



# Sevier River Watershed Management Unit Water Quality Assessment - 2004 305(b)

## SUMMARY

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

Table 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

**Beneficial Use Assessment**-Streams were assessed against State water quality standards and pollution indicators to determine if their designated beneficial uses were being met. The streams in the Sevier River Management Unit are classified as one of the following or a combination of the following beneficial use classifications: protected as a source of drinking water (1C), contact recreation (2B), cold water game fish (3A), warm water game fish (3B), non-game fish and other aquatic life (3C), aquatic birds and other aquatic life, (3D), and agricultural use including irrigation and stock watering (4) (Figure 2).

There were 1,575 stream miles assessed during the intensive survey from July 1, 2002 to June 30, 2003. Samples collected by cooperators were also included along with data from long term monitoring sites to do the assessment. Some benthic macroinvertebrate data collected and assessed in previous surveys were used to assess water quality also. Of the stream miles assessed, 1,055 miles (67.0%)

were assessed as fully supporting all of the beneficial uses that were assessed, 349 miles (22.2%) were assessed as partially supporting, and 171 miles (10.8%) were assessed as not supporting at least one designated beneficial use (Figure 1).

An assessment of support of all beneficial uses except Class 2B (secondary contact recreation) and 1C was made for 1,575 miles. Of those assessed, 1,055 miles (64.0%) were assessed as fully supporting all their beneficial uses, 349 miles (26.1%) were assessed as partially supporting, 171 miles (10.8%) were assessed as not supporting at least one designated beneficial use.

Individual beneficial use support is listed in Table 2. 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.

Of the streams assessed for agricultural use, 1,344 miles (85.3%) were assessed as fully supporting, 41.5 miles (2.6%) partially supporting, and 189.3 miles (12.0%) not supporting this beneficial use.

The major causes of impairment were nutrients (total phosphorus), sediment, habitat alterations, and total dissolved solids (Figure 2).

The major sources of impairment were agricultural activities, hydromodification, habitat modification, and natural conditions (Figure 3).

The designated beneficial use classes for streams in this management unit are mapped in Figure 4. The streams were assessed using the new assessment categories (Table 3) and the results mapped in Figure 5.

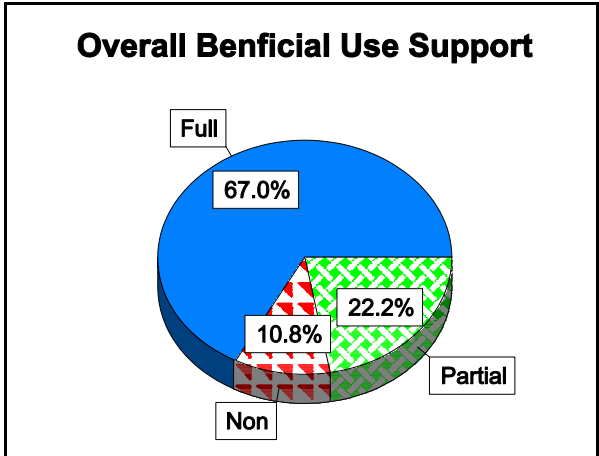


Figure 1. Overall beneficial use support based upon at least one beneficial use being assessed.

**Table 2. Individual Use Support Summary for the Sevier River Watershed Management Unit.**

Goals <sup>a</sup>	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 (64.0%)	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 <sup>b</sup>	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 ()	0.0
	<b>Total</b>	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 recreation) streams were evaluated as swimmable for purposes of the CWA goals,

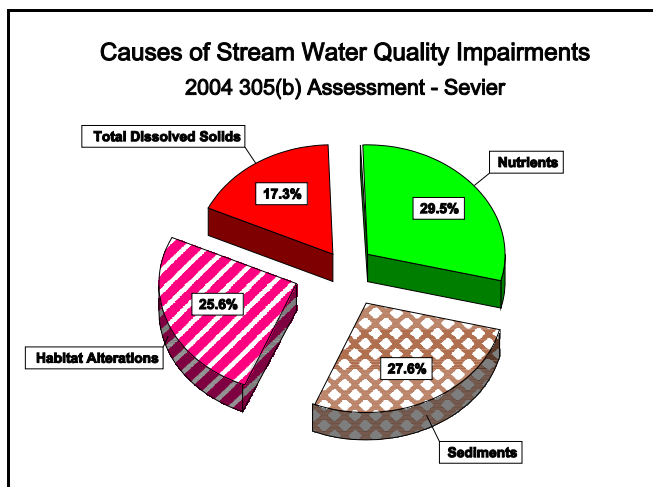


Figure 2. Relative percent impact of causes on water quality.

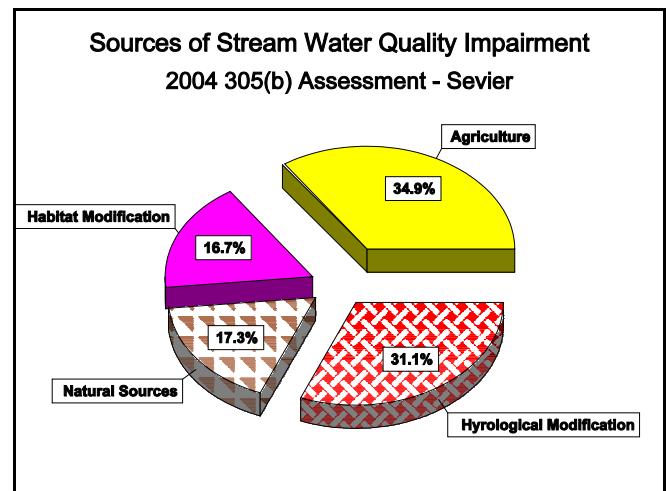


Figure 3. Relative percent impact of sources on water quality.

<b>Table 3. River and Stream Miles by Assessment Category - Sevier River Watershed Management Unit.</b>		
<b>Category</b>	<b>Definition</b>	<b>Stream Miles</b>
1	All designated uses assigned to an assessment unit were assessed and are fully supported.	0
2	Some of the designated uses are fully supported, but there is insufficient data to determine beneficial use support for the remaining designated uses.	1,055
3	Insufficient or no data and information to determine if any designated use is attained	350
4A	TMDL has been completed for all pollutants	171
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	349
5A	Assessment unit is impaired by a pollutant and a TMDL is needed.	349
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.	0

**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 Mammoth Creek confluence. The causes of impairment were excessive sedimentation, total phosphorus, and habitat alteration. The major sources were hydro modification and agricultural practices. Another source of total phosphorus was aquaculture (fish hatchery).

**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 caused by habitat alterations. The Otter Creek assessment units are still assessed as partially supporting their 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.

# Sevier River Management Unit

## Beneficial Use Classification

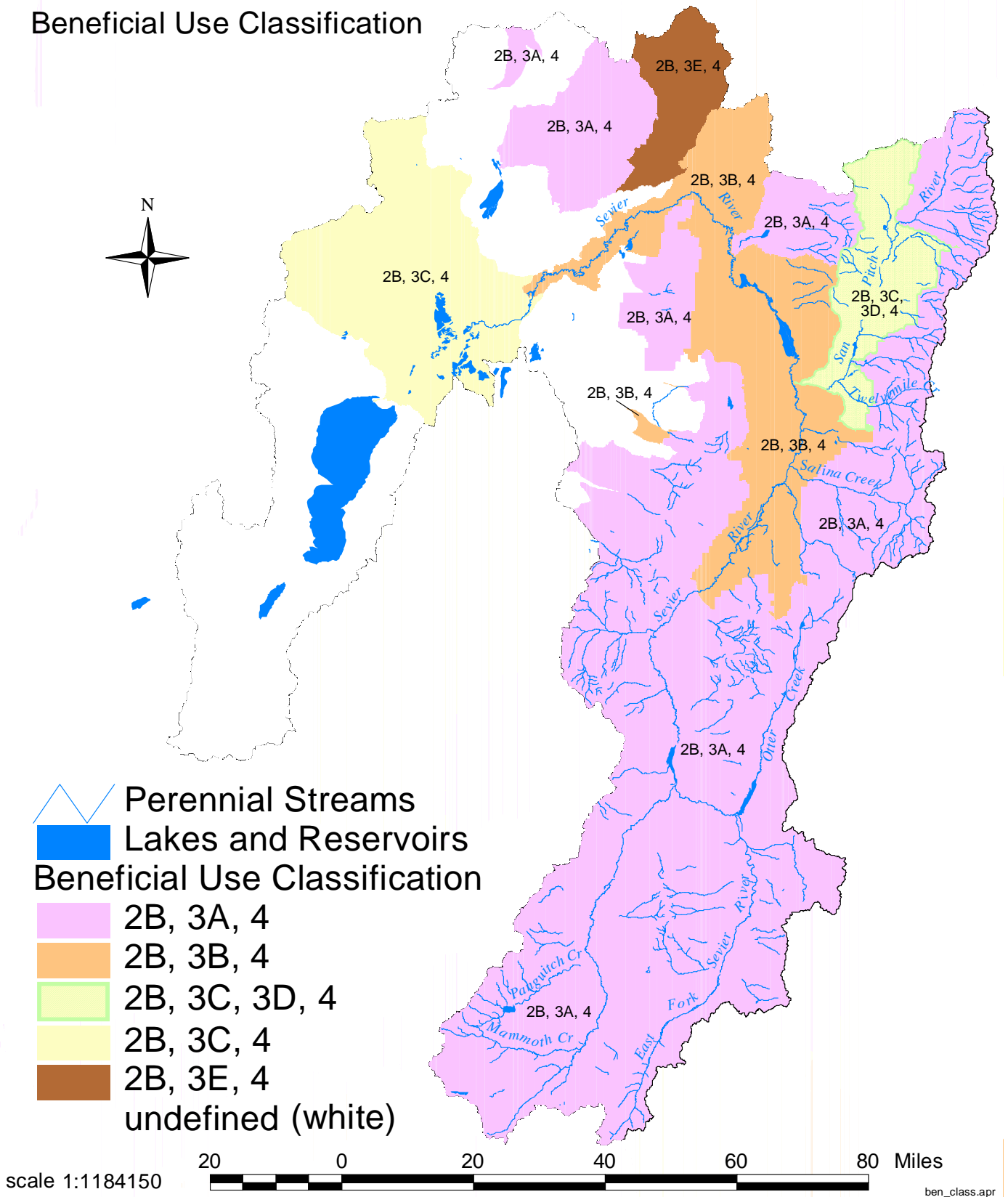


Figure 4. Beneficial use classifications - Sevier River Watershed Management Unit.

# Sevier River Management Unit

Assessment Categories  
2004

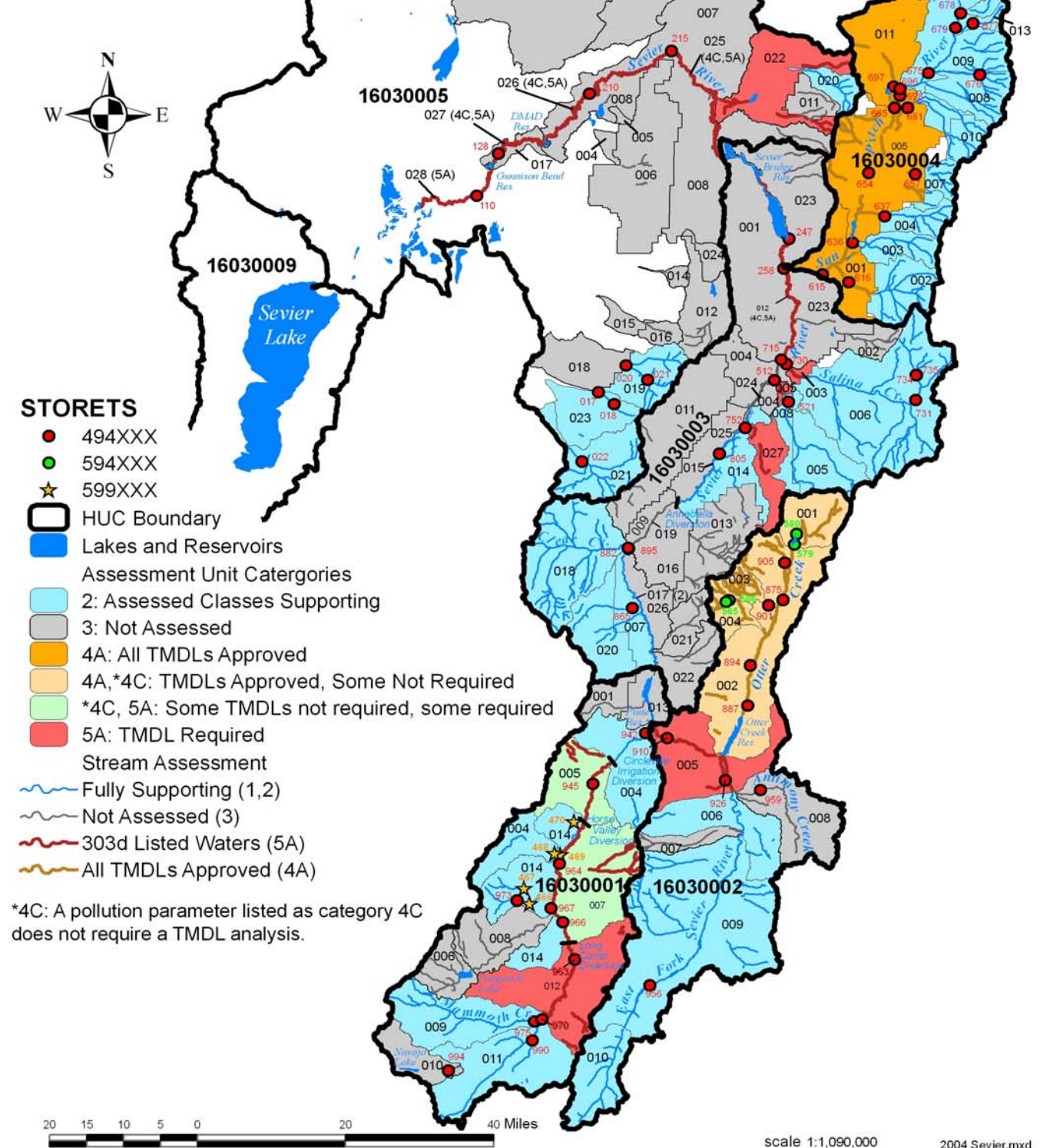


Figure 5. Beneficial use assessment by categories - Sevier River Watershed Management.

