



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

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 1. U.S.G.S. Hydrological Units in the Lower Colorado River Unit.**

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

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 Colorado River West 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), secondary 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 4).

An assessment of support for at least one beneficial use was made for 478 stream miles. Of those assessed, 354 miles (74.0%) were assessed as fully supporting all the beneficial uses assessed, 12 miles (2.5%) were assessed as partially supporting, 113 miles (23.5%) were assessed as not supporting at least one designated beneficial use. The overall beneficial use assessment is shown in Figure 1.

With the exception of the Santa Clara River from the Virgin River confluence to Gunlock reservoir, all aquatic life use classifications were fully supported in waters that were assessed.

Of the streams assessed for agricultural use, 337 miles (73.1%) were assessed as fully supporting, 12 miles (2.6%) partially supporting, and 113 miles (24.3%) not supporting this beneficial use.

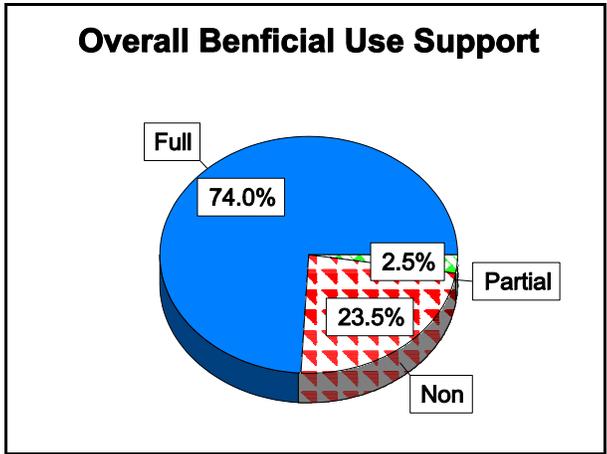
Table 2 contains a summary of the beneficial use support by beneficial use class. For Class 1 waters, 198 miles were assessed. Of these, all the miles (100%) were assessed as fully supporting this designated beneficial use. All aquatic life use classifications were fully supported. Of the 461 miles designated for agricultural use, 337 miles (73.0%) were fully supporting, 12 miles (2.6%), and 112.5 (24.4%) miles were assessed as not supporting agricultural use. Total dissolved solids were the cause of the impairment.

The two causes of water quality impairment were total dissolved solids and selenium. Figure 2. displays the relative percent of impaired streams by causes.

Figure 3 displays the relative percent of sources that are causing water quality impairments. The three sources were natural, agricultural activities and urban runoff.

The streams within the Lower Colorado Watershed Management Unit were also placed in new assessment categories: **Category 1**, all beneficial uses assessed and fully supporting; **Category 2**, some beneficial uses assessed and fully supporting; **Category 3**, not assessed; **Category 4A**, all TMDLs completed; **Category 4C**, waters impaired by pollution, not TMDL required; **Category 5A**, TMDL required (303(d) list); **Category 5B**, completed TMDL or request for removal from 303(d) list.

Table 3 is a list of the categories with the number of stream miles assigned to each category. Specific assessment units within each category are listed



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

in Utah's 2004 305(b) report.

**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 U.S.F.S. boundary and from Baker Dam upstream, including tributaries, were evaluated as supporting those beneficial uses assessed.

**Virgin River**–The Virgin River from the stateline 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.

<b>Table 2. Individual Beneficial Use Support Summary Lower Colorado River Watershed Management Unit</b>							
<b>Goals</b>	<b>Use</b>	<b>Size Assessed</b>	<b>Size Fully Supporting</b>	<b>Size Fully Supporting but Threatened</b>	<b>Size Partially Supporting</b>	<b>Size Not Supporting</b>	<b>Size Not Attainable</b>
Protect & Enhance Ecosystems	Aquatic Life	435.4	413.1 94.9%	0.0	22.3 5.1%	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	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	198.2	198.2 100.0%	0.0	0.0	0.0	0.0
Social and Economic	Agricultural	461.0	336.56 73.0%	0.0	12.0 2.6%	112.5 24.4%	0.0
	Total	478.6	354.2 74.0%	0.0	12.0 2.5%	112.5 23.5%	0.0

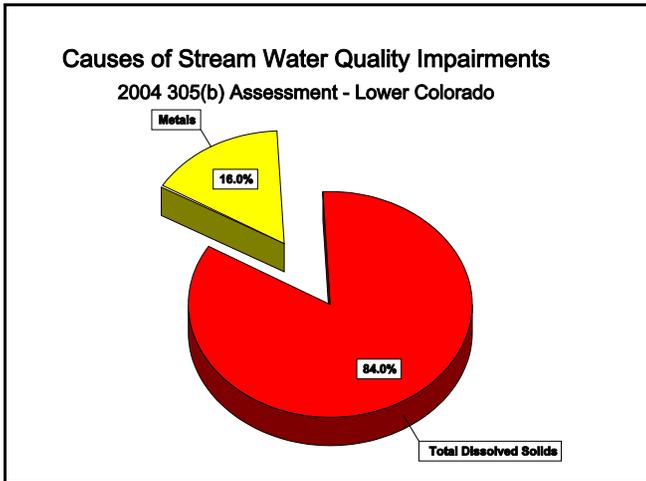


Figure 2. Relative percent contribution of causes on stream water quality.

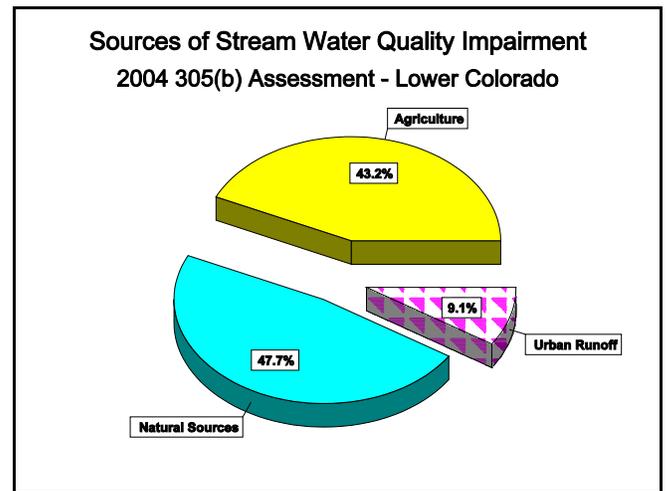


Figure 3. Relative percent contribution of sources on stream water quality/

Category	Definition	Stream Miles
1	All designated beneficial uses 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.	354
3	Insufficient or no data and information to determine if any designated use is attained	122
4A	TMDL has been completed for all pollutants.	0
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.	124
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.	31

# Lower Colorado River Unit

## Beneficial Use Classes

-  Perennial Stream
-  8 Digit Sub-Basin Boundary
- Beneficial Use Classes**
-  1C, 2B, 3A, 4
-  1C, 2B, 3B, 4
-  1C, 2B, 3C, 4
-  2B, 3A, 4
-  2B, 3B, 4
-  2B, 3C, 4
-  undefined (white)

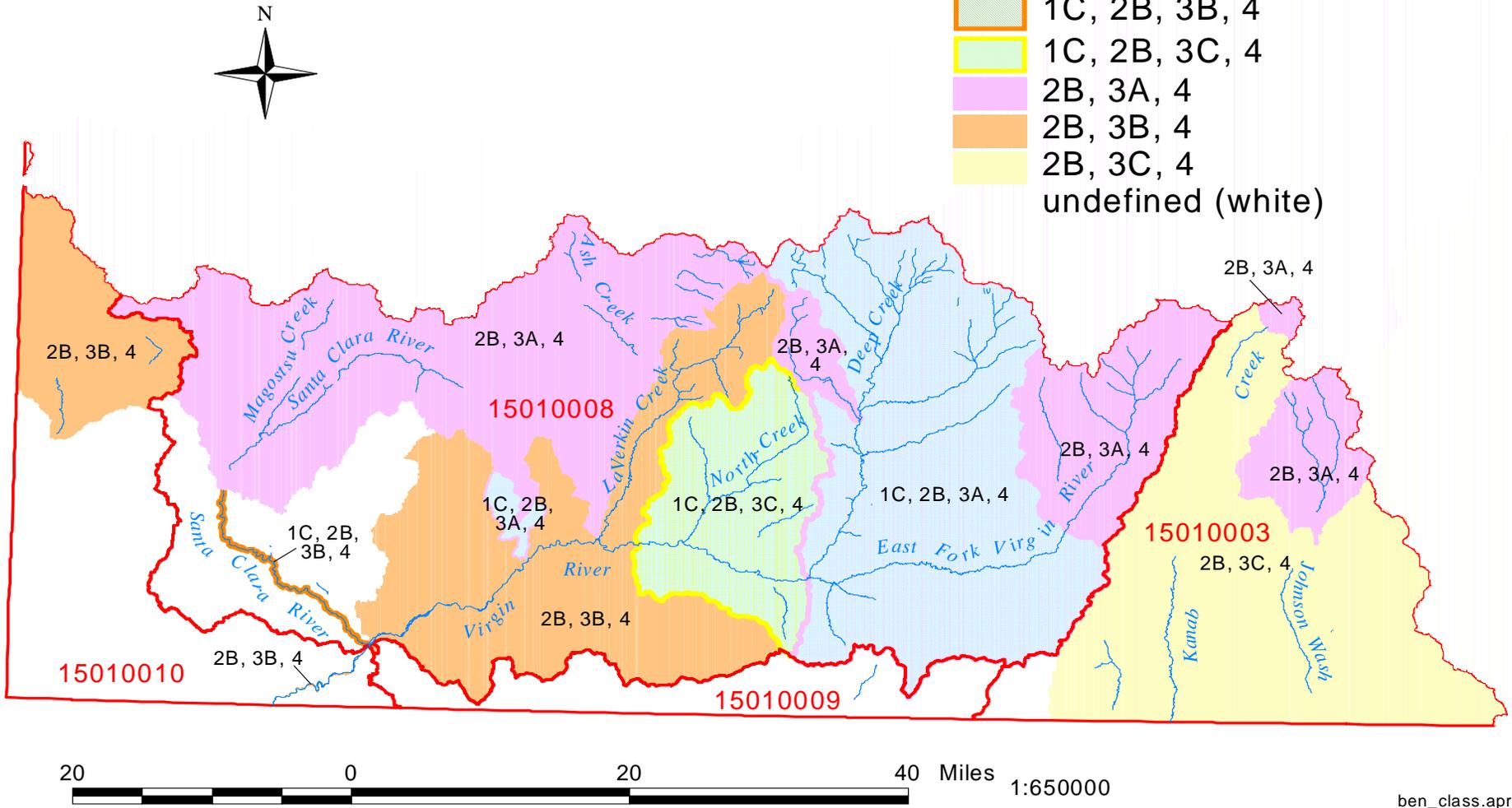
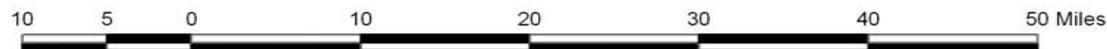
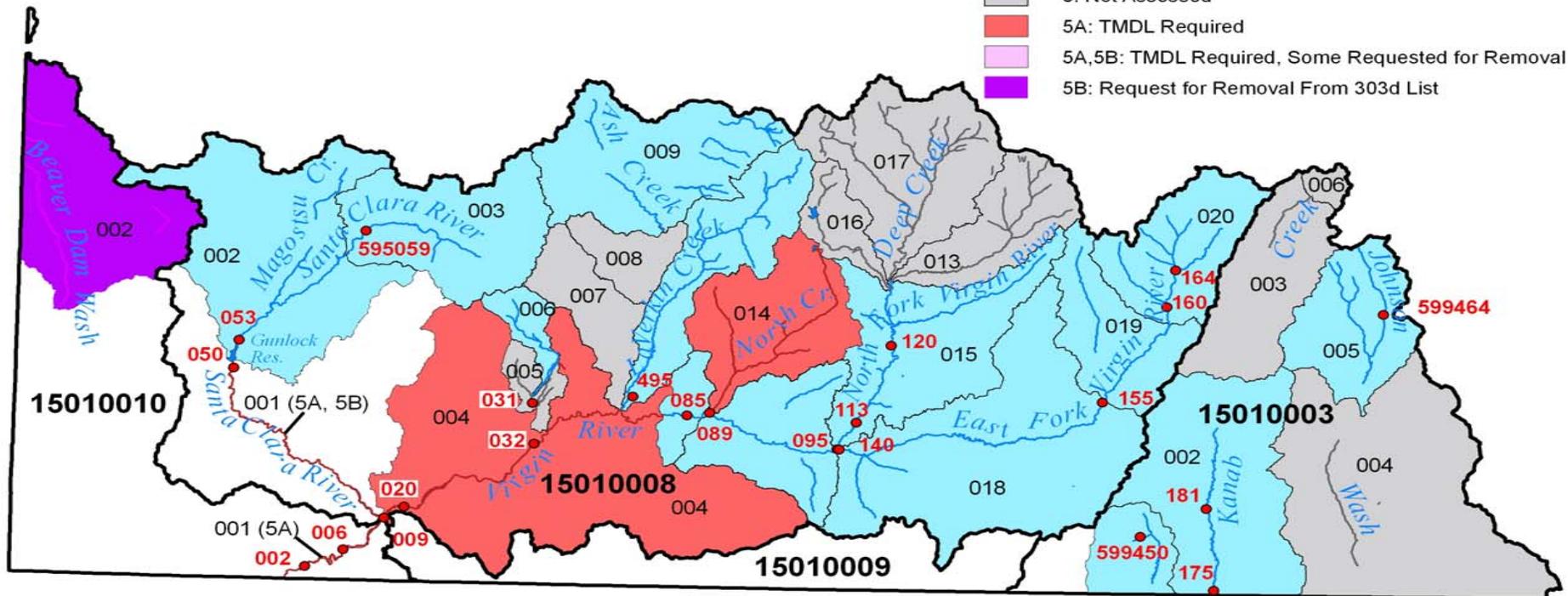


Figure 4. Beneficial use classifications - Lower Colorado Watershed Management Unit.

# Lower Colorado River Management Unit

## Assessment Categories 2004

- Stores (495XXX or as noted)
- Sub-Basin 8-Digit HUC Boundary
- Lakes and Reservoirs
- Stream Assessment
- Fully Supporting (1,2)
- Not Assessed (3)
- 303d Listed Waters (5A)
- Request to De-list (5B)
- Assessment Categories
- 0: Undefined Assessment Area
- 2: Assessed Classes Supporting
- 3: Not Assessed
- 5A: TMDL Required
- 5A,5B: TMDL Required, Some Requested for Removal
- 5B: Request for Removal From 303d List



scale 1:650,000

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Figure 5. Beneficial use assessment by categories - Lower Colorado River Watershed Management Unit.

