Utah 2006
Integrated Report
Volume I - 305(b) Assessment

Little Deer Creek

**Department of
Environmental Quality**

**Division of
Water Quality**

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Volume I: 305(b) Assessment

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Executive Summary

Introduction

Utah’s surface water resources include 14,250 miles of rivers and streams, nearly 3,000 lakes and reservoirs. Utah is the second driest state in the country and these waters play a major role in the private, commercial and industrial development of the state. They are sources of drinking water, provide enormous recreational opportunities, sustain a wide variety of wildlife, and provide water for agricultural production. Utah’s beneficial use classifications for waters of the state are listed in E-1.

Utah assesses the quality of its surface water resources to protect it for drinking, fishing, boating, irrigation, stock watering, and supporting aquatic wildlife. Data are compared against State water quality standards to determine beneficial use support (DWQ, 2005). Various reports are written and disseminated to project sponsors, local and state officials, government and private entities and the public to expand the awareness of the need to protect and enhance the water quality of Utah's rivers, streams, lakes and reservoirs. In addition, water quality data are used to identify impaired waterbodies and establish water quality goals for implementing projects to restore or protect water quality. Water quality data are also collected to do Total Maximum Daily Load analyses for discharge permits and to assure that permit requirements under the Utah Pollution Discharge Elimination System (UPDES) program are being met. Data are also collected to evaluate the effectiveness of nonpoint source projects, and to do TMDL analyses on selected waterbodies or watersheds.

Stream Monitoring

Utah has adopted a basin rotation type of monitoring for its rivers and streams. This allows the State to assess a greater portion of its rivers and streams. The State is divided into five monitoring regions and there are ten watershed management regions.

The stream monitoring program consists of basin intensive and long-term ambient water quality monitoring stations. The fixed-station monitoring network consists of 64 stations. These stations will be used to evaluate long-term water quality trends. Samples are collected every six weeks (eight times per year).

The data collected and analyzed provide essential river, stream, lake and reservoir water quality assessment data to identify and quantify water quality problems that may exist and provide background information for the development of possible solutions to those problems. They also allow water quality programs to be focused on critical areas, and allow the Division of Water Quality to prioritize its management plans. The data are used to determine the effectiveness of the Division’s water quality management plans and to assist individuals and agencies involved in protecting the quality of the State's waters.

Rivers / Streams Assessment

Data collected during three intensive monitoring surveys were combined with assessments done in the 2004 305(b) report to provide a comprehensive evaluation of the state. Data collected since the 2004 305(b) were also included in the assessment. These data were obtained through the Division’s cooperative monitoring program and from long term monitoring sites. Data from the U.S Geological Survey’s NAWQUA study were also used along with data from Salt Lake City and Salt Lake Count. The watershed assessed in the 2004 305(b) report included the Unita, Sevier River, Colorado River West, Colorado River Southeast, Lower Colorado River and the Cedar/Beaver.

Maps showing the assessment of the watershed management units are are included in this report

Utah assessed approximately 10,442 miles of perennial streams. Of the 10,442 stream miles assessed for at least one beneficial use class; 7,520 miles (72.0 %) were rated as fully supporting at least one assessed beneficial use, 1,602 miles (15.3%) were rated as partially supporting and 1,324 miles (12.7%) were rated as not supporting one or more of their designated beneficial uses (Figure E-1).

Table E-1. Designated Beneficial Uses for Rivers, Streams, Lakes, and Reservoirs.

Class	Definition
1	Protected for use as a raw water source for domestic water systems.
1C	Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water.
2	Protected for recreational use and aesthetics.
2A	Protected for primary contact recreation such as swimming.
2B	Protected for secondary contact recreation such as boating, wading, or similar uses.
3	Protected for use by aquatic wildlife.
3A	Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.
3B	Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.
3C	Protected for nongame fish and other aquatic life, including he necessary aquatic organisms in their food chain.
3D	Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.
3E	Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.
4	Protected for agricultural uses including irrigation of crops and stock watering.
5	The Great Salt Lake. Protected for primary and secondary contact recreation, aquatic wildlife, and mineral extraction.

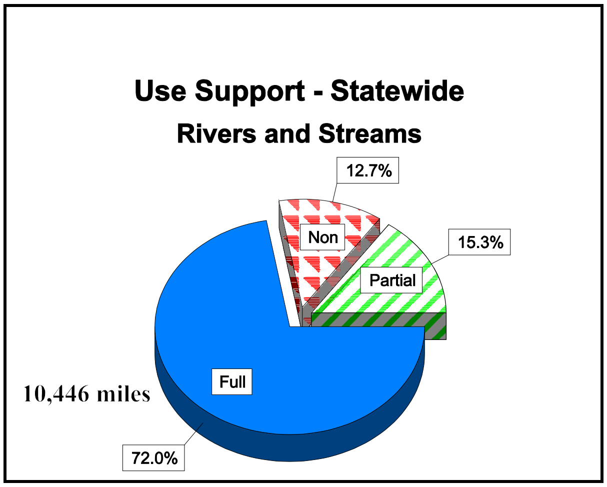


Figure E-1. Statewide beneficial use support for rivers and streams based upon at least one beneficial use being assessed.

The major causes of water quality impairment are total dissolved solids, nutrients, sediments, and stream habitat alterations. Stream habitat alterations include riparian habitat and in-stream habitat.

The major sources of pollutants are agriculture, natural sources, hydrological modification, and habitat modification. About 3% percent of the stream miles are affected by point source discharges. Agricultural practices, such as grazing and irrigation, caused increased nutrient and sediment loading into streams. Point sources are also responsible for nutrient input into streams, while natural sources contributed metals, total dissolved solids and sediments to streams in some areas. Resource extraction and associated practices such as road construction contributed significantly to impairment of water quality also.

Individual beneficial use assessment is listed in Table E-2.

The river and stream assessment units (AUs) were also assessed and placed into the five new assessment categories that the U.S. EPA has adopted for the 305(b) report (Table E-3). These new categories provide more information on the waters of the state. They identify those assessment units that all beneficial uses were assessed and found fully supporting them (Category 1). Those where some were assessed and those assessed were fully supporting their beneficial uses (Category 2) and those that were not assessed at all (Category 3).

Category 4A identifies those AUs for which a TMDL has been completed and approved, but are still not meeting water quality standards or supporting beneficial use assessments. Waters that are impaired by pollution, such as habitat impairment, are placed in Category 4C, no TMDL required. For these waters, Best Management Practices (BMPs) need to be implemented so the waters support their beneficial uses. Those waters identified as not supporting their beneficial use because of a pollutant requiring a TMDL are placed in Category 5A. Category 5B is designated as a request for removal from the 303(d) list. completed TMDL.

Utah's proposed 303(d) list for streams includes 56 stream segments. Because multiple causes affected some of the segments, 75 parameters were listed for TMDL analysis (Appendix C).

Table E-2. Individual Use Support Summary

Goals	Use	Size Assessed	Size Fully Supporting	Size Full Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Attainable
Protect & Enhance Ecosystems	Aquatic Life	10,446.2	8,506.3 (81.4%)		1,494.2 (14.3%)	445.7 (4.3%)	0.0
Protect & Enhance Public Health	Fish Consumption	46.8	0.0		0.0	46.8 (100%)	0.0
	Swimming	102.4	61.9		9.3 (9.0%)	31.3 (30.6%)	0.0
	Secondary Contact	102.4	61.9 (60.4)		9.3 (9.0%)	31.3 (30.3%)	0.0
	Drinking Water	4,127.0	4,101.5 (99.4%)		0.0	25.5 (0.6%)	0.0
Social and Economic	Agricultural	10,096.0	8,660.6 (85.8%)		394.9 (3.9%)	1,040.5 (10.3%)	0.0
	Overall Use Support	10,446.2	7,520.1 (72.0%)		1,602.2 (15.3%)	1,323.9 (12.7%)	0.0

a These goals are part of the national water quality goals adopted by the EPA Office of Water and the ITFM in their Environmental Goals and Indicators effort

[b] Class 2B (secondary contact) streams were evaluated as swimmable for proposes of the CWA goals, therefore the swimming and secondary contact classification categories are the same.

Table E-3. Stream Miles by Assessment Category

Category	Definition	Steam Miles
1	All designated uses assigned to an assessment unit were assessed and are fully supported.	62
2	Some of the designated uses are fully supported, but there is insufficient data to determine beneficial use support for the remaining designated uses.	7,495
3	Insufficient or no data and information to determine if any designated use is attained	2,673
4A	TMDL has been completed for all pollutants	1,135
4B	Other pollution control requirements are reasonably expected to result in attainment of the water quality standard in the near future	0
4C	The impairment is not caused by a pollutant, e.g. habitat alteration	655
5A	Assessment unit is impaired by a pollutant and a TMDL is needed.	1,344

Table E-3. Stream Miles by Assessment Category		
Category	**Definition**	**Steam Miles**
5B	AUs are listed when a TMDL has been approved, water quality standards are now being met, new delineation of assessment unit which changes its assessment, changes in beneficial use classification result in meeting standards, change in listing methods results in meeting standards or change in water quality standards and standards now being met.	62

Lakes / Reservoirs

The 132 lakes assessed during this reporting cycle account for 97.1% (467,787 acres) of the total lake acreage in the state. When accounting by acreage, 67.7% were found supporting their designated uses, 31.7% was partially supporting and about 0.6% was not supporting designated uses. Of the 132 lakes surveyed, 74 (56 %) were fully supporting, 49 (37 %) partially supporting, and 9 (7 %) not supporting (Figure E-2).

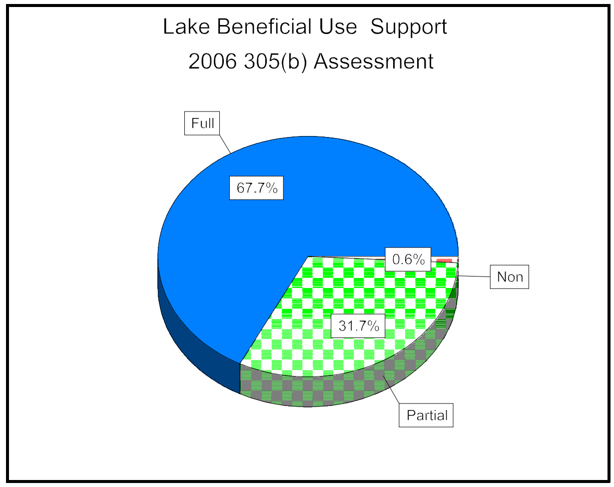


Figure E-2. Statewide beneficial use support for reservoirs and lakes based upon at least one beneficial use being assessed.

The causes of impairment in lakes and reservoirs continue to be nutrients, siltation, low dissolved oxygen, suspended solids, organic enrichment, and noxious aquatic plants.

The major sources of pollutants causing impairments are nonpoint sources, agricultural practices, industrial and municipal point sources, and habitat modification (draw-down of reservoirs).

Thirty-seven lakes are now on the 303(d) list including a of 62 parameters that need TMDL analysis. Two of these, Cutler Reservoir and Pelican Lake, were added for the first time. TMDLs for seven lakes have been written and approved by EPA. We will request that these be removed in the next cycle. The lakes have a Category 5D. These are lakes or reservoirs which were assessed as fully supporting in one of the two most recent assessment cycles and either partially supporting or not supporting in the other. For these waters to be listed on the 303(d) list, they need to be assessed as not supporting their beneficial use for two consecutive monitoring cycles. Several lakes remain under additional stress due to continuing drought conditions.

Table E-4. Lake Beneficial Use Assessment by Categories - Acreage		
Category	**Definition**	**Acres**
1	All designated uses assigned to an assessment unit were assessed and are fully supported.	162,700
2	Some of the designated uses are fully supported, but there is insufficient data to determine beneficial use support for the remaining designated uses.	156,919
3	Insufficient or no data and information to determine if any designated use is attained	13,851
4A	TMDL has been completed for all pollutants	8,235
4B	Other pollution control requirements are reasonably expected to result in attainment of the water quality standard in the near future	0
4C	The impairment is not caused by a pollutant, e.g. habitat alteration	0
5A	Assessment unit is impaired by a pollutant and a TMDL is needed.	135,710
5B	AUs are listed in this category to identify those pollutants for which a TMDL has been approved, but TMDLs are still required for other pollutants identified, water quality standards are now being met, new delineation of assessment unit, changes in beneficial use classification result in meeting standards, change in listing methods results in meeting standards or change in water quality standards and standards now being met.	3,478
5D	The assessment has identified impairment during one of the even or odd year monitoring cycles. If the AU is assessed as impaired during the next assessment period, it will be listed in Category 5A, TMDL required.	1,204

Chapter I: Overview of Division of Water Quality's Water Quality Programs

Introduction

The Utah Division of Utah (DWQ) is responsible for a variety of programs that monitor, assess, and protect the surface and ground waters of the state. To meet its responsibilities the Division has seven sections that deal with point sources, nonpoint sources, waste water plant construction, ground water protection, and monitoring. These sections and their attendant responsibilities form the State's water pollution control program

Water Pollution Control Program

Watershed Approach - 305(b)

The DWQ uses a 5-year rotating monitoring process to assess the rivers and streams within the state. The state has been divided into 10 watershed management units and these have been aggregated into five monitoring regions that are designed to cover the state every five years.

In addition, the DWQ has cooperative monitoring programs with the United States Forest Service, United State Bureau of Land Management, National Park Service, and the Provo River Watershed Management Group to assist those groups and to enhance its water quality assessment program..

Every year, usually in February, the DWQ has a work meeting with individuals from each of the National Forest and the Regional Offices of the BLM to evaluate their needs and to determine what they have planned related to water quality in the coming year.

After their requests are submitted, the 305(b) Coordinator, the watershed coordinators in the Total Maximum Daily Load (TMDL) Section, and the Monitoring Section review each one to determine if their request meets the needs of the Division and to determine the needed laboratory capacity for the upcoming monitoring year. The monitoring year is based upon the State's fiscal year which runs from July 1st through June 30th of the next year.

After receiving their requests, Division personnel responsible for the 319 NonPoint Source Program, the 313 Clean Lakes Program, the TMDL program, the 305(b) program, and the 303(d) program meet to determine what sites will be monitored during the current rotating intensive monitoring and other sites that are needed statewide to meet their needs. Once the review is complete, the monitoring needs are included in yearly water quality monitoring document. This document identifies each of the sites that are to be monitored and what parameters are to be obtained in the field and analyzed for in thelaboratory. The ground water monitoring is also included in this document.

Clean Lakes Program - 314 Program

The DWQ continues to monitor and assess its priority lakes on an odd/even year basis. Aproximately, half of the lakes are monitored during the odd and even number years. However, if additional data are required to develop a Total Maximum Daily Load (TMDL) analysis for a lake or reservoir, the monitoring frequency and additional sites are incorporated into the monitoring scheme to obtain more data.

Nonpoint Source Pollution 319 Program

Nonpoint source pollution generally originates from sources rather than from a discrete point such as a pipe. Sources include land runoff, percolation, precipitation or atmospheric deposition. Rain and other forms of precipitation wash pollutants from the air and land and into our streams, lakes, reservoirs and groundwater. Such pollutants can include sediment, nutrients, pathogens (bacteria and viruses), toxic chemicals, pesticides, oil, grease, salt and heavy metals. In Utah our most common problems are sediment, nutrients, metals, salts and pathogens. These pollutants alter the chemical, physical and biological quality of the water and can impair their designated uses.

Some of the common sources of NPS pollution include various agricultural activities, natural sources, runoff from parking lots and streets and residential areas, mining and forestry operations, recreational activities, underground wastewater treatment systems, construction and stream/riparian habitat degradation and other forms of hydrologic modification.

During the last fiscal year (FY-05), seven new projects were contracted to the Utah Department of Agriculture and Food (UDAF) for $816,700. On-the-ground implementation projects are continuing in the Upper Sevier River, San Pitch River, Fremont River, Cub River, and Beaver River. Several new ground water and surface water investigations that began in FY-03 and FY-04 received additional funds in FY-05 and are continuing. These include a water quality/TMDL study on the Jordan River, a pesticide vulnerability study by the UDAF and Utah Geological Survey (UGS) and an investigation by the Water Research Lab at Utah State University to develop appropriate management practices for operators of small irrigation and hydro power impoundments also Funds from the FY-05 budget were used to partially support eight local watershed coordinators to assist in implementing TMDLs in priority watersheds were .

The NPS Task Force sponsored the 2005 Utah Nonpoint Source Water Quality Conference in September in Salt Lake City at the Salt Lake Sheraton Hotel. The theme of the conference was "Managing Water Quality in a Growing West". The purpose of the conference was to present NPS watershed management activities related to stormwater and other urban water quality issues. The conference tour highlighted a few of the projects occurring in Salt Lake County such as Hidden Hollow, the Day Break development and the Conservation Gardens at Jordan Valley Water Conservancy District.

Much effort has gone into the continued enhancement of statewide watershed planning groups at the local level. Some thirty local watershed committees are actively assisting and promoting TMDL development and implementation of watershed projects. The Utah Watershed Coordinating Council continued to meet 2 or 3 times per year to exchange information, provide training and promote the local ownership and development of TMDLs and watershed restoration plans. Training presentations at Council meeting in March 2005 included topics such as Council strategic planning, the Utah Sage-Steppe/Watershed Restoration Initiative, round table presentations by coordinators and future funding ideas. In November 2005 the Council meetings included such training topics as specific watershed presentations, public land grazing issues, 319 guidelines for project reporting, aquifer classification, review of small grant requests and chairmanship changes. Fifteen to twenty watershed coordinators including a few agency support staff regularly attend the Council meetings.

Significant resources from the 319 Program, the Natural Resources Conservation Service's Environmental Quality Incentives Program (EQIP) and Congressional "earmarked" funds continue to support the implementation of the Utah Animal Feeding Operations (AFO) and Concentrated Animal Feeding Operations (CAFO) Strategy by the Utah Association of Conservation Districts (UACD), Utah Farm Bureau, agriculture commodity groups and other state and federal partners.

The Utah Department of Environmental Quality (DEQ) and UDAF are working together with commodity groups and farm organizations in the development of an air quality strategy similar to the AFO/CAFO strategy developed for water quality. The DEQ has signed an Memorandum of Understanding (MOU) with EPA which establishes a collaborative working relationship to develop and implement the Utah Animal Feeding Operation Air Quality Strategy. The purposes of the strategy are to gather air emissions information from AFOs and implement programs to reduce emissions.

For 2006, it is the goal of the NPS staff and Task Force partnership to continue to support TMDL development and implementation through the watershed approach in dealing with the NPS challenges in Utah. This program will utilize the local delivery system of the Utah Soil Conservation Districts and other entities to assist with planning and implementation of best management practices to meet Total Maximum Daily Loads contained in their respective TMDL Plans and watershed-based implementation plans. This is being carried out through the establishment of more local watershed coordinators in priority watersheds where TMDLs have been approved by EPA and are being implemented. During 2005, three new local watershed coordinator positions were established in the West Colorado River area, the middle Sevier River basin, and the Jordan River area. The primary purpose of these coordinators is to facilitate, coordinate and report on the implementation of TMDL/watershed plans. It is also the goal and position of the State and the NPS Task Force to promote the voluntary incentive-based approach to achieve and maintain water quality standards.

The coming year will see continued increased resources and efforts focused toward providing technical and financial assistance to potential CAFOs to correct unacceptable conditions. Assistance to permitted operations (CAFOs) via a general permit from DEQ will continue through increased compliance activities. The AFO inventory and assessment progressed well under the direction of Utah Association of Conservation Districts and Utah Farm Bureau Federation was completed in April 2003. The inventory identified about 380 'Potential CAFOs' which are now the focus of intensive technical and financial support to correct unacceptable conditions through implementation of Concentrated Nutrient Management Plans (CNMPs) and facility specific nutrient management plans. Some 'Potential CAFOs' have completed implementation of their plans.

The DEQ and UDAF working together to improve program reporting. Efforts will be devoted to updating and completing project reports in GRTS. Increased emphasis will also be devoted toward working with project sponsors to secure environmental results information in semi-annual, annual and final project reports. Efforts in FY-2006 will be focused on gathering all final project reports and closing the FY-97, FY-98 and perhaps the FY-99 319 Project Grants.

DWQ NPS staff will continue updating the NPS Program Management Plan related to Urban/Storm Water and hydrologic modifications. These plans will not be completed until 2006 and 2007 respectively because of other work assignments and priorities. Efforts are also underway to prepare an abandoned/inactive mine component to the Plan to be completed by June 2006.

An overview of the FY-05 CWA Section 319 base and incremental funding and the historical expenditures are included in the cost benefit section.

Total Maximum Daily Load and Watershed Planning Program

The State of Utah's Total Maximum Daily Load (TMDL) and Watershed Planning Program is focused on restoring the beneficial uses of all of the State's impaired waterbodies. It is responsible for developing TMDLs for assessment units that are listed on the state's 303(d) list of impaired waters. Through the TMDLs process, the sources of the pollution are identified and it is determined what portion of a specific pollutant is coming from point sources, nonpoint sources, and natural sources. The Section then develops implementation plans to improve water quality.

A key element in restoring the beneficial uses in a watershed is soliciting the involvement and leadership of local stewards through the formation and support of watershed stakeholder groups. TMDL Coordinators are assigned primary coordination responsibilities for one or more of the ten watershed management units within the State. At the initiation of a TMDL water quality study local stakeholders, representatives from the regulated community, and relevant partner agencies are invited to participate throughout the entire process, from preliminary data review to implementation plan development. Once the TMDL/Watershed plan is complete the TMDL Coordinators are responsible for ensuring that appropriate limits are incorporated into discharge permits and to assist in obtaining funding to address non-point sources of pollutants. During the implementation phase the TMDL Coordinators are also responsible for tracking and reporting progress towards achieving water quality goals.

There are currently over 30 local watershed groups throughout the State of Utah in various phases of plan development or implementation. These groups are supported by the Utah Watershed Coordinating Council, initiated by the Division of Water Quality to disseminate information, training opportunities and guidance on successful watershed planning and implementation efforts. The Support Team for the Watershed Council is made up of agency representatives from the Utah Association of Conservation Districts, Utah State University Extension Service, Utah Department of Agriculture and Food, and the Natural Resources Conservation Service. In addition, through the support of EPA Section 319 funds nine local watershed coordinators have been hired by local watershed groups to help facilitate the planning and implementation of best management practices in their high priority watershed.

To date the, there have been 91 TMDLs completed and approved by EPA.

Point Source Program

Point source discharges, both municipal and industrial, are regulated through the Utah Pollutant Discharge Elimination System Program (UPDES). Regulatory authority was delegated to the State in July of 1987, and includes permit, compliance, and enforcement authority. In addition to municipal and industrial discharge regulation, program authority was granted for general permits, federal facilities and industrial pretreatment programs. Program authority to issue biosolids (sludge) permits was delegated to Utah in 1996.

Permits are issued for up to five years and reflect both technology-based controls, and where appropriate, water quality based controls using wasteload analyses, current water quality standards and final TMDL results. Water quality parameters for which effluent limitations have been developed to protect the waters of the State include ammonia, total dissolved solids; DO, total residual chlorine, BOD, temperature, various nutrients and toxics.

Fifty-four (54) industrial and sixty-five (65) municipal facilities are currently regulated under the UPDES program. These include eight (8) major industrial and twenty-five (25) major municipal dischargers. The State of Utah has begun consolidating permits to contain all pertinent requirements. For example a consolidated municipal permit will contain limits for the dicharge, biosolids, pretreatment, storm water and whole effluent toxicity. Eventually all the municipal permits will be consolidated. The same is being done for the industrial permits, which would include limits for the discharge, storm water, and whole effluent toxicity. The idea is to combine different permits that would be issued to a facility into one permit. Many of the facilities have multiple discharge points that are regulated under a single permit. Major industrial dischargers include mining and manufacturing facilities, such as Kennecott Copper and Thiokol, while the major municipal dischargers are sewage treatment facilities that may or may not receive pretreated wastewaters from industries. Of the twenty-five (25) major municipal discharges, eighteen (18) have State approved pretreatment industrial programs which are used to regulate industries that would not otherwise be subject to UPDES permits because they discharge to a municipal sewer system rather than directly to the waters of the State. Because municipal treatment plants are designed primarily to treat domestic wastes, not industrial wastes, the pretreatment of industrial wastewaters ensures that toxic metals and toxic organic pollutants do not pass through the treatment plants untreated and enter the receiving streams. Without pretreatment, these pollutants could also severely impact the treatment capability of the municipal plants by killing beneficial bacteria that are essential for the decomposition of wastes.

To date, there also are 2,376 storm water discharge general permit coverages throughout the state, that regulate, control and thereby reduce the discharge of pollutants from construction sites, industrial sites and municipalities. In addition, there were eighty-one (81) general industrial permits in effect that regulate such activities as construction dewatering and concentrated aquatic animal production. Table 4 provides a summary of these permits and the activities they regulate.

Upon issuance of a discharge permit, the monitoring phase of the State's UPDES program is initiated to ensure that all

Table I-1-1. General UPDES Permits	
Type	**Number**
Mining	16
Construction Dewatering	13
Concentrated Aquatic Animal Production	13
Drinking Water Treatment Plants	37
Treated Ground Water Contaminated with Petroleum	2

conditions of a permit are being met. This includes compliance monitoring. Compliance monitoring requires self-monitoring by the permittee as well as State monitoring to determine if effluent violations are occurring. Self-monitoring results are reported to the State and to EPA in a Discharge Monitoring Report (DMR) that is sent to the State and EPA as required by the permit. Additionally, all UPDES facilities are inspected on a regular basis to determine if they are meeting the conditions of their permit and are being operated in the prescribed manner necessary to ensure that effluents do not cause violation of State water quality standards for receiving water.

The permittee may also be required to implement biomonitoring as part of their discharge permit. Specific rules and guidelines are published in the Division of Water Quality's *Enforcement Guidance Document for Whole Effluent Toxicity Control Manual (Utah DWQ, 1991).* In general the following standards in conjunction with the volume of the discharge are used in determining whether biomonitoring is required or not: (1) there is a reasonable potential to discharge toxics, and/or (2) the receiving water has a low flow dilution greater than 20; 1, and/or (3) the discharge is intermittent, and/or (4) the receiving water has a use-classification of 3A, 3B, 3C, 3E, or 4.

Eighteen (18) industrial and twenty-three (23) municipal dischargers were required to conduct acute or acute/chronic bioassays during the current 305(b) reporting cycle. The majority of toxicity tests indicate an absence of toxic pollutants; however some facilities have had violations and were required to do additional testing. Eventually the permitted would be required to complete a toxicity reduction evaluation (TRE) whose purpose is to identify the toxicant and provide a way to eliminate it from the system (pretreatment) or modify the system to treat the identified toxicant.

All permits, new or renewals, must go through waste load allocation analysis and review before they are issued. Based upon the results of the waste load allocation analysis, stricter effluent imitations may be placed on the permittee to ensure that state water quality standards are not exceeded.Storm Water Program

Storm Water Program

The Utah Pollutant Discharge Elimination System (UPDES) Storm Water Permitting Program requires individual permits or general permit coverages for storm water discharges from: 1. Construction activities; 2. Industrial sites and; 3. Municipal separate storm sewer systems, which meet certain criteria. A brief discussion of the three discharge types is below:

1. Construction Activities:

Storm water runoff from construction activities can have a significant impact on water quality. As storm water flows over a construction site, it picks up pollutants like sediment, debris, and chemicals. Polluted storm water runoff can harm or kill fish and other wildlife. Sedimentation can destroy aquatic habitat and high volumes of runoff can cause stream bank erosion.

The UPDES Storm water program requires operators of construction sites one acre or larger (including smaller sites that are part of a larger common plan of development) to obtain a permit coverage under the UPDES General Storm Water Permit for Construction Activities. The operator of construction sites, or parcels within a larger common plan must submit a "notice of intent (NOI)" to the Division of Water Quality to obtain the permit coverage. The NOI has been automated and is available for electronic submission on the Internet.

The development and implementation of storm water pollution prevention plans (SWPPP's) is the focus of UPDES storm water permits for regulated construction activities. DWQ and contractors evaluate SWPPP's through onsite inspections.

2. Industrial Activities

Activities that take place at industrial facilities, such as material handling and storage, are often exposed to the weather. As runoff from rain or snowmelt comes into contact with these materials, it picks up pollutants and transports them to nearby storm sewer systems, rivers, lakes, or coastal waters.

In order to minimize the impact of stormwater discharges from industrial facilities, the PDES program includes an industrial stormwater permitting component. Operators of industrial facilities included in one of the 11 categories of stormwater discharges associated with industrial activity that discharge or have the potential to discharge stormwater to a municipal separate storm sewer system (MS4) or directly to waters of the State require authorization under a the UPDES Storm Water Multi-Sector General Permit, DWQ also includes storm water requirements at many of the facilities with an individual UPDES permit for wastewater discharge. (Construction activity is one of the 11 categories, but because of the nature of its operations, it's discussed separately from the other 10 categories, and is permitted separately.)

The focus is again on the implementation of an SWPPP for the facility. DWQ reviews SWPPP's at the industrial facility.

3. Municipal Separate Storm Sewer Systems

Under the UPDES storm water program, operators of Medium and regulated small municipal separate storm sewer systems (MS4s) (There are no Large MS4's in Utah) require authorization to discharge pollutants under a UPDES permit.

Medium MS4 operators include Salt Lake County, Salt Lake City and UDOT. They were required to submit comprehensive permit applications and were issued individual permits.

Regulated small MS4 operators have the

option of choosing to be covered by an individual permit, a general permit, or a modification of an existing Phase I MS4's individual permit. In the case of the municipalities within Salt Lake County, they chose to be co-permitted with the county. Small MS4's outside of the county chose to obtain general permit coverages.

The MS4 permits require the development and implementation of a Storm Water Management Program (SWMP). These programs must be implemented to address the six minimum controls measures in the permit. The six control measures are as follows:

1. Public Education

2. Public Outreach

3. Illicit Discharge Detection and Elimination

4. Post Construction and Redevelopment Controls

5. Good Housekeeping for Municipal Operations

The MS4 SWMP's are reviewed by DWQ through audits.

Ground Water Protection Program

Utah's Water Quality Board has been dedicated to providing a sound ground water policy for the State of Utah. As a result of this commitment, Administrative Rules for the ***Ground Water Quality Protection Regulations (UAC R317-6)*** were adopted in 1989 for the protection of Utah's ground water resources. This regulation is a major building block to a formal program to protect the present and probable future beneficial uses of ground water throughout the state. The rule's intent is to require a permit for a facility or activity that, during normal conduct of the activity or facility, may have a discharge to ground water. The Ground Water Protection Section within the Utah Division of Water Quality administers the ground water permitting program. Currently, there are 40 active discharge permits regulating approximately 150 facilities. The market distribution for ground water discharge permits consist of activities that are primarily associated with mining and agriculture. Since 1989 the ***Ground Water Quality Protection Rules (UAC R317-6)*** have been revised twice, in part to keep current with the National Drinking Water Standards that serve as the basis for our numerical protection standards. Each year the Section has successfully completed the associated permit annual inspections, review of compliance monitoring data and enforcement activities, when necessary. Additionally, the Section is actively involved in the finalization of two multi-million dollar Natural Resource Damage Claims. The Ground Water Classification for Aquifers is a valuable part of the Ground Water Protection Program. As of March 1, 2006 eight aquifers have been classified within the State with an additional two in progress. Since Program inception a continued effort has been made to update and encourage local governments to institute ground water protection measures. The Section has been instrumental in coordinating the passage of a Salt Lake County wide ground water protection ordinance that has been nationally recognized. In conjunction with the Utah League of Cities and Towns the Section has successfully held its 12th Annual Statewide Water Planning Conference for professional planners and local Planning and

Zoning Commissions. The Section has also been effective in implementing over one million dollars in non-point source projects for ground water protection. Ground water quality protection priorities for 2006-7 include: the administration of a Statewide Ground Water Protection Program; the annual assessment of ground water quality statewide; the integration of ground water protection measures into local planning; to develope new partnerships to protect ground water statewide; continue our commitment in establishing consistent ground water protection measures.

The second primary program found within the Ground Water Protection Section is the federally-mandated Underground Injection Control Program. The Utah 1422 Underground Injection Control (UIC) Program regulates underground injection into Class I, III, IV, and V injection wells by prohibiting injection activity which would allow movement of fluid containing any contaminant into underground sources of drinking water (USDWs) if the presence of that contaminant may cause a violation of any primary drinking water regulation (40 C.F.R. Part 141 and Utah Primary Drinking Water Standards R309-200-5), or which may adversely affect the health of persons. Underground Injection means the subsurface emplacement of fluids through a bored, drilled, or driven shaft or dug hole whose depth is greater than the largest surface dimension or an improved sinkhole or a subsurface fluid distribution system consisting of an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground. (UAC R317-7-2 and 40CFR144.3)

An Underground Source of Drinking Water or USDW means an aquifer or portion thereof which:

(a) (1) Supplies any public water system; or

(2) Contains a sufficient quantity of ground water to supply a public water system; and

(i) Currently supplies drinkingwater for human consumption; or

(ii) Contains fewer than 10,000 mg/l total dissolved solids (TDS); and

(b) Is not an exempted aquifer as designated according to the procedures in 40 CFR 144.7. (UAC R317-7-2 and 40 CFR 144.3)

Currently, the Utah 1422 UIC Program is reviewing a Class I permit application, oversees an area permit for seven active Class III wells at a potash solution mining operation, coordinates with the Utah Division of Solid and Hazardous Waste and Division of Environmental Response and Remediation in the use of exempt Class IV injection wells for RCRA and CERCLA-related aquifer remediation, and manages over 5,500 Class V injections wells. Not only do Class V injection wells represent, by far, the greatest number of wells in Utah and also the greatest diversity of industry sectors with 30 well subclasses ranging from storm water drainage wells to a deep underground hydrocarbon storage facility.

As development in Utah continues, the potential for ground water contamination also increases from storm water drainage wells and from UIC-regulated on-site domestic wastewater disposal systems in communities without stormwater and sanitary sewers, respectively. We are also experiencing an increased interest in and application for subsurface disposal of industrial wastewater brought on by the restrictions in surface discharge through implementation of TMDLs and the Colorado Salinity Forum as well as prohibitions to surface discharge by the US Forest Service.

Cost/Benefit Assessment

Point Source

Since 1972 some 280 wastewater projects have received funding from either EPA Construction Grants, State Revolving Fund (SRF), Utah Wastewater Project Assistance Program (UWPAP), which includes the Utah Wastewater Loan Program and the Utah Hardship Grant Fund (HGP, HGD or HGC). To date, assistance on these projects totals more than $575 million. Fairly detailed data was available for the amounts of assistance which were given; however, the total costs for EPA Construction Grant (CG) projects were not readily available. Table A-1 in Appendix A contains a list of funded projects along with the types and amounts of funding provided. Some project costs are also included. For the purposes of this report, the project costs include the costs for planning, design and construction. The EPA CG project costs can be estimated assuming that the funding amount represents 50% of the eligible project costs.

The estimated total project costs from 1972 to 2005 exceed one billion dollars. Funding was provided for nearly 54% of the total project costs. An analysis of the information provided in A-1 shows that approximately 230 Communities or Service Districts received funding during this period of time. These entities are located across the entire state of Utah. However, since almost two-thirds of the population in Utah is located along the Wasatch Front, a large portion of the funding was expended to meet the greater wastewater collection and treatment needs in the main population areas. The proportions of project funding that was provided is illustrated in Figure I-1-1..

During the period of 1972 to about 1985, the majority of the funding was from EPA Construction Grants. The EPA grants program was phased out in approximately 1991. Since then, the SRF and WQPAP have provided the majority of funding. However, in 1996, the Utah Water Quality Board implemented a grant program to assist small communities which are limited in their ability to afford a water quality project. Since its implementation, a number of communities have been given grant assistance for planning, design and construction activities. Typically, advances given to communities for planning and design are repaid to the Hardship Grant program with proceeds from the long-term funding provided by the Utah Water Quality Board. All funding to projects in Utah have been given to a body politic. Although a majority of the projects have been for the planning, design and construction of wastewater collection and treat facilities in communities, many of the projects have provided water quality protection to recreational and environmentally sensitive areas. A few examples are the projects that were constructed along the west and south shores of Bear Lake, at Scofield Reservoir, communities along the Weber and Bear Rivers, Jordanelle Reservoir and several projects in the upper reaches of watersheds which include recreational areas. Most all of Utah has, at one time, utilized cesspools or individual septic tank/drainfield systems to meet their wastewater treatment needs. The construction of centralized wastewater collection and treatment facilities provides

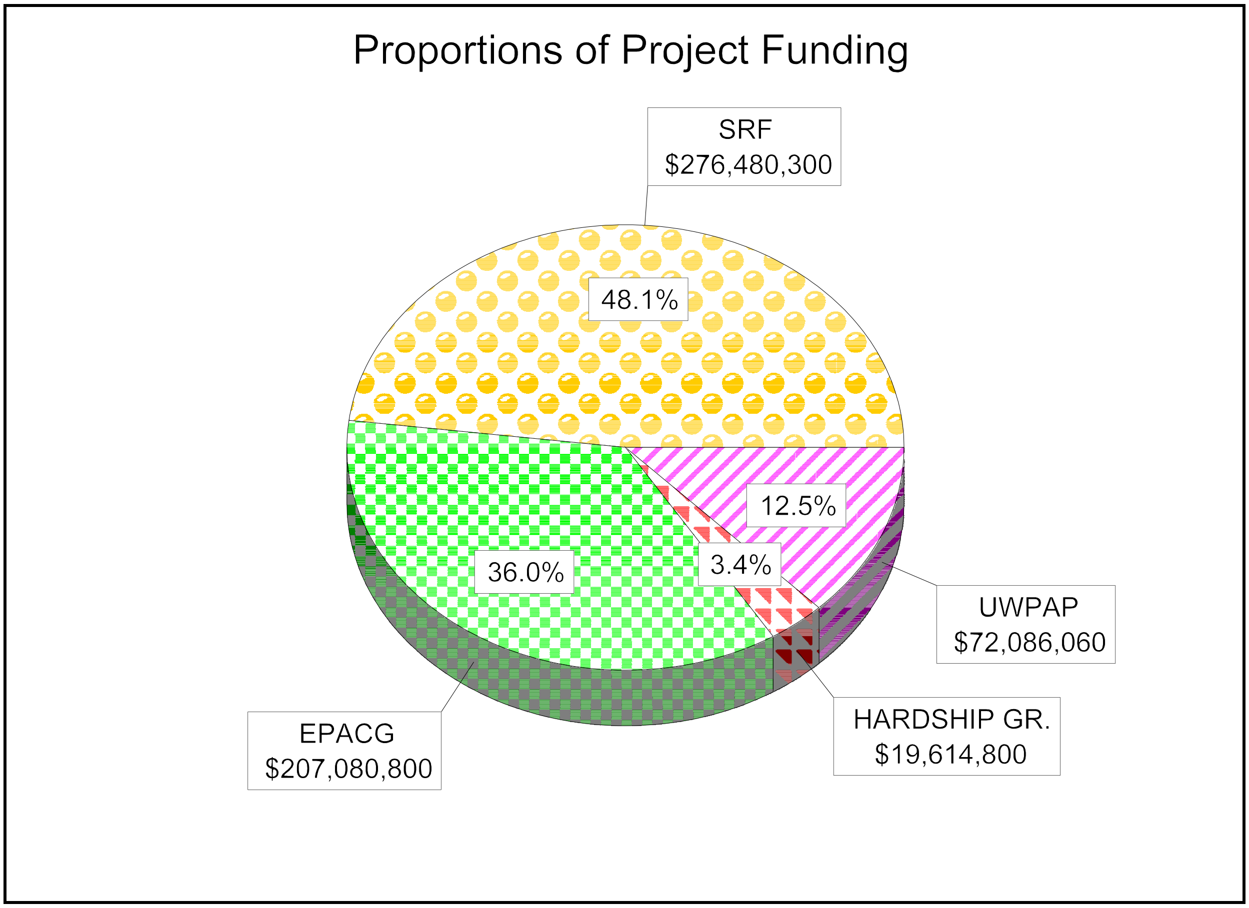


Figure I-1-1. Proportions of project funding by program for waste water projects in Utah from 1972 to 2005.

water quality protection for both surface and ground water quality. At this point in time, there are only 6 Utah communities with population over 1,000 that do not have a centralized wastewater collection and treatment system.

Other benefits derived from the funding of wastewater projects include:

1. Public Education about the need for water quality and environmental protection

2. Prevention of water quality degradation in surface and ground water sources

3. Protection of fisheries in discharge receiving streams

4. Education of State Legislators on the need for funding of water quality projects

5. Protection of Public health

6. Beneficial reuse of biosolids resulting from wastewater treatment.

Communities have established operations and maintenance procedures for their wastewater collection and treatment systems. This ensures proper operations and helps to prevent damage to the environment.

Most recently, an increased interest in reusing treated effluent for irrigation purposes.

It may be hard to quantify the benefits that have been derived from the capital expenditures since 1972, yet it is easy to see that if the projects were not constructed, water quality in general would have degraded in the state of Utah. It is believed that the benefits of such funding and water quality programs far out-weigh the costs involved.

Nonpoint Source

The DWQ has received almost 23 million dollars in funding under the EPA NPS 319 Program (Table I-1-1). Funding was used for planning, monitoring, assessment, technical support, and enforcement. Other funds were used for implementation programs under the Utah Department of Environmental Quality and the Utah Department of Agriculture and Food.

The funding distribution for the various components of the NPS 319 program is illustrated in Table I-1-2. Funding was used for administration, watershed demonstration projects, information and education, monitoring, assessment, TMDL development, enforcement and planning.

It is very difficult to determine the cost/benefits for nonpoint source projects because it may take 5 or more years to see any improvements in a watershed. The assessment becomes more difficult when only a portion of the stakeholders in a watershed are participating in the implementation program.
Since the inception of the program, the DWQ has removed on watershed from Utah's 303(d) list that was impacted by only nonpoint sources of pollution. The Mill Creek watershed was on the list for sedimentation, habitat alteration and bacteria.

Several areas of the stream channel were reconstructed and the recreational facilities were moved away from the stream to lessen human impact on the riparian habitat. A program was implemented by Salt Lake City that required animal owners to remove feces that there dogs excreted.

Upon completing the program, the DWQ assessed the results and the bacteria standard was being met, and the riparian habitat had recovered significantly.

A segment of another watershed on the Little Bear River was removed from the 303(d) list also. This segment was impacted by point and nonpoint sources. The implementation of best management practices within this watershed played a significant role in reducing nutrient input to the stream which was the cause of the impairment.

The formation of watershed management committees to review, provide input and to assist in implementing projects with watersheds has been very successful. It has made people more aware of what the water quality issues are and they have begun to take pride in their watersheds. The funding for part-time watershed coordinators has also been very important. These individuals live in the watersheds and are able to communicate on a more regular basis with people that live in there. It has contributed to a more open dialogue on water quality issues and how they can be approached on a cooperative basis instead of being fearful of the process.

Table I-1-2. NPS 319 Funding FY-90 Through FY-05			
Department of Environmental Quality		**Utah Department of Agriculture and Food**	
Monitoring, Planning, Assessment, Technical Support, Enforement	$2,716,530 (16%)	Project Implementation	$10,019,310 (85%)
Project Contracts (Implementation)	$1,946,010 (12%)	Program Management and Technical Support	$1,802,742 (15%)
UDAF-Ag NPS Program Management and Implementation	$11,822,060 (72%)		

Table I-1-3. Nonpoint Source Funding Distribution: 1990-2005		
Category	**Amount**	**Percent**
Administration	$590,690	2.7%
Management Technical Support, Enforcement	$4,013,245	18.3%
Watershed Demonstration Projects	$10,985,010	50.1%
Information and Education	$1,945,100	8.9%
Ground Water Studies	$1,351,300	6.2%
Monitoring and Assessment	$3,035,090	13.8%

Chapter 2: Statewide River and Stream Water Quality Assessment

Statewide Water Quality Summary

Introduction

Water quality monitoring conducted as part of the Section 305(b) report form the basis of the Division of Water Quality's assessment work. As part of this assessment, the State uses a five-year rotating monitoring program to collect data and to assess the beneficial use support of its rivers and streams. The State has been divided into ten watershed management units (Figure I-2-1) and aggregated into five monitoring regions (Table I-2-1). Each region is monitored on an intensive basis once every five years.

For this assessment cycle, the statewide assessment consists of the summary evaluations of the intensive monitoring surveys for three watershed management units. These watersheds were the Bear River, Weber River, and the Jordan River Watershed Management Units.

These watershed assessments were combined with the results of the intensive watershed assessments of the Uinta, Sevier River, Cedar/Beaver, Lower Colorado), Colorado River West and the Colorado River Southeast Jordan River/Utah Lake and Sevier River which were completed for the 2004 305(b) report. Evaluation of data collected at sites within any of the watershed assessment units since the 2004 305(b) report was also done. Intensive monitoring occurs from July 1 a year until June 30 of the next year. No samples are collected during December.

Use support of beneficial uses was arrived at using chemical, physical, biological data and other information collected by the DWQ, Cooperating Agencies, and other entities involved in collecting data related to water quality. Federal and other public agencies involved with cooperative monitoring agreements or providing information used during this cycle to assess beneficial use support are listed below:

1. United States Forest Service
2. United States Bureau of Land Management
3. Salt Lake City
4. United States National Park Service
5. Central Utah Water Conservancy District.
6. United States Geological Survey
7. Salt Lake County
8. Provo River Watershed Council

Bacteriological data collected by Salt Lake City were used to assess streams in the Jordan River watershed. Bacteriological data provided by Salt Lake County were used to assess Emigration Creek and the Jordan River.

Physical and water chemistry data collected by the U. S. Geological Survey (U.S.G.S.) as part of the Great Salt Lake River Basins NAWQUA study and from other monitoring sites throughout the state were used to assess beneficial use support.

The assessment results were combined with the results of previous regional assessments for the Bear River, Weber River, and the Utah Lake/Jordan River assessment units to provide a statewide assessment.

Materials and Methods

Samples collected as part of DWQ's intensive monitoring program were collected twice a month during spring runoff period and then monthly during the remainder of the survey. Samples were not collected during December.

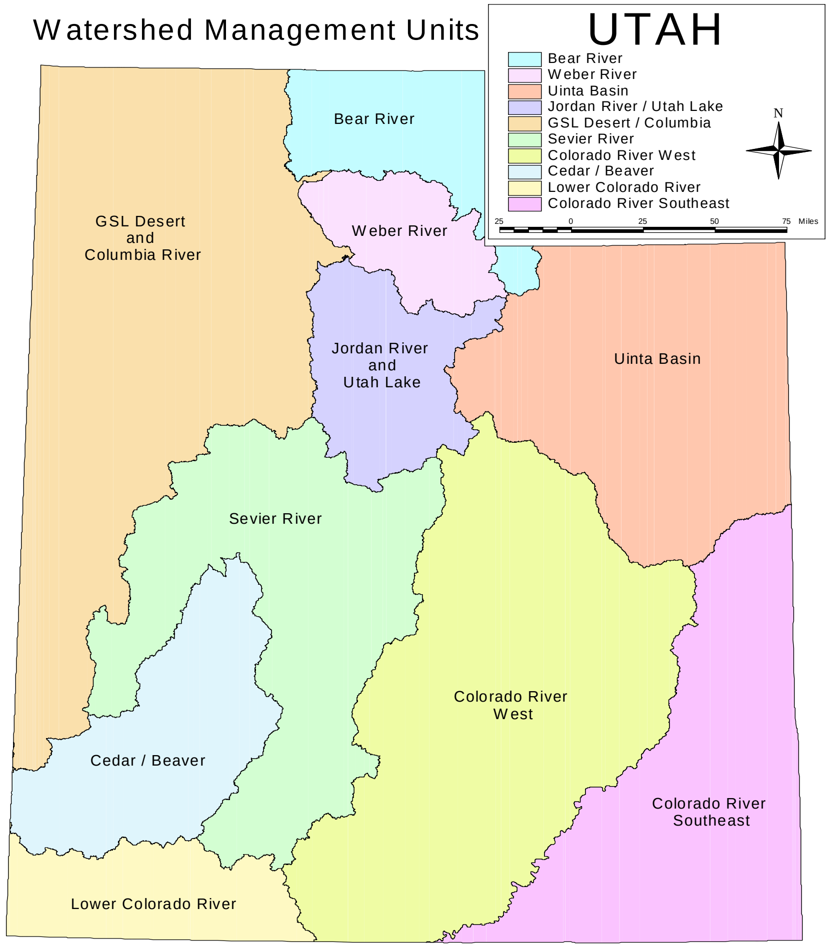


Figure I-2-1. Watershed Management Units.

Table I-2-1. Water Quality Monitoring Regions.	
Region	**Management Units**
1	Bear River, Weber River, Great Salt Lake Desert/Columbia (northern portion of the GSL Desert)
2	Jordan River, Great Salt Lake Desert (southern portion of Great Salt Lake)
3	Uinta
4	Sevier River, Cedar/Beaver, Lower Colorado
5	Colorado River West, Colorado River Southeast

Dissolved metals were collected quarterly (4 times). For the majority of the monitoring sites, dissolved oxygen, pH, water temperature, and conductivity were measured *in situ* using a Hydrolab. Instantaneous flows were measured using a Marsh-McBurney flow meter during each survey or flow data from a nearby U.S.G.S. gaging station were obtained. Water quality samples were collected according to standard field procedures defined and adopted by the DWQ in 1996.

Chemical analysis in the laboratory included ammonia, total phosphorus, dissolved nitrate-nitrite, total suspended solids, total dissolved solids, dissolved calcium, dissolved magnesium, dissolved potassium, dissolved sodium chloride concentration, sulfate, alkalinity and hardness. Turbidity was also determined in the laboratory. Dissolved concentrations for the following metals were determined: arsenic, barium, cadmium, chromium, copper, iron, lead, selenium, silver and zinc.

Beneficial use assessments were made based upon the methods listed in Appendix B. Water chemistry data were compared against Utah's standards in 'Standards of Quality for Waters of the State', R317-2, Utah Administrative Code (DWQ, 2001).

Statewide assessment of streams came to 10,446 miles for this 305(b) reporting period. This was 73.54% of the perennial stream miles in the state.

Materials and Methods

Category Definitions for Assessing Assessment Units–Assessments for this 305(b) report were determined in two ways. First, three designated use determinations were used to indicate beneficial use support: Fully Supporting, Partially Supporting and Non Supporting. Second, assessment units (AUs) were placed in one of five attainment categories with sub-categories as needed (USEPA, 2006). The methodology for determining whether or not an AU is meeting water quality standards or fully supporting its designated beneficial uses is discussed in Appendix B. For those AUs for which there are no reliable data, either monitored or evaluated, for a specific designated beneficial use, a designation of Not Assessed for that specific beneficial use shall be assigned. For those AUs for which there are no reliable data, either monitored or evaluated, for all criteria for all applicable designated uses, a designation of **Not Assessed** will be assigned to all the designated beneficial uses for that AU.

The determination of use support using methods described in section Appendix B and other specified protocols were combined to determine the overall water quality standard attainment category for each AU. The unique assessment categories are described as follows (see Figure I-2-2 also):

1. **All designated uses are attained--** AUs are listed in this category if there are data and information that meet all requirements of the assessment and listing methodology and support a determination of full support for all of an AU's designated beneficial uses.

2. **Some of the designated uses are attained, but here is insufficient data to determine beneficial use support for the remaining designated uses. --** AUs are listed in this category if there are data and information that meet requirements of the assessment and listing methodology to support a determination that some, but not all, uses are attained. Attainment status of the remaining uses is unknown because

there is insufficient or no data to assess beneficial use support.

3. Insufficient or no data and information to determine if any designated use is attained -- AUs are listed in this category where data or information is not sufficient or does not exist to determine whether any beneficial use is attained following the requirements of the assessment and listing methodology.

4. Impaired for one or more designated uses, but does not require development of a TMDL.

A. TMDL has been completed for all pollutants-- AUs are listed in this sub-category once all TMDL(s) have been developed and approved by EPA, that when implemented, are expected to result in full support of the water quality standards or support the designated beneficial uses. Where more than one pollutant is associated with the impairment of an AU, the AU remains in Category 5A for those pollutants that still need a TMDL. The completed TMDLs will be placed in Category 5B, some TMDLs completed for the AU, but some remain to be completed and approved by EPA.

B. Other pollution control requirements are reasonably expected to result in attainment of the water quality standard in the near future-- Consistent with the regulation under 40 CFR, 130.7(b)(I),(ii), and (iii), AUs are listed in this subcategory where other pollution control requirements (e.g., best management practices) required by local, state, or federal authority are stringent enough to meet any water quality standard or support any beneficial use applicable to such waters.

C. The impairment is not caused by a pollutant-- Assessment units are listed in this subcategory if the impairment is not caused by a pollutant (e.g., habitat alteration).

5. The water quality standard is not attained and is caused by a pollutant. The AU is found not supporting one or more of its designated beneficial uses as determined by current water quality standards and assessment methodologies. **This category constitutes the Section 303(d) list of waters.** Category 5 is further delineated into the following sub-categories.

A. A TMDL is underway or scheduled [303(d) list]--AUs are listed in this category if the AU is impaired for one or more designated uses by a pollutant. Where more than one pollutant is associated with the impairment of a single AU, the AU remains in Category 5A for the pollutant(s) for which a TMDL has not been completed and approved by EPA. Utah's 303(d) of stream segments needing TMDLs are listed in Appendix C, Table I-C-6. Lake and reservoir TMDLs are listed in xxx.

B. Some but not all TMDLs have been completed, water quality standards are now being met, new delineation of assessment unit, changes in beneficial use

classification result in meeting standards, change in listing methods results in meeting beneficial uses, awaiting approval letter from EPA for UPDES permit TMDLs, or change in water quality standards: AUs are listed in this category to identify those pollutants for which a TMDL has been approved, but TMDLs are still required for other pollutants identified for the AU. If the most recent water quality assessment indicates that water quality standards are being met, the AU is listed in this sub-category also. Errors in previous assessments or a new delineation of an assessment unit is the cause for meeting water quality standards, the AU is included in this sub-category. If a change in the water quality standards was made and it results in the AU meeting the standard, the AU is listed in this category. UPDES permit renewals for which a letter of approval has not been received were placed in this category.

C. A Utah Pollutant Discharge Elimination System permit renewal TMDL is scheduled to determine discharge limitations that will meet water quality standards or protect designated beneficial uses.--

Parameters listed with UPDES Permit Renewal TMDLs are effluent limited and the receiving water is not impaired and does not violate water quality standards. Water quality standards may be violated and water quantity impaired if the permitted effluent limits are not met. Assessment units are listed in this category if there is a discharge permit renewal scheduled between April 1, 2004 to March 31, 2006.

D. A Lake or Reservoir has been assessed as not meeting standards for one monitoring cycle. The assessment has identified impairment during one of the even or odd year monitoring cycles. If the AU is assessed as impaired during the next assessment period, it will be listed in Category 5A, TMDL required.

Category 5 is further divided into categories 5A [303(d) list], 5B, 5C [UPDES permit renewal TMDLs] and 5D (II-1-2).

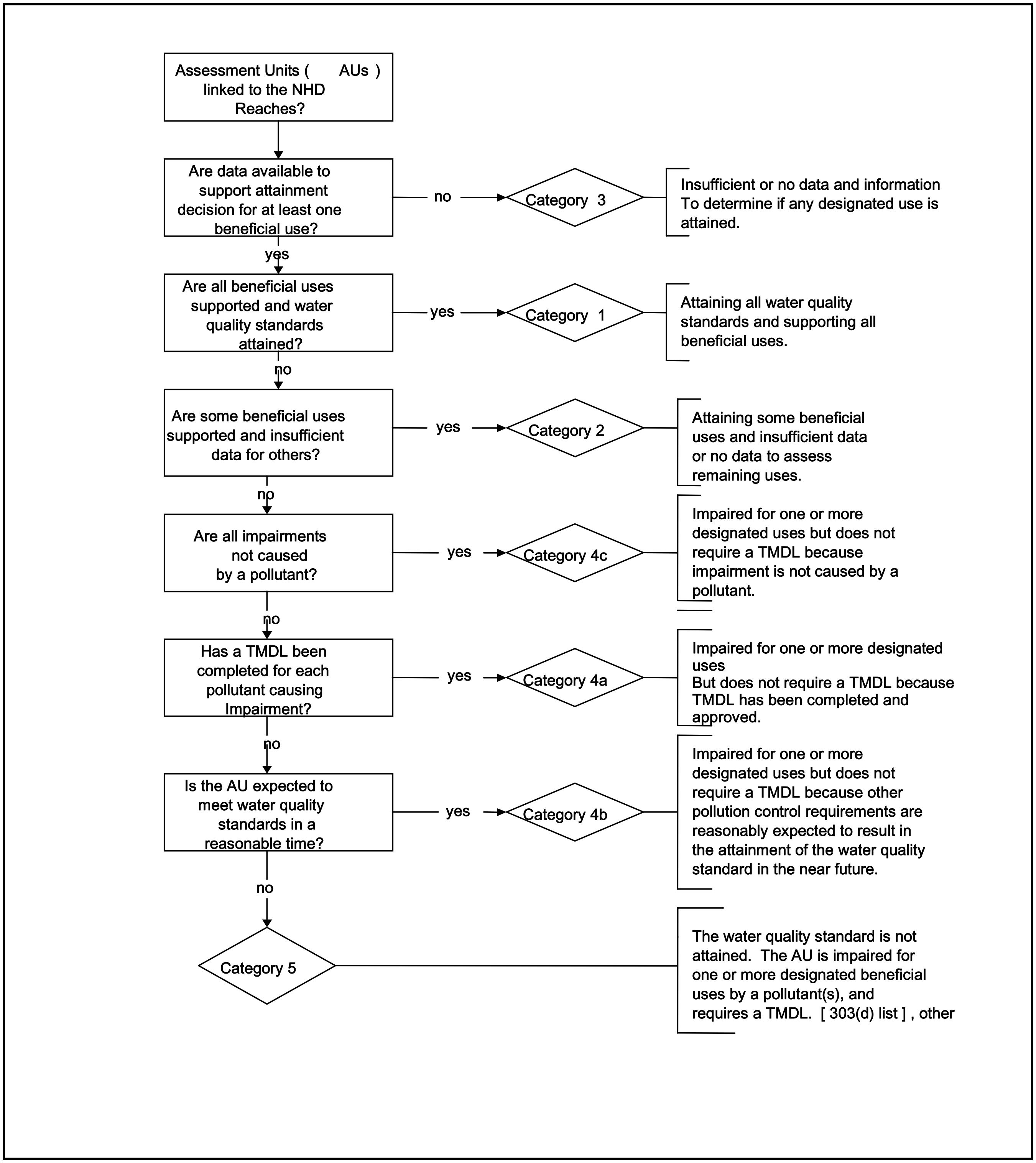


Figure I-2-2. Assessment Category Flow Chart.

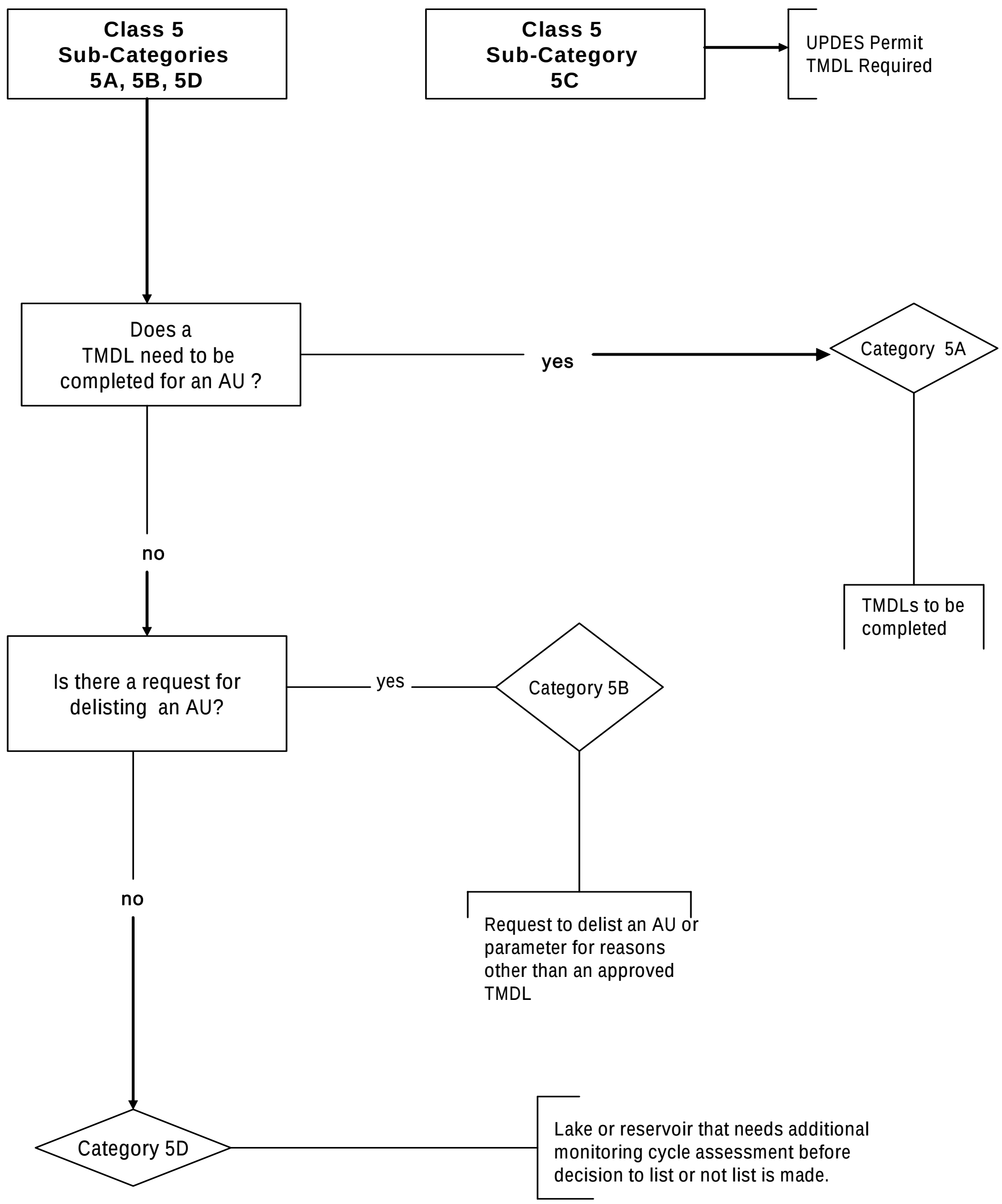


Figure I-2-3. Flow diagram for Category 5 sub-categories.

Assessment By Category–Table I-2-2 lists the number of stream miles assigned to the various assessment categories: Category 1, 2, 3, 4A, 4B, 4C, 5A, or 5B assessment. The statewide beneficial use assessment by category is displayed in Figure I-2-5. The number of streams in each assessment category are found in figure I-2-6. Assessment Units assigned to each assessment category are listed in the tables in Appendix C.

Overall Use Support--Of the 10,446 stream miles assessed, 8,506 miles (72.0 %) were rated as fully supporting, 1,602 miles (15.3%) were rated as partially supporting and 1,324 miles (12.7%) were rated as not supporting one or more of their designated beneficial uses (Figure I-2-4). For the majority of streams, the

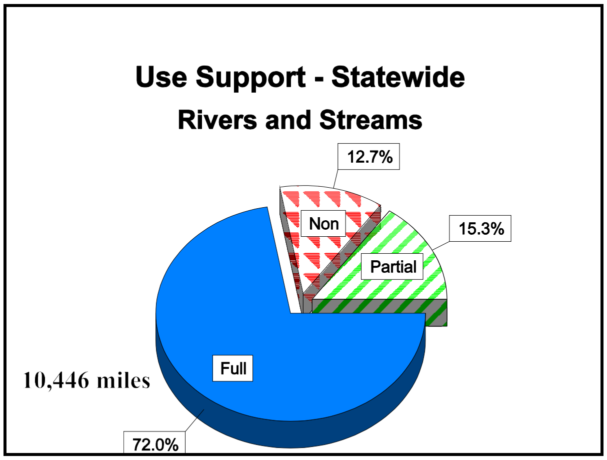


Figure I-2-4. Statewide use support for rivers and streams.

Class 2B (protected for contact recreation) was not assessed because bacteriological data were not available. Waters with this classification were only considered assessed if bacteriological data were collected unless there was physical or chemical impairment such as pH.

Individual Use Support--Use support by individual beneficial use designations is summarized in Table I-1-3. The drinking water use was assessed on 4,127 miles of streams. Of these stream miles, about 25 miles were assessed as not supporting this beneficial use.. Over 99%, were assessed as fully supporting. For contact recreation, 102.4 miles were assessed. The assessment resulted in 60.4% were found fully supporting, 9.0% partially supporting, and 30.6% not supporting the swimming and contact recreation beneficial use designations.

Streams classified for agricultural use had 8,661 miles (85.8 %) that were rated as fully supporting, 395 miles (3.9%) as partially supporting and 1,041 miles (10.3 %) as not supporting agricultural usage.

The aquatic life use was assessed on 10,446 stream miles. Full use support was assessed for 8,506 miles (81.4%). A partial support rating was given to 1,494 miles (14.3%) and 445.7 miles (4.3 %) were rated as not supporting the aquatic life use support category.

Table I-2-4 lists the percentages of streams that were assessed using only chemical/physical data and those that were assessed using chemical/physical, habitat and biological data to determine aquatic life uses.

Causes of Less Than Fully Supporting--Stream miles impacted by specific cause categories are summarized in Table I-2-7. Stream segments may have been impacted by multiple causes. The primary causes of impairment were total dissolved solids (13.2%), nutrients (8.2%), sediment (5.6%) and habitat alterations (6.4%)(Table-I-2-5). The relative percent contribution of each cause is shown in Figure I-2-8.

Sources of Less Than Fully Supporting--The sources of stream water quality impairment are summarized in Table I-2-6. Like causes, stream segments may have been impacted by multiple sources. The primary sources of impairment were agricultural practices (21.3%), natural sources (14.2%) hydrological modification (8.9%), and habitat modification (7.7%) (Figure I-2-9). The relative percent contribution of each source for impairments are shown in Figure I-2-10.

Table I-2-2. Stream Mile Assessment By Category

Category	Stream Miles
1	62
2	7,495
3	2,673
4A	1,135
4B	0
4C	655
5A	1,344
5B	62

Table I-2-3. Individual Use Support Summary							
Goals	**Use**	**Size Assessed**	**Size Fully Supporting**	**Size Full Supporting but Threatened**	**Size Partially Supporting**	**Size Not Supporting**	**Size Not Attainable**
Protect & Enhance Ecosystems	Aquatic Life	10,446.2	8,506.3 (81.4%)		1,494.2 (14.3%)	445.7 (4.3%)	0.0
Protect & Enhance Public Health	Fish Consumption	46.8	0.0		0.0	46.8 (100%)	0.0
	Swimming	102.4	61.9		9.3 (9.0%)	31.3 (30.6%)	0.0
	Secondary Contact	102.4	61.9 (60.4)		9.3 (9.0%)	31.3 (30.3%)	0.0
	Drinking Water	4,127.0	4,101.5 (99.4%)		0.0	25.5 (0.6%)	0.0
Social and Economic	Agricultural	10,096.0	8,660.6 (85.8%)		394.9 (3.9%)	1,040.5 (10.3%)	0.0
	Overall Use Support	10,446.2	7,520.1 (72.0%)		1,602.2 (15.3%)	1,323.9 (12.7%)	0.0

Table I-1-4. Categories of Data Used In ALUS Assessments for Wadable Streams and Rivers				
Degree of ALUS	**Miles Assessed Based on B/H Data Only**	**Miles Assessed Based on P/C Data Only**	**Miles Assessed Based on B/H and P/C Data**	**Total Miles Assessed for ALUS**
Fully Supporting	-	8,322.4	183.9	8,506.3
Fully Supporting but Threatened	-	-	-	-
Partially Supporting	-	1,240.3	252.9	1,4 94.2
Not Supporting	-	445.7	0.0	445.7

Table I-2-5. Total Waters Impaired by Various Cause Categories (Stream Miles)	
Cause Category	**Miles Impacted**
Cause unknown	0.0

Table I-2-5. Total Waters Impaired by Various Cause Categories (Stream Miles)	
Cause Category	**Miles Impacted**
Unknown toxicity	0.0
Pesticides	-
Priority organics	-
Nonpriority organics	-
Metals	352.8
Ammonia	
Chlorine	0.0
Other inorganics	0.0
Nutrients	845.0
pH	87.0
Siltation/Sediments	576.5
Organic enrichment/low DO	158.2
Salinity/TDS/Chlorides	1,357.5
Thermal modifications	414.8
Flow alterations	96.7
Other habitat alterations	654.8
Pathogen Indicators	10.3
Radiation	22.0
Oil and grease	-
Taste and odor	0.0
Noxious aquatic plants	57.7
Total toxics	-
Turbidity	-
Exotic Species	-

* = Category not applicable.
- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

Table I-2-6. Total Waters Impaired by Various Source Categories (Steam Miles)	
Source Category	**Miles Impacted**
Industrial Point Sources	101.1
Municipal Point Sources	128.3
Combined Sewer Overflow	0.0
Agriculture	2,197.5
Silviculture	0.0
Construction	35.0
Urban Runoff/Storm Sewers	135.8
Resource Extraction	201.6
Land Disposal	0.0
Hydromodification	921.4
Habitat Modification	795.0
Marinas	0.0
Atmospheric Deposition	0.0
Contaminated Sediments	0.0
Unknown Source	411.2
Natural Sources	1,459.0
Source Outside State	136.0

* = Category not applicable.

- = Category applicable, no data available.

0 = Category applicable, but size of waters in the category is zero.

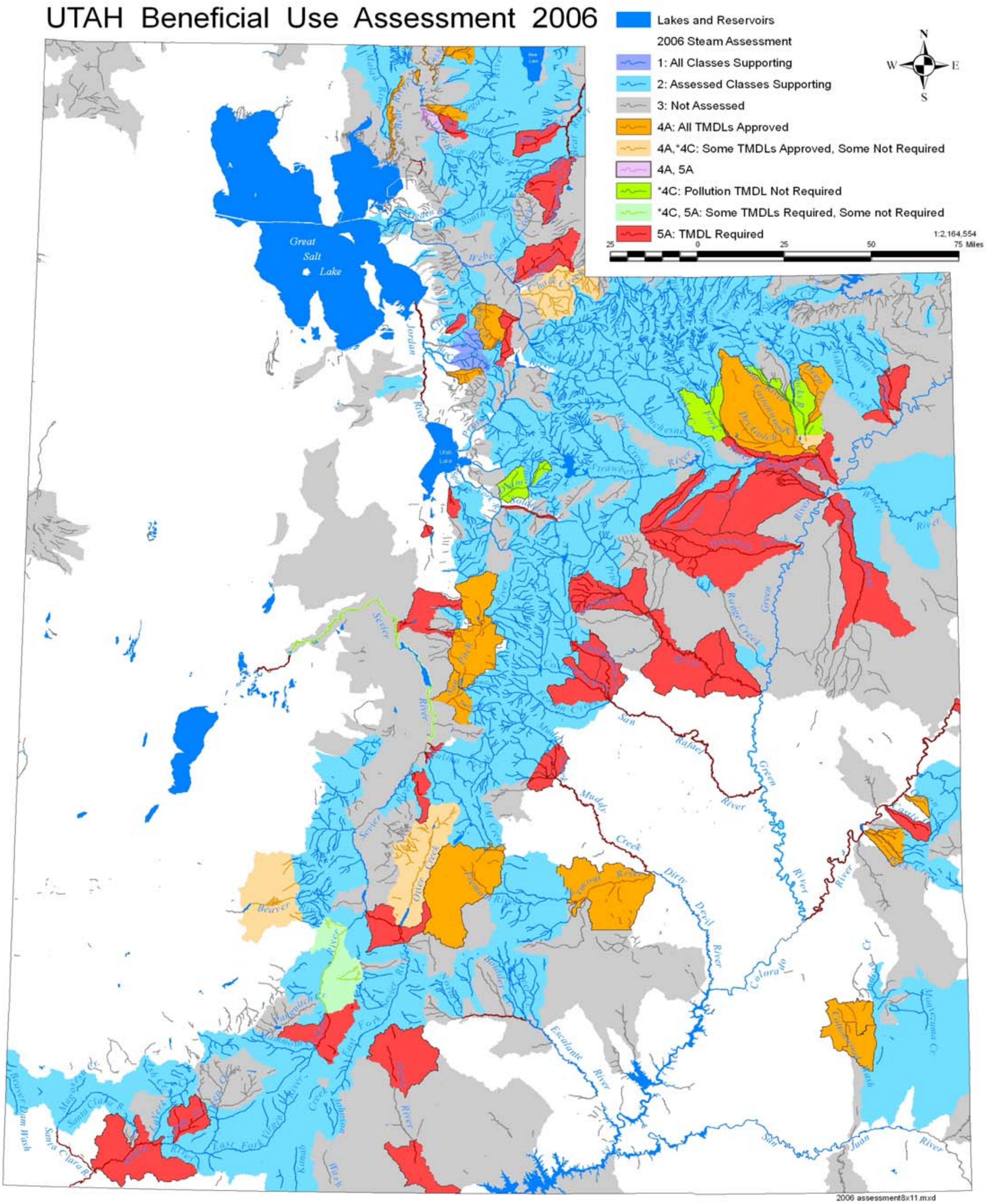


Figure I-2-5. Overall stream beneficial use support - 2006 305(b).

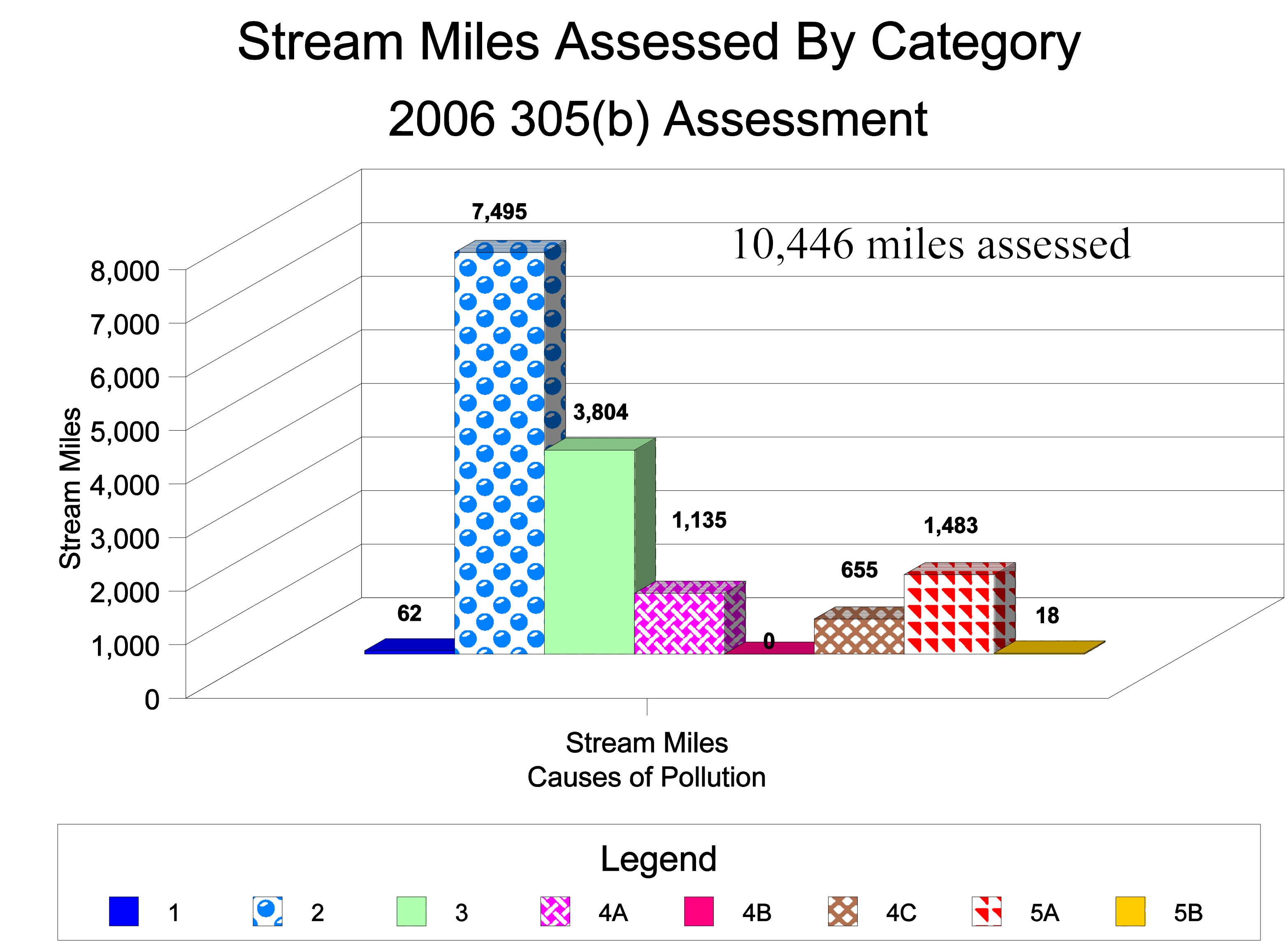


Figure I-2-6. Assessed stream miles by assessment category - 2006 305(b).

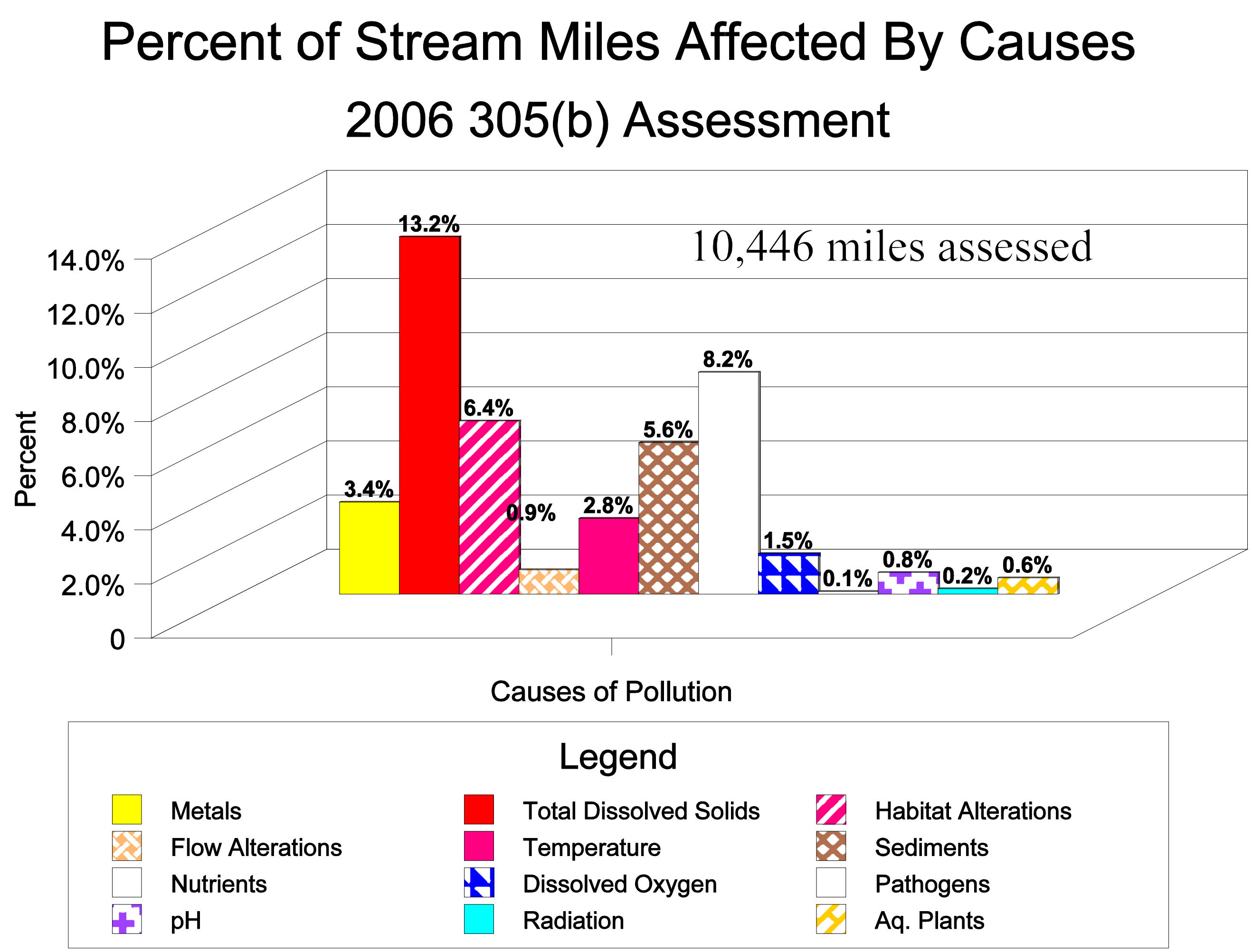


Figure I-2-7. Percent impact by causes on stream water quality - 2006 305(b).

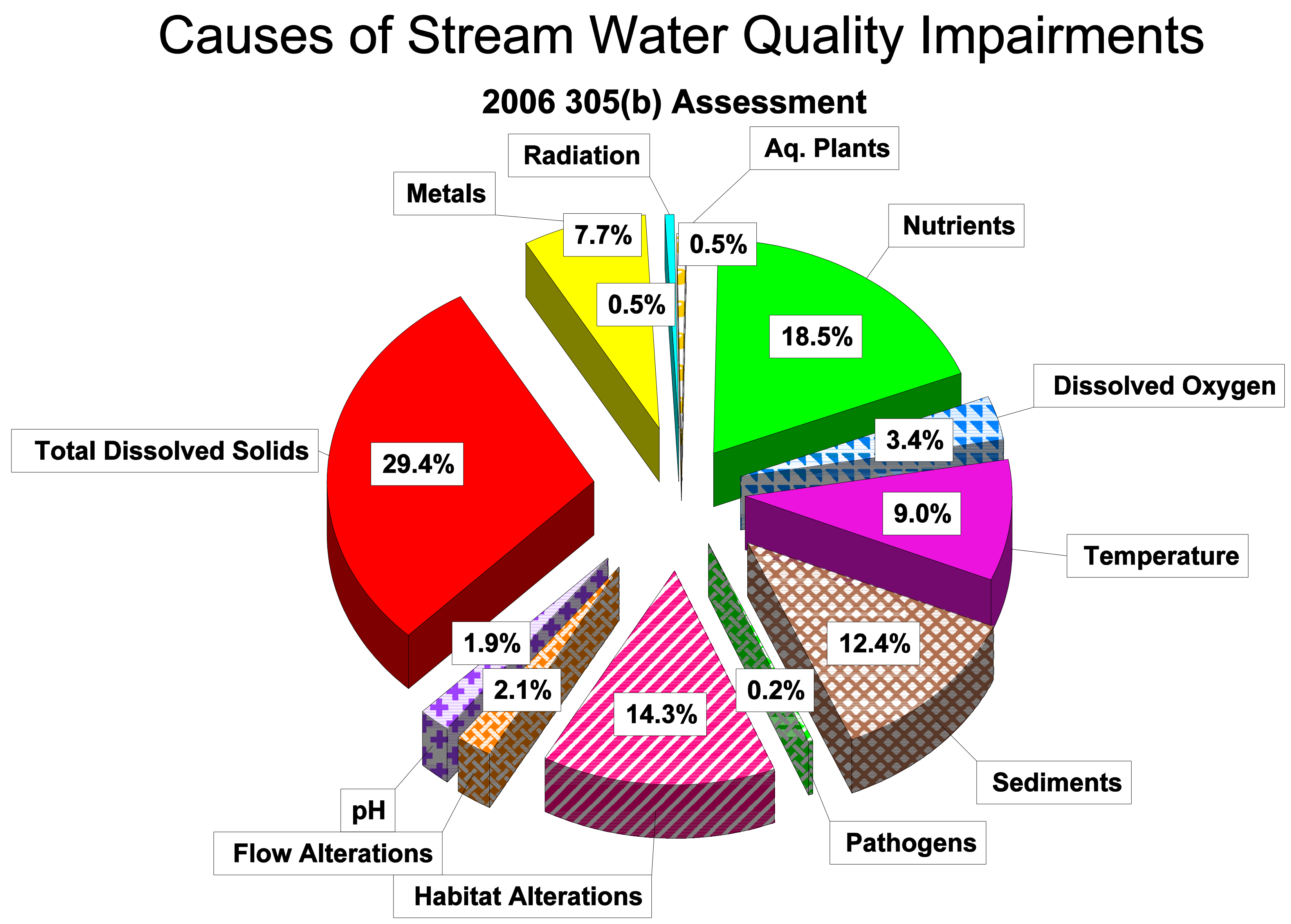


Figure I-2-8. Relative percent contribution of causes on stream water quality - 2006 305(b).

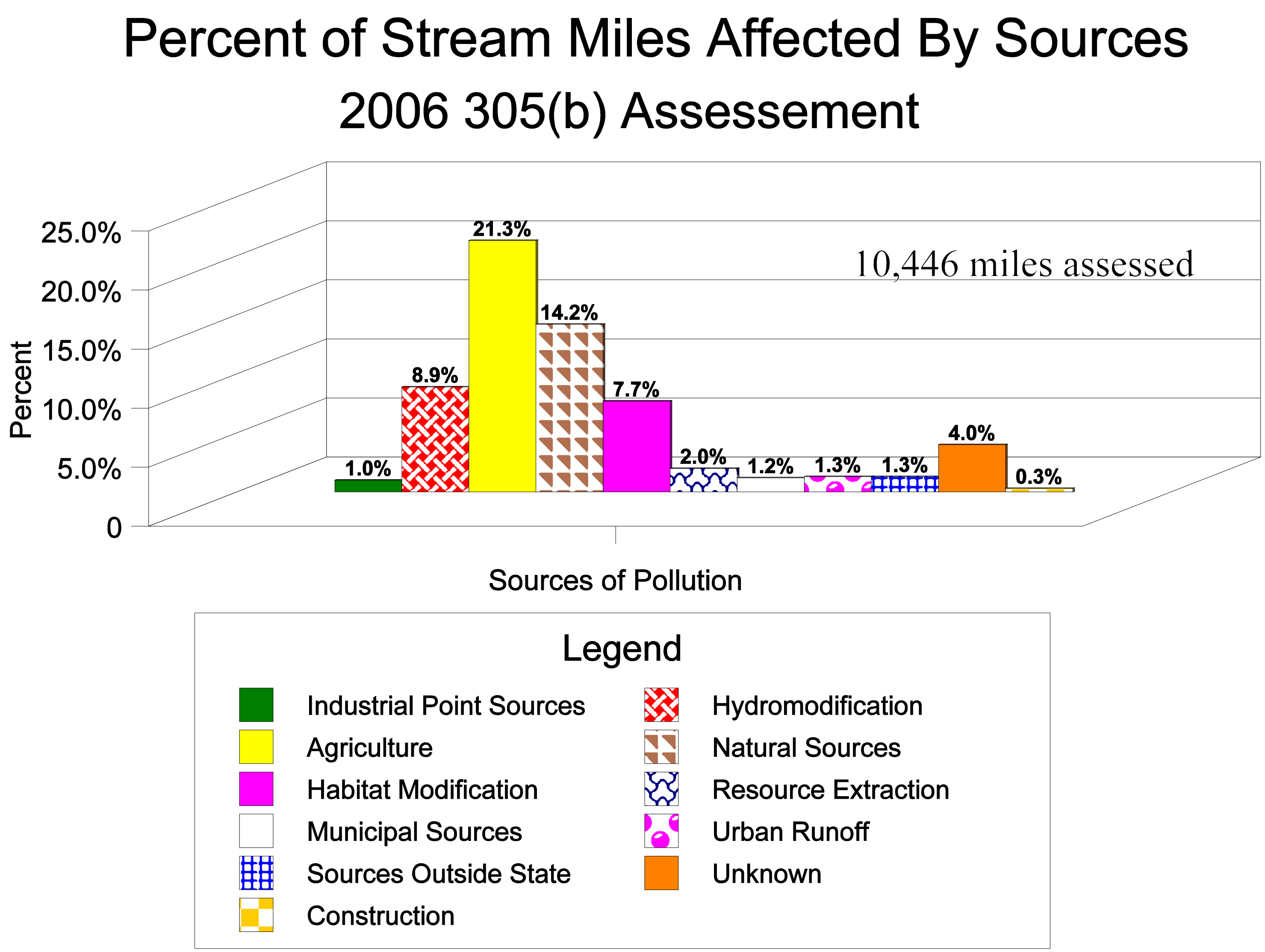


Figure I-2-9. Percent impact by sources on stream water quality - 2006 305(b).

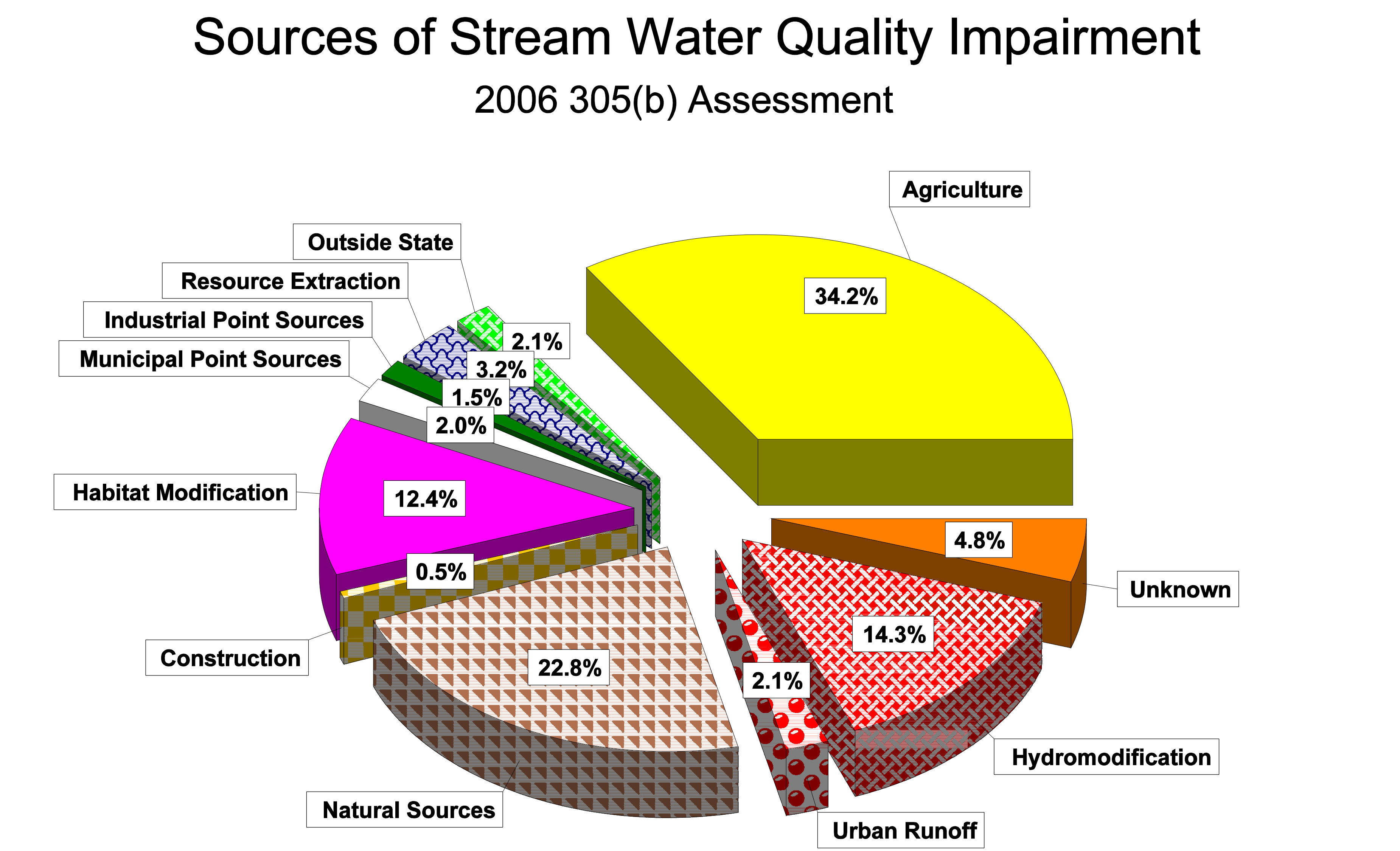


Figure I-2-10. Relative percent contribution of sources on stream water quality - 2006 305(b).

Chapter 3. Bear River Watershed Management Unit

Introduction

The Bear River Basin is part of the Great Basin Hydrologic region, and is comprised of the U.S.G.S. Hydrological Units (HUCs) listed in Table I-20. The Bear River is the principal stream with this drainage area. It flow north out of Utah into Wyoming, then back into Utah then crosses into Idaho, then back into Utah, into Idaho again, and then turns and flows southwest into Utah and empties into the Great Salt Lake. The Bear river is the longest river (approximately 500 miles long) in the United States whose waters do not eventually empty into int an ocean. Originally the Bear river did not flow into Bear Lake, but since the early 1900's, it has been diverted into Bear Lake at Stewart Dam. Water flows from Bear Lake into the Bear River via a canal. Other stream of interest include the Logan, Blacksmith Fork and the Little Bear Rivers.

Table I-3-1. U.S.G.S. Hydrological Units in the Bear River Watershed Management Unit.

Hydrological Unit Code	Hydrological Unit Name
16010101	Upper Bear
16010102	Central Bear
16010201	Bear Lake
16010202	Middle Bear
16010203	Little Bear - Logan
16010204	Lower Bear - Malad

Results

The intensive survey for this watershed was done from July 1, 2003 to June 30, 2004. Data collected at other sites than the intensive survey were also included in the assessment. These include long term sites and other sites where data had been collected since the 2006 305(b) assessment.

There are an estimated 1,500 perennial stream miles within the Bear River Watershed Management Unit. An assessment of beneficial use support was made for 1,056.2 miles. Based upon at least one beneficial use being assessed, 769.7 miles (73%) were assessed as fully supporting, 222.1 (21%) partially supporting, and 63.2 miles (6%) as non supporting (Figure I-3-1.)

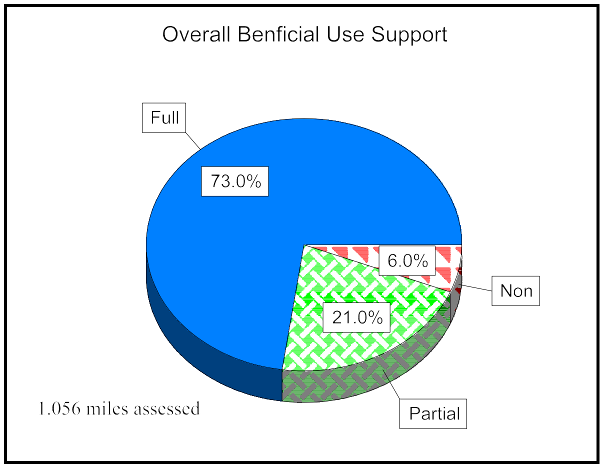


Figure I-3-1 . Overall beneficial use support based upon at least one beneficial use being assessed-Bear River watershed.

Table I-3-2 is a list of stream miles in each of the assessment categories.

The beneficial use classifications for the Bear River watershed are mapped in Figure I-3-2.

Figure I-3-3 is a map of the assessment categories that the rivers and streams were assigned to after beneficial uses support was evaluated.

Table I-3-3 lists the beneficial use support by individual beneficial use classes. Seven-hundred seventy miles (770) were assessed as supporting aquatic life beneficial uses. This was 72.9% of the stream miles assessed.

There were 230.6 miles (21.8%) assessed as partially supporting and 55.9 miles (5.3%) as not supporting aquatic life. Of the 1004.2 miles assessed for agricultural use, 970 (96.6%) were fully supporting and 34.2 (3.4%) not supporting this beneficial use.

Table I-3-2. Stream Miles by Assessment Category - Bear River

Category	Stream Miles
1	0.0
2	749.9
3	444.0
4A	184.5
4B	0.0
4C	0.0
5A	63.5
5B	14.0

Tables I-3-4 and I-3-5 lists the miles of streams affected by the various cause and source categories identified as generally affecting water quality.

The major cause of water quality impairment was total phosphorus a nutrient. (Figure I-3-4). Other factors effecting beneficial uses were temperature, dissolved oxygen, pH and temperature.. The relative percent impact by causes is shown in Figure I-3-5.

The major sources of impairment were agricultural activities, industrial and municipal point source discharges.. It was estimated that they affected 15.9%, 7.1% and 7.9% of the stream miles assessed (Figure I-3-6). The relative percent impacts by sources are shown in Figure I-3-7.

Total phosphorus is the cause of impairment on the mainstem of the Bear River from the Great Salt Lake upstream to the Utah-Idaho border. Several other tributaries include the Little Bear River (lower portion), Spring Creek, High Creek, Cub River, and the lower portion of the Logan River are also impaired by nutrients.

Big Creek, in Rich County, was impaired by high pH; but it is not know what the source is. It is believed to be caused by high concentrations of algae, but has not been verified. This assessment unit is listed on the 303(d) list.

Another AU listed on the 303(d) list is Spring Creek. It is listed because of violations of the total dissolved solids standard for agricultural use. It is also listed as a Category 4A water because it has approved TMDLs for total phosphorus, dissolved oxygen, temperature, and bacteria.

The Bear River AU, Bear River-4, is listed on the 303(d) list because of low dissolved oxygen in the Bear River from the Sage Creek Junction south to the Woodruff Creek confluence with the Bear. It has been recommended that a diurnal dissolved oxygen study be completed before developing a TMDL to obtain more reliable dissolved oxygen data.

Saleratus Creek is listed for low dissolved oxygen values. The TMDL section has prepared data and information to have the cold water game fish beneficial use, Class 3A, to be changed to a warm water fishery, Class 3B.

Table I-3-6 is a list of the impaired waters in the Bear River Watershed.

Bear River Management Unit

Beneficial Use Classification

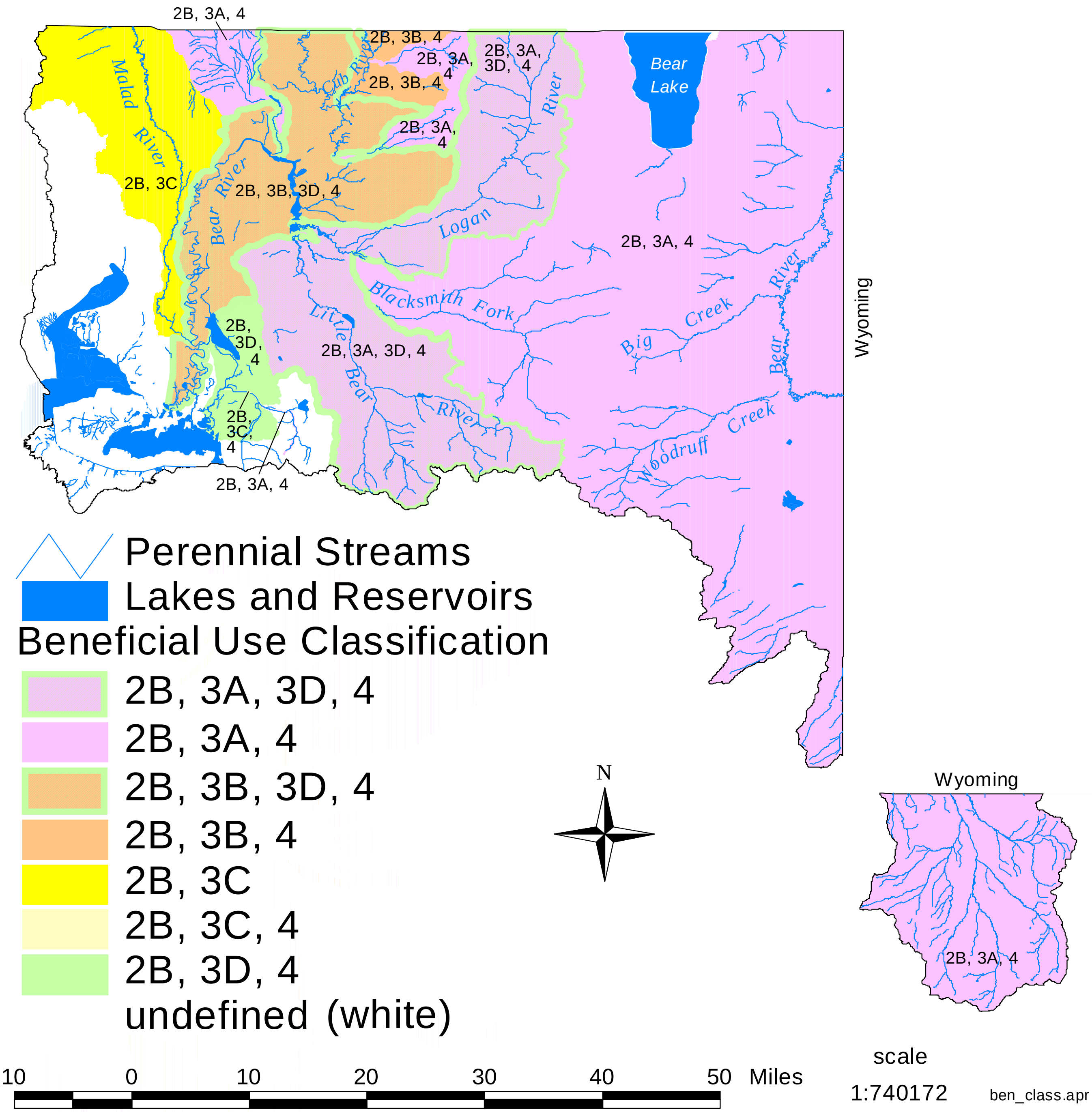


Figure I-3-2. River and stream designated beneficial use classes - Bear River Watershed Management Unit.

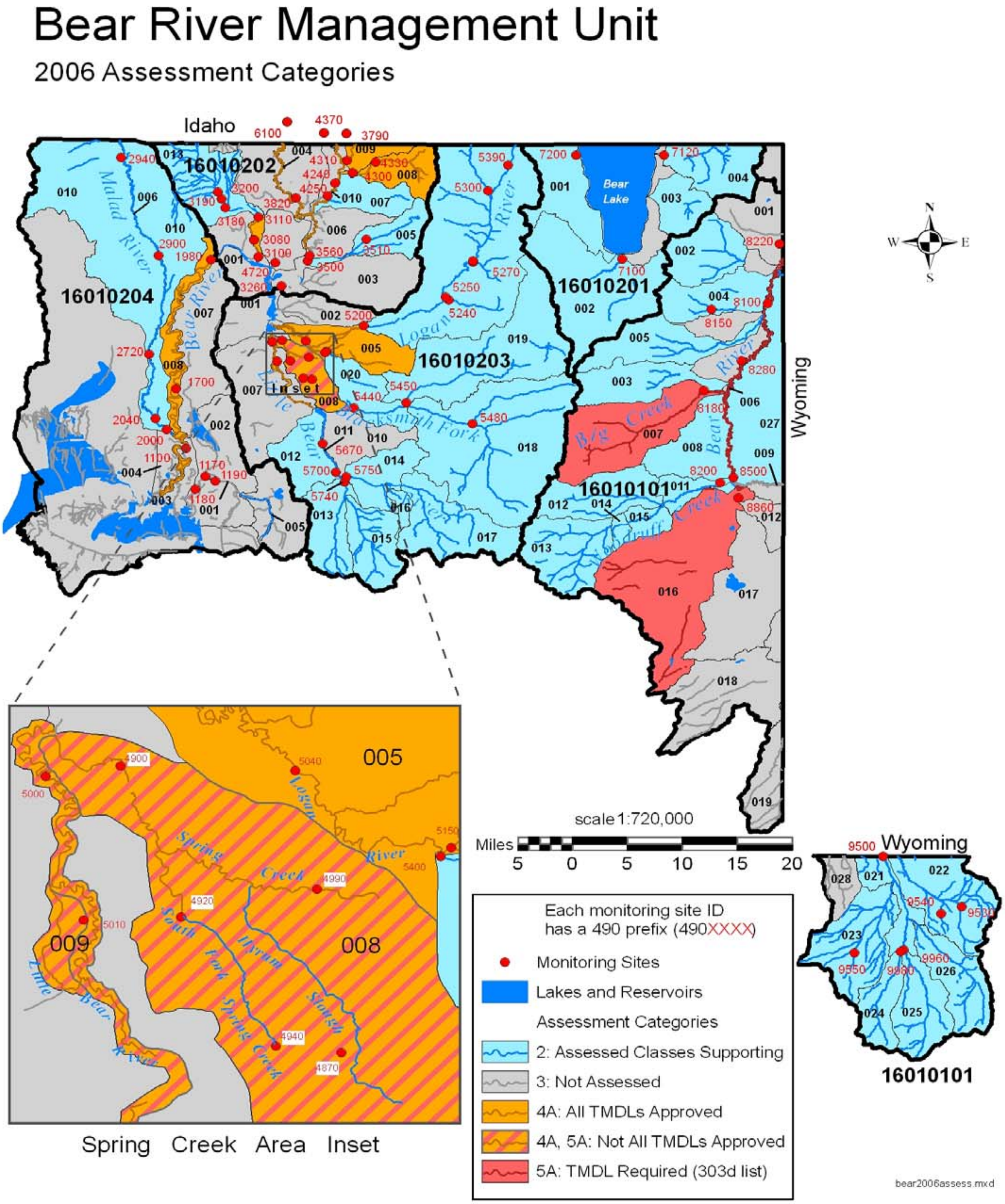


Figure I-3-3. Beneficial use assessment by category - Bear River Watershed Management Unit.

Table I-3-3. Individual Beneficial Use Support Summary Bear River Watershed Management Unit (Stream Miles)							
		Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Attainable
Protect & Enhance Ecosystems	Aquatic Life	1,056.2	769.7 (72.98%)	0.0	230.6 (21.8%)	55.9 (5.3%)	0.0
Protect & Enhance Public Health	Fish Consumption	0.0		-			
	Swimming[b]	26.8	0.0	0.0		26.8 (100%)	0.0
	Secondary Contact	26.8	0.0	0.0		26.8 100%)	0.0
	Drinking Water						
Social and Economic	Agricultural	1,004.2	970.0 (96.6%)	0.0	0.0	34.2 (3.4%)	0.0
Total		1,056.2	770.8 (73.0%)	0.0	222.1 (21.0%)	63.2 (6.0%)	0.0

[a] These goals are part of the national water quality goals adopted by the EPA Office of Water and the ITFM in their Environmental Goals and Indicators effort.

[b] Class 2B (secondary contact) streams were evaluated as swimable for proposes of the CWA goals, therefore the swimming and secondary contact classification categories are the same.

Table I-3-4. Total Waters Impaired by Various Cause Categories - Bear River Watershed Management Unit.

Cause Category	Stream Miles
Cause unknown	0.0
Unknown toxicity	0.0
Pesticides	-
Priority organics	-
Nonpriority organics	-
Metals	0.0
Ammonia	0.0
Chlorine	0.0
Other inorganics	0.0
Nutrients	118.6
pH	26.8

Table I-3-4. Total Waters Impaired by Various Cause Categories - Bear River Watershed Management Unit.	
Cause Category	**Stream Miles**
Siltation/Sediments	0.0
Organic enrichment/low DO	84.7
Salinity/TDS/Chlorides	7.4
Thermal modifications	7.4
Flow alterations	0.0
Other habitat alterations	0.0
Pathogen Indicators	7.4
Radiation	-
Oil and grease	-
Taste and odor	0.0
Noxious aquatic plants	0.0
Total toxics	0.0
Turbidity	-
Exotic Species	-

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

Table I-3-5. Total Waters Impaired by Various Source Categories - Bear River Watershed Management Unit.	
Source Category	**Stream Miles**
Industrial Point Sources	82.9
Municipal Point Sources	75.5
Combined Sewer Overflow	0.0
Agriculture	167.5
Silviculture	-
Construction	0.0
Urban Runoff/Storm Sewers	14.4
Resource Extraction	0.0
Land Disposal	0.0
Hydromodification	0.0
Habitat Modification	0.0
Marinas	*
Atmospheric Deposition	-

Table I-3-5. Total Waters Impaired by Various Source Categories - Bear River Watershed Management Unit.	
Source Category	**Stream Miles**
Contaminated Sediments	-
Unknown Source	55.9
Natural Sources	0.0
Reservoir Releases	0.0
Recreation	0.0

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

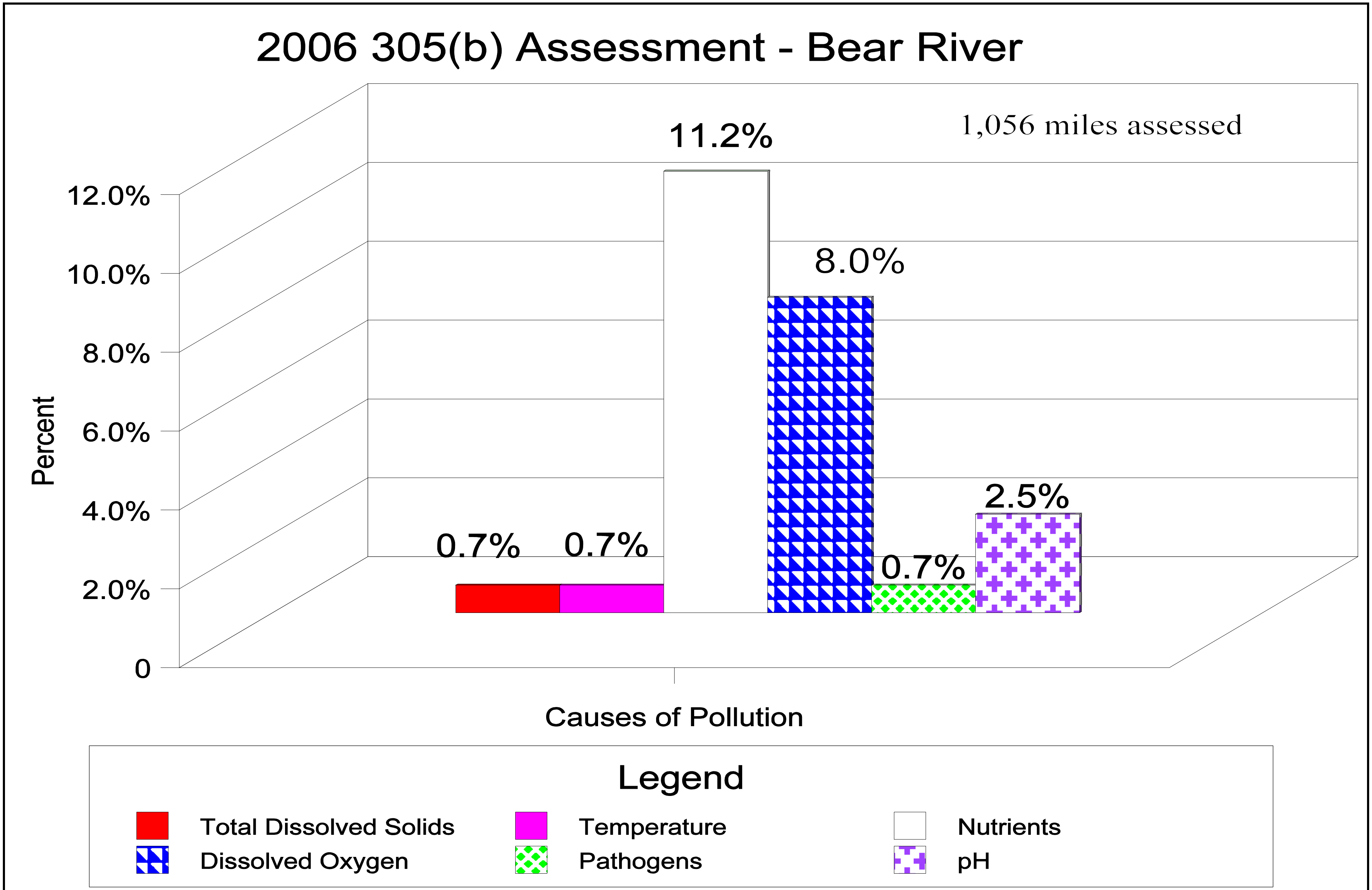


Figure I-3-4. Percent of assessed stream miles impacted by various causes - Bear River Watershed Management Unit.

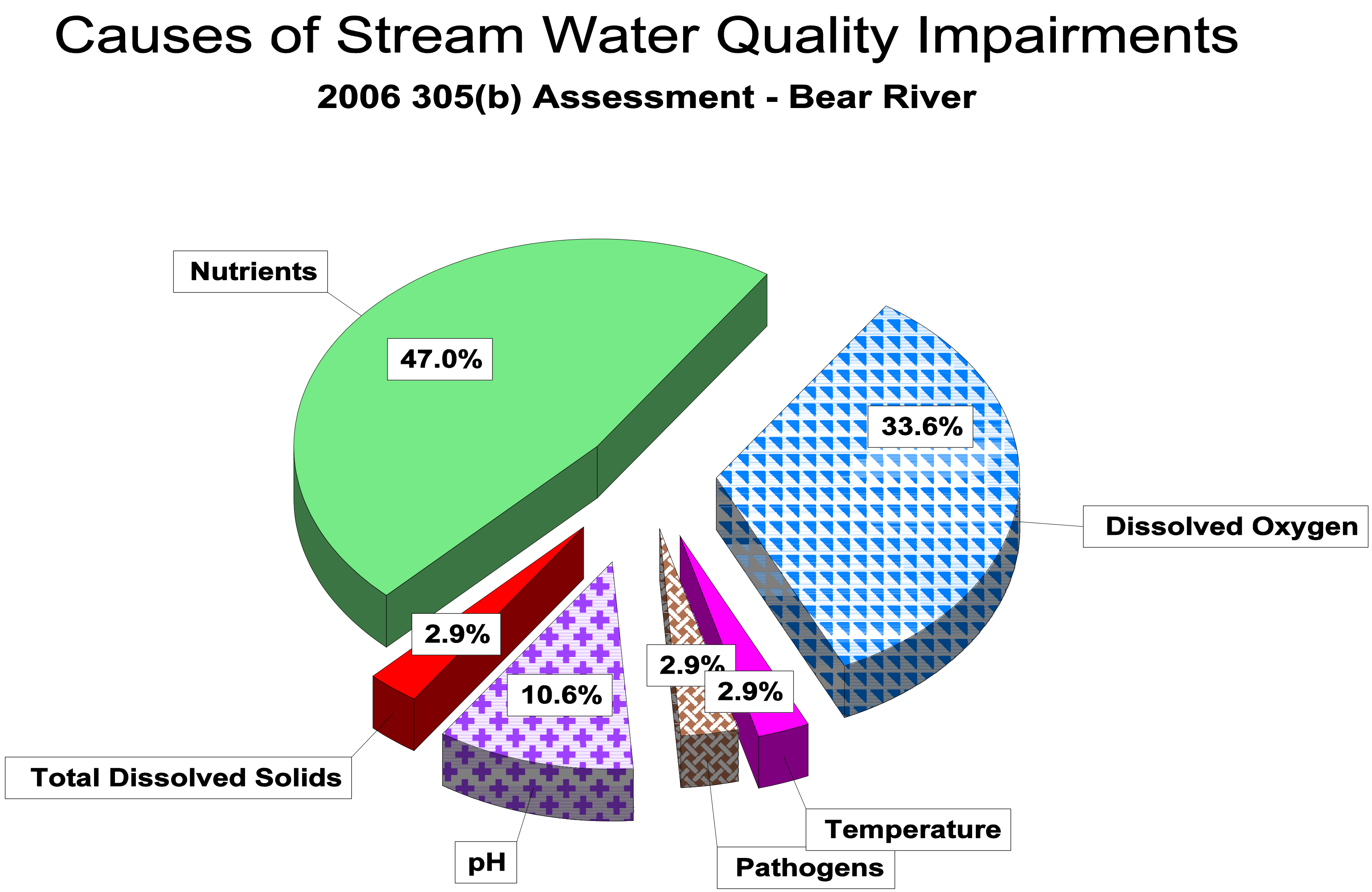


Figure I-3-5. Relative percent impact by causes on water quality - Bear River Watershed Management Unit.

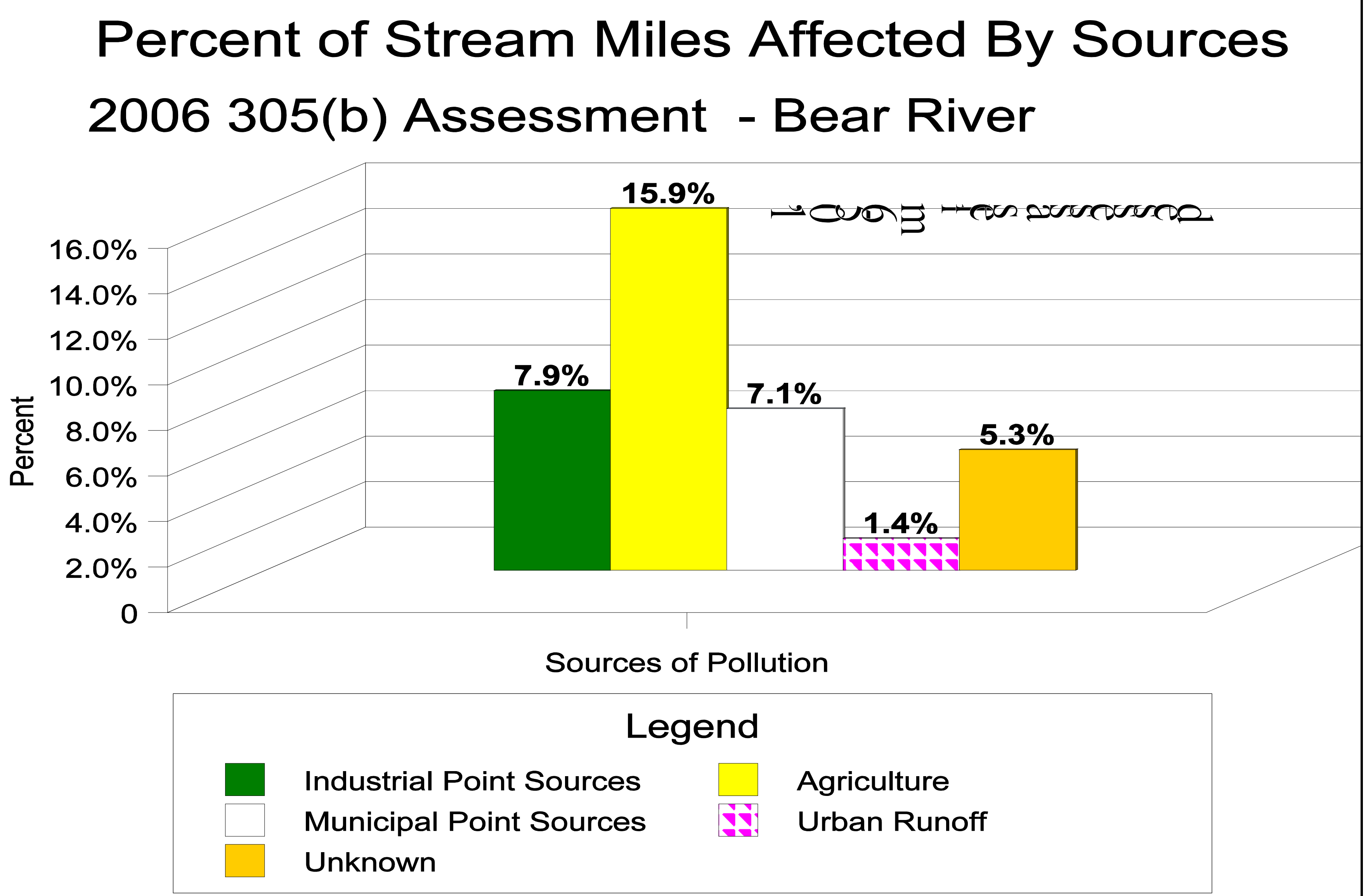


Figure I-3-6. Percent of assessed stream miles impacted by various sources - Bear River Watershed Management unit.

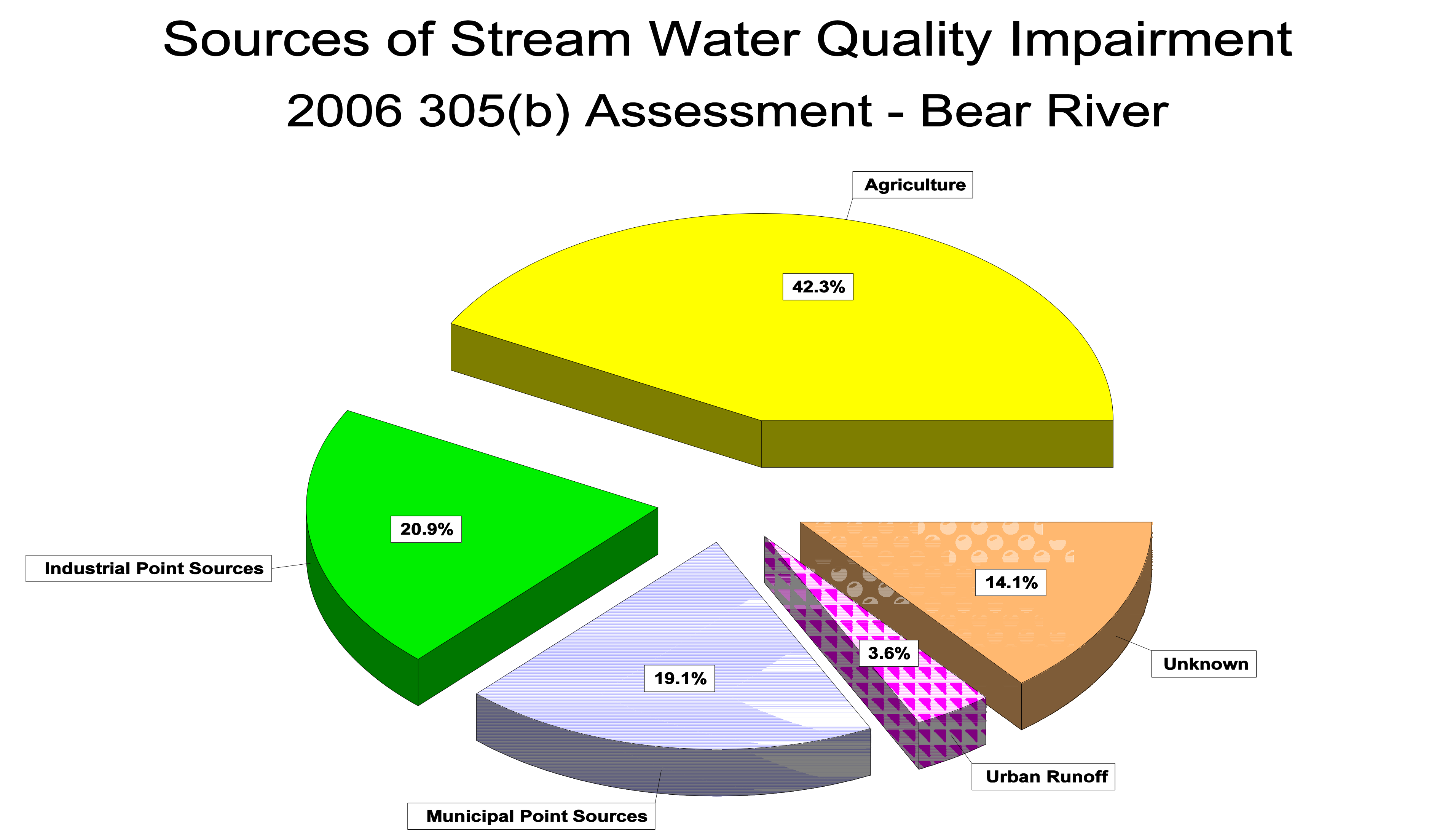


Figure I-3-7. Relative percent impact by sources on stream water quality - Bear River Watershed Management Unit.

Table I-3-6. Impaired Assessment Units in the Bear River Watershed Management Unit.							
Assessment Unit ID	Assessment Unit Name	Assessment Unit Description	Beneficial Use Class Impaired	Support Category	Pollutant	Beneficial Use Assessment Category	
UT16010101-006	Bear River-4	Bear River from Woodruff Creek north to Sage Creek Junction	3A	PS	Organic enrichment/Low DO	5A	55.67
UT16010101-016	Saleratus Creek	Saleratus Creek and tributaries from confluence with Woodruff Creek to headwaters	3A	PS	Organic enrichment/Low DO	5A	29.05
UT16010203-008	Spring Creek	Spring Creek and tributaries from confluence w/ Little Bear River to headwaters	2B	NS	Pathogens	4A	7.36
UT16010101-007	Big Creek	Big Creek and tributaries from Bear River to headwaters	2B, 3A, 4	NS	Phosphorus	5A	55.7
UT16010202-002	Newton Creek	Newton Creek from confluence w/Cutler Reservoir to Newton Reservoir	3A	PS	Phosphorus	4A	5.16
UT16010202-004	Bear River-3	Bear River from Cutler Reservoir to Idaho Stateline	3B	PS	Phosphorus	4A	27.84
UT16010202-008	High Creek	High Creek and tributaries from confluence w/ Cub River to headwaters	3A	PS	Phosphorus	4A	12.53
UT16010202-009	Spring Creek (Lewiston)	Spring Creek (Lewiston) and tributaries from confluence to Utah Idaho border	3B	PS	Phosphorus	4A	2.96
UT16010202-010	Cub River	Cub River and tributaries from confluence w/ Bear River to Utah-Idaho Stateline	3B	PS	Phosphorus	4A	14.31
UT16010203-008	Spring Creek	Spring Creek and tributaries from confluence w/ Little Bear River to headwaters	3A	PS	Phosphorus	4A	7.36
UT16010203-009	Little Bear River-1	Little Bear River from Cutler Reservoir to Hyrum Reservoir	3A	PS	Phosphorus	4A	16.52
UT16010204-003	Bear River-1	Bear River from Great Salt Lake to Malad River confluence	3B	PS	Phosphorus	4A	17.51
UT16010204-008	Bear River-2	Bear River from Malad River confluence to Cutler Reservoir	3B	PS	Phosphorus	4A	41.5
UT16010203-008	Spring Creek	Spring Creek and tributaries from confluence w/ Little Bear River to headwaters	4	NS	Salinity/TDS/chlorides	5A	7.36
UT16010203-008	Spring Creek	Spring Creek and tributaries from confluence w/ Little Bear River to headwaters	3A	PS	Thermal modifications	4A	7.36

Chapter 4. Weber River Watershed Management Unit

Introduction

The Weber River rises in Summit County near Reids Peak (11,708 ft), then flows west to Oakley, Utah; then turns and flows in a north westerly direction to the Great Salt Lake (4,200 ft). The Weber River is approximately 125 miles long; one-half of which lies in Summit Count, 25 miles in Morgan County and 30 miles in Weber County. The Ogden River, the major tributary to the Weber River, lies withing Weber County and enters the Weber River about 12 miles upstream from its mouth. The other major tributaries to the Weber river are East Canyon Creek, Lost Creek, Chalk Creek, and Beaver Creek. Two smaller tributaries that can affect the water quality of the Weber River are Echo Creek and Silver Creek.

Table I-4-1. U.S.G.S. Hydrological Units in the Weber River Watershed Management Unit.

Hydrological Unit Code	Hydrological Unit Name
16020101	Upper Weber
16020102	Lower Weber

Results

The intensive survey for this watershed was done from July 1, 2003 to June 30, 2004. Data collected at other sites than the intensive survey were also included in the assessment. These include long term sites and other sites where data had been collected since the 2004 305(b) assessment.

An assessment of beneficial use support was made for 783.1 miles. Based upon at least one beneficial use being assessed, 545.9 miles (69.7%) were assessed as fully supporting, 181.1 (23.1%) partially supporting, and 56.0 miles (7.2%) as not supporting (Figure I-4-1).

Table I-4-2 is a list of stream miles in each of the assessment categories.

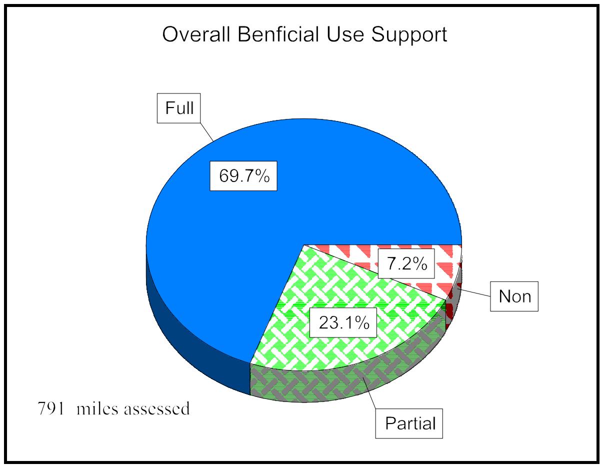


Figure I-4-1 . Overall beneficial use support based upon at least one beneficial use being assessed-Weber River watershed.

The beneficial use classifications for the Weber River watershed are mapped in Figure I-4-2.

Figure I-3-3 is a map of the assessment categories that the rivers and streams were assigned to after beneficial uses support was evaluated.

Table I-3-3 lists the beneficial use support by individual beneficial use classes. Five-hundred forty-five miles (545.9) were assessed as supporting aquatic life beneficial uses. This was 69.7% of the stream miles assessed. There were 181.1 miles (23.1%) assessed as partially supporting and 56.0 miles (7.2%) as not supporting aquatic life. Of the 783.1 miles assessed for agricultural use, all were assessed as fully supporting.

Tables I-4-4 and I-4-5 lists the miles of streams affected by the various cause and source categories identified as generally

Table I-4-2. Stream Miles by Assessment Category - Weber River

Category	Stream Miles
1	0.0
2	545.9
3	270.1
4A	193.0
4B	0.0
4C	137.0
5A	44.2
5B	0.0

affecting water quality.

The major cause of water quality impairments were sediment (siltation), total phosphorus, and habitat alterations such as loss of riparian habitat and in-stream structure and function. (Figure I-4-4). The metals arsenic, zinc, and cadmium are the causes of impairment in Silver Creek. Historical mining practices and tailings are the source of the contamination. The relative percent impact by causes is shown in Figure I-4-5.

The major sources of impairment were agricultural activities, habitat modification, resource extraction, and natural sources. The percent of stream miles impaired by these sources are found in Figure I-4-6. The relative percent impacts by sources are shown in Figure I-4-7.

A list of impaired waters in the watershed are listed in Table I-4-6. It includes the causes of impairment, the Assessment Unit (AU) ID, assessment category, AU description, and stream miles impaired.

Chalk Creek Watershed–The most recent evaluations of total phosphorus indicate that the total phosphorus loading has decreased, but not to the extent that it can be considered not impaired. There are two segments withing the Chalk Creek watershed that are being considered for de-listing because of improved habitat. Preliminary benthic macroinvertebrate data indicate that the these segments are supporting aquatic life. When the Division completes it development of a Multi-Metric Index and RIVPACS model, these segments will be assessed and if the biology indicates that they are supporting the Class 3A, cold water game fish, it will be removed from the list. The other segments within the watershed have not significantly improved..

Echo Creek–Echo Creek continues to be a significant contributor of sediment to the Weber River. Spring runoff and summer rain storms contribute to the sediment loading. Hydrological modification of the stream is the major source of the problem with agriculture activities affecting the sediment loading. A non point source project is being implemented in Rees Creek, a tributary to Echo Creek to reduce sediment loading from this stream.

East Canyon Creek–Total phosphorus is the major issue on this stream. To reduce the amount of phosphorus loading, the DWQ required Snyderville Waste Water Treatment Plant implement processing methods to reduce the amount of phosphorus that was being discharged into the creek. A permit limit was set and monitoring is on going to determine if limit will have a significant impact on the stream's aquatic vegetation, periphyton, and dissolved oxygen levels.

Silver Creek–Silver Creek has an approved TMDL for metals and possible implementation plans have been reviewed. The 3 metals that cause impairment are cadmium, zinc, and arsenic. Cadmium and zinc violate the state standards for a Class 3A water, cold water game fish. Arsenic violates the Class 1C standard for a source of drinking water.

Main Stem of the Weber River–The major concern for the main stem of the Weber River is the possible impairment by total phosphorus. The periphtyon community is changing to nutrient tolerant species which may cause a shift in the fisheries. Data collected under the E-MAP program has been collected at one site on the Weber River and additional sites have been proposed for biological assessment.

Ogden River Basin–The Ogden River basin did not have any segments that were assessed as impaired. However, as recreational and home construction increases in the basin, it will be necessary to monitor for possible effects from these activities.

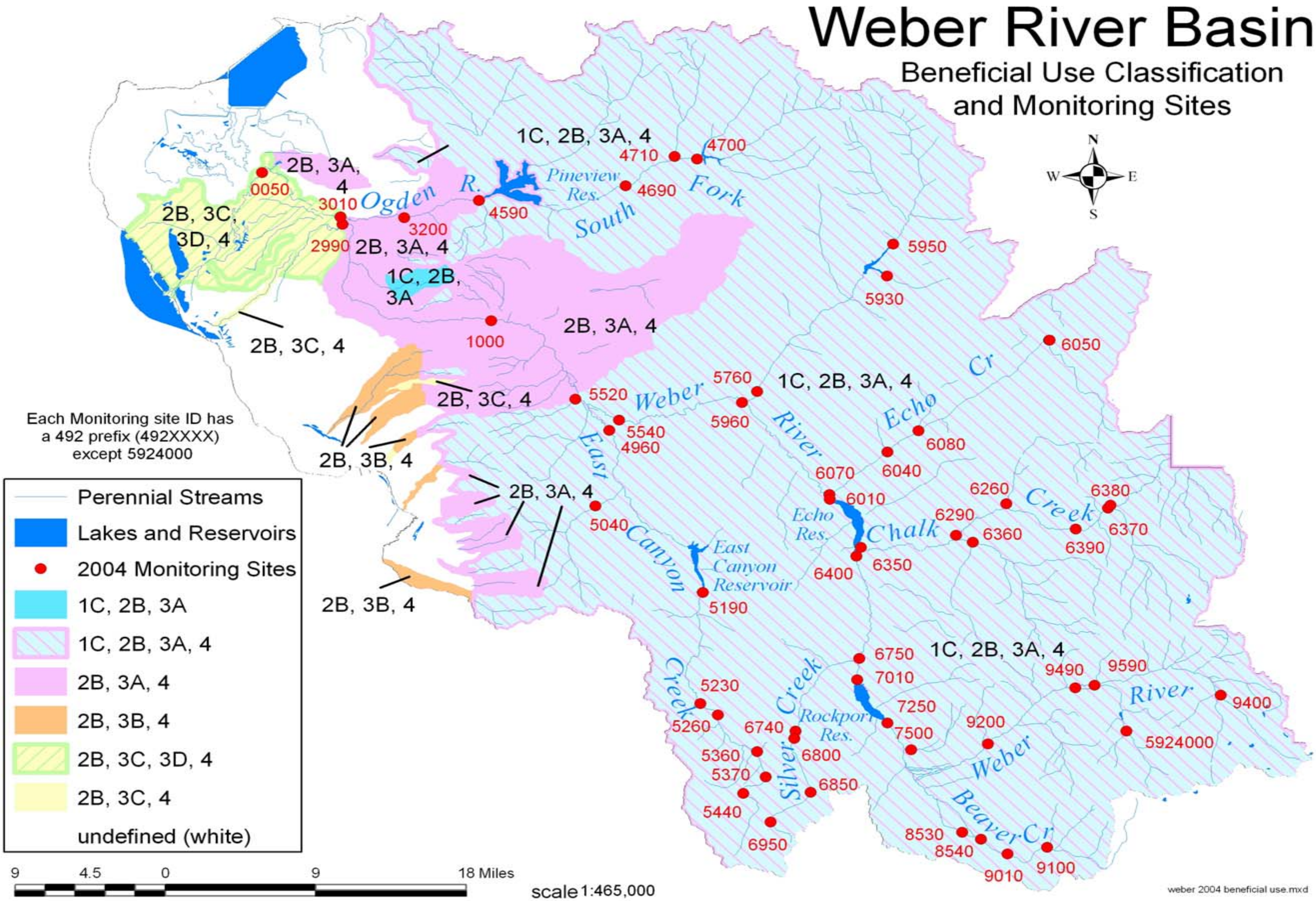


Figure I-4-2. River and stream designated beneficial use classes - Weber River Watershed Management Unit.

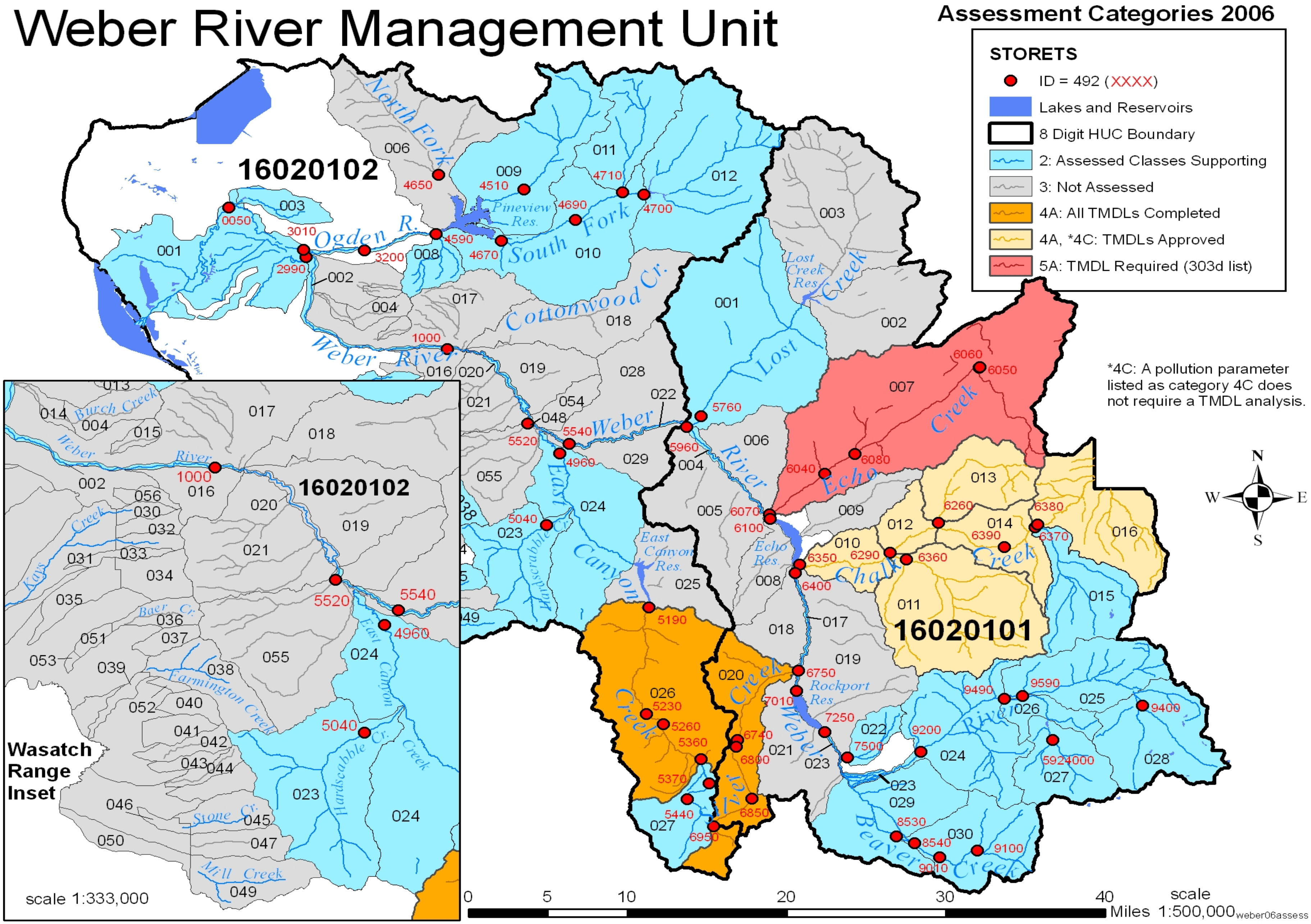


Figure I-4-3. Beneficial use support categories for assessment units - Weber River Watershed Management Unit.

Table I-4-3. Individual Beneficial Use Support Summary Weber Watershed Management Unit (Stream Miles)							
		Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Attainable
Protect & Enhance Ecosystems	Aquatic Life	783.1	545.9 (69.7%)	0.0	181.1 (23.1%)	56.1 (7.2%)	0.0
Protect & Enhance Public Health	Fish Consumption	0.0	0.0	-	0.0	0.0	0.0
	Swimming[b]	0.0	0.0	0.0		0.0	0.0
	Secondary Contact	0.0	0.0	0.0		0.0	0.0
	Drinking Water	677.7	656.3 (96.8%)			21.4 (3.2%)	
Social and Economic	Agricultural	783.1	0.0	0.0		0.0	0.0
	Total	783.1	545.9 (23.1%)	0.0	181.1 (23.1%)	56.0 (7.2%)	0.0

[a] These goals are part of the national water quality goals adopted by the EPA Office of Water and the ITFM in their Environmental Goals and Indicators effort.

[b] Class 2B (secondary contact) streams were evaluated as swimable for proposes of the CWA goals, therefore the swimming and secondary contact classification categories are the same.

Table I-4-4. Total Waters Impaired by Various Cause Categories - Weber River Watershed Management Unit.	
Cause Category	**Stream Miles**
Cause unknown	0.0
Unknown toxicity	0.0
Pesticides	-
Priority organics	-
Nonpriority organics	-
Metals	21.4
Ammonia	0.0
Chlorine	0.0
Other inorganics	0.0
Nutrients	171.6
pH	0.0
Siltation/Sediments	181.1
Organic enrichment/low DO	34.7
Salinity/TDS/Chlorides	0.0
Thermal modifications	0.0

Table I-4-4. Total Waters Impaired by Various Cause Categories - Weber River Watershed Management Unit.	
Cause Category	**Stream Miles**
Flow alterations	0.0
Other habitat alterations	137.0
Pathogen Indicators	0.0
Radiation	-
Oil and grease	-
Taste and odor	0.0
Noxious aquatic plants	0.0
Total toxics	0.0
Turbidity	-
Exotic Species	-

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

Table I-4-5. Total Waters Impaired by Various Source Categories - Weber River Watershed Management Unit.	
Source Category	**Stream Miles**
Industrial Point Sources	0.0
Municipal Point Sources	34.7
Combined Sewer Overflow	0.0
Agriculture	215.8
Silviculture	-
Construction	0.0
Urban Runoff/Storm Sewers	34.7
Resource Extraction	158.4
Land Disposal	0.0
Hydromodification	0.01 181.1
Habitat Modification	137.0
Marinas	*
Atmospheric Deposition	-
Contaminated Sediments	-
Unknown Source	55.9
Natural Sources	0.0

Table I-4-5. Total Waters Impaired by Various Source Categories - Weber River Watershed Management Unit.	
Source Category	**Stream Miles**
Reservoir Releases	0.0
Recreation	0.0

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

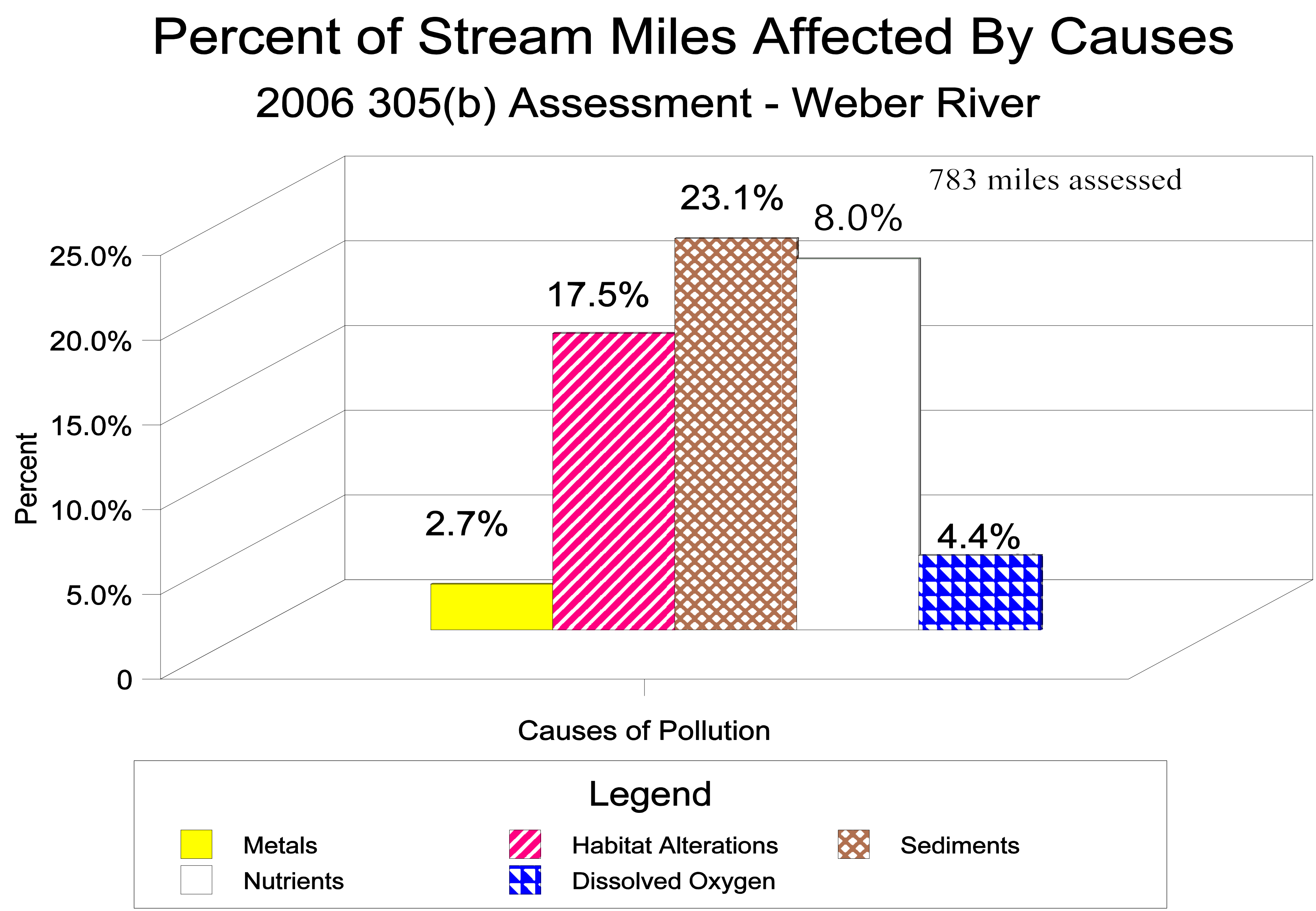


Figure I-3-4. Percent of assessed stream miles impacted by various causes - Weber River Watershed Management Unit.

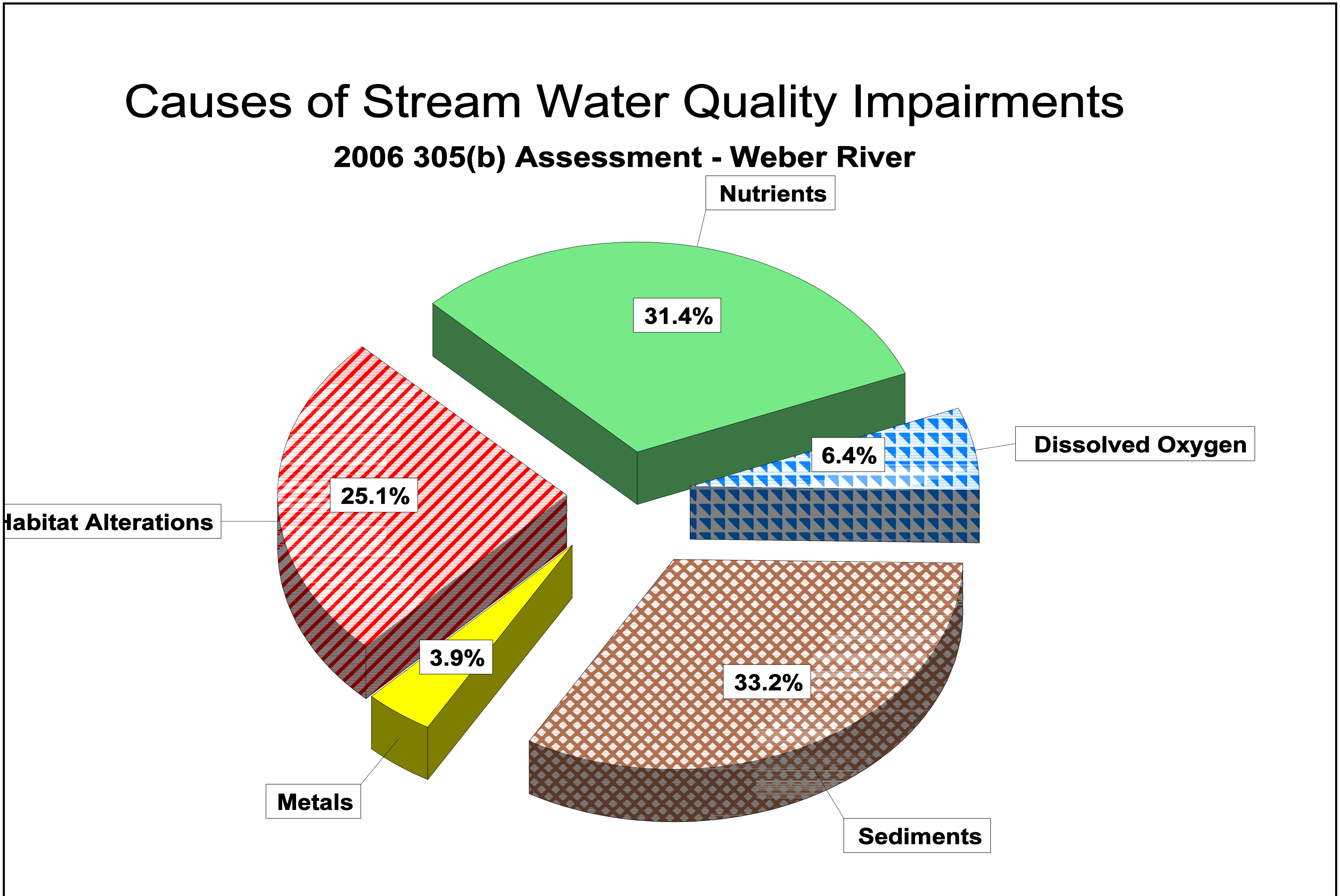


Figure I-4-5. Relative percent impact by causes on water quality - Weber River Watershed Management Unit.

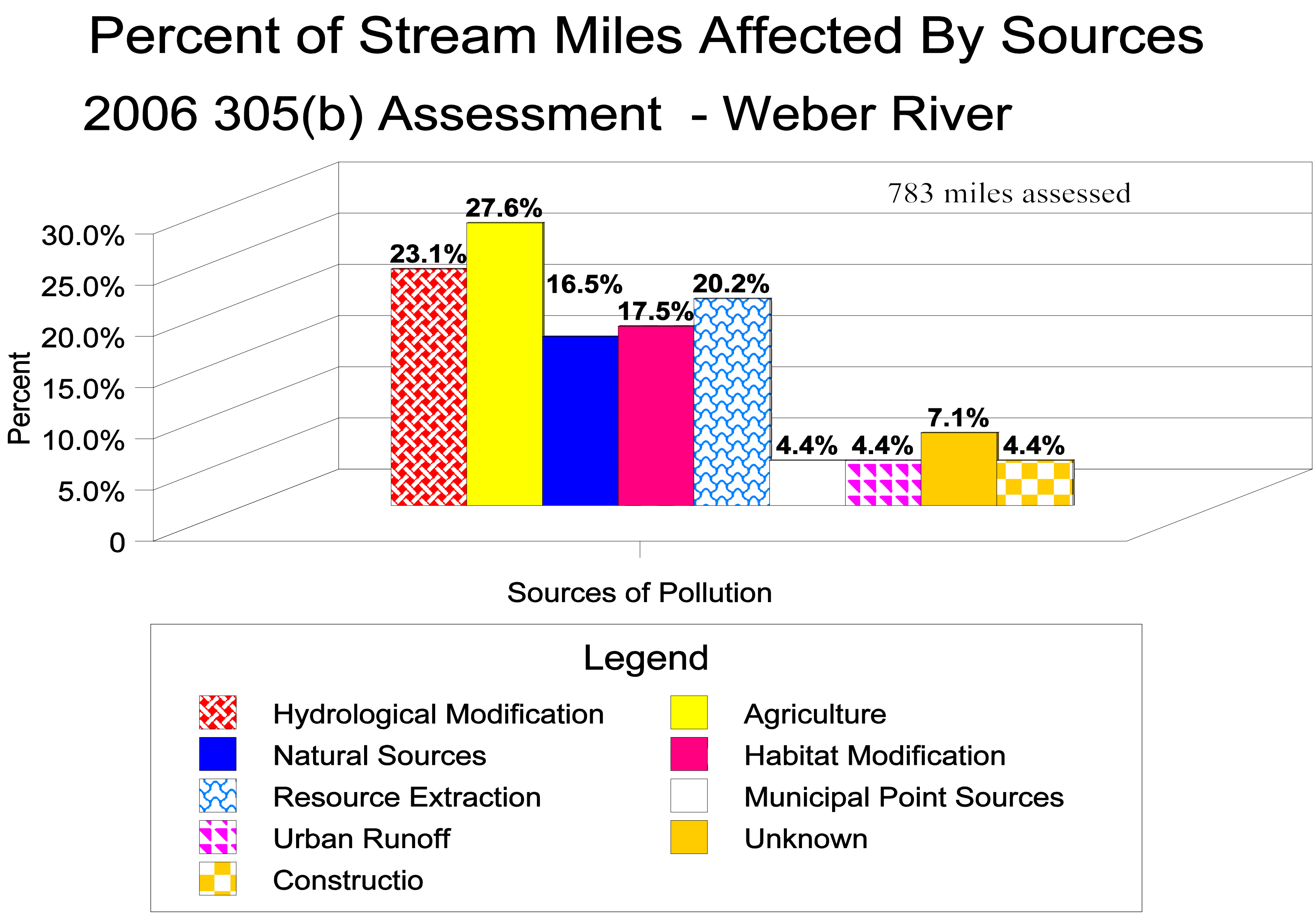


Figure I-4-6. Percent of assessed stream miles impacted by various sources - Weber River Watershed Management unit.

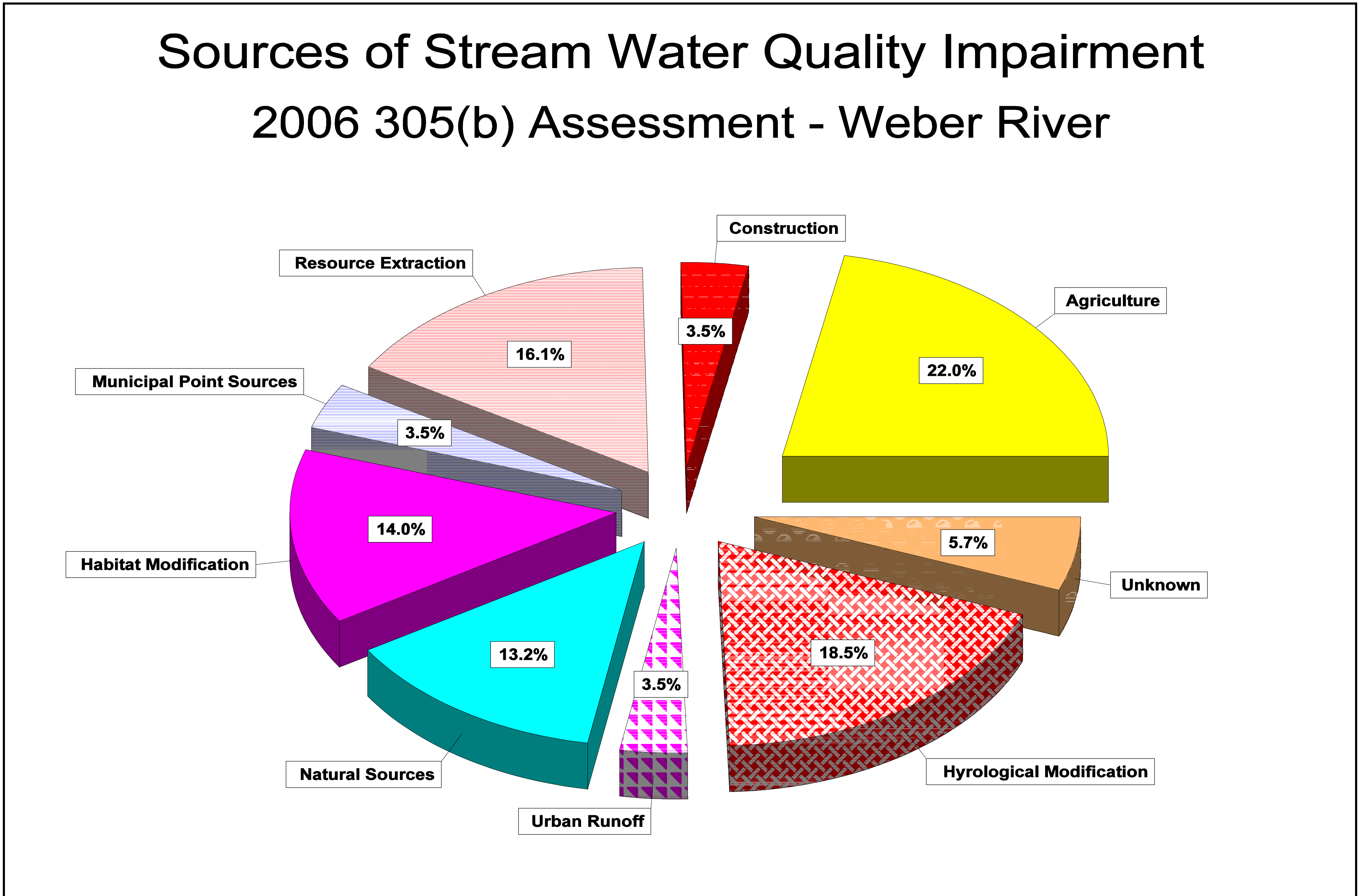


Figure I-4-7. Relative percent impact by sources on stream water quality - Weber River Watershed Management Unit.

Table I-4-6. Impaired Assessment Units in the Weber River Watershed Management Unit.							
Assessment Unit ID	Assessment Unit Name	Assessment Unit Description	Beneficial Use Assessment Category	Beneficial Use Class	Degree of Impairment	Cause of Impairment	Miles
UT16020101-007	Echo Creek	Echo Creek and tributaries from confluence w/ Weber River to headwaters	5A	3A	PS	Siltation	44.15
UT16020101-010	Chalk Creek-1	Chalk Creek and tributaries from confluence w/ Weber River to South Fork confluence	4C	3A	PS	Other habitat alterations	7.671
UT16020101-010	Chalk Creek-1	Chalk Creek and tributaries from confluence w/ Weber River to South Fork confluence	4A	3A	PS	Phosphorus	7.671
UT16020101-010	Chalk Creek-1	Chalk Creek and tributaries from confluence w/ Weber River to South Fork confluence	4A	3A	PS	Siltation	7.671
UT16020101-011	South Fork Chalk Creek	South Fork Chalk Creek and tributaries from confluence w/ Chalk Creek to headwaters	4C	3A	PS	Other habitat alterations	47.402
UT16020101-011	South Fork Chalk Creek	South Fork Chalk Creek and tributaries from confluence w/ Chalk Creek to headwaters	4A	3A	PS	Phosphorus	47.402
UT16020101-011	South Fork Chalk Creek	South Fork Chalk Creek and tributaries from confluence w/ Chalk Creek to headwaters	4A	3A	PS	Siltation	47.402
UT16020101-012	Chalk Creek-2	Chalk Creek and tributaries from South Fork confluence to Huff Creek confluence	4C	3A	PS	Other habitat alterations	4.489
UT16020101-012	Chalk Creek-2	Chalk Creek and tributaries from South Fork confluence to Huff Creek confluence	4A	3A	PS	Phosphorus	4.489
UT16020101-012	Chalk Creek-2	Chalk Creek and tributaries from South Fork confluence to Huff Creek confluence	4A	3A	PS	Siltation	4.489
UT16020101-013	Huff Creek	Huff Creek and tributaries from confluence w/ Chalk Creek to headwaters	4C	3A	PS	Other habitat alterations	16.387

Table I-4-6. Impaired Assessment Units in the Weber River Watershed Management Unit.							
Assessment Unit ID	Assessment Unit Name	Assessment Unit Description	Beneficial Use Assessment Category	Beneficial Use Class	Degree of Impairment	Cause of Impairment	Miles
UT16020101-013	Huff Creek	Huff Creek and tributaries from confluence w/ Chalk Creek to headwaters	4A	3A	PS	Phosphorus	16.387
UT16020101-013	Huff Creek	Huff Creek and tributaries from confluence w/ Chalk Creek to headwaters	4A	3A	PS	Siltation	16.387
UT16020101-014	Chalk Creek-3	Chalk Creek and tributaries from Huff Creek confluence to East Fork confluence	4C	3A	PS	Other habitat alterations	13.73
UT16020101-014	Chalk Creek-3	Chalk Creek and tributaries from Huff Creek confluence to East Fork confluence	4A	3A	PS	Phosphorus	13.73
UT16020101-014	Chalk Creek-3	Chalk Creek and tributaries from Huff Creek confluence to East Fork confluence	4A	3A	PS	Siltation	13.73
UT16020101-016	Chalk Creek-4	Chalk Creek and tributaries from East Fork Chalk Creek confluence to headwaters	4C	3A	PS	Other habitat alterations	47.292
UT16020101-016	Chalk Creek-4	Chalk Creek and tributaries from East Fork Chalk Creek confluence to headwaters	4A	3A	PS	Phosphorus	47.292
UT16020101-016	Chalk Creek-4	Chalk Creek and tributaries from East Fork Chalk Creek confluence to headwaters	4A	3A	PS	Siltation	47.292
UT16020101-020	Silver Creek	Silver Creek and tributaries from confluence w/Weber River to headwaters	4A	1C	NS	Arsenic	21.367
UT16020101-020	Silver Creek	Silver Creek and tributaries from confluence w/Weber River to headwaters	4A	3A	NS	Cadmium	21.367
UT16020101-020	Silver Creek	Silver Creek and tributaries from confluence w/Weber River to headwaters	4A	3A	NS	Zinc	21.367
UT16020102-026	East Canyon Creek-2	East Canyon Creek and tributaries from East Canyon Reservoir to headwaters	4A	3A	NS	Organic enrichment/Low DO	34.66

Table I-4-6. Impaired Assessment Units in the Weber River Watershed Management Unit.							
Assessment Unit ID	Assessment Unit Name	Assessment Unit Description	Beneficial Use Assessment Category	Beneficial Use Class	Degree of Impairment	Cause of Impairment	Miles
UT16020102-026	East Canyon Creek-2	East Canyon Creek and tributaries from East Canyon Reservoir to headwaters	4A	3A	NS	Phosphorus	34.66

Chapter 5. Watershed Management Unit Assessments Based Upon Old Intensive Water Quality Surveys and Data Collected Since 2004 305(b) Report.

Introduction

The Uinta, Utah Lake/Jordan River, Sevier, Colorado River West, Colorado River Southeast, Lower Colorado Riverand Cedar/Beaver, Great Salt Lake Watershed Management Units were included in the 2006 305(b) to provide a state wide stream evaluation. With the exception of the Great Salt Lake watershed unit, these watersheds were previously assessed for the 2000, 2002, and 2004 305(b) reports. Any data collected in the watersheds since the 2004 305(b) report were used to update previous assessments for the 2006 305(b).

Results

The beneficial use designations maps and the beneficial use assessment category maps are listed in Figures I-5-1 through I-5-14.

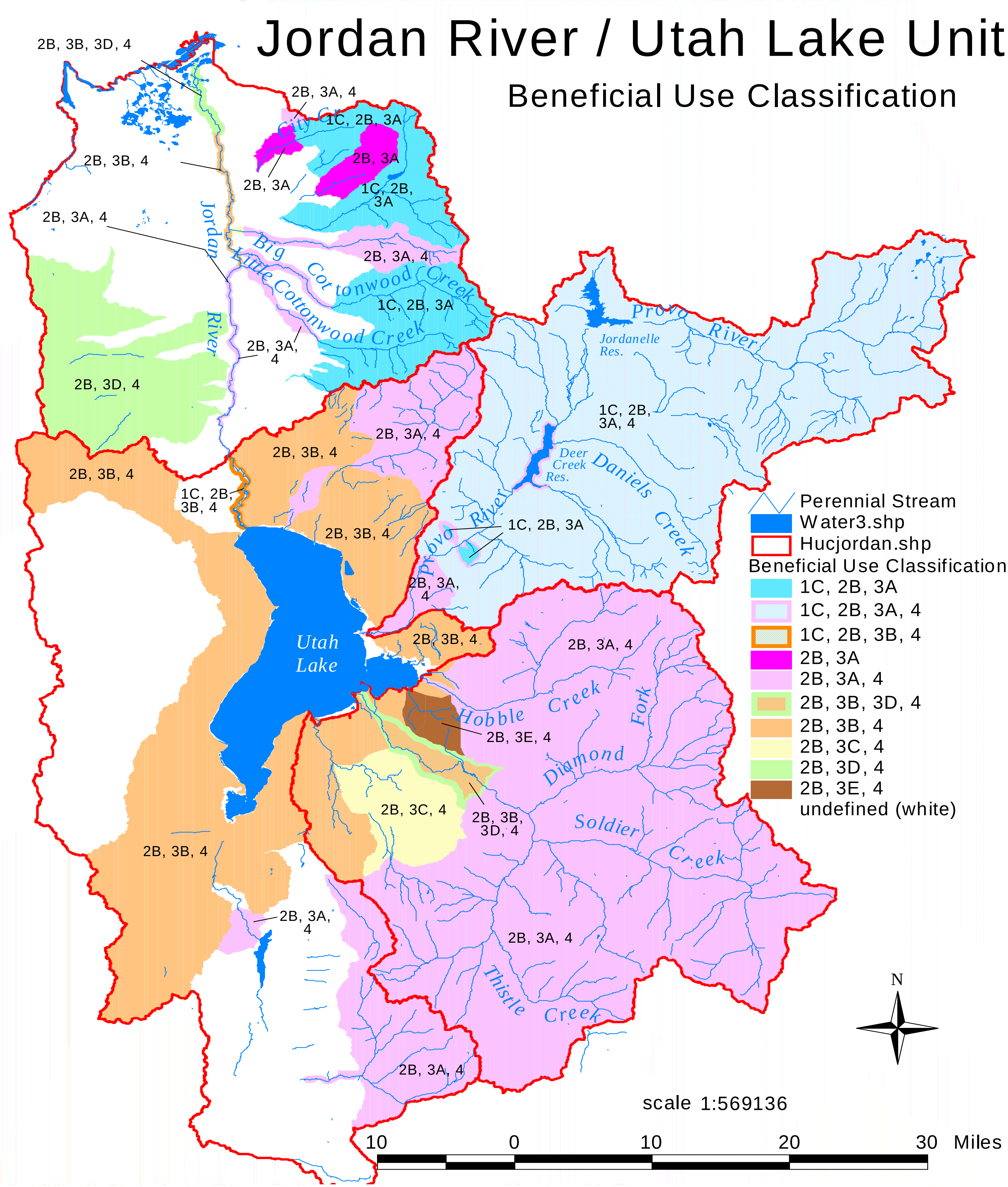


Figure I-5-1. Jordan River Watershed Unit beneficial use classifications.

I-5-4

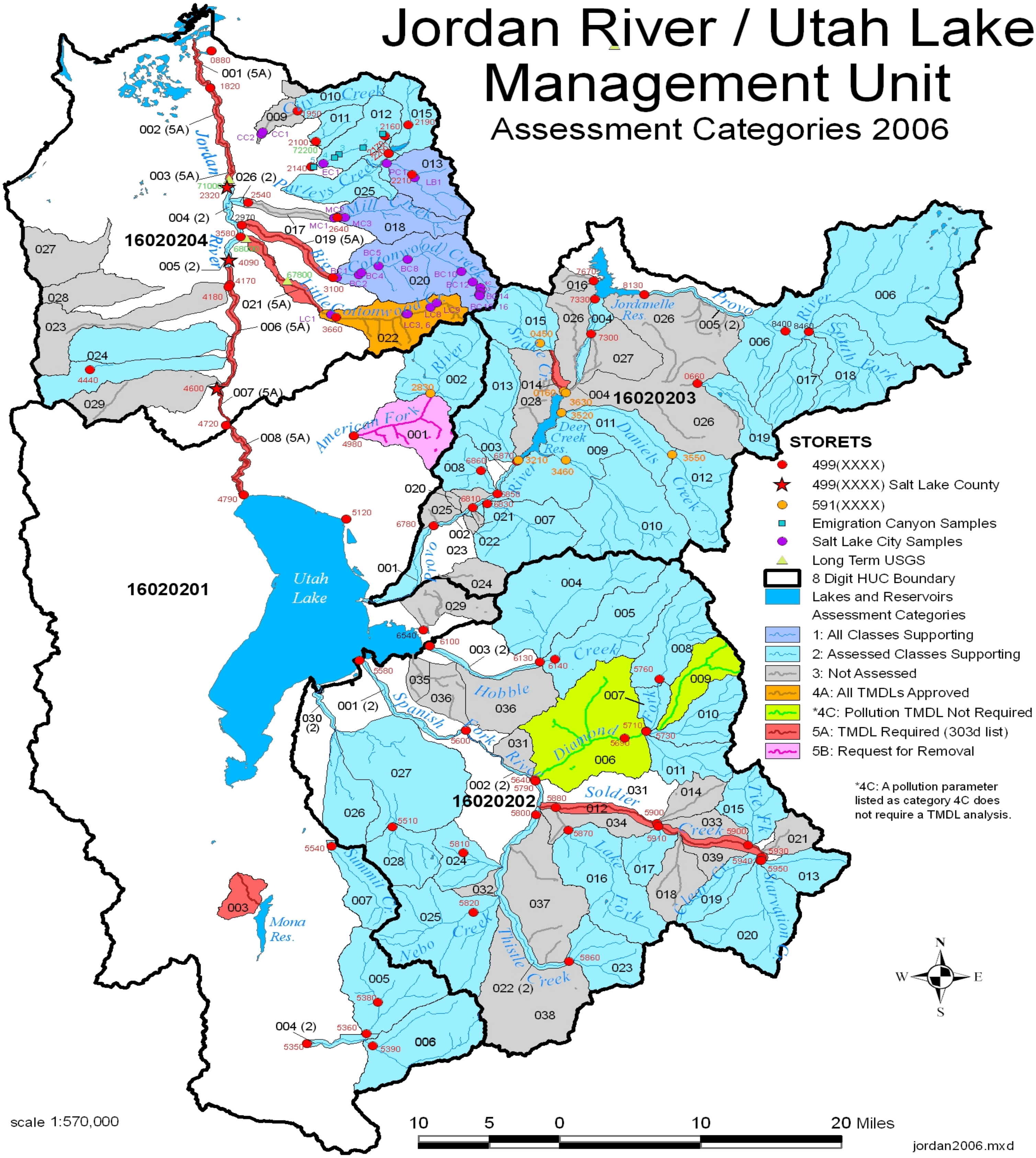


Figure I-5-2. Jordan River beneficial use assessment by categories.

Uinta Basin Management Unit

Beneficial Use Classification

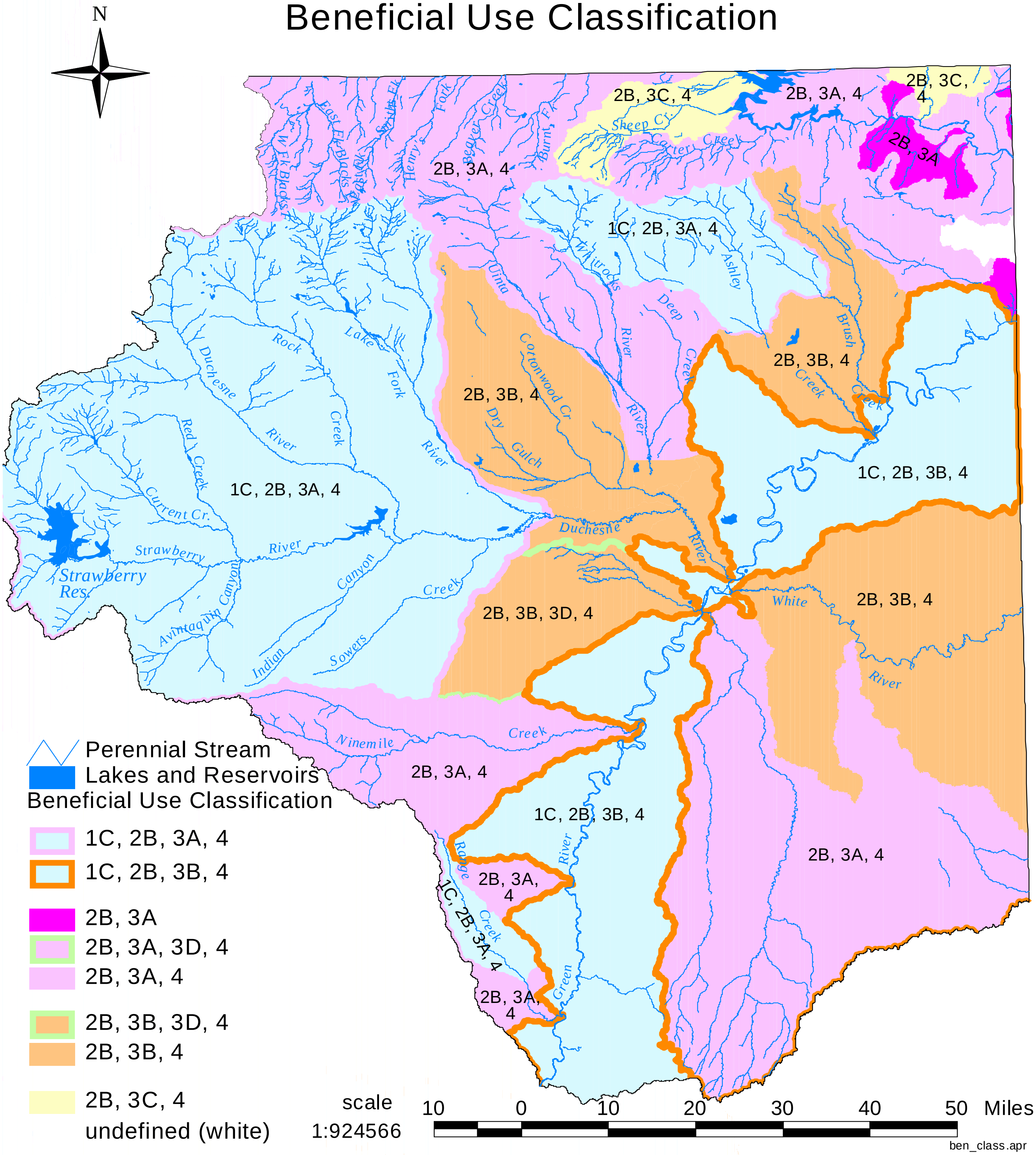


Figure I-5-3. Uinta watershed management unit beneficial use classifications.

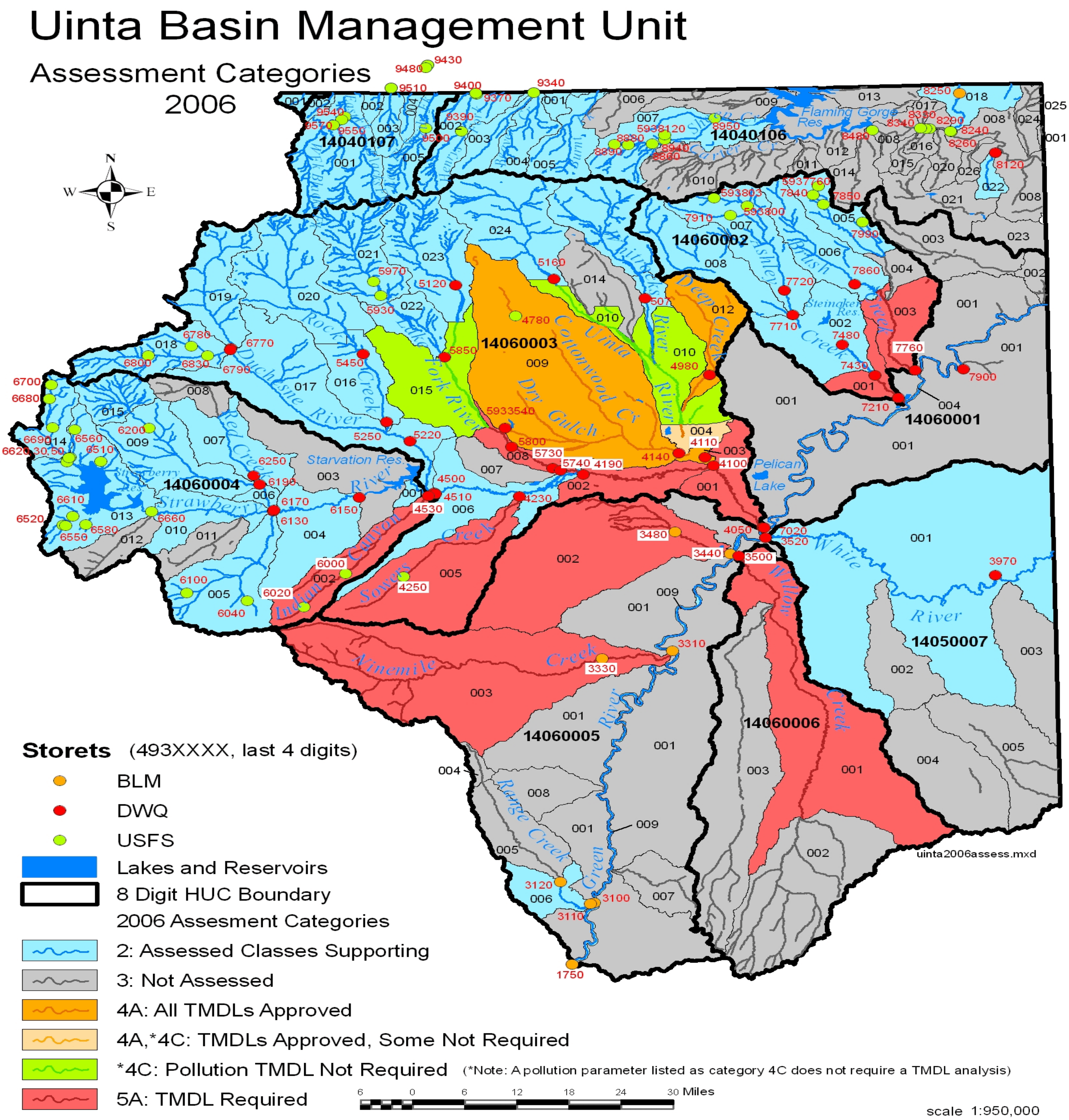


Figure I-5-4. Uinta watershed management unit beneficial use assessment by categories.

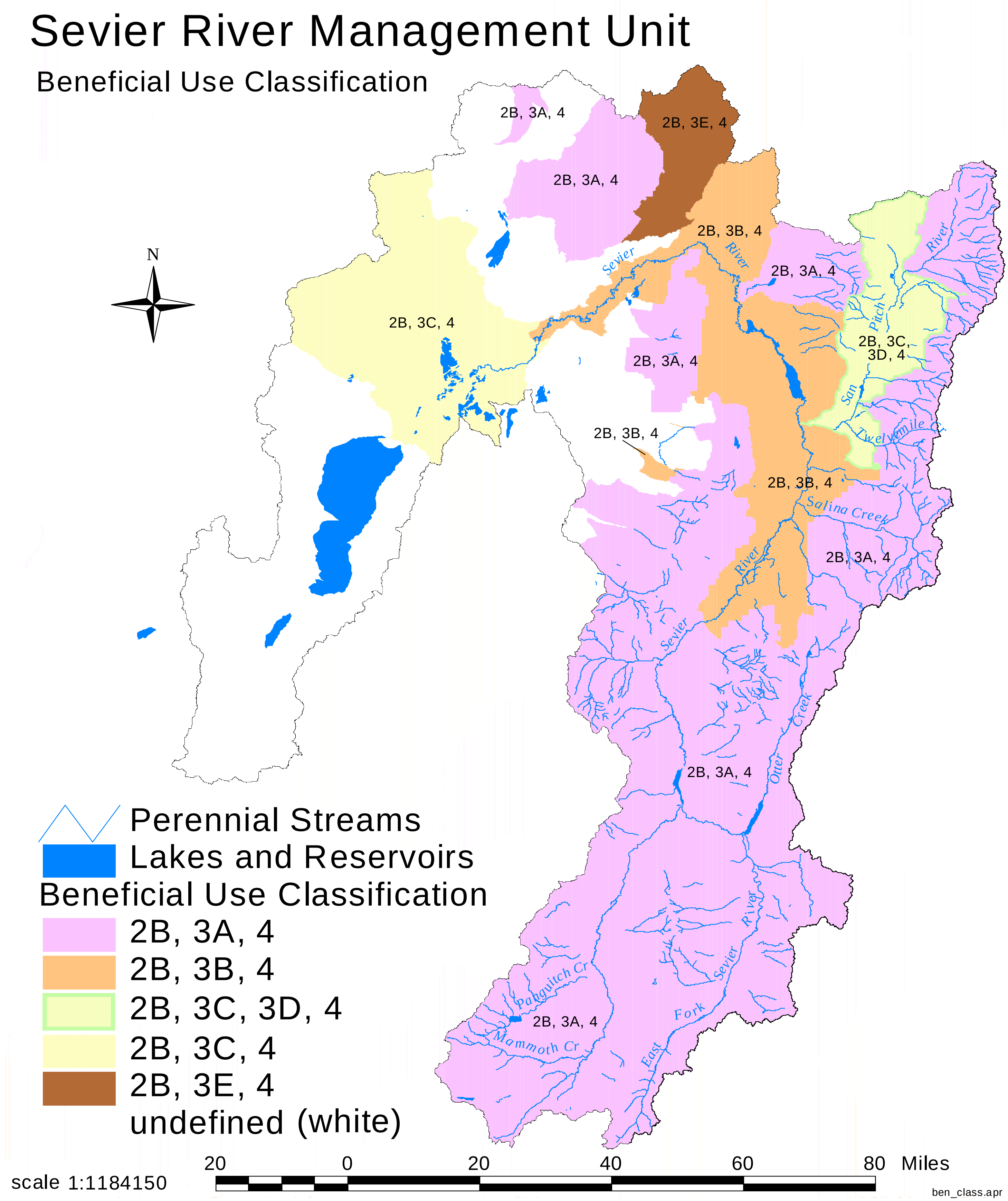


Figure I-5-5. Sevier River watershed beneficial use classifications.

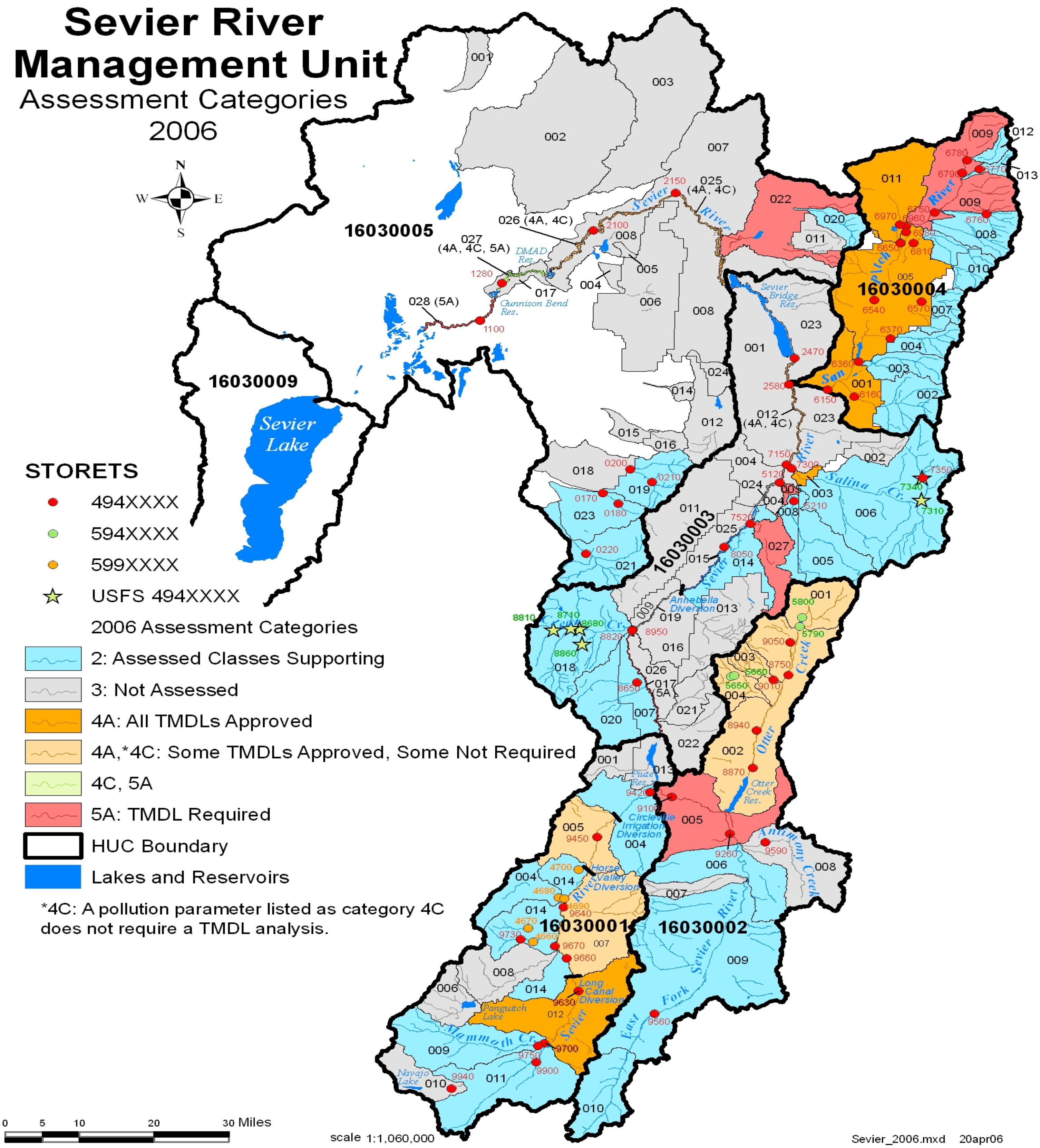


Figure I-5-6. Sevier watershed management unit beneficial use assessment by category.

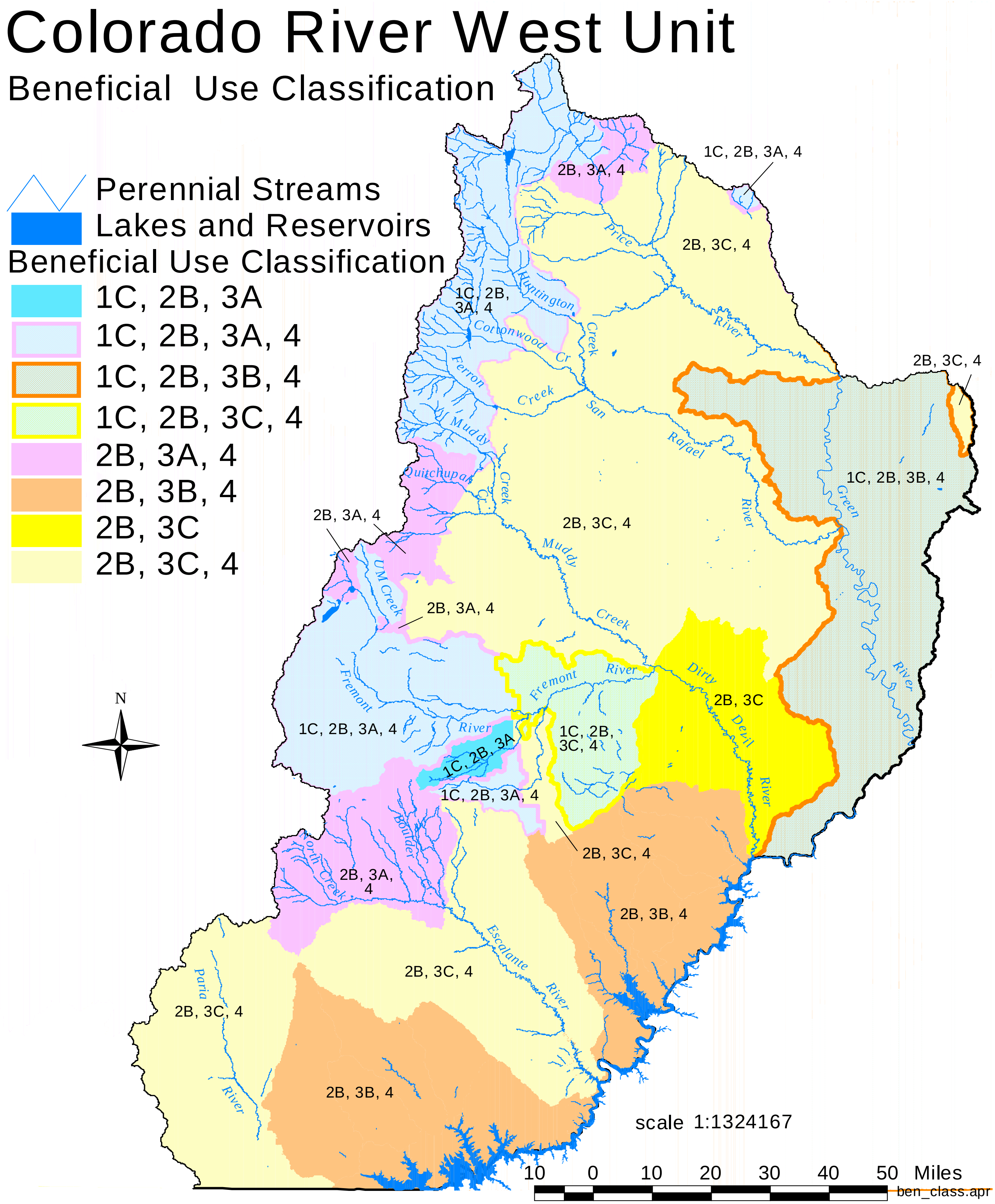


Figure I-5-7. Colorado River West beneficial use classifications.

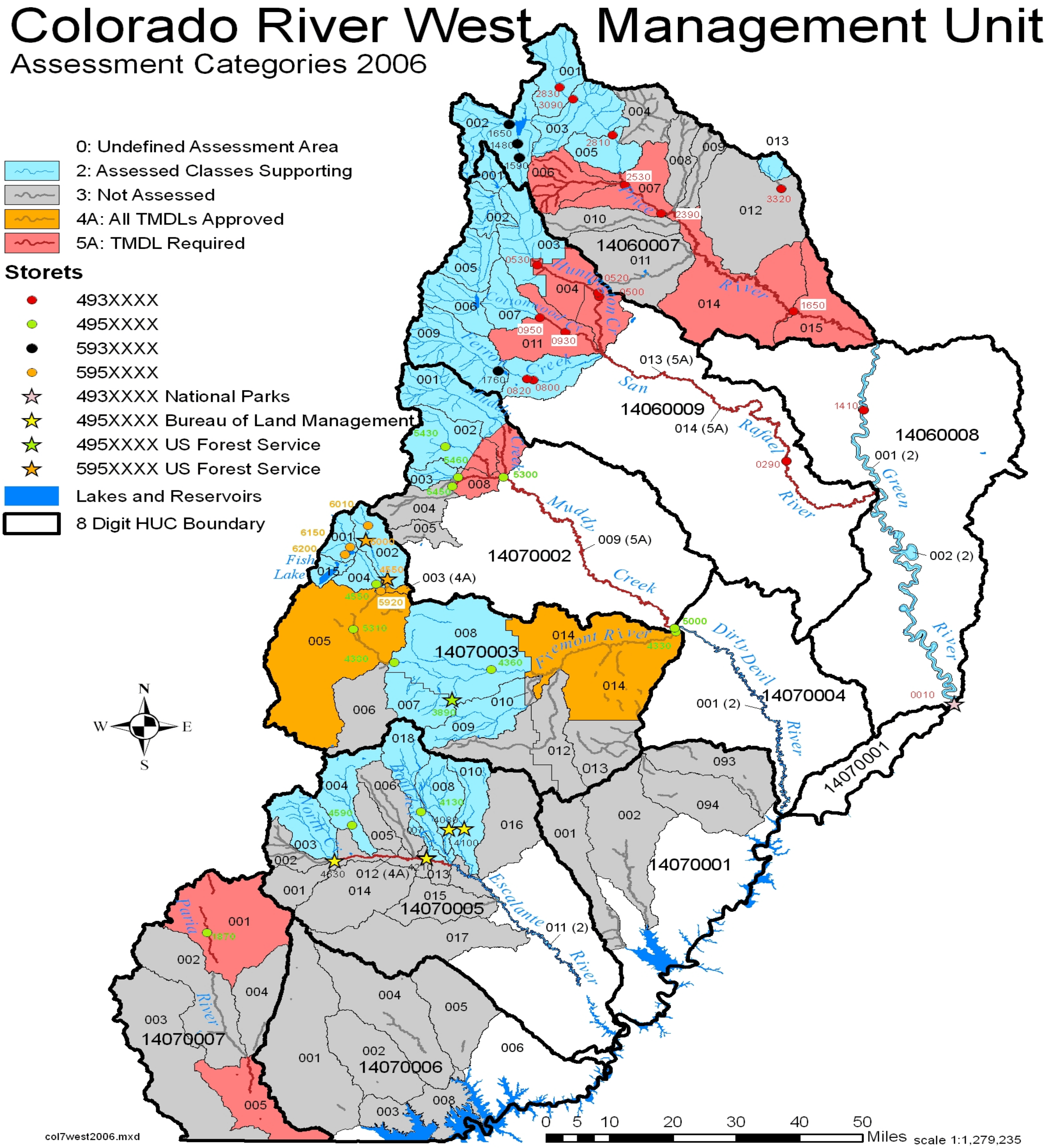


Figure I-5-8. Colorado River West beneficial use support by categories.

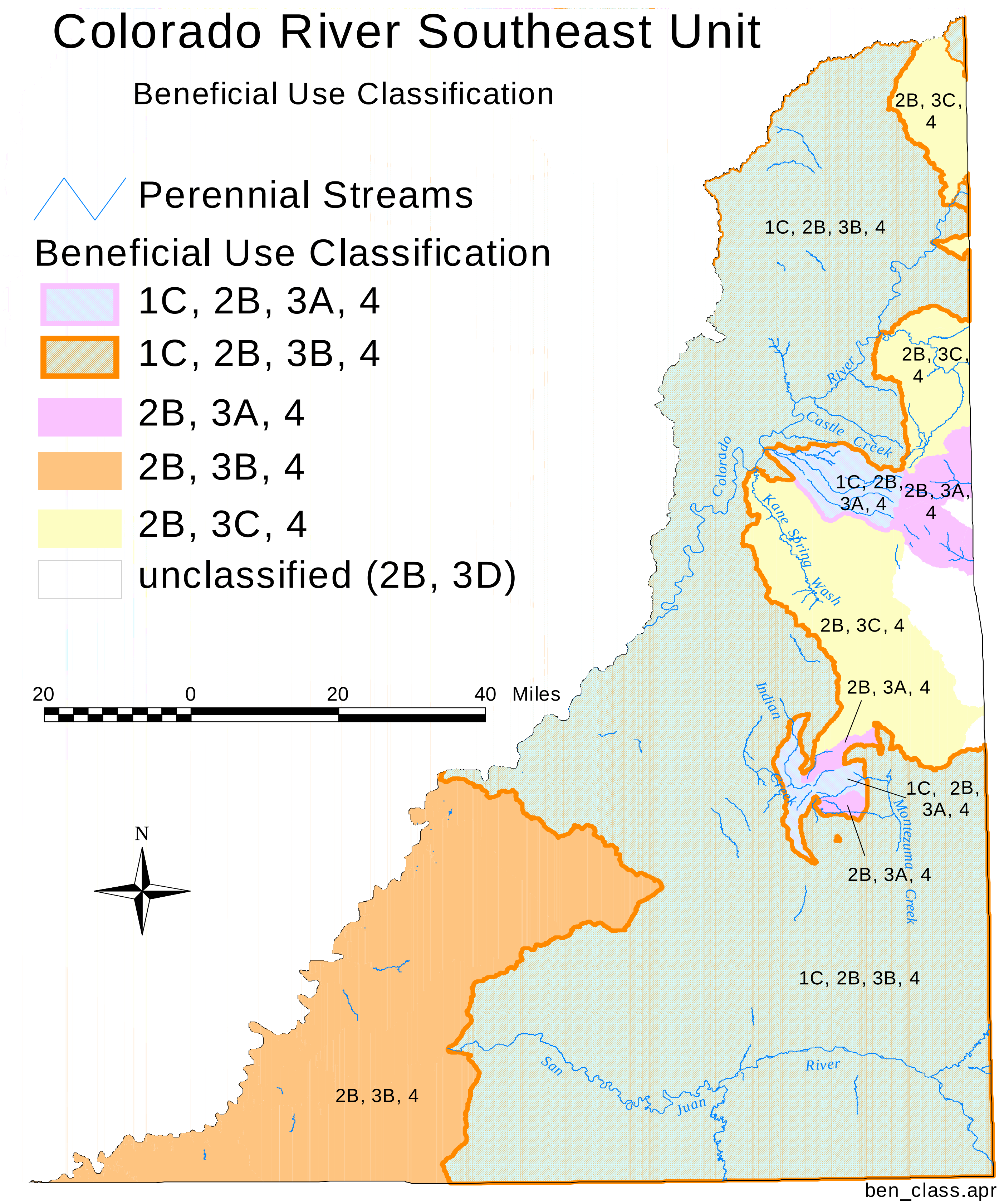


Figure I-5-9. Colorado River Watershed Management Unit beneficial use classifications.

I-5-20

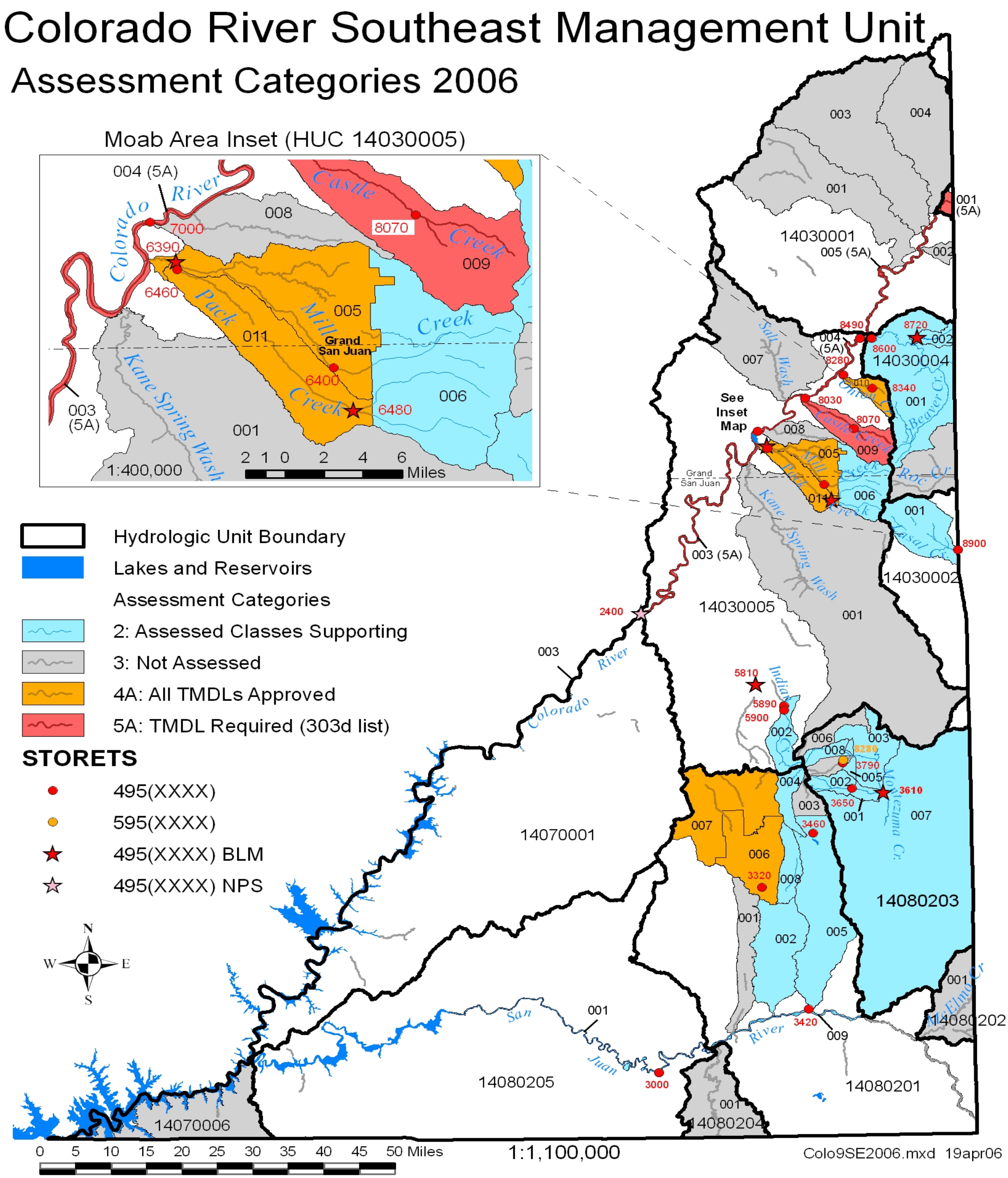


Figure I-5_10. Colorado River Southeast beneficial use assessment by categories.

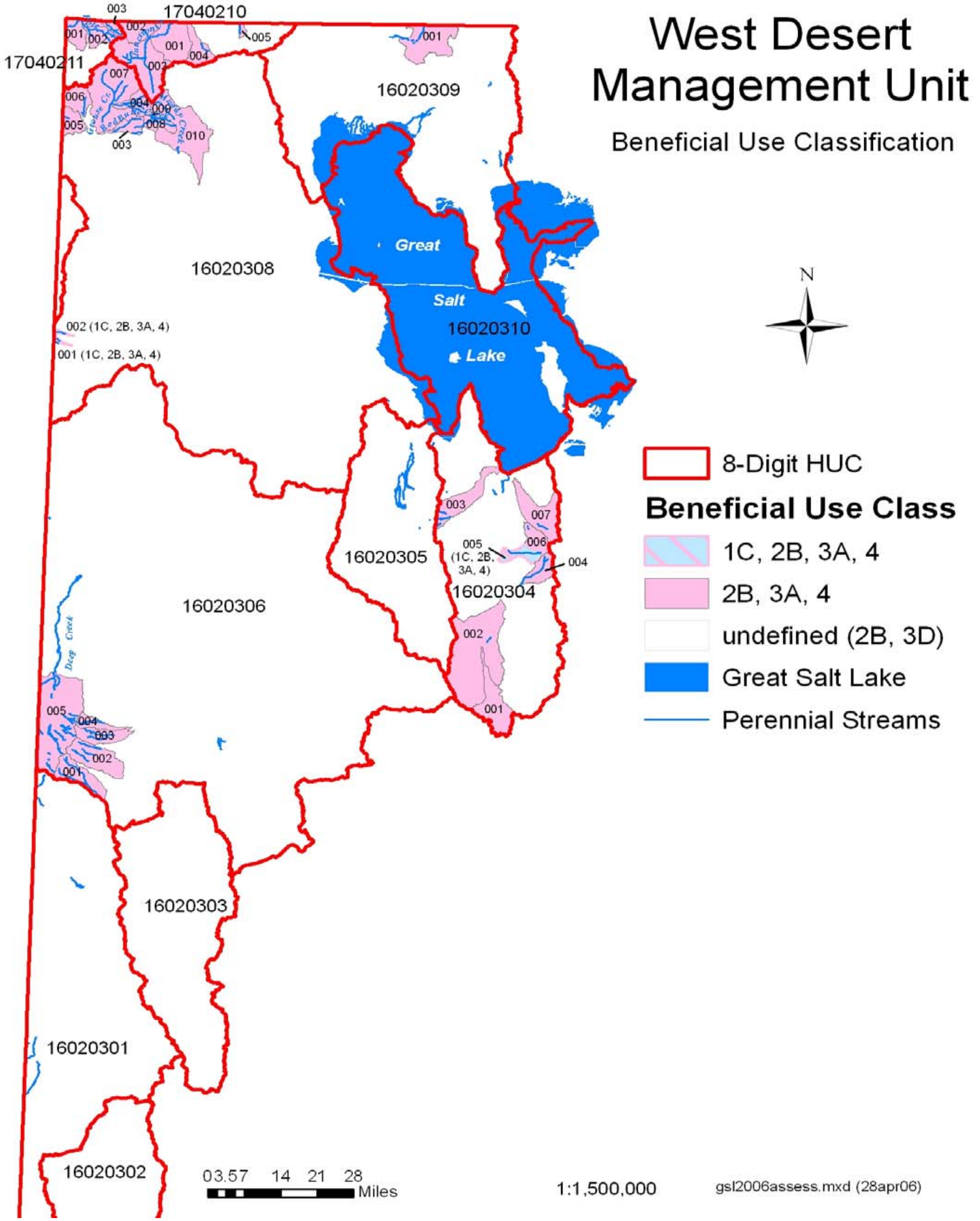


Figure I-5-11. Great Salt Lake Watershed Management beneficial use classifcations.

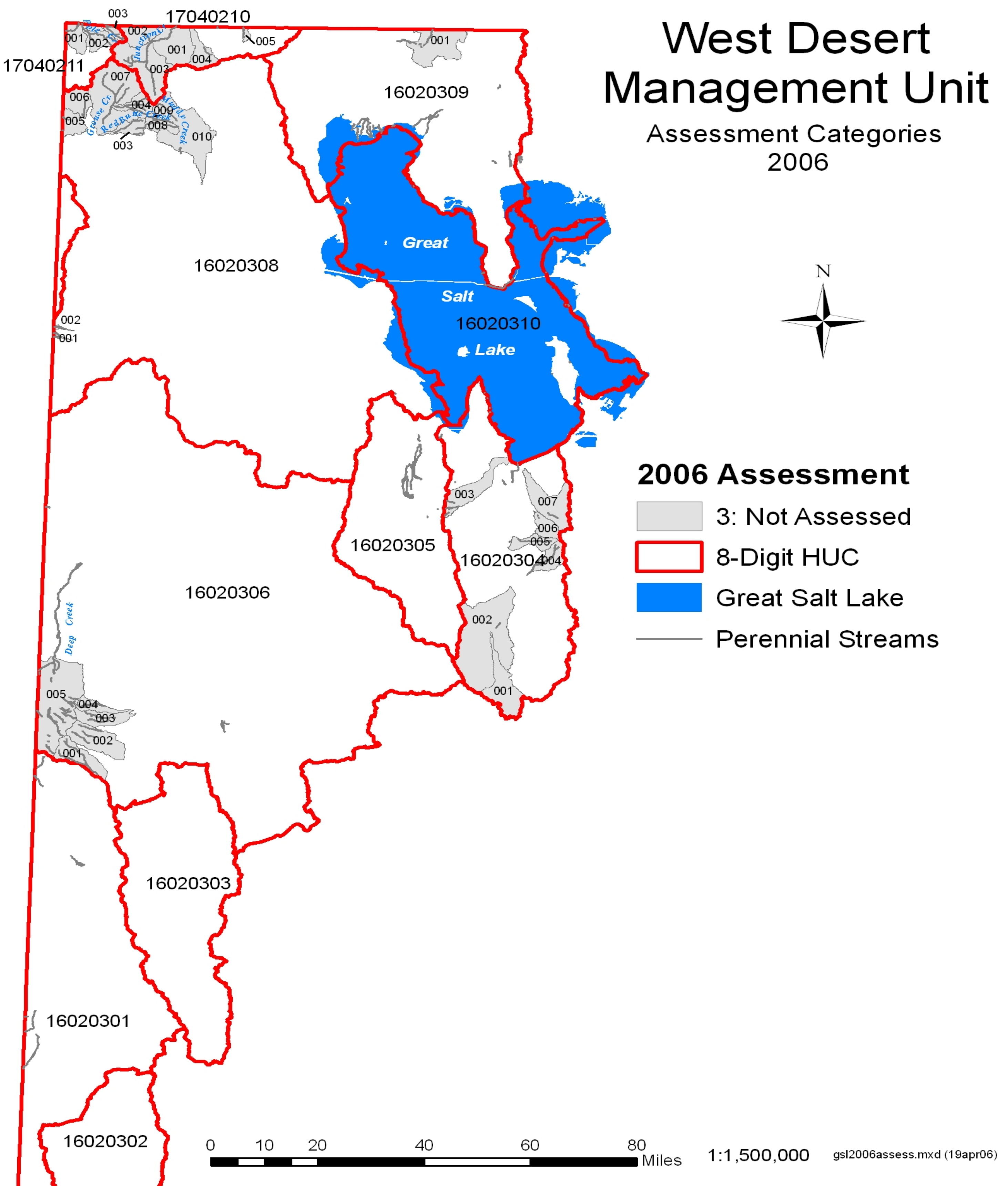


Figure I-5-12. West Desert Watershed Management Unit beneficial use assessment by categories.

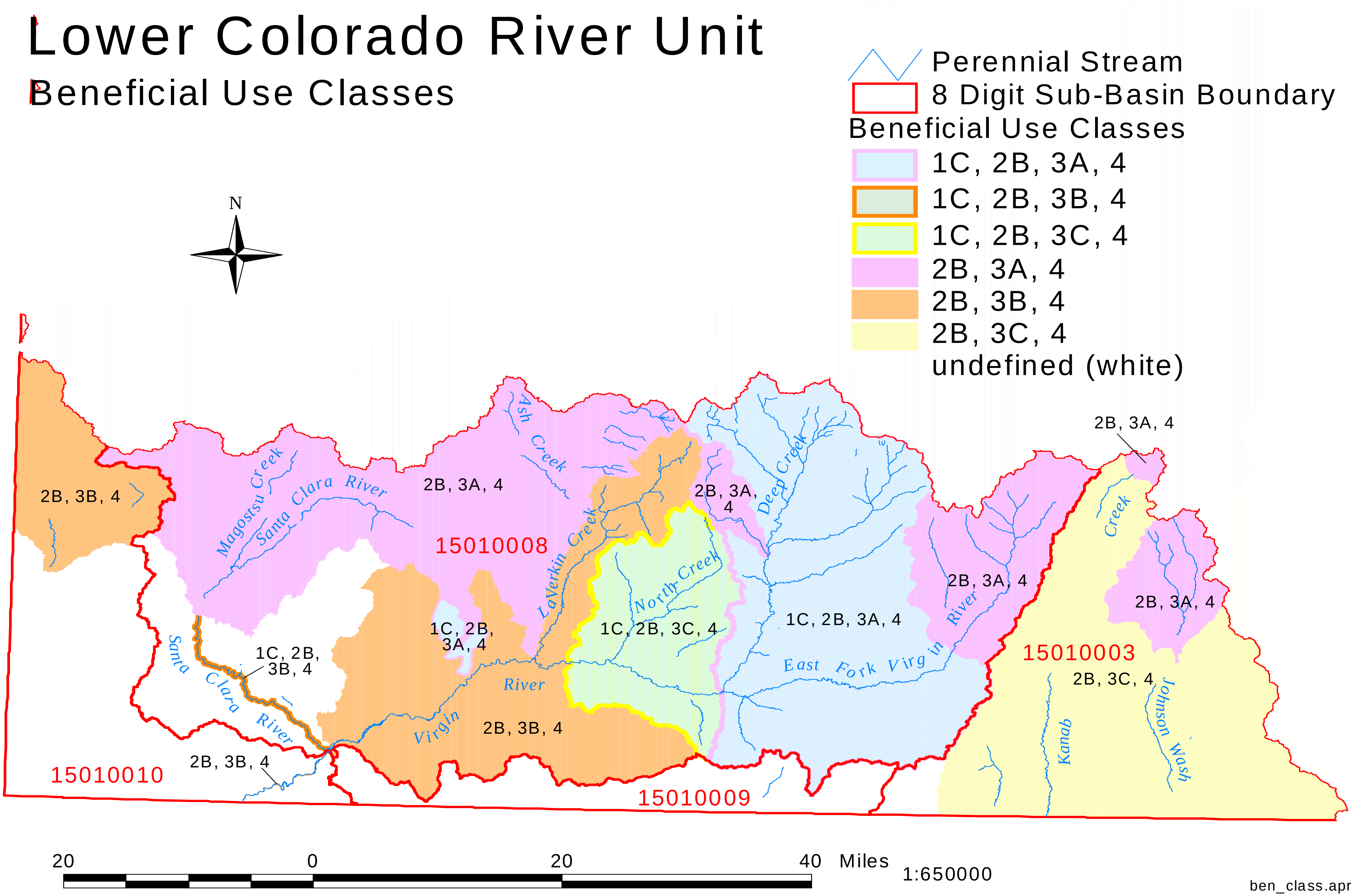


Figure I-5-12. Lower Colorado Watershed Management Unit beneficial use classifications.

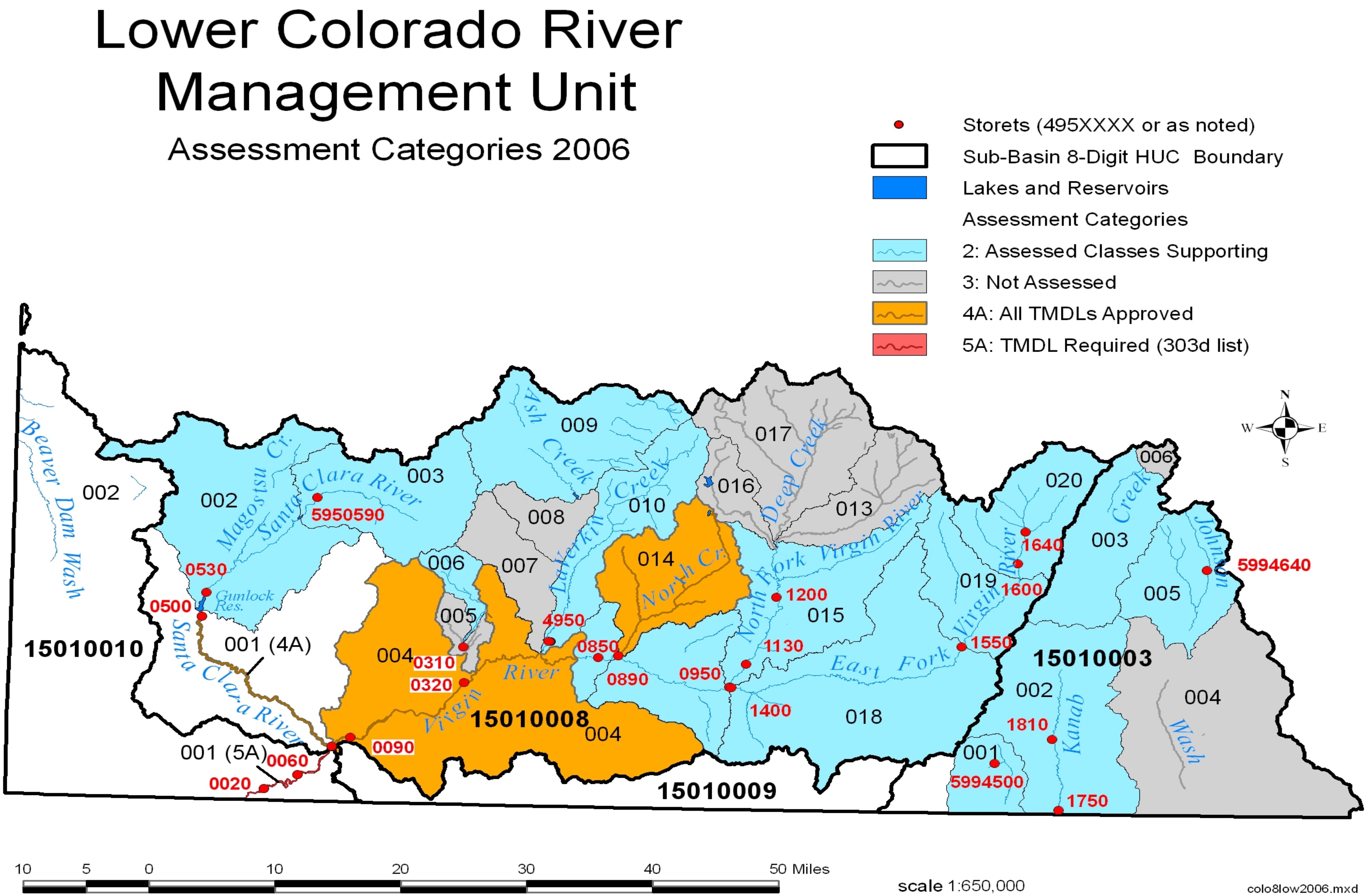
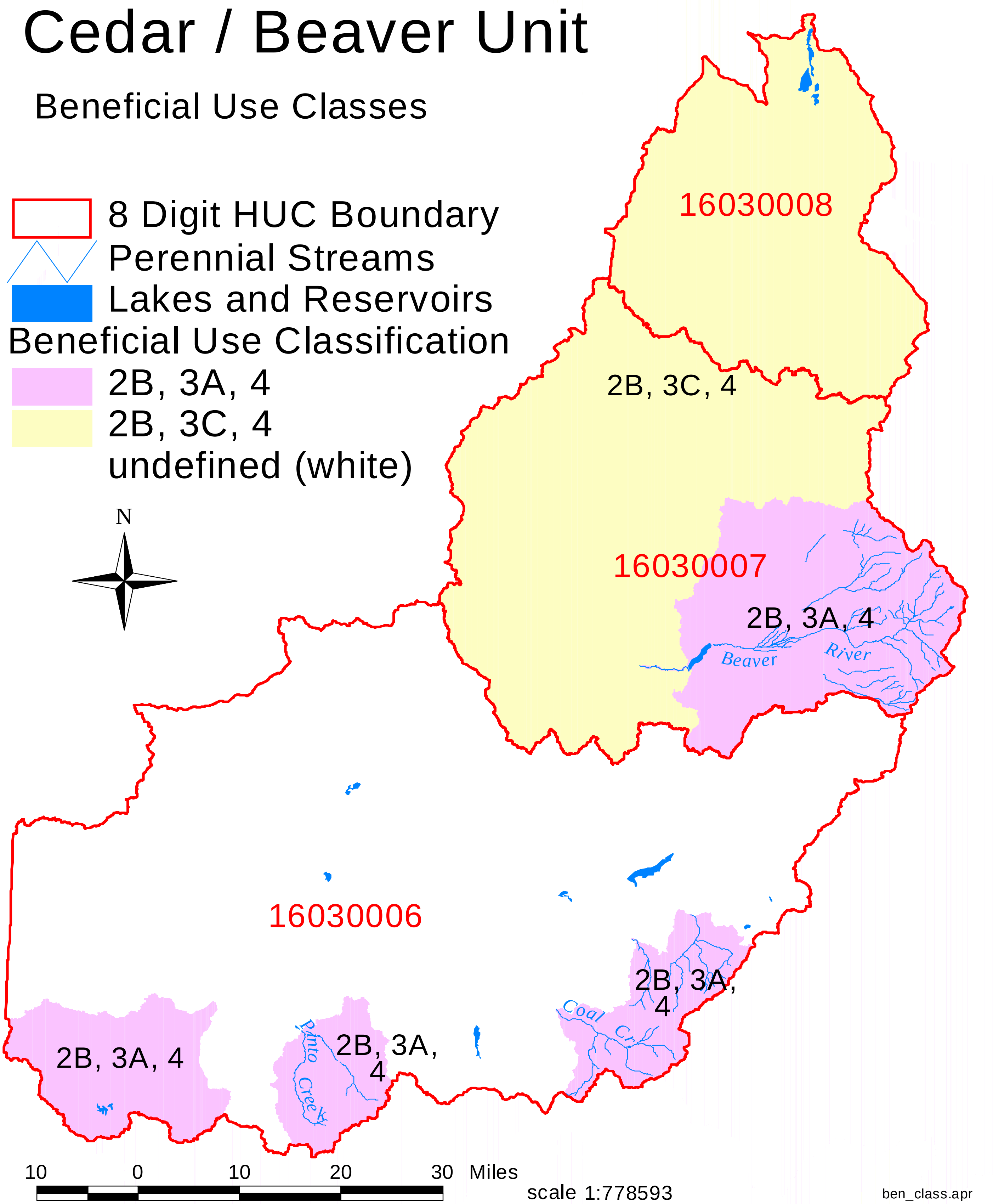


Figure I-5-13. Lower Colorado River Management Unit beneficial use assessment by categories.


Cedar / Beaver Unit
Beneficial Use Classes
8 Digit HUC Boundary
Perennial Streams
Lakes and Reservoirs
Beneficial Use Classification
2B, 3A, 4
2B, 3C, 4
undefined (white)
N
16030008
2B, 3C, 4
16030007
2B, 3A, 4
Beaver
River
16030006
2B, 3A, 4
Coal
Cr
2B, 3A, 4
Pinto
Creek
2B, 3A, 4
10
0
10
20
30
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scale 1:778593
ben_class.apr

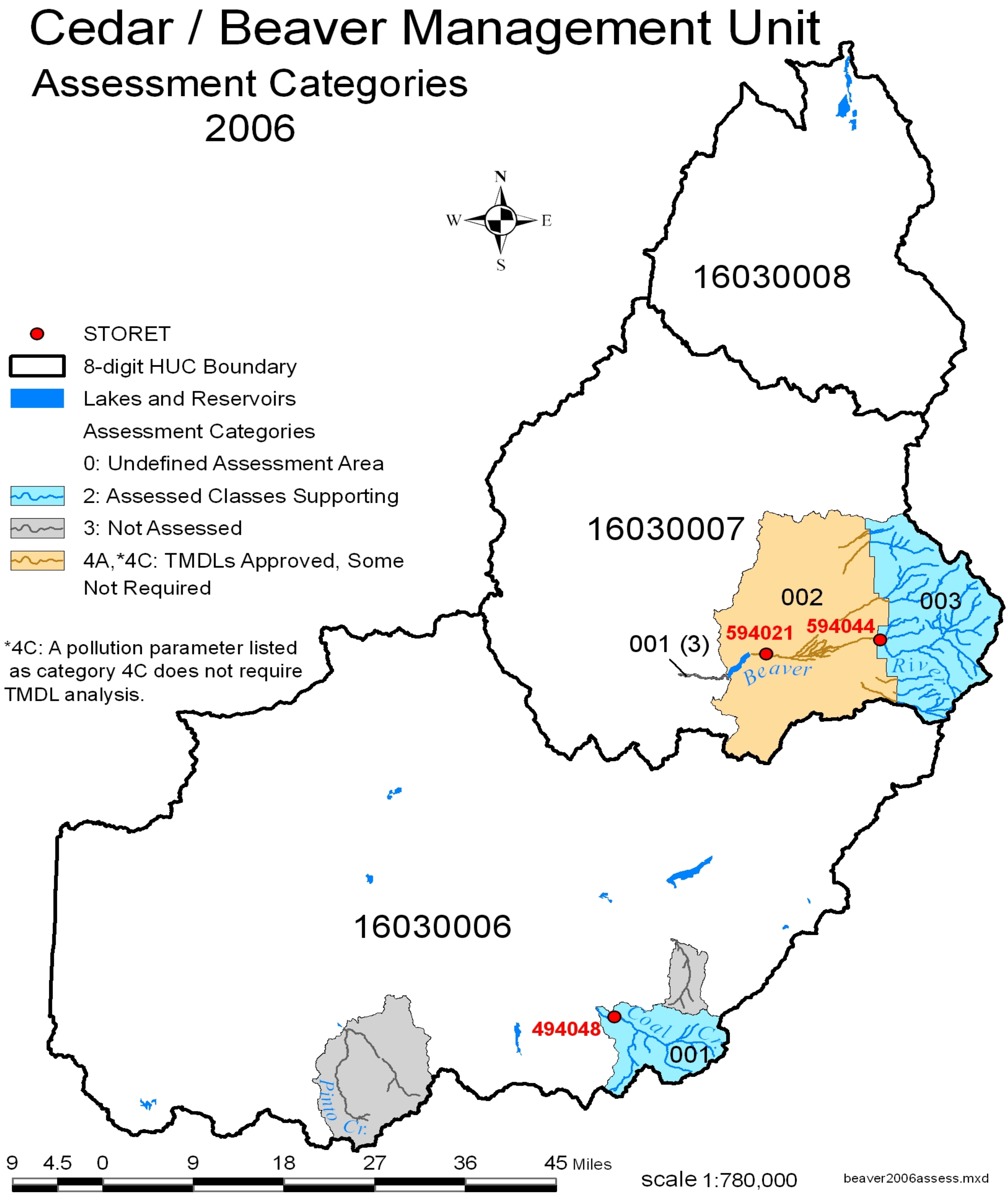

Figure I-5-14. Cedar/Beaver Watershed Management Unit beneficial use classification.

Chapter 6. Lake Water Quality Assessment

Lake eutrophication is a naturally occurring aging process that is often accelerated by human activities. Through a growing public awareness of this problem, Congress passed legislation in 1972 (Section 314 of the Federal Water Pollution Control Act) mandating states to inventory and classify their lakes according to trophic condition. States were initially to develop a ranking system used to prioritize the lakes for potential protective or restorative projects. This system was more recently replaced with the 1987 Clean Water Act Amendments requiring biannual 305(b) assessments and a concomitant 303(d) list of impaired waters.

Over three thousand assessment units, i.e. lakes, reservoirs, and wetlands, were identified in the initial Utah's Clean Lakes inventory. (State of Utah Clean Lakes Inventory and Classification, Volumes I & I, April 1982). Lakes selected for further study and evaluation ("significant lakes") were chosen according to the following criteria. The assessment unit is any publicly owned lake/reservoir/pond with a surface area equal to or greater than 50 acres with the following characteristics: (1) accessibility to the public is provided; (2) beneficial use status has been defined or is anticipated to protect water quality for public benefit; and (3) the lake provides important recreational benefit to the public. Marshes, springs, waterfowl management areas and intermittent lakes were not considered in the report. Exceptions in size were made in cases of high recreation use. Under these guidelines a list of 127 lakes and reservoirs was developed.

Table I-6-1 provides a summary of the number of lakes and lake surface area in the State of Utah. Seventy-seven percent of the total surface acres lake in Utah are found in 6 lakes and reservoirs, Bear Lake, Utah Lake, Flaming Gorge Reservoir, Lake Powell, Strawberry Reservoir, and Sevier Bridge Reservoir. The Great Salt Lake is not included in this table.

The State currently assesses 132 lakes and reservoirs. They include most of those previously inventoried. Changes were based on actual data collected and subsequent re-evaluation of the selection criteria for the original priority list. In addition, some new reservoirs that have been created since the original assessment in 1981-1982 and other lakes assessed by the State or other agencies on a cooperative basis have also been added. Water quality assessment includes determination of Carlson's trophic state index (TSI), dissolved oxygen concentrations throughout the water column, phytoplankton species dominance, reported fish kills and water quality trend. General ambient water quality conditions of Utah's lakes and reservoirs vary greatly in relation to their respective watersheds and lake morphometry. Nutrient concentrations and trophic status range from the oligotrophic conditions of many high mountain lakes to highly eutrophic downstream lakes such as Lower Box Creek Reservoir, Redmond Reservoir, Utah Lake, Kent's Lake and Minersville Reservoir. Other water chemical characteristics vary from extremely soft water conditions of the high Uinta lakes to highly saline conditions in reservoirs on the lower Sevier drainage such as Gunnison Bend and D.M.A.D. Reservoirs.

Many lakes and reservoirs experience problems relating to thermal stratification and subsequent depletion of dissolved oxygen (DO) in lower strata. This oxygen depletion is most often linked to excessive algal production and, in some lakes, results in frequent fish kills. Many lakes and reservoirs also have aesthetic and recreational use impairment because of severe annual drawdown. Such drawdowns leave expanses of exposed mud flats and often insufficient waters for overwintering fish populations. During recent years, an EPA assistance grant has been utilized to obtained additional water quality data to assist in the evaluation and assessment of lakes and reservoirs for this report. The initial purpose of this program was to assess newly created reservoirs and to conduct ongoing monitoring programs to reassess the lakes and reservoirs contained in the 1981-1982 Clean Lakes Inventory of the State of Utah.

Historically, one half, or about 65 lakes were sampled each year. Hence, all 132 lakes were sampled over a two-year assessment period. Sampling was performed during two visits between June and September for the year it was scheduled. More recently, additional data has been obtained during the winter period , as part of cooperative programs with other agencies, or to provide additional data for TMDL preparation. This effort often includes monthly sampling from June to September in order to more clearly understand important limnological factors contributing to impairment and to help us determine appropriate restoration strategies. In addition, during the summer of 2002, we began a voluntary citizen monitoring program to provide additional water quality data and collect recreational usage data. Information pamphlets on subjects ranging from descriptions of nutrient loading and eutrophication to explaining our monitoring program have been distributed to popular recreational lakes and reservoirs in order to stimulate awareness of lake water quality and conditions in our State.

Table I-6-1. Utah Freshwater Lakes and Reservoirs by Size Class Showing Numbers, Surface Acres, and Percent of Total Lake Surface.

Size Class (Surface Acres)	Number of Lakes / Reservoirs	Total Surface Acres
10,000 and greater	6 (0.2%)	370,905 (77.0%)
5,000 - 9,999	2 (0.07%)	15,584 (3.2%)
1,000 - 4,999	18 (0.6%)	34,119 (7.1%)
500 - 999	17 (0.57%)	12,475 (2.6%)
100 - 499	87 (2.9%)	19,890 (4.1%)
50 - 99	68 (2.3%)	4,594 (1.0%)
20 - 49	202 (6.7%)	5,871 (1.2%)
20 or less	2600 (86.7%)	18,200 (3.8%)
Total	3,000	481,638

Trophic Status

Carlson's Trophic State Index (TSI) has been determined since the initial classification and inventory project in 1981 to 1982. This has provided long-term trend data for most of our lakes and reservoirs.

To determine the annual TSI values, the following procedure is used:

1 - Individual TSI values for total phosphorus, secchi depth and chlorophyll-a was determined for each sampling station on the lake or reservoir.

2 - The values obtained from step one are then averaged among the two sampling visits at each of the sampling station.

3 - An average annual summer TSI value for each lake is then calculated by averaging all the station TSI Index values for a given lake or reservoir.

4 - TSI Index values utilized in this report were calculated for each lake or reservoir by determining the average TSI value for the period in two year increment periods since 1989.

TSI values are compared to the following index values to determine current trophic state condition.

TSI Index value < 40 - Oligotrophic
TSI Index value 40 to 50 - Mesotrophic
TSI Index value 51 to 70 - Eutrophic
TSI Index value > 70 - Hypereutrophic

Table I-6-2 contains a summary of lake trophic status for Utah's lakes and reservoirs by study periods. Lakes that have been determined to be hypereutrophic during the various periods of study include the following assessment units by periods: (1991-1992) Baker Dam Reservoir, DMAD Reservoir, Forsyth Reservoir, Gunnison Bend Reservoir, Johnson Reservoir, Koosharem Reservoir, Mill Meadow Reservoir, Redmond Reservoir, Rush Lake, Scofield Reservoir, Upper Enterprise Reservoir and Utah Lake, Barney Lake, Big Lake, Gunnison Bend Reservoir, Johnson Reservoir, Kents Lake, Lower Box Reservoir, Mill Meadow Reservoir, Mona Reservoir, Newton Reservoir, Redmond Reservoir, Rush Lake, Sevier Bridge Reservoir, Utah Lake and Willard Bay Reservoir; and (1993-94) Lower Bowns Reservoir, Rush Lake, Redmond Lake, Utah Lake, Kent's Lake, LaBaron Reservoir, Minersville Reservoir, Matt Warner Reservoir, Johnson Valley Reservoir, Newton Reservoir, Barney Reservoir and DMAD Reservoir; (1995-96) Rush Lake, Redmond Lake, Utah Lake, Kent's Lake, LaBaron Reservoir, Johnson Valley Reservoir, and Barney Reservoir; (1998-99) Koosharem Reservoir, Lower Box Reservoir, Redmond Reservoir, Rush Lake, and Utah Lake; (2000-2001) Utah Lake, Redmond Lake, Panguitch Lake, Lower Box Reservoir, Koosharem Reservoir, Kents Lake and Cook Lake; (2002-2003) Lower Box Reservoir, Rush Lake and Utah Lake. In the last two assessment periods, there has been an increase in the number of eutrophic lakes although the number of oligotrophic lakes has varied. We believe that this change is largely due to the drought that began in 1998 and has continued to worsen.

Control and Restoration Efforts

Several of our watersheds are known to be impaired for water quality and these are reflected in our 2004 303(d) list of impaired

Table I-6-2. Trophic Status of Lakes/.

Number and Acreage of Assessed Lakes and Reservoirs.

Trophic Class	91/92		93/94		95/96		98/99		00/01		02/03	
Oligotrophic	27 (22%)	239888 (58%)	42 (32%)	290,432 (63%)	47 (36%)	285,154 (62%)	36 (28%)	288,029 (63%)	28 (21%)	50,380 (11%)	38 (29%)	52,880 (11%)
Mesotrophic	52 (42%)	21,061 (5%)	51 (39%)	46,678 (10%)	57 (44%)	59,191 (13%)	66 (52%)	63,648 (14%)	60 ((46%)	275,274 (60%)	59 (45%)	252,470 (54%)
Eutrophic	30 (24%)	31,990 (8%)	24 (19%)	22,670 (5%)	24 (19%)	116,166 (25%)	21 (16%)	11,390 (2%)	36 (27%)	36,285 (8%)	31 (24%)	65,407 (14%)
Hypereutrophic	15 (12%)	122,069 (29%)	13 (11%)	100,808 (22%)	1 (1%)	50 (-)	5 (4%)	97,500 (21%)	7 (5%)	98,703 (21%)	3 (2%)	97,030 (20.7%)
TOTALS	124	415,008	130	460,588	129	460,561	128	460,567	131	460,642	132	467,787

waters. Many of these problems were recognized several years ago and restoration efforts have been ongoing through Section 314 Clean Lakes Project grants, Section 319 grants and wastewater treatment plant upgrading. Best Management Practices (BMPs) which we are using to protect and restore water quality include chemical removal of phosphorus in wastewater treatment plants, eliminating the discharge of animal feeding operations to tributary streams, controlling grazing and restricting excessive animal stream access, establish riparian buffer strips adjacent to agricultural lands, restore stream bank and slope stability, maintaining property tidiness, keeping

streets and gutters clean, reducing return flows from excess irrigation, restricting excessive use of fertilizers and pesticides, and regulating off-road activities. Proper design, construction, and maintenance of sewage facilities, solid waste disposal facilities and fish cleaning stations have also been installed at popular lakes. Cooperation with other agencies, including the US Forest Service, BLM, NRCS and State conservation districts has facilitated the education of individuals using both public and private lands as to various activities which have the potential to adversely impact water quality and utilize practices to limit or control these negative impacts. Table I-6-3 contains a listing of specific lake rehabilitation techniques that have been used in addressing problems identified in diagnostic/feasibility studies funded under Section 314 of the Clean Water Act and ongoing lake assessments.

Specific watershed management plans or TMDLs (Total Maximum Daily Load) are currently being developed to address the unique problems and conditions identified for a particular lake or reservoir. In addition, wherever point sources are identified in a watershed that are impacting water quality, appropriate steps need to be taken to control the discharge of contaminants under existing water quality standards and guidelines. Clean Lakes Program Phase I studies were completed on Scofield Reservoir, Panguitch Lake, Deer Creek Reservoir, Bear Lake, Pineview Reservoir, Salem Pond, Minersville Reservoir, Otter Creek Reservoir, Navajo Lake, Mantua Reservoir, Pelican Lake, Hyrum Reservoir, East Canyon Reservoir and Utah Lake. Phase I lake restoration projects were conducted on four of these assessment units (Panguitch Lake, Scofield Reservoir, Deer Creek Reservoir and Salem Pond). For specific details on Clean Lakes and Section 319 Projects please refer to the summary listed in Table I-6-4.

Impaired and Threatened Lakes

Several factors were considered in the assessment for beneficial use support. The monitoring program for lakes and reservoirs is designed to determine a basic water quality characterization, and evaluate the productivity during the summer period. Additional winter monitoring is conducted to evaluate dissolved oxygen deficiencies as indicated by the summer monitoring. Water quality standards are evaluated to assess impairment for waters classified in classes 2 (recreation), 3 (aquatic life), and 4 (agriculture). Three basic areas of data that are compared to standards in addition to other specific parameters include dissolved oxygen, pH, and temperature. These basic parameters are obtained in the field as part of

Table I-6-3. Lake Rehabilitation Techniques.

Technique	Lakes using Technique	Lake Acreage
In-lake Treatments		
1. Phosphorus Precipitation/Inactivation		
2. Sediment Removal/Dredging	1	11
3. Artificial circulation to increase oxygen		
4. Aquatic Macrophyte harvesting	1	120
5. Application of aquatic herbicides		
6. Drawdown for macrophyte control		
7. Hypolimnetic aeration		
8. Sediment oxidation		
9. Hypolimnetic withdrawal of low DO water		
10. Dilution/Flushing		
11. Shading/sediment covers or barriers		
12. Destratification		
13. Sand or other filters to clarify water		
14. Food chain manipulation		
15. Biological controls	1	11
16. Fish Clean Station Installed	23	437,046
Watershed Treatments		
20. Sediment Traps/Detention ponds	2	1,368
21. Erosion control Shoreline/Streambank	7	26,565
22. Diversion of nutrient rich inflows		
23. Conservation tillage used		
24. Integrated pest management practices applied		
25. Animal waste management practices installed	6	9,850
26. Porous pavement used		
27. Redesign streets/parking lots to reduce runoff		
28. Road or skid trail management		
29. Land surface roughening for erosion control		
30. Riprap installation	2	4,063
31. Unspecified BMPs installed	9	2,990
32. Riparian Fencing	8	12,924

Table I-6-3. Lake Rehabilitation Techniques.

Technique	Lakes using Technique	Lake Acreage
33. Diversion structures installed		2,015
34. Checkdams or stream structures	6	9,850
35. Reseeding areas for erosion control	6	9,850
36. Streambank stabilization using vegetative controls	6	12,924
37. Wetland treatment of inflow waters	1	11
Other Lake Protection/Restoration Efforts		
40. Local Lake Management Program in place	3	168,540
41. Public Information/Education Program	21	141,288
42. Local Ordinance control to protect lakes	3	4,063
43. Point Source Controls	2	4,359
44. Municipal sewer system developed	1	2,815

Table I-6-4. Listing of Phase II and Section 319 Projects for Lake Water Quality Control.

Name of Lake Project	Date Completed	Type	Federal Funding	Problems	Rehabilitation Techniques
Minersville Reservoir	1991-1998	319	$ 889,120	Eutrophication	21,25,31,32,35,36,41
Hyrum Reservoir	1991-1995	319	$1,582,215	Eutrophication	10,16,21,25,31,32,35,36,41
Otter Creek Reservoir	1991-1998	319	$682,000	Eutrophication	16,21,25,31,32,35,36,41
Echo	1992-1998	319	$2,050,6000	Eutrophication	16,21,25,31,32,35,41
Scofield Reservoir	1992	Phase II	$120,000	Watershed Erosion	16,21,30,32,33,34,35,36,41,42,44
Panguitch Lake	1989	Phase II	$ 95,925	Watershed Erosion	16,20,21,30,32,34,35,36,41,42
Deer Creek Reservoir	1992	Phase II	$328,393	Agricultural Wastes	20,21,25,29,31,40,41,42,43
Salem Pond	1995	Phase II	$ 95,000	Macrophytes, Depth	2,15,37,41,
Decker Lake		Phase II	$1,000,000	Sedimentation	2

the overall monitoring program. The data for these three parameters are measured at 1-meter intervals throughout the water column and evaluated according to current 305(b)guidelines. A comparison of water column values with State standards is determined as follows. For any one pollutant or stressor, exceedence of standards in less than or equal to 10 percent of measurements, a designation of fully supporting was assigned. For any one pollutant or stressor, criteria exceeded in greater than 10, but less than or equal to 25 percent of measurements, a designation of partially supporting was assigned. For any one pollutant or stressor, criteria exceeded in greater than 25 percent of measurements a designation of not supporting was assigned. An exception to these guidelines has been provided for dissolved oxygen. Exceedance criteria for dissolved oxygen have been defined using the 1 day minimum dissolved oxygen concentration of 4.0 mg/l State standards account for the fact that anoxic or low dissolved oxygen conditions may exist in the bottom of deep reservoirs and therefore, the dissolved oxygen standard is applied as follows. When the concentration is above 4.0 mg/l for greater than 50% of the water column depth, a fully supporting status is assigned. When 25-50% of the water column is above 4.0 mg/l, it is designated as partial supporting and when less than 25% of the water column exceeds the 4.0 mg/l criteria, it is designated as not supporting its defined beneficial use.

Having determined support status for individual pollutants or stressors, an overall use designation was determined based on a combination of the individual pollutant or stressor support designations. A 'not supportiveì status was assigned to a body of water when at least two of the basic criteria (dissolved oxygen, pH or temperature) were found to be not supportive. A 'fully supportingì status was assigned when all of the criteria were found to be fully supporting. All other assessment units were assigned a 'partially supporting' status for criteria found in the various remaining combinations.

Next there is a modification of the initial support status through an evaluation of the trophic state index (TSI), winter dissolved oxygen conditions with reported fish kills, and the presence of significant blue green algal species in the phytoplankton community. This evaluation, although based to an extent on professional judgement, could shift initial support status ranking downward if two of the three criteria indicate there is an impairment in the water quality.

A final determination to list the assessment unit is made through an evaluation of assessment trends since 1989. Since that time, we have incorporated the hydrology and seasonal variations associated with lakes and reservoirs. In general if a assessment unit exhibits a consistent status of 'partial supporting or not supporting', it should be entered on the 303(d) list. Lakes that exhibit a mixture of partially and fully supporting conditions over a period of time are not listed. For such borderline lakes, two consecutive assessment cycles demonstrating impairment, as well as a long-term downward trend in TSI, winter dissolved oxygen, or increased densities of blue green algae are required before we list the assessment unit as impaired.

Where other data was obtained (dissolved metal data or biological data) determinations of exceedence against reported water quality standards were made, but in only one case (Lake Powell) have portions of the assessment unit, on occasion, been identified as partially supporting because of heavy metal contamination.

Table I-6-5 presents summary data for each of the 132 lakes and reservoirs. Table I-6-6 lists the total in each support status. Of the 467,787 surface acres evaluated 67.7 % were found to be supporting their designated uses, 31.8% partially supporting and 0.5% not supporting. Tabulation by individual lakes indicates that for the 132 lakes assessed 56% were fully supporting, 37% partially supporting and 7% not supporting. It should be noted that the biological data used to modify the initial conventional assessment (winter dissolved oxygen and fish kills) may have been collected prior to the data summary period (2002-2003) for this report. Table I-6-7 summarizes the use support by classification. Tables I-6-8 and I-6-9 summarize the various cause and source categories for those lakes found not fully supporting their designated uses. The Division of Water Quality will continue to conduct reconnaissance level investigations on several lakes and reservoirs in the future with other agencies including but not limited to the following: Strawberry Reservoir, Lake Powell,
and Flaming Gorge Reservoir. However, all of these studies will depend on the available time and resources.

Acid Effects on Lakes

Since this report came out, the Acid Deposition Technical Advisory Committee has been relatively inactive. In 1986, the Acid Deposition Technical Advisory Committee recommended that reconnaissance surveys be conducted in areas considered potentially sensitive to acid deposition. In response to this recommendation, a cooperative agreement involving private individuals, private industries, and several State and Federal agencies was developed and approved. This agreement organized efforts to sample selected streams and lakes in ten different mountain ranges in Utah during the summer of 1987. The water chemistry data were then used to determine the Acid Neutralizing Capacity (ANC) of the sampled lakes and streams and their sensitivity to acid deposition. Generally, it was concluded that several of the high lakes in the State, were susceptible to acid precipitation due to their low buffering capacities but at the moment, none were actually affected by acid deposition.

Toxic Effects on Lakes

All 132 lakes/reservoirs were assessed for toxic metals during this reporting cycle (Table I-6-10). Because of the association of metal solubility with decreasing reduction/oxidation potential at the sediment-water interface, samples were collected approximately 0.5 m above the bottom of the lake or reservoir to detect the maximum concentration within the lake. Resulting data were compared to numeric standards for the protection of aquatic life.

This monitoring would also evaluate the potential for uptake of toxic metals into the food chain initiated by benthic organisms. Hence, this type of sampling is used a s screening tool and additional water column sampling would be performed to identify the frequency of exceedence and subsequent impairment. Although some tributary stream segments have been identified as impaired with various toxic metals, no lake samples have contained metal concentrations above the chronic water quality standards.

Table I-6-5. Summary of Individual Lake Beneficial Use Support

LAKE DESCRIPTION	ACRES	OVERALL SUPPORT					OVERALL SUPPORT (Acreage)			On 303d List	Conventional Parameters DO, Temp, pH	Assessment Category	Total P > 0.025 mg/L Indicator	TSI >50	Winter DO/ Fish Kills	Cyanophyta present
		1998	2000	2002	2004	2006	FS	PS	NS							
Anderson Meadow Reservoir	8	FS	FS	FS	FS	FS	8				FS	2				Y
Ashley Twin Lakes	27	ND	FS	FS	FS	FS	27				FS	2				N
Baker Dam Reservoir	63	NS	PS	PS	PS	PS		63		X	PS- T	5A	Y	Y		Y
Barney Reservoir	19	PS	FS	PS	FS	FS	19				FS	2	Y	Y		Y
Bear Lake	69,760	FS	FS	FS	FS	FS	69760				FS	2				N
Beaver Meadow Reservoir	5	FS	FS	FS	FS	FS	5				FS	2				N
Big East Lake	23	PS	PS	PS	PS	PS		23		X	PS- DO	5A		Y		Y
Big Sand Wash Reservoir	390	PS	FS	FS	PS	PS	390				FS	2				Y
Birch Creek Reservoir #2	63	PS	FS	FS	PS	PS	63				FS	2				N
Blanding City Reservoir#4	32	PS	FS	FS	PS	PS	32				FS	2				N
Bridger Lake	21	PS	PS	PS	PS	PS		21		X	PS- DO	5A			DO	Y
Brough Reservoir	150	NS	PS	PS	PS	NS		150		X	NS- T, DO	5A				Y
Browne Reservoir	54	PS	PS	PS	FS	FS		54		X	PS- DO, pH	4	Y	Y	DO	Y
Butterfly Lake	5	FS	FS	FS	FS	FS	5				FS	2				Y
Calder Reservoir	99	NS	PS	PS	PS	NS		99		X	NS- DO, pH	5A	Y	Y	DO/FK	Y
Causey Reservoir	142	PS	FS	FS	FS	FS	142				FS	2				N
China Lake	47	NS	NS	NS	FS	FS			47	X	NS- T,DO,pH	5A			DO/FK	Y
Cleveland Reservoir	185	PS	FS	FS	FS	FS	185				FS	2				Y
Cook Lake	9	PS	FS	PS	FS	FS		9			FS	2	Y	Y		ND
Currant Creek Reservoir	305	FS	FS	FS	FS	FS	305				FS	2				Y
Cutler Reservoir	7,184		PS	PS	FS	FS		7,184		X	PS-DO	5A	Y			N
Dark Canyon Lake	6	PS	FS	FS	FS	FS	6				FS	2				ND
Deer Creek Reservoir	2,965	PS	PS	PS	FS	FS		2965		X	PS- DO,T	4	Y			Y
DMAD Reservoir	1,199	FS	FS	FS	FS	FS	1199				FS	2		Y		Y
Donkey Reservoir	40	FS	FS	FS	FS	FS	40				FS	2				N
Duck Fork Reservoir	47	PS	FS	FS	FS	FS	47				FS	2	Y	Y	DO	N
East Canyon Reservoir	173	NS	NS	NS	FS	NS			173	TMDL Completed	NS- DO	4	Y	Y	FK	Y
East Park Reservoir	684	FS	PS	FS	FS	FS	684				FS	2			DO	Y
Echo Reservoir	1,394	PS	PS	PS	FS	FS		1394		X	PS- DO/T	5A	Y	Y		Y
Electric Lake	425	PS	FS	FS	FS	FS	425				FS	2				Y
Fairview Reservoir #2	105	PS	FS	FS	FS	FS	105				FS	2				N
Ferron Reservoir	55	PS	FS	FS	FS	PS	55				PS-pH*	5D				N
Fish Lake	2,500	PS	FS	FS	FS	FS	2500				FS	2				N

Table I-6-5. Summary of Individual Lake Beneficial Use Support

LAKE DESCRIPTION	ACRES	OVERALL SUPPORT					OVERALL SUPPORT (Acreage)			On 303d List	Conventional Parameters DO, Temp, pH	Assessment Category	Total P > 0.025 mg/L Indicator	TSI >50	Winter DO/ Fish Kills	Cyanophyta present
		1998	2000	2002	2004	2006	FS	PS	NS							
Flaming Gorge Reservoir	42,020	FS	FS	FS	FS	FS	42020				FS	2				Y
Forsyth Reservoir	158	PS	PS	PS	PS	PS		158		X	PS- DO**	5A		Y		N
Grantsville Reservoir	88	FS	FS	FS	FS	FS	88				FS	2				Y
Gunlock Reservoir	266	PS	PS	PS	PS	PS		266		X	PS- DO	5A	Y			Y
Gunnison Bend Reservoir	706	FS	FS	FS	FS	FS	706				FS	2		Y		N
Gunnison Reservoir	1,287	PS	FS	FS	FS	FS	1287				FS	2	Y			N
Hoop Lake	162	FS	FS	FS	FS	FS	162				FS	2				Y
Hoover Lake	17	FS	FS	FS	FS	FS	17				FS	2				Y
Huntington Lake North	225	PS	FS	FS	FS	FS	225				FS	2				N
Huntington Reservoir	115	PS	FS	FS	FS	FS	115				FS	2				N
Hyrum Reservoir	438	NS	PS	PS	PS	NS		438		X	NS-T	4				N
Joes Valley Reservoir	1,183	FS	FS	FS	FS	FS	1183				FS	2				N
Johnson Valley Reservoir	285	PS	PS	PS	PS	PS		285		X	PS- DO	5A	Y	Y	DO	Y
Jordanelle Reservoir	3,068	FS	FS	FS	FS	FS	3068				FS	2				N
Kens Lake	86	NS	PS	PS	PS	FS		86		TMDL Completed	FS	4				N
Kents Lake	26	NS	PS	PS	PS	PS		26		TMDL Completed	PS-DO	4	Y	Y		N
Kolob Reservoir	335	PS	FS	PS	PS	FS		335			FS	2	Y			
Koosharem Reservoir	310	PS	PS	PS	PS	NS		310		X	NS-pH, PS-T	5A	Y	Y		Y
Labaron Reservoir	24	NS	NS	NS	NS	PS			24	TMDL Completed	PS-pH*	4			DO	Y
Lake Mary	23	PS	FS	FS	FS	FS	23				FS	2				N
Lake Powell	162,760	FS	FS	FS	FS	FS	162760				FS	2				ND
Little Creek Reservoir	65	PS	FS	FS	FS	FS	65				FS	2				Y
Little Dell Reservoir	249	PS	FS	FS	FS	FS	249				FS	2				Y
Lloyds Reservoir	104	PS	FS	FS	PS	PS		104			FS	2				Y
Long Park Reservoir	60	FS	FS	FS	FS	FS	60				FS	2				Y
Lost Creek Reservoir	52	FS	FS	FS	FS	FS	52				FS	2				N
Lower Bowns Reservoir	90	PS	FS	FS	PS	PS		90		X	PS-pH	5A	Y			Y
Lower Box Reservoir	50	NS	PS	PS	PS	NS		50		X	NS- DO, pH**	5A	Y	Y		Y
Lower Gooseberry Reservoir	57	PS	PS	PS	PS	PS		57		X	PS-pH,DO	5A	Y		DO	Y
Lyman Lake	27	NS	PS	PS	PS	PS		27		X	PS- DO, pH	5A			DO	Y
Manning Meadow Reservoir	59	NS	PS	PS	PS	PS		59		X	PS- DO	5A	Y	Y	DO/FK	N
Mantua Reservoir	554	NS	PS	PS	PS	NS		554		X	NS -pH, PS-T	5B	Y			Y

Table I-6-5. Summary of Individual Lake Beneficial Use Support

LAKE DESCRIPTION	ACRES	OVERALL SUPPORT					OVERALL SUPPORT (Acreage)			On 303d List	Conventional Parameters DO, Temp, pH	Assessment Category	Total P > 0.025 mg/L Indicator	TSI >50	Winter DO/ Fish Kills	Cyanophyta present
		1998	2000	2002	2004	2006	FS	PS	NS							
Marsh Lake	38	NS	PS	PS	PS	PS		38		X	PS- DO	5A			DO/FK	Y
Marshall Reservoir	18	PS	FS	PS	PS	PS		18			FS	2			DO/FK	Y
Matt Warner Reservoir	433	NS	NS	NS	FS	NS		433		X	NS-pH	5A	Y	Y	DO/FK	N
Meeks Cabin Reservoir	477	FS	FS	FS	FS	FS	477				FS	2				N
Mill Hollow Reservoir	15	PS	PS	PS	PS	PS		15		X	PS- pH	5A	Y	Y		Y
Mill Meadow Reservoir	156	PS	PS	PS	PS	PS		156		X	FS	5A	Y	Y		Y
Miller Flat Reservoir	65	FS	FS	FS	FS	FS	65				FS	2				Y
Millsite Reservoir	435	PS	FS	FS	FS	FS	435				FS	2				N
Minersville Reservoir	990	NS	PS	PS	PS	PS		990		TMDL Completed	PS-T, pH	4		Y		N
Mirror Lake	50	PS	PS	PS	FS	FS	50			TMDL Completed	FS	4	Y		DO	Y
Mona Reservoir	1,110	FS	FS	FS	FS	PS	1110				PS-pH*	2				N
Monticello Lake	3	FS	FS	FS	FS	PS	3				PS-pH*	5D				N
Moon Lake	768	FS	FS	FS	FS	FS	768				FS	2				N
Navajo Lake	714	PS	PS	PS	PS	NS		714		X	NS-pH	5A			DO/FK	NA
Newcastle Reservoir	163	NS	NS	NS	PS	PS		163		X	PS-DO, T	5A		Y		N
Newton Reservoir	350	NS	NS	NS	PS	PS		350		X	PS- DO, pH*	5A	Y	Y		Y
Nine Mile Reservoir	197	NS	NS	NS	NS	NS			197	X	NS- pH,T PS-DO	5A	Y	Y		N
Oak Park Reservoir	382	FS	FS	FS	FS	FS	382				FS	2				N
Otter Creek Reservoir	2,520	PS	NS	PS	PS	PS		2520		X	PS- T, pH	5A	Y	Y		Y
Palisades Lake	66	PS	PS	PS	PS	PS		66		X	PS- T	5A	Y			N
Panguitch Lake	1,248	NS	PS	PS	PS	NS		1248		X	NS-pH, PS-DO	5A	Y	Y		Y
Paradise Park Reservoir	143	FS	FS	FS	FS	FS	143				FS	2				N
Pelican Lake	1,680	PS	FS	PS	PS	NS			1680	x	NS pH	5A	Y			Y
Pine Lake	77	PS	FS	PS	PS	PS		77			insufficient data	2				N
Pineview Reservoir	2,874	PS	PS	PS	PS	NS		2,874		X	NS-T, DO	5B	Y			Y
Piute Reservoir	2,508	PS	PS	PS	PS	PS		2,508		X	PS- T,TP	5A	Y	Y		Y
Porcupine Reservoir	190	PS	PS	PS	PS	FS		190		X	FS	5A	Y			N
Posey Lake	20	PS	FS	FS	FS	FS	20				FS	5A	Y			N
Puffer Lake	65	NS	PS	PS	PS			65		TMDL Completed	PS-DO,pH	4			FK	Y
Quail Creek Reservoir	590	PS	FS	FS	FS	FS	590				FS	2				N
Recapture Reservoir	265	PS	PS	PS	PS	PS		265		X	PS-T,NS-DO	5A				N
Red Creek Reservoir	142	PS	FS	FS	FS	FS	142				FS	2				Y
Red Creek Reservoir (Iron)	39	NS	NS	NS	NS	PS		39		X	PS- DO	5A	Y	Y	DO	N

Table I-6-5. Summary of Individual Lake Beneficial Use Support

LAKE DESCRIPTION	ACRES	OVERALL SUPPORT					OVERALL SUPPORT (Acreage)			On 303d List	Conventional Parameters DO, Temp, pH	Assessment Category	Total P > 0.025 mg/L Indicator	TSI >50	Winter DO/ Fish Kills	Cyanophyta present
		1998	2000	2002	2004	2006	FS	PS	NS							
Red Fleet Reservoir	520	FS	PS	PS	PS			520		X	PS- DO	5A				Y
Redmond Lake	160	PS	FS	FS	FS	FS	160				FS	2		Y		N
Rex's Reservoir	46	PS	FS	FS	FS	FS	46				FS	2				N
Rockport Reservoir	1,189	FS	FS	FS	FS	NS	1189				NS- DO*	5D				Y
Rush Lake	80	PS	FS	FS	FS	FS	80				FS	2	Y	Y		N
Salem Pond	11	FS	FS	FS	FS	FS	11				FS	2				N
Scofield Reservoir	2,815	PS	PS	PS	PS	FS		2815		TMDL Completed	FS	4	Y		DO/FK	Y
Scout Lake	18	FS	FS	FS	FS	FS	18				FS	2				N
Settlement Canyon Res	315	FS	FS	FS	FS	FS	315				FS	2				N
Sevier Bridge Reservoir	10,905	FS	FS	FS	FS	FS	10905				FS	2				Y
Sheep Creek Reservoir	86	PS	FS	FS	FS	FS	86				PS-pH*	2				Y
Silver Lake Flat Reservoir	54		FS	FS	FS	FS	54				FS	2				N
Smith and Morehouse Res	197	PS	FS	FS	FS	FS	197				FS	2				N
Spirit Lake	41	PS	PS	PS	FS	FS	41				FS	2				N
Stansbury Lake	120	PS	FS	FS	FS	FS	120				FS	2				N
Starvation Reservoir	2,760	PS	FS	PS	PS	PS		2760		x	PS- DO	5D	Y	Y		Y
Stateline Reservoir	288	FS	FS	FS	FS	FS	288				FS	2				N
Steinaker Reservoir	829	PS	PS	PS	PS	PS		829		X	PS-T, NS-DO	5A				Y
Strawberry Reservoir	17,160	PS	PS	PS	PS	PS		17160		X	PS- DO	5A	Y		DO	Y
Three Creeks Reservoir	57	PS	FS	FS	FS	PS	57			x	PS- pH	5D				Y
Tibble Fork Reservoir	13	FS	FS	FS	FS		13				FS	2				N
Tony Grove Reservoir	25	NS	NS	NS	NS	PS			25	X	PS- DO	5A	Y		FK	Y
Trial Lake	98	FS	FS	FS	FS	FS	98				FS	2				N
Tropic Reservoir	180	PS	FS	FS	FS	FS	180				FS	2				N
Upper Enterprise Reservoir	200	NS	FS	NS	NS	NS			200		NS-T**	2	Y			Y
Upper Stillwater Reservoir	252	FS	FS	FS	FS	FS	252				FS	2				Y
Utah Lake	96,900	PS	PS	PS	PS	PS		96900		X	PS- TDS	5A	Y	Y		Y
Wall Lake	61	FS	FS	FS	FS	FS	61				FS	2				N
Washington Lake	94	FS	FS	FS	FS	FS	94				FS	2				N
Whitney Reservoir	188	PS	FS	FS	FS	FS	188				FS	2				Y
Wide Hollow Reservoir	145	NS	FS	NS	NS	NS			145	X	NS- T**, pH	5A	Y			N
Willard Bay Reservoir	10,000	PS	FS	FS	FS	FS	10000				FS	2	Y			Y
Woodruff Creek Reservoir	90	PS	FS	FS	FS	FS	90				FS	2				Y
Yankee Meadow Reservoir	5	NS	PS	PS	PS	PS		5		X	PS-pH*	5A		Y	FK	N

Table I-6-6. Overall Use Support Summary for Lakes and Reservoirs (Acres).						
Degree of Use Support	Assessed	Monitored	Assessed	Monitored	Total Assessed	
	Number	Acreage	Number	Acreage	Number	Acres
Fully supported:	0	0	74	316,810	74	316,810
Threatened:	0	0	0	0	0	0
Partially supporting:	0	0	49	148,250	49	148,570
Not supporting:	0	0	9	2,727	9	2,727
Total Size Assessed:	0	0	132	467,787	132	467,787

Table I-6-7. Individual Use Support Summary (Acres).						
Use	Supporting	Supporting but Threatened	Partially Supporting	Not Supporting	Not Attainable	Unassessed
Fish Consumption		0	0	0	0	460,642
Aquatic Life Support	316,810	0	148,570	2,727	0	0
Shellfishing	0	0	0	0	0	467,787
Swimming	162,760			0	0	305,027
Secondary Contact	162,760			0	0	305,027
Drinking Water Supply	252,643	0	0	0	0	236,194
Agriculture	370,887	0	96,900	0	0	0

Table I-6-8. Total Size of Lake Assessment Units Not Fully Supporting Uses Affected By Various Cause Categories (Acres).			
Cause Categories Threatened	Major Impact	Moderate Impact	Minor Impact
Cause Unknown			
Unknown Toxicity			
Pesticides			
Priority Organics	---	---	---
Nonpriority Organics	---	---	---
Metals	0	0	0
Ammonia	0	0	0
Chlorine	---	---	---
Other Inorganics	0	0	0
Nutrients	140,431	3,928	0
pH	0	5704	0
Siltation	113,540	22,053	0
Organic Enrichment / DO	107,849	133,247	0
Salinity / TDS / Chlorine	96,900	0	0
Thermal Modification	0	0	0
Flow Alteration	---	---	—

Table I-6-8. Total Size of Lake Assessment Units Not Fully Supporting Uses Affected By Various Cause Categories (Acres).			
Cause Categories Threatened	**Major Impact**	**Moderate Impact**	**Minor Impact**
Habitat Alteration	*	*	
Pathogen Indicators	0	1,000	0
Radiation	---	---	—
Oil and Grease	0	0	0
Suspended Solids	97,185	0	0
Noxious Aquatic Plants	102,922	754	—
Total Toxics	---	---	—
Turbidity	---	---	—
Exotic Species	---	---	—
Filling and Draining	11,465	5,915	---

Table I-6-9. Total Size of Lake Assessment Units Not Fully Supporting Uses Affected By Various Source Categories (acres).			
Source Categories Threatened	**Major Impact**	**Moderate impact**	**Minor Impact**
Industrial Point Sources	97,892	0	
Municipal Point Sources	106,205	2,965	
Agriculture	16,796	120,613	0
Silviculture	0	990	0
Construction	4,295	103,225	0
Runoff / Storm Sewers	101,437	0	0
Resource Extraction	0	173	0
Land Disposal	0	0	0
Hydromodification	110,828	21,472	0
Habitat Modification			
Marinas	0	0	0
Atmospheric Deposition	0	0	0
Contaminated Sediments	0	0	0
Unknown Source	---	---	---
Natural Source	---	---	---

Table I-6-10. Summary of Total Lake Assessment unit Size Affected by Toxics.		
Assessment unit Type / Unit	**Size Monitored For Toxics**	**Size With Elevated Levels of Toxics**
Lake (Acres)	467,787	0

Trends in Lake Water Quality

Table I-6-11 summarizes the trends in water quality of those lakes assessed under the Lake Water Quality Assessment program. The 1981 data represents eighty-nine lakes and reservoirs where comparable data existed from the original inventory and classification study completed in 1982. These data represent a comparison of lakes and reservoirs monitored during the last seven cycles of the study (1989-1990, 1991-1992, 1993-1994, 1995-1996, 1997-1999, 2000-2001 and 2002-2003).Carlson TSI values for each assessment unit were compared to values obtained during previous periods of study for comparative lakes or reservoirs (Table I-6-12). Unknown values were due to data not available at the time of assessment or the reservoir was dry. The initial data period contains the information collected for the Clean Lakes Inventory for Utah in 1982. It should be noted that the1982 data set in many cases is limited to total phosphorus and Secchi depth data or only one of the two. Chlorophyll *a* data is very limited during that study period. Trends for water quality were then determined from these comparisons. A TSI value comparison yielding a variation of ≤ 5 indicated a stable trend. A TSI value comparison yielding an increase of more than 5 is reported as a degrading condition. A TSI value comparison yielding a decrease of more than 5 is reported as an improving condition.

Table I-6-11. Trends in Water Quality of Lakes and Reservoirs.

Trend	Number of Lakes							Number of Acres						
	1989 1990	1991 1992	1993 1994	1995 1996	1997-1999	2000-2001	2002-2003	1989 1990	1991 1992	1993 1994	1995 1996	1997-1999	2000-2001	2002-2003
Improve	27 30%	24 24%	40 31%	32 25%	16 12%	8 6%	35 27%	9,087 5%	177,785 45%	55,302 13%	10,254 2%	4,525 1%	42,583 9%	89,718 19%
Stable	44 50%	49 52%	70 54%	88 68%	72 55%	78 60%	44 33%	149,360 91%	204,223 51%	356,097 85%	449,631 98%	436,533 95%	346,863 75%	299,940 64%%
Degrade	18 20%	23 24%	15 12%	8 6%	39 30%	5 4%	37 28%	6,609 4%	15,251 4%	6,759 2%	670 ---	19,455 4%	71,208 15%	75.880 16%
Unknown			5 4%	1 1%	4 3%	12 9%	16 12%			4,2430 1%	6 ---	129 ---	849 2%	2,288 0.5%
Assessed for Trends	89	95	130	128	131	131	132	165,056	397,259	460,588	460,561	460,642	460,642	467,787

Table I-6-12. Utah Reservoir / Lake Monitoring List and TSI Evaluation.

Lake / Reservoir	TSI Index 1989-90	1991-92	1993-94	1995-96	1997-99	1999-01	2002-03	Surface Area (Acres)
Anderson Meadow Reservoir	52.69	50.18	43.87	46.99	44.28	35.50	46.85	8
Ashley Twin Lakes			41.52		39.16	35.01	NA	27
Baker Dam Reservoir	62.33	50.42	46.25	50.90	50.67	41.71	50.29	63
Barney Lake		61.46	60.70	62.56	50.23	50.17	46.88	19
Bear Lake	37.57	32.36	32.73	29.62	34.45	45.05	29.53	69,760
Beaver Meadow Reservoir			45.98	44.28	49.44	47.44	36.31	5

Table I-6-12. Utah Reservoir / Lake Monitoring List and TSI Evaluation.

Lake / Reservoir	TSI Index 1989-90	1991-92	1993-94	1995-96	1997-99	1999-01	2002-03	Surface Area (Acres)
Big East Lake	52.42	48.32	41.48	40.58	42.11	47.72	NA	23
Big Sand Wash Reservoir	46.11	45.28	38.97	39.02	41.48	48.43	32.71	390
Birch Creek Reservoir #2	52.35	47.4	49.07	36.59	45.12	44.32	53.01	63
Blanding Reservoir #4	48.4		46.74	35.83	39.80	29.85	37.16	32
Bridger Lake		46.72	51.82	46.94	46.12	44.82	43.07	21
Brough Reservoir			44.74	41.64	41.23	NA	48.64	150
Browne Lake	40.27	45.31	47.02	50.2	50.95	NA	51.08	54
Butterfly Lake	40.71	35.99	77.79	37.14	44.19	33.50	38.05	5
Calder Reservoir		54.14	59.49	59.54	58.85	57.78	54.519	99
Causey Reservoir	43.23	38.79	43.41	38.15	33.64	NA	NA	142
China Lake		45.59	34.87	45.09	48.51	43.83	44.72	47
Cleveland Reservoir	41.66	51.61	42.75	35.57	46.87	46.87	39.35	185
Cook Lake	44.01	48.18	44.42	46.38	ND	49.36	NA	9
Cutler Reservoir							54.52	7,184
Currant Creek Reservoir	44.15	42.03	38.26	40.72	44.03	45.18	31.95	305
Dark Canyon Lake			40.2		ND	NA	NA	6
Deer Creek Reservoir	47.79	47.04	43.14	42.58	43.64	42.24	38.76	2,965
DMAD Reservoir	65.29	57.34	60.55	56.99	56.34	52.55	50.36	1,199
Donkey Reservoir	48.64	44.57	44.16	41.82	42.29	40.19	34.98	40
Duck Fork Reservoir		39.75	28.05	37.51	42.89	39.96	NA	47
East Canyon Reservoir	48.7	52.82	49.59	48.42	43.72	46.48	46.24	173
East Park Reservoir		48.35	41.41	45.98	47.18	44.48	37.04	684
Echo Reservoir		39.07	41.8	45.16	39.19	50.67	51.14	1,394
Electric Lake Reservoir	39.43	49.74	43.92	40.23	44.13	48.19	40.34	425
Fairview Reservoir	52.72	38.92	39.25	33.76	38.43	33.44	42.67	105
Ferron Reservoir	43.37	39.86	35.47	31.82	39.92	40.41	45.2	55
Fish Lake	41.26	40.26	33.59	34.39	34.49	35.77	35.92	2500
Flaming Gorge Reservoir	42.75		36.47	37.32	39.61	31.93	35.824.54	42,020
Forsyth Reservoir	61.88	52.76	56.87	49	55.33	50.75	46.4	158
Grantsville Reservoir	43.63	49.09	46.47	41.11	49.56	45.28	40.91	88
Gunlock Reservoir	42.47	42.31	47.41	42.61	40.15	38.81	42.65	266
Gunnison Bend Reservoir	63.04	62.38	55.04	54.03	58.08	53.56	57.2	706
Gunnison Reservoir	61.41	63.96	56.81	55.24	47.71	54.27	48.5	1,287
Hoop Lake	57.44	49.8	59.27	49.34	47.48	NA	39.12	162
Hoover Lake	40.22	38.72	36.26	35.72	39.50	41.81	49.2	17
Huntington Lake North	37.39	44.81	37.63	35.34	43.61	46.04	30.921	225
Huntington Reservoir		46.5	43.78	32.64	40.39	36.32	40.99	115

Table I-6-12. Utah Reservoir / Lake Monitoring List and TSI Evaluation.

Lake / Reservoir	TSI Index 1989-90	1991-92	1993-94	1995-96	1997-99	1999-01	2002-03	Surface Area (Acres)
Hyrum Reservoir	45.84	43.07	44.03	43.59	45.96	47.81	45.8240.7	438
Joes Valley Reservoir	30.85	34.55	32.35	37.05	43.72	40.64	34.9156	1183
Johnson Reservoir	63.77	68.04	65.18	63.63	58.38	60.42	64.47	285
Jordanelle Reservoir			44.64	43.68	43.12	40.56	42.6	3068
Kens Lake	56.81	44.01	45.01	36.31	38.83	42.51	40.7	86
Kents Lake		69.06	67.12	63.92	58.13	77.95	63.2	26
Kolob Reservoir	41.53	47.82	45.06	43.52	35.30	34.82	31.7	335
Koosharem Reservoir	73.87	55.4	65.86	56.97	64.73	56.53	51.64	310
Labaron Reservoir		51.05	65.47	60.04	46.87	56.23	46.94	24
Lake Mary	42.18	51.43	33.5	41.74	32.32	39.16	38.32	23
Lake Powell	42.47	36.58	35.13	35.07	E 35.10	NA	39.5	162,760
Little Creek Reservoir	45.14	37.51	40.41	36.39	42.04	30.06	NA	65
Little Dell Reservoir			36.84	33.35	42.00	NA	NA	249
Lloyds Reservoir	49.11	42.58	47.02	35.64	38.24	35.99	32.62	104
Long Park Reservoir		44.84	45.49	41.99	DRY	DRY	34.43	60
Lost Creek Reservoir	39.53	46.18	35.17	39.26	36.97	29.56	36.93	52
Lower Bowns Reservoir	50.05	41.31	47.18	48.35	40.72	40.21	44.01	90
Lower Box Reservoir		77.07	74.78	73.03	64.57	66.29	64.12	50
Lower Gooseberry Reservoir	45.69	44.26	40.82	40.31	46.12	45.08	37.51	57
Lyman Lake		37.74	31.21	34.92	32.96	31.82	47.88	27
Manning Meadow Reservoir		54.37	50.17	49.58	52.78	NA	51.83	59
Mantua Reservoir	54.93	58.05	59.56	55.13	48.21	45.21	38.71	554
Marsh Lake	28.14	34.36	30.42	30.9	37.46	40.51	31.27	38
Marshall Lake	36.27	29.51	31.77	31.27	38.83	27.56	31.08	18
Matt Warner Reservoir		53.35	61.26	55.76	57.28	52.63	54.44	433
Meeks Cabin Reservoir	47.13	42.42	40.19	39.89	44.13	45.93	32.03	477
Mill Hollow Reservoir	47.24	47.79	47.42	46.63	56.95	55.27	45.41	15
Mill Meadow Reservoir	67.06	69.15	55.75	59.74	50.48	55.66	46.26	156
Millers Flat Reservoir		40.84	42.35	32.74	37.92	32.46	NA	65
Millsite Reservoir	35.07	41.46	35.19	37.42	45.85	55.81	30.97	435
Minersville Reservoir	59.98	56.23	66.48	56.29	56.33	53.20	50.78	990
Mirror Lake	38.23	39.95	31.69	37.91	42.78	40.77	38.3	50
Mona Reservoir		66.1	57.58	44.4	49.08	39.77	52.95	1,110
Moon Lake	46.79	38.08	37.42	41.15	43.93	42.53	32.8	768
Monticello Lake		46.71	45.46	45.08	36.12	38.92	NA	3
Navajo Lake	34.03	35.41	39.71	41.15	39.93	42.58	36.08	714
New Castle Reservoir	48.12	53.92	41.78	47.5	54.15	47.22	58.62	163

Table I-6-12. Utah Reservoir / Lake Monitoring List and TSI Evaluation.

Lake / Reservoir	TSI Index 1989-90	1991-92	1993-94	1995-96	1997-99	1999-01	2002-03	Surface Area (Acres)
Newton Reservoir	53.81	60.67	60.82	47.96	51.68	42.50	58.94	350
Nine Mile Reservoir	45.2	59.42	53.1	44.72	52.49	M 36.65	53.13	197
Oak Park Reservoir	48.61	47.89	42.44	44.79	45.46	46.26	42.08	382
Otter Creek Reservoir	57.44	43.54	55.23	59.19	55.59	55.15	61.12	2520
Palisade Reservoir	45.73	58.86	39.61	38.17	40.42	40.72	48.41	66
Panguitch Lake	54.25	50.56	52.67	49.56	50.81	61.63	45.91	1248
Paradise Park Lake		40.49	36.97	38.66	44.06	48.12	37.95	143
Pelican Lake	44.5	38.71	47.06	41.24	38.17	34.72	46.42	1,680
Pine Lake	44.14	34.48	19.66	30.64	42.04	53.1	39.42	77
Pineview Reservoir		58.31	39.97	42.5	46.58	41.30	52.04	2,874
Piute Reservoir	57.18	54.45	45.54	47.99	55.31	56.48	51.47	2,508
Porcupine Reservoir	38.05	40.09	38.44	37.45	46.23	42.87	40.29	190
Posey Lake	46.29	45.82	38.82	32.59	42.87	42.87	32.81	20
Puffer Lake	49.1	36.16	38.44	38.8	49.62	49.62	39.77	65
Quail Creek Reservoir	38.38	40.35	26.15	29.56	34.83	37.91	29.8	590
Recapture Creek Reservoir	45.61	49.16	44.5	35.56	40.64	39.75	34.43	265
Red Creek Reservoir (Iron)		53.14	57.3	40.22	52.81	47.57	51.2	39
Red Creek Reservoir		57.73	54.12	53.55	36.72	41.99	44.78	142
Red Fleet Reservoir	42.35	40.47	41.02	45.98	40.24	NA	37.89	520
Redmond Reservoir	68.68	75.03	70.71	67.34	63.44	69.88	64.63	160
Rexs Reservoir		45.8	50.21	48.29	43.17	49.49	NA	46
Rockport Reservoir	43.88	42.98	41.78	45.48	40.76	30.85	47.93	1,189
Rush Lake	60.83	78.55	72.37	60.64	64.29	61.82	64.95	80
Salem Pond	45.89	50	39.81	45.89	44.76	M 38.57	42.1	11
Scofield Reservoir	62.69	55.77	53.22	41.69	45.08	45.95	44.06	2,815
Scout Lake		58.05	38.43	31.75	38.70	34.30	44.75	18
Settlement Canyon Reservoir	39.65	47.94	40.84	42.54	47.43	36.25	43.52	315
Sevier Bridge Reservoir	54.4	63.95	52.19	48.24	48.66	44.35	56.38	10,905
Sheep Creek Reservoir		45.87	46.1	40.85	37.79	31.37	43.91	86
Silver Lake Flat Reservoir					41.94	NA	NA	54
Smith and Morehouse Reservoir	44.34	45.96	34.39	37.31	38.13	40.30	43.03	197
Spirit Lake	44.43	45.18	50.21	40.81	48.05	46.04	45.57	41
Stansbury Lake	55.77	57.22	58.31	49.55	49.27	49.41	60.07	120
Starvation Reservoir	54.86	41.45	36.66	40.14	39.16	39.10	42.51	2,760
Stateline Reservoir	46.29	39.66	41.41	40.74	41.79	45.21	33.18	288
Steinaker Reservoir	35.01	40.33	33.72	34.82	38.24	37.37	36.7	829
Strawberry Reservoir	55.6	53.47	48.43	45.68	45.87	48.18	43.99	17,160

Table I-6-12. Utah Reservoir / Lake Monitoring List and TSI Evaluation.								
Lake / Reservoir	TSI Index 1989-90	1991-92	1993-94	1995-96	1997-99	1999-01	2002-03	Surface Area (Acres)
Three Creeks Reservoir		50.83	57.32	54.09	49.92	42.37	63.07	57
Tibble Fork Reservoir	28.48	42.92	44.39	41.77	38.32	39.85	36.13	13
Tony Grove Lake	40.76	33.52	35.26	33.89	41.93	40.47	35.96	25
Trial Lake	42.92	37.95	39.51	35.22	43.21	48.27	46.03	98
Tropic Reservoir	47.71	36.75	39.12	29.08	38.33	35.67	30.16	180
Upper Enterprise Reservoir	73.65	58.37	54.18	54.41	44.15	44.15	53.13	200
Upper Stillwater Reservoir	39.21	38.93	25.21	35.16	38.17	39.76	32.62	252
Utah Lake	69.35	67.67	67.59	64.00	67.90	70.08	69.19	96,900
Wall Lake		31.83	39.18	28.98	37.94	26.55	40.21	61
Washington Lake		41.59	40.73	39.55	39.78	31.12	39.44	94
Whitney Reservoir	40.11	56.88	37.21	40.63	37.72	NA	NA	188
Wide Hollow Reservoir	46.33	43.91	47.59	40.58	40.62	DRY	DRY	145
Willard Reservoir		62.84	47.68	52.66	47.43	45.92	55.86	10,000
Woodruff Creek Reservoir	40.92	48.6	43.14	42.37	45.11	NA	31.88	90
Yankee Meadows Reservoir		50.19	54.09	52.84	49.40	56.48	53.55	5

Assessment Categories

The use of assessment categories that more accurately reflect the need and progress of TMDL development has been initiated for the 2004 303(d) list and the305(b) assessment report. Tables I-6-13 through I-6-17 list these categories for Utah's lakes and reservoirs. As stated above, several of Utah's lakes and reservoirs are borderline between fully and partially supporting their beneficial uses. As such, we made the decision to require the results of two consecutive assessment cycles as either fully or partially supporting in order to list or delist a lake/reservoir as supporting beneficial uses. Sub-category 5-D (Table 11.17) was added to track such lakes or reservoirs in this process.

Figure I-6-1 is a map of the beneficial use assessment categories excluding Category 3, lakes not assessed.

Table I-6-16 list the lake and reservoir acreage that was not assess for this reporting cycle.

Table I-6-13. Category 1 - All Designated Uses Are Met.				
Watershed Management Unit	Assessment Unit ID	Lake Name	Beneficial Use Classes Assessed	Lake Acres
Colorado River Southeast	UT-L-14070006-001	Lake Powell	1C,2A,2B,3B,4	162,700

Watershed Management Unit	Assessment Unit ID	Assessment Unit Name	Beneficial Use Class	Pollutant TMDL Completed	Beneficial Use Support	Lake Acreage	Date TMDL Approved	Comments
Bear River	UT-L-16010203-005	Hyrum Reservoir	3A	TP,DO	PS	438	9/9/02	
Cedar / Beaver	UT-L-16030007-011	Minersville Reservoir	3A	TP,DO	PS	990	9/1/00	
Cedar / Beaver	UT-L-16030007-022	Kents Lake	3A	TP,DO	PS	26	9/1/2000	
Cedar / Beaver	UT-L-16030007-027	LaBaron Lake	3A	DO	NS	24	9/1/00	
Cedar / Beaver	UT-L-16030007-028	Puffer Lake	3A	DO	PS	65	9/1/00	
Colorado River Southeast	UT-L-14030005-004	Kens Lake	3A	Temperature*	PS	86		Site Specific Temperature applied
Colorado River West	UT-L-14060007-005	Scofield Reservoir	3A	TP,DO	PS	2,815	9/1/00	
Colorado River West	UT-L-14070003-010	Johnson Valley Reservoir	3A	DO	PS	285	9/27/02	
Colorado River West	UT-L-14070003-015	Mill Meadow Reservoir	3A	TP	PS	156	9/27/02	
Colorado River West	UT-L-14070003-019	Forsyth Reservoir	3A	TP,DO	PS	158	9/27/02	
Jordan River / Utah Lake	UT-L-16020203-001	Deer Creek Reservoir	3A	DO,TEMP	PS	2,965	9/9/02	Delisted for Temperature 5/2/03
Uinta	UT-L-14040106-019	Browne Lake	3A	DO	PS	54	2/19/03	
Weber River	UT-L-16020102-020	East Canyon	3A	TP,DO	NS	173	9/27/02	

Table I-6-14. Category 4A - All TMDLs Completed and Approved for Assessment Unit.

Table I-6-15. Category 5A - Lakes Needing Total Maximum Daily Load Analysis.								
Watershed Management Unit	Assessment Unit ID	Assessment Unit Description	Beneficial Use Class	Lake Acreage	Beneficial Use Support	Pollutant	Priority	Targeted For TMDL
Bear River	UT-L-16010202-002	Cutler Reservoir	3B	7,184	PS	TP,DO		4/1/06
Bear River	UT-L-16010202-013	Newton Reservoir	3A	350	NS	TP,DO	High	4/1/04
Bear River	UT-L-16010203-009	Porcupine Reservoir	3A	190	PS	Temp*		4/1/08
Bear River	UT-L-16010204-033	Mantua Reservoir	0	554	PS	Temp*		
Bear River	UT-L-16010203-012	Tony Grove Lake	3A	25	PS	TP,DO,pH		4/1/06
Cedar/Beaver	UT-L-16030006-019	Red Creek Reservoir (Iron Co)	3A	39	NS	DO		4/1/08
Colorado River Southeast	UT-L-14080201-007	Recapture Reservoir	3A	17	PS	DO		4/1/08
Colorado River West	UT-L-14060007-004	Lower Gooseberry Reservoir	3A	57	PS	DO,pH		4/8/08
Jordan River / Utah Lake	UT-L-16020203-004	Mill Hollow Reservoir	3A	15	PS	TP,pH		4/1/08
Jordan River / Utah Lake	UT-L-16020201-004	Utah Lake	3B	96,900	PS	TP,TDS		4/7/06
Jordan River / Utah Lake	UT-L-16020202-002	Big East Lake	3A	23	PS	DO		4/1/08
Lower Colorado River	UT-L-15010008-001	Gunlock Reservoir	3B	266	NS	TP,DO	High	4/1/04
Lower Colorado River	UT-L-15010008-008	Baker Dam Reservoir	3A	63	PS	TP,DO, Temp*	High	4/1/04
Sevier River	UT-L-16030001-001	Navajo Lake	3A	714	PS	DO	High	4/1/04
Sevier River	UT-L-16030001-006	Panguitch Lake	3A	1,248	PS	TP,DO	High	4/1/04
Sevier River	UT-L-16030001-011	Piute Reservoir	3A	2,508	PS	TP,Temp*		4/1/08
Sevier River	UT-L-16030002-004	Otter Creek Reservoir	3A	2,520	PS	TP,Temp*		4/5/06
Sevier River	UT-L-16030002-005	Lower Box Creek	3A	50	PS	TP,DO		4/1/06
Sevier River	UT-L-16030002-011	Koosharem Reservoir	3A	310	PS	TP		4/4/06
Sevier River	UT-L-16030003-006	Manning Meadow Reservoir	3A	59	PS	TP,DO		4/7/10
Sevier River	UT-L-16030004-001	Ninemile Reservoir	3A	197	NS	TP,DO		4/1/08
Sevier River	UT-L-16030004-005	Palisade Lake	3A	66	PS	Temp*		4/1/08
Sevier River	UT-L-16030006-008	Newcastle Reservoir	3A	163	PS	TP,DO		4/1/08
Sevier River	UT-L-16030006-017	Yankee Meadow Reservoir	3A	53	PS	DO		4/1/08
Uinta	UT-L-14040106-033	Matt Warner Reservoir	3A	433	PS	Temp*		4/1/06
Uinta	UT-L-14040106-034	Calder Reservoir	3A	99	NS	TP,DO		4/2/06

Table I-6-15. Category 5A - Lakes Needing Total Maximum Daily Load Analysis.								
Watershed Management Unit	**Assessment Unit ID**	**Assessment Unit Description**	**Beneficial Use Class**	**Lake Acreage**	**Beneficial Use Support**	**Pollutant**	**Priority**	**Targeted For TMDL**
Uinta	UT-L-14040107-003	Marsh Lake	3A	38	PS	DO		4/1/06
Uinta	UT-L-14040107-004	Bridger Lake	3A	288	PS	DO		4/7/06
Uinta	UT-L-14040107-006	China Lake	3A	47	PS	DO,Temp*		4/1/06
Uinta	UT-L-14060001-001	Pelican Lake	3B	1,680	NS	pH,		4/1/12
Uinta	UT-L-14060001-002	Brough Reservoir	3A	128	PS	DO,Temp*		4/8/08
Uinta	UT-L-14060002-004	Steinaker Reservoir	3A	829	PS	Temp*, DO(added)		4/1/08
Uinta	UT-L-14060002-006	Red Fleet Reservoir	3A	520	PS	DO,Temp*		4/1/08
Uinta	UT-L-14060003-002	Lyman Lake	3A	27	PS	DO		4/7/06
Uinta	UT-L-14060004-001	Strawberry Reservoir	3A	17,160	PS	TP, DO		4/6/06
Weber River	UT-L-16020101-001	Echo Reservoir	3A	1,394	PS	TP,DO		4/3/06
Weber River	UT-L-16020101-001	Pineview	3A	2,874	PS	Temp*		

* Assessment currently being performed to determine whether temperature impairment is natural.

Table I-6-16. Category 5B - Lake and Reservoir Approved TMDLs for Some But Not All Pollutants, Assessment Units Meeting Standards.								
Watershed Management Unit	**Assessment Unit ID**	**Assessment Unit Name**	**Assessment Unit Description**	**Assessment Use Class**	**Lake Acress**	**Beneficial Use Support**	**Pollutant**	**Justification for Change**
Some But Not All TMDLs Completed								
Bear River	UT-L-16010204-033	Mantua Reservoir	Mantua Reservoir	3A	554	PS	TP,DO,pH	TMDL approved 9/1/2000
Weber River	UT-L-16020102-014	Pineview Reservoir	Pineview Reservoir	3A	2,874	PS	TP,DO	TMDL approved 12/9/02
Assessment Unit Meeting Standards								
Uinta	UT-L-14060003-006	Mirror Lake	Mirror Lake	3A	50	PS	DO	See Accompanying Report

Table I-6-17. Category 5D - Lakes Not Fully Supporting Beneficial Uses for 2004 but Will Not Be Listed until Two Consecutive Assessment Cycles Demonstrate Impairment.							
Watershed Assessment Unit	Assessment Unit ID	Lake Name	Beneficial Use Class	Lake Acreage	Beneficial Use Support	Pollutant	Comments
Cedar / Beaver River	UT-L-16030006-002	Upper Enterprise Reservoir	3A	200	NS	Temp*, DO	Severe drawdown
Colorado River West	UT-L-14070003-044	Lower Bowns Reservoir	3A	90	PS	pH	
Dolorado River West	UT-L-14070005-011	Wide Hollow Reservoir	3A	145	NS	Temp*, pH	Severe drawdown
Lower Colorado River	UT-L-15010008-018	Kolob Reservoir	3A	335	PS	DO	
Lower Colorado River	UT-L-16020203-005	Washington Lake	3A	94	PS	DO	
Sevier River	UT-L-16030003-012	Redmond Lake	3A	160	NS	Temperature	Severe drawdown

Table I-6-18. Lake Beneficial Use Assessment by Category - Lake Acreage.		
Category	Definition	Lake Acreage
1	All designated uses assigned to an assessment unit were assessed and are fully supported.	162,700
2	Some of the designated uses are fully supported, but there is insufficient data to determine beneficial use support for the remaining designated uses.	156,919
3	Insufficient or no data and information to determine if any designated use is attained	13,851
4A	TMDL has been completed for all pollutants	8,235
4B	Other pollution control requirements are reasonably expected to result in attainment of the water quality standard in the near future	0
4C	The impairment is not caused by a pollutant, e.g. habitat alteration	0
5A	Assessment unit is impaired by a pollutant and a TMDL is needed.	135,710
5B	AUs are listed in this category to identify those pollutants for which a TMDL has been approved, but TMDLs are still required for other pollutants identified, water quality standards are now being met, new delineation of assessment unit, changes in beneficial use classification result in meeting standards, change in listing methods results in meeting standards or change in water quality standards and standards now being met.	3,478
5D	The assessment has identified impairment during one of the even or odd year monitoring cycles. If the AU is assessed as impaired during the next assessment period, it will be listed in Category 5A, TMDL required.	1,204

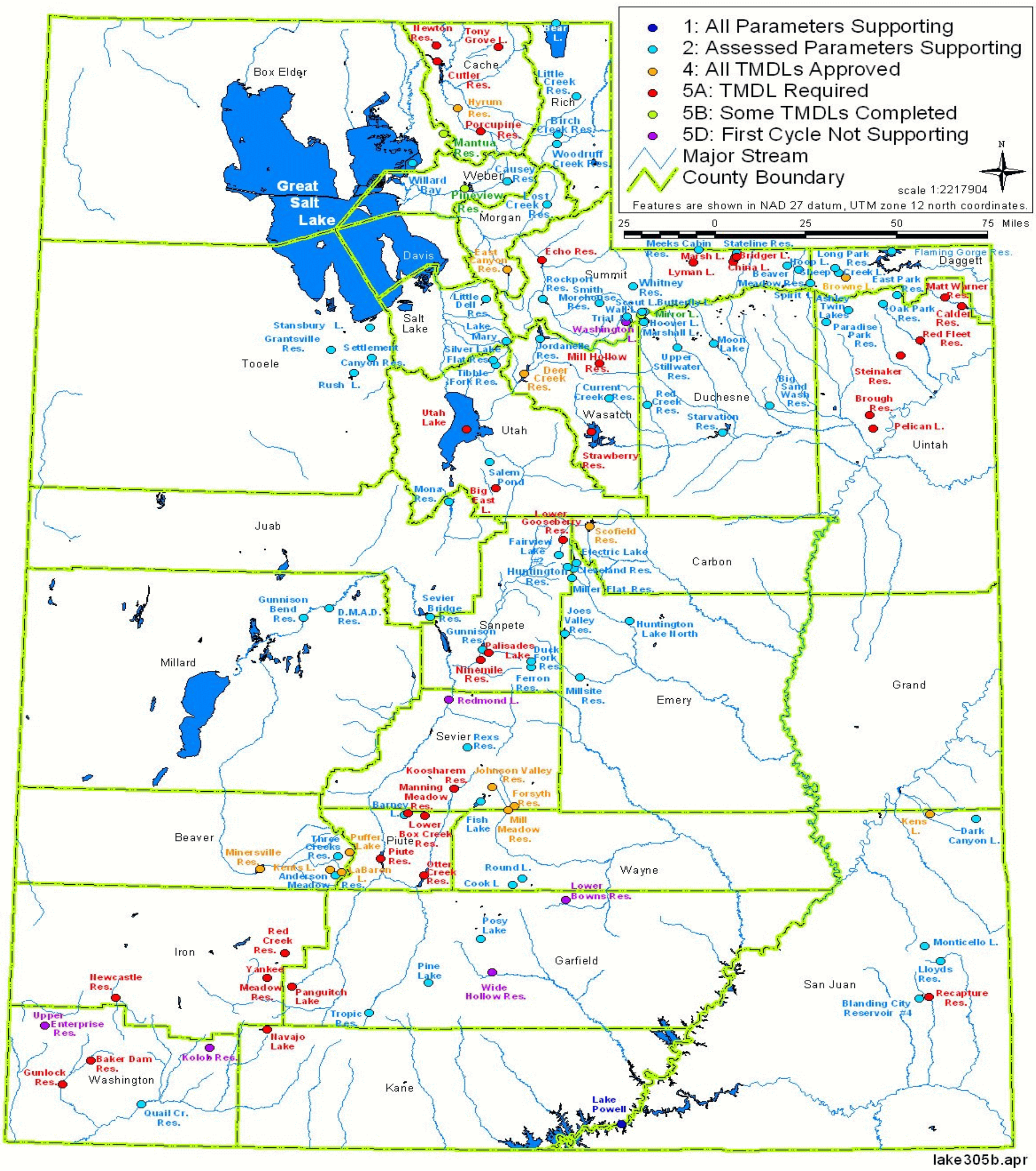

Figure I-6-1. Lake beneficial use assessment by category

Chapter 7. Assessment Units With Elevated Levels of Phosphorus

Because total phosphorus does not directly affect water quality, but can be the cause of noxious aquatic plant growth and cause heavy blooms of algae that can reduce the level of oxygen in the water to the point that fish can be stressed or killed, it is important to look at waters that have elevated levels of phosphorus and determine the beneficial use support for aquatic life using some other method of assessment than just the concentration of total phosphorus.

Measuring dissolved diurnal oxygen levels is one method that can be used to determine beneficial use support. Another is to compare the benthic macroinvertebrate population to that of a reference site to determine if there are significant differences in the benthic macroinvertebrate populations. A direct evaluation of the fisheries population can also be used to obtain data and information about the possible effects of total phosphorus.

The DWQ has set the following guidance for possibly looking at waters with "high" levels of total phosphorus. If the mean concentration of total phosphorus for the sample set is > .06 mg/l, and the indicator value of .05 mg/l is exceeded in more than 10% of the samples, the assessment unit is designated as one that needs further study or evaluation. A map of the assessment units identified as having elevated levels of total phosphorus is in Figure 10-1.

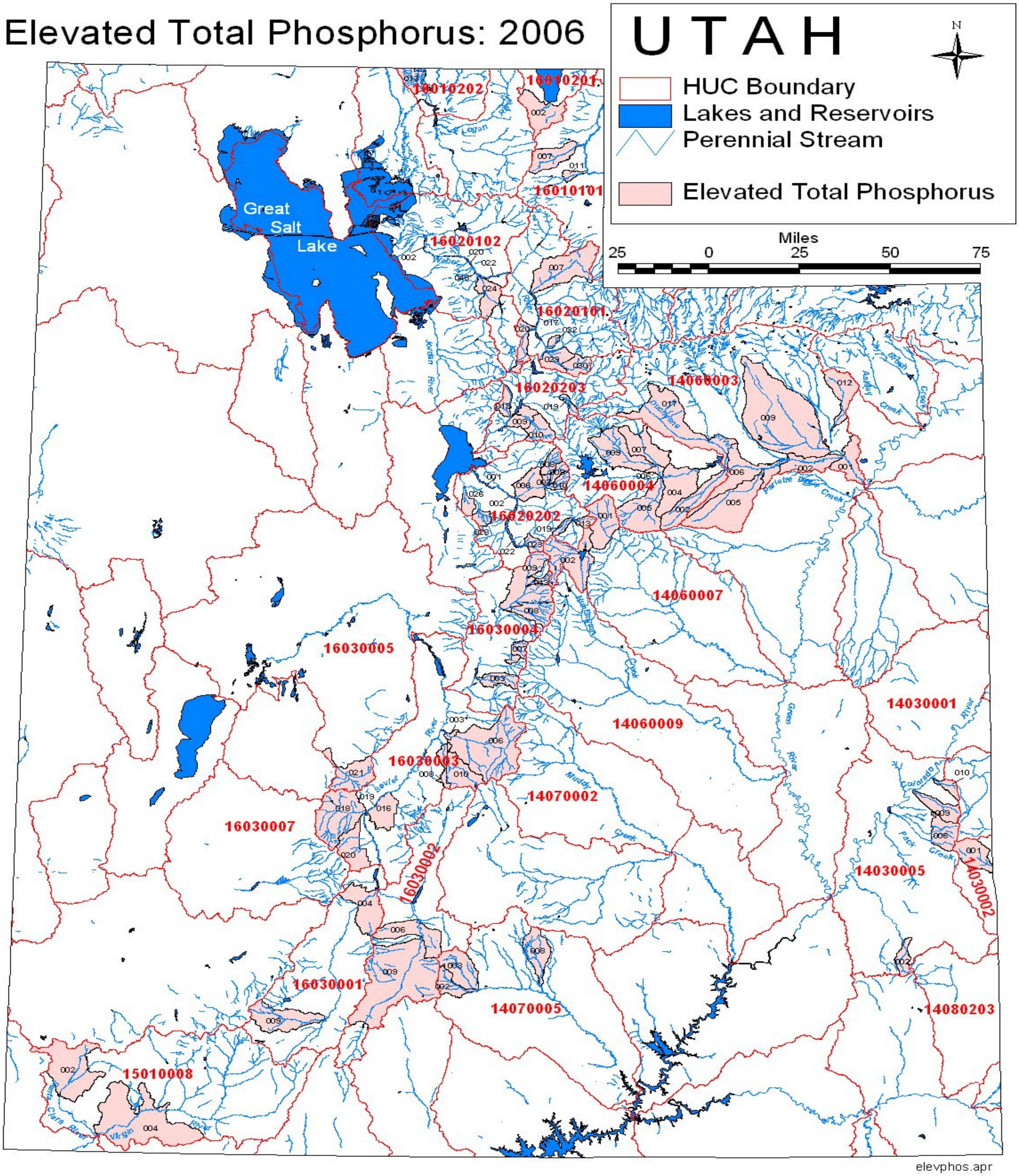

Figure I-7-1. Assessment units with elevated levels of total phosphorus.

Table I-7-1. Assessment Units With Elevated Levels of Total Phosphorus.				
Watershed Management Unit	Assessment Unit ID	Assessment Unit NAME	Assessment Unit Description	Stream Miles
Bear River	UT16010202-013	Clarkston Creek	Clarkston Creek and tribs from Newton Reservoir to Utah/Idaho State Line	60.1
Bear River	UT16010201-002	North Eden	North Eden Creek & tribs from Bear lake to headwaters	12.0
Bear River	UT16010101-007	Big Creek	Big Creek & tribs from Bear River to headwaters	38.8
Bear River	UT16010101-011	Woodruff Creek - 1	Woodruff Creek from confl/w Bear River to Birch Creek confluence	8.7
Weber	UT16020101-007	Echo Creek	confluence w/ Weber River to headwaters-tribs	43.0
Weber	UT16020102-024	East Canyon Creek -1	confluence w/ Weber River to East Canyon Dam	13.8
Weber	UT16020101-020	Silver Creek	Silver Creek from confluence w/Weber River to headwaters-tribs	21.4
Weber	UT16020101-022	Fort Creek	confluence w/ Weber River to headwaters-tribs	10.2
Weber	UT16020101-029	Beaver Creek-1	confluence with Weber River to Kamas	16.4
Weber	UT16020102-022	Weber River-6	segment between East Canyon Creek confluence and Lost Creek confluence	14.7
Weber	UT16020101-017	Weber River-8	Echo Reservoir to Rockport Reservoir	10.7
Weber	UT16020101-030	Beaver Creek-2	Beaver Creek from Kamas to headwaters	23.4
Weber	UT16020102-002	Weber River -3	Weber River from Ogden River confluence to Cottonwood Creek confluence	17.7
Weber	UT16020102-020	Weber River-4	Cottonwood Creek confluence to Stoddard Diversion	13.0
Weber	UT16020102-048	Weber River-5	Weber River from Stoddard Diversion to East Canyon Creek confluence	1.5
Jordan River / Utah Lake	UT16020203-013	Provo Deer Creek	Provo Deer Creek and tributaries from confluence w/ Provo River to headwaters	19.1
Jordan River / Utah Lake	UT16020203-019	Lake Creek-2	Lake Creek and tributaries above Timber Creek confluence to headwaters	14.7
Jordan River / Utah Lake	UT16020203-010	Main Creek-2	Main Creek and tributaries from Round Valley to headwaters-tribs	32.1
Jordan River / Utah Lake	UT16020202-008	Diamond Fork-3	Diamond Fork Creek from Hawthorne Campground to headwaters-tribs	22.1
Jordan River / Utah Lake	UT16020202-009	Sixth Water Creek	Sixth Water Creek and tributaries from confluence w/ Diamond Fork Creek to headwaters	13.4
Jordan River / Utah Lake	UT16020202-006	Diamond Fork- 1	Diamond Fork Creek from confluence w/ Spanish Fork River to Sixth Water confluence-tribs	20.0
Jordan River / Utah Lake	UT16020202-007	Diamond Fork-2	Diamond Fork Creek from Sixth Water Creek confluence to Hawthorne Campground.	5.3
Jordan River / Utah Lake	UT16020202-010	Third Water Creek	Third Water Creek and tributaries from confluence w/ Sixth Water Creek to headwaters	19.6
Jordan River / Utah Lake	UT16020202-026	Spring Creek	Spring Creek and tributaries from confluence w/ Beer Creek to headwaters	11.4
Jordan River / Utah Lake	UT16020202-002	Spanish Fork River-2	Spanish Fork River from Moark Diversion to Thistle Creek confluence	8.0
Jordan River / Utah Lake	UT16020202-022	Thistle Creek-1	Thistle Creek from confluence w\ Soldier Creek to USFS Forest Boundary	18.3
Jordan River / Utah Lake	UT16020202-028	Peteetneet Creek	Peteetneet Creek and tributaries from Maple Dell Campground to headwaters	18.5
Jordan River / Utah Lake	UT16020202-013	Soldier Creek-2	Soldier Creek and tributaries from confluence of Starvation Creek to headwaters	6.4
Jordan River / Utah Lake	UT16020202-019	Clear Creek	Clear Creek and tributaries from confluence w/ Soldier Creek to headwaters	12.6

Table I-7-1. Assessment Units With Elevated Levels of Total Phosphorus.				
Watershed Management Unit	Assessment Unit ID	Assessment Unit NAME	Assessment Unit Description	Stream Miles
Jordan River / Utah Lake	UT16020201-004	Salt Creek-1	Salt Creek from mouth of Canyon to USFS Boundary	5.0
Jordan River / Utah Lake	UT16020203-009	Main Creek-1	Main Creek from Deer Creek Res to Round Valley and other tributaries from South Fork Provo River to Daniels Cr	6.2
Jordan River / Utah Lake	UT16020202-023	Thistle Creek-2	Thistle Creek and tributaries from USFS Boundary to headwaters	16.7
Jordan River / Utah Lake	UT16020202-001	Spanish Fork River-1	Spanish Fork River from Utah Lake to Moark Diversion	14.6
Uinta	UT14060003-012	Deep Creek	Deep Creek-tribs: confluence Uintah River to headwaters.	24.7
Uinta	UT14060003-017	Duchesne River-4	Duchesne River: from Strawberry River confluence to West Fork Duchesne confluence.	67.3
Uinta	UT14060004-007	Lower Red Creek	Red Creek-tribs: confluence Current Creek to Red Creek Reservoir.	15.6
Uinta	UT14060004-009	Middle Currant Creek	Current Creek-tribs: Red Creek confluence to Current Creek Reservoir.	60.1
Uinta	UT14060003-006	Duchesne River-3	Duchesne River: from Myton to Strawberry River confluence.	40.0
Uinta	UT14060004-004	Stawberry River-2	Stawberry River-tribs: Starvation Reservoir to Avintaquin Creek confluence.	16.1
Uinta	UT14060004-006	Lower Red Creek	Red Creek-tribs: confluence Strawberry River to Currant Creek Confluence.	4.7
Uinta	UT14060004-002	Indian Canyon Creek	Indian Canyon Creek-tribs: confluence Strawberry River to headwaters.	44.4
Uinta	UT14060003-005	Antelope Creek	Antelope Creek-tribs: confluence Duchesne River to headwaters.	31.4
Uinta	UT14060004-005	Avintaquin Creek	Avintaquin Creek-tribs: confluence Strawberry River to headwaters.	54.4
Uinta	UT14060003-001	Duchesne River-1	Duchesne River-tribs: confluence Green River to Randlett.	19.1
Uinta	UT14060003-002	Duchesne River-2	Duchesne River: Randlett to Myton.	31.8
Uinta	UT14060003-009	Dry Gulch Creek	Dry Gulch Creek-tribs: confluence Duchesne River to headwaters.	87.7
Sevier River	UT16030003-010	Lost Creek-3	Lost Creek and tributaries from USFS boundary to headwaters	24.3
Sevier River	UT16030004-013	Cottonwood Creek-SP	Cottonwood Creek and tributaries from confluence w/San Pitch River to headwaters	9.3
Sevier River	UT16030004-007	Ephraim Creek	Ephraim Creek and tributaries from USFS boundary to headwaters	13.2
Sevier River	UT16030003-006	Salina Creek-2	Salina Creek and tributaries from USFS boundary to headwaters	139.7
Sevier River	UT16030003-003	Salina Creek-1	Salina Creek and tributaries from confluence w/Sevier River to USFS boundary	4.2
Sevier River	UT16030003-018	Clear Creek	Clear Creek and tributaries from confluence w/Sevier River to headwaters	100.2

Table I-7-1. Assessment Units With Elevated Levels of Total Phosphorus.				
Watershed Management Unit	Assessment Unit ID	Assessment Unit NAME	Assessment Unit Description	Stream Miles
Sevier River	UT16030003-020	Beaver Creek-2	West side tributaries to Sevier River above USFS boundary from Clear Creek upstream to HUC boundary	16.5
Sevier River	UT16030002-006	East Fork Sevier-3	East Fork Sevier River and tributaries from Antimony Ck confluence to Deer Creek confluence	20.8
Sevier River	UT16030002-007	Deer Creek	Deer Creek and tributaries from confluence w/East Fork Sevier River to headwaters	17.4
Sevier River	UT16030001-009	Mammoth Creek	Mammoth Creek and tributaries from confluence w/Sevier River to headwaters	43.3
Sevier River	UT16030001-002	Sevier River-4	Sevier River and tributaries from Piute Reservoir to Circleville Irrigation Diversion excluding East Fork Sevier River and tributaries.	15.7
Sevier River	UT16030003-022	Sevier River-5	Tributaries on east side of Sevier River from Manning Creek confluence to HUC boundary.	12.5
Sevier River	UT16030003-019	Sevier River-9	River from Annabelle Diversion to Clear Creek Confluence	11.4
Sevier River	UT16030003-016	Sevier River-10	East side tributaries below USFS to Sevier River from Annabelle Diversion upstream to Clear Creek confluence.	0.4
Sevier River	UT16030003-008	Lost Creek-2	Lost Creek and tributaries from ~ 6 miles upstream to USFS boundary	5.2
Sevier River	UT16030004-008	Pleasant Creek	Pleasant Creek and Cedar Creek and their tributaries from confluence w/San Pitch River to headwaters	49.9
Sevier River	UT16030004-003	Six Mile Creek	Six Mile Creek and tributaries from confluence w/San Pitch River to headwaters	27.0
Sevier River	UT16030002-009	East Fork Sevier-2	East Fork Sevier River and tributaries from Deer Creek confluence to Tropic Reservoir	126.1
Sevier River	UT16030004-009	San Pitch-5	San Pitch River and tributaries from U132 to Pleasant Creek confluence excluding Cedar Creek / Oak Creek / Pleasant Creek and Cottonwood Creek.	58.2
Sevier River	UT16030003-017	Sevier River-6	Sevier River from Clear Ck confluence to HUC unit boundary.	27.1
Sevier River	UT16030005-021	Corn Creek	Corn Creek and tributaries from mouth to headwaters	45.9
West Colorado River	UT14060007-002	Scofield Reservoir Tribs	Tributaries to Scofield Reservoir	76.5
West Colorado River	UT14060007-001	White River	White R. from confluence w/Price R. to Headwaters	36.0
West Colorado River	UT14070005-002	Birch Creek	Birch Creek & tribs from confl w/Escalante R. to headwaters	27.7
West Colorado River	UT14070005-003	North Creek	North Creek from confl w/Escalante R. to headwaters	38.7
West Colorado River	UT14070005-008	Deer Creek	Deer Creek & trib from cnfl w/Escalante River to headwaters	57.0
Southeast Colorado River	UT14030005-009	Castle Creek	Castle Creek & tribs from confluence with Colorado River to headwaters	11.9
Southeast Colorado River	UT14030005-006	Mill Creek-2	Mill Creek & tribs from U.S.F.S. boundary to headwaters	25.3
Southeast Colorado River	UT14030002-001	LaSal Creek	LaSal Creek from Utah-Colorado stateline to headwaters-tribs	17.7
Southeast Colorado River	UT14030005-002	Indian Creek-2	Indian Creek from Newspaper Rock north boundary to headwaters	15.8

Table I-7-1. Assessment Units With Elevated Levels of Total Phosphorus.				
Watershed Management Unit	**Assessment Unit ID**	**Assessment Unit NAME**	**Assessment Unit Description**	**Stream Miles**
Southeast Colorado River	UT14030005-010	Onion Creek	Onion Creek and tributaries from the confluence with Colorado River to headwaters	0.0
Lower Colorado River	UT15010008-002	Santa Clara-2	Santa Clara River-tribs: from Gunlock Reservoir to Baker Dam Resevoir (include Mogatsue Creek and	
Lower Colorado River	UT15010008-004	Virgin River-2	Virgin River-tribs: from Santa Clara River confluence to Quail Creek diversion (excludes Quail Creek and Leads Creek)	40.1

Chapter 8: References

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Horne, Alexander, and Charles Goldman. 1994. Limnology. 2nd ed. McGraw-Hill. New York

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USEPA. 2004. Guidance for 2004 assessment, listing and reporting requirements pursuant to Sections 303(d) and 305(b) of the Clean Water Act. United States Environmental Protection Agency.

USEPA. 1997. Guidelines for preparation of the comprehensive state water quality assessments 305(b) reports and electronic updates: supplement. EPA-841-B-97-002B

Appendix A

Project Funding for Facilities

List of All Utah Projects Funded by EPA Construction Grants (CG), Utah Wastewater Loan Program (UWLP, WQPAP), Hardship Grants (HGP, HGD, HGC), and the State Revolving Loan Fund (SRF) between 1972 and 2005					
Loan Closing	No.	Project	Cost of Project	Assistance Amount	Assist. Type
11/20/1975		ALPINE CITY, CITY OF		$11,250	CG
6/27/1977		ALPINE CITY, CITY OF		$5,700	CG
7/7/1978		ALPINE CITY, CITY OF		$214,420	CG
7/1/1972		ALTA, TOWN OF		$234,996	CG
6/27/1977		AMERICAN FORK		$56,358	CG
11/12/1976		AMERICAN FORK CITY CORPORATION		$787,677	CG
11/12/1976		AMERICAN FORK CITY CORPORATION		$2,250	CG
5/30/1979		AMERICAN FORKS		$19,730	CG
3/31/1981		ASH CREEK SPECIAL SERVICE		$3,281,727	CG
9/29/1978		ASHLEY VALLEY (VERNAL)		$187,500	CG
9/27/1979		ASHLEY VALLEY SEWER MANAGEMENT BOARD		$10,089,991	CG
4/30/1993		AURORA CITY		$837,759	CG
9/23/1983		BEAR LAKE SPECIAL SERVICE DISTRICT		$2,753,733	CG
5/20/1975		BEAR LAKE WEST S.D.-UTAH		$64,680	CG
3/31/1980		BEAR LAKE WEST S.D.-UTAH		$244,063	CG
1/1/1972		BEAR RIVER TOWN		$67,911	CG
12/1/1972		BEAVER CITY CORPORATION		$389,988	CG
5/10/1974		BEAVER CITY CORPORATION		$795,939	CG
8/17/1978		BEAVER CITY CORPORATION		$12,231	CG
7/23/1979		BEAVER CITY CORPORATION		$10,000	CG
3/31/1980		BEAVER CITY CORPORATION		$163,190	CG
8/13/1976		BLANDING, CITY OF		$25,200	CG
9/15/1981		BLANDING, CITY OF		$1,075,746	CG
2/19/1980		BRIGHAM, CITY OF		$115,065	CG
6/19/1974		CASTLE DALE-ORANGEVILLE, CITIES OF		$12,750	CG
12/12/1975		CASTLE DALE-ORANGEVILLE, CITIES OF		$16,215	CG
12/29/1980		CASTLE VALLEY SPECIA		$10,500	CG
5/11/1979		CASTLE VALLEY SPECIAL SERVICE DIST.		$9,750	CG
9/26/1980		CASTLE VALLEY SPECIAL SERVICE DIST.		$995,599	CG
1/23/1978		CASTLE VALLEY SPECIAL SERVICE DISTRICT		$1,739,584	CG
6/3/1974		CEDAR CITY CORPORATION		$2,156,888	CG
9/18/1990		CENTERFIELD TOWN		$971,367	CG
8/1/1972		CENTRAL DAVIS COUNTY SEWER		$177,136	CG
12/1/1972		CENTRAL DAVIS COUNTY SEWER		$156,507	CG
4/28/1976		CENTRAL DAVIS COUNTY SEWER DISTRICT		$13,200	CG
12/1/1972		CENTRAL UTAH WATER CONSERVATION DISTRI		$360,966	CG
6/8/1979		CENTRAL VALLEY WATER RECLAMATION BOARD		$484,428	CG
7/24/1980		CENTRAL VALLEY WATER RECLAMATION BOARD		$3,415,320	CG
9/24/1980		CENTRAL VALLEY WATER RECLAMATION BOARD		$4,933,090	CG
3/31/1981		CENTRAL VALLEY WATER RECLAMATION BOARD		$41,684,233	CG
8/31/1976		CENTRAL WEBER SEWER IMPROVEMENT DIST.		$425,061	CG
10/24/1975		CHESTERFIELD IMPROVEMENT DIST		$403,812	CG
3/3/1975		COALVILLE CITY CORPORATION		$44,315	CG
9/11/1979		COALVILLE CITY CORPORATION		$72,788	CG
8/11/1983		COALVILLE CITY CORPORATION		$1,000,251	CG
9/28/1979		DAGGETT COUNTY SEWER & WATER DIST.		$9,600	CG
2/24/1975		EAST CARBON CITY CORPORATION		$7,125	CG
12/9/1976		EAST CARBON CITY CORPORATION		$42,675	CG
9/29/1978		EAST CARBON CITY CORPORATION		$1,006,483	CG
4/24/1975		EMERY, TOWN OF		$16,500	CG
12/27/1976		EMERY, TOWN OF		$426,374	CG
9/19/1984		EUREKA CITY CORPORATION		$460,177	CG
12/1/1972		FERRON, TOWN OF		$171,438	CG
6/10/1985		FRANCIS, TOWN OF		$921,179	CG

List of All Utah Projects Funded by EPA Construction Grants (CG), Utah Wastewater Loan Program (UWLP, WQPAP), Hardship Grants (HGP, HGD, HGC), and the State Revolving Loan Fund (SRF) between 1972 and 2005					
Loan Closing	No.	Project	Cost of Project	Assistance Amount	Assist. Type
9/29/1978		GARLAND, CITY OF		$16,950	CG
12/3/1980		GARLAND, CITY OF		$303,450	CG
3/25/1980		GRANGER-HUNTER IMPROVEMENT DIST		$18,000	CG
12/1/1972		GRANGER-HUNTER IMPROVEMENT DISTRICT		$899,540	CG
11/8/1974		GRANGER-HUNTER IMPROVEMENT DISTRICT		$1,062,392	CG
3/1/1979		GREEN RIVER, CITY OF		$15,000	CG
4/8/1974		GUNNISON CITY CORPORATION		$607,496	CG
7/25/1989		HANKSVILLE		$396,739	CG
9/4/1974		HEBER CITY CORPORATION		$14,109	CG
6/30/1975		HEBER CITY CORPORATION		$28,265	CG
2/27/1976		HEBER CITY CORPORATION		$619,172	CG
9/27/1979		HEBER VALLEY SPECIAL SERVICE		$7,729,957	CG
2/5/1979		HEBER VALLEY SPECIAL SERVICE DIST		$2,482,766	CG
4/1/1972		HENEFER, TOWN OF		$143,655	CG
9/29/1978		HENEFER, TOWN OF		$34,177	CG
5/9/1988		HENEFER, TOWN OF		$328,236	CG
12/1/1972		HUNTINGTON, CITY OF		$ -	CG
11/6/1974		HUNTINGTON, CITY OF		$1,043,834	CG
12/1/1972		HURRICANE, CITY OF		$98,935	CG
3/25/1980		HURRICANE, CITY OF		$18,000	CG
3/26/1980		HURRICANE, CITY OF		$154,620	CG
9/25/1991		HYDE PARK CITY		$88,858	CG
10/8/1974		HYRUM, CITY OF		$14,250	CG
9/15/1975		HYRUM, CITY OF		$160,275	CG
11/23/1976		HYRUM, CITY OF		$2,724,145	CG
7/27/1977		KAMAS, CITY OF		$12,300	CG
7/27/1977		KANAB, CITY OF		$7,125	CG
8/28/1979		KANAB, CITY OF		$1,233,732	CG
12/1/1972		KEARNS IMPROVEMENT DISTRICT		$80,393	CG
2/3/1976		KEARNS IMPROVEMENT DISTRICT		$28,819	CG
12/1/1972		LAKEPOINT IMPROVEMENT DIST		$125,861	CG
4/23/1975		LAKEPOINT IMPROVEMENT DISTRICT		$17,241	CG
7/27/1976		LAKEPOINT IMPROVEMENT DISTRICT		$263,746	CG
4/23/1975		LEHI CITY CORPORATION		$63,581	CG
5/26/1976		LEHI CITY CORPORATION		$24,945	CG
9/14/1978		LEHI CITY CORPORATION		$848,927	CG
12/1/1972		LEWISTON CITY CORPORATION		$151,843	CG
7/14/1975		LINDON CITY CORPORATION		$1,662,389	CG
5/14/1975		LOGAN CITY CORPORATION		$39,555	CG
5/30/1979		LONG VALLEY SEWER IMPROVEMENT DIST.		$1,381,363	CG
12/26/1974		LONG VALLEY SEWER IMPROVEMENT DISTRICT		$10,084	CG
9/9/1977		LONG VALLEY SEWER IMPROVEMENT DISTRICT		$76,230	CG
4/28/1976		MAGNA WATER & SEWER IMPROVEMENT DIST.		$51,519	CG
9/6/1988		MANILA TOWN		$551,869	CG
4/23/1975		MANTUA TOWN, TOWN OF		$4,500	CG
6/22/1979		MANTUA TOWN, TOWN OF		$24,843	CG
12/31/1980		MANTUA TOWN, TOWN OF		$466,137	CG
2/20/1979		MAPLETON, CITY OF		$6,525	CG
6/18/1976		MEXICAN HAT (SAN JUAN)		$4,500	CG
12/1/1972		MIDVALE CITY CORPORATION		$1,582,595	CG
11/24/1975		MIDVALE CITY CORPORATION		$9,000	CG
6/1/1972		MILFORD, CITY OF		$130,077	CG
9/1/1981		MINERSVILLE, TOWN OF		$7,485	CG
12/28/1983		MINERSVILLE, TOWN OF		$353,745	CG
4/13/1979		MOAB, CITY OF		$15,000	CG
4/14/1975		MONTICELLO CITY CORPORATION		$18,900	CG
9/21/1979		MONTICELLO CITY CORPORATION		$1,220,807	CG

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Loan Closing	No.	Project	Cost of Project	Assistance Amount	Assist. Type
6/7/1976		MOUNT PLEASANT CITY CORPORATION		$5,400	CG
5/16/1978		MOUNT PLEASANT CITY CORPORATION		$28,710	CG
4/13/1979		MOUNT PLEASANT CITY CORPORATION		$678,895	CG
6/8/1988		MOUNTAIN GREEN		$1,134,155	CG
8/19/1977		MURRAY CITY CORPORATION		$11,250	CG
8/1/1972		MURRAY ITY CORPORATION		$745,770	CG
11/17/1975		MYTON CITY, CITY OF		$6,600	CG
12/30/1976		MYTON CITY, CITY OF		$26,126	CG
8/25/1978		MYTON CITY, CITY OF		$822,888	CG
12/1/1972		NEPHI CITY CORPORATION		$70,130	CG
12/1/1972		NORTH DAVIS COUNTY SEWER DISTRICT		$393,093	CG
11/22/1974		NORTH DAVIS COUNTY SEWER DISTRICT		$139,615	CG
6/30/1976		NORTH DAVIS COUNTY SEWER DISTRICT		$27,000	CG
7/27/1977		NORTH LOGAN, CITY OF		$9,000	CG
3/31/1980		NORTH LOGAN, CITY OF		$799,105	CG
4/28/1976		OAKLEY, TOWN OF		$5,475	CG
12/22/1975		OREM CITY CORPORATION		$30,000	CG
8/18/1983		OREM CITY CORPORATION		$4,571,292	CG
7/27/1977		PANGUITCH CITY, CITY OF		$3,900	CG
2/11/1980		PAYSON CITY CORPORATION		$35,883	CG
4/5/1976		PLAIN CITY CORPORATION		$36,879	CG
10/24/1975		PLEASANT GROVE, CITY		$62,345	CG
12/31/1980		PLEASANT GROVE, CITY OF		$114,101	CG
7/2/1975		PRICE RIVER WATER IMPROVEMENT DISTRICT		$517,979	CG
6/30/1976		PRICE RIVER WATER IMPROVEMENT DISTRICT		$29,842	CG
12/30/1976		PROVO CANYON SEWER IMPROVEMENT DIST.		$33,000	CG
1/13/1975		PROVO CITY CORPORATION		$659,136	CG
6/20/1975		PROVO CITY CORPORATION		$14,659,284	CG
9/1/1972		RICHFIELD, CITY OF		$259,871	CG
4/1/1972		RICHMOND CITY CORP.		$124,682	CG
6/30/1975		ROOSEVELT CITY, CITY OF		$91,520	CG
6/10/1976		ROOSEVELT CITY, CITY OF		$2,152,005	CG
7/25/1986		SALEM CITY CORPORATION		$1,080,531	CG
8/31/1976		SALEM CITY, CITY OF		$3,000	CG
7/25/1986		SALINA CITY CORPORATION		$788,231	CG
7/1/1972		SALINA, CITY OF		$151,138	CG
12/1/1972		SALT LAKE CITY CORPORATION		$1,605,681	CG
12/22/1975		SALT LAKE CITY CORPORATION		$422,042	CG
6/28/1977		SALT LAKE CITY CORPORATION		$357,793	CG
11/17/1975		SALT LAKE CITY SUBURBAN		$100,704	CG
11/17/1975		SALT LAKE CITY SUBURBAN		$72,984	CG
9/1/1972		SALT LAKE COUNTY SID #1		$3,129,875	CG
6/15/1976		SALT LAKE COUNTY SID #1		$7,500	CG
10/1/1975		SALT LAKE COUNTY-COTTONWOOD		$22,575	CG
6/30/1980		SALT LAKE COUNTY-COTTONWOOD		$85,950	CG
3/31/1981		SALT LAKE COUNTY-COTTONWOOD		$370,273	CG
3/23/1979		SAN JUAN COUNTY SERVICE AREA # 1		$15,150	CG
2/11/1981		SAN JUAN COUNTY SERVICE AREA NO.1		$203,974	CG
1/11/1978		SANDY SUBURBAN IMPROVEMENT DISTRICT		$7,500	CG
9/25/1991		SANTAQUIN CITY		$1,637,088	CG
12/19/1986		SCOFIELD TOWN		$801,739	CG
8/15/1988		SMITHFIELD CITY		$1,243,829	CG
4/13/1979		SMITHFIELD, CITY OF		$17,625	CG
4/14/1975		SNYDERVILLE BASIN SID		$36,753	CG
9/12/1975		SNYDERVILLE BASIN SID		$120,090	CG
3/31/1977		SNYDERVILLE BASIN SID		$3,313,379	CG
12/1/1972		SOUTH DAVIS COUNTY SEWER		$64,798	CG
9/1/1972		SOUTH SALT LAKE, CITY OF		$84,685	CG

List of All Utah Projects Funded by EPA Construction Grants (CG), Utah Wastewater Loan Program (UWLP, WQPAP), Hardship Grants (HGP, HGD, HGC), and the State Revolving Loan Fund (SRF) between 1972 and 2005					
Loan Closing	No.	Project	Cost of Project	Assistance Amount	Assist. Type
12/29/1972		SOUTH SALT LAKE, CITY OF		$207,267	CG
2/3/1976		SOUTH SALT LAKE, CITY OF		$142,575	CG
1/16/1979		SOUTH VALLEY WATER RECLAMATION BOARD		$210,750	CG
5/30/1980		SOUTH VALLEY WATER RECLAMATION BOARD		$1,851,750	CG
9/25/1980		SOUTH VALLEY WATER RECLAMATION BOARD		$1,335,793	CG
3/31/1981		SOUTH VALLEY WATER RECLAMATION BOARD		$25,737,594	CG
1/13/1978		SPANISH FORK CITY CORPORATION		$41,255	CG
8/19/1983		SPANISH FORK CITY CORPORATION		$3,318,675	CG
9/15/1989		SPRING CITY		$1,118,605	CG
2/3/1976		SPRINGDALE TOWN, TOWN OF		$9,000	CG
9/29/1978		SPRINGDALE TOWN, TOWN OF		$43,591	CG
11/27/1979		SPRINGDALE TOWN, TOWN OF		$474,686	CG
6/15/1977		SPRINGVILLE, CITY OF		$7,500	CG
9/30/1987		ST GEORGE CITY		$2,761,568	CG
12/1/1972		ST GEORGE, CITY OF		$238,061	CG
5/7/1975		ST GEORGE, CITY OF		$693,827	CG
11/21/1975		ST GEORGE, CITY OF		$218,683	CG
5/24/1979		STATE OF UTAH (TECHNICAL COLLEGE AT PR		$500,000	CG
10/23/1974		TABIONA, TOWN OF		$4,573	CG
1/31/1977		TABIONA, TOWN OF		$25,110	CG
2/25/1980		TABIONA, TOWN OF		$349,008	CG
12/22/1975		TAYLORSVILLE-BENNION IMP. DIST.		$11,250	CG
11/17/1975		TIMPANOGOS PLANNING ASSOCIATION		$49,650	CG
11/24/1976		TIMPANOGOS SPECIAL SERVICE DISTRICT		$508,237	CG
6/27/1977		TIMPANOGOS SPECIAL SERVICE DISTRICT		$237,938	CG
8/24/1977		TIMPANOGOS SPECIAL SERVICE DISTRICT		$8,091,222	CG
12/22/1975		TOOELE CITY CORPORATION		$566,960	CG
11/1/1974		TREMONTON, CITY OF		$27,450	CG
12/23/1975		TREMONTON, CITY OF		$47,490	CG
6/1/1976		TREMONTON, CITY OF		$ -	CG
8/15/1975		TROPIC, TOWN OF		$309,194	CG
12/6/1988		UTAH DEPARTMENT OF HEALTH		$ -	CG
3/27/1990		UTAH DEPARTMENT OF HEALTH		$ -	CG
9/28/1979		UTAH DEPT OF HEALTH		$ -	CG
9/30/1980		UTAH DEPT OF HEALTH		$ -	CG
3/31/1981		UTAH DEPT OF HEALTH		$317,437	CG
4/8/1982		UTAH DEPT OF HEALTH		$473,360	CG
12/7/1982		UTAH DEPT OF HEALTH		$ -	CG
8/8/1983		UTAH DEPT OF HEALTH		$384,778	CG
1/13/1984		UTAH DEPT OF HEALTH		$77,313	CG
2/25/1985		UTAH DEPT OF HEALTH		$ -	CG
6/5/1985		UTAH DEPT OF HEALTH		$490,501	CG
3/5/1986		UTAH DEPT OF HEALTH		$ -	CG
4/25/1986		UTAH DEPT OF HEALTH		$ -	CG
2/23/1987		UTAH DEPT OF HEALTH		$ -	CG
6/15/1987		UTAH DEPT OF HEALTH		$ -	CG
3/28/1988		UTAH DEPT OF HEALTH		$ -	CG
3/29/1988		UTAH DEPT. OF ENVIROMENTAL QUALITY		$ -	CG
9/25/1991		UTAH DEPT. OF ENVIRONMENTAL QUALITY		$ -	CG
9/30/1992		UTAH DEPT. OF ENVIRONMENTAL QUALITY		$ -	CG
3/4/1988		UTAH DEPT. OF HEALTH		$ -	CG
9/26/1983		UTAH STATE DEPT OF HEALTH		$17,940	CG
5/23/1984		UTAH STATE DEPT OF HEALTH		$1,905,814	CG
2/7/1975		VERNAL CITY, CITY OF		$68,057	CG
2/22/1978		VERNAL CITY, CITY OF		$2,250	CG
7/26/1978		VERNAL CITY, CITY OF		$132,915	CG
4/28/1976		WASATCH COUNTY		$44,680	CG
4/12/1979		WASHINGTON CITY CORPORATION		$26,560	CG

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Loan Closing	No.	Project	Cost of Project	Assistance Amount	Assist. Type
12/1/1972		WELLSVILLE, CITY OF		$ -	CG
6/3/1974		WELLSVILLE, CITY OF		$808,520	CG
6/27/1977		WENDOVER, TOWN OF		$1,875	CG
9/6/1979		WENDOVER, TOWN OF		$253,526	CG
6/24/1976		WEST JORDAN CITY CORPORATION		$2,475	CG
9/27/1991		WILLARD CITY		$ -	CG
8/22/2005	150	Moroni City		300,000	HG
3/31/1998	821	Ashley Valley SMB		1,200,000	HGC
8/24/2000	821	Ashley Valley SMB		1,500,000	HGC
10/15/1997	C006	Ashley Valley W&SD		100,000	HGC
na	813	Ashley Valley W&SD		90,000	HGC
3/6/1998	C008	Ballard W&SD		220,000	HGC
1/28/2004	120	Fairview City		1,700,000	HGC
na	120	Fairview City		1,300,000	HGC
6/22/1998	826	Fountain Green City		275,000	HGC
6/8/2000	110	Green River City		305,000	HGC
3/4/2003	237	Hildale City		61,800	HGC
10/17/2005	155	Manila (Daggett Co.)		600,000	HGC
8/30/2001	na	Millville City		553,600	HGC
8/27/2001	142	Nibley City		700,000	HGC
5/4/2004	142	Nibley City		200,000	HGC
7/15/2002	221	Oakley City		200,000	HGC
11/1/2005	na	Santa Clara		119,000	HGC
2/9/1996	C003	Spanish Valley W&S		400,000	HGC
1/3/2006	na	St. George		188,000	HGC
5/3/2001	154	Sunnyside City		265,000	HGC
10/25/2004	240	Twin Creeks SSD		45,000	HGC
	234	Eagle Mt City		450,000	HGD
2/14/2005	136	Hooper City		1,056,000	HGD
8/10/2005	227	North Fork SSD		227,500	HGD
8/15/2003	231	Stockton Town		210,000	HGD
	na	Willard City		874,000	HGD
3/19/1999	na	Blacksmith Fork CSD		34,000	HGP
1/12/1999	na	Blanding City		15,000	HGP
8/29/2002	239	Cache County		117,000	HGP
8/18/1998	na	Cedar City		30,500	HGP
1/27/2005	na	Central Valley WRF		20,000	HGP
4/28/2003	235	Central Weber SD		20,000	HGP
2/9/2006	235	Central Weber SD		226,000	HGP
8/27/1999	na	Charleston Town		34,000	HGP
1/13/2003	230	Eureka City		30,000	HGP
8/16/2001	na	Goshen		33,000	HGP
8/28/2002	136	Hooper City		55,000	HGP
8/10/2005	na	Kane County WCD		75,000	HGP
9/20/1996	P007	Leeds Town		10,000	HGP
6/2/1999	na	Levan Town		33,000	HGP
5/23/2005	159	Logan City		206,000	HGP
10/29/1996	P008	Mayfield Town		12,000	HGP
10/2/2000	223	Mt. Green SID		39,500	HGP
8/10/2005	227	North Fork SSD		20,000	HGP
2/2/2006	na	Price City		54,000	HGP
3/25/1996	P005	San Juan Co. SA#1		39,000	HGP
na	na	South Sevier Co.		60,000	HGP
3/5/2003	231	Stockton Town		37,000	HGP
12/7/1998	na	Tropic Town		20,000	HGP
5/6/2003	233	West Point City		19,000	HGP
3/2/2005	na	Willard City SSD		50,000	HGP
2/9/2005	na	Wolf Creek SID		52,000	HGP

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Loan Closing	No.	Project	Cost of Project	Assistance Amount	Assist. Type
8/20/2001	147	Ash Creek SSD	3,740,000	3,125,000	SRF
4/20/1993	119	Aurora City	$2,694,000	965,000	SRF
7/22/2003	220	Bear Lake SSD	2,620,500	2,230,000	SRF
12/3/2001	217	Beaver City	3,060,000	2,950,000	SRF
8/18/1994	117	Cedar City	$16,000,000	12,010,000	SRF
4/26/1990	103b	Central Davis Co.		1,150,000	SRF
4/26/1990	108	Central Davis Co.		850,000	SRF
7/16/1997	140	Central Davis Co.	6,000,000	5,100,000	SRF
2/22/1989	103a	Central Davis Co. SID	$4,150,000	1,250,000	SRF
11/18/2002	156	Central Davis SD	na	na	SRF
4/18/2005	156	Central Davis SD	3,792,000	3,105,000	SRF
4/25/2005	158	Central Valley WRF	45,917,373	35,000,000	SRF
7/21/1999	212	Ephraim City	2,112,000	2,100,000	SRF
6/15/1999	214	Escalante City	650,000	563,000	SRF
1/28/2004	120	Fairview City	7,591,700	2,400,000	SRF
8/16/1995	124	Grantsville City	$3,378,000	3,278,000	SRF
6/22/2000	110	Green River City	2,449,000	870,000	SRF
5/14/1997	144	Highland City	2,393,637	2,176,000	SRF
8/20/2001	237	Hildale City	4,380,000	1,585,000	SRF
12/19/1991	106	Hyde Park	$2,500,000	800,000	SRF
12/18/2003	209	Hyrum City	5,020,000	4,220,000	SRF
5/18/1995	130	Jordanelle SSD	$5,389,000	2,736,000	SRF
6/15/1994	132	Magna ID	$2,675,000	2,320,000	SRF
6/30/1995	116	Mapleton City	$6,750,000	6,330,000	SRF
12/15/1997	143	Mapleton City	3,070,000	3,070,000	SRF
2/19/2004	160	Mapleton City	1,100,000	1,100,000	SRF
5/18/1995	113	Midway W&SD		151,000	SRF
6/3/1999	209	Minersville Town	538,500	525,000	SRF
9/13/1996	129	Moab City	3,081,000	1,821,000	SRF
6/24/2005	150	Moroni City	4,000,000	3,700,000	SRF
1/20/2004	142	Nibley City	8,738,999	7,739,000	SRF
6/15/1994	126	North Davis	$7,061,000	4,000,000	SRF
3/24/2005	157	North Davis SD	32,000,000	20,900,000	SRF
7/15/2002	221	Oakley City	1,684,000	400,000	SRF
4/18/1994	128	Orem City	$5,000,000	3,500,000	SRF
8/31/2005	151	Parowan City	3,852,000	3,772,000	SRF
8/21/2001	148	Payson City	7,479,000	7,479,000	SRF
5/22/2000	145	Price River WID	2,000,000	1,000,000	SRF
9/14/1989	104	Providence City	$4,300,000	3,500,000	SRF
4/18/1995	131	Provo City	$5,000,000	1,185,000	SRF
11/18/1999	204	Richfield City	4,070,000	4,000,000	SRF
8/29/2000	211	Salina City	2,900,000	2,725,000	SRF
7/9/2001	211	Salina City	400,000	400,000	SRF
2/28/1994	109	Santaquin City		1,307,000	SRF
8/9/1988	101	Smithfield	$8,850,000	$3,630,300	SRF
6/10/1994	122	Snyderville Basin	$5,500,000	2,500,000	SRF
7/21/1995	134	Snyderville Basin		1,500,000	SRF
12/19/2000	146	Snyderville Basin WRD	18,028,000	4,190,000	SRF
3/27/1990	105	Solitude ID (Phase I)	$3,118,000	2,993,000	SRF
5/31/1991	112	Solitude ID (Phase II & III)	$2,995,000	2,995,000	SRF
1/19/1989	102	South Davis Co. SID	$11,839,000	4,498,000	SRF
8/7/1990	107	South Davis Co. SID		4,205,000	SRF
9/29/1992	115	South Davis Co. SID	$5,000,000	5,000,000	SRF
5/17/2002	202	South Salt Lake City	1,230,000	1,230,000	SRF
5/28/1991	114	South Weber	$4,200,000	3,056,000	SRF
12/29/1993	123	St George City	$9,000,000	4,000,000	SRF
9/9/1997	138	St George City	27,000,000	12,000,000	SRF
4/19/2001	154	Sunnyside City	1,150,000	635,000	SRF

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Loan Closing	No.	Project	Cost of Project	Assistance Amount	Assist. Type
6/20/1994	135	Timpanogos	$4,000,000	2,900,000	SRF
6/29/1993	125	Timpanogos SSD	$1,543,000	1,300,000	SRF
12/22/1997	111	Tooele City	14,500,000	7,570,000	SRF
5/27/1999	213	Washington City	3,505,500	3,356,000	SRF
4/27/2001	152	West Haven SSD	11,536,000	6,536,000	SRF
8/1/2002	152	West Haven SSD	880,000	880,000	SRF
4/26/1999	821	Ashley Valley SMB	18,920,000	6,846,000	UWLP
6/16/1998	820	Ballard Town	600,000	205,000	UWLP
6/12/1998	815	Central Weber SD	6,200,000	6,200,000	UWLP
6/12/2001	149	Coalville City	286,981	280,000	UWLP
12/15/1998	826	Fountain Green City	470,000	195,000	UWLP
6/22/2005	155	Manila Town	1,025,000	325,000	UWLP
7/19/2001	817	Millville City	978,000	391,000	UWLP
6/6/2001	833	Monticello City	525,000	500,000	UWLP
6/22/2005	836	Plain City	3,018,000	3,000,000	UWLP
12/13/2001	818	Pleasant Grove City	653,000	553,000	UWLP
12/23/1998	829	Richmond City	362,000	375,000	UWLP
4/27/1999	807	Spanish Valley W&S	na	300,000	UWLP
4/15/1998	825	Springville City	1,500,000	1,500,000	UWLP
2/18/2004	240	Twin Creeks SSD	532,000	487,000	UWLP
4/30/2002	809	Vernal City	144,000	144,000	UWLP
4/27/2001	152	West Haven SSD	na	5,000,000	UWLP
12/6/1990	948	Ash Creek SSD	$398,400	398,400	UWLP
10/21/1997	813	Ashley Valley W&SD	1,845,500	391,000	UWLP
4/24/1984	915	Bear Lake SSD	$2,600,000	130,000	UWLP
3/24/1987	934	Brigham City	$1,500,000	975,000	UWLP
8/27/1990	943	Cedar Hills City	$330,656	230,880	UWLP
12/17/1991	902	Centerfield Town	$2,432,450	557,450	UWLP
5/25/1995	804	Coalville City	$350,000	280,000	UWLP
6/6/1988	942	Duchesne	$700,000	200,000	UWLP
9/7/1995	810	East Carbon City	$2,057,500	1,042,000	UWLP
6/28/1994	920	Enoch	$4,400,000	3,125,000	UWLP
10/16/1995	811	Enterprise City	$657,000	647,000	UWLP
4/16/1992	938	Farr West	$850,000	850,000	UWLP
9/5/1985	929	Fillmore	$600,000	450,000	UWLP
7/26/1994	928	Fountain Green City	$2,580,800	766,000	UWLP
5/22/1988	932	Henefer Town	$1,400,000	400,000	UWLP
11/29/1990	945	Highland Town	$364,000	307,800	UWLP
12/19/1991	947	Hyde Park	$2,500,000	1,211,000	UWLP
12/21/1990	940	Ivins Town	$2,000,000	567,000	UWLP
10/25/1989	918	Kamas Town	$1,365,500	428,000	UWLP
7/5/1984	913	Kearns	$3,581,074	1,400,000	UWLP
8/31/1984	912	Lehi	$330,000	250,000	UWLP
2/20/1985	911	Magna	$4,000,000	38,300	UWLP
2/20/1985	911	Magna	$4,000,000	2,000,000	UWLP
3/1/1990	944	Manila Town	$1,630,000	484,000	UWLP
1/6/1997	812	Mapleton (gb)	1,100,000	1,100,000	UWLP
9/12/1989	941	Milford City	$200,000	125,000	UWLP
8/22/1995	808	Milford City	$1,514,000	1,304,000	UWLP
8/19/1987	927	Morgan City	$457,200	373,000	UWLP
4/17/1989	926	Mt. Green SID	$2,368,944	571,000	UWLP
8/9/1985	914	North Davis SID	$11,000,000	176,200	UWLP
7/3/1986	937	NorthDavis-Phase II	$4,500,000	56,200	UWLP
2/5/1991	908	Oakley Town	$293,000	275,000	UWLP
4/26/1984	903	Ogden	$3,797,917	873,866	UWLP
4/30/1996	925	Panguitch City	5,353,000	753,000	UWLP
11/29/1984	919	Payson	$3,720,000	16,500	UWLP
11/29/1984	919	Payson	$3,720,000	2,367,069	UWLP

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Loan Closing	No.	Project	Cost of Project	Assistance Amount	Assist. Type
3/23/1992	935	Payson	$600,000	200,000	UWLP
2/5/1985	905	Price City	$7,000,000	1,500,000	UWLP
11/9/1983	906	Richfield City	$3,000,000	1,200,000	UWLP
4/19/1984	916	Roy	$902,000	902,000	UWLP
4/21/1986	931	Salem City	$2,770,000	1,568,238	UWLP
3/2/1993	801	Salem City	$500,000	500,000	UWLP
4/18/1994	802	Salem City	$322,500	322,500	UWLP
11/4/1986	933	Salina City	$1,600,000	420,000	UWLP
2/28/1994	910	Sanataquin City	$5,980,000	1,000,000	UWLP
8/9/1988	939	Smithfield City	$7,051,300	1,700,000	UWLP
6/15/1985	907	Snyderville	$9,904,000	72,400	UWLP
6/15/1985	907	Snyderville	$9,904,000	4,000,000	UWLP
9/19/1989	936	Snyderville Basin	$250,000	194,000	UWLP
1/19/1995	803	South Salt Lake City	$1,500,000	1,200,000	UWLP
11/22/1996	807	Spanish Valley W&S	2,959,000	835,000	UWLP
8/30/1990	946	Spring City	$2,300,000	286,500	UWLP
2/1/1996	800	Springdale City	$650,000	366,000	UWLP
9/12/1984	923	Springville	$4,000,000	44,000	UWLP
9/12/1984	923	Springville	$4,000,000	2,000,000	UWLP
4/15/1998	825	Springville City	1,500,000	1,500,000	UWLP
7/7/1988	922	St George City	$12,500,000	129,750	UWLP
7/7/1988	922	St George City	$12,500,000	1,450,000	UWLP
9/9/1997	138	St. George		44,000	UWLP
6/5/1984	904	Timpanogos	$1,000,000	800,000	UWLP
4/10/1996	816	Timpanogos CEA	37,000,000	240,000	UWLP
3/15/1984	909	Tremonton	$120,000	120,000	UWLP
7/20/1994	949	Tremonton City	$1,446,000	1,186,000	UWLP
7/3/1986	924	Uintah Highlands ID	$2,470,000	2,470,000	UWLP
12/17/1985	930	Washington Terrace	$330,000	300,000	UWLP
5/24/1997	805	Wellsville City	350,000	300,000	UWLP
10/29/1992	901	West Point City	$400,000	315,000	UWLP

Appendix B

Listing Criteria for 303(d) List of Waters

CRITERIA FOR LISTING ASSESSMENT UNITS ON 303(D) LIST.

Beneficial use support was determined by comparing data against the standards and indicators for the designated beneficial uses listed in Table 1. Narrative standards were also used to determine beneficial use support. Tables 2 through 6 are the listing criteria used to compare data against standards and pollution indicators found in Standards of Quality for Waters of the State, R317-2, Utah Administrative Code (DEQ, 2005) to determine beneficial use support of assessment units that are not listed because of a UPDES discharge permit renewal. For lakes and reservoirs, the same criteria are used with the exception of the tables for conventional parameters; pH, dissolved oxygen and temperature for 3A (cold water game fish), 3B (warm water game fish) and 3C (warm water non-game fish). Additional criteria for determining beneficial use support for lakes and reservoirs are explained in the last part of this section. The total phosphorus method for identifying waters as needing further study is not applied to lakes and reservoirs or large rivers such as the Green River and Colorado River.

The State of Utah exercises discretion in using data or information that goes beyond the criteria listed in the following tables and/or narrative for listing assessment units and can include other types of information and best professional judgment. *This listing methodology for chronic levels of toxicants when less that 10 samples are used for assessment was developed following EPA's overwhelming evidence guidance. Note: If more than 3 years of data are available, EPA guidelines allow for one additional exceedance when determining beneficial use support.

Table 1. Designated Beneficial Uses for River Streams, Lakes, and Reservoirs,

Class	Definition
1	Protected for use as a raw water source for domestic water systems.
1C	Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water.
2	Protected for recreational use and aesthetics.
2A	Protected for primary contact recreation such as swimming.
2B	Protected for secondary contact recreation such as boating, wading, or similar uses.
3	Protected for use by aquatic wildlife.
3A	Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.
3B	Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.
3C	Protected for nongame fish and other aquatic life, including he necessary aquatic organisms in their food chain.
3D	Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.
3	Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.
4	Protected for agricultural uses including irrigation of crops and stock watering.

Table 1. Designated Beneficial Uses for River Streams, Lakes, and Reservoirs,	
Class	**Definition**
5	The Great Salt Lake. Protected for primary and secondary contact recreation, aquatic wildlife, and mineral extraction.

Table 2. Criteria for Assessing Water as a Source of Drinking Water - Class 1C		
Degree of Use Support	**Field Monitoring (Toxicants)**	**Restrictions**
Full	For any one pollutant, no more than two violation of criterion.	No source water closures or advisories
Partial	For any one pollutant, two or more violations the criterion, but violations occurred in ≤ 10% of the samples.	One or more drinking water source advisories lasting less than 30 days per year.
Non	For any one pollutant, two or more violations of the criterion occurred in more than 10% of the samples	One or more drinking water source advisories lasting greater than 30 days.

Table 3. Criteria for Assessing Primary and Secondary Contact Beneficial Use - Class 2A and 2B		
Degree of Use Support	**Restrictions**	***E. coli***
Full	No bathing area closures or restrictions in effect during reporting period.	Criterion 1 and 2 met.
Partial	On average, one bathing area closure per year of less than one week's duration.	Geometric mean met; single-sample criterion exceeded during the recreational season
Non	On average, one bathing area closure per year of greater than one week's duration, or more than one bathing areas closure per year.	Geometric mean not met.
Bacterial Criterion		
Criterion 1 = For Class 2A, single sample maximum should not exceed 576 per 100 mL; and for Class 2B, the single sample maritimum should not exceed 940 per 100/mL		
Criterion 2 = For Class 2A, the geometric mean should not exceed 126 per 100 mL for any 30-day period. For Class 2B, the geometric mean should not exceed 206 per 100 mL for any 30-day period. At least 5 samples should be collected in any 30-day period. Samples should be evenly spaced over the 30-day period		

Table 4. Criteria for Assessing Aquatic Life Beneficial Use Support – Classes 3A, 3B, 3C, 3D	
Degree of Use Support	**Conventional Parameters [1] (pH, DO, Temperature)**
Full	For any one pollutant, criterion was exceed only once or was not exceeded in < 10% of the samples if the criterion was exceeded at least two times.
Partial	For any one pollutant, criterion was exceeded two times, and criterion was exceeded in more than 10% but not more than 25% of the samples.
Non	For any one pollutant, criterion was exceeded two times, and criterion was exceeded in more than 25% of the samples.

1 - During the recent drought, areas of the state ranged from moderate to extreme drought conditions. For conventional parameters, especially temperature, a determination was made as to whether or not the violations of the state standards were caused by the drought conditions. Data were compared against historical data at monitoring sites to assist in making the decision; flow data and observations by field crews were also used in making the determination whether to list conventional parameters for an AU or not.

Table 5. Toxic Parameters (priority pollutants, chlorine, and ammonia

Criteria	Number of Samples	Degree of Support	
Acute	4 or more	Full	For any one pollutant, no more than one violation of acute criteria within a 3-year period.
		Partial	For any one pollutant, two or more violations of the acute criterion, but violations occurred in ≤ 10% of the samples 3-year period.
		Non	For any one pollutant, two or more violations of the acute criterion, and violations occurred in more than 10% of the samples within a 3-year period
Chronic	10 or more	Full	For any one pollutant, less than two exceedances of criterion within a 3-year period.
	Less than 10	Partial	Standard is multiplied by 1.75 to determine the listing value. For any one pollutant, more than 3 exceedances in a 3-year period.*

Table 5. Toxic Parameters (priority pollutants, chlorine, and ammonia			
Criteria	**Number of Samples**	**Degree of Support**	
	10 or more	Non	For any one pollutant, 3 or more violations of the chronic criterion within a 3-year period.

* The listing methodology for chronic levels of toxicants when less than 10 samples are used for assessment was developed following EPA's overwhelming evidence guidance.

Note: If more than 3 years of data are available, EPA guidelines allow for one additional exceedance when determining beneficial use support.

Fish and Wildlife Consumption Advisories: In previous 305(b) assessments, Utah has listed AUs on the 303(d) list if a health advisory for consumption of fish and/or waterfowl had been issued. For this cycle, AUs were not listed based on health advisories. Several issues that need to be studied before AUs are listed for consumption advisories include but are not limited to: (1) What is the current fishing rate on a stream or lake and (2) how many species of fish are included in the advisory, and (3) what is the spatial distribution of the population of fish that are not meeting the limits of the consumption advisory. The same issues need to be addressed for waterfowl advisories especially if they are migratory birds. One of the major issues involved in migratory fowl listings is determining where the source of the contaminant is located. They could have been contaminated from a source within the state or outside of the state. The DWQ will review the methods used by other states and work towards having a procedure in place for the 2008 listing cycle. Some states uses age class and creel census as part of there procedure for listing AUs based upon mercury contamination and others use different levels of contamination of mercury to determine if an AU needs to be listed. The application of any listing method based upon health advisories should be evaluated for other metals also.

For now, Utah will leave the two AUs that are on the list based upon fish and/or waterfowl consumption advisories. These waters include the lower portion of Ashley Creek, Stewart Lake, Uintah County, and Silver Creek in Summit County. Without the fish and wildlife advisories the lower portion of Ashley Creek and Stewart Lake would have been listed for selenium based on violations of the water quality standard. Silver Creek is being listed this cycle because of violations of the drinking water standard for arsenic. It is currently listed for arsenic based upon a health advisory for fish consumption.

C. Additional Criteria for Listing Lakes and Reservoirs.

The criteria for listing lakes and reservoirs under Class 1C (source of drinking water), 2A (recreation), and Class 4 (agricultural use) are the same as listed in Tables 2, 3, and 6. Several factors were considered in the assessment for beneficial use support. The monitoring program for lakes and reservoirs is designed to determine a basic water quality characterization and evaluate the productivity during the summer period. Additional winter monitoring is conducted to evaluate dissolved oxygen deficiencies as indicated by the summer monitoring. Water quality standards are evaluated to assess impairment for waters classified in Classes 2 (recreation), 3 (aquatic life), and 4 (agriculture).

1. The following procedure was used to evaluate Class 3 (aquatic life) beneficial use:

Three basic parameters that are compared to standards in addition to other specific parameters include dissolved oxygen, pH, and temperature. These basic parameters are obtained in the field as part of the overall monitoring program for Utah's lakes and reservoirs. The data for these three parameters are analyzed for the entire water column and evaluated according to current 305(b) guidelines. A comparison of water column values with State standards is determined as follows: For any one pollutant or stressor, the criterion was exceeded in less than or equal to10 percent of the measurements, a designation of ‘fully supporting’ was assigned. For any one pollutant or stressor, if the criterion was exceeded in greater than 10 percent but less than or equal to 25 percent of measurements, a designation of ‘partially supporting’ was assigned. For any one any one pollutant or stressor a ‘not supporting’ designation was assigned if more than 25 percent of measurements exceeded the criterion. An exception to these guidelines has been provided for dissolved oxygen

Table 6. Criteria for assessing Agricultural Beneficial Use Support - Class 4

Degree of Use Support	Conventional Parameter (Total Dissolved Solids)	Toxic Parameters
Full	Criterion exceeded in less than two samples or was exceeded in ≤ 10% of the samples when the criterion was exceeded at least twice.	For any one pollutant, no more than one violation of criterion.
Partial	Criterion was exceeded at least two times, and criterion was exceeded in more than 10% but not more than 25% of the samples.	For any one pollutant, two or more violations of the criterion, but violations occurred in ≤10% of the samples.
Non	Criterion was exceeded at least two times, and criterion was exceeded in more than 25% of the samples.	For any one pollutant, two or more violations of the criterion, and violations occurred in more than 10% of the samples.

The dissolved oxygen criterion has been defined using the 1-day minimum dissolved oxygen concentration of 4.0 mg/l. State standards account for the fact that anoxic or low dissolved oxygen conditions may exist in the bottom of deep reservoirs and therefore, the dissolved oxygen standard is applied as follows. When the concentration is above 4.0 mg/l for greater than 50% of the water column depth, a fully supporting status is assigned. When 25-50% of the water column is above 4.0 mg/l, it is designated as partial supporting and when less than 25% of the water column exceeds the 4.0 mg/l criteria, it is designated as not supporting its defined beneficial use. Having determined support status for individual pollutants or stressors, an overall use support designation was determined based on a combination of the individual pollutant or stressor support designations. A 'not supporting' status was assigned to a body of water when at least two of the basic criteria (dissolved oxygen, pH or temperature) were found to be not supportive. A 'fully supporting' status was assigned when all of the criteria were found to be fully supporting. All other assessment units were assigned a 'partially supporting' status for criteria found in the various remaining combinations. The initial support status may be modified through an evaluation of the trophic state index (TSI), winter dissolved oxygen conditions with reported fish kills, and the presence of significant blue green algal populations in the phytoplankton community. This evaluation, although based to an extent on professional judgment, could shift initial support status ranking downward if two of the three criteria indicate there is was impairment in the water quality.

2. Evaluation of Class 3A Reservoirs that Exhibit Temperature Impairment.

There are 12 reservoirs that are currently classified as 3A (cold water fishery support) but that have consistently been found to exceed the associated temperature standard. These include: Otter Creek, Brough, Piute, Porcupine, Red Fleet, Wide Hollow, Mantua, Baker Dam, Matt Warner and Steinaker reservoirs and Palisade and China Lakes. Careful investigation of the sources of these exceedances has been performed. This included calculation of the heat budget for each reservoir (Horne and Goldman 1994). During this exercise, we considered summer tributary volume and temperature and the quality and ability of riparian vegetation to provide stream shading. Although some improvement to stream riparian condition is possible, the low summer flows would remain ineffective in overcoming the heat gained by solar radiation. Because of this natural source of heating, concurrent with natural low summer tributary flow we have determined that the impairment can not be remediated and will exclude temperature in the 305(b)/303(d) assessment and reporting process for these waterbodies.

A final determination to list the AU is made through an evaluation of assessment trends since 1989. It is necessary to incorporate such an evaluation to incorporate the hydrology and seasonality associated with lakes and reservoirs. In general, if an AU exhibits a consistent status of 'partial supporting' or 'not supporting', it should be listed on the303(d) list. However, some assessment units appear to be borderline and there is a mixture of partially and fully supporting conditions over the period of study. Therefore, two consecutive evaluation cycles in any particular support status are required for addition to or removal from the303(d) list.

D. Biological and Habitat Data

Biological and habitat data were used on a limited basis to supplement water chemistry data in determining beneficial use support. Phytoplankton data were used to assess lake and reservoir water quality.

E. Criteria for Removing Assessment Units from the Category 5A (303(d) List).

1. An AU was placed on list due to error in assessment or because an AU was listed incorrectly in place of another AU or any other error not based on water quality assessment.

2. The most recent data assessment indicates that the AU is supporting all of its designated beneficial uses.

3. A total maximum daily load analysis has been completed and approved by EPA.

4. An existing AU delineation has changed. a. An AU has been changed by dividing it into several assessment units. b. The AU boundaries have been changed and it is now a part of a different AU or portions of the AU are included in newly defined assessment units.

5. A change in the method(s) of determining beneficial use support. The methodology change would cause the assessment to indicate that all beneficial uses assessed are fully supported.

6. A change in State water quality standards or pollution indicator values would change assessment to fully supporting all beneficial uses that have sufficient data to be assessed.

7. A determination that insufficient amounts of data were collected to place the AU on the list originally, e.g.,too few samples collected to make a reliable determination of beneficial use support.

8. Utah exercises discretion in using data or information that goes beyond the criteria listed above in determining whether to de-list an AU and can include other types of information and best professional judgment.

III. DATA AND INFORMATION USED TO PREPARE 303(d) LIST

The state of Utah relied upon the following sources of data and information to prepare its 303(d) list.

A. Water Quality Assessments

Water quality assessments conducted as part of the Section 305(b) report form the basis for the State's TMDL list. As part of this assessment, the State uses a five-year rotating monitoring program to collect data and to assess the beneficial use support of its rivers and streams. The State has been divided into ten watershed management units (Figure 2) that have been aggregated into five monitoring regions (Table 7) for water quality monitoring purposes. Each region is monitored on an intensive basis once every five years.

The primary areas of assessment since the 2004 305(b) assessment were the Bear River and Weber River Watershed Management Units.

Data collected on a yearly basis by the Division of Water Quality and other agencies were also used to assess water quality statewide. Because some of the standards for metals were changed, data from previous watershed assessments were compared against the new standards to determine beneficial use support.

Assessments completed on previous watershed management units which included the Jordan/Utah Lake Uinta, Sevier River, Cedar/Beaver, Colorado River West, Colorado River Southeast, and the Lower Colorado Watershed Management Unit were combined with the above assessments to compile a statewide beneficial use support assessment.

Letters and e-mails were sent to entities involved in collecting water quality data to solicit data to be used in assessing waters of the state. Other entities were contacted by telephone to solicit data.

The Division of Water Quality issued a public notice of request for submission of data to be used in assessing waters of the state for the 2006 305(b) report and the303(d) list of impaired waters. It was published in the Salt Lake Tribune and the Deseret News on May 21, 22, 2005. Included in the notice was a deadline, June 20, 2005, for submission of data to ensure that it would be used during the preparation of the2006 305(b) report and 303(d) list.

Beneficial use support designations were arrived at using chemical, physical, biological data and other information collected by the DWQ, Cooperating Agencies, and other entities involved in collecting data related to water quality. Federal and other public agencies involved with cooperative monitoring agreements or providing information used during this cycle to assess beneficial use support are listed below:

1. United States Forest Service

2. United States Bureau of Land Management

3. Salt Lake City

4. United States National Park Service

6. Central Utah Water Conservancy District.

7. United States Geological Survey

8. Salt Lake County

9. Provo River Watershed Council

Bacteriological data collected by Salt Lake City were used to assess some streams in the Jordan River watershed. Bacteriological data provided by Salt Lake County were used to assess the Jordan River. Physical and water chemistry data collected by the U. S. Geological Survey (U.S.G.S.) as part of the Great Salt Lake River Basins NAWQUA study and from other monitoring sites throughout the state were used to assess beneficial use support.

Appendix C

Assessment Units by Category

Beneficial Use Assessment Categories.

Table C-1. Category 1 - All Stream Designated Beneficial Uses Were Assessed and Are Supported.							
				Beneficial			
Watershed	Assessment	Assessment	Assessment	Use	Beneficial	Pollutant	
Management	Unit	Unit	Unit	Classes	Use	or	Stream
Unit	ID	Name	Description	Assessed	Support	Pollution	Miles
Jordan River / Utah Lake	UT16020204-013	Parley Canyon Creek-2	Parley's Canyon Creek and tributaies from Mountain Dell Reservoir to headwaters	1C,2B,3A	FS	None	13.34
Jordan River / Utah Lake	UT16020204-018	Mill Creek-3	Mill Creek and tributaries from USFS Boundary to headwaters	1C,2B,3A	FS	None	14.52
Jordan River / Utah Lake	UT16020204-020	Big Cottonwood Creek-2	Big Cottonwood Creek and tributaries from Big Cottonwood WTP to headwaters	1C,2B,3A	FS	None	34.01

Table C-2. Some Stream Segments Designated Uses Are Supported: Insufficient Data To Assess Other Designated Uses.						
				Beneficial	Beneficial	
Watershed	Watershed	Watershed	Watershed	Use	Use	
Management	Management	Management	Management	Classes	Classes	Stream
Unit	Unit	Unit	Unit	Assessed	Not Assessed	Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Bear River	UT16010101-003	Little Creek	Little Creek and tributaries from confluence with Bear River to headwaters.	3A, 4	2B	6.60
Bear River	UT16010101-004	North Fork Creek	North Fork Creek & tribs from confl w/Bear River to headwaters	3A, 4	2B	9.09
Bear River	UT16010101-005	Otter Creek	Otter Creek & tribs from Bear River to headwaters	3A, 4	2B	20.69
Bear River	UT16010101-008	North Woodruff	Bear River tributaries between Woodruff and Big Creek	3A, 4	2B	0.61
Bear River	UT16010101-010	Birch Creek	Birch Creek & tribs from confl. W/Woodruff Creek to headwaters	3A, 4	2B	15.82
Bear River	UT16010101-011	Woodruff Creek - 1	Woodruff Creek from confl/w Bear River to Birch Creek confluence	3A, 4	2B	7.64
Bear River	UT16010101-013	Woodruff Creek - 4	Wood Creek & tribs from Woodruff Creek Res to headwaters	3A, 4	2B	33.82
Bear River	UT16010101-014	Woodruff Creek - 3	Woodruff Creek Reservoir tributaries	3A, 4	2B	1.16
Bear River	UT16010101-015	Woodruff Creek - 2	Woodruff Creek & tributaries from Birch Creek confl to Woodruff Creek Reservoir	3A, 4	2B	4.61
Bear River	UT16010101-021	Bear River-6	Bear River from Utah-Wyoming border to Hayden Fork - Stillwater Fork confluence	3A, 4	2B	16.97
Bear River	UT16010101-022	Mill Creek	Mill Creek and tributaries from Utah-Wyoming border to headwaters	3A, 4	2B	55.10

Table C-2. Some Stream Segments Designated Uses Are Supported: Insufficient Data To Assess Other Designated Uses.						
				Beneficial	Beneficial	
Watershed	Watershed	Watershed	Watershed	Use	Use	
Management	Management	Management	Management	Classes	Classes	Stream
Unit	Unit	Unit	Unit	Assessed	Not Assessed	Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Bear River	UT16010101-023	West Fork Bear River	West Fork Bear River & tribs from Utah-Wyoming border to headwaters.	3A, 4	2B	66.24
Bear River	UT16010101-024	Hayden Fork	Hayden Fork & tribs from confl. W/Stillwater Creek to headwaters	3A, 4	2B	18.08
Bear River	UT16010101-025	Stillwater Fork	Stillwater Fork & tribs from confl. W/Hayden Fork to headwaters	3A, 4	2B	30.35
Bear River	UT16010101-026	East Fork Bear River	East Fork Bear River from confl. W/Hayden Fork to headwaters	3A, 4	2B	33.72
Bear River	UT16010101-027	Bear River East	Bear River east side tributaries from Woodruff to near Sage Creek Junction	3A, 4	2B	1.41
Bear River	UT16010201-001	Bear Lake West	Bear Lake west side tributaries	3A, 4	2B	
Bear River	UT16010201-002	Laketown	Laketown & Big Creek & other tribs from Bear Lake to headwaters	3A, 4	2B	11.46
Bear River	UT16010201-003	South Eden	South Eden Creek from Bear Lake to headwaters	3A, 4	2B	4.23
Bear River	UT16010201-004	North Eden	North Eden Creek and tributaries from Bear Lake to headwaters	3A, 4	2B	15.06
Bear River	UT16010202-005	Summit Creek	Summit Creek and tributaries from confluence with Bear River to headwaters	3A, 4	2B	15.18
Bear River	UT16010202-007	Cherry Creek	Cherry Creek and tributaries from confluence w/ Cub to headwaters	3B, 4	2B	3.24
Bear River	UT16010202-013	Clarkston Creek	Clarkston Creek and tributaries from Newton Reservoir to Utah/Idaho State Line	3A, 4	2B	57.80
Bear River	UT16010203-006	Logan River-2	Logan River and tributaries (except Blacksmith Fork) from mouth of Logan Canyon to headwaters	3A, 3D, 4	2B	68.17
Bear River	UT16010203-011	Little Bear River-2	Little Bear River from Hyrum Reservoir to East Fork Little Bear confluence	3A, 3D, 4	2B	6.74
Bear River	UT16010203-013	South Fork Little Bear	South Fork Little Bear and tributaries from confluence with Little Bear River to headwaters, except Davenport Creek	3A, 3D, 4	2B	16.00
Bear River	UT16010203-014	East Fork Little Bear-1	East Fork Little Bear River and tribs from confluence with Little Bear to Porcupine Res.	3A, 3D, 4	2B	7.03
Bear River	UT16010203-015	Davenport Creek	Davenport Creek and tributaries from confluence w/ South Fork Little Bear to headwaters	3A, 3D, 4	2B	28.86
Bear River	UT16010203-016	Porcupine Creek	Porcupine Creek and tribs from Porcupine Reservoir to headwaters	3A, 3D, 4	2B	1.49
Bear River	UT16010203-017	East Fork Little Bear-2	East Fork Little Bear River from Porcupine Reservoir to headwaters and tribs	3A, 3D, 4	2B	27.87
Bear River	UT16010203-018	Blacksmith Fork-2	Blacksmith Fork from Left Hand Fork Blacksmith confluence to headwaters and tribs.	3A, 4	2B	53.19

Table C-2. Some Stream Segments Designated Uses Are Supported: Insufficient Data To Assess Other Designated Uses.						
				Beneficial	Beneficial	
Watershed	Watershed	Watershed	Watershed	Use	Use	
Management	Management	Management	Management	Classes	Classes	Stream
Unit	Unit	Unit	Unit	Assessed	Not Assessed	Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Bear River	UT16010203-019	Left Hand Fork Blacksmiths F	Left Hand Fork of Blacksmiths Fork from confluence with Blacksmiths to headwaters and tribs	3A, 4	2B	26.59
Bear River	UT16010203-020	Blacksmith Fork-1	Blacksmiths Fork from confluence with Logan River to East Fork Blacksmiths Fork	3A, 4	2B	10.42
Bear River	UT16010204-006	Malad River-1	Malad River from confluence w/ Bear River to Utah/Idaho Stateline	3C	2B	51.96
Bear River	UT16010204-010	Malad River-2	Malad River tributaries	3C	2B	17.82
Cedar / Beaver	UT16030006-001	Coal Creek	Coal Creek and tributaries	3A, 4	2B	39.64
Cedar / Beaver	UT16030007-003	Beaver River-3	Beaver River and tribs from USFS boundary to headwaters	3A, 4	2B	142.77
Colorado River Southeast	UT14030002-001	LaSal Creek	LaSal Creek and tributaries from Utah-Colorado stateline to headwaters	3A, 4	2B	18.00
Colorado River Southeast	UT14030004-001	Dolores River	Dolores River and tributaries (except Granite Creek) from confluence with Colorado River to headwaters	3C, 4	2B	61.73
Colorado River Southeast	UT14030004-002	Granite Creek	Granite Creek and tributaries from cofluence with Dolores River to Colorado State line	3C, 4	2B	9.48
Colorado River Southeast	UT14030005-006	Mill Creek-2	Mill Creek and tributaries from U.S.F.S. boundary to headwaters	1C, 3A, 4	2B	29.61
Colorado River Southeast	UT14070001-003	Colorado River-2	Colorado River from Dirty Devil confluence to Green River confluence	1C, 3B, 4	2B	26.34
Colorado River Southeast	UT14080201-002	Cottonwood Wash-1	Cottonwood Wash and tributaries from confluence with San Juan River to Westwater Creek confluence	1C, 3B, 4	2B	
Colorado River Southeast	UT14080201-005	Recapture Creek-1	Recapture Creek & tribs from confluence with San Juan River to Westwater Creek confluence	1C, 3B, 4	2B	
Colorado River Southeast	UT14080201-008	Westwater Creek	Westwater Creek & tribs from confluence with Cottonwood Wash to headwaters	1C, 3B, 4	2B	6.10
Colorado River Southeast	UT14080201-009	San Juan River-2	San Juan River from the confluence with Chinle Creek to the confluence with Montezuma Creek	1C, 3B, 4	2B	31.13
Colorado River Southeast	UT14080203-001	Verdure Creek-1	Verdure Creek from confluence w/Montezuma Creek to U.S.191	1C, 3B, 4	2B	4.83
Colorado River Southeast	UT14080203-002	Verdure Creek-2	Verdure Creek from U.S. 191 to headwaters	3A, 4	2B	10.45
Colorado River Southeast	UT14080203-003	Montezuma Creek-2	Montezuma Creek and tributaries from Verdure Creek confluence to U.S. 191	1C, 3B, 4	2B	12.16
Colorado River Southeast	UT14080203-005	Montezuma Creek-1	Montezuma Creek from U.S. 191 to headwaters	1C, 3A, 4	2B	0.21
Colorado River Southeast	UT14080203-007	Montezuma Creek-3	Montezuma Creek and all other tributaries not listed before from U.S. 191 to headwaters	1C, 3B, 4	2B	7.10
Colorado River Southeast	UT14080205-001	San Juan River-1	San Juan River from Lake Powell to confluence with Chinle Creek	1C, 3B, 4	2B	87.67

Table C-2. Some Stream Segments Designated Uses Are Supported: Insufficient Data To Assess Other Designated Uses.						
				Beneficial	Beneficial	
Watershed	Watershed	Watershed	Watershed	Use	Use	
Management	Management	Management	Management	Classes	Classes	Stream
Unit	Unit	Unit	Unit	Assessed	Not Assessed	Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Colorado River West	UT14060007-001	White River	White River from confluence w/Price River to Headwaters	1C, 3A, 4	2B	32.74
Colorado River West	UT14060007-002	Scofield Reservoir Tribs	Scofield Reservoir tributaries	1C, 3A, 4	2B	77.72
Colorado River West	UT14060007-003	Price River-1	Price River and tributaries from Price City Water Treatment intake to Scofield Reservoir	1C, 3A, 4	2B	78.81
Colorado River West	UT14060007-005	Price River-2	Price River and tributaries from Carbon Canal Diversion to Price City WTP intake	3A, 4	2B	9.22
Colorado River West	UT14060008-001	Green River-4	Green River from San Rafael confuence to Price River confluence	1C, 3B, 4	2B	42.02
Colorado River West	UT14060008-002	Green River-5	Green River from confluence w/Colorado River to San Rafael confluence.	1C, 3B, 4	2B	97.23
Colorado River West	UT14060009-001	Tributaries to Electric Lake	Electric Lake tributaries	1C, 3A, 4	2B	12.37
Colorado River West	UT14060009-002	LF Huntington Creek	Left Fork Huntington Creek and tributaries from confluence w/Huntington Creek to headwaters	1C, 3A, 4	2B	36.56
Colorado River West	UT14060009-003	Huntington Creek-3	Huntington Creek and tributaries from USFS boundary to headwaters	1C, 3A, 4	2B	52.68
Colorado River West	UT14060009-005	Lowery Water	Lowery Water and tribs from Joes Valley Reservoir to headwaters	1C, 3A, 4	2B	46.83
Colorado River West	UT14060009-006	Joes Valley	Joe's Valley Reservoir tributaries except Lowry Creek	1C, 3A, 4	2B	32.57
Colorado River West	UT14060009-007	Upper Cottonwood Creek	Cottonwood Creek and tributaries from USFS boundary to headwaters and Joes Valley Reservoir	1C, 3A, 4	2B	17.96
Colorado River West	UT14060009-009	Upper Ferron Creek	Ferron Creek and tributaries from Millsite Reservoir to headwaters	1C, 3A, 4	2B	83.57
Colorado River West	UT14060009-012	Lower Ferron Creek	Ferron Creek from confluence w/San Rafael River to Millsite Reservoir	3C, 4	2B	24.57
Colorado River West	UT14070002-001	Upper Muddy	Muddy Creek from U-10 to headwaters	1C, 3A, 4	2B	78.64
Colorado River West	UT14070002-002	Upper Quitchipah Creek	Quitchipah Creek from U-10 to headwaters	3A, 4	2B	29.02
Colorado River West	UT14070002-003	Saleratus Creek	Saleratus Creek and tributaries from U-10 xing to headwaters	3A, 4	2B	13.73
Colorado River West	UT14070003-001	Johnson Valley	Johnson Valley Reservoir tributaries	3A, 4	2B	15.50
Colorado River West	UT14070003-002	UM Creek	Um and other tributaries to Forsyth Reservoir	1C, 3A, 4	2B	21.81
Colorado River West	UT14070003-004	Fremont River-1	Fremont River and tributaries from Mill Meadow Reservoir to Johnson Valley Reservoir	1C, 3A, 4	2B	7.71
Colorado River West	UT14070003-007	Donkey Creek	Donkey Creek & other tribs between Pine Creek and Pleasant above USFS boundary	1C, 3A, 4	2B	21.40
Colorado River West	UT14070003-008	Fremont River-3	Fremont River and tributaries from east boundary of Capitol Reef National Park to Bicknell	1C, 3A, 4	2B	82.88
Colorado River West	UT14070003-009	Pleasant Creek-1	Pleasant Creek and tributaries from east boundary of Capitol Reef National Monument to headwaters	1C, 3A	2B	43.74

Table C-2. Some Stream Segments Designated Uses Are Supported: Insufficient Data To Assess Other Designated Uses.						
				Beneficial	Beneficial	
Watershed	Watershed	Watershed	Watershed	Use	Use	
Management	Management	Management	Management	Classes	Classes	Stream
Unit	Unit	Unit	Unit	Assessed	Not Assessed	Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Colorado River West	UT14070003-015	Fish Lake	Fish Lake tributaries	1C, 3A, 4	2B	2.21
Colorado River West	UT14070004-001	Dirty Devil	Dirty Devil from confluence w/Colorado River to Fremont River	3C	2B	78.96
Colorado River West	UT14070005-003	North Creek	North Creek from confluence w/Escalante River to headwaters	3A, 4	2B	41.50
Colorado River West	UT14070005-004	Pine Creek	Pine Creek and tributaries from cnfluence w/Escalante River to headwaters	3A, 4	2B	25.70
Colorado River West	UT14070005-007	Calf Creek	Calf Creek from cnflunce w/Escalante River to headwaters	3A, 4	2B	8.13
Colorado River West	UT14070005-008	Deer Creek	Deer Creek and tributaries from cnfluence w/Escalante River to headwaters	3A, 4	2B	56.89
Colorado River West	UT14070005-010	The Gulch	The Gulch from confluence w/Escalante River to headwaters	3C, 4	2B	37.61
Colorado River West	UT14070005-011	Lower Escalante	Escalante River and some tributaris from Boulder Creek confl to Birch Creek confluence	3C, 4	2B	66.18
Colorado River West	UT14070005-018	Boulder Creek	Boulder Creek from cnfluence w/Escalante River to headwates	3A, 4	2B	51.81
Jordan / Utah Lake River	UT16020201-004	Salt Creek-1	Salt Creek from mouth of Canyon to USFS Boundary	3A, 4	2B	5.31
Jordan / Utah Lake River	UT16020201-005	Salt Creek-2	Salt Creek and tribs from USFS Boundary to headwaters	3A, 4	2B	22.66
Jordan / Utah Lake River	UT16020201-006	Hop Creek	Hop Creek and tributaries from confluence w/ Salt Creek to headwaters	3A, 4	2B	21.91
Jordan / Utah Lake River	UT16020202-001	Spanish Fork River-1	Spanish Fork River from Utah Lake to Moark Diversion	3B, 3D, 4	2B	16.98
Jordan / Utah Lake River	UT16020202-002	Spanish Fork River-2	Spanish Fork River from Moark Diversion to Thistle Creek confluence	3A, 4	2B	6.48
Jordan / Utah Lake River	UT16020202-002	Spanish Fork River-2	Spanish Fork River from Moark Diversion to Thistle Creek confluence	3A, 4	2B	6.48
Jordan / Utah Lake River	UT16020202-003	Hobble Creek-1	Hobble Creek from Utah Lake to Left Fork Hobble Creek	3A, 4	2B	9.79
Jordan / Utah Lake River	UT16020202-004	Hobble Creek-2	Left Fork Hobble Creek and tributaries from conflunce w\ Right Fork to headwater	3A, 4	2B	28.48
Jordan / Utah Lake River	UT16020202-005	Hobble Creek-3	Right Fork Hobble Creek and tributaries from confluence w\ Left Fork to headwaters	3A, 4	2B	18.48
Jordan / Utah Lake River	UT16020202-007	Diamond Fork-2	Diamond Fork Creek from Sixth Water Creek confluence to Hawthorne Campground.	3A, 4	2B	4.51
Jordan / Utah Lake River	UT16020202-008	Diamond Fork-3	Diamond Fork Creek and tributaries from Hawthorne Campground to headwaters-	3A, 4	2B	22.92
Jordan / Utah Lake River	UT16020202-010	Third Water Creek	Third Water Creek and tributaries from confluence w/ Sixth Water Creek to headwaters	3A, 4	2B	20.68
Jordan / Utah Lake River	UT16020202-011	Cottonwood Creek	Cottonwood Creek and tributaries from confluence w/Sixth Water Creek to headwaters	3A, 4	2B	14.44

Table C-2. Some Stream Segments Designated Uses Are Supported: Insufficient Data To Assess Other Designated Uses.						
Watershed Management Unit	Watershed Management Unit	Watershed Management Unit	Watershed Management Unit	Beneficial Use Classes Assessed	Beneficial Use Classes Not Assessed	Stream Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Jordan / Utah Lake River	UT16020202-013	Soldier Creek-2	Soldier Creek and tributaries from confluence of Starvation Creek to headwaters	3A, 4	2B	6.45
Jordan / Utah Lake River	UT16020202-015	Tie Fork	Tie Fork and tributaries from confluence w/ Soldier Creek to headwaters	3A, 4	2B	15.44
Jordan / Utah Lake River	UT16020202-016	Lake Fork	Lake Fork and tributaries from USFS Boundary to headwaters	3A, 4	2B	22.33
Jordan / Utah Lake River	UT16020202-017	Dairy Fork	Dairy Fork and tributaries from confluence w/ Soldier Creek to headwaters	3A, 4	2B	5.69
Jordan / Utah Lake River	UT16020202-019	Clear Creek	Clear Creek and tributaries from confluence w/ Soldier Creek to headwaters	3A, 4	2B	12.63
Jordan / Utah Lake River	UT16020202-020	Starvation Creek	Starvation Creek and tributaries from confluence w/ Soldier Creek to headwaters	3A, 4	2B	19.50
Jordan / Utah Lake River	UT16020202-022	Thistle Creek-1	Thistle Creek from confluence with Soldier Creek to confluence with Little Clear Creek	3A, 4	2B	18.28
Jordan / Utah Lake River	UT16020202-023	Thistle Creek-2	Thistle Creek and tributaries from confluence with Little Clear Creek to headwaters	3A, 4	2B	16.82
Jordan / Utah Lake River	UT16020202-024	Bennie Creek	Bennie Creek and tributaries from confluence w/ Thistle Creek to headwaters	3A, 4	2B	13.36
Jordan / Utah Lake River	UT16020202-025	Nebo Creek	Nebo Creek and tributaries from confluence with Thistle Creek to headwaters	3A, 4	2B	36.67
Jordan / Utah Lake River	UT16020202-027	Beer Creek	Beer Creek and tributararies from confluence w/ Spring Creek to headwaters	3C, 4	2B	18.76
Jordan / Utah Lake River	UT16020202-028	Peteetneet Creek	Peteetneet Creek and tributaries from i Maple Dell Campground to headwaters	3A, 4	2B	17.35
Jordan / Utah Lake River	UT16020202-030	Benjamin Slough	Benjamin Sloough from confluence w/Utah Lake to Beer Creek confluence	3B, 4	2B	5.36
Jordan / Utah Lake River	UT16020203-001	Provo River-1	Provo River from Utah Lake to Murdock Diversion	3A, 4	2B	10.26
Jordan / Utah Lake River	UT16020203-002	Provo River-2	Provo River from Murdock Diversion to Olmstead Diversion	1C, 3A, 4	2B	3.66
Jordan / Utah Lake River	UT16020203-003	Provo River-3	Provo River from Olmstead Diversion to Deer Creek Res.	1C, 3A, 4	2B	5.91
Jordan / Utah Lake River	UT16020203-004	Provo River-4	Provo River from Deer Creek Reservoir to Jordanelle Reservoir	1C, 3A, 4	2B	9.54
Jordan / Utah Lake River	UT16020203-005	Provo River-5	Provo River from Jordanelle Reservoir to Woodland	1C, 3A, 4	2B	7.89
Jordan / Utah Lake River	UT16020203-006	Provo River-6	Provo River and tributaries from Woodland to headwaters	1C, 3A, 4	2B	83.39
Jordan / Utah Lake River	UT16020203-007	South Fork Provo River	Lower South Fork Provo River and tributaries from confluence w/ Provo River to headwaters	1C, 3A, 4	2B	20.60
Jordan / Utah Lake River	UT16020203-008	North Fork Provo River	North Fork Provo River and tributaries from confluence w/ Provo River to headwaters	1C, 3A, 4	2B	9.02

Table C-2. Some Stream Segments Designated Uses Are Supported: Insufficient Data To Assess Other Designated Uses.						
				Beneficial	Beneficial	
Watershed	Watershed	Watershed	Watershed	Use	Use	
Management	Management	Management	Management	Classes	Classes	Stream
Unit	Unit	Unit	Unit	Assessed	Not Assessed	Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Jordan / Utah Lake River	UT16020203-009	Main Creek-1	Main Creek and tributaries from Deer Creek Res to Round Valley	1C, 3A, 4	2B	6.21
Jordan / Utah Lake River	UT16020203-010	Main Creek-2	Main Creek and tributaries from Round Valley to headwaters	1C, 3A, 4	2B	32.20
Jordan / Utah Lake River	UT16020203-011	Daniels Creek-1	Daniels Creek from confluence w/ Deer Creek Reservoir to Whiskey Springs	1C, 3A, 4	2B	10.04
Jordan / Utah Lake River	UT16020203-012	Daniels Creek-2	Daniels Creek from Whiskey Springs to headwaters	1C, 3A, 4	2B	15.95
Jordan / Utah Lake River	UT16020203-013	Provo Deer Creek	Provo Deer Creek and tributaries from confluence w/ Provo River to headwaters	1C, 3A, 4	2B	19.14
Jordan / Utah Lake River	UT16020203-014	Snake Creek-1	Snake Creek from confluence w/ Provo River to WMSP Golf Course	1C, 3A, 4	2B	4.09
Jordan / Utah Lake River	UT16020203-015	Snake Creek-2	Snake Creek and tributaries from WMSP to headwaters	1C, 3A, 4	2B	17.69
Jordan / Utah Lake River	UT16020203-017	Little South Fork Provo	Little South Fork Provo River and tributaries from confluence w/ Provo River to headwaters	1C, 3A, 4	2B	22.46
Jordan / Utah Lake River	UT16020203-018	South Fork Provo	Upper South Fork Provo River and tributaries from confluence w/ Provo River to headwaters	1C, 3A, 4	2B	27.76
Jordan / Utah Lake River	UT16020203-019	Lake Creek-2	Lake Creek and tribuaries above Timber Creek confluence to headwaters	1C, 3A, 4	2B	15.13
Jordan / Utah Lake River	UT16020204-003	Jordan / Utah Lake River-3	Jordan River from North Temple to 2100 S	3B, 4	2B	4.20
Jordan / Utah Lake River	UT16020204-004	Jordan / Utah Lake River-4	Jordan River from 2100 S to 6400 S	3B, 4	2B	9.41
Jordan / Utah Lake River	UT16020204-010	City Creek-2	City Creek and tributariies from filtration plant to headwaters	1C, 3A	2B	4.76
Jordan / Utah Lake River	UT16020204-011	Red Butte Creek	Red Butte Creek and tributaries from Red Butte Reervoir to headwaters	1C, 3A	2B	4.56
Jordan / Utah Lake River	UT16020204-014	Mountain Dell Creek-1	Mountain Dell Creek from Mountain Dell Res to Little Dell Reservoir	1C, 3A	2B	0.72
Jordan / Utah Lake River	UT16020204-015	Mountain Dell Creek-2	Mountain Dell Creek and tributaries from to Little Dell Reservoir headwaters.	1C, 3A	2B	8.08
Jordan / Utah Lake River	UT16020204-019	Big Cottonwood Creek-1	Big Cottonwood Creek and tributaries from Jordan River to Big Cottonwood WTP	3A, 4	2B	9.53
Jordan / Utah Lake River	UT16020204-021	Little Cottonwood Creek-1	Little Cottonwood Creek and tributaries from confluence Jordan River to Metropolitan WTP	3A, 4	2B	8.73
Jordan / Utah Lake River	UT16020204-024	Butterfield Creek	Butterfield Creek and tributaries from confluence w/Jordan River to headwaters	3D, 4	2B	1.75
Jordan / Utah Lake River	UT16020204-025	Parleys Canyon Creek-1	Parley's Canyon Creek and tributaries from 1300 East to Mountain Dell Reservoir	1C, 3A	2B	11.43
Jordan / Utah Lake River	UT16020204-026	Mill Creek-1	Mill Creek from conluence w/Jordan River to I-15	3C, 4	2B	1.03

Table C-2. Some Stream Segments Designated Uses Are Supported: Insufficient Data To Assess Other Designated Uses.						
				Beneficial	Beneficial	
Watershed	Watershed	Watershed	Watershed	Use	Use	
Management	Management	Management	Management	Classes	Classes	Stream
Unit	Unit	Unit	Unit	Assessed	Not Assessed	Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Lower Colorado River	UT15010003-001	Cottonwood Canyon	Cottonwood Canyon from Utah/Arizona Stateline to headwaters	3C, 4	2B	8.62
Lower Colorado River	UT15010003-002	Kanab Creek-1	Kanab Creek and tributaries from state line to the confluence with Fourmile Hollow near the White Cliffs.	3C, 4	2B	17.64
Lower Colorado River	UT15010003-003	Kanab Creek-2	Kanab Creek and tributaries from the confluence with Fourmile Hollow near the White Cliffs to Reservoir Canyon.	3C, 4	2B	5.81
Lower Colorado River	UT15010003-005	Johnson Wash-2	Johnson Wash and tributaries from Red Wash confluence to headwaters	3A, 4	2B	25.62
Lower Colorado River	UT15010008-002	Santa Clara-2	Santa Clara River and tributaries from Gunlock Reservoir to Baker Dam Resevoir (include Maogatsue Creek and tribs to USF	3A, 4	2B	24.96
Lower Colorado River	UT15010008-003	Santa Clara-3	Santa Clara River and tributaries from Baker Dam Reservoir to headwaters	3A, 4	2B	14.82
Lower Colorado River	UT15010008-006	Leeds Creek	Leeds Creek and tributaries from confluence w/Quail Creek to headwaters	3A, 4	2B	13.86
Lower Colorado River	UT15010008-009	Ash Creek-3	Ash Creek and tributaries from Ash Creek Reservoir to headwaters	3A, 4	2B	35.74
Lower Colorado River	UT15010008-010	Laverkin Creek	Laverkin Creek and tributaries from confluence w/Virgin River to headwaters (excludes Ash Creek)	3B, 4	2B	45.73
Lower Colorado River	UT15010008-011	Virgin River-3	Virgin River and tributaries from Quail Creek Diversion to North Creek confluence	1C, 3C, 4	2B	4.07
Lower Colorado River	UT15010008-012	Virgin River-4	Virgin River and tributaries from North Creek confluence to Norh Fork Virgin River	1C, 3C, 4	2B	22.55
Lower Colorado River	UT15010008-015	North Fork Virgn River-1	North Fork Virgin River and tributaries from confluence w/East Fork Virgin River to Kolob Creek confluence	1C, 3A, 4	2B	38.32
Lower Colorado River	UT15010008-018	East Fork Virgin-1	East Fork of Virgin River and tributaries from confluence w/North Fork Virgin River to Carmel Junction	1C, 3A, 4	2B	37.09
Lower Colorado River	UT15010008-019	East Fork Virgin-2	East Fork Virgin River and tributaries from Carmel Junction to Glendale	3A, 4	2B	18.73
Lower Colorado River	UT15010008-020	East Fork Virgin-3	East Fork Virgin River and tributaries from Glendale to headwaters	3A, 4	2B	28.76
Sevier River	UT16030001-002	Sevier River-4	Sevier River and tributaries from Piute Reservoir to Circleville Irrigation Diversion, excluding East Fork Sevier River	3A, 4	2B	16.21
Sevier River	UT16030001-004	Bear Creek	Bear Creek and tributaries from confluence w/Sevier River to headwaters	3A, 4	2B	5.58
Sevier River	UT16030001-009	Mammoth Creek	Mammoth Creek and tributaries from confluence w/Sevier River to headwaters	3A, 4	2B	44.09

Table C-2. Some Stream Segments Designated Uses Are Supported: Insufficient Data To Assess Other Designated Uses.						
				Beneficial	Beneficial	
Watershed	Watershed	Watershed	Watershed	Use	Use	
Management	Management	Management	Management	Classes	Classes	Stream
Unit	Unit	Unit	Unit	Assessed	Not Assessed	Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Sevier River	UT16030001-011	Asay Creek	Asay Creek and tributaries from confluence w/ Sevier River to Headwaters	3A, 4	2B	36.82
Sevier River	UT16030001-014	Threemile Creek	Sevier River west side tributaries from Horse Valley Diversion upstream to Long Canal excluding Panquitch and Bear Creek	3A, 4	2B	19.91
Sevier River	UT16030002-006	East Fork Sevier-3	East Fork Sevier River and tributaries from Antimony Creek confluence to Deer Creek confluence	3A, 4	2B	21.29
Sevier River	UT16030002-009	East Fork Sevier-2	East Fork Sevier River and tributaries from Deer Creek confluence to Tropic Reservoir	3A, 4	2B	127.67
Sevier River	UT16030002-010	East Fork Sevier-1	East Fork Sevier River and tributaries from Tropic Reservoir to headwaters	3A, 4	2B	31.80
Sevier River	UT16030003-006	Salina Creek-2	Salina Creek and tributaries from USFS boundary to headwaters	3A, 4	2B	133.94
Sevier River	UT16030003-007	Beaver Creek-1	Beaver Creek and other west side tributaries to Sevier River below USFS boundary from Clear Creek upstream to HUC bounda	3A, 4	2B	7.04
Sevier River	UT16030003-008	Lost Creek-2	Lost Creek and tributaries from ~6 miles upstream to USFS boundary	3B, 4	2B	7.46
Sevier River	UT16030003-010	Lost Creek-3	Lost Creek and tributaries USFS boundary to headwaters	3A, 4	2B	26.68
Sevier River	UT16030003-014	Sevier River-14	Sevier River east side tributaries from Rocky Ford Reservoir upstream to Annabelle Diversion and below USFS boundary	3B, 4	2B	9.46
Sevier River	UT16030003-015	Sevier River-13	Sevier River from Rocky Ford Reservoir upstream to Annabelle Diversion	3B, 4	2B	28.38
Sevier River	UT16030003-017	Sevier River-6	Sevier River from Clear Creek confluence to HUC unit boundary	3A, 4	2B	28.06
Sevier River	UT16030003-018	Clear Creek	Clear Creek and tributaries from confluence w/Sevier River to headwaters	3A, 4	2B	101.38
Sevier River	UT16030003-020	Beaver Creek-2	Beaver Creek and other westside tributaries to Sevier River above USFS boundary from Clear Creek upstream to HUC bounda	3A, 4	2B	16.72
Sevier River	UT16030004-002	Twelve Mile Creek	Twelve Mile Creek and tributaries from USFS boundary to headwaters	3A, 4	2B	43.85
Sevier River	UT16030004-003	Six Mile Creek	Six Mile Creek and tributaries from confluence w/San Pitch River to headwaters	3A, 4	2B	27.41
Sevier River	UT16030004-004	South Creek	South Creek (Manti Creek) and tributaries from USFS boundary to headwaters	3A, 4	2B	21.21
Sevier River	UT16030004-007	Ephraim Creek	Ephraim Creek and tributaries from USFS boundary to headwaters	3A, 4	2B	16.23
Sevier River	UT16030004-008	Pleasant Creek	Pleasant Creek and tributaries from confluence w/San Pitch River to headwaters	3A, 4	2B	50.38

Table C-2. Some Stream Segments Designated Uses Are Supported: Insufficient Data To Assess Other Designated Uses.						
				Beneficial	Beneficial	
Watershed	Watershed	Watershed	Watershed	Use	Use	
Management	Management	Management	Management	Classes	Classes	Stream
Unit	Unit	Unit	Unit	Assessed	Not Assessed	Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Sevier River	UT16030004-009	San Pitch-5	San Pitch River and tributaries from beneficial U132 to Pleasant Creek confluence, excluding Cedar Creek, Oak Creek, Ple	3A, 4	2B	65.66
Sevier River	UT16030004-010	Oak Creek-1	Oak Creek and tributaries from confluence w/ San Pitch River to headwaters	3A, 4	2B	34.91
Sevier River	UT16030004-012	Upper Oak Creek	Oak Creek and tributaraies from confluence w/San Pitch River to headdwaters (near Fairview)	3A, 4	2B	6.83
Sevier River	UT16030004-013	Cottonwood Creek-SP	Cottonwood Creek and tributaries from confluence w/San Pitch River to headwaters	3A, 4	2B	9.35
Sevier River	UT16030005-019	Chalk Creek-2	Chalk Creek and Pine Creek (Millard County) and tributaries from USFS boundary to headwaters	3A, 4	2B	33.84
Sevier River	UT16030005-020	Chicken Creek-1	Chicken Creek and tributaries from Levan to heawaters	3A, 4	2B	17.77
Sevier River	UT16030005-021	Corn Creek	Corn Creek and tributaries from mouth to headwaters	3A, 4	2B	45.94
Sevier River	UT16030005-023	Meadow Creek	Meadow Creek and tributaries from mouth to headwaters (Juab County)	3A, 4	2B	6.98
Uinta	UT14040106-001	Dahlgreen Creek	Dahlgreen Creek and tributaries from Utah-Wyoming state line to headwaters.	3A, 4	2B	
Uinta	UT14040106-002	Henrys Fork River	Henrys Fork River and tributaries from Utah-Wyoming state line to headwaters.	3A, 4	2B	52.02
Uinta	UT14040106-003	West Fork Beaver Creek	West Fork Beaver Creek: Spring Creek: Poison Creek-tribs; Utah-Wyoming state line to headwaters.	3A, 4	2B	18.66
Uinta	UT14040106-004	Middle Fork Beaver Creek	Middle Fork Beaver Creek and tributaries from Utah-Wyoming state line to headwaters.	3A, 4	2B	30.08
Uinta	UT14040106-004	Middle Fork Beaver Creek	Middle Fork Beaver Creek and tributaries from Utah-Wyoming state line to headwaters.	3A, 4	2B	30.08
Uinta	UT14040106-005	Burnt Fork Creek	Burnt Fork Creek and tributaries from Utah-Wyoming state line to headwaters.	3A, 4	2B	36.53
Uinta	UT14040106-007	Sheep Creek	Sheep Creek and tributaries from Flaming Gorge Reservoir to headwataers.	3C, 4	2B	70.08
Uinta	UT14040106-018	Red Creek	Red Creek and tributaries from confluence Green River to headwaters.	3C, 4	2B	14.06
Uinta	UT14040106-019	Green River-1	Green River from Utah-Colorado state line to Flaming Gorge Reservoir.	3A, 4	2B	28.63
Uinta	UT14040106-022	Sears Creek	Sears Creek and tributaries from confluence Green River to headwaters.	3A	2B	7.16
Uinta	UT14040107-001	Blacks Fork	Blacks Fork River and tributaries from Utah-Wyoming state line to headwaters; all other streams from eastern boundary of	3A, 4	2B	135.07

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Watershed Management Unit	Watershed Management Unit	Watershed Management Unit	Watershed Management Unit	Beneficial Use Classes Assessed	Beneficial Use Classes Not Assessed	Stream Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Uinta	UT14040107-002	Archie Creek	Archie Creek and tributaries from Utah-Wyoming state line to headwaters	3A, 4	2B	3.72
Uinta	UT14040107-003	West Fork Smiths Fork	West Fork Smiths Fork and tributaries from Utah-Wyoming state line to headwaters.	3A, 4	2B	19.30
Uinta	UT14040107-004	Gilbert Creek	Gilbert Creek and tributaries from Utah-Wyoming state line to headwaters.	3A, 4	2B	6.68
Uinta	UT14040107-005	East Fork Smiths Fork	East Fork Smiths Fork and tributaries from Utah-Wyoming state line to headwaters.	3A, 4	2B	48.41
Uinta	UT14050007-001	White River	White River from confluence Green River to Utah-Colorado state line.	3B, 4	2B	77.58
Uinta	UT14060001-004	Green River-2	Green River from Duchesne River confluence to Utah/Wyoming Border	1C, 3B, 4	2B	91.40
Uinta	UT14060002-002	Middle Ashley Creek	Ashley Creek and tributaries from Vernal sewage lagoons to Dry Fork confluence.	3B, 4	2B	12.28
Uinta	UT14060002-005	Upper Little Brush Creek	Little Brush Creek and tributaries from mouth of Little Brush Creek Gorge to headwaters.	3B, 4	2B	32.94
Uinta	UT14060002-006	Big Brush Creek	Big Brush Creek and tributaris from Red Fleet Reservoir to headwaters.	1C, 3A, 4	2B	42.80
Uinta	UT14060002-007	Upper Ashley Creek	Ashley Creek and tributaries from confluence of Dry Fork to headwaters (exclude Dry Fork).	1C, 3A, 4	2B	60.93
Uinta	UT14060002-008	Dry Fork Creek	Dry Fork Creek and tributaries from confluence Ashley Creek to headwaters.	1C, 3A, 4	2B	47.05
Uinta	UT14060003-006	Duchesne River-3	Duchesne River: from Myton to Strawberry River confluence.	1C, 3A, 4	2B	39.45
Uinta	UT14060003-011	Lower Whiterocks River	Whiterocks River from confluence Uintah River to Tridell Water Treatment Plant.	3A, 4	2B	23.81
Uinta	UT14060003-013	Upper Whiterocks River	Whiterocks River and tributaries from Tridell Water Treatment Plant to headwaters.	1C, 3A, 4	2B	76.31
Uinta	UT14060003-016	Lower Rock Creek	Rock Creek and tributaries from confluence with Duchesne River to USNF boundary	1C, 3A, 4	2B	29.29
Uinta	UT14060003-017	Duchesne River-4	Duchesne River and from Strawberry River confluence to West Fork Duchesne confluence.	1C, 3A, 4	2B	67.50
Uinta	UT14060003-018	West Fork Duchesne	West Fork Duchesne River and tributareis from confluence Duchesne River to headwaters.	1C, 3A, 4	2B	67.72
Uinta	UT14060003-019	North Fork Duchesne	North Fork Duchesne River and tributaries from confluence Duchesne River to headwaters.	1C, 3A, 4	2B	58.32
Uinta	UT14060003-020	Upper Rock Creek	Rock Creek and tributaries from USNF boundary to headwaters.	1C, 3A, 4	2B	99.36

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				Beneficial	Beneficial	
Watershed	Watershed	Watershed	Watershed	Use	Use	
Management	Management	Management	Management	Classes	Classes	Stream
Unit	Unit	Unit	Unit	Assessed	Not Assessed	Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Uinta	UT14060003-021	Moon Lake Tributaries	Moon Lake tributaries	1C, 3A, 4	2B	118.35
Uinta	UT14060003-022	Lake Fork-3	Lake Fork River and tributaries from Yellowstone River confluence to Moon Lake.	1C, 3A, 4	2B	35.73
Uinta	UT14060003-023	Upper Yellowstone	Yellowstone River and tributaries from USNF boundary to headwaters.	1C, 3A, 4	2B	110.84
Uinta	UT14060003-024	Uinta River-4	Uinta River and tributaries from USFS boundary to headwaters.	3A, 4	2B	85.84
Uinta	UT14060004-001	Strawberry River-1	Strawberry River from confluence Duchesne River to Starvation Dam.	1C, 3A, 4	2B	5.94
Uinta	UT14060004-004	Stawberry River-2	Stawberry River and tributaries from Starvation Reservoir to Avintaquin Creek confluence.	1C, 3A, 4	2B	16.36
Uinta	UT14060004-005	Avintaquin Creek	Avintaquin Creek and tributaries confluence Strawberry River to headwaters.	1C, 3A, 4	2B	53.84
Uinta	UT14060004-006	Lower Red Creek	Red Creek and tributaries from confluence Strawberry River to Currant Creek Confluence.	1C, 3A, 4	2B	5.20
Uinta	UT14060004-007	Middle Red Creek	Red Creek and tributaries from confluence Current Creek to Red Creek Reservoir.	1C, 3A, 4	2B	14.78
Uinta	UT14060004-009	Lower Currant Creek	Current Creek and tributaries from Red Creek confluence to Current Creek Reservoir.	1C, 3A, 4	2B	60.57
Uinta	UT14060004-010	Strawberry River-3	Strawberry River and tributaries from Avintaquin Creek confluence to Stawberry Reservoir.	1C, 3A, 4	2B	20.16
Uinta	UT14060004-013	Strawberry-4	Strawberry Reservoir tributaries other than Strawberry River	1C, 3A, 4	2B	68.20
Uinta	UT14060004-014	Upper Strawberry	Strawberry River and tributaries from Strawberry Reservoir to headwaters.	1C, 3A, 4	2B	38.02
Uinta	UT14060004-015	Upper Currant Creek	Currant Creek Reservoir tributaries	1C, 3A, 4	2B	55.47
Uinta	UT14060005-006	Lower Range Creek	Range Creek-tribs: confluence Green River to ranch diversion.	3A, 4	2B	8.98
Uinta	UT14060005-009	Green River-3	Green River from HUC unit boudary (Price River confluence to Duchesne River confluence.	1C, 3B, 4	2B	111.84
Weber River	UT16020101-001	Lost Creek	Lost Creek and tributaries from confluence w/ Weber River to Lost Creek Reservoir	1C, 3A, 4	2B	29.89
Weber River	UT16020101-004	Weber River-7	Weber River segment between confluence Lost Creek and Echo Reservoir	1C, 3A, 4	2B	10.57
Weber River	UT16020101-015	East Fork Chalk Creek	East Fork Chalk Creek and tributaries from confluence w/ Chalk Creek to headwaters	1C, 3A, 4	2B	28.42
Weber River	UT16020101-017	Weber River-8	Weber River from Echo Reservoir to Rockport Reservoir	1C, 3A, 4	2B	10.67
Weber River	UT16020101-022	Fort Creek	Fort Creek from confluence w/ Weber River to headwaters-tribs	1C, 3A, 4	2B	9.58

Table C-2. Some Stream Segments Designated Uses Are Supported: Insufficient Data To Assess Other Designated Uses.						
				Beneficial	Beneficial	
Watershed	Watershed	Watershed	Watershed	Use	Use	
Management	Management	Management	Management	Classes	Classes	Stream
Unit	Unit	Unit	Unit	Assessed	Not Assessed	Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Weber River	UT16020101-023	Weber River-9	Rockport Reservoir to Weber-Provo Canal	1C, 3A, 4	2B	19.02
Weber River	UT16020101-024	Weber River-10	Weber-Provo Canal and tributaries to Smith-Morehouse confluence	1C, 3A, 4	2B	45.58
Weber River	UT16020101-025	Weber River-11	Weber River and tributaries from Smith Morehouse confluence to Holiday Park	1C, 3A, 4	2B	30.25
Weber River	UT16020101-026	Smith Morehouse River-1	Smith Morehouse River from confluence w/ Weber River to Smith Morehouse Reservoir	1C, 3A, 4	2B	8.39
Weber River	UT16020101-027	Smith Morehouse River-2	Smith Morehouse River and tributaries from Smith Morehouse Reservoir to headwaters	1C, 3A, 4	2B	14.51
Weber River	UT16020101-028	Weber River-12	Weber River and tributaries from Holiday Park to headwaters	1C, 3A, 4	2B	26.15
Weber River	UT16020101-029	Beaver Creek-1	Beaver Creek from confluence with Weber River to Kamas	1C, 3A, 4	2B	12.72
Weber River	UT16020101-030	Beaver Creek-2	Beaver Creek from Kamas to headwaters	1C, 3A, 4	2B	21.44
Weber River	UT16020102-001	Weber River-1	Weber River from Great Salt Lake to Slaterville Diversion	3C, 3D, 4	2B	60.15
Weber River	UT16020102-002	Weber River-3	Weber River from Ogden River confluence to Cottonwood Creek confluence	3A, 4	2B	17.86
Weber River	UT16020102-003	Four Mile Creek	Four Mile Creek from confluence w/ Weber River to headwaters	3A, 4	2B	7.80
Weber River	UT16020102-005	Ogden River-1	Ogden River from confluence w/ Weber River to Pineview Reservoir	3A, 4	2B	9.66
Weber River	UT16020102-007	Weber River-2	Slaterville Diversion to Ogden River confluence	3A, 4	2B	0.40
Weber River	UT16020102-008	Wheeler Creek	Wheeler Creek and tributaries from confluence w/Ogden River to headwaters	1C, 3A, 4	2B	12.98
Weber River	UT16020102-009	Middle Fork Ogden River	Middle Fork Ogden River and tributaries from Pineview Reservoir to headwaters	1C, 3A, 4	2B	22.67
Weber River	UT16020102-010	South Fork Ogden River-1	South Fork Ogden River and tributaries from Pineview Reservoir to Causey Reservoir	1C, 3A, 4	2B	15.56
Weber River	UT16020102-011	Beaver Creek	Beaver Creek and tributaries from confluence South Fork Ogden to headwaters	1C, 3A, 4	2B	18.48
Weber River	UT16020102-012	South Fork Ogden River	Causey Reservoir to headwaters-tribs	1C, 3A, 4	2B	32.73
Weber River	UT16020102-020	Weber River-4	Weber River from Cottonwood Creek confluence to Stoddard Diversion	3A, 4	2B	9.50
Weber River	UT16020102-022	Weber River-6	Weber River between East Canyon Creek confluence and Lost Creek confluence	1C, 3A, 4	2B	12.37
Weber River	UT16020102-023	Hardscrabble Creek	Hardscrabble Creek and tributaries from confluence w/ East Canyon Creek to headwaters	1C, 3A, 4	2B	23.48

Table C-2. Some Stream Segments Designated Uses Are Supported: Insufficient Data To Assess Other Designated Uses.						
				Beneficial	Beneficial	
Watershed	Watershed	Watershed	Watershed	Use	Use	
Management	Management	Management	Management	Classes	Classes	Stream
Unit	Unit	Unit	Unit	Assessed	Not Assessed	Miles
Bear River	UT16010101-002	Six Mile Creek	Six Mile Creek from reservoir to headwaters	3A, 4	2B	15.27
Weber River	UT16020102-024	East Canyon Creek -1	East Canyon Creek from confluence w/ Weber River to East Canyon Dam	1C, 3A, 4	2B	15.27
Weber River	UT16020102-027	Kimball Creek	Kimball Creek and tributaries from East Canyon Creek confluence to headwaters, including McLeod Creek	1C, 3A, 4	2B	12.97
Weber River	UT16020102-030	North Fork Kays Creek	North Fork Kays Creek and tributaries from USFS Boundary to headwaters	3A, 4	2B	0.69
Weber River	UT16020102-031	Kays Creek	Kays Creek and tributaries from Farmington Bay to USFS boundary	3B, 4	2B	10.83
Weber River	UT16020102-048	Weber River-5	Weber River from Stoddard Diversion to East Canyon Creek confluence	1C, 3A, 4	2B	1.51
Weber River	UT16020102-049	Mill Creek-2	Mill Creek from USFS boundary to headwaters	1C, 3A, 4	2B	5.34

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Bear River	UT16010101-001	Bear River West	Bear River west side tributaries from Six Mile Creek North	2B, 3A, 4	6.29
Bear River	UT16010101-001	Bear River West	Bear River west side tributaries from Six Mile Creek North	2B, 3A, 4	6.29
Bear River	UT16010101-017	Dry Creek	Dry Creek and tributaries from confluence W/Saleratus Creek to headwaters	2B, 3A, 4	
Bear River	UT16010101-018	Sutton Creek	Sutton Creek & tributaries from Utah-Wyoming border to headwaters	2B, 3A, 4	26.61
Bear River	UT16010101-019	Yellow Creek Tributaries	Yellow Creek tributaries from Utah-Wyoming border to headwaters	2B, 3A, 4	20.81
Bear River	UT16010101-019	Yellow Creek Tributaries	Yellow Creek tributaries from Utah-Wyoming border to headwaters	2B, 3A, 4	20.81
Bear River	UT16010101-028	Yellow Creek	Yellow Creek and tributaries from Utah-Wyoming border to headwaters	2B, 3A, 4	16.4
Bear River	UT16010101-028	Yellow Creek	Yellow Creek and tributaries from Utah-Wyoming border to headwaters	2B, 3A, 4	16.4
Bear River	UT16010202-006	City Creek	City Creek and tributaries from confluence w/Bear River to headwaters and other streams in waterbody	2B, 3B, 3D, 4	7.3
Bear River	UT16010202-014	Unknown name	Small streams that flow north into Idaho east of Clarkson Creek	2B, 3A, 4	4.21
Bear River	UT16010203-001	Cutler West	Cutler Reservoir west side tributaries	2B, 3B, 3D, 4	1.16
Bear River	UT16010203-002	Swift Slough	Swift Slough from confluence w/ Cutler Reservoir to headwaters including tributaries	2B, 3B, 3D, 4	10.38
Bear River	UT16010203-007	Little Bear-3	Little Bear River west side tributaries from Cutler Reservoir To Hyrum Reservoir	2B, 3A, 3D, 4	7.04
Bear River	UT16010203-007	Little Bear-3	Little Bear River west side tributaries from Cutler Reservoir To Hyrum Reservoir	2B, 3A, 3D, 4	7.04
Bear River	UT16010204-002	Lower Bear East	Bear River east side tributaries from Malad confluence south	2B, 3D, 4	37.14
Bear River	UT16010204-004	Lower Bear West	Bear River west side tributaries from Malad River confluence south	2B, 3B, 3D, 4	10.88

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Bear River	UT16010204-005	Box Elder Creek-2	Box Elder Creek from Brigham City Reservoir (the Mayor's Pond) to headwaters	2B, 3A, 4	6.94
Bear River	UT16010204-007	Middle Bear East	Bear River east side tributaries from Malad River confluence north to HUC boundary	2B, 3B, 3D, 4	13.9
Cedar / Beaver	UT16030007-001	Beaver River-1	Beaver River Below Minersville Reservoir	2B, 3A, 4	7.02
Colorado River Southeast	UT14030001-001	Cottonwood Wash	Cottonwood Wash from confluence of Colorado River to headwaters	1C, 2B, 3B, 4	20.87
Colorado River Southeast	UT14030001-002	Little Dolores River	Little Delores River from confluence with Colorado River to Colorado stateline	2B, 3C, 4	
Colorado River Southeast	UT14030001-003	Westwater Creek	Westwater Creek &tribs from confluence with Colorado River to headwaters	1C, 2B, 3B, 4	
Colorado River Southeast	UT14030002-002	Roc Creek	Roc Creek and tributaries from Utah-Colorado stateline to headwaters	2B, 3A, 4	20.22
Colorado River Southeast	UT14030005-001	Kane Spring Wash	Kane Spring Wash from confluence w/Colorado River to headwaters	2B, 3C, 4	48.84
Colorado River Southeast	UT14030005-007	Salt Wash	Salt Wash & tribs from confluence with Colorado River to headwaters	1C, 2B, 3B, 4	22.91
Colorado River Southeast	UT14030005-008	Negro Bill	Negro Bill Creek from confluence with Colorado River to headwater	1C, 2B, 3B, 4	10.12
Colorado River Southeast	UT14070006-007	Lake Powell Tribs-4	Lake Powell south side tributaries from Arizona stateline to HUC (14070006) boundary	2B, 3B, 4	2.52
Colorado River Southeast	UT14070006-007	Lake Powell Tribs-4	Lake Powell south side tributaries from Arizona stateline to HUC (14070006) boundary	2B, 3B, 4	2.52
Colorado River Southeast	UT14070006-007	Lake Powell Tribs-4	Lake Powell south side tributaries from Arizona stateline to HUC (14070006) boundary	2B, 3B, 4	2.52
Colorado River Southeast	UT14070006-007	Lake Powell Tribs-4	Lake Powell south side tributaries from Arizona stateline to HUC (14070006) boundary	2B, 3B, 4	2.52

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Colorado River Southeast	UT14080201-001	Butler Wash	Butler Wash from confluence w/San Juan River to headwaters	1C, 2B, 3B, 4	7.66
Colorado River Southeast	UT14080201-003	Recapture Creek-2	Recapture Creek & tribs from U.S.F.S. boundary to headwaters	1C, 2B, 3B, 4	3.99
Colorado River Southeast	UT14080201-010	San Juan River-3	San Juan River from the confluence with Montezuma Creek to the Utah-Colorado Border	1C, 2B, 3B, 4	33.74
Colorado River Southeast	UT14080202-001	McElmo Creek	McElmo Creek from confluence with San Juan River to Colorado Stateline	1C, 2B, 3B, 4	24.12
Colorado River Southeast	UT14080203-004	South Creek	South Creek from confluence with Montezuma creek to headwaters - tribs	1C, 2B, 3A, 4	9.35
Colorado River Southeast	UT14080203-006	Spring Creek	Spring Creek & tribs from confluence w/Vega Creek to headwaters	2B, 3A, 4	6.29
Colorado River Southeast	UT14080204-001	Chinle Creek	Chinle Creek from confluence with San Juan River to headwaters	1C, 2B, 3B, 4	35.25
Colorado River West	UT14060007-004	Willow Creek	Willow Creek and tribs from cnfl w/Price River to headwaters	2B, 3A, 4	43.7
Colorado River West	UT14060007-008	Coal Creek	Coal Creek and tribs from confluence w/Price River to headwaters	2B, 3C, 4	29.7
Colorado River West	UT14060007-009	Soldier Creek	Soldier Creek and tribs from confluence w/Price River to headwaters	2B, 3C, 4	22.02
Colorado River West	UT14060007-010	Miller Creek	Miller Creek and tribs from confluence w/Price River to headwaters	2B, 3C, 4	28.64
Colorado River West	UT14060007-011	Desert Seep Wash	Desert Seep Wash from confluence w/Price River to headwaters	2B, 3C, 4	28.98
Colorado River West	UT14060007-012	Lower Grassy Trail Creek	Grassy Trail Creek from confluencel Price River to Grassy Trail Creek Reservoir	2B, 3C, 4	1.79
Colorado River West	UT14070001-001	Halls Creek	Halls Creek & tribs from Lake powell to headwaters	2B, 3B, 4	18.8
Colorado River West	UT14070001-002	Bullfrog Creek	Bullfrog Cr. from Lake Powell to headwaters	2B, 3B, 4	30.1

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Colorado River West	UT14070001-093	North Wash	North Wash from confluence with Lake Powell to headwaters	2B, 3B, 4	16.81
Colorado River West	UT14070001-094	Trachyte Creek	Trachyte Creek from Lake Powell to headwaters	2B, 3B, 4	8.31
Colorado River West	UT14070002-004	Upper Ivie Creek	Ivie Cr. And some tribs from U-10 xing to headwaters	2B, 3A, 4	24.45
Colorado River West	UT14070002-004	Upper Ivie Creek	Ivie Cr. And some tribs from U-10 xing to headwaters	2B, 3A, 4	24.45
Colorado River West	UT14070002-005	Last Chance Creek	Last Chance Cr. And tribs from cnfl Ivie Cr. to headwaters	2B, 3A, 4	3.93
Colorado River West	UT14070003-006	Pine Creek	Pine Creek & tribs from cnfl w/ Fremont R. to headwaters	1C, 2B, 3A, 4	1.59
Colorado River West	UT14070003-010	Pleasant Creek-2	Pleaseant Creek and tributaries from cnfl w/Fremont to east boundary of Capitol Reef National Monument	2B, 3C, 4	10.19
Colorado River West	UT14070003-011	Oak Creek	Oak Creek tribs from east boundary of Capitol Reef National Park to headwaters	1C, 2B, 3A, 4	19.2
Colorado River West	UT14070003-012	Sandy Creek	Sandy Creek from cnfl w/Freemont R. to east boundary of Capitol Reef Nat. Monument & headwaters	2B, 3C, 4	27.1
Colorado River West	UT14070003-013	Henry Mountains	Henry Mountain Streams	1C, 2B, 3C, 4	31.38
Colorado River West	UT14070005-006	Sand Creek	Sand Creek and tributaries from confluence w/Escalante River to headwaters	2B, 3A, 4	32.88
Colorado River West	UT14070005-013	Escalante Tributaries	Escalante River tributaries not previously described from Boulder Creek to Birch Creek	2B, 3A, 4	
Colorado River West	UT14070005-013	Escalante Tributaries	Escalante River tributaries not previously described from Boulder Creek to Birch Creek	2B, 3C, 4	
Colorado River West	UT14070005-013	Escalante Tributaries	Escalante River tributaries not previously described from Boulder Creek to Birch Creek	2B, 3C, 4	
Colorado River West	UT14070005-013	Escalante Tributaries	Escalante River tributaries not previously described from Boulder Creek to Birch Creek	2B, 3A, 4	
Colorado River West	UT14070005-013	Escalante Tributaries	Escalante River tributaries not previously described from Boulder Creek to Birch Creek	2B, 3A, 4	
Colorado River West	UT14070005-013	Escalante Tributaries	Escalante River tributaries not previously described from Boulder Creek to Birch Creek	2B, 3A, 4	

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Colorado River West	UT14070005-013	Escalante Tributaries	Escalante River tributaries not previously described from Boulder Creek to Birch Creek	2B, 3A, 4	
Colorado River West	UT14070005-013	Escalante Tributaries	Escalante River tributaries not previously described from Boulder Creek to Birch Creek	2B, 3C, 4	
Colorado River West	UT14070005-015	Lower Alvey wash	Alvey Wash & tribs from confl w/Escalante R. to Harris Wash	2B, 3C, 4	8.89
Colorado River West	UT14070005-016	Wolverine Creek	Wolverine Creek & tribs from confl w/Escalante River to headwaters.	2B, 3C, 4	
Colorado River West	UT14070006-001	Wahweap Creek	Wahweap Creek 2 trib from Lake Powell to headwaters	2B, 3B, 4	2.04
Colorado River West	UT14070006-004	Chance Creek	Chance Creek & tribs from Lake Powell to headwaters	2B, 3B, 4	16.72
Colorado River West	UT14070006-005	Croton	Croton Canyon & tribs from Lake Powell to headwaters	2B, 3B, 4	2.41
Colorado River West	UT14070007-002	Paria River-2	Paria River from Cottonwood Creek confluence to start of Paria	2B, 3C, 4	31.59
Colorado River West	UT14070007-004	Cottonwood Creek	Cottonwood Creek from confluence w/Paria River to headwaters	2B, 3C, 4	6.47
Great Salt Lake Desert	UT16020304-001	Vernon Creek	Vernon Creek and tributaries, Tooele County	2B,3A,4	0.01
Great Salt Lake Desert	UT16020304-002	Faust Creek	Faust Creek and tributaries, Tooele County	2B,3A,4	3.71
Great Salt Lake Desert	UT16020304-002	Faust Creek	Faust Creek and tributaries, Tooele County	2B,3A,4	3.71
Great Salt Lake Desert	UT16020304-003	North Willow Creek	North Willow Creek and tributaries, Tooele County	2B,3A,4	5.91
Great Salt Lake Desert	UT16020304-004	Ophir Creek	Ophir Creek and tributaries, Tooele County	2B,3A,4	10.18
Great Salt Lake Desert	UT16020304-005	Soldier Creek	Soldier Creek and tributaries from the Drinking Water Treatment Facility headwaters, Tooele County	2B,1C,3A,4	6.97
Great Salt Lake Desert	UT16020304-006	Settlement Canyon Creek	Settlement Canyon Creek and tributaries, Tooele County	2B,3A,4	0.19
Great Salt Lake Desert	UT16020306-001	Trout Creek	Trout Creek and tributaries, Juab County	2B,3A,4	18.45
Great Salt Lake Desert	UT16020306-002	Granite Creek	Granite Creek and tributaries, Juab County	2B,3A,4	12.89
Great Salt Lake Desert	UT16020306-003	Thomas Creek	Thomas Creek and tributaries, Juab County	2B,3A,4	12.13
Great Salt Lake Desert	UT16020306-004	Basin Creek	Basin Creek and tributaries, Juab and Tooele Counties	2B,3A,4	7.15

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	**Watershed Management ID**	**Watershed Management Name**	**Watershed Management Description**	**Beneficial Use Support**	**Stream Miles**
Great Salt Lake Desert	UT16020306-005	Deep Creek	Deep Creek and tributaries, from Rock Spring Creek to headwaters, Juab and Tooele Counties	2B,3A,4	49.47
Great Salt Lake Desert	UT16020308-001	Donner Creek	Donner Creek and tributaries from irrigation diversion to Utah-Nevada state line	2B,1C,3A,4	1.32
Great Salt Lake Desert	UT16020308-002	Bettridge Creek	Bettridge Creek and tributaries, from irrigation diversion to Utah-Nevada state line	2B,1C,3A,4	2.25
Great Salt Lake Desert	Ut16020308-003	Red Butte Creek	Red Butte Creek and tributaries from confluence with Grouse Creek to headwaters	2B,3A,4	11.21
Great Salt Lake Desert	UT16020308-004	Pine Creek	Pine Creek and tributaries, Box Elder County	2B,3A,4	17.68
Great Salt Lake Desert	UT16020308-005	Warm Creek	Warm Creek from confluence with Etna Ditch to Headwaters	2B,3A,4	1.83
Great Salt Lake Desert	UT16020308-006	Straight Fork Creek	Straight Fork Creek and tributaries from Etna Reservoir to headwaters	2B,3A,4	4.57
Great Salt Lake Desert	UT16020308-007	Grouse Creek	Grouse Creek and tributaries from Red Butte confluence to headwaters, except Pine Creek and tributaries	2B,3A,4	21.66
Great Salt Lake Desert	UT16020308-008	Birch Creek	Birch Creek and tributaries from mouth to headwaters	2B,3A,4	8.55
Great Salt Lake Desert	UT16020308-009	Cottonwood Creek	Cottonwood Creek and tributaries from mouth to headwaters	2B,3A,4	4.48
Great Salt Lake Desert	UT16020308-009	Muddy Creek	Cottonwood Creek and tributaries from mouth to headwaters	2B,3A,4	7.38
Great Salt Lake Desert	UT16020309-001	Deep Creek	Deep Creek and tributaries from Utah-Idaho state line to Rose Ranch Reservoir	2B,3A,4	0.01
Great Salt Lake Desert	UT17040210-001	Raft River	Raft River and tributaries from Utah-Idaho state line to confluence of Junction Creek and South Junction Creek	2B,3A,4	7.39
Great Salt Lake Desert	UT17040210-002	Junction Creek	Junction Creek and tributaries from confluence with South Junction Creek to headwaters	2B,3A,4	2.56
Great Salt Lake Desert	UT17040210-003	South Junction Creek	South Junction Creek and tributaries from confluence with Junction Creek to headwaters	2B,3A,4	22.67
Great Salt Lake Desert	UT17040210-004	Johnson Creek	Johnson Creek and tributaries from Utah-Idaho state line to headwaters	2B,3A,4	2.44
Great Salt Lake Desert	UT17040210-005	Holt Creek	Holt Creek from Utah-Idaho state line to headwaters	2B,3A,4	2.45

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Great Salt Lake Desert	UT17040211-001	Goose Creek	Goose Creek and tributaries from Utah-Idaho state line to headwaters	2B,3A,4	5.37
Great Salt Lake Desert	UT17040211-002	Pole Creek	Pole Creek and tributaries from Utah-Idaho state line to headwaters	2B,3A,4	13.22
Great Salt Lake Desert	UT17040211-003	Birch Creek	Birch Creek and tributaries from Utah-Idaho state line to headwaters	2B,3A,4	7.39
Jordan / Utah Lake	UT16020202-014	Sheep Creek	Sheep Creekand tribsutaries from confluence w/ Soldier Creek to headwaters	2B, 3A, 4	6
Jordan / Utah Lake	UT16020202-018	Mill Fork	Mill Fork and tributaries from confluence w/Soldier Creek to headwaters	2B, 3A, 4	9.38
Jordan / Utah Lake	UT16020202-021	Indian Creek	Indian Creek and tributaries from confluence w/Soldier Creek to headwaters	2B, 3A, 4	3.14
Jordan / Utah Lake	UT16020202-031	Moark	Spanish Fork River east side tributaries from Moark, Diversion to Diamond Fork confluence	2B, 3A, 4	
Jordan / Utah Lake	UT16020202-032	Thistle Creek-5	Thistle Creek tributaries between Bennie Creek and Nebo Creek confluences	2B, 3A, 4	
Jordan / Utah Lake	UT16020202-033	Soldier Creek-3	Soldier Creek north side perennial tributaries between Tie Fork and Sheep Creek confluence	2B, 3A, 4	0.11
Jordan / Utah Lake	UT16020202-034	Soldier Creek-4	Soldier Creek south side tributaries from confluence with Thistle Creek to Dairy Fork confluence, excluding Lake Fork ab	2B, 3A, 4	3.69
Jordan / Utah Lake	UT16020202-035	Dry Creek-1	Dry Creek and tributaries from Utah Lake (Provo Bay) to I-15	2B, 3E, 4	5.22
Jordan / Utah Lake	UT16020202-036	Dry Creek-2	Dry Creek and tributaries from I-15 to headwaters	2B, 3A, 4	6.51
Jordan / Utah Lake	UT16020202-036	Dry Creek-2	Dry Creek and tributaries from I-15 to headwaters	2B, 3E, 4	6.51
Jordan / Utah Lake	Ut16020202-037	Thistle Creek-3	Thistle Creek east side tributaries from confluence with Soldier Creek upstream to confluence with Little Clear Creek	2B, 3A, 4	10.72
Jordan / Utah Lake	UT16020203-016	McHenry Creek	McHenry Creek from Jordanelle Reservoir to headwaters	1C, 2B, 3A, 4	2.45

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Jordan / Utah Lake	UT16020203-021	Upper Falls Drainage	Upper Falls above Bridal Veil Falls	1C, 2B, 3A	1.12
Jordan / Utah Lake	UT16020203-024	Rock Canyon	Rock Canyon and tributaries from mouth to headwaters	1C, 2B, 3A, 4	2.64
Jordan / Utah Lake	UT16020203-026	Heber Valley	Provo River east side tributaries from Daniels Creek to Little South Fork except Lake Creek	1C, 2B, 3A, 4	31.48
Jordan / Utah Lake	UT16020203-028	Provo Tribs-Heber	Provo River west side tributaries from Deer Creek Dam to Jordanelle Dam except Snake Creek	1C, 2B, 3A, 4	13.93
Jordan / Utah Lake	UT16020203-028	Provo Tribs-Heber	Provo River west side tributaries from Deer Creek Dam to Jordanelle Dam except Snake Creek	1C, 2B, 3A, 4	13.93
Jordan / Utah Lake	UT16020204-009	City Creek-1	City Creek and tribs from Memory Park to SLC WTP	2B, 3A	4.23
Jordan / Utah Lake	UT16020204-017	Mill Creek-2	Mill Creek and tributaries from I-15 to Forest Service Boundary	2B, 3A, 4	7.36
Jordan / Utah Lake	UT16020204-023	Bingham Creek	Bingham Creek and tributaries from confluence w/ Jordan River to headwaters	2B, 3D, 4	5.36
Jordan / Utah Lake	UT16020204-027	Coon Creek	Perennial portion of Coon Creek	2B, 3D, 4	0.09
Jordan / Utah Lake	UT16020204-028	Barneys Canyon Creek	Barney Canyon Creek and tributares from mouth to headwaters	2B, 3D, 4	
Jordan / Utah Lake	UT16020204-029	Deep Creek	Rose Creek and tributaries from cnfluence w/Jordan River to headwaters	2B, 3D, 4	4.09
Lower Colorado River	UT15010003-004	Johnson Wash-1	Johnson Wash and tributaries from stateline to Redwash confluence	2B, 3C, 4	11.96
Lower Colorado River	UT15010003-006	Kanab Creek-3	Kanab Creek and tributaries from Reservoir Canyon to headwaters.	2B, 3A, 4	0.03
Lower Colorado River	UT15010008-005	Quail Creek	Quail Creek-tribs: from Quail Creek Reservior to headwaters.	1C, 2B, 3A, 4	9.93
Lower Colorado River	UT15010008-007	Ash Creek-1	Ash Creek and tributaries from confluence w/Laverkin Creek to springs near Toquerville.	2B, 3A, 4	
Lower Colorado River	UT15010008-008	Ash Creek-2	Ash Creek-tribs: from springs near Toquerville to Ash Creek Reservoir	2B, 3A, 4	

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Lower Colorado River	UT15010008-013	North Fork Virgin River-2	North Fork Virgin River and tributaries from Deep Creek confluence to headwaters	1C, 2B, 3A, 4	34.81
Lower Colorado River	UT15010008-016	Kolob Creek	Kolob Creek-tribs: from confluence with North Fork Virgin River to headwaters	2B, 3A, 4	15.69
Lower Colorado River	UT15010008-017	Deep Creek	Deep Creek-tribs: from confluence w/North Fork Virgin River to headwaters	1C, 2B, 3A, 4	60.39
Sevier River	UT16030001-001	Piute West	USFS lands west of Piute Reservoir and south of HUC boundary 16030003	2B, 3A, 4	7.52
Sevier River	UT16030001-006	Panguitch Creek-2	Panguitch Creek and tributaries from confluence w/Sevier River to Panguitch Reservoir	2B, 3A, 4	23.25
Sevier River	UT16030001-008	Panguitch Creek-1	Panguitch Creek and tributaries and all other tributaries to Panguitch Reservoir to headwaters.	2B, 3A, 4	30.01
Sevier River	UT16030001-010	Duck Creek	Duck Creek and tributaries from mouth to headwaters	2B, 3A, 4	2.84
Sevier River	UT16030001-013	Piute	Piute Reservior tributaries below USFS boundary and excluding Sevier River inlet	2B, 3A, 4	4.04
Sevier River	UT16030002-007	Deer Creek	Deer Creek and tributaries from confluence w/East Fork Sevier River to headwaters	2B, 3A, 4	17.6
Sevier River	UT16030002-008	Antimony Creek	Antimony Creek and tributaries from confluence w/Sevier River to headwaters	2B, 3A, 4	26.59
Sevier River	UT16030003-001	Sevier River-19	Sevier River west side tributaries from Sevier Bridge Dam to Salina Creek confluence	2B, 3B, 4	1.13
Sevier River	UT16030003-002	Willow Creek	Willow Creek and tributaries from USFS boundary to headwaters	2B, 3A, 4	14.07
Sevier River	UT16030003-004	Sevier River-16	Sevier River east and west side tributaries from Salina Creek confluence to Rocky Ford Resevoir (excludes Lost Creek)	2B, 3B, 4	0.72
Sevier River	UT16030003-004	Sevier River-16	Sevier River east and west side tributaries from Salina Creek confluence to Rocky Ford Resevoir (excludes Lost Creek)	2B, 3B, 4	0.72

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Sevier River	UT16030003-004	Sevier River-16	Sevier River east and west side tributaries from Salina Creek confluence to Rocky Ford Resevoir (excludes Lost Creek)	2B, 3B, 4	0.72
Sevier River	UT16030003-009	Sevier River-11	Sevier River west side tributaries below USFS boundary, from the Annebelle Diversion upstream to Sevier River confluence	2B, 3A, 4	0
Sevier River	UT16030003-011	Sevier River-11	Sevier River west side tributaries above USFS boundary, from approximately due West of Salina Creek confluence within US	2B, 3A, 4	12.94
Sevier River	UT16030003-013	Monroe Creek	Sevier River east side tributaries above USFS boundary from Mill Creek/Water Creek area upstream to Durkee Creek	2B, 3A, 4	57.55
Sevier River	UT16030003-016	Sevier River-10	Sevier River east side tributaries below USFS boudary from Anabelle Diversion upsteam to Clear Creek confluence.	2B, 3A, 4	0.43
Sevier River	UT16030003-019	Sevier River-9	Sevier River from Annabelle Diversion to Clear Creek confluence	2B, 3A, 4	11.53
Sevier River	UT16030003-021	Manning Creek	Manning Creek and tributaries from confluence with Sevier River to headwaters	2B, 3A, 4	13.93
Sevier River	UT16030003-022	Sevier River-5	Sevier River east side tributaries from Manning Creek confluence to HUC unit boundary	2B, 3A, 4	12.51
Sevier River	UT16030003-023	Sevier River-18	Sevier River east side tributaries from Sevier Bridge Dam to Salina Creek confluence excluding San Pitch River	2B, 3B, 4	26.86
Sevier River	UT16030003-024	Sevier River-15	Sevier River form confluence with Salina Creek upstream to Rocky Ford Reservoir	2B, 3B, 4	13.2
Sevier River	UT16030003-025	Sevier River-13	Sevier River west side tributaries from Rocky Ford Reservoir upstream to Annabelle Diversion and below USFS boundary	2B, 3B, 4	4.38
Sevier River	UT16030003-026	Sevier River-7	Sevier River west side tributaries from the Clear Creek confluence upstream to Manning Creek confluence	2B, 3A, 4	
Sevier River	UT16030005-001	Judd Creek	Judd Creek-tribs: from mouth to headwaters	2B, 3A, 4	
Sevier River	UT16030005-002	Cherry Creek	Cherry Creek-tribs: from mouth to headwaters	2B, 3A, 4	

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Sevier River	UT16030005-003	Tanner Creek	Tanner Creek-tribs: from mouth to headwaters	2B, 3E, 4	
Sevier River	UT16030005-004	Oak Creek-01	Oak Creek tributaries from mouth to USFS boundary (near Oak City)	2B, 3A, 4	
Sevier River	UT16030005-005	Fool Creek-1	Fool Creek-tribs: from mouth to USFS boundary	2B, 3B, 4	
Sevier River	UT16030005-006	Fish Lake-Sevier	All waters on Fishlake National Forest lands which are west of Interstate 15	2B, 3A, 4	8.21
Sevier River	UT16030005-007	Sevier River-21	Sevier River north side tributaries from DMAD Reservoir upstream to Sevier Bridge Reservoir (Yuba Dam), except Tanner Cr	2B, 3B, 4	9.45
Sevier River	UT16030005-008	Sevier River-27	Sevier River south side tributaries from DMAD Reservir upstream to Yuba Dam, excludingall waters above USFS boundary	2B, 3B, 4	2.64
Sevier River	UT16030005-011	Chicken Creek-3	Sevier River drainage streams south of Chicken Creek to USFS boundary flowing towards Sevier River	2B, 3A, 4	14.68
Sevier River	UT16030005-012	Ivie Creek	Ivie Creek from Scipio Dam to headwaters	2B, 3A, 4	14.5
Sevier River	UT16030005-013	Goose Creek-1	Goose Creek and tributaries from mouth to USFS boudary	2B, 3B, 4	1
Sevier River	UT16030005-014	Goose Creek-2	Goose Creek and tributaries from USFS boundary to headwaters	2B, 3A, 4	0.7
Sevier River	UT16030005-015	Pioneer Creek-1	Pioneer Creek and tributaries from mouth to USFS boundary	2B, 3B, 4	0.4
Sevier River	UT16030005-016	Pioneer Creek-2	Pioneer Creek and tributaries from USFS boundary to headwaters	2B, 3A, 4	4.38
Sevier River	UT16030005-017	Sevier River-23	Sevier River south side tributaries from Gunnision bend reservoir upstream to DMAD Reservoir	2B, 3B, 4	1.51
Sevier River	UT16030005-018	Chalk Creek-1	Chalk Creek and Pine Creek (Millard County) and tributaries from mouth to USFS boundary	2B, 3A, 4	
Sevier River	UT16030005-024	Round Valley Creek	Round Valley Creek from mouth upstream to Scipio Reservoir	2B, 3A, 4	

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Sevier River	UT16030005-029	Sevier River-26	Sevier River north side tributaries from GunnisonBend Reservoir to DMAD Reservoir	2B, 3B, 4	0.32
Uinta	UT14040106-006	Birch Creek-tribs	Birch Creek tributaries Utah-Wyoming state line to headwaters.	2B, 3A, 4	14.92
Uinta	UT14040106-008	Green River-1 Tribs	Green River perennial tributaries to Green River-1 waterbody	2B, 3A, 4	22.05
Uinta	UT14040106-008	Green River-1 Tribs	Green River perennial tributaries to Green River-1 waterbody	2B, 3A, 4	22.05
Uinta	UT14040106-008	Green River-1 Tribs	Green River perennial tributaries to Green River-1 waterbody	2B, 3A, 4	22.05
Uinta	UT14040106-008	Green River-1 Tribs	Green River perennial tributaries to Green River-1 waterbody	2B, 3A, 4	22.05
Uinta	UT14040106-008	Green River-1 Tribs	Green River perennial tributaries to Green River-1 waterbody	2B, 3A, 4	22.05
Uinta	UT14040106-009	Birch Spring Draw	Birch Spring Draw and tributaries from Flaming Gorge Reservoir to headwaters.	2B, 3C, 4	17.73
Uinta	UT14040106-010	Carter Creek	Carter Creek and tributaries from Flaming Gorge Reservoir to headwaters.	2B, 3A, 4	89.86
Uinta	UT14040106-011	Eagle Creek	Eagle Creek and tributaries from Flaming Gorge Reservoir to headwaters.	2B, 3A, 4	8.87
Uinta	UT14040106-012	Flaming Gorge Reservoir Trib	Flaming Gorge Reservoir tributaries not listed separately	2B, 3A, 4	12.01
Uinta	UT14040106-013	Spring Creek	Spring Creek	2B, 3A, 4	4.65
Uinta	UT14040106-014	Cart Creek	Cart Creek and tributaries.	2B, 3A, 4	17
Uinta	UT14040106-015	Gorge Creek	Gorge Creek and tributaries from confluence Green River to headwaters.	2B, 3A	8.38
Uinta	UT14040106-016	Davenport Creek	Davenport Creek and tributaries from confluence Green River to headwaters.	2B, 3A	4.48

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Uinta	UT14040106-017	Goslin Creek	Goslin Creek and tributaries from confluence Green River to headwaters.	2B, 3A	3.72
Uinta	UT14040106-020	Jackson Creek	Jackson Creek and tributaries from confluence Green River to headwaters.	2B, 3A	11.15
Uinta	UT14040106-021	Pot Creek	Pot Creek and tributaries from Crouse Dam to headwaters.	2B, 3A, 4	21.98
Uinta	UT14040106-023	Lower Pot Creek	Pot Creek- below reservoirs to Utah-Colorado stateline.	undefined	
Uinta	UT14040106-024	Willow Creek	Willow Creek and tributaries from confluence Green River to headwaters (Dagget Co.).	2B, 3A, 4	16.22
Uinta	UT14040106-025	O-Wi-Yu-Kuts Creek	O-Wi-Yu-Kuts Creek and tributaries from confluence Willow Creek to Utah-Colorado state line.	2B, 3A	2.11
Uinta	UT14040106-026	Tolivers Creek	Tolivers Creek from confluence with Green River to headwaters.	2B, 3A	4.22
Uinta	UT14040106-027	Beaver Creek	Beaver Creek and tributaries (east of Willow Creek near 3 corners) from Colorado state line to Colorado state line	2B, 3A	1.26
Uinta	UT14050007-002	Lower Bitter Creek	Bitter Creek-tribs: confluence White River to start of perennial stream (excluding Sweetwater Creek).	2B, 3A, 4	0
Uinta	UT14050007-003	Evacuation Creek	Evacuation Creek-tribs: confluence White River to headwaters.	2B, 3B, 4	
Uinta	UT14050007-004	Sweetwater Creek	Sweetwater Creek and tributaries from confluence Bitter Creek to headwaters.	2B, 3A, 4	3.96
Uinta	UT14050007-005	Upper Bitter Creek	Bitter Creek and tributaries from upper portion that is perennial.	2B, 3A, 4	24.81
Uinta	UT14060001-001	Green River-2 Tribs	Green River-2 waterbody tributaries	1C, 2B, 3B, 4	11.37
Uinta	UT14060001-001	Green River-2 Tribs	Green River-2 waterbody tributaries	1C, 2B, 3B, 4	11.37
Uinta	UT14060001-001	Green River-2 Tribs	Green River-2 waterbody tributaries	1C, 2B, 3B, 4	11.37
Uinta	UT14060001-001	Green River-2 Tribs	Green River-2 waterbody tributaries	1C, 2B, 3B, 4	11.37
Uinta	UT14060001-002	Jones Hole Creek	Jones Hole Creek and tributaries from confluence Green River to headwaters.	2B, 3A	5.95

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Uinta	UT14060001-003	Diamond Gulch	Diamond Gulch: near Jones Hole Creek to headwaters.	2B, 3A, 4	33.14
Uinta	UT14060002-004	Lower Little Brush Creek	Little Brush Creek and tributaries from confluence Big Brush Creek to mouth of Little Brush Creek Gorge.	2B, 3B, 4	7.98
Uinta	UT14060003-014	Pole Creek	Pole Creek	2B, 3A, 4	34.86
Uinta	UT14060004-003	Starvation Tribs	Starvation Reservoir tributaries except Strawberry River	1C, 2B, 3A, 4	0.62
Uinta	UT14060004-008	Upper Red Creek	Red Creek Reservoir tributaries	1C, 2B, 3A, 4	15.89
Uinta	UT14060004-011	Timber Canyon Creek	Timber Canyon Creek and tributaries from confluence Strawberry River to headwaters.	1C, 2B, 3A, 4	15.68
Uinta	UT14060004-012	Willow Creek	Willow Creek and tributaries from confluence Strawberry River to headwaters.	1C, 2B, 3A, 4	17.93
Uinta	UT14060005-001	Green River-3 Tribs	Green River tributaries from catalogue unit boundary to Duchesne River confluence.	1C, 2B, 3B, 4	0.11
Uinta	UT14060005-001	Green River-3 Tribs	Green River tributaries from catalogue unit boundary to Duchesne River confluence.	1C, 2B, 3B, 4	0.11
Uinta	UT14060005-001	Green River-3 Tribs	Green River tributaries from catalogue unit boundary to Duchesne River confluence.	1C, 2B, 3B, 4	0.11
Uinta	UT14060005-001	Green River-3 Tribs	Green River tributaries from catalogue unit boundary to Duchesne River confluence.	1C, 2B, 3B, 4	0.11
Uinta	UT14060005-001	Green River-3 Tribs	Green River tributaries from catalogue unit boundary to Duchesne River confluence.	1C, 2B, 3B, 4	0.11
Uinta	UT14060005-001	Green River-3 Tribs	Green River tributaries from catalogue unit boundary to Duchesne River confluence.	1C, 2B, 3B, 4	0.11
Uinta	UT14060005-001	Green River-3 Tribs	Green River tributaries from catalogue unit boundary to Duchesne River confluence.	1C, 2B, 3B, 4	0.11
Uinta	UT14060005-001	Green River-3 Tribs	Green River tributaries from catalogue unit boundary to Duchesne River confluence.	1C, 2B, 3B, 4	0.11
Uinta	UT14060005-004	Upper Range Creek	Range Creek and tributaries from Range Creek Pumping Station to headwaters.	1C, 2B, 3A, 4	6.39

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Uinta	UT14060005-005	Middle Range Creek	Range Creek and tributaries from ranch diversion to Range Creek Pumping Station.	1C, 2B, 3A, 4	19.39
Uinta	UT14060005-007	Florence Creek	Florence Creek and tributaries from confluence Green River to headwaters.	1C, 2B, 3B, 4	16.6
Uinta	UT14060005-008	Rock Creek	Rock Creek from Green River to headwaters	2B, 3A, 4	
Uinta	UT14060006-002	Upper Willow Creek	Willow Creek-tribs: near Meadow Creek confluence to headwaters.	2B, 3A, 4	123.17
Uinta	UT14060006-003	Hill Creek	Hill Creek and tributaries from confluence Willow Creek to headwaters.	2B, 3A, 4	82.02
Weber River	UT16020101-002	Francis Creek	Francis Creek and tributaries from Lost Creek Reservoir to headwaters	1C, 2B, 3A, 4	5.88
Weber River	UT16020101-003	Lost Creek-2	Lost Creek Reservoir to headwaters-tribs	1C, 2B, 3A, 4	47.63
Weber River	UT16020101-005	Main Canyon	Main Canyon Creek and other tribs to Weber River	1C, 2B, 3A, 4	9.51
Weber River	UT16020101-008	Carruth Creek	Carruth and Lewis Canyon Creek from confluence w/Echo Reservoir to headwaters	1C, 2B, 3A, 4	7.7
Weber River	UT16020101-009	Grass Creek	Grass Creek and tributaries from confluence w/Echo Reservoir to headwaters	1C, 2B, 3A, 4	8.22
Weber River	UT16020101-019	Upper Weber Tributaries-3	Weber River east side tributaries between Echo Res and Fort Creek confluence	1C, 2B, 3A, 4	19.15
Weber River	UT16020101-021	Upper Weber Tributaries-4	Weber River west side tributaries between Silver Creek confluence and Beaver Creek confluence	1C, 2B, 3A, 4	6.86
Weber River	UT16020102-004	Burch Creek-2	Burch Creek from Harrison Blvd to headwaters-tribs	1C, 2B, 3A	3.63
Weber River	UT16020102-006	North Fork Ogden River	North Fork Ogden River and tributaries from Pineview Reservoir to headwaters	1C, 2B, 3A, 4	34.8
Weber River	UT16020102-013	Strong Canyons Creek	Strongs Canyon Creek from USFS boudary to headwaters-tribs	1C, 2B, 3A, 4	1.31
Weber River	UT16020102-014	Burch Creek-1	Burch Creek from confluence w/ Weber River to Harrison Blvd	2B, 3A, 4	3.39

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Weber River	UT16020102-015	Spring Creek	Spring Creek from USFS boundary to headwaters-tribs	1C, 2B, 3A, 4	2.34
Weber River	UT16020102-017	Lower Weber Tributaries-1	Weber River north side tributaries from Ogden River confluence to Cottonwood Creek confluence, excluding defined tributa	2B, 3A, 4	24.62
Weber River	UT16020102-017	Lower Weber Tributaries-1	Weber River north side tributaries from Ogden River confluence to Cottonwood Creek confluence, excluding defined tributa	2B, 3A, 4	24.62
Weber River	UT16020102-018	Cottonwood Creek	Cottonwood Creek and tributaries from confluence with Weber River to headwaters	2B, 3A, 4	7.69
Weber River	UT16020102-019	Lower Weber Tributaries-4	Weber River tributaries from Cottonwood Creek to Stoddard Diversion - east side	2B, 3A, 4	2.93
Weber River	UT16020102-021	Lower Weber Tributaries-3	Weber River tributaries from Cottonwood Creek to Stoddard Diversion - west side	2B, 3A, 4	22.62
Weber River	UT16020102-025	East Canyon Creek-3	East Canyon Reservoir tributares,other than East Canyon Creek	1C, 2B, 3A, 4	3.05
Weber River	UT16020102-030	North Fork Kays Creek	North Fork Kays Creek and tributaries from USFS Boundary to headwaters	2B, 3A, 4	0.69
Weber River	UT16020102-031	Kays Creek	Kays Creek and tributaries from Farmington Bay to USFS boundary	2B, 3B, 4	10.83
Weber River	UT16020102-032	South and Middle Fork Kays C	Kays Creek South Fork and Middle Fork from USFS Boundary to headwaters-tribs	1C, 2B, 3A, 4	1.95
Weber River	UT16020102-036	Baer Creek-3	Baer Creek and tribs from US 89 to headwaters	1C, 2B, 3A, 4	2.88
Weber River	UT16020102-038	Farmington Creek-2	USFS Boundary to headwaters-tribs	1C, 2B, 3A, 4	6.14
Weber River	UT16020102-042	Ricks Creek	Ricks Creek and tribs from I-15 to headwaters	1C, 2B, 3A, 4	2.16
Weber River	UT16020102-044	Parrish Creek	Parrish and Duel Creeks and their tributaries from Davis Aqeduct to headwaters	2B, 3A, 4	3.74
Weber River	UT16020102-045	Stone Creek-2	Stone Creek and tributaries from USFS Boundary to headwaters	1C, 2B, 3A, 4	2.64

Table C-3. Category 3 - Insufficient Data to Determine Whether Any Stream Beneficial Uses Are Met					
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Support	Stream Miles
Weber River	UT16020102-046	Stone Creek-1	Stone Creek from Great Salt Lake to USFS Boundary	2B, 3A, 4	0.36
Weber River	UT16020102-047	Barton Creek	Barton Creek from USFS Boundary to headwaters	2B, 3A, 4	2.56
Weber River	UT16020102-055	Lower Weber Tributaries-5	Weber River tributaries from Stoddard Diversion to East Canyon Creek-west side	1C, 2B, 3A, 4	24.88

Table C-4. Category 4A - All TMDLs Completed and Approved for Stream Assessment Unit.							
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Unit	Beneficial Use Class	Stream Miles	Beneficial Use Support	Pollutant
Bear River	UT16010202-002	Newton Creek	Newton Creek from confluence w/Cutler Reservoir to Newton Reservoir.	3A	5.16	PS	Total Phosphorus
Bear River	UT16010202-004	Bear River-3	Bear River from Cutler Reservoir to Idaho Stateline	3B	27.84	PS	Total Phosphorus
Bear River	UT16010202-008	High Creek	High Creek and tributaries from confluence w/ Cub River to headwaters	3A	12.53	PS	Total Phosphorus
Bear River	UT16010202-009	Spring Creek Lewiston	Spring Creek (Lewiston) and tributaries from confluence to Utah Idaho border	3B	2.96	PS	Total Phosphorus
Bear River	UT16010202-010	Cub River	Cub River and tributaries from confluence w/ Bear River to Utah-Idaho Stateline	3B	14.31	PS	Total Phosphorus
Bear River	UT16010203-005	Logan River-1	Cutler Reservoir to Mouth of Logan Canyon	3A	32.19	PS	Total Phosphorus
Bear River	UT16010203-008	Spring Creek	Spring Creek and tributaries from confluence w/ Little Bear River to headwaters	3A	7.36	PS	Temperature
Bear River	UT16010203-008	Spring Creek	Spring Creek and tributaries from confluence w/ Little Bear River to headwaters	3A	7.36	PS	Total Phosphorus
Bear River	UT16010204-003	Bear River-1	Bear River from Great Salt Lake to Malad River confluence	3B	17.51	PS	Total Phosphorus
Bear River	UT16010204-008	Bear River-2	Bear River from Malad River confluence to Cutler Reservoir	3B	41.5	PS	Total Phosphorus
Cedar / Beaver	UT16030007-002	Beaver River-2	Beaver River and tribs from Minersville Reservoir to USFS boundary	2B	57.57	PS	pH
Cedar / Beaver	UT16030007-002	Beaver River-2	Beaver River and tribs from Minersville Reservoir to USFS boundary	3A	57.57	PS	Total Phosphorus
Cedar / Beaver	UT16030007-002	Beaver River-2	Beaver River and tribs from Minersville Reservoir to USFS boundary	4	57.57	PS	Temperature
Colorado River Southeast	UT14030005-005	Mill Creek-1	Mill Creek and tributaries from confluence with Colorado River to U.S.F.S. boundary	4	31.77	PS	Salinity/TDS/chlorides
Colorado River Southeast	UT14030005-009	Castle Creek	Castle Creek and tributareis from confluence with Colorado River to headwaters	4	18.19	PS	Salinity/TDS/chlorides
Colorado River Southeast	UT14030005-010	Onion Creek	Onion Creek and tributaries from confluence with Colorado River to headwaters	3B	10.17	PS	Temperature
Colorado River Southeast	UT14030005-010	Onion Creek	Onion Creek and tributaries from confluence with Colorado River to headwaters	'4	10.17	NS	Salinity/TDS/chlorides

Table C-4. Category 4A - All TMDLs Completed and Approved for Stream Assessment Unit.							
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Unit	Beneficial Use Class	Stream Miles	Beneficial Use Support	Pollutant
Colorado River Southeast	UT14030005-011	Pack Creek	Pack Creek and tributaries except Mill Creek from confluence w/ Colorado River to USFS boundary	3A	15.21	PS	Temperature
Colorado River Southeast	UT14030005-011	Pack Creek	Pack Creek and tributaries except Mill Creek from confluence w/ Colorado River to USFS boundary	'4	15.21	PS	Salinity/TDS/chlorides
Colorado River Southeast	UT14080201-006	Cottonwood Wash-2	Cottonwood Wash from Westwater confluence to U.S.F.S. boundary	1C	4.63	NS	Radiation
Colorado River Southeast	UT14080201-007	Cottonwood Wash-3	Cottonwood Wash and tributaries within U.S.F.S. boundary	1C	17.16	NS	Radiation
Colorado River West	UT14070003-003	Lower UM Creek	UM Creek and tributaries from Mill Meadow to Forsythe Reservoir	3A	1.91	PS	Organic enrichment/Low DO
Colorado River West	UT14070003-005	Fremont River-2	Fremont River near Bicknell to U.S. FS boundary	3A	29.34	PS	Organic enrichment/Low DO
Colorado River West	UT14070003-005	Fremont River-2	Fremont River near Bicknell to U.S. FS boundary	3A	29.34	PS	Organic enrichment/Low DO
Colorado River West	UT14070003-014	Fremont River-4	Freemont River and tributaries from cnfluence w/Dirty Devil to east boundary of Capitol Reef NP	4	58.89	PS	Salinity/TDS/chlorides
Jordan River	UT16020204-022	Little Cottonwood Creek-2	Little Cottonwood Creek and tributaries from Metropolitan WTP to headwaters	3A	21.49	NS	Zinc
Lower Colorado	UT15010008-001	Santa Clara-1	Santa Clara from confluence w/Virgin River to Gunlock Reservoir	3A	23.67	NS	Total Dissolved Solids
Lower Colorado	UT15010008-001	Santa Clara-1	Santa Clara from confluence w/Virgin River to Gunlock Reservoir	3A	23.67	NS	Selenium
Lower Colorado	UT15010008-004	Virgin River-2	Virgin River and tributaries from Santa Clara River confluence to Quail Creek diversion (excludes Quail Creek and Leads Creek)	4	41.11	NS	Total Dissolved Solids
Lower Colorado	UT15010008-014	North Creek	North Creek and tributaries from confluence with Virgin River to headwaters	4	32.71	NS	Total Dissolved Solids
Lower Colorado	UT15010010-001	Virgin River-1	Virgin River from state line to Santa Clara confluence	4	15.24	NS	Total Dissolved Solids
Sevier River	UT16030001-005	Sevier River-3	Sevier River and tributaries from Circleville Irrigation Diversion to Horse Valley Diversion	3A	20.73	PS	Siltation
Sevier River	UT16030001-005	Sevier River-3	Sevier River and tributaries from Circleville Irrigation Diversion to Horse Valley Diversion	3A	20.73	PS	Total Phosphorus
Sevier River	UT16030001-007	Sevier River-2	Sevier River and east side tributaries from Horse Valley Bridge Diversion upstream to Long Canal.	3A	46.98	PS	Siltation

Table C-4. Category 4A - All TMDLs Completed and Approved for Stream Assessment Unit.							
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Unit	Beneficial Use Class	Stream Miles	Beneficial Use Support	Pollutant
Sevier River	UT16030001-007	Sevier River-2	Sevier River and east side tributaries from Horse Valley Bridge Diversion upstream to Long Canal.	3A	46.98	PS	Total Phosphorus
Sevier River	UT16030001-012	Sevier River-1	Sevier River and tributaries from Long Canal to Mammouth Creek confluence	3A	28.48	PS	Siltation
Sevier River	UT16030001-012	Sevier River-1	Sevier River and tributaries from Long Canal to Mammouth Creek confluence	3A	28.48	PS	Total Phosphorus
Sevier River	UT16030002-001	Otter Creek-4	Otter Creek and tributaries from Koosharem Reservoir to headwaters	3A	18.58	PS	Total Phosphorus
Sevier River	UT16030002-001	Otter Creek-4	Otter Creek and tributaries from Koosharem Reservoir to headwaters	3A	18.58	PS	Siltation
Sevier River	UT16030002-002	Otter Creek-1	Otter Creek and tributaries Otter Creek Reservoir to Koosharem Reservior, except Box and Greenwitch Creeks.	3A	59.82	PS	Total Phosphorus
Sevier River	UT16030002-002	Otter Creek-1	Otter Creek and tributaries Otter Creek Reservoir to Koosharem Reservior, except Box and Greenwitch Creeks.	3A	59.82	PS	Siltation
Sevier River	UT16030002-003	Otter Creek-3	Greenwich Creek and tributaries confluence w/Otter Creek to headwaters	3A	23.77	PS	Total Phosphorus
Sevier River	UT16030002-003	Otter Creek-3	Greenwich Creek and tributaries confluence w/Otter Creek to headwaters	3A	23.77	PS	Siltation
Sevier River	UT16030002-004	Otter Creek-2	Box Creek and tributaries from confluence w/Otter Creek to headwaters	3A	19.49	PS	Total Phosphorus
Sevier River	UT16030002-004	Otter Creek-2	Box Creek and tributaries from confluence w/Otter Creek to headwaters	3A	19.49	PS	Siltation
Sevier River	UT16030003-012	Sevier River-17	Sevier River from Yuba Dam upstream to confluence with Salina Creek	3B	45.24	PS	Siltation
Sevier River	UT16030003-012	Sevier River-17	Sevier River from Yuba Dam upstream to confluence with Salina Creek	3B	45.24	PS	Total Phosphorus
Sevier River	UT16030003-012	Sevier River-17	Sevier River from Yuba Dam upstream to confluence with Salina Creek	4	45.24	NS	Salinity/TDS/chlorides
Sevier River	UT16030004-001	San Pitch-1	San Pitch River and tributaries from confluence w/Sevier River to tailwater of Gunnison Reservoir (excluding all of Six	4	16.74	NS	Salinity/TDS/chlorides
Sevier River	UT16030004-005	San Pitch-2	San Pitch River and tributaries from Gunnison Reservoir to U132 crossing below USFS boundary	4	55.79	NS	Salinity/TDS/chlorides

Table C-4. Category 4A - All TMDLs Completed and Approved for Stream Assessment Unit.							
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Unit	Beneficial Use Class	Stream Miles	Beneficial Use Support	Pollutant
Sevier River	UT16030004-011	San Pitch-4	Silver Creek and tributaries from confluence with San Pitch to headwaters	4	10.84	NS	Salinity/TDS/chlorides
Sevier River	UT16030005-025	Sevier River-20	Sevier River from U-132 at ther northern most point of the Sevier River (near Dog Valley Wash confluence) upstream to Yu	3B	34.43	PS	Siltation
Sevier River	UT16030005-025	Sevier River-20	Sevier River from U-132 at ther northern most point of the Sevier River (near Dog Valley Wash confluence) upstream to Yu	3B	34.43	PS	Total Phosphorus
Sevier River	UT16030005-026	Sevier River-22	Sevier River from DMAD Reservoir upstram to U-132 crossing at the northern most point of the Sevier River (near Dog Vall	3B	42.27	PS	Siltation
Sevier River	UT16030005-026	Sevier River-22	Sevier River from DMAD Reservoir upstram to U-132 crossing at the northern most point of the Sevier River (near Dog Vall	3B	42.27	PS	Total Phosphorus
Sevier River	UT16030005-026	Sevier River-22	Sevier River from DMAD Reservoir upstram to U-132 crossing at the northern most point of the Sevier River (near Dog Vall	4	42.27	PS	Salinity/TDS/chlorides
Sevier River	UT16030005-027	Sevier River-24	Sevier River from Gunnison bend Reservoir to DMAD Reservoir	3B	17.45	PS	Siltation
Sevier River	UT16030005-027	Sevier River-24	Sevier River from Gunnison bend Reservoir to DMAD Reservoir	3B	17.45	PS	Total Phosphorus
Uinta Basin	UT14060003-003	Uinta River-1	Uinta River and tributaries from confluence Duchesne River upstream to Dry Gulch confluence.	4	7.25	NS	Salinity/TDS/chlorides
Uinta Basin	UT14060003-004	Uinta River-2	Uinta River from Dry Gulch confluence upsteam to U.S. Highway 40.	4	3.15	NS	Salinity/TDS/chlorides
Uinta Basin	UT14060003-009	Dry Gulch Creek	Dry Gulch Creek and tributaries from confluence Duchesne River to headwaters.	4	88.1	NS	Salinity/TDS/chlorides
Uinta Basin	UT14060003-012	Deep Creek	Deep Creek and tributaries from confluence Uintah River to headwaters.	4	24.86	PS	Salinity/TDS/chlorides
Weber River	UT16020101-010	Chalk Creek-1	Chalk Creek and tributaries from confluence w/ Weber River to South Fork confluence	3A	7.67	PS	Total Phosphorus
Weber River	UT16020101-010	Chalk Creek-1	Chalk Creek and tributaries from confluence w/ Weber River to South Fork confluence	3A	7.67	PS	Siltation
Weber River	UT16020101-011	South Fork Chalk Creek	South Fork Chalk Creek and tributaries from confluence w/ Chalk Creek to headwaters	3A	47.4	PS	Total Phosphorus

Table C-4. Category 4A - All TMDLs Completed and Approved for Stream Assessment Unit.							
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Unit	Beneficial Use Class	Stream Miles	Beneficial Use Support	Pollutant
Weber River	UT16020101-011	South Fork Chalk Creek	South Fork Chalk Creek and tributaries from confluence w/ Chalk Creek to headwaters	3A	47.4	PS	Siltation
Weber River	UT16020101-012	Chalk Creek-2	Chalk Creek and tributaries from South Fork confluence to Huff Creek confluence	3A	4.49	PS	Total Phosphorus
Weber River	UT16020101-012	Chalk Creek-2	Chalk Creek and tributaries from South Fork confluence to Huff Creek confluence	3A	4.49	PS	Siltation
Weber River	UT16020101-013	Huff Creek	Huff Creek and tributaries from confluence w/ Chalk Creek to headwaters	3A	16.39	PS	Total Phosphorus
Weber River	UT16020101-013	Huff Creek	Huff Creek and tributaries from confluence w/ Chalk Creek to headwaters	3A	16.39	PS	Siltation
Weber River	UT16020101-014	Chalk Creek-3	Chalk Creek and tributaries from Huff Creek confluence to East Fork confluence	3A	13.73	PS	Total Phosphorus
Weber River	UT16020101-014	Chalk Creek-3	Chalk Creek and tributaries from Huff Creek confluence to East Fork confluence	3A	13.73	PS	Siltation
Weber River	UT16020101-016	Chalk Creek-4	Chalk Creek and tributaries from East Fork Chalk Creek confluence to headwaters	3A	47.29	PS	Total Phosphorus
Weber River	UT16020101-016	Chalk Creek-4	Chalk Creek and tributaries from East Fork Chalk Creek confluence to headwaters	3A	47.29	PS	Siltation
Weber River	UT16020101-020	Silver Creek	Silver Creek and tributaries from confluence w/Weber River to headwaters	1C	21.37	4A	Arsenic
Weber River	UT16020101-020	Silver Creek	Silver Creek and tributaries from confluence w/Weber River to headwaters	3A	21.37	4A	Cadmium
Weber River	UT16020101-020	Silver Creek	Silver Creek and tributaries from confluence w/Weber River to headwaters	3A	21.37	4A	Zinc
Weber River	UT16020102-026	East Canyon Creek-2	East Canyon Creek and tirbutaries from East Canyon Reservoir to headwaters	3A	34.66	NS	Organic enrichment/Low DO
Weber River	UT16020102-026	East Canyon Creek-2	East Canyon Creek and tirbutaries from East Canyon Reservoir to headwaters	3A	34.66	NS	Total Phosphorus

Table C-5. Category 4C - Stream Assessment Units Impaired by Pollution for Which A TMDL Is Not Required.							
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Class	Stream Miles	Beneficial Use Miles	Pollution
Cedar/Beaver	UT16030007-002	Beaver River-2	Beaver River and tribs from Minersville Reservoir to USFS boundary	3A	57.57	PS	Other habitat alterations
Cedar/Beaver	UT16030007-002	Beaver River-2	Beaver River and tribs from Minersville Reservoir to USFS boundary	3A	57.57	PS	Noxious Aquatic Plants
Jordan / Utah Lake	UT16020202-006	Diamond Fork-1	Diamond Fork Creek from and tributaries from confluence w/ Spanish Fork River to Sixth Water confluence	3A	20.06	PS	Flow alteration
Jordan / Utah Lake	UT16020202-006	Diamond Fork-1	Diamond Fork Creek from and tributaries from confluence w/ Spanish Fork River to Sixth Water confluence	3A	20.06	PS	Other habitat alterations
Jordan / Utah Lake	UT16020202-009	Sixth Water Creek	Sixth Water Creek and and tributaries except Fifth Water and First Water Creeks and tributaries from confluence w/ Diam	3A	12.45	PS	Flow alteration
Jordan / Utah Lake	UT16020202-009	Sixth Water Creek	Sixth Water Creek and and tributaries except Fifth Water and First Water Creeks and tributaries from confluence w/ Diam	3A	12.45	PS	Other habitat alterations
Jordan / Utah Lake	UT16020204-025	Parley Canyon Creek-1	Parley's Canyon Creek and tributaries from 1300 East to Mountain Dell Reservoir	3A	11.43	PS	Other habitat alterations
Sevier River	UT16030001-005	Sevier River-3	Sevier River and tributaries from Circleville Irrigation Diversion to Horse Valley Diversion	3A	20.73	PS	Other habitat alterations
Sevier River	UT16030001-007	Sevier River-2	Sevier River and east side tributaries from Horse Valley Bridge Diversion upstream to Long Canal.	3A	46.98	PS	Other habitat alterations
Sevier River	ut16030002-001	Otter Creek-4	Otter Creek and tributaries from Koosharem Reservoir to headwaters	3A	18.58	PS	Other habitat alterations
Sevier River	UT16030002-002	Otter Creek-1	Otter Creek and tributaries Otter Creek Reservoir to Koosharem Reservior, except Box and Greenwitch Creeks.	3A	59.82	PS	Other habitat alterations
Sevier River	UT16030002-003	Otter Creek-3	Greenwich Creek and tributaries confluence w/Otter Creek to headwaters	3A	23.77	PS	Other habitat alterations
Sevier River	UT16030002-004	Otter Creek-2	Box Creek and tributaries from confluence w/Otter Creek to headwaters	3A	19.49	PS	Other habitat alterations
Sevier River	UT16030003-012	Sevier River-17	Sevier River from Yuba Dam upstream to confluence with Salina Creek	3B	45.24	PS	Other habitat alterations
Sevier River	UT16030005-025	Sevier River-20	Sevier River from U-132 at ther northern most point of the Sevier River (near Dog Valley Wash confluence) upstream to Yu	3B	34.43	PS	Other habitat alterations
Sevier River	UT16030005-026	Sevier River-22	Sevier River from DMAD Reservoir upstram to U-132 crossing at the northern most point of the Sevier River (near Dog Vall	3B	42.27	PS	Other habitat alterations
Sevier River	UT16030005-027	Sevier River-24	Sevier River from Gunnison bend Reservoir to DMAD Reservoir	3B	17.45	PS	Other habitat alterations
Uinta	UT14060003-004	Uinta River-2	Uinta River from Dry Gulch confluence upsteam to U.S. Highway 40.	3B	3.15	PS	Other habitat alterations

Table C-5. Category 4C - Stream Assessment Units Impaired by Pollution for Which A TMDL Is Not Required.							
Watershed Management Unit	Watershed Management ID	Watershed Management Name	Watershed Management Description	Beneficial Use Class	Stream Miles	Beneficial Use Miles	Pollution
Uinta	UT14060003-010	Uinta River-3	Uinta River and tributaries from beneficial use classification change to USFS boundary (excluding Whiterocks River).	3A	64.16	PS	Flow alteration
Uinta	UT14060003-010	Uinta River-3	Uinta River and tributaries from beneficial use classification change to USFS boundary (excluding Whiterocks River).	3A	64.16	PS	Other habitat alterations
Uinta	UT14060003-015	Lake Fork-2	Lake Fork River and tributaries from Pigeon Creek confluence to Yellowstone River confluence (includes Yellowstone River	3A	31.68	PS	Other habitat alterations
Weber River	UT16020101-010	Chalk Creek-1	Chalk Creek and tributaries from confluence w/ Weber River to South Fork confluence	3A	7.67	PS	Other habitat alterations
Weber River	UT16020101-011	South Fork Chalk Creek	South Fork Chalk Creek and tributaries from confluence w/ Chalk Creek to headwaters	3A	47.4	PS	Other habitat alterations
Weber River	UT16020101-012	Chalk Creek-2	Chalk Creek and tributaries from South Fork confluence to Huff Creek confluence	3A	4.49	PS	Other habitat alterations
Weber River	UT16020101-013	Huff Creek	Huff Creek and tributaries from confluence w/ Chalk Creek to headwaters	3A	16.39	PS	Other habitat alterations
Weber River	UT16020101-014	Chalk Creek-3	Chalk Creek and tributaries from Huff Creek confluence to East Fork confluence	3A	13.73	PS	Other habitat alterations
Weber River	UT16020101-016	Chalk Creek-4	Chalk Creek and tributaries from East Fork Chalk Creek confluence to headwaters	3A	47.29	PS	Other habitat alterations

Table C-6. Category 5A - Stream Assessment Units Needing TMDLS								
Watershed Management Unit	Assessment Unit ID	Assessment Unit Name	Assessment Unit Description	Beneficial Use Class	Stream Miles	Beneficial Use Support	Pollutant	TMDL Target Date
Bear River	UT16010101-006	Bear River-4	Bear River from Sage Creek Junction upstsream to Woodruff Creek confluence	3A	55.67	PS	Dissolved Oxygen	4/1/2006
Bear River	UT16010101-007	Big Creek	Big Creek and tributaries from Bear River to headwaters	2B	26.84	NS	pH	
Bear River	UT16010101-007	Big Creek	Big Creek and tributaries from Bear River to headwaters	3A	26.84	NS	pH	
Bear River	UT16010101-007	Big Creek	Big Creek and tributaries from Bear River to headwaters	4	26.84	NS	pH	
Bear River	UT16010101-016	Saleratus Creek	Saleratus Creek and tributaries from confluence with Woodruff Creek to headwaters	3A	29.05	NS	Dissolved Oxygen	4/1/2006
Bear River	UT16010203-008	Spring Creek	Spring Creek and tributaries from confluence w/ Little Bear River to headwaters	4	7.36	NS	Total Dissolved Solids	
Colorado River Southeast	UT14010005-001	Colorado River-6	Colorado River from HUC 14010005/14030001 boundary to Colorado State Line	3B	3.84	NS	Selenium	
Colorado River Southeast	UT14030001-005	Colorado River-5	Colorado River from Dolores River confluence to HUC 14010005 boundary	3B	33.90	NS	Selenium	
Colorado River Southeast	UT14030005-009	Castle Creek	Castle Creek and tributareis from confluence with Colorado River to headwaters	3B	18.19	PS	Total Dissolved Solids	
Colorado River Southeast	UT14030005-003	Colorado River-3	Colorado River from Green River confluence to Moab	3B	62.69	NS	Selenium	
Colorado River Southeast	UT14030005-004	Colorado River-4	Colorado River from Moab to HUE unit (14030005)boundary	3B	35.77	NS	Selenium	
Colorado River West	UT14060007-007	Price River-3	Price River and tributaries from Coal Creek confluence to Carbon Canal Diversion	4	16.65	PS	Total Dissolved Solids	
Colorado River West	UT14060007-014	Price River-4	Price River and tributaries from near Woodside to Soldier Creek confluence	4	67.83	NS	Total Dissolved Solids	
Colorado River West	UT14060007-015	Price River-5	Price River and tributaries from confluence w/Green River to near Woodside	4	24.52	NS	Total Dissolved Solids	

Table C-6. Category 5A - Stream Assessment Units Needing TMDLS								
Watershed Management Unit	Assessment Unit ID	Assessment Unit Name	Assessment Unit Description	Beneficial Use Class	Stream Miles	Beneficial Use Support	Pollutant	TMDL Target Date
Colorado River West	UT14060009-004	Huntington Creek-2	Huntington Creek and tributariesfrom Highway 10 crossing to USFS boundary	4	19.24	NS	Total Dissolved Solids	
Colorado River West	UT14060009-010	Huntington Creek-1	Huntington Creek from confluence with San Rafael River to Highway 10	4	25.79	NS	Total Dissolved Solids	
Colorado River West	UT14060009-010	Huntington Creek-1	Huntington Creek from confluence with San Rafael River to Highway 10	4	25.79	NS	Selenium	
Colorado River West	UT14060009-011	Lower Cottonwood Creek	Cottonwood Creek from confluence w/Huntington Creek to Highway 57	4	17.76	NS	Total Dissolved Solids	
Colorado River West	UT14060009-013	Upper San Rafael	San Rafael River from Buckhorn Crossing to confluence Huntington and Cottonwood Creeks	4	23.25	NS	Total Dissolved Solids	
Colorado River West	UT14060009-014	Lower San Rafael	San Rafael from confluence w/ Green River to Buckhorn Crossing	4	82.84	NS	Total Dissolved Solids	
Colorado River West	UT14070002-006	Middle Muddy	Muddy Creek and tributaries from Quitchipah Creek confluence to U-10 xing	4	20.06	NS	Total Dissolved Solids	
Colorado River West	UT14070002-007	Lower Quitchipah Creek	Quitchipah Creek from confluence of Ivie Cr. to U-10 xing	4	9.95	NS	Total Dissolved Solids	
Colorado River West	UT14070002-008	Lower Ivie Creek	Ivie Creek and tributariesfrom confluence w/Muddy River to U-10 highway	4	14.01	NS	Total Dissolved Solids	
Colorado River West	UT14070002-009	Lower Muddy Creek	Muddy Creek from confluence w/Freemont River to Ivie Creek confluence	3C	84.79	PS	Selenium	
Colorado River West	UT14070005-012	Upper Escalante	Escalante River and some tributaries from Boulder Creek confluence to Birch Creek confluence	3A	26.78	PS	Temperatures	4/1/2006
Colorado River West	UT14070007-001	Paria River-1	Paria River from start of Paria River Gorge to headwaters	4	16.77	NS	Total Dissolved Solids	4/1/2006
Colorado River West	UT14070007-005	Paria River-3	Paria River and tributaries from Arizona-Utah state line to Cottonwood Creek confluence	4	9.23	NS	Total Dissolved Solids	4/1/2006

Table C-6. Category 5A - Stream Assessment Units Needing TMDLS								
Watershed Management Unit	**Assessment Unit ID**	**Assessment Unit Name**	**Assessment Unit Description**	**Beneficial Use Class**	**Stream Miles**	**Beneficial Use Support**	**Pollutant**	**TMDL Target Date**
Jordan River/ Utah Lake	UT16020201-003	Currant Creek	Current Creek from mouth of Goshen Canyon to Mona Reservoir	2B	3.44	PS	pH	
Jordan River/ Utah Lake	UT16020201-003	Currant Creek	Current Creek from mouth of Goshen Canyon to Mona Reservoir	3A	3.44	PS	pH	
Jordan/ Utah Lake	UT16020201-003	Currant Creek	Current Creek from mouth of Goshen Canyon to Mona Reservoir	3A	3.44	PS	Temperature	
Jordan/ Utah Lake	UT16020201-003	Currant Creek	Current Creek from mouth of Goshen Canyon to Mona Reservoir	4	3.44	PS	pH	
Jordan/ Utah Lake	UT16020202-012	Soldier Creek-1	Soldier Creek from confluence with Thistle Creek to confluence of Starvation Creek	3A	18.46	PS	Sediment	4/1/2006
Jordan/ Utah Lake	UT16020202-012	Soldier Creek-1	Soldier Creek from confluence with Thistle Creek to confluence of Starvation Creek	3A	18.46	PS	Total Phosphorus	4/1/2006
Jordan/ Utah Lake	UT16020203-014	Snake Creek-1	Snake Creek from confluence w/ Provo River to WMSP Golf Course	1C	4.08	NS	Arsenic	
Jordan/ Utah Lake	UT16020204-001	Jordan River-1	Jordan River from Farmington Bay upstream contiguous with the Davis County line.	3D	7.60	PS	Dissolved Oxygen	
Jordan/ Utah Lake	UT16020204-001	Jordan River-1	Jordan River from Farmington Bay upstream contiguous with the Davis County line.	4	7.60	PS	Total Dissolved Solids	
Jordan/ Utah Lake	UT16020204-002	Jordan River-2	Jordan River from Davis County line upstream to North Temple Street.	2B	4.46	NS	E. coli	
Jordan / Utah Lake	UT16020204-002	Jordan River-2	Jordan River from Davis County line upstream to North Temple Street.	3B	4.46	PS	Dissolved Oxygen	
Jordan / Utah Lake	UT16020204-003	Jordan River-3	Jordan River from North Temple to 2100 S	2B	4.20	NS	E. coli	
Jordan / Utah Lake	UT16020204-005	Jordan River-5	Jordan River from 6400 S to 7800 S	2B	1.63	PS	E. coli	
Jordan / Utah Lake	UT16020204-005	Jordan River-5	Jordan River from 6400 S to 7800 S	3A	1.63	PS	Temperature	
Jordan / Utah Lake	UT16020204-005	Jordan River-5	Jordan River from 6400 S to 7800 S	4	1.63	NS	Total Dissolved Solids	
Jordan / Utah Lake	UT16020204-006	Jordan River-6	Jordan River from 7800 S to Bluffdale	3A	10.29	PS	Temperature	

Table C-6. Category 5A - Stream Assessment Units Needing TMDLS								
Watershed Management Unit	**Assessment Unit ID**	**Assessment Unit Name**	**Assessment Unit Description**	**Beneficial Use Class**	**Stream Miles**	**Beneficial Use Support**	**Pollutant**	**TMDL Target Date**
Jordan / Utah Lake	UT16020204-006	Jordan River-6	Jordan River from 7800 S to Bluffdale	4	10.29	NS	Total Dissolved Solids	
Jordan / Utah Lake	UT16020204-007	Jordan River-7	Jordan River from Bluffdale to Narrows	3A	4.18	PS	Temperature	
Jordan / Utah Lake	UT16020204-007	Jordan River-7	Jordan River from Bluffdale to Narrows	4	4.18	NS	Total Dissolved Solids	
Jordan / Utah Lake	UT16020201-001	Jordan River-8	Jordan River from Narrows to Utah Lake	4	14.15	NS	Total Dissolved Solids	
Jordan / Utah Lake	UT16020204-019	Big Cottonwood Creek-1	Big Cottonwood Creek and tributaries from Jordan River to Big Cottonwood WTP	3A	9.52	PS	Temperature	
Jordan / Utah Lake	UT16020204-021	Little Cottonwood Creek-1	Little Cottonwood Creek and tributaries from confluence Jordan River to Metropolitan WTP	3A	8.73	PS	Temperature	
Jordan Utah Lake	UT16020204-021	Little Cottonwood Creek-1	Little Cottonwood Creek and tributaries from confluence Jordan River to Metropolitan WTP	4	8.73	PS	TDS	
Lower Colorado	UT15010010-001	Virgin River-1	Virgin River from state line to Santa Clara Confluence	4	15.24	PS	Temperature	
Sevier River	UT16030002-005	East Fork Sevier-4	East Fork Sevier River and tributaries from confluence with Sevier River upstream to Antimony Creek confluence excluding Otter Creek and tributaries	3A	25.74	PS	Total Phosphorus	4/1/2006
Sevier River	UT16030002-005	East Fork Sevier-4	East Fork Sevier River and tributaries from confluence with Sevier River upstream to Antimony Creek confluence excluding Otter Creek and tributaries	3A	25.74	PS	Temperature	
Sevier River	UT16030003-027	Peterson Creek	Peterson Creek and tributaries from confluence with Sevier River to USFS boundary	4	8.70	NS	Total Dissolved Solids	
Sevier River	UT16030003-017	Sevier River-6	Sevier River from Clear Creek confluence to HUC unit boundary	3A	28.02	PS	Temperature	
Sevier River	UT16030003-005	Lost Creek-1	Lost Creek and tributaries from confluence w/Sevier River upstream ~ 6 miles	4	4.11	NS	Total Dissolved Solids	

Table C-6. Category 5A - Stream Assessment Units Needing TMDLS								
Watershed Management Unit	Assessment Unit ID	Assessment Unit Name	Assessment Unit Description	Beneficial Use Class	Stream Miles	Beneficial Use Support	Pollutant	TMDL Target Date
Sevier River	UT16030004-009	San Pitch-5	San Pitch River and tributaries from beneficial U132 to Pleasant Creek confluence excluding Cedar Creek Oak Creek Pleasant Cree and Cottowood Creek.	3A	65.67	PS	Temperature	
Sevier River	UT16030005-022	Chicken Creek-2	Chicken Creek and tributaries from confluence w/Sevier River to Levan	4	24.51	NS	Total Dissolved Solids	4/1/2006
Sevier River	UT16030005-027	Sevier River-24	Sevier River from Gunnison bend Reservoir to DMAD Reservoir	4	17.45	NS	Total Dissolved Solids	
Sevier River	UT16030005-028	Sevier River-25	Sevier River from Crear Lake to Gunnison Bend Reservoir	4	18.66	NS	Total Dissolved Solids	
Uinta	UT14060002-001	Lower Ashley Creek	Ashley Creek and tributaries from confluence Green River Vernal Sewage Lagoons.	3B	8.10	NS	Selenium	
Uinta	UT14060002-001	Lower Ashley Creek	Ashley Creek and tributaries from confluence Green River Vernal Sewage Lagoons.	4	8.10	NS	Total Dissolved Solids	
Uinta	UT14060002-003	Brush Creek	Brush Creek and tributaries from confluence w/Green River to Red Fleet Dam not including Little Brush Creek.	3B	22.74	PS	Selenium	
Uinta	UT14060003-001	Duchesne River-1	Duchesne River and tributaries from confluence Green River to Randlett.	4	19.49	PS	Total Dissolved Solids	
Uinta	UT14060003-002	Duchesne River-2	Duchesne River from Randlett to Myton.	4	31.59	PS	Total Dissolved Solids	
Uinta	UT14060003-005	Antelope Creek	Antelope Creek and tributaries confluence Duchesne River to headwaters.	4	31.57	NS	Total Dissolved Solids	
Uinta	UT14060003-008	Lake Fork-1	Lake Fork River and tributaries confluence Duchesne River to Pigeon Water Creek confluence.	3A	19.64	PS	Sediment	
Uinta	UT14060003-008	Lake Fork-1	Lake Fork River and tributaries confluence Duchesne River to Pigeon Water Creek confluence.	4	19.64	PS	Total Dissolved Solids	
Uinta	UT14060004-002	Indian Canyon Creek	Indian Canyon Creek and tributaries confluence Strawberry River to headwaters.	4	44.01	NS	Total Dissolved Solids	

Table C-6. Category 5A - Stream Assessment Units Needing TMDLS								
Watershed Management Unit	Assessment Unit ID	Assessment Unit Name	Assessment Unit Description	Beneficial Use Class	Stream Miles	Beneficial Use Support	Pollutant	TMDL Target Date
Uinta	UT14060005-002	Pariette Draw Creek	Pariette Draw Creek and tributaries confluence Green River to headwaters.	3A	54.10	NS	Selenium	
Uinta	UT14060005-002	Pariette Draw Creek	Pariette Draw Creek and tributaries confluence Green River to headwaters.	4	54.10	NS	Boron	
Uinta	UT14060005-002	Pariette Draw Creek	Pariette Draw Creek and tributaries confluence Green River to headwaters.	4	54.10	NS	Total Dissolved Solids	
Uinta	UT14060005-003	Ninemile Creek	Ninemile Creek and tributaris from confluence Green River to headwaters.	3A	119.08	NS	Temperature	
Uinta	UT14060006-001	Willow Creek	Willow Creek and tributaries confluence Green River to Meadow Creek confluence (excluding Hill Creek).	4	57.18	PS	Total Dissolved Solids	
Weber	UT16020101-007	Echo Creek	Echo Creek and tributaries from confluence w/ Weber River to headwaters	3A	44.15	PS	Sediment	4/1/2006

Watershed Management Unit	Assessment Unit Identification	Assessment Unit Name	Assessment Unit Description	Beneficial Use Class	Stream Miles	Beneficial Use Support	Pollution	Reason For Delisting
Jordan / Utah Lake	UT16020201-001	American Fork River-1	American Fork River and tributaries from Diversion at mouth of Canyon to Tibble Fork Res	2B,3B,4	14.15	FS	pH	2004-2005 Intensive Survey, pH standard was met.
Jordan / Utah Lake	UT16020202-026	Spring Creek	Spring Creek and tributaries from confluence w/ Beer Creek to headwaters	3A	18.76	FS	Temparature	2004-2005 Intensive Survey, pH standard was met.
Jordan / Utah Lake	UT16020204-012	Emigration Creek		2B	4.29	FS	Pathogens	Bacteriological standard was changed to E. coli, June 1, 2005. Sufficient evidence under fecal coliform rule to do a TMDL. It is being done now with E. coli as the basis.
Bear River	UT16010101-009	Bear River-5	Bear River from Utah-Wyoming border to Woodruff Creek Confluence	3A	55.66	FS	Dissolved Oxygen	2004-2005 Intensive Survey, DO standard was met.

Appendix D

Intensive Watershed Chapters from 2004 305(b) Report

Note: These chapters are included without changes and may not reflect the assessment in the 2006 305(b) report. Any changes in the assessment from the 2004 305(b) report can be determined by reviewing the 2006 303(d) list and Appendix C that contains the 2006 assessment summary of stream assessment units.

Chapter 3. Unita Watershed Management Unit Assessment

Introduction

The Uinta Watershed Management Unit lies in northeastern Utah and includes the U.S.G.S. hydrological units listed in Table 3-1.

Table 3-1. U.S.G.S. Hydrological Units in the Uinta Watershed Management Unit

Number	Name
14040106	Upper Green-Flaming Gorge Reservoir
14040107	Blacks Fork
14040108	Muddy
14050007	Lower White
14060001	LowerGreen-Diamond
14060002	Ashley-Brush
14060003	Duchesne
14060004	Strawberry
14060005	Lower Green - Desolation Canyon
14060006	Willow

This includes the Green River and the tributaries streams that flow into it downstream to approximately where the Price River enters the Green River. Tributary streams include those on the north and south slopes of the Uinta Mountains. Major streams on the north slope include the West Fork Blacks Fork, East Fork Blacks Fork, Blacks Fork, West Fork Smiths Fork, East Fork Smiths Fork, Henry's Fork and Burnt Fork Rivers. Major south slope streams include Currant Creek, Duchesne River, Rock Creek, Lake Fork Creek, Yellowstone River, Uinta River, Ashley Creek, and Brush Creek. Two other major rivers are the Strawberry and White Rivers. The Strawberry River, located in the western part of the management unit, flows east to join the Duchesne River downstream from Starvation Reservoir. The White River flows west from the Utah-Colorado border to join the Green River near the confluence of the Duchesne and Green Rivers. Smaller tributaries to the south include Nine Mile Creek and Range Creek.

Results

The intensive survey for this watershed was done from July 1, 2000 to June 30, 2001.

There are an estimated 3,445 perennial stream miles within the Uinta Watershed Management Unit. An assessment of the support of beneficial uses was made for 2,718.7 miles. Based upon at least one beneficial use being assessed, 2,114.4 (77.8%), were assessed as fully supporting , 229 miles (8.4%) were assessed as partially supporting, and 375.3 miles (13.8%) were assessed as not supporting at least one designated beneficial use (Figure 3-1).

The results of the assessment using the five categories are listed in the table below.

Table 3.2. Stream Miles by Assessment Category Uinta Watershed Management Unit

Category	Stream Miles
1	0
2	2,114
3	710
4A	116
4B	0
4C	99
5A	412
5B	31

Figure3-2 is a map of the designated beneficial uses assigned to the rivers and streams in the management unit.

The beneficial uses not supported were aquatic life and agriculture (Table 3-3). Dissolved metals, water temperature, habitat alterations, flow alterations and a fish consumption advisory were the cause of non support for aquatic life and total dissolved solids were the

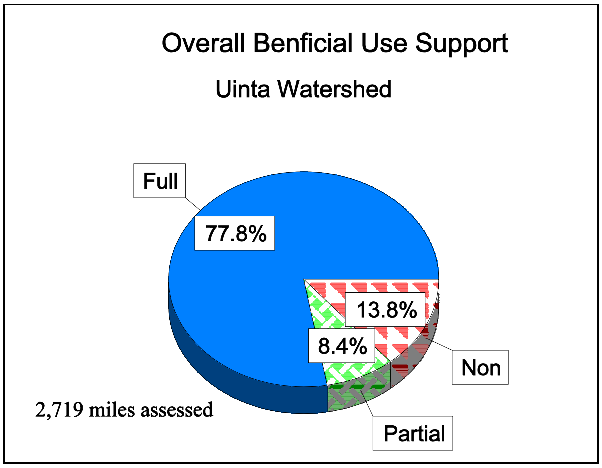

Figure 3-1. Overall beneficial use support based upon at least one beneficial use being assessed-Uinta Watershed.

cause of non support for agricultural use.

The major causes of water quality impairment were total dissolved solids, habitat alterations and dissolved oxygen. The percent of stream miles affected by causes are presented in Figure 3-4. The relative effect of each cause is found in Figure 3-5.

The major sources of impairment were agricultural activities, natural, and habitat modification (Figure 3-6). Other sources included hydrological modification, industrial and municipal point discharge sources. The relative percent impacts by sources are shown in Figure 3-7.

Duchesne River - Portions of the main stem of the Duchesne River were assessed as partially supporting its beneficial uses. Total dissolved solids (TDS) were still a problem from its confluence with the Green River to Myton. Its agricultural classification (Class 4) was designated as impaired.

Lake Fork River--Lake Fork River from its confluence with the Duchesne River to the Pigeon Water Creek confluence was listed as non supporting its cold water game fish classification (Class 3A) because of temperature and was also evaluated as not supporting its agricultural classification because of total dissolved solid concentrations greater that the standard. The other segments of Lake Fork River and its tributaries were assessed as fulling supporting all of the beneficial uses that were assessed.

Dry Gulch Creek–A TMDL for Dry Gulch Creek and its tributaries has been completed and approved for total dissolved solids.

Antelope Creek--This stream was assessed as non supporting its agricultural use. Irrigation return flows, grazing, and habitat alteration are thought to be the most significant source of total dissolved solids.

Uinta River -A TMDL for total dissolved solids has been completed for the Uinta River-1 and Uinta River-2 segments. Assessment unit Uinta River-1, Uinta River and tributaries from confluence Duchesne River upstream to Dry Gulch confluence, was placed in Category 5B. Uinta River-2 was placed in Category 4A, because the TMDL has been approved. The assessment unit, Uinta River-1, had the temperature and habitat alteration impairments removed because it had been incorrectly assessed as a Class 3A stream instead of a 3B, warm water fishery.

White River--The White River was assessed as fully supporting all of the beneficial uses it was assessed for.

Willow Creek--Excessive levels of total dissolved solids were the reason for listing Willow Creek from the White River to the Meadow Creek confluence as partially supporting its agriculture beneficial use.

Pariette Draw- This stream was assessed as impaired for agricultural activities due to boron and total dissolved solids. It also was listed as not supporting its aquatic life beneficial use because of selenium violations of the chronic standard for selenium.

Ashley Creek--The lower 16 miles of Ashley

Creek were found not supporting its fishery and agriculture classifications. This stream segment also has a fish consumption advisory on it because of elevated levels of selenium found in fish tissue. Seepage from municipal wastewater lagoons leaches selenium from the geological strata and it enters the stream. Irrigation return flows probably add to the elevated concentrations of total dissolved solids found in this segment also. A TMDL has been completed, but not approved by EPA yet.

Range Creek--The lower segment of Range Creek was assessed as fully supporting its beneficial uses. The middle and upper reaches were not assessed.

Green River--All segments of the Green River in the Uinta watershed management unit were supporting all of the beneficial uses assessed.

North Slope Uinta Streams–All streams on the North Slope of the Uinta Mountains that were assessed were found to be supporting all of their beneficial uses that were assessed.

Table 3-3. Individual Beneficial Use Support Summary
Uinta Watershed Management Unit

Goals[a]	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Attainable
Protect & Enhance Ecosystems	Aquatic Life	2,718.7	2,418.5 (89.0%)	0.0	99.0 (3.6%)	201.3 (7.4%)	0.0
Protect & Enhance Public Health	Fish Consumption	16.0	0.0	0.0	0.0	16.0 (100%)	0.0
	Swimming[b]	0.0	0.0	0.0	0.0	0.0	0.0
	Secondary Contact	0.0	0.0	0.0	0.0	0.0	0.0
	Drinking Water[c]	1,534.9	1,534.9 (100%)	0.0	0.0	0.0	0.0
Social and Economic	Agricultural	2,711.5	2,322.1 (85.6%)	0.0	152.8 (5.6%)	236.6 (8.7%)	0.0
	Total	2,718.7	2,114.4 (77.8%)	0.0	229.0 (8.4%)	375.3 (13.8%)	0.0

[a] These goals are part of the national water quality goals adopted by the EPA Office of Water and the ITFM in their Environmental Goals and Indicators effort.

[b] Class 2B (secondary contact) streams were evaluated as swimmable for proposes of the CWA goals, therefore the swimming and secondary contact classification categories are the same.

Table 3-4. Total Waters Impaired By Various Causes Categories Uinta Water Quality Management Unit.	
Cause Category	**Stream Miles Impaired**
Cause unknown	0.0
Unknown toxicity	0.0
Pesticides	-
Priority organics	-
Nonpriority organics	-
Metals	62.6
Ammonia	0.0
Chlorine	0.0
Other inorganics	0.0
Nutrients	0.0
pH	0.0
Siltation/Sediments	19.7
Organic Enrichment/low DO	0.0
Salinity/TDS/Chlorides	389.5
Thermal modifications	119.0
Flow alterations	64.2
Other habitat alterations	99.0
Pathogen Indicators	-
Radiation	-
Oil and grease	0.0
Taste and odor	-
Noxious aquatic plants	-
Total toxics	0.0
Turbidity	0.0
Exotic species	-
Other (specify)	-

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

Table 3-5. Total Waters Impaired by Various Source Categories Uinta Watershed Management Unit	
Source Category	**Stream Miles Impaired**
Industrial Point Sources	8.1
Municipal Point Sources	8.1
Combined Sewer Overflow	-
Agriculture	572.7
Silviculture	0.0
Construction	0.0
Urban Runoff/Storm Sewers	0.0
Resource Extraction	0.0
Land Disposal	0.0
Hydromodification	115.5
Habitat Modification	329.0
Marinas	-
Atmospheric Deposition	-
Contaminated Sediments	-
Unknown Source	0.0
Natural Sources	453.6

Uinta Basin Management Unit

Beneficial Use Classification

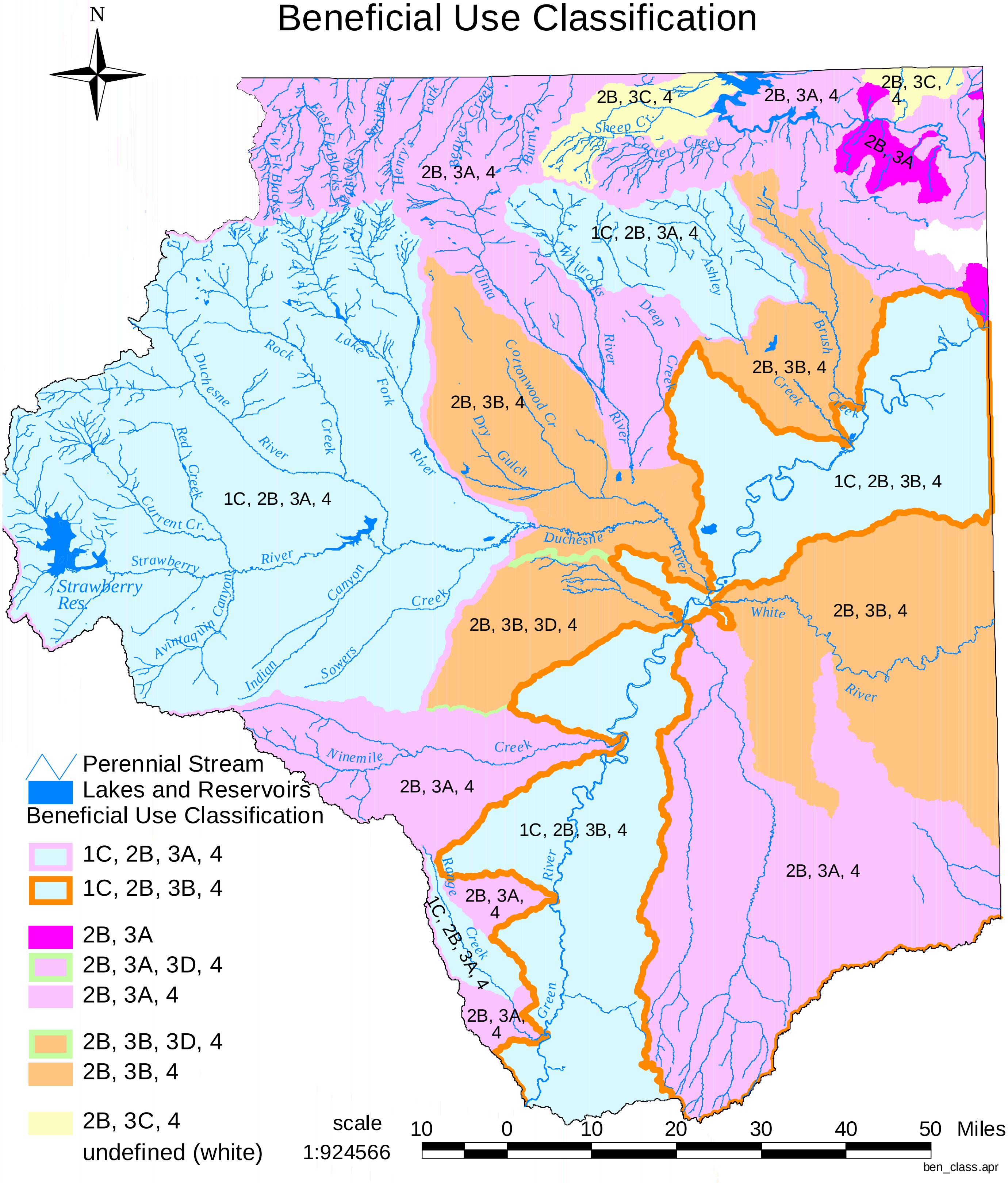

Figure 3-2. River and stream designated beneficial use classifications - Uinta Watershed Management Unit

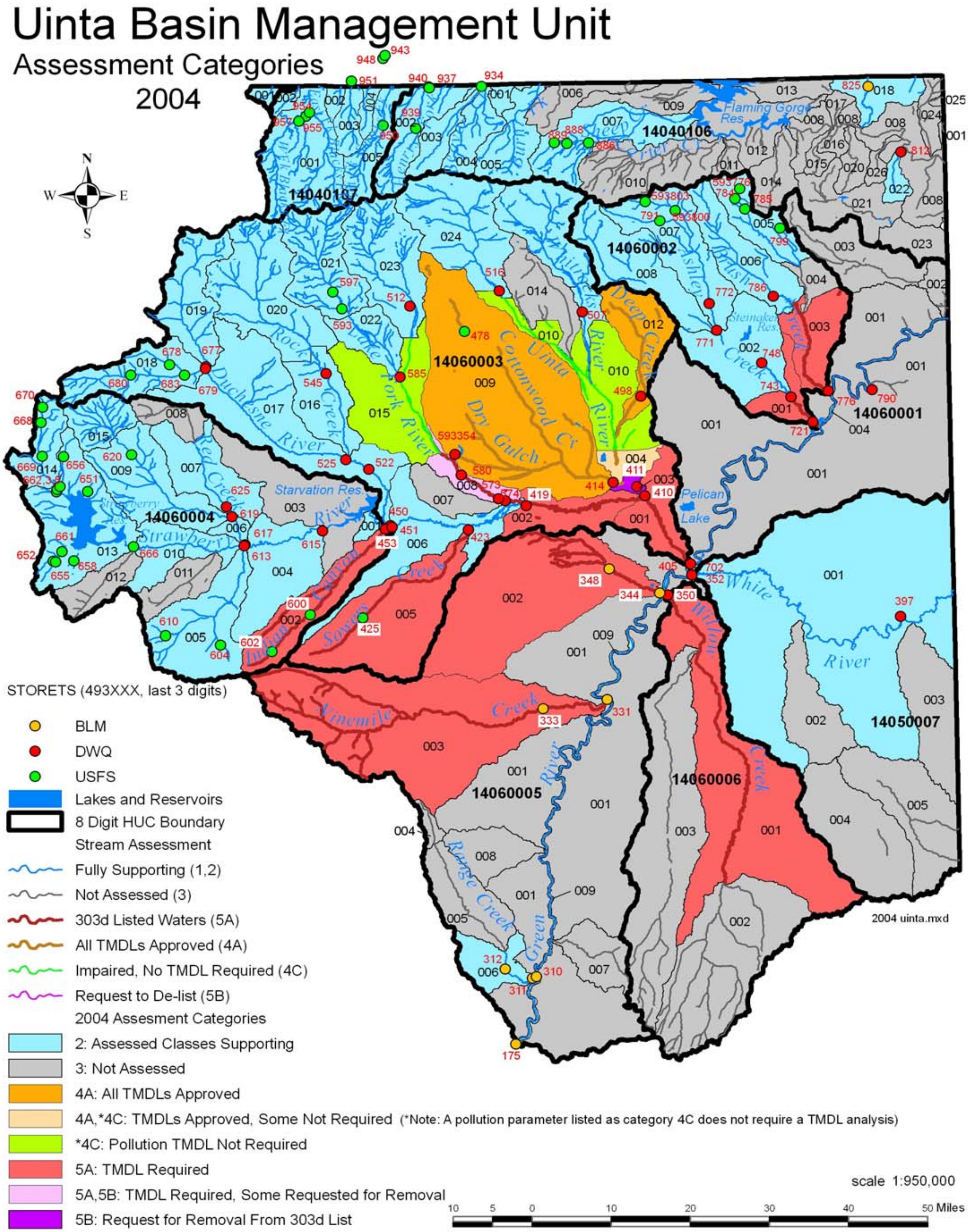

Figure 3-3. Stream beneficial use assessment by category - Uinta Watershed Management Unit.

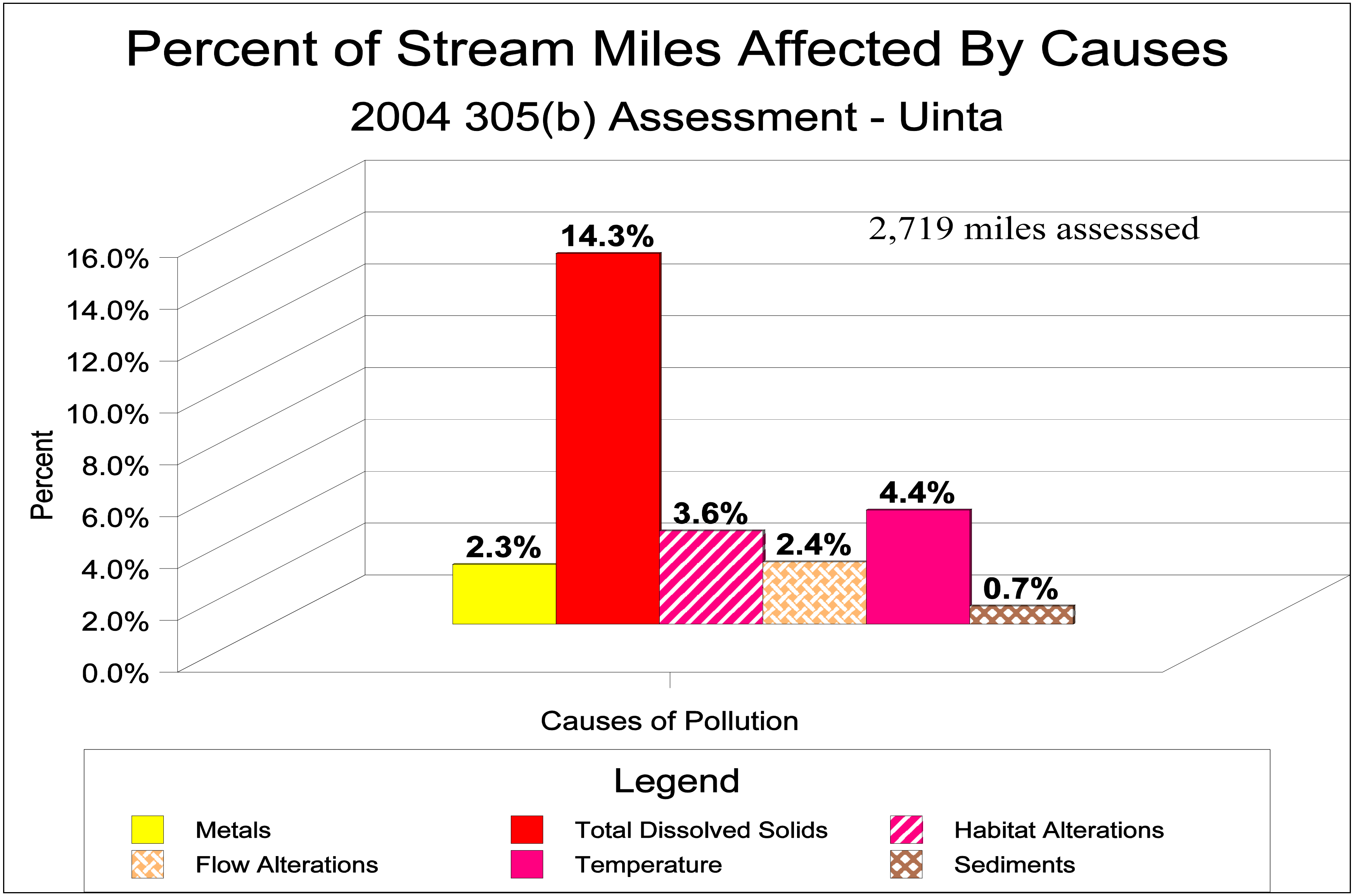

Figure 3-4. Percent of assessed stream miles impacted by causes - Uinta Watershed Management Unit.

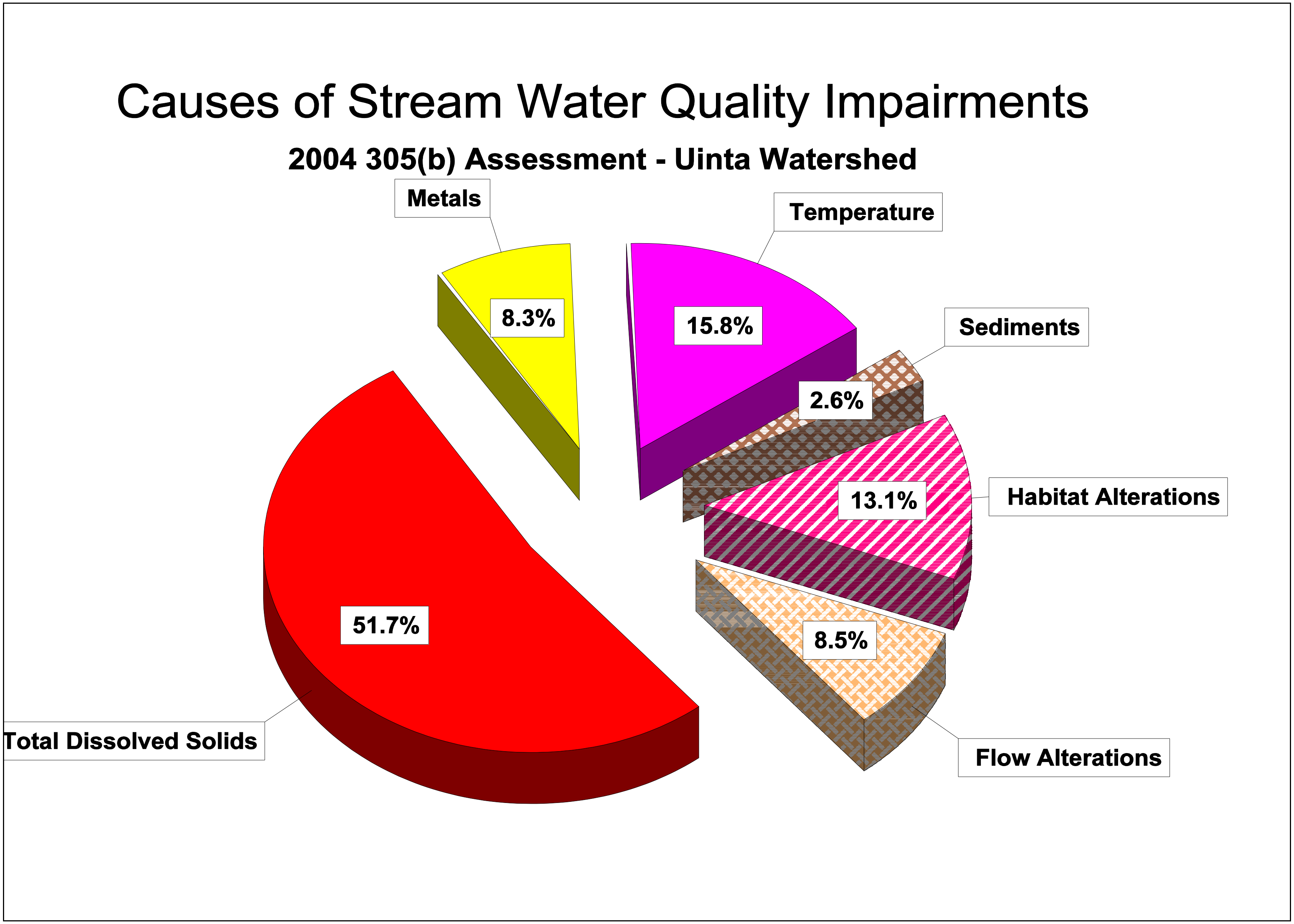

Figure 3-5. Relative percent contribution by cause to impairment of stream water quality - Uinta Watershed Management Unit.

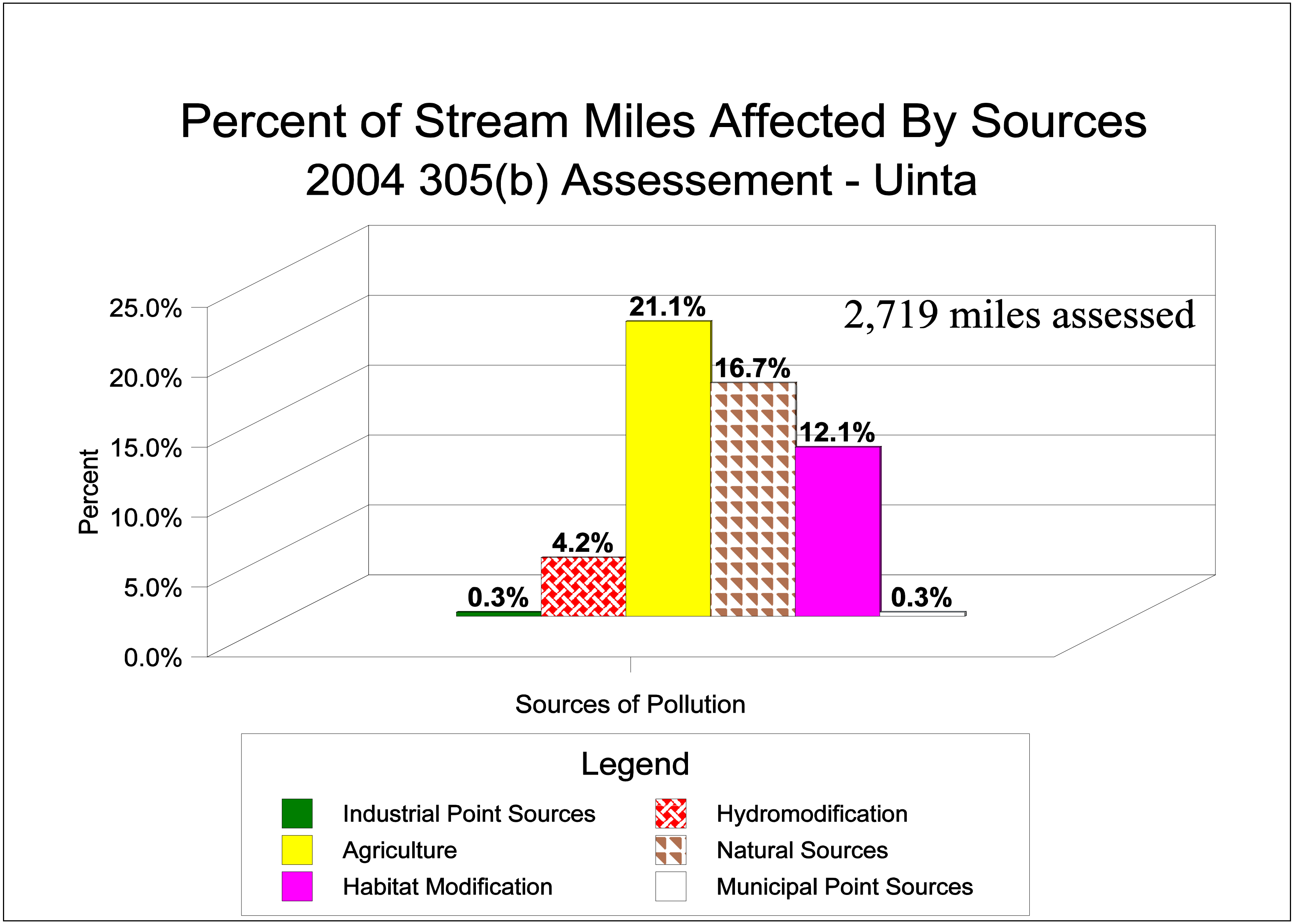

Figure 3-6. Percent of assessed stream miles impacted by sources - Uinta Watershed Management Unit.

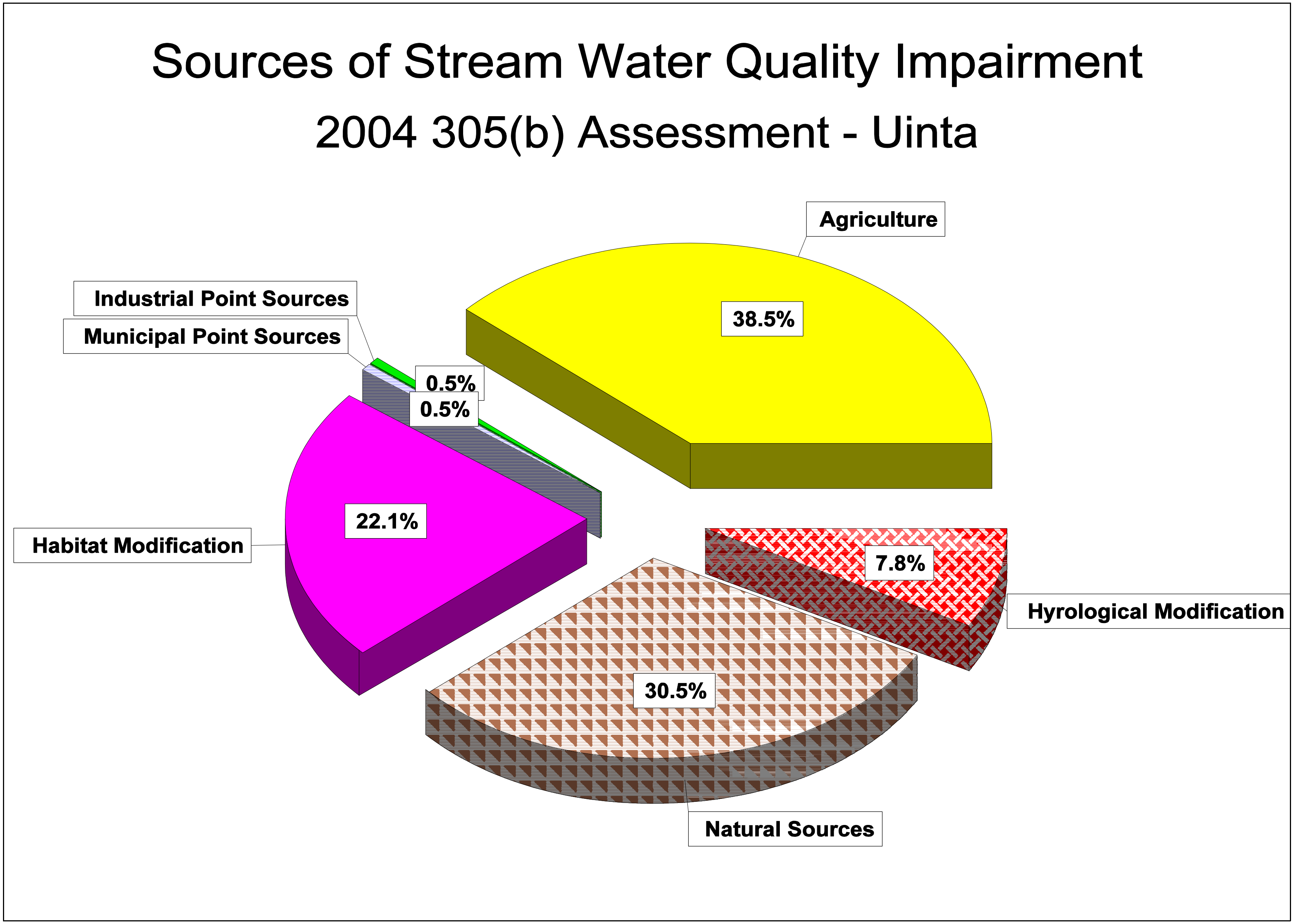

Figure 3-7. Relative percent contribution of sources to impairment of stream water quality - Uinta Watershed Management Unit.

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Chapter 4: Sevier River Watershed Management Unit Assessment

Introduction

The Sevier River Watershed Management Unit includes all streams located in the U.S.G.S Hydrological Units (HUCs) listed in Table 4-1. Some of the major streams within unit are the Sevier River, San Pitch River, Otter Creek, Salina Creek, and the East Fork Sevier River.

Table 4-1. U.S.G.S. Hydrological Units in the Sevier Watershed Management Unit.	
Hydrological Unit Code	**Hydrological Unit Name**
14030001	Upper Sevier
14030002	East Fork Sevier
14030003	Middle Sevier
14030004	San Pitch
14030005	Lower Sevier
14030009	Sevier Lake

Results

There were 1,575 stream miles assessed. Of these, 1,055.1 miles (67.0%) were assessed as fully supporting all of the beneficial uses that were assessed, 349.3 miles (22.2%) were assessed as partially supporting, and 170.6 miles (10.8 %) were assessed as not supporting at least one designated beneficial use (Figure 4-1).

Sevier Watershed Management Unit assessment units were assessed by categories and the results listed in Table 4-2. Specific assessment units within each category are listed in Appendix B, Tables B-1 through B-7.

Individual beneficial use support is listed in Table 4-3. One-thousand five-hundred six (1,575) stream miles were assessed for aquatic life and agricultural use support. This was 80.2% of the estimated stream miles that were classified for these two beneficial uses.

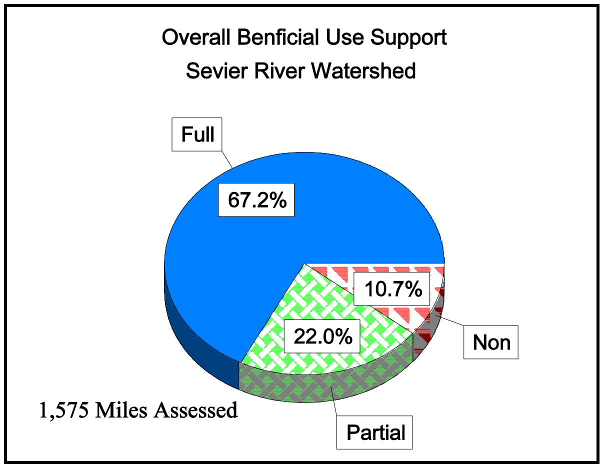

Figure 4-1. Overall beneficial use support based upon at least one beneficial use being assessed-Sevier River.

Of the streams assessed for agricultural use, 1,344.2 miles (85.3%) were assessed as fully supporting, 41.5 miles (2.6%) partially supporting, and 170.6 miles (10.8%) not supporting this beneficial use.

Table 4-2. Stream Miles by Assessment Category - Sevier River	
Category	**Stream Miles**
1	0
2	1,055
3	350
4A	187
4B	0
4C	340
5A	340
5B	0

Of the streams assessed for aquatic life, 1,215.5 miles (77.2%) were assessed as fully supporting, 359.5 miles (22.8%) partially supporting this beneficial use and no miles were listed as being non supporting.

Figure 4-3 identifies the beneficial use classifications and Figure 4-4 shows the assessment by categories and the STORET sampling sites used to assess waters within this unit.

The causes and sources of impairment are listed in Table 4-3 and Table 4-4 respectively. The major causes of impairment were nutrients (total phosphorus), sediment, habitat alterations, and total dissolved solids. The percent of miles impacted were 24.9, 23.3, 21.6 and 14.7 percent respectively (Figure 4-6). The relative impact of these causes is shown in Figure 4-7.

The major sources of impairment were agricultural activities, hydromodification, habitat modification, and natural as shown in Figure 4-8. They affected 32.3 , 30.2, 16.2, and 16.8% percent respectively of the stream miles assessed. The relative percent impairment by sources is illustrated in Figure 4-9.

Sevier River–The Sevier River from Crear Lake upstream to Leamington exceeds the agriculture standard for total dissolved solids. It was assessed as not meeting the agriculture beneficial use below Gunnison Bend Reservoir and was listed as partially supporting this beneficial use from there to Leamington. From Gunnison Bend Reservoir upstream to Yuba Reservoir, the river was assessed as partially supporting the Class 3B, warm water game fish, beneficial use. This was due to excessive nutrients, sediments, and poor habitat.

From Yuba Reservoir upstream to the Salina Creek confluence, the Sevier River was assessed as not supporting its agricultural beneficial use and partially supporting the warm water game fish designation.

Several upstream segments of the Sevier River were found to be only partially supporting the agricultural and the Class 3A, cold water game fish, beneficial use classification. The stream segments not supporting the Class 3A classification included the following segments: Sevier River and tributaries from the Circleville Irrigation Diversion upstream to the Horse Valley Diversion, from the Horse Valley Diversion upstream to the Long Canal diversion (does not include all tributaries), and from the Long Creek Diversion upstream to the Mammouth Creek confluence. The causes of impairment were excessive sedimentation, total phosphorus, and habitat alteration. The major sources were hydromodification and agricultural practices. Another source of total phosphorus was aquiculture (fish hatchery) effluent.

San Pitch River–The segments of the San Pitch River, below Gunnison Reservoir, and upstream including the tributary Silver Creek to its headwaters were assessed as not supporting the agricultural beneficial use because of TDS. A TMDL was submitted to EPA this cycle for these waters. The primary source of total dissolved solids was attributed to agricultural activities and to the naturally occurring saline soils and salt springs in the lower portions of the valley.

Salina Creek–The lower portion of Salina Creek continues to have high concentrations of total dissolved solids and still exceed the total dissolved solids criteria for agriculture.

Lost Creek–This small stream has high TDS concentrations and contributes a significant amount of TDS to the Sevier River system. Highly saline geological formations and saline springs are located in the lower portion of Lost Creek.

East Fork Sevier River–The East Fork Sevier River was found to be supporting all of its beneficial uses with the exception of one segment. That segment runs from the confluence with the Sevier River upstream to the Antimony Creek confluence, excluding Otter Creek and its tributaries. This was due to high nutrient and sediment loads and the loss of stream habitat.

Otter Creek–Otter Creek and its tributaries were designated as partially supporting their cold water game fish classification due to excessive total phosphorus, sedimentation, and habitat alteration. A total maximum daily load analysis has been submitted to EPA and it was approved. With the approval of the TMDL the Otter Creek assessment units were moved to Category 4A. Impairments caused by habitat modification are now listed under Category 4A, and do not require a TMDL. However, best management practices should be implemented to reduce the impact cause by habitat alterations. The Otter Creek assessment units are still assessed as partially supporting there Class 3A beneficial use (cold water game fish).

Peterson Creek–This tributary to the Sevier River was assessed as being non supporting of its agricultural usage because of total dissolved solids. It is a newly created assessment unit and was listed in Category 5A.

Table 4-3. Individual Use Support Summary for the Sevier River Watershed Management Unit (Stream Miles).

Goals [a]	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Attainable
Protect & Enhance Ecosystems	Aquatic Life	1,575.0	1,215.5 (77.2%)	0.0	359.5 (22.8%)	0.0	0.0
Protect & Enhance Public Health	Fish Consumption	0.0	0.0	0.0	0.0	0.0	0.0
	Swimming [b]	0.0	0.0	0.0	0.0	0.0	0.0
	Secondary Contact	0.0	0.0	0.0	0.0	0.0	0.0
	Drinking Water	0.0	0.0	0.0	0.0	0.0	0.0
Social and Economic	Agricultural	1,575.0	1,344.2 (85.3%)	0.0	41.5 (2.6%)	170.6 (10.8%)	0.0
	Total	1,575.0	1,055.1 (64.0%)	0.0	349.3 (26.1%)	170.6 (10.8%)	0.0

a - These goals are part of the national water quality goals adopted by the EPA Office of Water and the ITFM in their Environmental Goals and Indicators effort.

b - Class 2B (secondary contact) streams were evaluated as swimmable for proposes of the CWA goals, therefore the swimming and secondary contact classification categories are the same.

Table 4-3. Total Waters Impaired by Various Causes within the Sevier River Water Quality Management Unit.

Cause Category	Stream Miles Impaired
Cause unknown	0.0

Table 4-3. Total Waters Impaired by Various Causes within the Sevier River Water Quality Management Unit.	
Cause Category	**Stream Miles Impaired**
Unknown toxicity	0.0
Pesticides	-
Priority organics	-
Nonpriority organics	-
Metals	0.0
Ammonia	0.0
Chlorine	0.0
Other inorganics	0.0
Nutrients	392.8
pH	0.0
Siltation/Sediments	367.5
Organic Enrichment/low DO	0.0
Salinity/TDS/Chlorides	230.8
Thermal modifications	0.0
Flow alterations	0.0
Other habitat alterations	340.4
Pathogen Indicators	-
Radiation	-
Oil and grease	0.0
Taste and odor	-
Noxious aquatic plants	-
Total toxics	0.0
Turbidity	0.0
Exotic species	-
Other (specify)	-

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

Table 4-4. Total Waters Impaired by Various Source Categories in the Sevier River Watershed Management Unit	
Source Category	**Stream Miles Impaired**
Industrial Point Sources	0.0
Municipal Point Sources	0.0
Combined Sewer Overflow	-
Agriculture	509.5
Silviculture	0.0
Construction	0.0
Urban Runoff/Storm Sewers	0.0
Resource Extraction	0.0
Land Disposal	0.0
Hydromodification	475.5
Habitat Modification	255.7
Marinas	-
Atmospheric Deposition	-
Contaminated Sediments	-
Unknown Source	0.0
Natural Sources	264.2

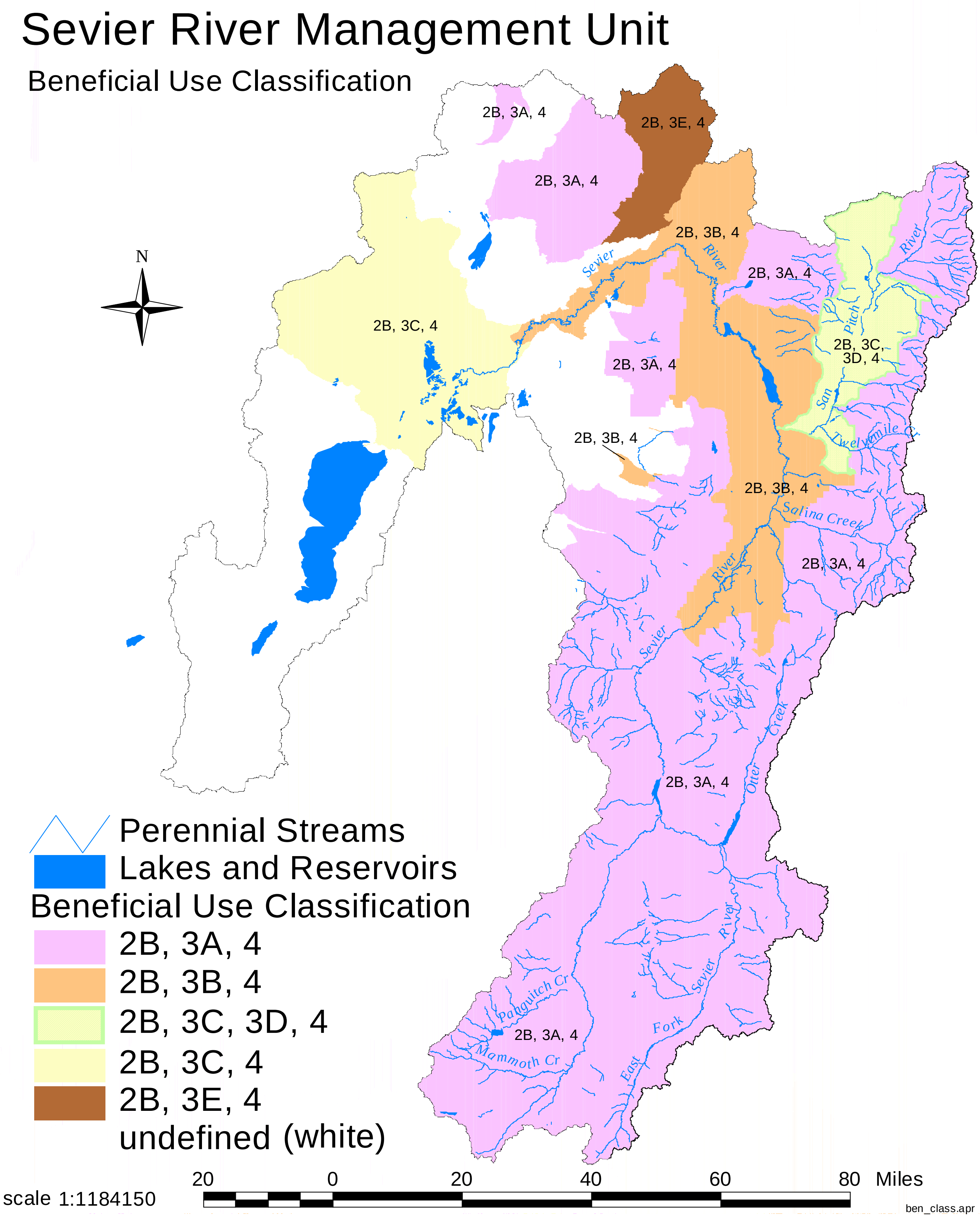

Figure 4-2. River and stream designated beneficial use classifications - the Sevier Watershed Management Unit.

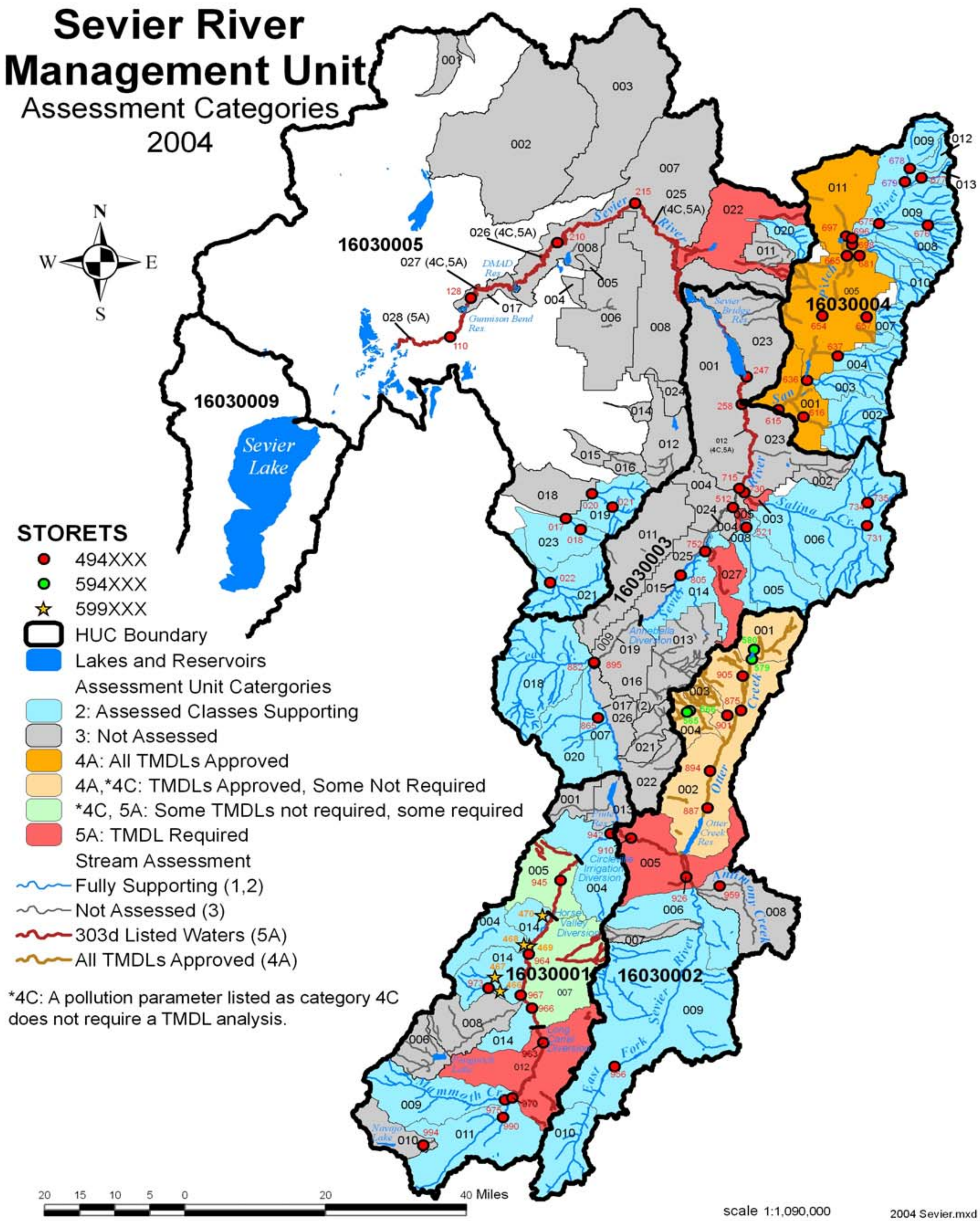

Figure 4-3. River and stream beneficial use support by category - Sevier Watershed Management Unit.

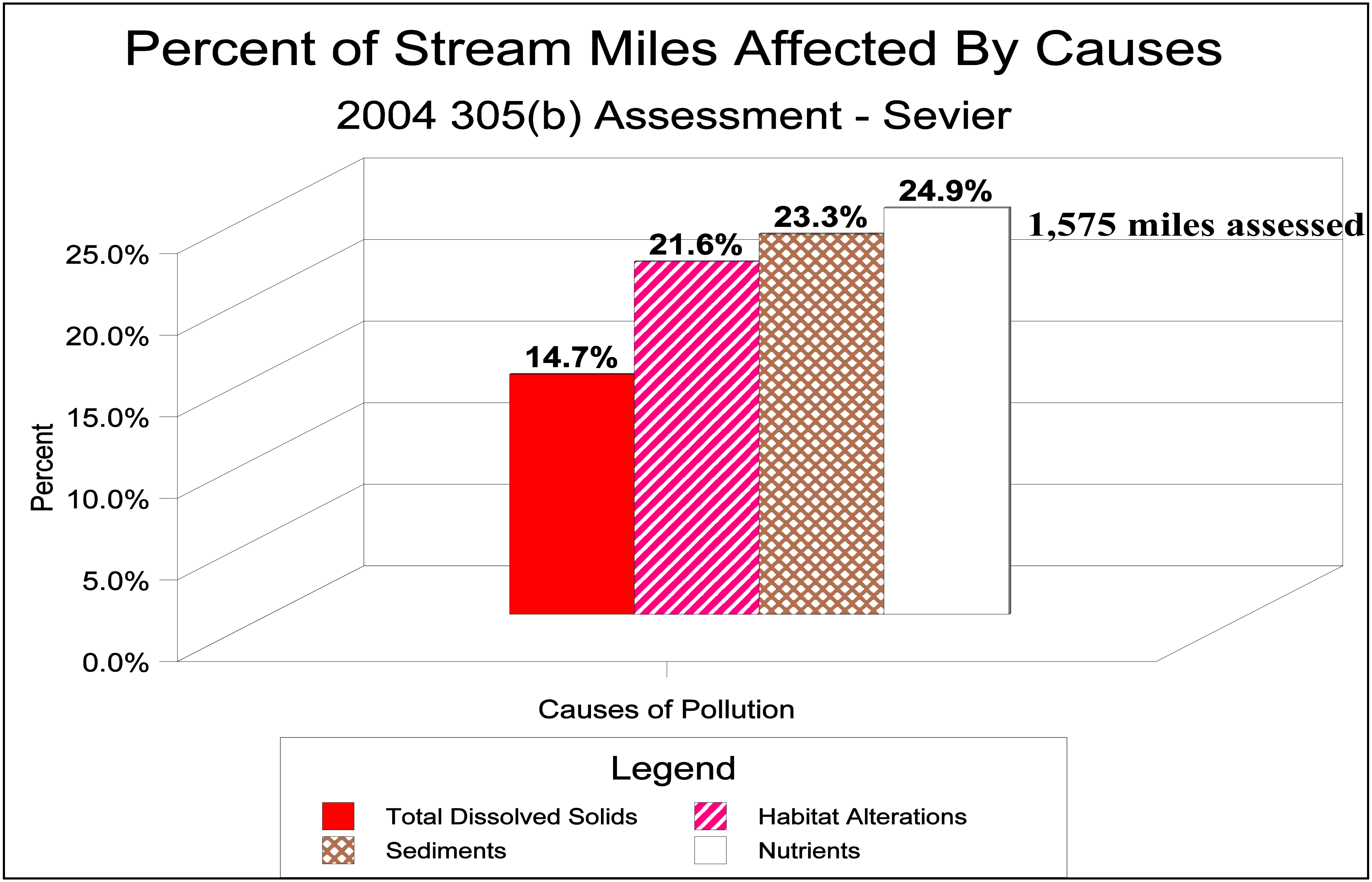

Figure 4-4. Percent of assessed stream miles impacted by causes - Sevier River Watershed Management Unit.

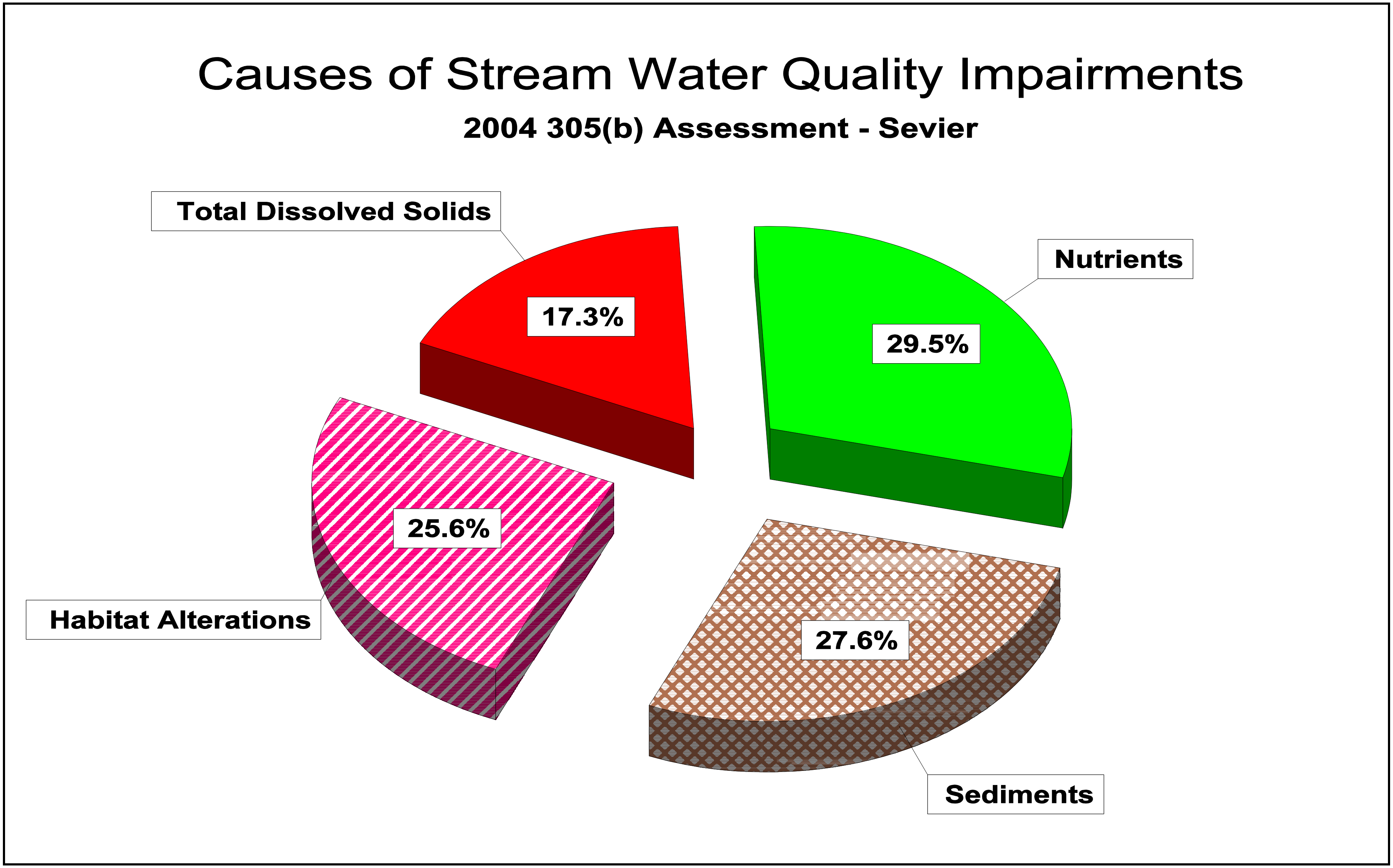

Figure 4-5. Relative percent contribution by cause to impairment of stream water quality - Sevier Watershed Management Unit.

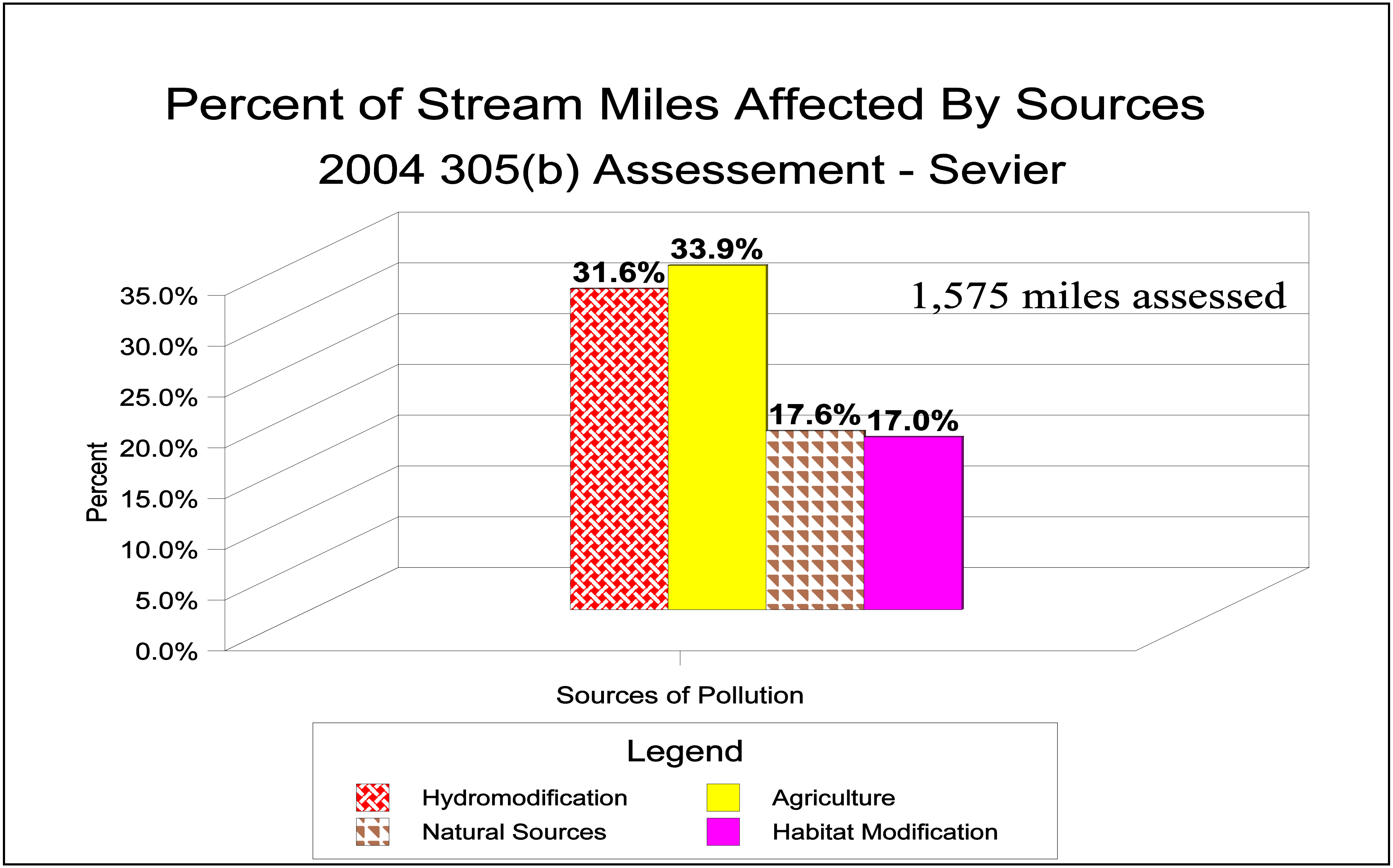

Figure 4-6. Percent of assessed stream miles impacted by sources - Sevier River Watershed Management Unit.

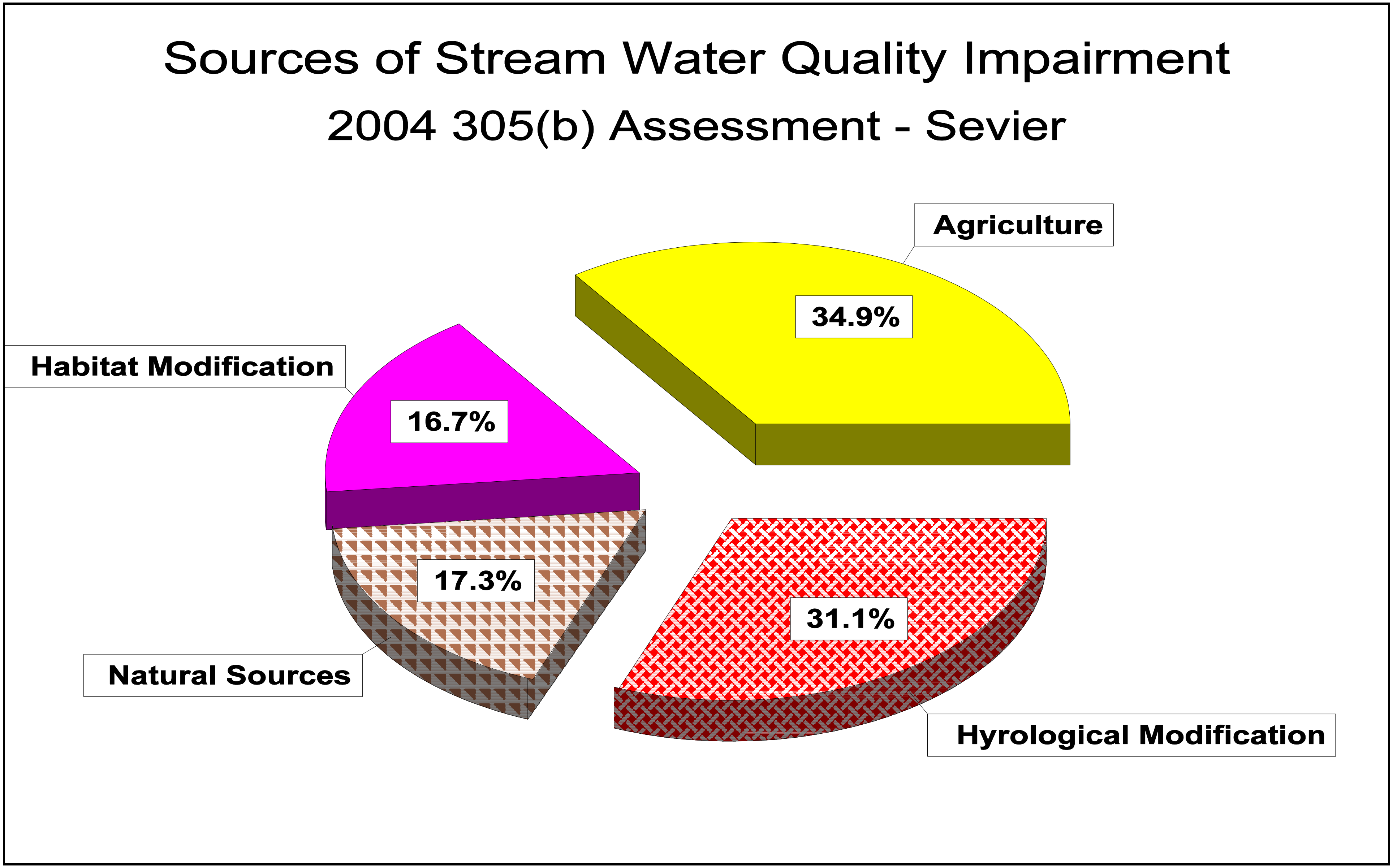

Figure 4-7. Relative percent contribution by source to impairment of stream water quality - the Sevier River Watershed Management Unit.

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Chapter 5. West Colorado Watershed Management Unit Stream Water Quality Assessment

Introduction

The West Colorado Watershed Management Unit includes all streams located in the U.S.G.S. Hydrological Units (HUCs) listed in Table 5-1 Some of the major streams are the Price River, Huntington Creek, Cottonwood Creek, Ferron Creek, San Rafael River, Escalante River, Muddy Creek, Dirty Devil River, the Fremont River, and portions of the Green River.

Table 5-1. U.S.G.S. Hydrological Units in the Colorado River West Watershed Management Unit.

Hydrological Unit Code	Hydrological Unit Name
14060007	Price
14060008	Lower Green
14060009	San Rafael
14070001	Upper Lake Powell
14070002	Muddy
14070003	Fremont
14070004	Dirty Devil
14070005	Escalante
14070006	Lower Lake Powell

Results

The intensive survey for this watershed was done from July 1, 2002 to June 30, 2003.

There are an estimated 2,551 perennial stream miles within the West Colorado Watershed Management Unit. An assessment of at least one beneficial use was made on 1,918.6 miles of streams. Of these 1,339.3 (69.8%) miles were assessed as fully supporting at least one beneficial use, 133.7 miles (7.0%) were assessed as partially supporting, and 445.6 miles (23.2%) were assessed as not supporting at least one designated beneficial use (Figure 5-1).

Figure 5-2 is a map of the designated beneficial use classifications assigned to the rivers and streams in this management unit.

Figure 5-3 is a map of the assessment categories that the rivers and streams were assigned to when the field and water quality data were compared against state standards. Benthic macroinvertebrate data were also used to evaluate the Escalante River and Calf Creek.

Overall beneficial use support, based upon at least some but not all beneficial uses being assessed, was 1,339.3 miles (69.8%) were fully supporting, 133.7 (7.0%) partially supporting, and 445.6 miles (23.2.0%) as non supporting.

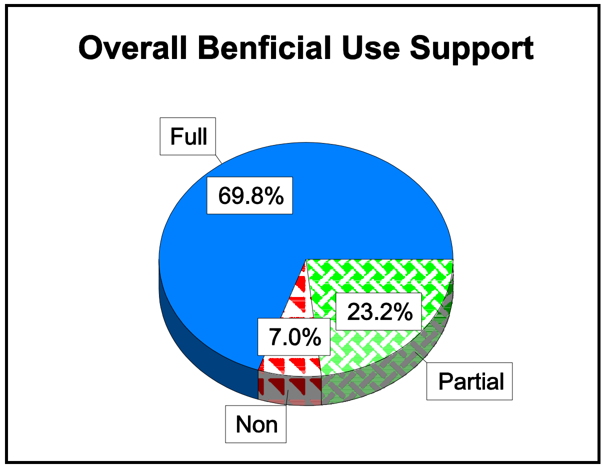

Figure 5-1. Overall beneficial use support based upon at least one beneficial use being assessed-Colorado River West.

Table 5-3 lists the beneficial use support by individual beneficial use classes. Seven-hundred seven (708.2) miles of Class 1C (source of drinking water) were assessed as fully supporting this beneficial use. One-thousand eight-hundred thirty-one (1,830.9) miles were assessed as supporting aquatic life beneficial uses. This was 95.4% of the stream miles assessed. There were 26.7 miles (1.4%) were assessed as partially supporting and 24.5 miles (1.3%) as not supporting aquatic life. Of the, 1,693.8 miles assessed for agricultural use, 1,202.2 (71.0%) were fully supporting, 75.6 miles (4.5%) partially supporting, and 415.9 (24.5%) not supporting this beneficial use.

The number of stream miles in each assessment category are listed in Table 5-2. Tables B-1 through B-7 contain individual assessment units within each assessment category. Tables 5-3 and 5-4 lists the miles of streams affected by the various cause and source categories identified as generally affecting water quality.

The major cause of water quality impairment was total dissolved solids (Figure 5-4). Other factors affecting beneficial uses were temperature, dissolved oxygen, and nutrients. The relative percent impact by causes is shown in Figure 5-5.

The major sources of impairment were natural sources and agricultural activities. It was estimated that they affected 27.2% and 26.7% of the stream miles assessed (Figure 5-6).

Aquaculture was identified as a source of nutrients on the Fremont River. About 4.3% of the sources of stream impairment were listed as unknown. The relative percent impacts by sources are shown in Figure 5-7.

Table 5-2. Stream Miles by Assessment Category - Colorado River West

Category	Stream Miles
1	0
2	1,339
3	453
4A	89
4B	0
4C	0
5A	489
5B	14

Aquaculture was identified as a source of nutrients on the Fremont River. About 4.3% of the sources of stream impairment were listed as unknown.

Price River–Several segments of the Price River from its confluence to the Carbon Canal Diversion were assessed as partial supporting or non supporting their agricultural beneficial use designation. A TMDL has been submitted to EPA for these assessment units. The probable sources of the total dissolved solids were natural sources and agricultural activities such as irrigation return flows.

San Rafael River–The San Rafael River from the Green River to its confluence with Huntington and Cottonwood Creeks was assessed as not supporting its Class 4 (agriculture) designation because of the high levels of total dissolved solids.

Muddy River–Two segments of the Muddy River were assessed as non supporting agricultural usage because of high total dissolved solids. These two segments include the river from its confluence with the Dirty Devil River to the U-10 highway crossing. Like other streams in the West Colorado Unit, the probable sources were agricultural practices and natural.

Fremont River–A TMDL for the Fremont River from Bicknell to the U.S. Forest Service boundary has been completed and approved for low dissolved oxygen and total phosphorus. The Fremont River and tributaries from confluence with the Dirty Devil to the east boundary of Capitol Reef National Park also have a TMDL completed for total dissolved solids that affect agricultural use.

Other streams which had segments that exceeded the total dissolved solids criteria and were assessed as either partially or non supporting of their agricultural beneficial use were the lower portions of Huntington Creek, Cottonwood Creek, Quitchipah Creek and Ivie Creek.

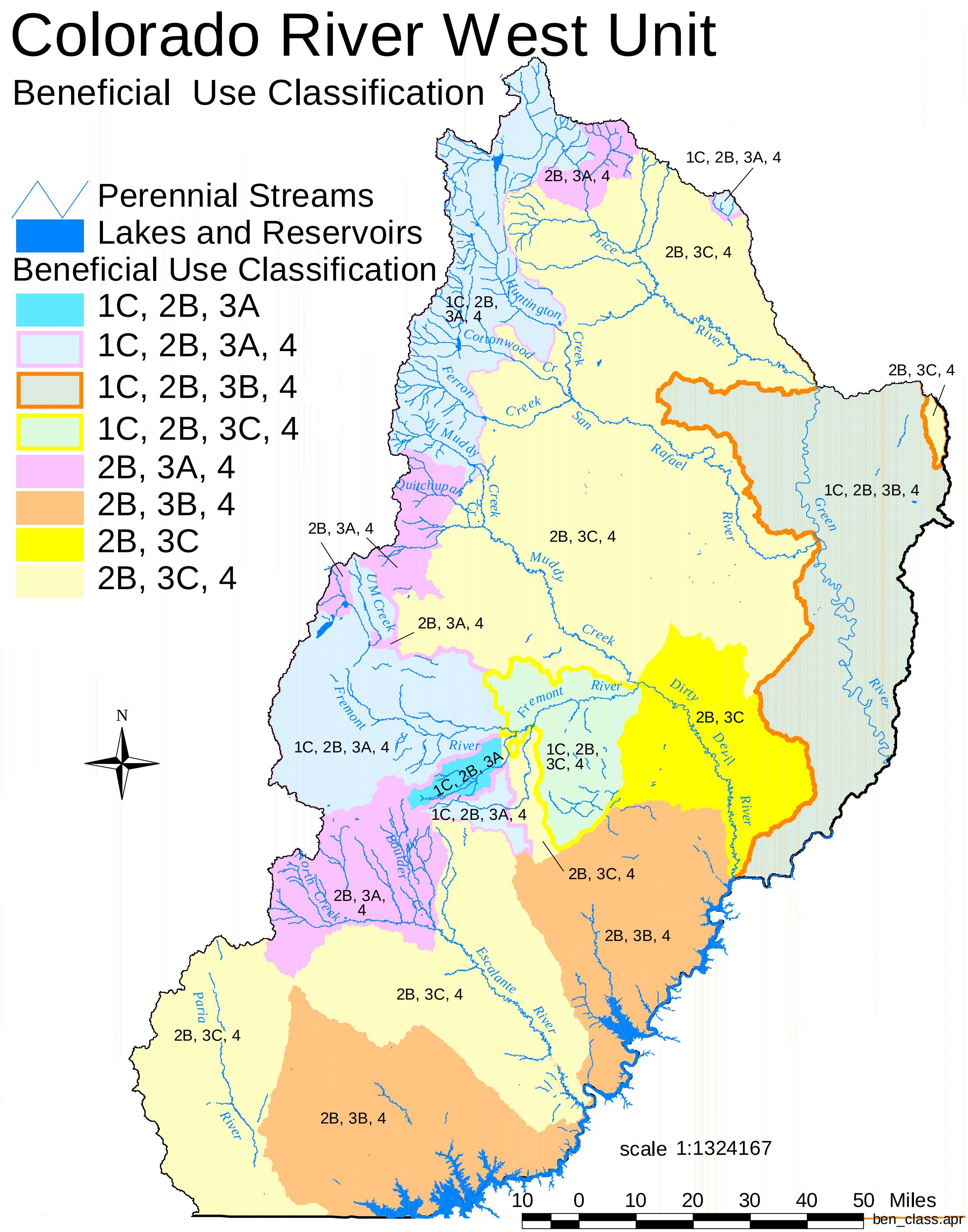

Figure 5-2. River and stream designated beneficial use classes - Colorado River West Watershed Management Unit.

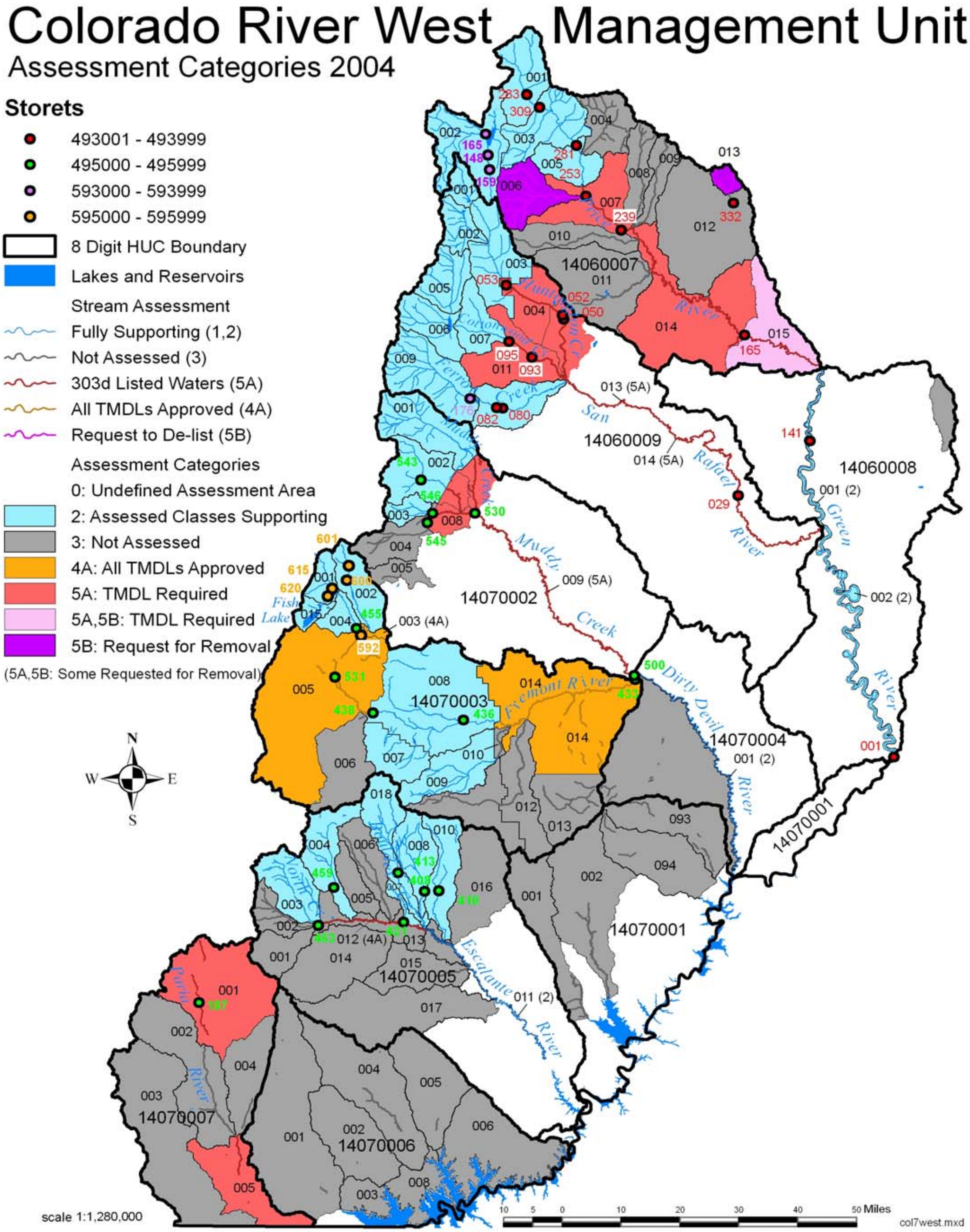

Figure 5-3. Beneficial use support categories for assessment units - Colorado River West Watershed Management Unit.

Table 5- 3. Individual Beneficial Use Support Summary Colorado River West Watershed Management Unit (Stream Miles)							
Goals[a]	**Use**	**Size Assessed**	**Size Fully Supporting**	**Size Fully Supporting but Threatened**	**Size Partially Supporting**	**Size Not Supporting**	**Size Not Attainable**
Protect & Enhance Ecosystems	Aquatic Life	1,918.6	1830.9 (95.4	0.0	26.7 (1.4%)	24.5 (1.3%)	0.0
Protect & Enhance Public Health	Fish Consumption	0.0	0.0	0.0	0.0	0.0	0.0
	Swimming[b]	0.0	0.0	0.0	0.0	0.0	0.0
	Secondary Contact	0.0	0.0	0.0	0.0	0.0	0.0
	Drinking Water	708.2	708.2 (100%)	0.0	0.0	0.0	0.0
Social and Economic	Agricultural	1,693.8	1,202.2 (71.0%)	0.0	75.6 (4.5%)	415.9 (24.6%)	0.0
	Total	1,918.6	1,339.3 (69.8%)		133.7 (7.0%)	445.6 (23.2%)	0.0

[a] These goals are part of the national water quality goals adopted by the EPA Office of Water and the ITFM in their Environmental Goals and Indicators effort.

[b] Class 2B (secondary contact) streams were evaluated as swimmable for proposes of the CWA goals, therefore the swimming and secondary contact classification categories are the same.

Table 5-4. Total Waters Impaired by Various Cause Categories - Colorado River West Watershed Management Unit.	
Cause Category	**Stream Miles**
Cause unknown	0.0
Unknown toxicity	0.0
Pesticides	-
Priority organics	-
Nonpriority organics	-
Metals	0.0
Ammonia	0.0
Chlorine	0.0
Other inorganics	0.0
Nutrients	29.3
pH	0.0
Siltation/Sediments	0.0
Organic enrichment/low DO	31.3
Salinity/TDS/Chlorides	491.6
Thermal modifications	0.0

Table 5-4. Total Waters Impaired by Various Cause Categories - Colorado River West Watershed Management Unit.	
Cause Category	**Stream Miles**
Flow alterations	0.0
Other habitat alterations	0.0
Pathogen Indicators	-
Radiation	-
Oil and grease	-
Taste and odor	0.0
Noxious aquatic plants	0.0
Total toxics	0.0
Turbidity	-
Exotic Species	-

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

Table 5-5. Total Waters Impaired by Various Source Categories - West Colorado Watershed Management Unit.	
Source Category	**Stream Miles**
Industrial Point Sources	0.0
Municipal Point Sources	0.0
Combined Sewer Overflow	0.0
Agriculture	511.7
Silviculture	-
Construction	0.0
Urban Runoff/Storm Sewers	
Resource Extraction	0.0
Land Disposal	0.0
Hydromodification	0.0
Habitat Modification	0.0
Marinas	*
Atmospheric Deposition	-
Contaminated Sediments	-
Unkown Source	82.5
Natural Sources	521.3
Reservoir Releases	0.0
Recreation	0.0

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

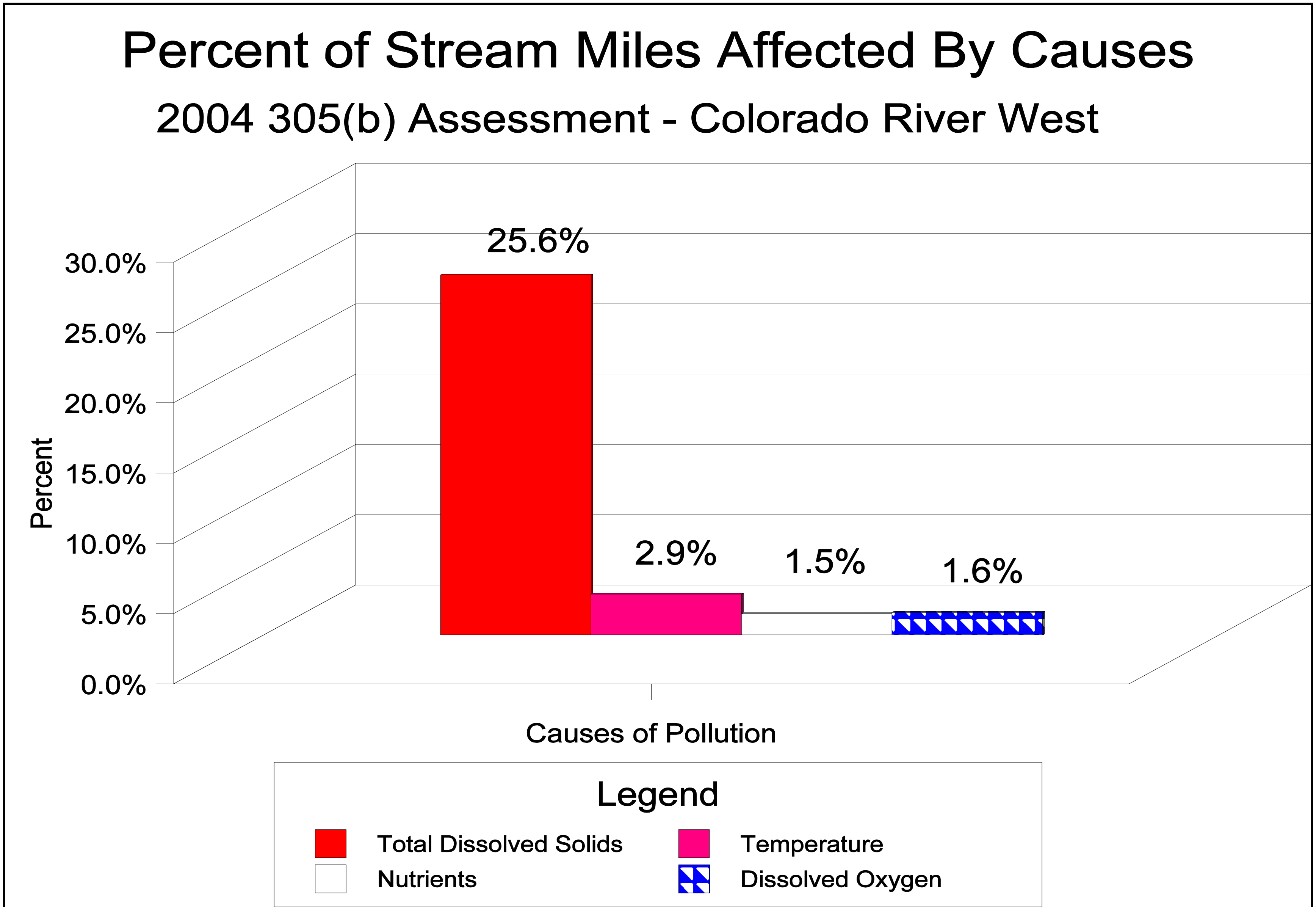

Figure 5-4. Percent of assessed stream miles impacted by various causes - Colorado River West Watershed Management Unit.

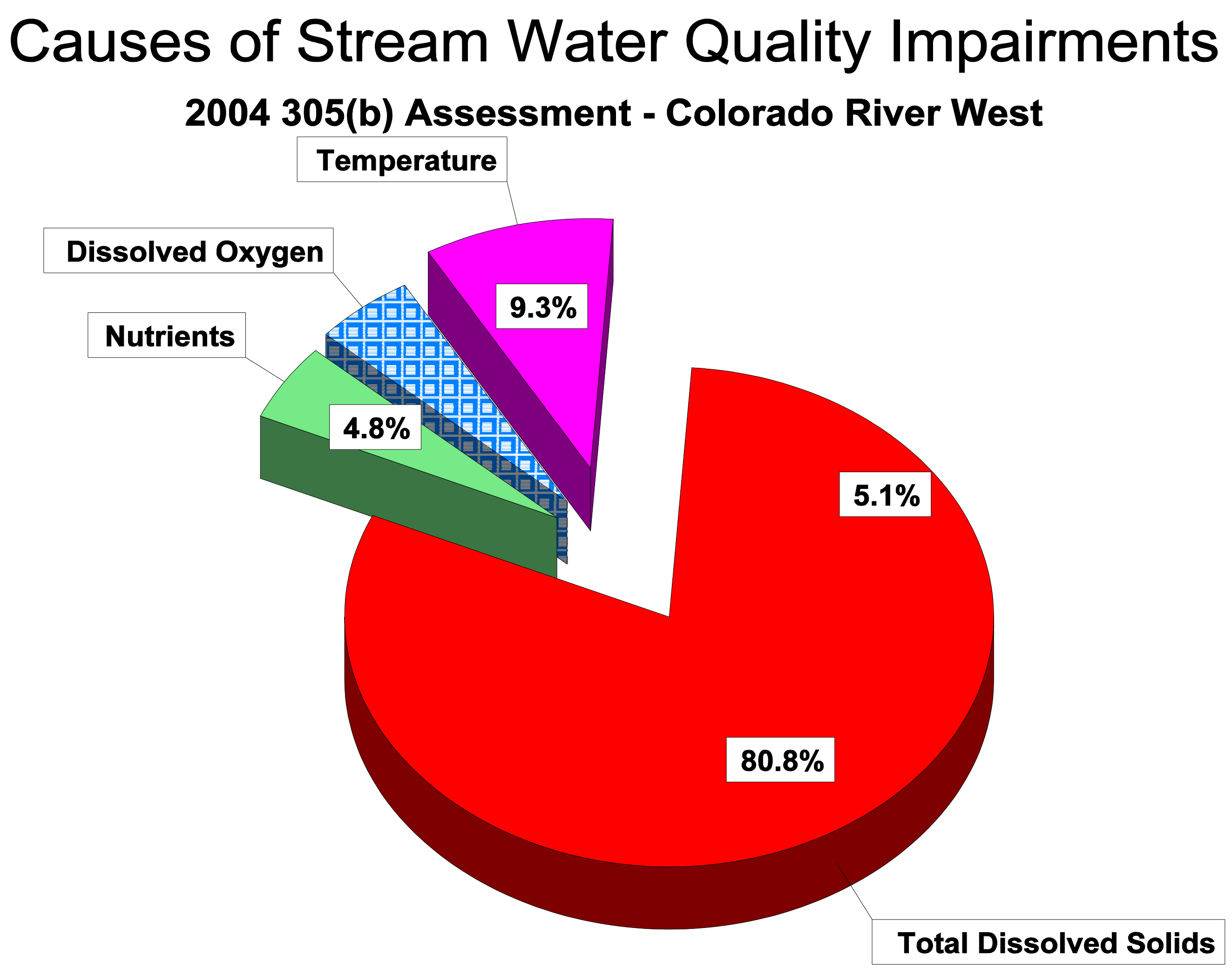

Figure 5-5. Relative percent impact by causes on water quality - Colorado River West Watershed Management Unit.

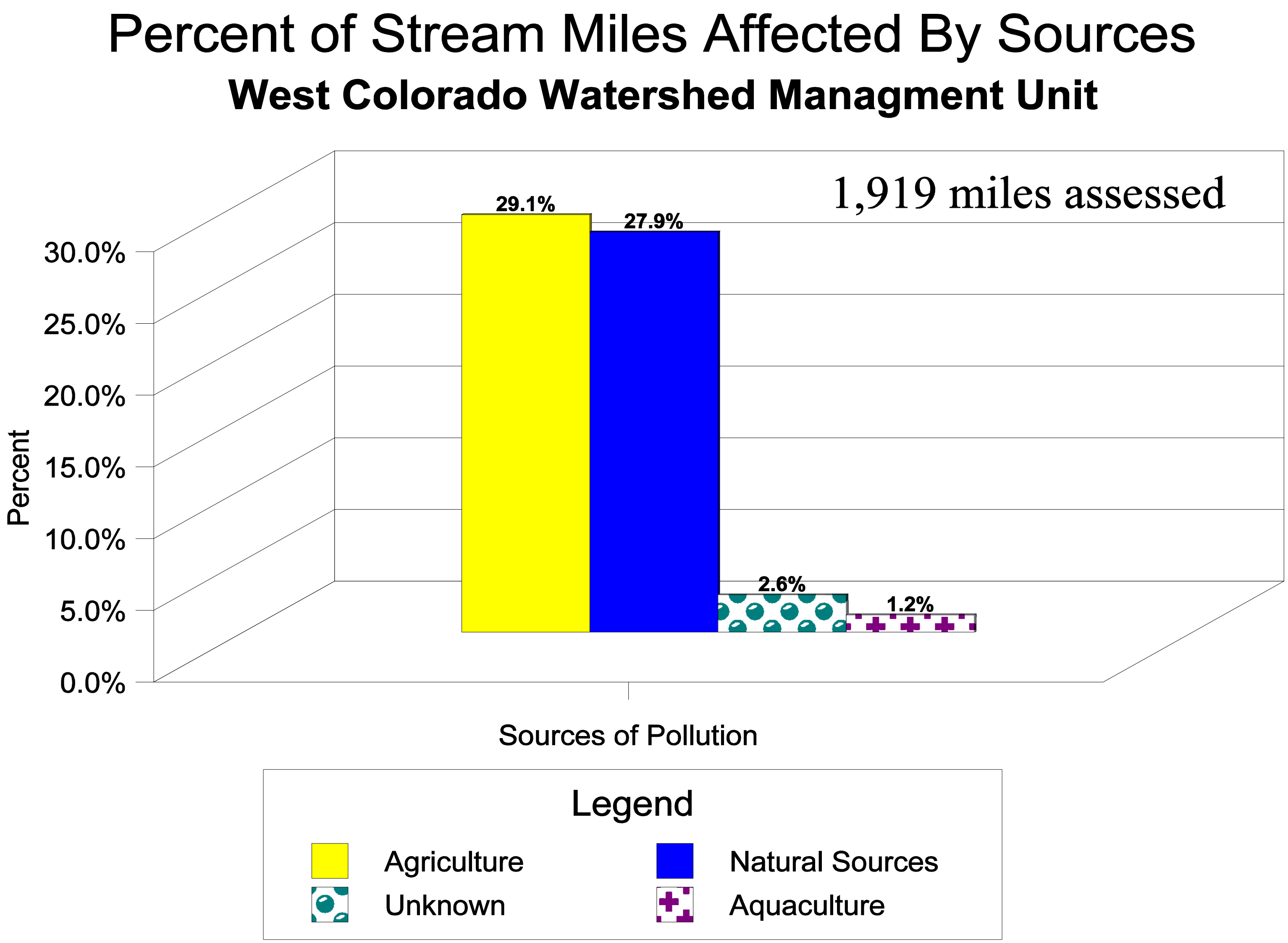

Figure 5-6. Percent of assessed stream miles impacted by various sources - Colorado River West Watershed Management unit.

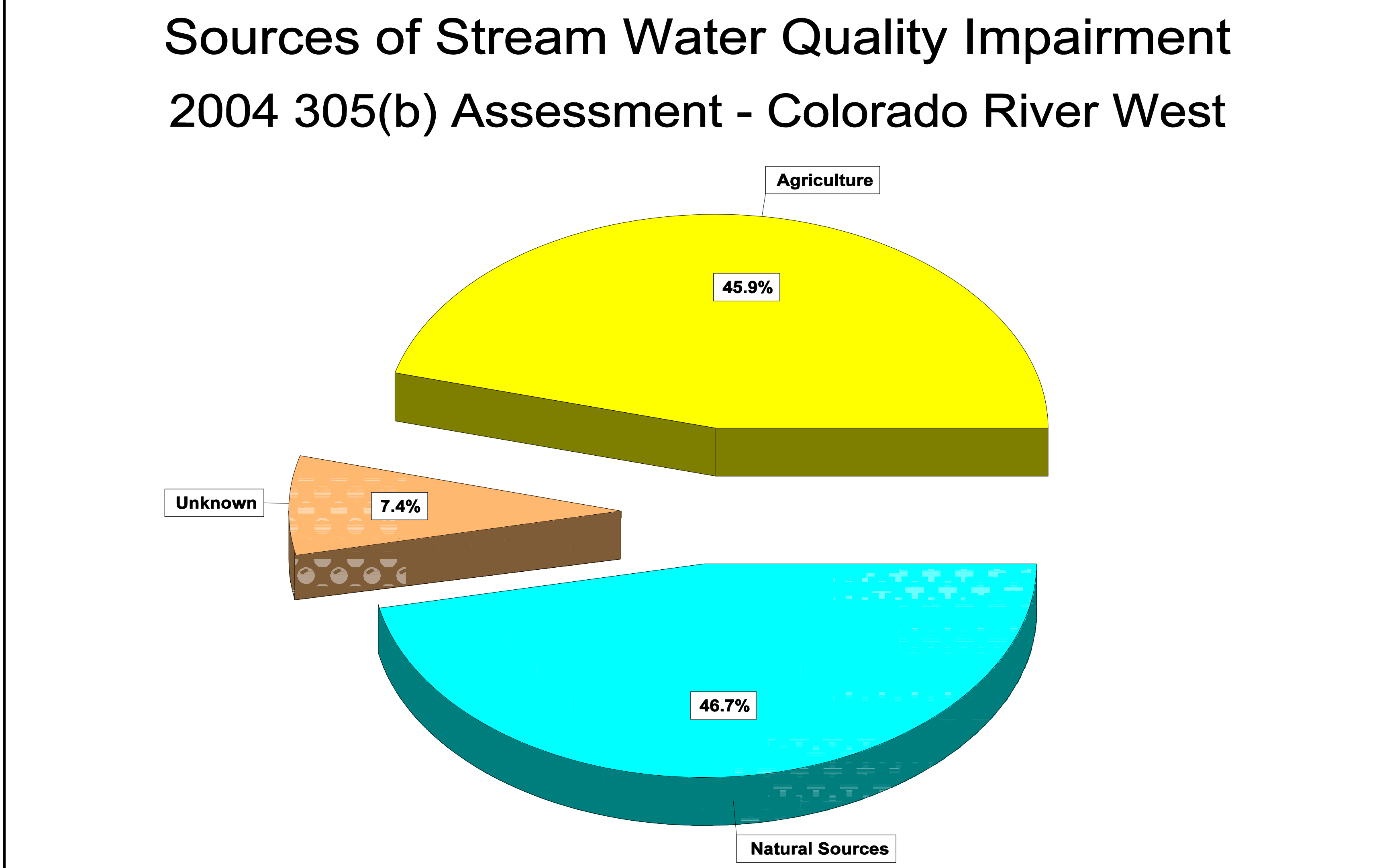

Figure 5-7. Relative percent impact by sources on stream water quality - Colorado River West Watershed Management Unit.

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Chapter 6. Colorado River Southeast Watershed Management Unit Streams

Introduction

The Colorado River Southeast Watershed Management Unit includes all streams located in the U.S.G.S Hydrological Units (HUCs) listed in Table 6-1. Some of the major streams are the San Juan River, Dolores River, Mill Creek, Montezuma Creek, LaSal River, Geyser Creek and part of the Colorado River.

Table 6-1. U.S.G.S. Hydrological Units in the Colorado River Southeast Watershed Management Unit.

Hydrological Unit Code	Hydrological Unit Name
14010005	Colorado Headwaters/Plateau Utah
14030001	Westwater Canyon
14030002	Upper Delores
14030004	Lower Delores
14030005	Upper Colorado-Kane Springs
14070006	Lower Lake Powell
14070007	Paria
14080201	Lower San Juan-Four Corners Southeast
14080202	McElmo
14080203	Montezuma
14080204	Chinle
14080205	Lower San Juan

Results

The intensive monitoring of this water shed was done from July 1, 2003 through June 30, 2004.

An assessment for at least one beneficial use was made for 566 miles (76.2%) Of those assessed, 431.3 miles (76.2%) were assessed as fully supporting all the beneficial uses assessed. About eighteen percent (18.2%) of the stream miles were assessed as partially supporting, 31.9 miles (5.6%) were assessed as not supporting at least one designated beneficial use (Figure 6-1).

A list of the categories and the stream miles included in each of the assessment categories is in Table 6-2.

Table 6-3 lists the beneficial use support by

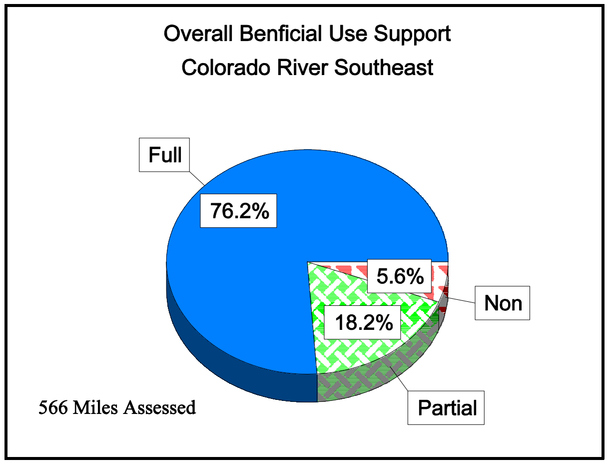

Figure 6-1. Overall beneficial use support base upon at least one beneficial use being assessed-Colorado River Southeast.

individual beneficial use class. Five-hundred sixty-six (566) stream miles were assessed for aquatic life and agricultural use support.

Table 6-2. Stream Miles by Assessment Categories - Colorado River Southeast

Category	Stream Miles
1	0
2	432
3	269
4A	79
4B	0
4C	0
5A	55
5B	0

Of the stream miles assessed for aquatic life, 481.4 miles (76.2%) were assessed as fully supporting, 84.6 miles (14.9%) not supporting this beneficial use.

Of the stream miles assessed for agricultural use, 518.6 miles (91.6%) were assessed as fully supporting, 37.3 miles (6.6%) partially supporting, and 10.2 miles (1.8%) not supporting this beneficial use.

For Class 1 waters (source of drinking water), four-hundred (451.2) miles were assessed. Of these, 429.4 miles (95.2%) were assessed as fully supporting, 21.8 miles (4.8%) were partially supporting, and no stream miles were assessed as not supporting this beneficial use.

Figure 6-2 is a map of the designated beneficial use classifications for streams and rivers in this watershed management unit.

Tables B1-B7 are lists of the AUs assigned to the various assessment categories. The assessment units and STORET monitoring stations for this management unit are shown in Figure 6-3.

Tables 6-5 and 6-6 lists the miles of streams affected by the various causes and sources identified as generally affecting water quality.

Figures 6-4 illustrates the percent of stream miles affected by various causes of pollution. Figure 6-5 shows the relative percent of stream miles effected by various causes of water quality impairment. The causes of impairment included total dissolved solids, metals, temperature, and gross alpha. The percent of stream miles affected by various sources is shown in Figure 6-6. The relative impact of each source is shown in Figure 6-7. The major sources of impairment were agricultural activities and natural sources. Resource extraction from uranium mining was the source of gross alpha contamination.

Colorado River–The Colorado River was assessed as fully supporting all of its beneficial uses except for 37.6 miles downstream from the Utah/Colorado stateline. This portion of the river exceeded the chronic levels for selenium and the source is outside the boundaries of the state.

San Juan River–The two segments of the San Juan River that were assessed were found to be supporting their beneficial uses. That portion of the San Juan River that is entirely within the boundaries of the Navajo Indian Reservation was not assessed. The Navajo Indian Nation requested that Utah not list any waters that were within their reservation boundaries as being assessed or placed on the State's 303(d) list because they are in the process of having their water quality program approved by EPA. As such, the waters within their boundaries would fall under their jurisdiction. The State agreed with their request and did not assess or list that the portions of the San Juan River or McElmo Creek that are completely within the reservation boundaries. For those waters where the waterbodies are contiguous with both tribal lands and state or federal lands, either group can choose to list the water on their respective 303(d) lists.

Paria River–The upper and lower sections of the Paria River remained on the 303(d) list as not supporting the agricultural beneficial use classification because of high concentrations of total dissolved solids. During the extreme drought that was in southern Utah, the Paria River dried up and it was not possible to collect samples during the intensive monitoring survey.

Cottonwood Wash–This areas was assessed as not supporting its 1C (source of drinking water) classification because violations of the standard for gross alpha. A TMDL has been completed and approved by EPA and was moved to Category 4A, all TMDLs completed and approved by EPA.

Onion Creek has a completed TMDL for total dissolved solids and was placed in the new Category 4A also.

Mill Creek also has an approved TMDL for total dissolved solids and is now listed in Category 4A also.

Dolores River–The Dolores River was

assessed as fully supporting all of the beneficial uses that it was assessed for. Although the total dissolved solids exceeded the standard, it was listed because it was determined that the increase in salinity was caused by the severe drought.

LaSal Creek–This stream was assessed as fully supporting its beneficial uses.

Table 6-3. Individual Beneficial Use Support Summary
Colorado River Southeast Watershed Management Unit

Goals[a]	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Attainable
Protect & Enhance Ecosystems	Aquatic Life	566.0	481.4 (85.1%)	0.0	84.6 (14.9%)	0.0	0.0
Protect & Enhance Public Health	Fish Consumption	0.0	0.0	0.0	0.0	0.0	0.0
	Swimming[b]	0.0	0.0	0.0	0.0	0.0	0.0
	Secondary Contact	0.0	0.0	0.0	0.0	0.0	0.0
	Drinking Water[c]	451.2	429.4 (95.2%)	0.0	0.0	21.8 (4.8%)	0.0
Social and Economic	Agricultural	566.0	518.6 (91.6%)	0.0	37.3 (6.6%)	10.2 (1.8%)	0.0
	Total	566.0	431.3 (76.2%)	0.0	102.8 (18.2%)	31.9 (5.6%)	0.0

[a] These goals are part of the national water quality goals adopted by the EPA Office of Water and the ITFM in their Environmental Goals and Indicators effort.

[b] Class 2B (secondary contact) streams were evaluated as swimmable for proposes of the CWA goals, therefore the swimming and secondary contact classification categories are the same.

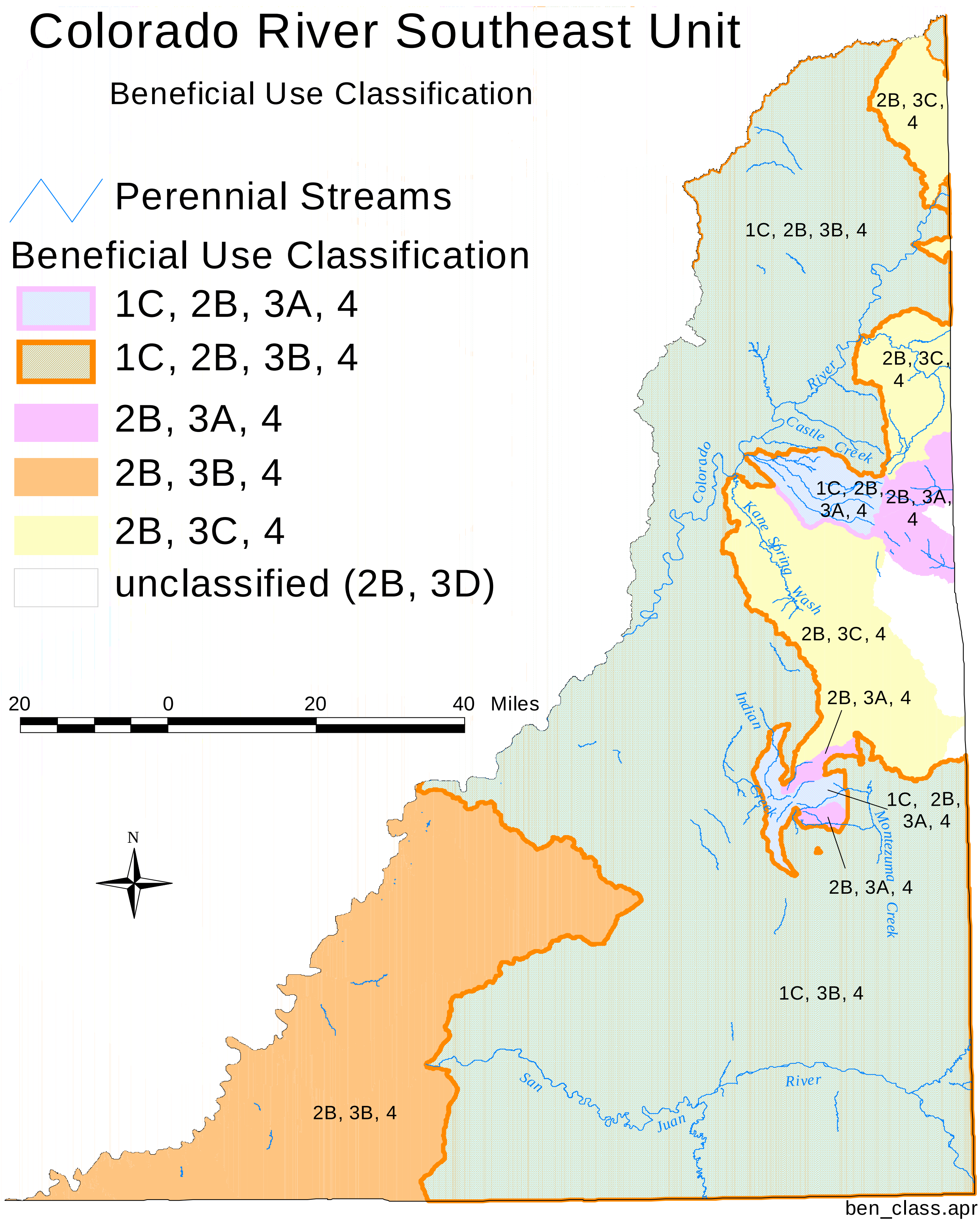

Figure 6-2. Stream and river designated beneficial use classifications - Colorado River Southeast Watershed Management Unit.

Table 6-4. Total Waters Impaired by Various Cause Categories - Colorado River South East Management Unit	
Cause Category	**Stream Miles**
Cause unknown	0.0
Unknown toxicity	0.0
Pesticides	-
Priority organics	-
Nonpriority organics	-
Metals	37.4
Ammonia	0.0
Chlorine	0.0
Other inorganics	0.0
Nutrients	0.0
pH	0.0
Siltation/Sediments	0.0
Organic enrichment/low DO	0.0
Salinity/TDS/Chlorides	43.6
Thermal modifications	47.0
Flow alterations	0.0
Other habitat alterations	0.0
Pathogen Indicators	-
Radiation	21.8
Oil and grease	-
Taste and odor	0.0
Noxious aquatic plants	0.0
Total toxics	-
Turbidity	-
Exotic Species	-

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

Table 6-5. Total Waters Impaired by Various Source Categories - Colorado River Southeast Management Unit	
Source Category	**Stream Miles**
Industrial Point Sources	0.0
Municipal Point Sources	0.0
Combined Sewer Overflow	0.0
Agriculture	43.6
Silviculture	-
Construction	0.0
Urban Runoff/Storm Sewers	0.0
Resource Extraction	0.0
Land Disposal	0.0
Hydromodification	0.0
Habitat Modification	0.0
Marinas	-
Atmospheric Deposition	-
Contaminated Sediments	-

Table 6-5. Total Waters Impaired by Various Source Categories - Colorado River Southeast Management Unit	
Source Category	**Stream Miles**
Unknown Source	31.7
Natural Sources	43.6
Reservoir Releases	0.0
Sources Outside State	37.6
Recreation	0.0

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

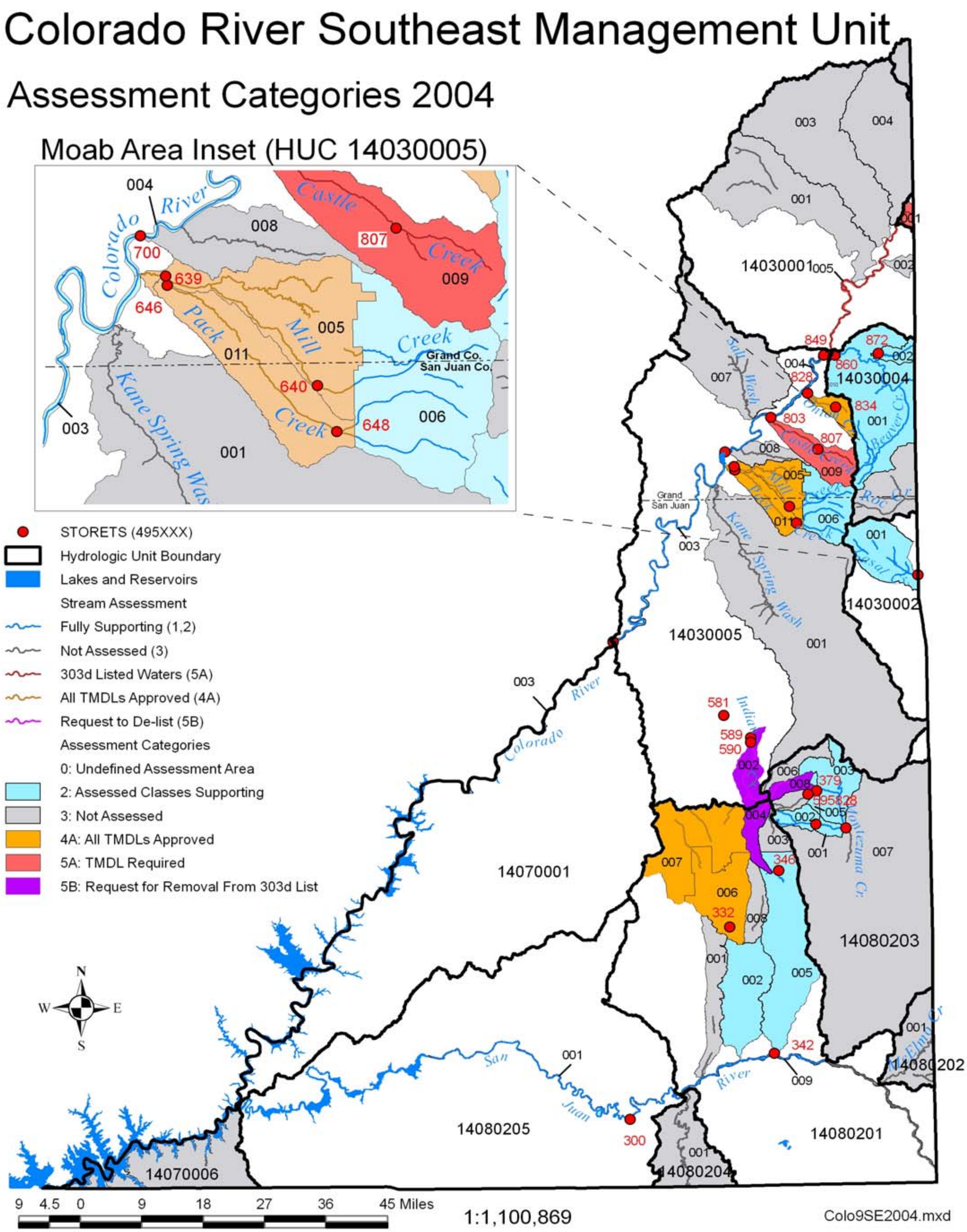

Figure 6.3. Beneficial use assessment by categories - Colorado River Southeast Watershed Management Unit.

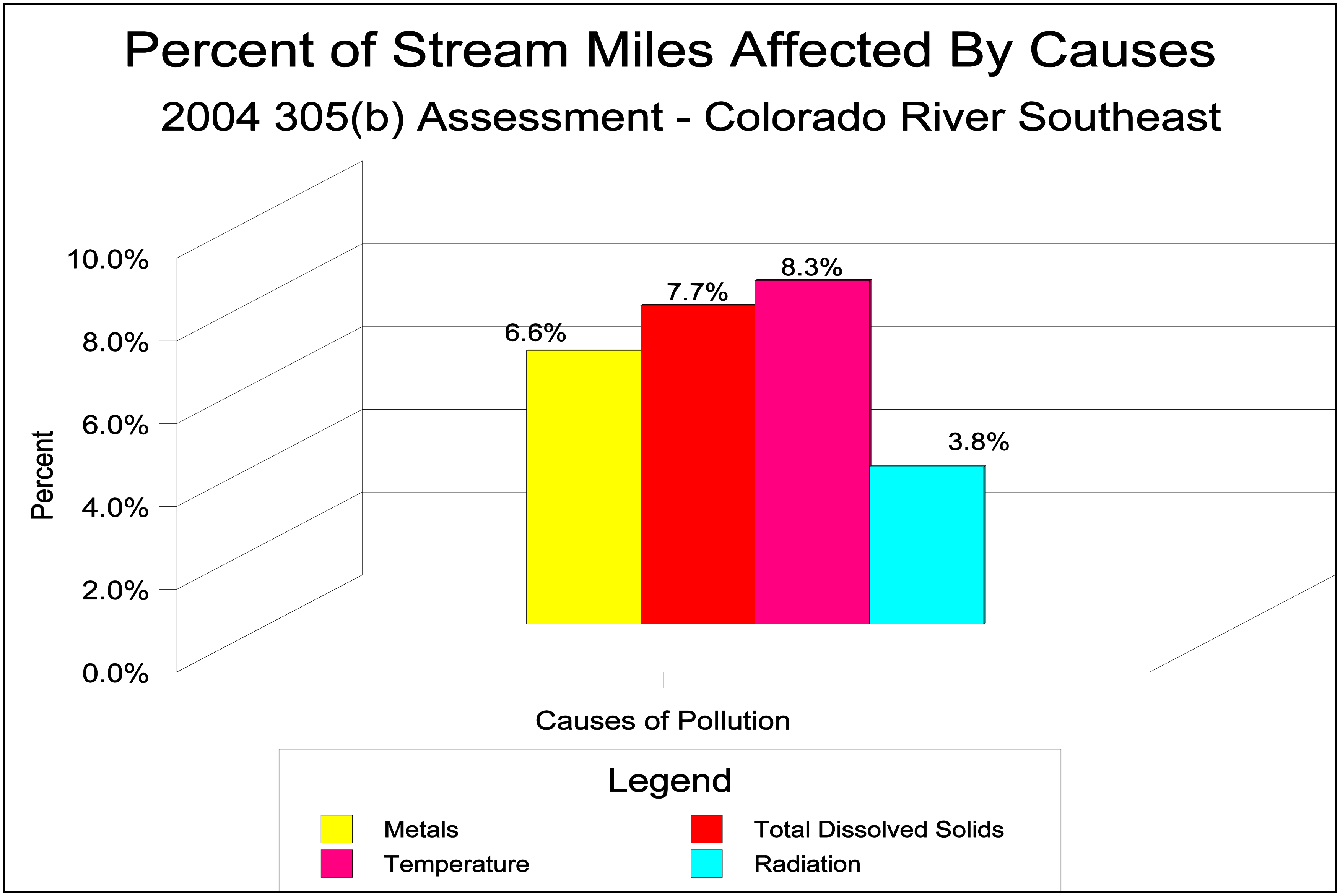

Figure 6-4. Percent of assessed stream miles impacted by causes - Colorado River Southeast Management Unit.

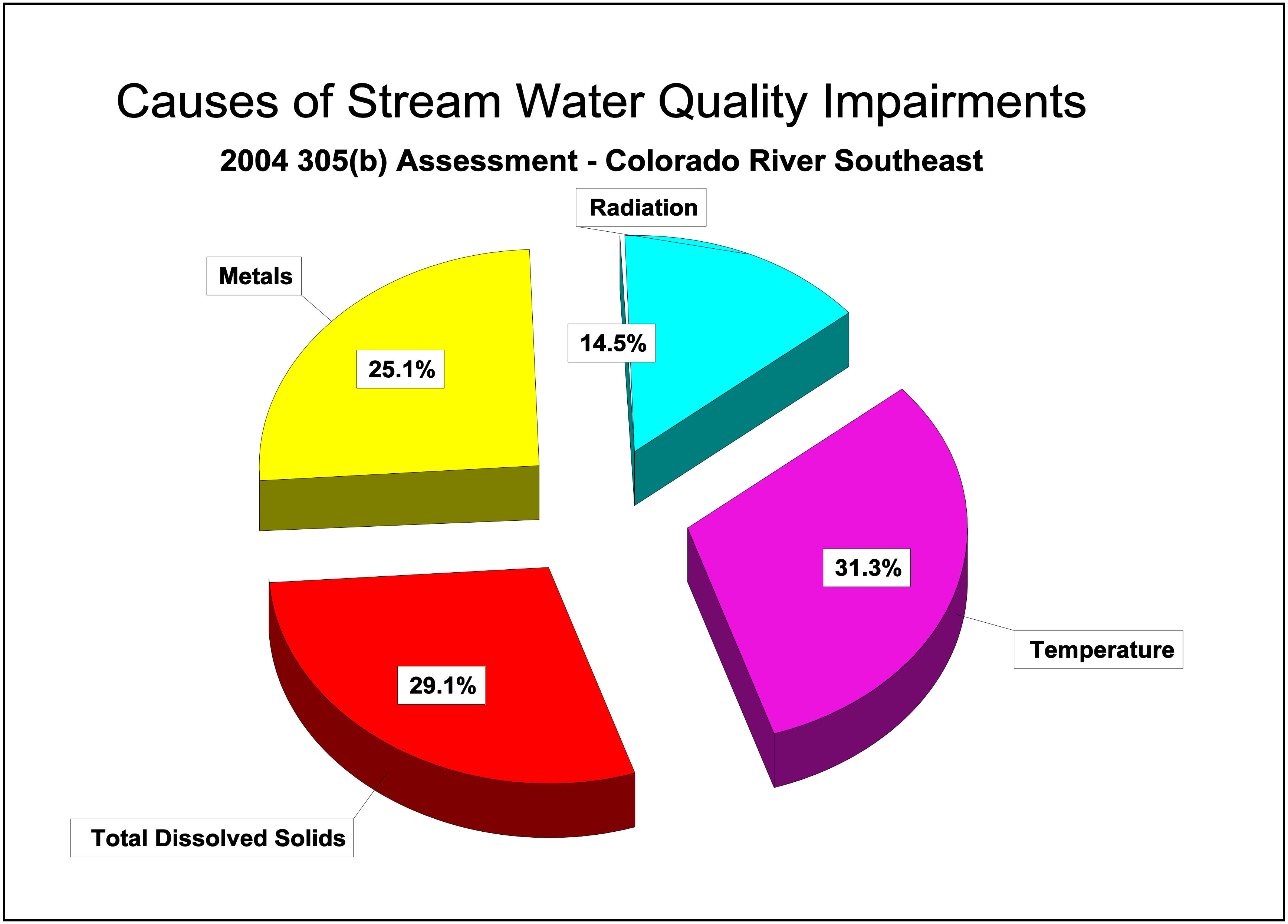

Figure 6-5. Relative percent contribution of causes to impairment of stream water quality - Colorado River Southeast Watershed Management Unit.

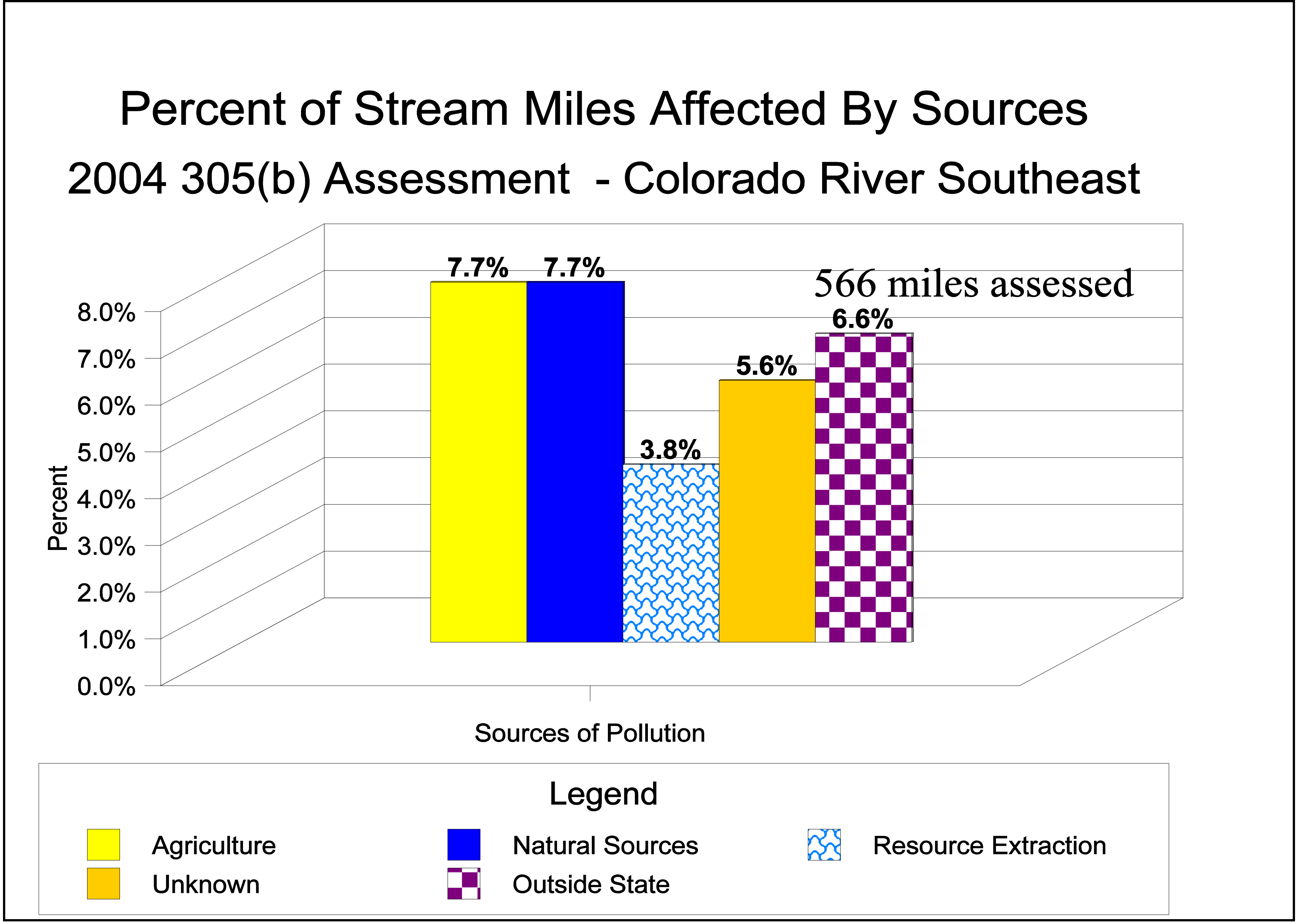

Figure 6-6. Percent of stream miles impacted by sources - Colorado River Southeast Watershed Management Unit.

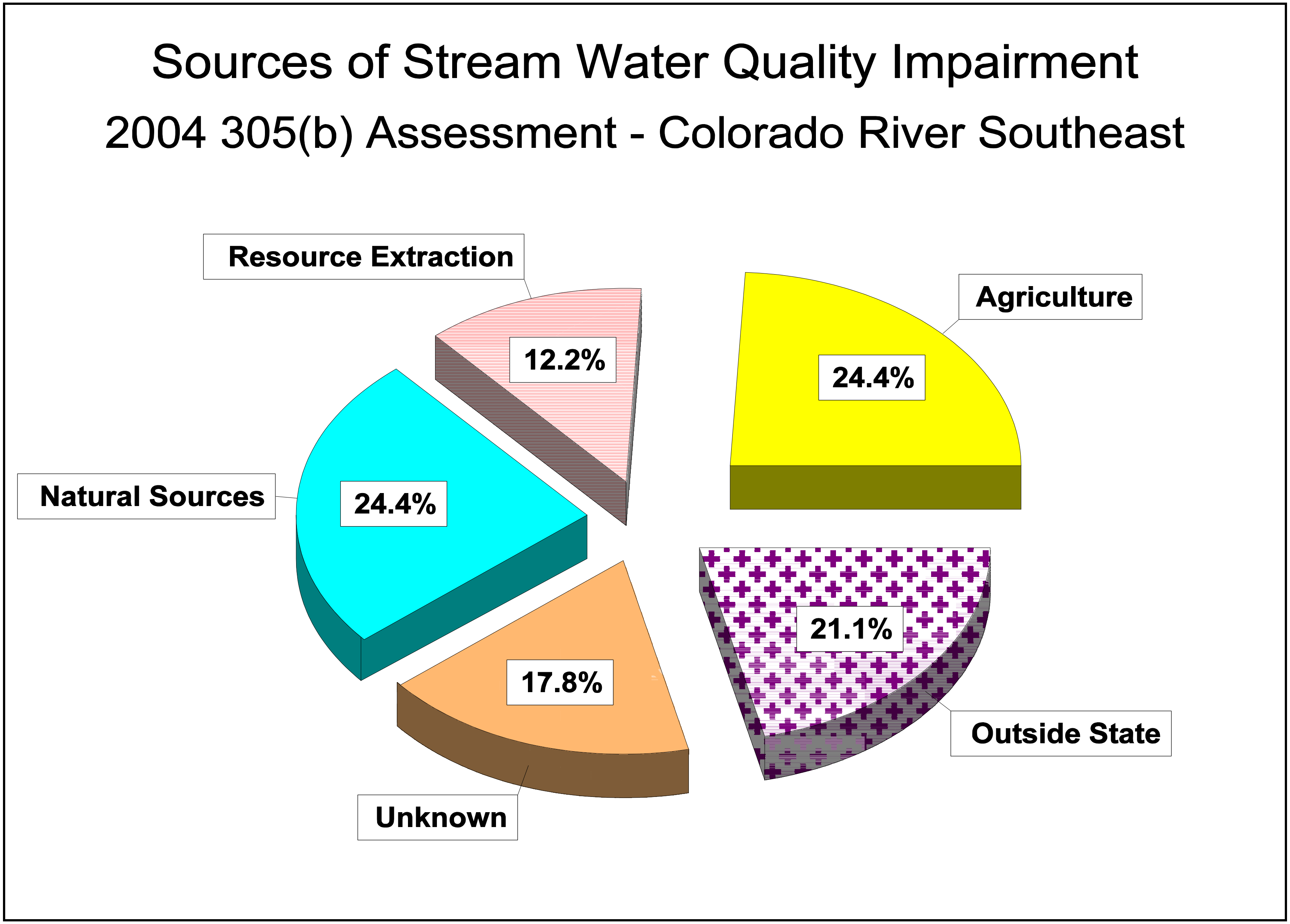

Figure 6-7. Relative percent contribution by sources to impairment of stream water quality - Colorado River Southeast Management Unit.

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Chapter 7. Lower Colorado River Watershed Management Unit Assessment

Introduction

The Lower Colorado River Watershed Management Unit includes all streams located in the U.S.G.S. Hydrological Units (HUCs) listed in Table 7-1. Some of the major streams are the Santa Clara River, Virgin River, East Fork of the Virgin River, North Fork of the Virgin River, North Creek, Kanab Creek and Laverken Creek.

Table 7-1. U.S.G.S. Hydrological Units in the Lower Colorado Watershed Management Unit.

Hydrological Unit Code	Hydrological Unit Name
15010003	Kanab
15010008	Upper Virgin
15010009	Fort Pierce Wash
15010010	Lower Virgin

Results

The intensive monitoring for this watershed was done from July 1, 2001 through June 30, 2002.

An assessment of support for at least one beneficial use was made for 478.6 stream miles. Of those assessed, 354.2 miles (74.0%) were assessed as fully supporting all the beneficial uses assessed, 12 miles (2.5%) were assessed as partially supporting, 112.5 miles (23.5%) were assessed as not supporting at least one designated beneficial use. The overall beneficial use assessment is shown in Figure 7-1.

Beneficial use assessment by categories are listed in Table 7.2.

Individual beneficial use assessments are found in Table 7.3

All aquatic life use classifications were fully supported.

Of the streams assessed for agricultural use, 336.6 miles (73.0%) were assessed as fully

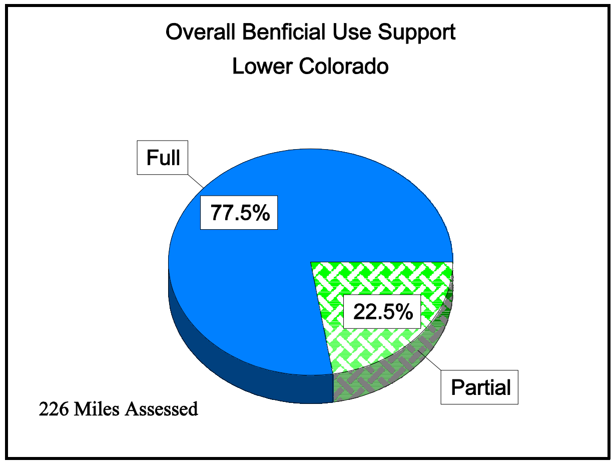

Figure 7-1. Overall beneficial use support based upon at least one beneficial use being assessed-Lower Colorado.

supporting, 12 miles (2.6%) partially supporting, and 112.5 miles (24.4%) not supporting this beneficial use. Total dissolved solids were the cause of the impairment.

Figure 7-2 is a map of the beneficial use classifications assigned to the rivers and streams in this watershed management unit.

Table 7-2. Stream Miles by Assessment Category Lower Colorado River Watershed Management Unit

Category	Stream Miles
1	0
2	354
3	122
4A	0
4B	0
4C	0
5A	124
5B	31

Tables B-1 through B-7 lists the stream individual assessment units that were placed in each of the new assessment categories.

Tables 7-3 and 7-4 lists the miles of streams affected by the various causes and sources categories identified as generally affecting water quality.

Figure 7.3 is a presentation of the miles of streams affected by causes. Figure 7.4 is the relative percent impact by the various causes on water quality.

Figure 7.5 is the percent of stream miles affected by various sources. Figure 7.6 is the relative percent of various sources that impact water quality.

Santa Clara River–The assessment unit from the confluence with the Virgin River to Gunlock Reservoir was assessed as impaired for agricultural usage because of TDS and the aquatic life use because of selenium. The upper two assessment units, Gunlock Reservoir Santa Clara River and tributaries from Gunlock Reservoir to Baker Dam Reservoir (included Maogatsue Creek and tributaries to USFS boundary and from Baker Dam upstream, including tributaries, were evaluated as supporting those beneficial uses assessed.

Virgin River–The Virgin River from the state line upstream to the Quail Creek Diversion was evaluated as impaired for agricultural use because of total dissolved solids. A request to remove the assessment unit Santa Clara-1 from the 303(d) list for temperature was made because it is meeting the state standard now.The two remaining segments of the Virgin River were assessed as fully supporting all of the beneficial use classes that were assessed.

East Fork Virgin River–All three assessment units of this river were assessed as fully supporting those beneficial uses assessed.

North Creek--This stream was listed as impaired due to total dissolved solids that can affect agricultural usage.

Table 7-3. Individual Beneficial Use Support Summary
Lower Colorado River Watershed Management Unit

Goals[a]	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Attainable
Protect & Enhance Ecosystems	Aquatic Life	435.4	435.4 (100%)	0.0	0.0 (0.0%)	0.0 (0.0%)	0.0
Protect & Enhance Public Health	Fish Consumption	0.0	0.0	0.0	0.0	0.0	0.0
	Swimming[b]	0.0	0.0	0.0	0.0	0.0	0.0
	Secondary Contact	0.0	0.0	0.0	0.0	0.0	0.0
	Drinking Water[c]	198.2	198.2 (100%)	0.0	0.0	0.0	0.0
Social and Economic	Agricultural	461.0	336.6 (73.0%)	0.0	12.0 (2.6%)	112.5 (24.4%)	0.0

Table 7-3. Individual Beneficial Use Support Summary Lower Colorado River Watershed Management Unit							
Goals[a]	**Use**	**Size Assessed**	**Size Fully Supporting**	**Size Fully Supporting but Threatened**	**Size Partially Supporting**	**Size Not Supporting**	**Size Not Attainable**
	Total	478.6	354.2 74.0%	0.0	12.0 2.5%	112.5 23.5%	0.0

[a] These goals are part of the national water quality goals adopted by the EPA Office of Water and the ITFM in their Environmental Goals and Indicators effort.

[b] Class 2B (secondary contact) streams were evaluated as swimmable for proposes of the CWA goals, therefore the swimming and secondary contact classification categories are the same.

Table 7-4. Total Waters Impaired by Various Cause Categories - Lower Colorado Watershed Management Unit

Cause Category	Stream Miles
Cause unknown	0.0
Unknown toxicity	0.0
Pesticides	-
Priority organics	-
Nonpriority organics	-
Metals	23.7
Ammonia	0.0
Chlorine	0.0
Other inorganics	0.0
Nutrients	0.0
pH	0.0
Siltation/Sediments	0.0
Organic enrichment/low DO	0.0
Salinity/TDS/Chlorides	124.4
Thermal modifications	0.0
Flow alterations	0.0
Other habitat alterations	0.0
Pathogen Indicators	-
Radiation	0.0
Oil and grease	-
Taste and odor	0.0
Noxious aquatic plants	0.0
Total toxics	-
Turbidity	-
Exotic Species	-

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

Table 7-5. Total Waters Impaired by Various Source Categories - Lower Colorado Management Unit

Source Category	Stream Miles
Industrial Point Sources	0.0
Municipal Point Sources	0.0
Combined Sewer Overflow	0.0
Agriculture	112.5
Silviculture	-
Construction	0.0
Urban Runoff/Storm Sewers	23.7
Resource Extraction	0.0
Land Disposal	0.0
Hydromodification	39.9
Habitat Modification	0.0
Marinas	-
Atmospheric Deposition	-
Contaminated Sediments	-
Unknown Source	0.0
Natural Sources	124.4
Reservoir Releases	0.0
Sources Outside State	0.0
Recreation	0.0

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

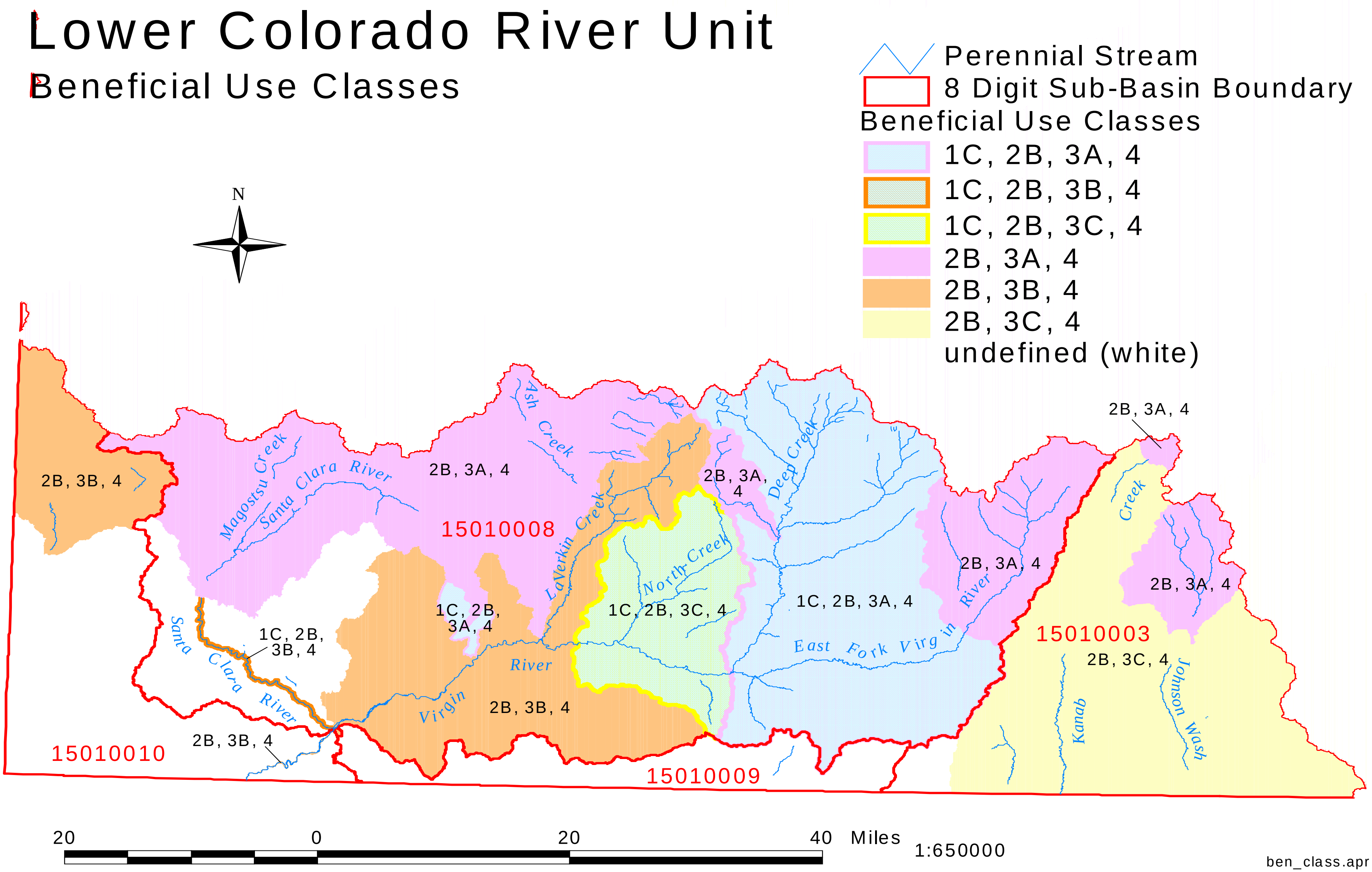

Figure 7-2. River and stream beneficial use classifications - Lower Colorado River Watershed Management Unit.

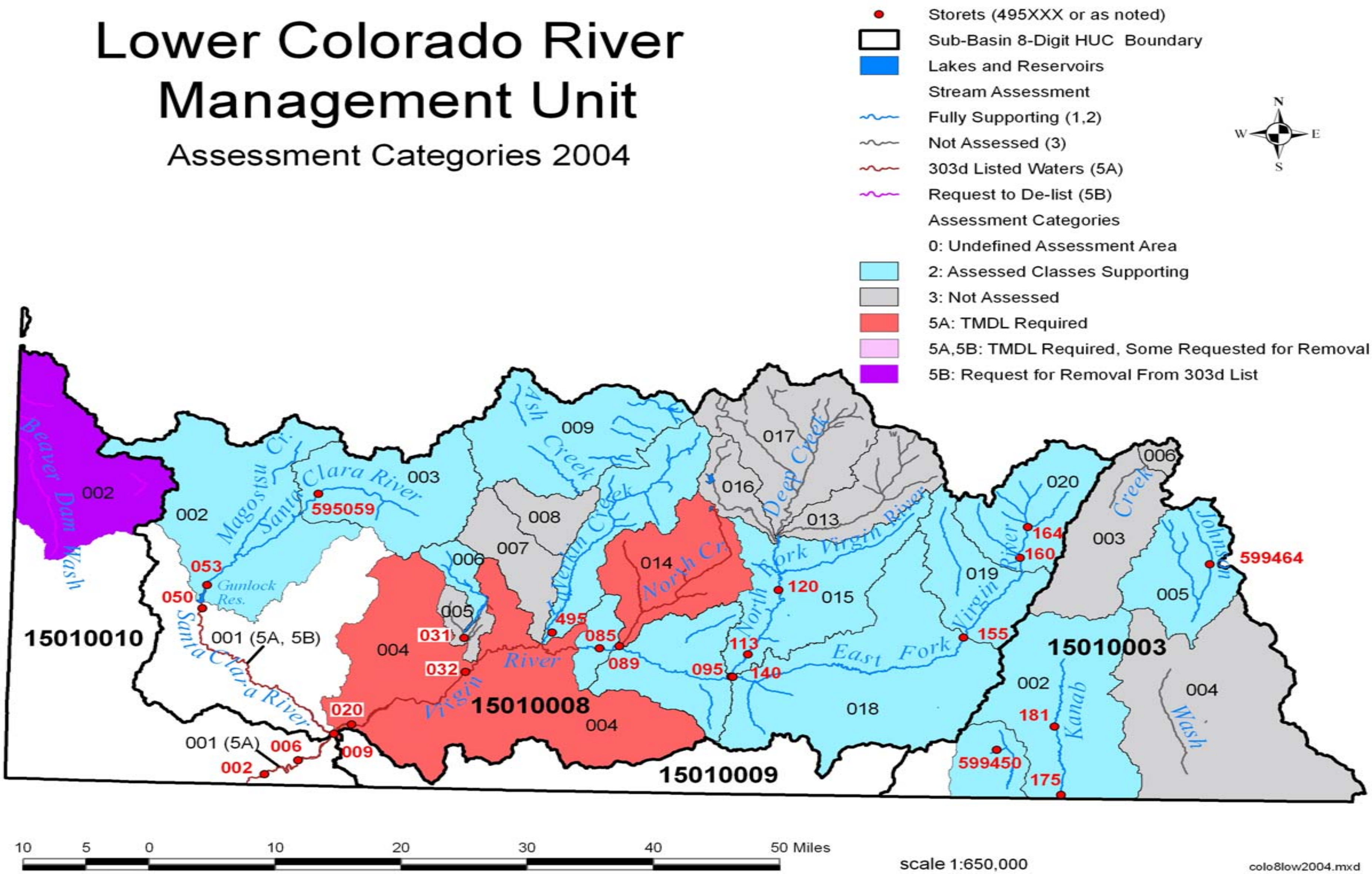

Figure 7-3. Beneficial use assessment by categories - Lower Colorado River Watershed Management Unit.

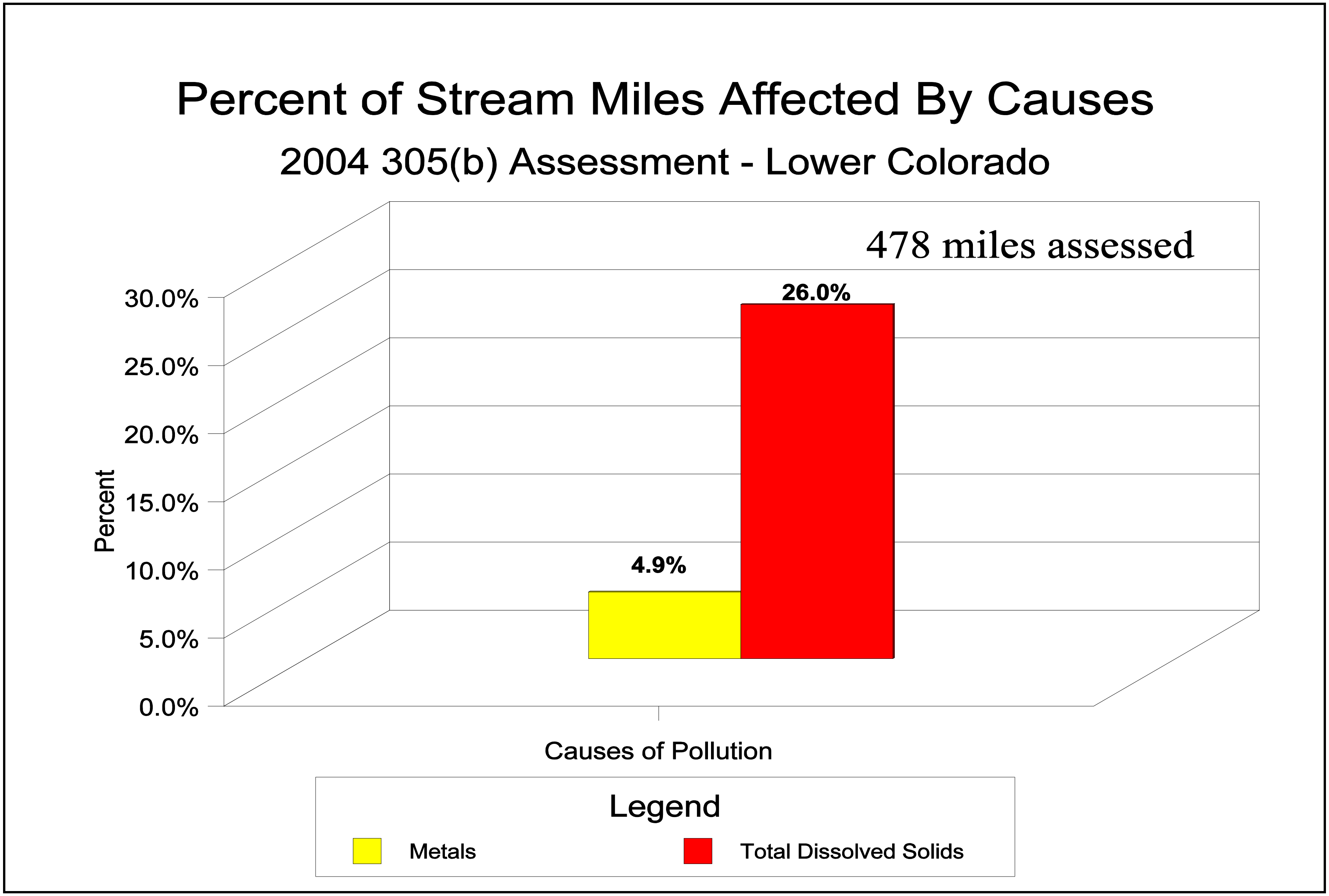

Figure 7-4. Percent impact by causes on stream water quality - Lower Colorado River Watershed Management Unit.

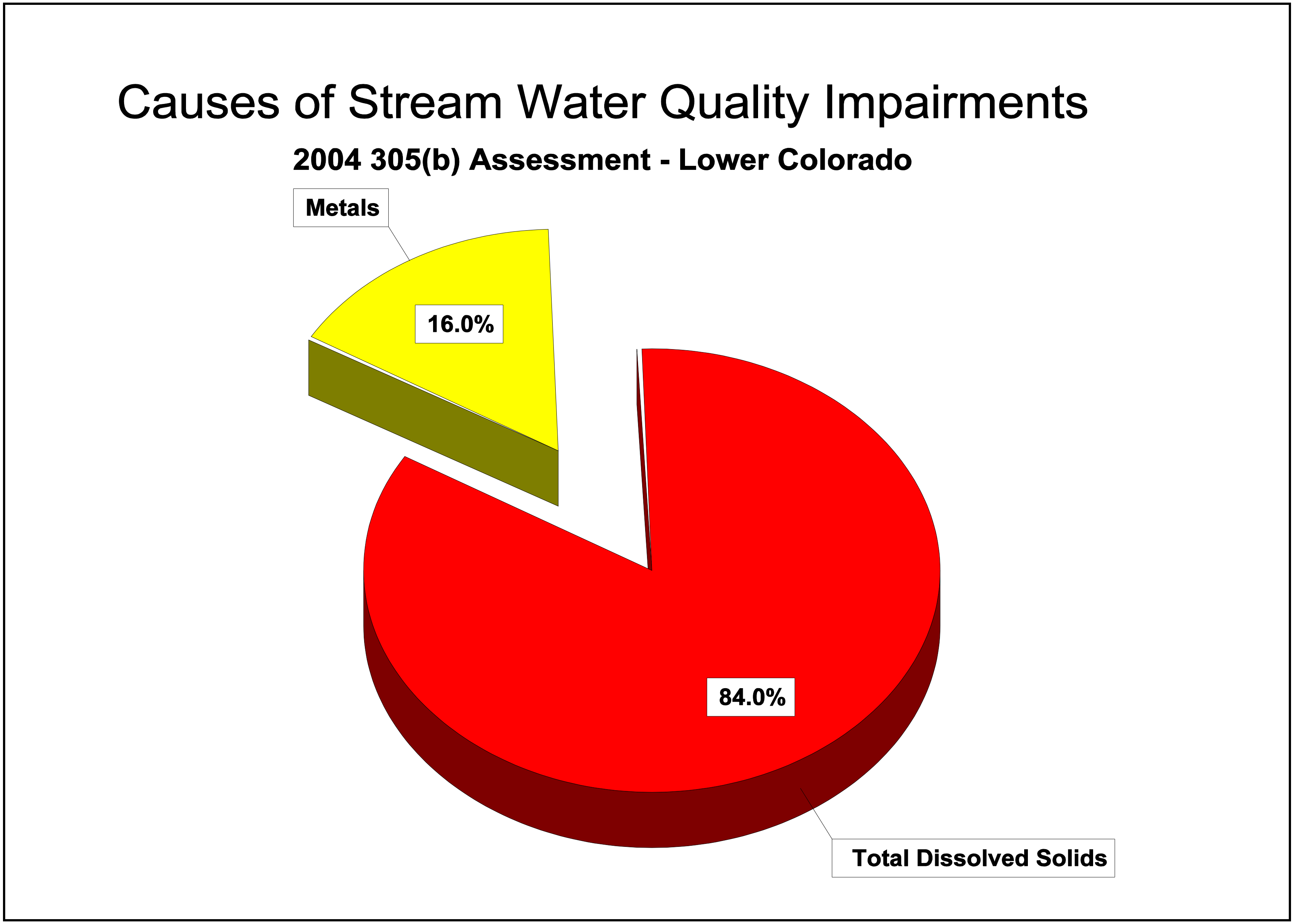

Figure 7-5. Relative percent contribution of causes on stream water quality - Lower Colorado River Watershed Management Unit.

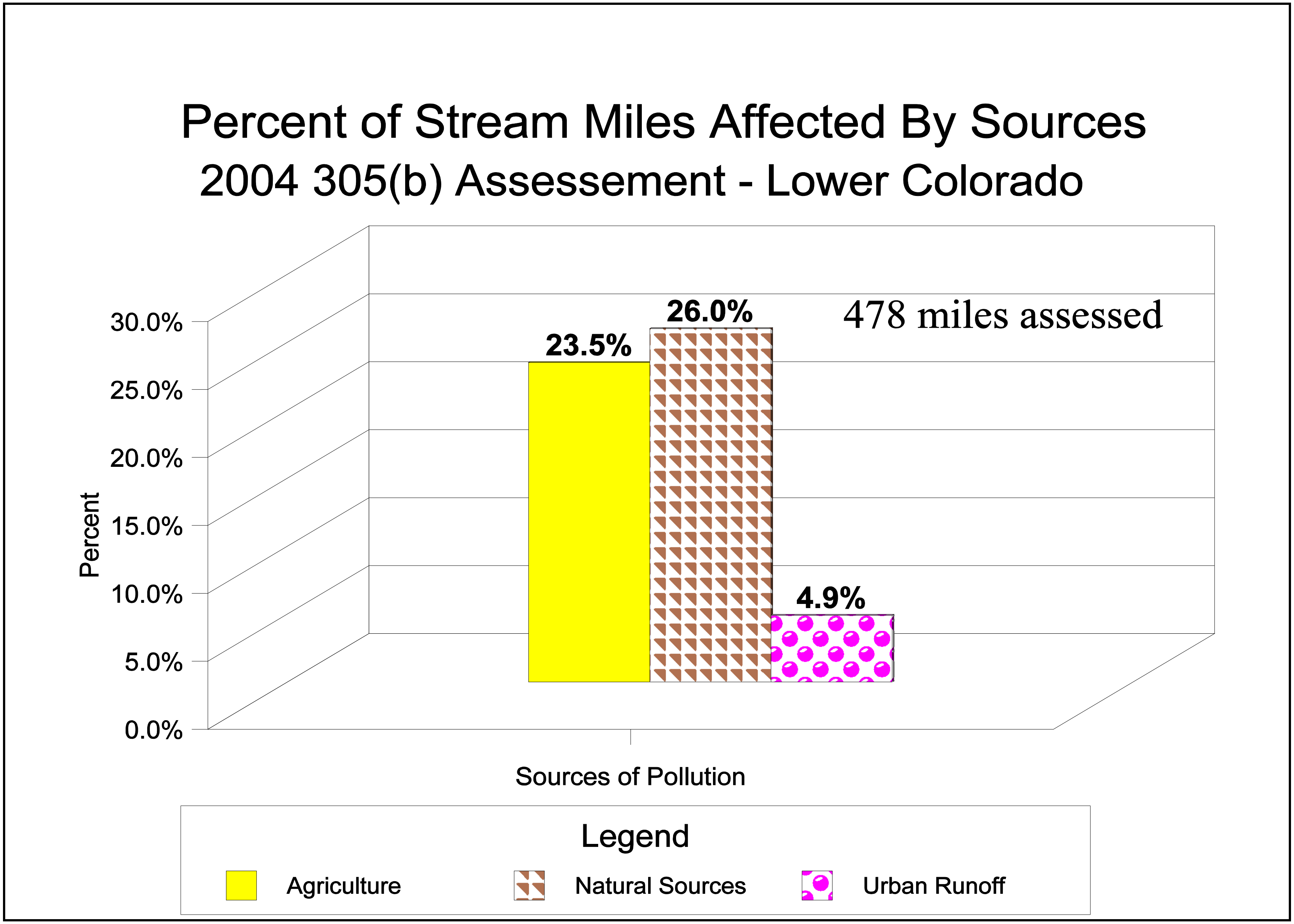

Figure 7-6. Percent impact by sources on stream water quality - Lower Colorado Watershed Management Unit.

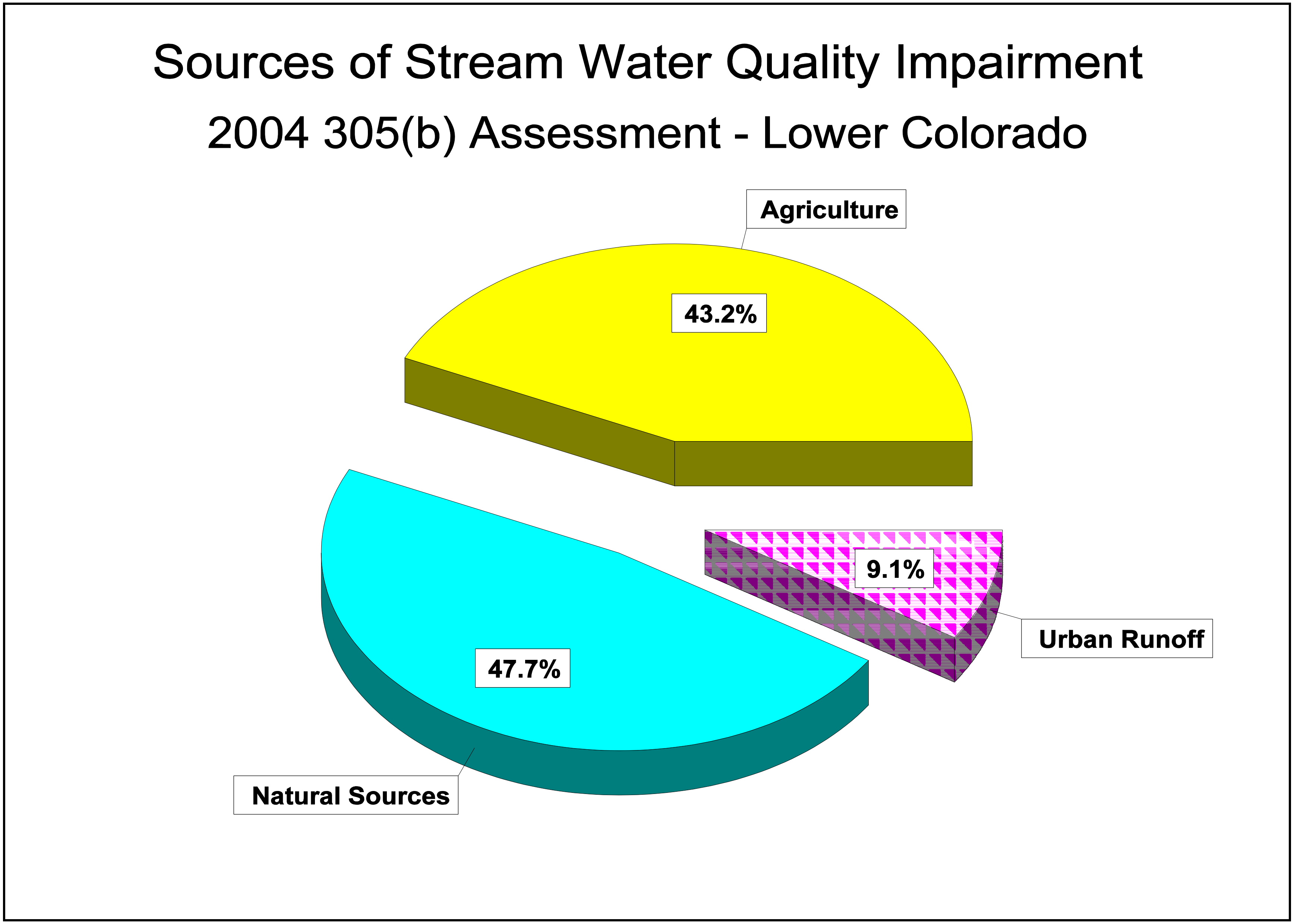

Figure 7-7. Relative percent contribution of sources on stream water quality - Lower Colorado Watershed Management Unit.

Chapter 8: Cedar / Beaver Watershed Management Unit Assessment

Introduction

The Cedar / Beaver Watershed Management Unit includes all streams located in the U.S.G.S Hydrological Units (HUCs) listed in Table 8-1. There are not many streams within this unit with the major streams being the Beaver River, Coal Creek, Shoal Creek and Pinto Creek.

Table 8-1. U.S.G.S. Hydrological Units in the Cedar / Beaver Watershed Management Unit.	
Hydrological Unit Code	**Hydrological Unit Name**
16030006	Escalante Desert
16030007	Beaver Bottoms-Upper Beaver
16030008	Lower Beaver

Results

There were 226 stream miles assessed. Of these, 176 miles (77.7%) were assessed as fully supporting based up at least one beneficial use being assessed; and 51 (22.3 %) were assessed as partially supporting at least one beneficial use. (Figure 8-1).

Two-hundred twenty-six (226) stream miles were assessed for aquatic life and agricultural use support.

Of the stream miles assessed for agricultural use, all of them were evaluated as fully supporting this designated beneficial use. For aquatic life use support, 176 miles (77.7%) were assessed as fully supporting and 23 miles (23.3%) as partially supporting.

The stream assessment by categories was also completed. The number of stream miles by categories is listed in Table 8-2. Specific assessment units within each assessment category are listed in Tables B-1 through B-7.

Figure 8-2 is a map of the designated beneficial uses assigned to the river and streams in this water shed unit. Figure 8-3 illustrates the results of the new beneficial use assessment by categories and the STORET sites used in the assessment.

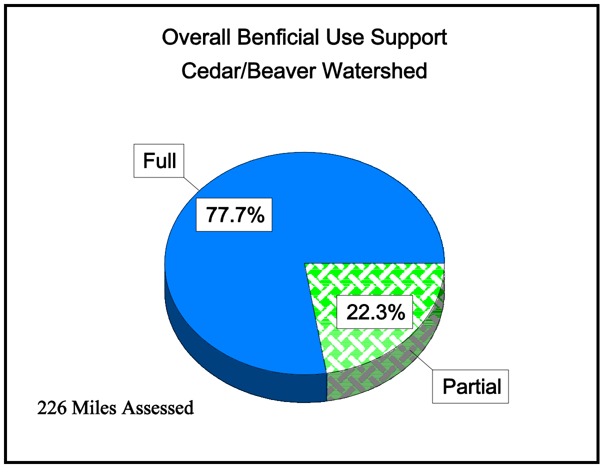

Figure 8-1. Overall beneficial use support based upon at least one beneficial use being assessed-Cedar/Beaver.

Table 8-2. Stream Miles by Assessment Category - Cedar / Beaver	
Category	**Stream Miles**
1	0
2	176
3	184
4A	51
4B	0
4C	51
5A	0
5B	0

The causes and sources of impairment are listed in Tables 8-3 and 8-4 respectively. The major causes of impairment were nutrients (total phosphorus), temperature, and habitat alterations. The percent of miles impacted were 22.3 percent respectively for all causes.(Figure 8-4). The relative impact of these causes is shown in Figure 8-5.

The major sources of impairment were agricultural activities, hydromodification, habitat modification, and unknown sources as shown in Figure 8-6. The relative percent impairment by sources is illustrated in Figure 8-7.

Beaver River–The Beaver River and its tributaries from the USFS boundary to its headwaters was assessed as a Category 2 water, all beneficial uses assessed were fully supported.

From Minersville Reservoir to the USFS boundary, the river and its tributaries were assessed as partially supporting its aquatic life beneficial use. A TMDL for total phosphorus has been completed and approved by EPA. This section was assessed as a Category 4A water, all TMDLs completed. In addition, it was placed in Category 4C, waters that are affected by pollution. The cause was habitat alteration and it does not require a TMDL.

The section of the Beaver River below Minersville Reservoir was not assessed and that segment was placed in Category 3.

Coal Creek–All beneficial uses that were assessed were fully supporting and it was placed in Category 2.

Table 8-3. Individual Use Support Summary for the Cedar/Beaver Watershed Management Unit

Goals [a]	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Attainable
Protect & Enhance Ecosystems	Aquatic Life	226.4	175.8 (77.7%)	0.0	50.6 (22.3%)	0.0	0.0
Protect & Enhance Public Health	Fish Consumption	0.0	0.0	0.0	0.0	0.0	0.0
	Swimming [b]	0.0	0.0	0.0	0.0	0.0	0.0
	Secondary Contact	0.0	0.0	0.0	0.0	0.0	0.0
	Drinking Water	0.0	0.0	0.0	0.0	0.0	0.0
Social and Economic	Agricultural	226.4	226.4 (100%)	0.0	0.0	0.0	0.0
	Total	226.4	175.8 (77.7%)	0.0	50.6 (22.3%)	0.0	0.0

a - These goals are part of the national water quality goals adopted by the EPA Office of Water and the ITFM in their Environmental Goals and Indicators effort.

b - Class 2B (secondary contact) streams were evaluated as swimmable for proposes of the CWA goals, therefore the swimming and secondary contact classification categories are the same.

Table 8-4. Stream Miles Impaired by Various Causes within the Cedar Beaver Water Quality Management Unit.	
Cause Category	**Miles Impaired**
Cause unknown	0.0
Unknown toxicity	0.0
Pesticides	-
Priority organics	-
Nonpriority organics	-
Metals	0.0
Ammonia	0.0
Chlorine	0.0
Other inorganics	0.0
Nutrients	50.6
pH	0.0
Siltation/Sediments	0.0
Organic Enrichment/low DO	0.0
Salinity/TDS/Chlorides	0.0
Thermal modifications	50.6
Flow alterations	0.0
Other habitat alterations	50.6
Pathogen Indicators	-
Radiation	-
Oil and grease	0.0
Taste and odor	0.0
Noxious aquatic plants (algae)	50.6
Total toxics	0.0
Turbidity	0.0
Exotic species	-
Other (specify)	-

- = Category applicable, no data available.
0 = Category applicable, but size of waters in the category is zero.

Table 8-5. Stream Miles Impaired by Various Source Categories in the Cedar / Beaver Watershed Management Unit	
Source Category	**Stream Miles Impaired**
Industrial Point Sources	0.0
Municipal Point Sources	0.0
Combined Sewer Overflow	-
Agriculture	50.6
Silviculture	0.0
Construction	0.0
Urban Runoff/Storm Sewers	0.0
Resource Extraction	0.0
Land Disposal	0.0
Hydromodification	50.6
Habitat Modification	50.6
Marinas	-
Atmospheric Deposition	-
Contaminated Sediments	-
Unknown Source	50.6
Natural Sources	0.0

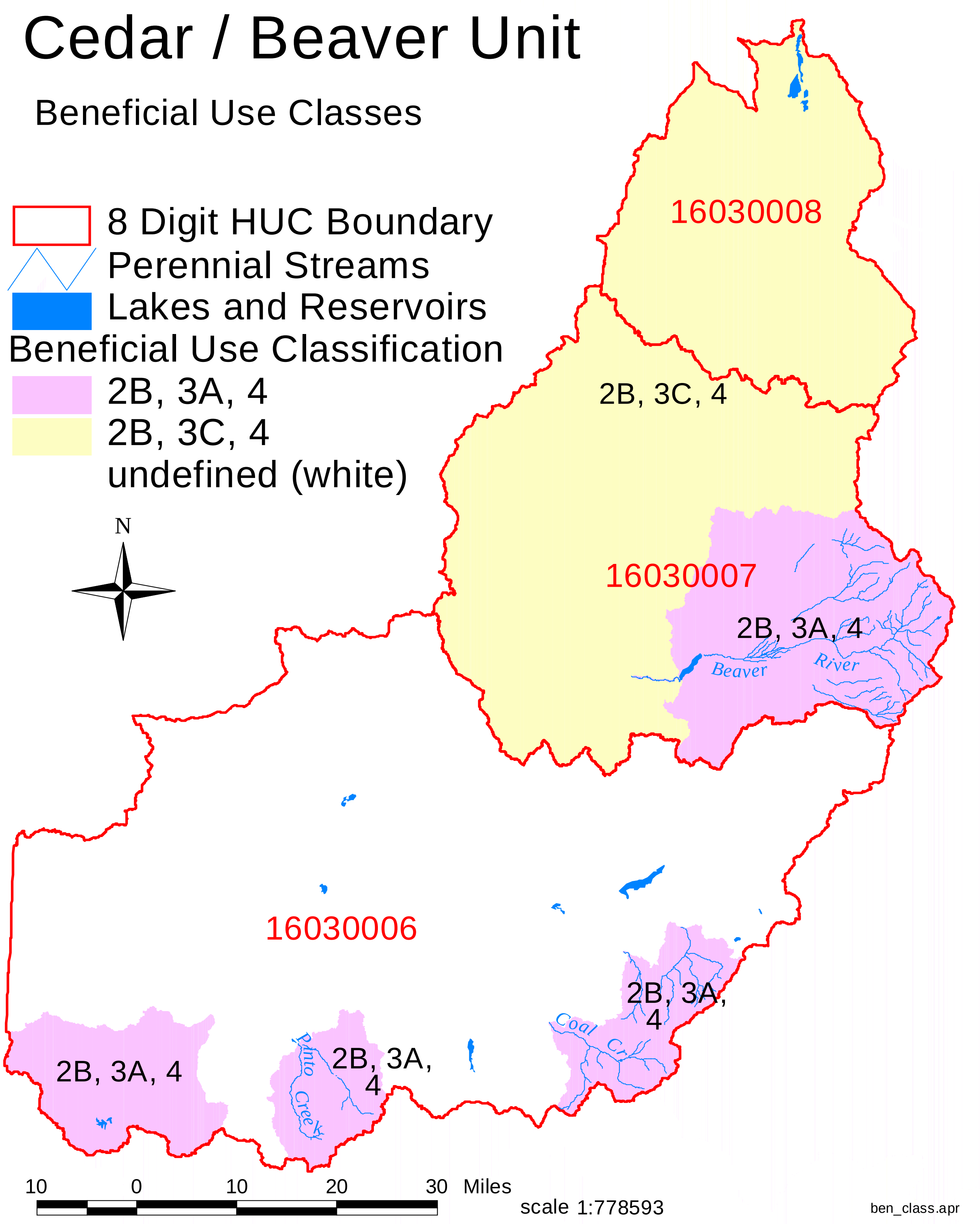

Figure 8-2. River and stream designated beneficial use classifications - Cedar/Beaver Watershed Management Unit.

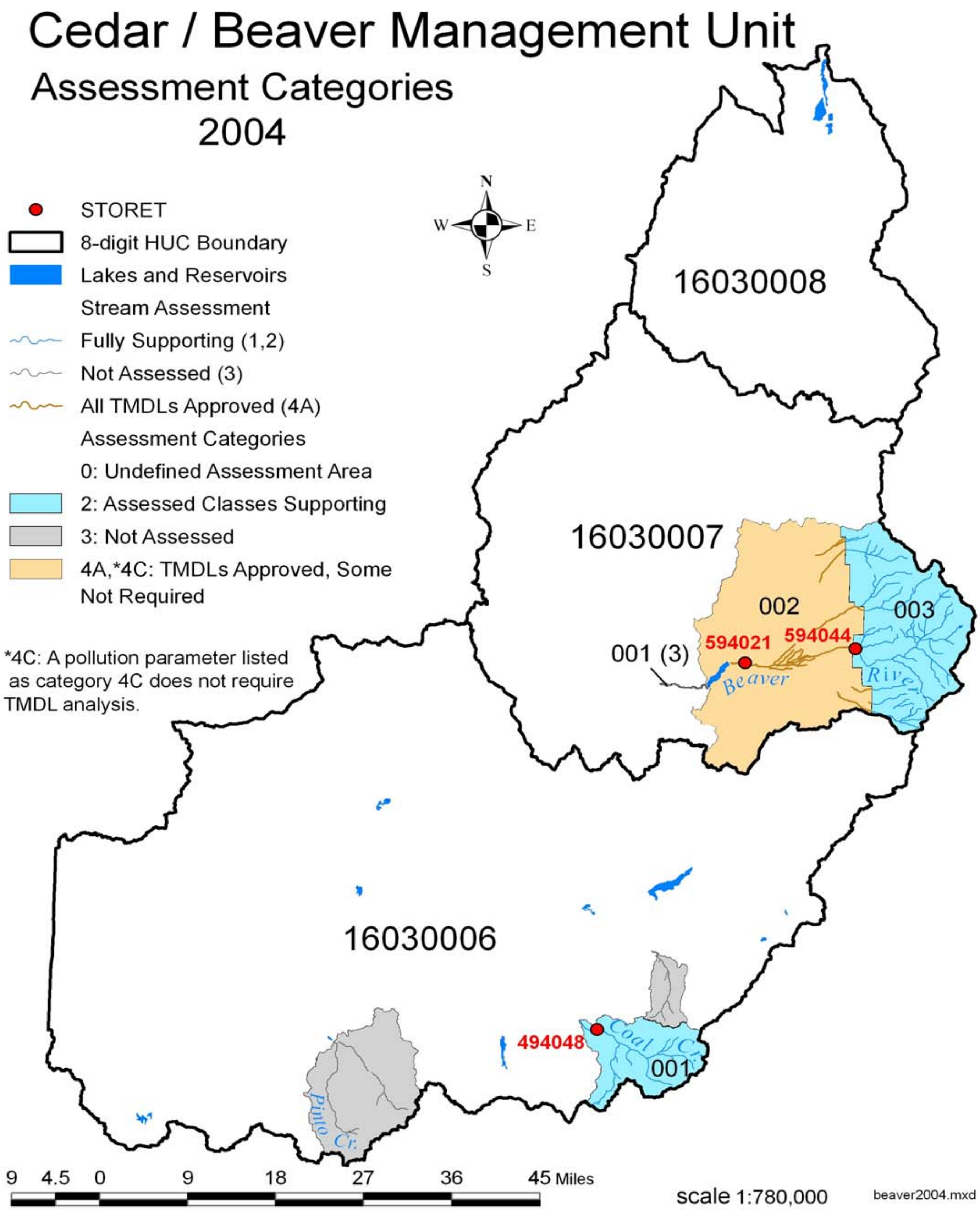

Figure 8-3. Stream and river beneficial use support by category - Cedar / Beaver Watershed Management Unit.

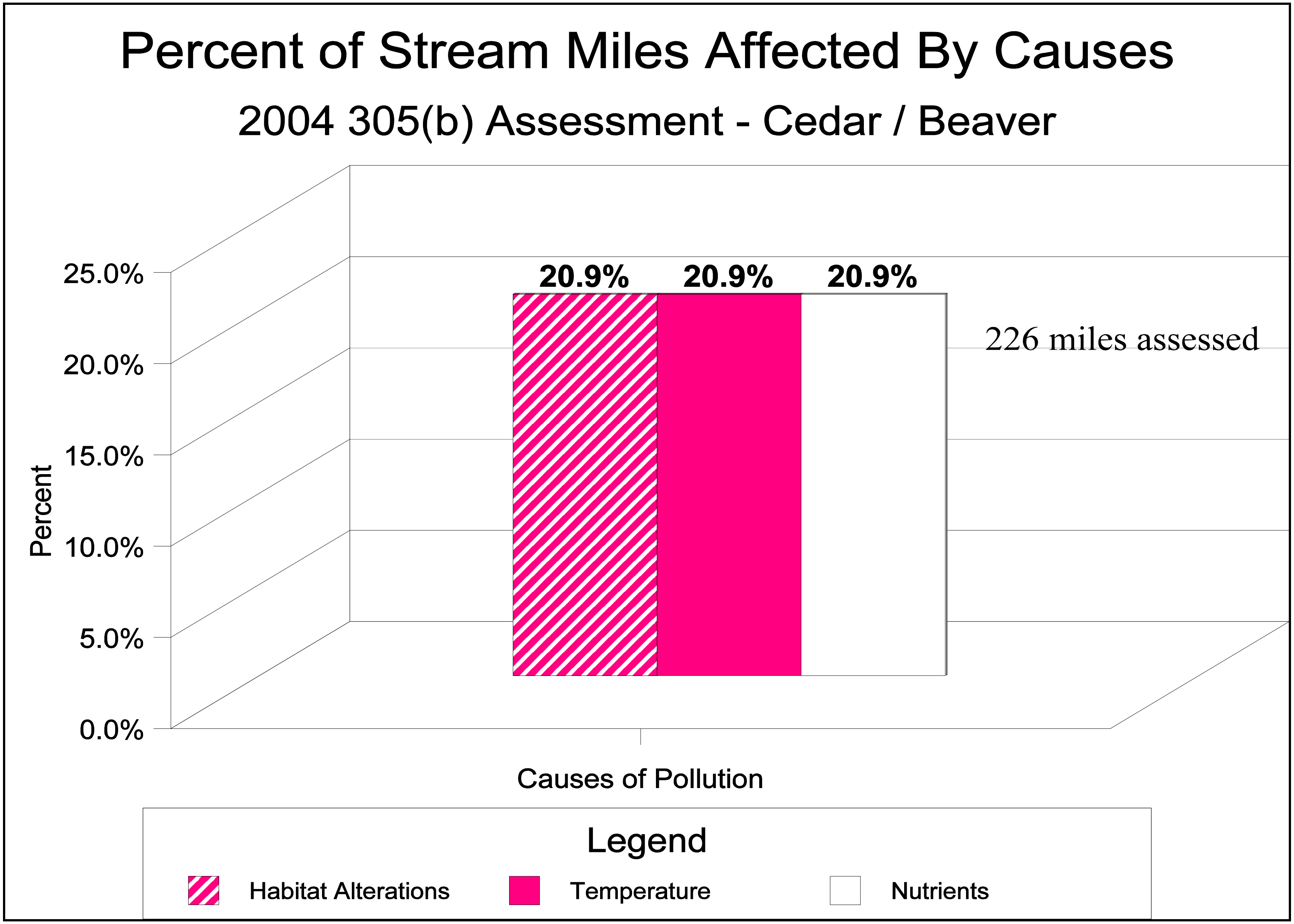

Figure 8-6. Percent of assessed stream miles impacted by sources - Cedar / Beaver Watershed Management Unit.

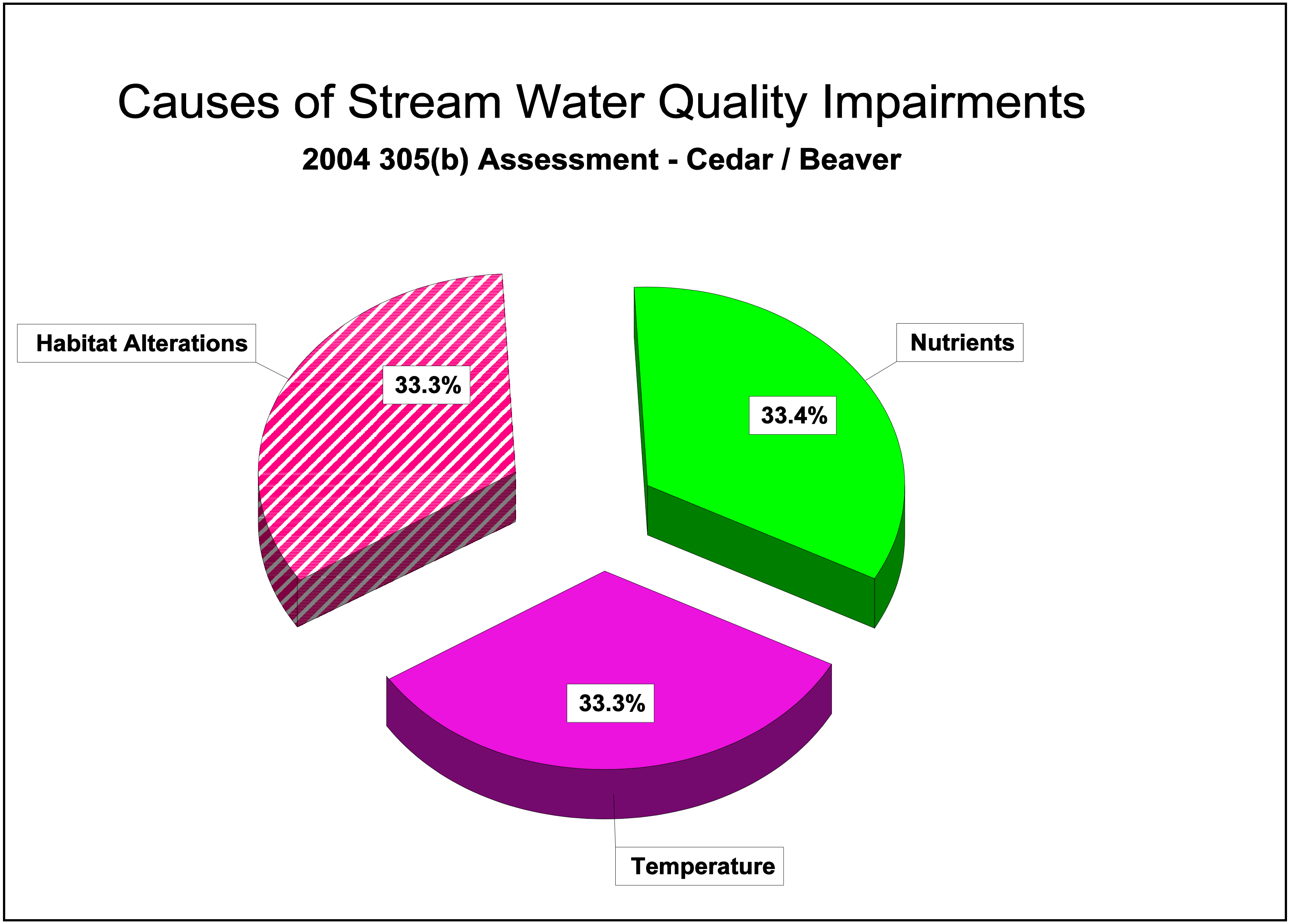

Figure 8-5. Relative percent contribution by cause to impairment of stream water quality - Cedar / Beaver Watershed Management Unit.

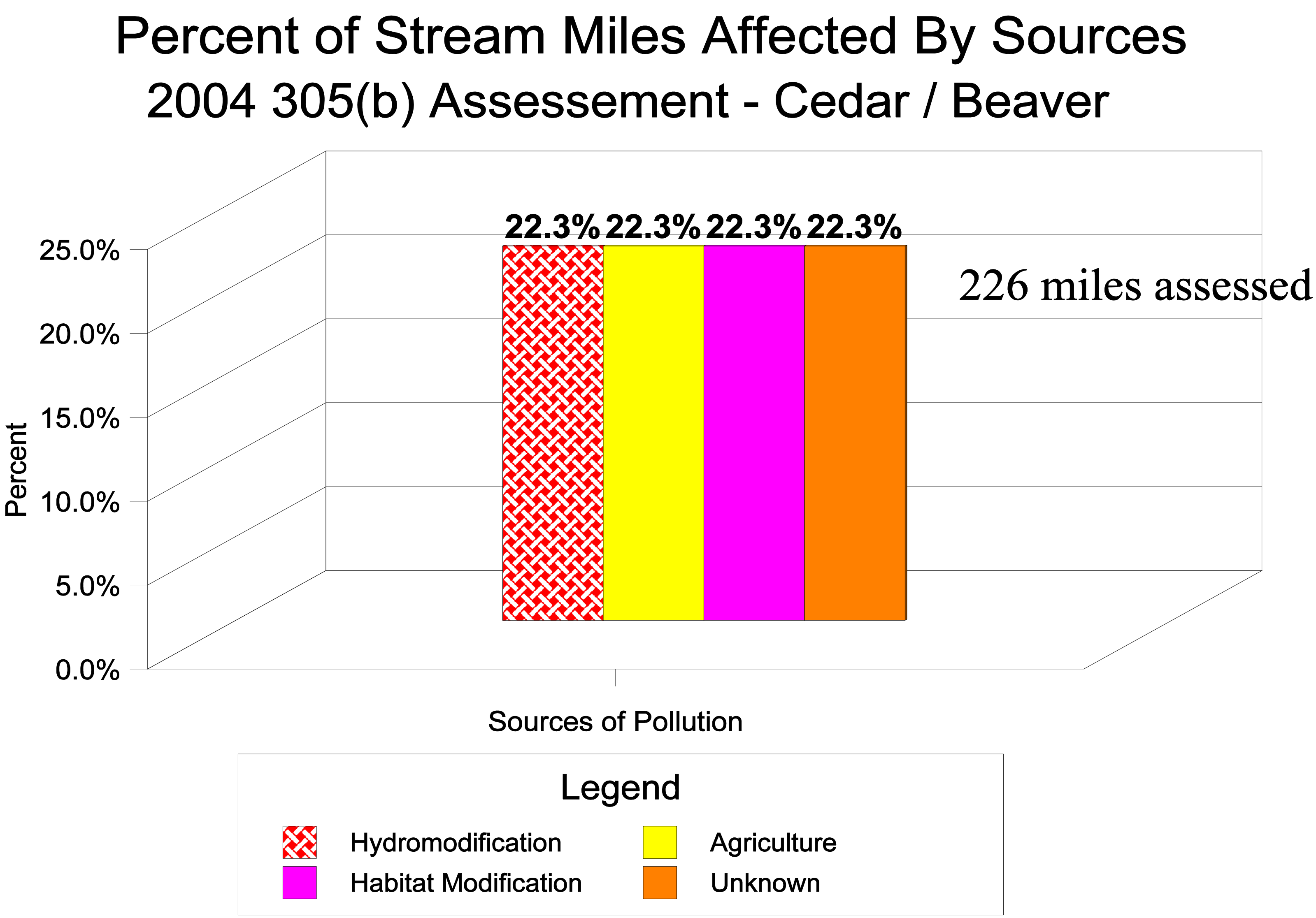

Figure 8-6. Percent of assessed stream miles impacted by sources - Cedar/Beaver Watershed Management Unit.

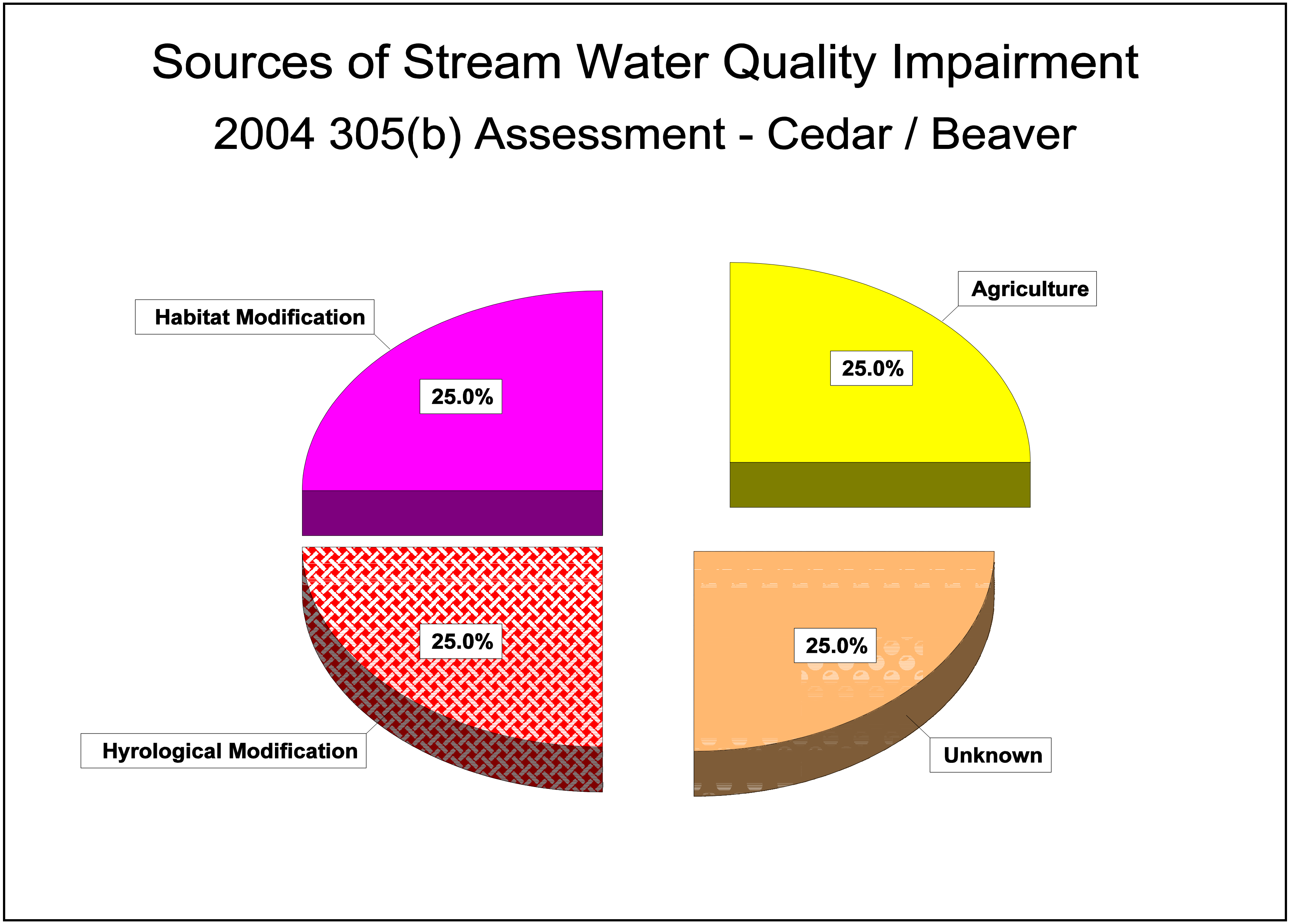

Figure 8-7. Relative percent contribution by source to impairment of stream water quality - Cedar / Beaver Watershed Management Unit.