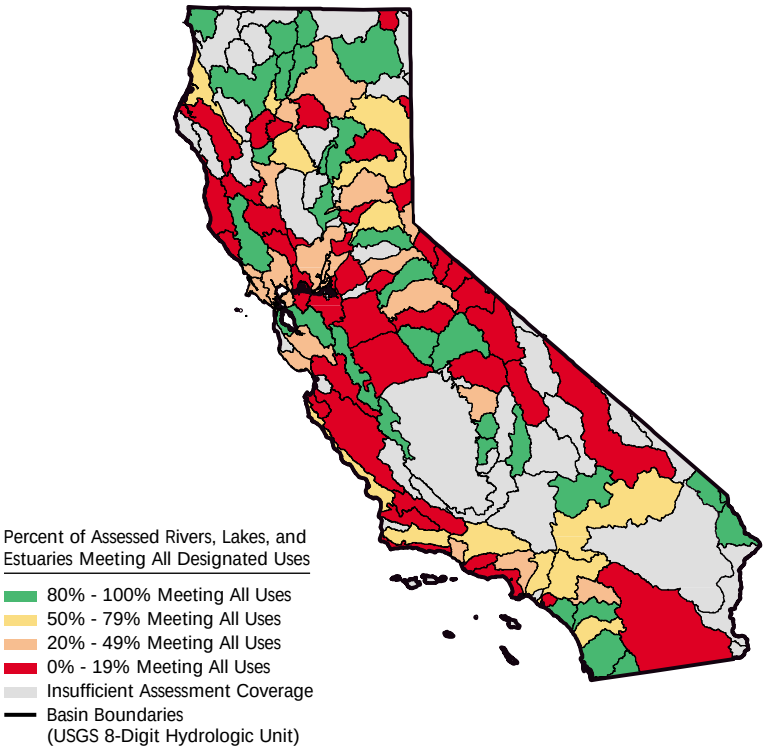
– Not reported in a quantifiable format or unknown.

[a] A subset of Arkansas' 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.

California



For a copy of the California 1998 305(b) report, contact:

Nancy Richard
California State Water Resources Control Board, M&A
Division of Water Quality
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Sacramento, CA 94244-2130
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Surface Water Quality

Siltation, metals, nutrients, bacteria, and pesticides impair the most river miles in California. The leading sources of degradation in California's rivers and streams are agriculture, forestry activities, urban runoff and storm sewers, and municipal point sources. In lakes, siltation, metals, and nutrients are the most common pollutants. Hydrologic and habitat modifications, along with urban runoff/storm sewers, construction, highway maintenance and runoff, and atmospheric deposition pose the greatest threat to lake water quality.

Metals, pesticides, PCBs, and priority organics are the most frequently identified pollutants in estuaries, harbors, and bays. Urban runoff and storm sewers are the leading source of pollution in California's coastal waters, followed by spills, agriculture, resource extraction, and septage disposal.

Ground Water Quality

Salinity, total dissolved solids, and chlorides are the most frequently identified pollutants impairing use of ground water in California, followed by priority organic chemicals, nutrients, non-priority organic chemicals, and pesticides. Leading sources are septage disposal, agriculture, and dairies. Potential sources of ground water contamination include leaking underground storage tanks, septage disposal, agriculture, and industrial point sources.

Programs to Restore Water Quality

Through California's stormwater permit program, two statewide general permits have been adopted addressing stormwater discharges associated with industrial activities. Dischargers are required to eliminate most nonstormwater discharges, develop a stormwater pollution prevention plan to identify and implement control measures to minimize pollutants in stormwater runoff, and monitor their discharges.

The State Water Resources Control Board and Regional Water Quality Control Boards are implementing a Watershed Management Initiative to better coordinate and

focus limited public and private resources to address both point and nonpoint source water quality problems especially in high-priority targeted watersheds.

Programs to Assess Water Quality

California has developed a number of programs to monitor water quality in fresh, estuarine, and marine waters of the state. These include a Toxic Substances Monitoring Program that focuses on areas with known or suspected impairment; the Toxicity Testing Program for the identification of high-risk areas as well as the spatial and temporal extent of water quality problems and their causes and sources; an underground storage tank program to study the cleanup of leaking tanks; and volunteer monitoring.

Programs that focus on saltwater monitoring include the California State Mussel Watch Program to detect toxic substances in bays, harbors, and estuaries and the Bay Protection and Toxic Cleanup Program to identify toxic hot spots in enclosed bays and estuaries. California is also developing a comprehensive program for monitoring and reducing pollution in California's coastal zone.

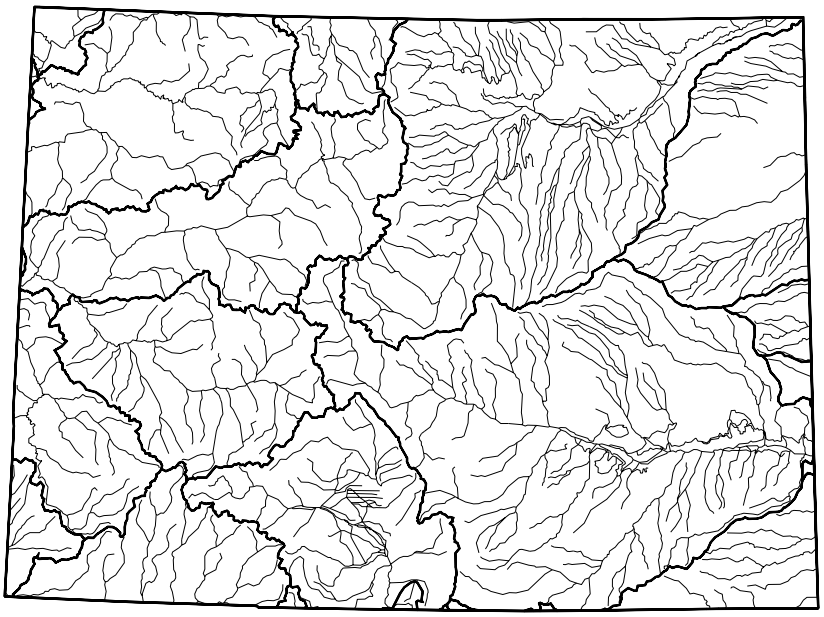
– Not reported in a quantifiable format or unknown.
[a] A subset of California's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes nonperennial streams that dry up and do not flow all year.
[c] Includes bays and harbors.

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

Individual Use Support in California

Designated Use[a]		Percent				
		Good (Fully Supporting)	Good (Threatened)	Fair (Partially Supporting)	Poor (Not Supporting)	Not Attainable
Rivers and Streams (Total Miles = 211,513)[b]						
	Total Miles Assessed					
	12,289	24	12	49	16	-
	8,075	29	9	59	2	-
	12,066	24	11	48	17	-
Lakes (Total Acres = 1,672,684)						
	Total Acres Assessed					
	683,248	25	8	48	19	-
	490,343	28	12	35	26	-
	675,736	25	11	46	19	-
Estuaries (Total Square Miles = 1,008)[c]						
	Total Square Miles Assessed					
	870	27	<1	67	5	-
	880	30	2	65	3	-
	749	36	3	60	1	-
	785	34	<1	65	1	-
Wetlands (Total Acres = 275,812)						
	Total Acres Assessed					
	27,117	55	1	43	<1	-
	338	51	0	0	49	-
	24,869	61	2	36	1	-

Colorado



Basin Boundaries
(USGS 6-Digit Hydrologic Unit)

For a copy of the Colorado 1998 305(b) report, contact:

Sarah Johnson
Colorado Department of Public Health and Environment
Water Quality Control Division
4300 Cherry Creek Drive, South
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(303) 692-3609
e-mail: sarah.johnson@state.co.us

Surface Water Quality

Colorado reports that 96% of its surveyed river miles and 88% of its surveyed lake acres have good water quality that fully support aquatic life uses. Metals are the most frequently identified pollutant in rivers and lakes. Mining and agriculture are leading sources of pollution in both rivers and lakes.

Colorado did not report on the condition of wetlands.

Ground Water Quality

Ground water quality in Colorado ranges from excellent in mountain areas where snow fall is heavy, to poor in certain alluvial aquifers of major rivers. Naturally occurring soluble minerals along with human activities are responsible for significant degradation of some aquifers. Nitrates and salts from agricultural activities have contaminated many of Colorado's shallow, unconfined aquifers. In mining areas, acidic water and metals contaminate aquifers. Colorado protects ground water quality with statewide numeric criteria for organic chemicals, a narrative standard to maintain ambient conditions or maximum contaminant levels of inorganic chemicals and metals, and specific use classifications and standards for ground water areas. Colorado also regulates discharges to ground water from wastewater treatment impoundments and land application systems with a permit system.

Programs to Restore Water Quality

Colorado's Water Quality Control Division recently reorganized to streamline the Division and to make it more responsive to major new trends in water quality management. The cornerstone of the new organization is the creation of watershed coordinators and watershed teams for the four major watersheds in the state: Arkansas/

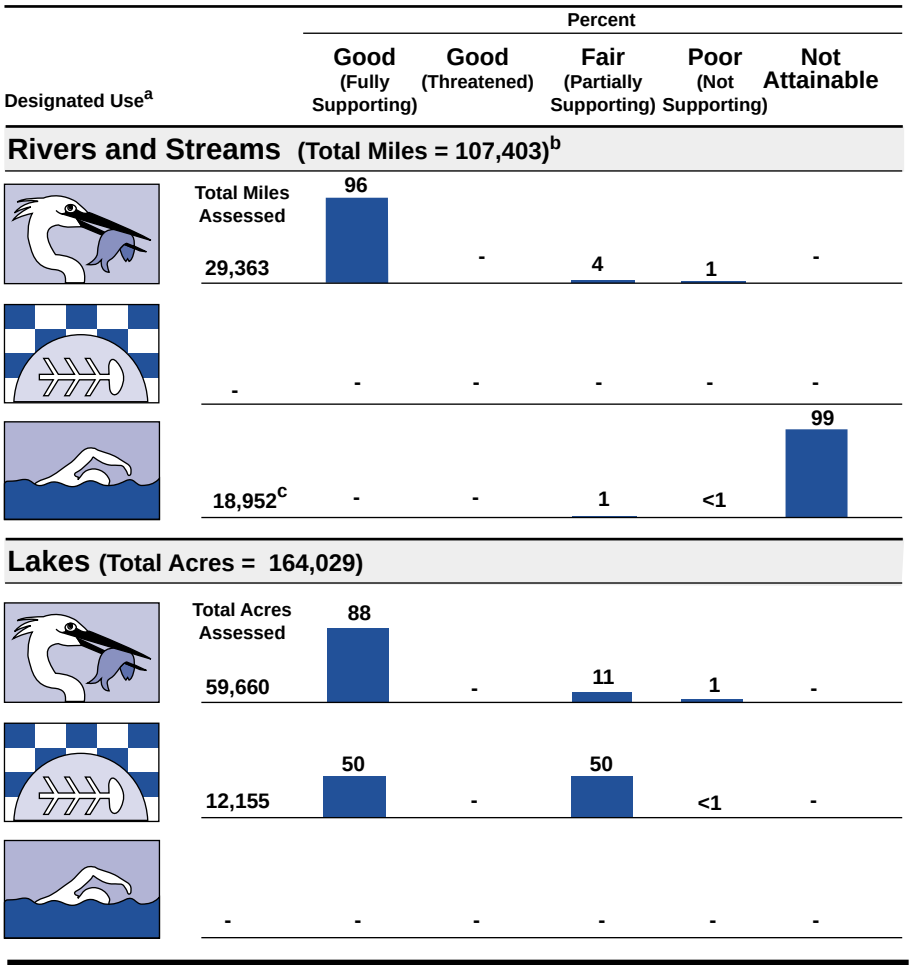
Rio Grande, Lower Colorado, Upper Colorado, and South Platte. The watershed coordinators make the Division more responsive to local communities and their concerns. The watershed teams give the Division the ability to address key issues using an integrated approach, which will lead to more effective solutions.

Other programs in Colorado include the state's Water Pollution Control Revolving Fund, nonpoint source control program, and permits programs.

Programs to Assess Water Quality

In 1992, Colorado changed its monitoring approach from a statewide network of routine sites and special studies to basin-specific monitoring of one major watershed per year. During the 1996-1997 cycle, the Lower Colorado/Gunnison and Upper Colorado basins were monitored. The basin monitoring program has several long-term objectives such as ensuring there is an adequate database to study changes over time, addressing spatial and temporal variability in water quality, evaluating the impact of point and nonpoint sources on water quality, determining lake trophic status, and developing a database for biological water quality criteria. Colorado plans to devote more resources to monitoring targeted watersheds in the four basins to support the development of TMDLs.

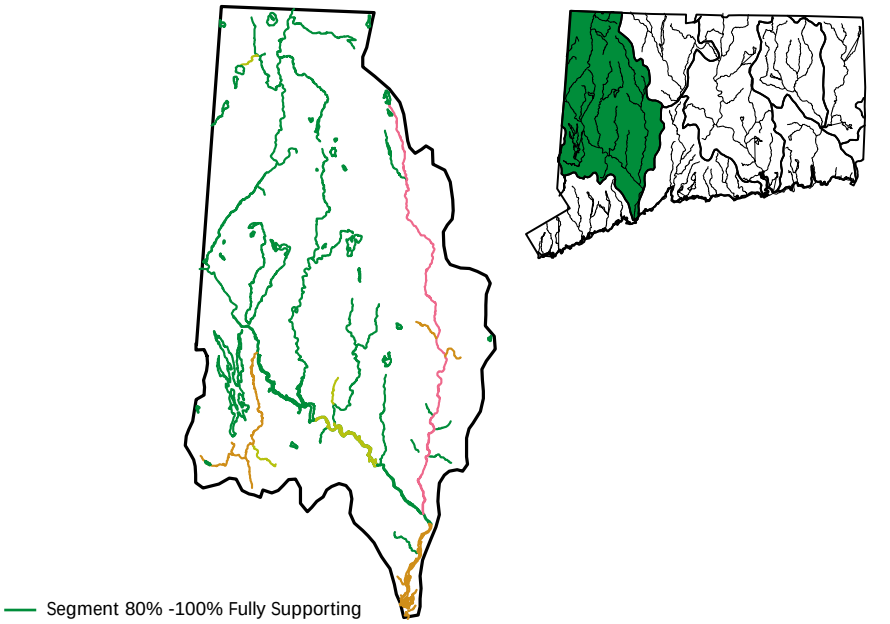
Individual Use Support in Colorado



– Not reported in a quantifiable format or unknown.
[a] A subset of Colorado'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] All of Colorado's rivers marked not attainable for swimming were not necessarily surveyed.

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

Connecticut



This map depicts aquatic life use support status.

For a copy of the Connecticut 1998 305(b) report, contact:

Ernest Pizzuto
Bureau of Water Management, PERD
Connecticut Department of
Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
(860) 424-3715
e-mail: ernest.pizzuto@po.state.ct.us

Surface Water Quality

Connecticut has restored over 300 miles of large rivers since enactment of Connecticut's State Clean Water Act in 1967. Back in 1967, about 663 river miles (or 74% of the state's 893 miles of large rivers and streams) were unfit for fishing and swimming. In 1998, Connecticut reported that 161 river miles (17%) do not fully support aquatic life uses and 220 miles (23%) do not support swimming due to stressors such as bacteria, PCBs, metals, oxygen-demanding wastes, ammonia, nutrients, toxics, and habitat alteration. Sources of these pollutants include urban runoff and storm sewers, industrial dischargers, municipal sewage treatment plants, and in-place contaminants. Threats to Connecticut's reservoir and lake quality include atmospheric deposition, upstream impoundments, and municipal sewage treatment plants.

Hypoxia (low dissolved oxygen) is a widespread problem in Connecticut's estuarine waters in Long Island Sound. Bacteria also prevent shellfish harvesting and an advisory restricts consumption of bluefish and striped bass contaminated with PCBs. Connecticut's estuarine waters are impacted by municipal sewage treatment plants, combined sewer overflows, industrial discharges and runoff, failing septic systems, urban runoff, recreational activities, and atmospheric deposition. Historic waste disposal practices also contaminated sediments in Connecticut's harbors and bays.

Connecticut did not report on the condition of wetlands.

Ground Water Quality

The state and U.S. Geological Survey (USGS) have identified about 1,600 contaminated public and private wells since the Connecticut Department of Environmental Protection (DEP) began keeping records in 1980. Connecticut's Wellhead Protection Program incorporates water supply planning, discharge permitting, water diversion, site remediation, prohibited activities, and numerous nonpoint source controls.

Programs to Restore Water Quality

Ensuring that all citizens can share in the benefits of clean water will require continued permit enforcement, additional advanced wastewater treatment, combined sewer separation, continued aquatic toxicity control, and resolution of nonpoint source issues. To date, 14 sewage treatment facilities have installed advanced treatment to remove nutrients. Nonpoint source management includes education projects and a permitting program for land application of sewage, agricultural sources, and solid waste management facilities.

Wetlands are protected by the state's Clean Water Act and Standards of Water Quality. Each municipality has an Inland Wetlands Agency that regulates filling and establishes regulated buffer areas with DEP training and oversight. Connecticut's courts have strongly upheld enforcement of the wetlands acts and supported regulation of buffer areas to protect wetlands.

Programs to Assess Water Quality

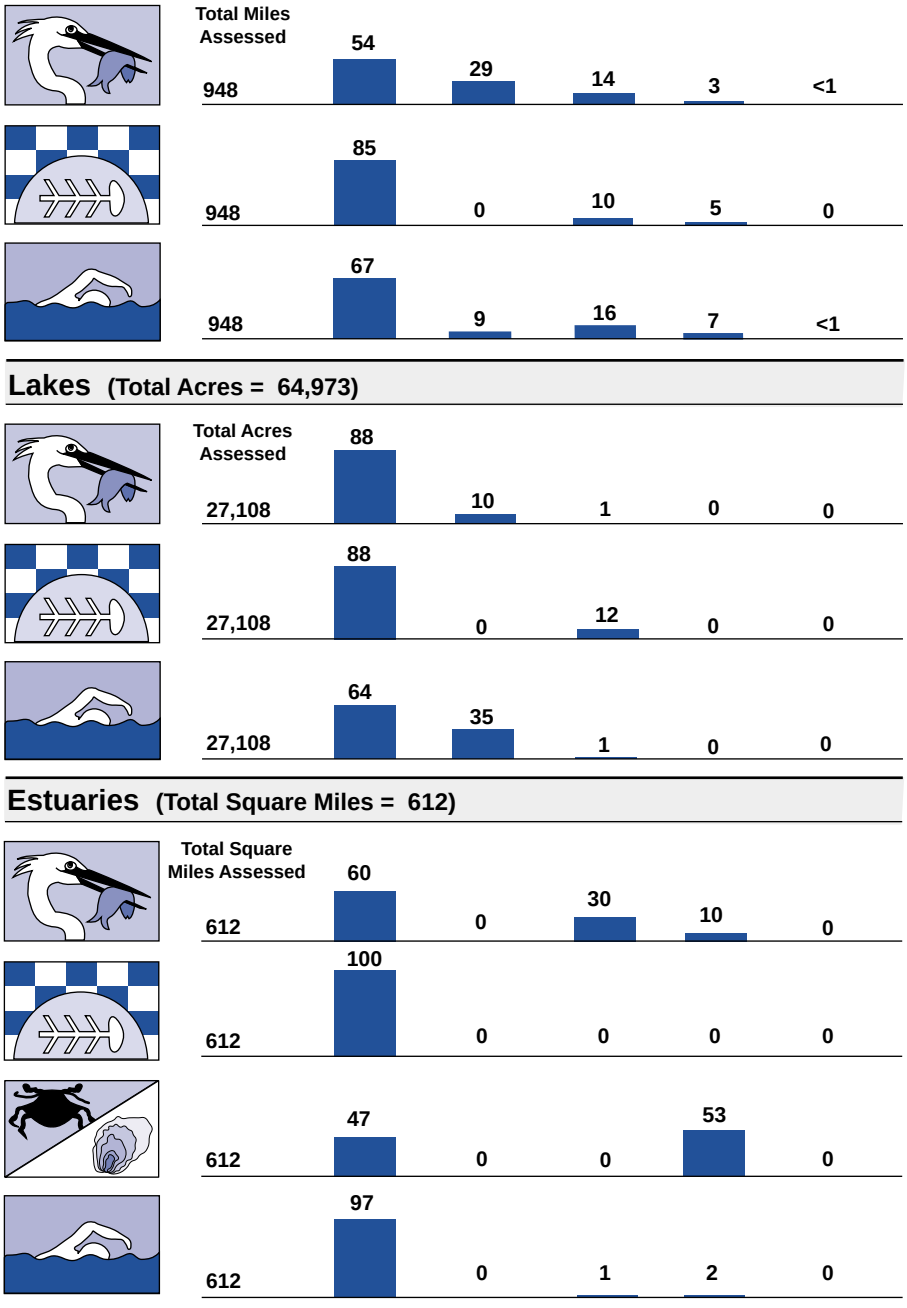
Connecticut samples physical and chemical parameters at 27 fixed stream sites and biological parameters at 47 stream sites. Other activities include intensive biological surveys, toxicity testing, and fish and shellfish tissue sampling for accumulation of toxic chemicals.

– Not reported in a quantifiable format or unknown.

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

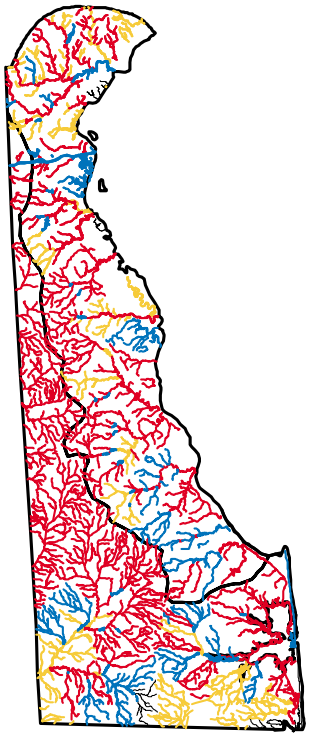
[b] Includes nonperennial streams that dry up and do not flow all year.

Individual Use Support in Connecticut



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

Delaware



Fully Supporting
Threatened
Partially Supporting
Not Supporting
Not Assessed
Basin Boundaries
(USGS 6-Digit Hydrologic Unit)

This map depicts aquatic life use support status.

For a copy of the Delaware 1998 305(b) report, contact:

Brad Smith
Delaware Department of Natural Resources and Environmental Control
Division of Water Resources
P.O. Box 1401
Dover, DE 19903
(302) 739-4590
e-mail: bsmith@dnrec.state.de.us

Surface Water Quality

Delaware's rivers and streams generally meet standards for aquatic life uses, but 98% of the assessed stream miles and 80% of the surveyed lake acres do not meet bacteria criteria for swimming. Bacteria are the most widespread contaminant in Delaware's surface waters, but nutrients and toxics pose the most serious threats to aquatic life and human health. Excessive nutrients stimulate algal blooms and growth of aquatic weeds. Toxics resulted in 14 fish consumption restrictions in three basins, including Red Clay Creek, Red Lion Creek, the St. Jones River, and the Delaware Estuary. Agricultural runoff, urban runoff, municipal sewage treatment plants, and industrial dischargers are the primary sources of nutrients and toxics in Delaware's surface waters.

Delaware did not report on the condition of wetlands.

Ground Water Quality

High-quality ground water provides two-thirds of Delaware's domestic water supply. However, nitrates, synthetic organic chemicals, saltwater, and iron contaminate isolated wells in some areas. In the agricultural areas of Kent and Sussex counties, nitrates in ground water are a potential health concern and a potential source of nutrient contamination in surface waters. Synthetic organic chemicals have entered some ground waters from leaking industrial underground storage tanks, landfills, abandoned hazardous waste sites, chemical spills and leaks, septic systems, and agricultural activities.

Programs to Restore Water Quality

The Department of Natural Resources and Environmental Control (DNREC) adopted a watershed approach to determine the most effective and efficient methods for protecting water quality or abating existing problems. Under the watershed approach, DNREC will

evaluate all sources of pollution that may impact a waterway and target the most significant sources for management. DNREC has targeted five basins for development of integrated pollution control strategies: Appoquinimink River, Christina River, Indian River Bay/Rehoboth Bay/Little Assawomen Bay, Murderkill River, and Nanticoke River.

Delaware's Wellhead Protection Program establishes cooperative arrangements with local governments to manage sources of ground water contamination. The state may assist local governments in enacting zoning ordinances, site plan reviews, operating standards, source prohibitions, public education, and ground water monitoring.

Programs to Assess Water Quality

Delaware's Ambient Surface Water Quality Program includes fixed-station monitoring and biological surveys employing rapid bioassessment protocols. Monitoring within the Fixed Station Network is conducted monthly to quarterly for each basin in Delaware. Delaware is developing and testing new protocols for sampling biological data in order to determine whether specific biological criteria can be developed to determine support of designated uses.

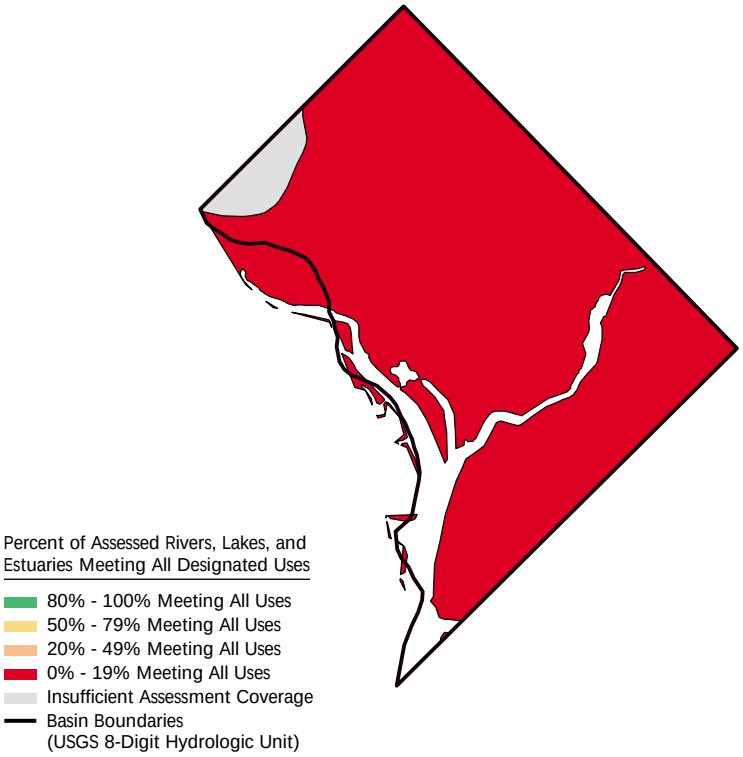
– Not reported in a quantifiable format or unknown.
[a] A subset of Delaware's designated uses appear in this figure. Refer to the state's 305(b) report for a full description of the state's uses.
[b] Includes nonperennial streams that dry up and do not flow all year.
[c] Does not include waters under jurisdiction of the Delaware River Basin Commission.

Individual Use Support in Delaware

Designated Use[a]	Total Miles/Acres/Square Miles Assessed	Percent: Good (Fully Supporting)	Good (Threatened)	Fair (Partially Supporting)	Poor (Not Supporting)	Not Attainable
Rivers and Streams (Total Miles = 2,509)[b]						
	2,510	17	-	20	63	-
	-	-	-	-	-	-
	2,005	2	-	22	75	-
Lakes (Total Acres = 2,954)						
	2,954	70	-	16	14	-
	-	-	-	-	-	-
	2,954	20	-	40	40	-
Estuaries (Total Square Miles = 812)[c]						
	29	0	-	0	100	-
	-	-	-	-	-	-
	30	2	-	98	0	-
	30	41	-	44	15	-

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

District of Columbia



For a copy of the District of Columbia 1998 305(b) report, contact:

James Collier
Environmental Health Administration
Water Quality Division
Suite 200
2100 Martin Luther King Jr. Avenue, SE
Washington, DC 20020
(202) 645-6601

Surface Water Quality

Water quality in the District of Columbia continues to be impaired. Each of the waterbodies monitored was impaired for one or more of its designated uses. The uses that relate directly to human use of the waterbodies were generally not supported, while those uses that directly affected the quality of habitat for aquatic life were at least partially supported. For example, the Anacostia River remains aesthetically and chemically polluted. However, the pollution is at a level that supports fish and other wildlife. Submerged aquatic vegetation (SAV) is found in the Anacostia and Potomac Rivers, with the Potomac supporting a diverse groups of SAV species. The Potomac River continues to benefit from improvements at the city's wastewater treatment plant and combined sewer overflow system improvements.

Major causes of impairment common to the District's waterbodies are organic enrichment and pathogens. The sources of impairment with major impacts are combined sewer overflows, urban runoff/storm sewers, and municipal point sources. These sources are associated with the land uses common in an urban area.

The District of Columbia did not report on the condition of wetlands.

Ground Water Quality

The drinking water source for the District of Columbia is surface water. The intake is located in the Potomac River north of the city's boundary. Consequently, ground water is not monitored on a regular, intensive basis. However, compliance monitoring data are scrutinized for ground water related information whenever it is available.

Programs to Restore Water Quality

The District's water quality programs are involved in the process of identifying and evaluating CSO control methods; the initiation of the TMDL process; the identification and support of projects to control stormwater runoff; and cleanups of trash and debris. Efforts to restore the ground water quality include underground storage tanks, pesticide certification, and enforcement programs.

Programs to Assess Water Quality

The District performs monthly physical and chemical sampling at 56 fixed stations on the Potomac and Anacostia rivers and their tributaries. At each water chemistry station, four samples a year are collected for heavy metals analysis. Biological monitoring is also implemented in the District's tributaries. Twenty-seven sites are sampled at least once every 2 years for biological, fish, morphological, and water quality parameters.

Individual Use Support in the District of Columbia

Designated Use[a]	Total Miles Assessed	Percent Good (Fully Supporting)	Good (Threatened)	Fair (Partially Supporting)	Poor (Not Supporting)	Not Attainable
Rivers and Streams (Total Miles = 39)[b]						
	38.4	0	0	44	56	-
	24.3	0	0		100	-
	27.7	0	0		100	-
Lakes (Total Acres = 238)						
	238	57	0	0	43	0
	238	0	0	0	100	0
	238	0	0	0	100	0
Estuaries (Total Square Miles = 6)						
	6	58	0	42	0	-
	6	0	0	0	100	-
	-	-	-	-	-	-
	6	0	0	0	100	-

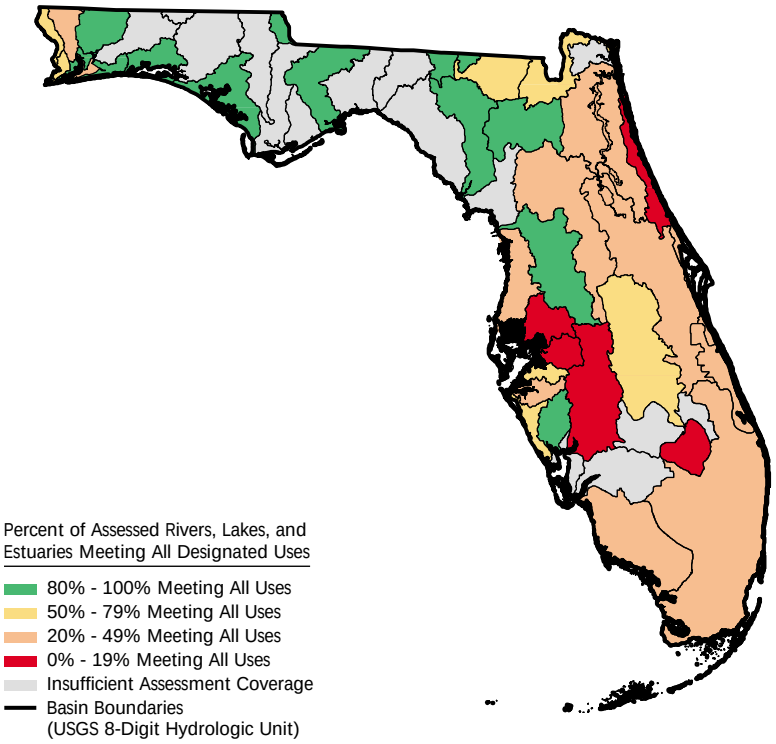
Note: Figures may not add to 100% due to rounding.

– Not reported in a quantifiable format or unknown.

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

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

Florida



For a copy of the Florida 1998 305(b) report, contact:

Joe Hand
Florida Department of Environmental Protection
Mail Station 3565
2600 Blair Stone Road
Tallahassee, FL 32399-2400
(850) 921-9441
e-mail: joe.hand@dep.state.fl.us

Surface Water Quality

The overall majority of Florida's surface waters are of good quality, but problems exist around densely populated urban areas, primarily in central and southern Florida. In rivers, nutrient enrichment, low dissolved oxygen/organic enrichment, siltation, and pathogens are the leading causes of degraded water quality. In lakes, the leading problems result from nutrients and algae. In estuaries, nutrient enrichment, metals, and algae degrade quality. Urban stormwater, agricultural runoff, industrial and municipal point sources, and construction are the major sources of water pollution in Florida.

The state recognizes the integrity of the following ecosystems as special state concerns: Everglades system, Florida Bay, Florida Keys, and Apalachicola River and Bay. Other issues of special concern are widespread mercury contamination in both marine and freshwater fish, protection of coastal areas and estuaries because of their ecological importance and significant contribution to Florida's economy, and integration of water quantity and quality decisions.

Ground Water Quality

Data from over 2,900 monitoring wells and 1,300 private water supply wells in Florida's ambient monitoring network indicate generally good water quality, but local ground water contamination problems exist. Agricultural chemicals, including aldicarb, alachlor, bromacil, simazine, and ethylene dibromide (EDB) have caused local and, in the case of EDB, regional problems. Other threats include petroleum products from leaking underground storage tanks, nitrates from dairy and other livestock operations, fertilizers and pesticides in stormwater runoff, toxic chemicals in leachate from hazardous waste sites, dry cleaner operations, and landfills. The state requires periodic testing of all community water systems for 118 toxic organic chemicals.

Programs to Restore Water Quality

Florida's point source permitting process was modified in 1995 with the delegation of the National Pollutant Discharge Elimination System (NPDES) program to Florida, but does not include stormwater permitting. The state wastewater program issues permits for facilities that discharge to either surface or ground water. The state permit for surface water dischargers now serves as the NPDES permit. Florida permits about 4,794

ground water and surface water discharge facilities. The state also encourages reuse of treated wastewater (primarily for irrigation) and the use of constructed and natural wetlands for treatment of wastewater as alternatives to direct discharge.

Florida has established several programs focused on the restoration or preservation of state waters. The 1987 Surface Water Improvement and Management Act requires management and restoration plans for preserving or restoring priority waterbodies and setting of Pollutant Load Reduction Goals (PLRGs) for those waterbodies. The 1999 Florida Legislature enacted the Florida Watershed Restoration Act to provide a process for restoring waters through the establishment and implementation of TMDLs for pollutants of impaired waters. The state has also purchased environmentally sensitive lands for protection since 1963.

Programs to Assess Water Quality

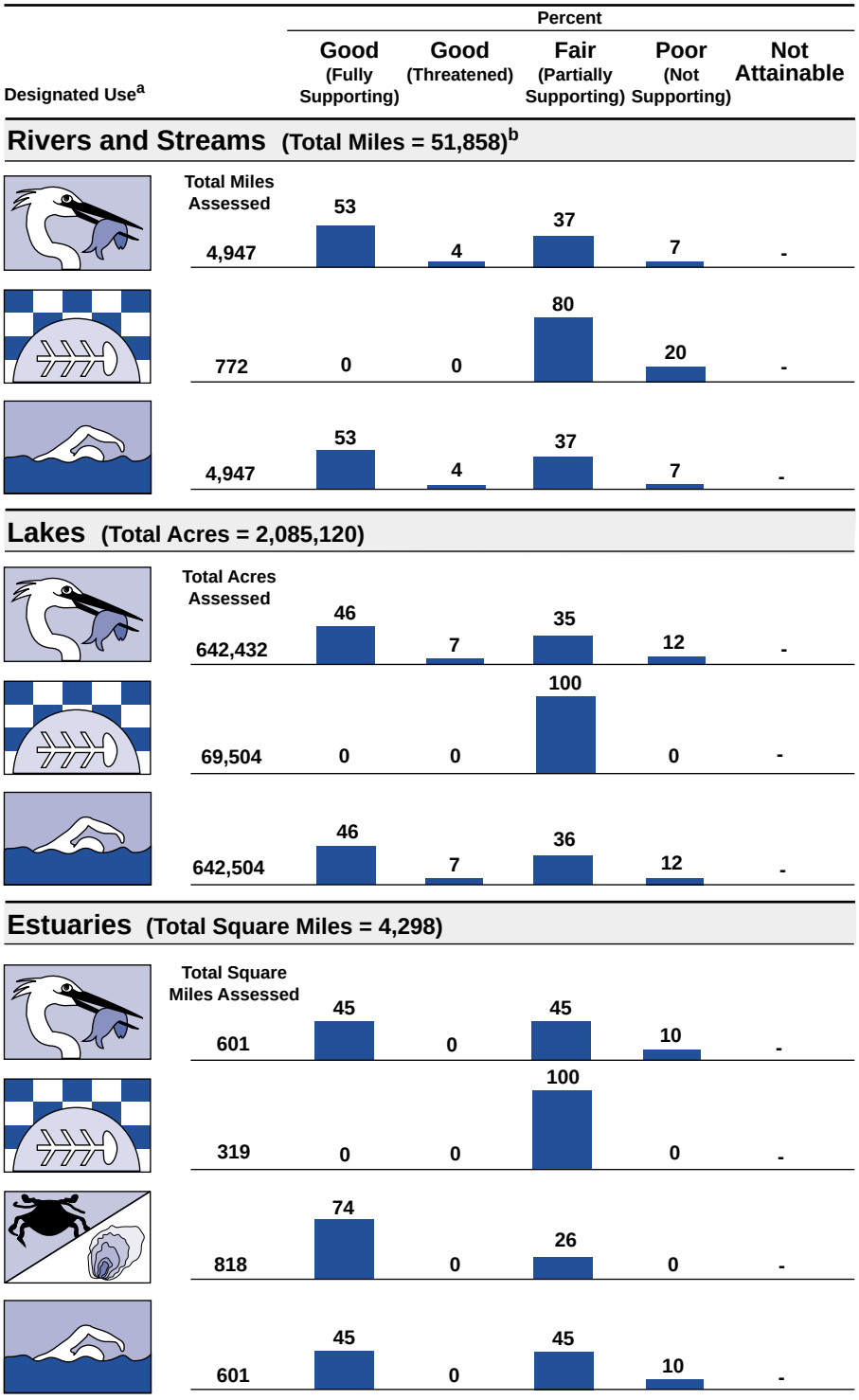
Florida's Surface Water Ambient Monitoring Program was integrated with the Ground Water Ambient Monitoring Program in 1996, while SWAMP's biocriteria and bioassessment work was moved to a separate section. Florida has adopted a tiered Integrated Water Resources Monitoring Network, which includes sampling of both surface and ground waters, to assess state waters. Tier 1 answers questions on a statewide or regional scale. Tier II addresses basin-specific or waterbody-specific questions. Tier III includes monitoring associated with regulatory permits and evaluations of TMDLs and BMPs.

Florida is developing assessment methods and criteria for wetlands.

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

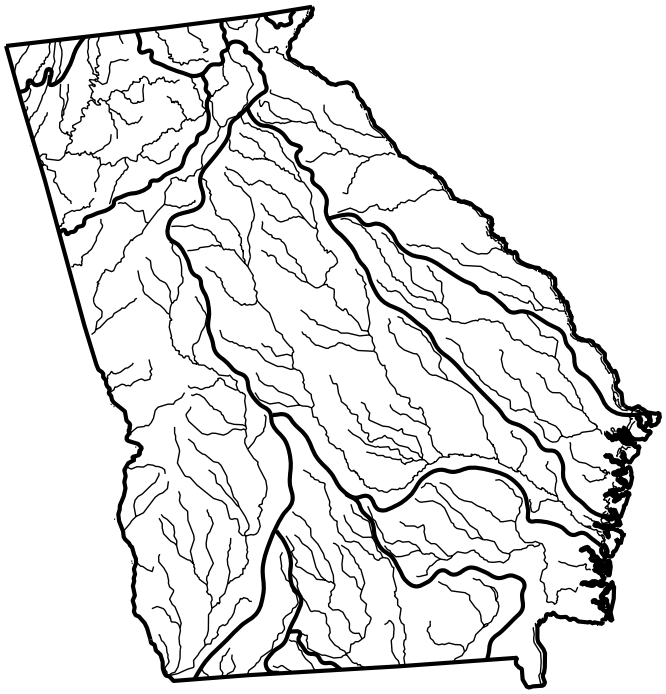
[b] Includes nonperennial streams that dry up and do not flow all year.

Individual Use Support in Florida



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

Georgia



Basin Boundaries
(USGS 6-Digit Hydrologic Unit)

For a copy of the Georgia 1998 305(b) report, contact:

W.M. Winn, III
Georgia Environmental Protection Division
Watershed Planning and Monitoring Program
4220 International Parkway – Suite 101
Atlanta, GA 30354
(404) 675-6236

Surface Water Quality

The Georgia Environmental Protection Division (GAEPD) reported that, of the river miles assessed, 55% fully support aquatic life use, 30% partially support this use, and 16% do not support aquatic life use. Major causes of impairment for rivers include metals, pathogens, and low dissolved oxygen levels. For lakes, 73% of the assessed acres fully support aquatic life use, 25% partially support the use, and 2% do not support aquatic life use. The major causes of impairment for lakes are metals, acidity, and pathogens. For both rivers and lakes, the major sources of impairment include urban runoff and storm sewers, industrial nonpoint sources, and other nonpoint sources.

Of Georgia's estuarine waters, 88% of the assessed square miles fully support aquatic life use, 12% partially support the use, and less than 1% do not support aquatic life use. Fifty-four percent of the assessed shellfishing area fully supports shellfishing use while 46% does not support this use. Pathogens and low dissolved oxygen levels were the major causes of impairment. Urban runoff and storm sewers, along with other nonpoint sources, are the major sources of impairment to Georgia's estuarine waters.

Georgia did not report on the condition of wetlands.

Ground Water Quality

Georgia's ambient Ground Water Monitoring Network consists of approximately 185 wells sampled periodically. To date, increasing nitrate concentrations in the Coastal Plain are the only adverse trend detected by the monitoring network, but nitrate concentrations are still well below harmful levels in most wells. Additional nitrate sampling in over 5,000 wells since 1991 revealed that nitrate concentrations exceeded EPA's maximum contaminant level in less than 1% of the tested wells. Pesticide monitoring indicates that pesticides do not threaten Georgia's drinking water aquifers at this time.

Programs to Restore Water Quality

During the 1996-1997 reporting cycle, river basin management planning was a priority for the GAEPD. The state completed work

on the final draft basin plans for the Chattahoochee and Flint Rivers in 1997, and the plans were adopted in 1998. GAEPD is also working with EPA on a Savannah River Watershed Project and with the Florida Department of Environmental Protection and the Suwannee River Water Management District in Florida to implement basin planning for the Suwannee River basin.

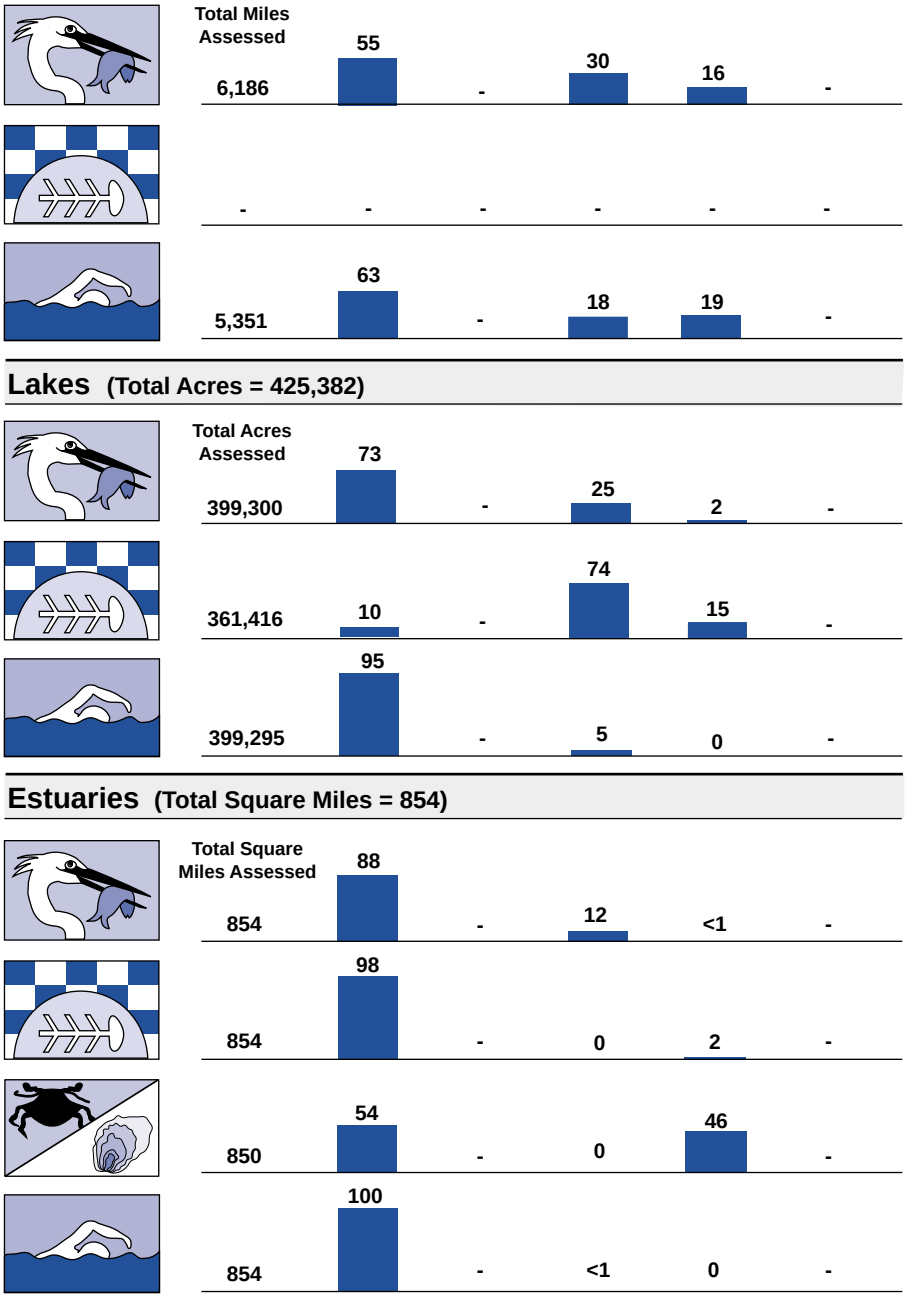
In addition to basin planning, the state also placed emphasis during 1996-1997 on NPDES permitting and enforcement, nonpoint source pollution abatement, monitoring and assessment, Chattahoochee River modeling, fish consumption guidance, stormwater permitting, treatment plant funding, and public participation projects.

Programs to Assess Water Quality

The GAEPD conducts long-term ambient trend monitoring through a fixed station network, toxicity studies, intensive surveys, fish tissue monitoring, lake water quality studies, facility compliance sampling, aquatic toxicity testing at NPDES discharges. In the assessment process, GAEPD also draws upon biotic data from the state's Department of Natural Resources (DNR). The DNR uses the Index of Biotic Integrity (IBI) to identify impacted fish populations.

– Not reported in a quantifiable format or unknown.
[a] A subset of Georgia'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.

Individual Use Support in Georgia



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

Guam

Basin Boundaries
(USGS 6-Digit Hydrologic Unit)

For a copy of the Guam 1998 305(b) report, contact:

Mike Gawel
Guam Environmental Protection Agency
Planning and Environmental Review Division
P.O. Box 22439 GMF
Barrigada, GU 96921
(671) 475-1662

Surface Water Quality

Guam is free from pollution of neighboring land masses due to its remote location adjacent to the deepest ocean depths. Its shores are washed by tropical ocean currents, and air is freshened by unpolluted trade winds. Therefore, water pollution on Guam is locally generated and quickly dissipated into the vast Western Pacific Ocean. Guam's single lake has been a continuous safe source of drinking water to the U.S. Navy and some of the public. Coastal recreation waters tested weekly at 35 beach sites in 1997 showed violation of bacterial samples in 187 out of 1,647 samples. Since 1991, only one Guam beach has been closed to the public because of toxicity of algae consumed from that site. Main sources of pollution problems are siltation, sedimentation, and turbidity due to stormwater-caused erosion and treated sewage discharges, all of which impact valuable coral reefs.

Guam did not report on the condition of wetlands.

Ground Water Quality

The Northern Guam Lens is an aquifer under the northern half of the island fed by rainwater that has percolated through porous limestone and floats on top of denser seawater. It was designated a principal source aquifer by EPA in 1978 and is the major source of water for the over 150,000 inhabitants and over 1 million annual visitors to Guam. Guam Waterworks Authority pumps approximately 27 million gallons per day of this high-quality ground water for public supply in addition to smaller levels produced privately and by the U.S. Navy and Air Force. From 1995 to 1997, 5 of the over 125 production wells were closed because of contamination by TCE, PCE, and EDB. A few wells have shown chloride increases in recent years.

Programs to Restore Water Quality

The Guam Environmental Protection Agency (GEPS) regularly revises the Guam Water Quality Standards. It administers permits for sewer connections, individual waste water systems, clearing and grading

(for erosion control), well drilling, wetland use, 401 Water Quality Certification, and feedlot waste management, while supporting NPDES permit administration and coordinating with others in applying the Federal Consistency, land use, and seashore use permits. GEPA policies require each development to contain 20-year stormwaters within its lot, for nonpoint control and recharge of ground waters, and to limit density of unsewered dwellings. Guam's new Land Use Plan applies performance standards to protect water quality. Filtration systems have been installed for removal of the contaminants found at four production wells, while investigations continue on the sources of contamination.

Programs to Assess Water Quality

GEPA's Surface Water Monitoring System, in place over 20 years, was redesigned with emphasis on watershed management in 1997. It assesses quality of high public use waters including 52% of all rivers and representative reef, estuary, and marine waters as well as all major public beach areas. Updated microbiological methods were established in 1996 and a marine biological monitoring program is being pursued to correlate with physical and chemical monitoring. The GEPA laboratory increased capabilities to test water in 1997 and will institute electronic reporting for the 305(b) Program in 1999. The Guam Hydrologic Survey, which produces and manages water data, was established by law in 1998.

Individual Use Support in Guam

Designated Use[a]	Percent: Good (Fully Supporting)	Good (Threatened)	Fair (Partially Supporting)	Poor (Not Supporting)	Not Attainable
Rivers and Streams (Total Miles = 228)[a]					
Total Miles Assessed	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
Lakes (Total Acres = 27)					
Total Acres Assessed	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
Estuaries (Total Square Miles = 1,530)					
Total Square Miles Assessed	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
Ocean Shoreline (Total Shore Miles = 117)					
Total Miles Assessed	-					
	-					
	-					
	13.6	0	3	20	77	0

– Not reported in a quantifiable format or unknown.
[a] Includes nonperennial streams that dry up and do not flow all year.

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