
EXECUTIVE SUMMARY

Section 303(d) of the Federal Clean Water Act requires states to develop Total Maximum Daily Load (TMDL) management plans for water bodies determined to be water quality limited. A TMDL identifies the amount of a pollutant a water body can assimilate without violating a state's water quality standards. It also allocates that load capacity to known point sources and nonpoint sources at a given flow. TMDLs are defined in 40 Code of Federal Regulations Part 130 as the sum of the individual Waste Load Allocations (WLAs) for point sources and Load Allocations (LAs) for nonpoint sources and background conditions, and include a Margin of Safety (MOS).

The Lower Rio Grande watershed is located in south-central New Mexico. The Surface Water Quality Bureau (SWQB) conducted an intensive surface water quality survey of the Lower Rio Grande basin in 2004. Water quality monitoring stations were located throughout the Lower Rio Grande watershed during the intensive watershed survey to evaluate the impact of tributary streams and ambient water quality conditions. As a result of assessing data generated during this monitoring effort, combined with data from outside sources that met SWQB quality assurance requirements, impairment determinations of New Mexico water quality standards for *E. coli* were documented for Rio Grande (International Mexico Boundary to Leasburg Dam) and Rio Grande (Leasburg Dam to Percha Dam). This TMDL document addresses the above noted impairments as summarized in the tables below.

A number of assessment units could not be assessed in this document due to insufficient data. These impairments will remain on the Clean Water Act Integrated §303(d)/§305(b) List of Assessed Surface Waters until additional data are available. Furthermore, assessment units whose designated uses are not existing or attainable and those that will be de-listed are detailed in this document.

Additional water quality data will be collected by the SWQB during the standard rotational period for intensive stream surveys. As a result, targets will be re-examined and potentially revised as this document is considered to be an evolving management plan. In the event that new data indicate that the targets used in this analysis are not appropriate and/or if new standards are adopted, the load capacity will be adjusted accordingly. When water quality standards have been achieved, the reach will be moved to the appropriate category on the Clean Water Act Integrated §303(d)/§305(b) List of Assessed Surface Waters.

The SWQB's Watershed Protection Section has and will continue to work with Lower Rio Grande watershed groups to finalize the Watershed Restoration Action Strategies (WRAS) in order to develop and implement strategies to attempt to correct the water quality impairments detailed in this document. Implementation of items detailed in the WRAS will be done with participation of all interested and affected parties.

**TOTAL MAXIMUM DAILY LOAD FOR
BACTERIA
RIO GRANDE (INTERNATIONAL MEXICO BOUNDARY TO LEASBURG DAM)**



New Mexico Standards Segment	20.6.4.101
Waterbody Identifier	NM-2101_00
Segment Length	62.68 mi.
Parameters of Concern	Bacteria
Uses Affected	Secondary Contact
Geographic Location	El Paso – Las Cruces USGS Hydrologic Unit Code 13030102
Scope/size of Watershed	29,267 mi ²
Land Type	Chihuahuan Deserts Ecoregion (24)
Land Use/Cover	Rangeland (82%), Forest (12%), Agriculture (2%), Barren (2%), Riparian (1%), and Urban (<1%)
Probable Sources	Impervious Surface/Parking Lot Runoff; Municipal (urbanized high density areas); Municipal Point Source Discharges; On-site Treatment Systems (septic systems and similar decentralized systems); Permitted Runoff from Confined Animal Feeding Operations (CAFOs); Rangeland Grazing; Wastes from Pets; Waterfowl; Wildlife other than Waterfowl
Land Management	BLM (35%), Private (32%), USFS (18%), State (12%), Bureau of Reclamation (2%), and Department of Defense (<1%)
Priority Ranking	5/5C
TMDL for <i>E. coli</i> :	TMDL = WLA + LA + MOS
<i>High Flow Conditions</i>	4.11 x 10¹² = 1.28 x 10¹¹ + 3.32 x 10¹² + 6.64 x 10¹¹
<i>Moist Flow Conditions</i>	2.55 x 10¹² = 9.79 x 10¹⁰ + 1.83 x 10¹² + 6.20 x 10¹¹
<i>Mid-Range Flow Conditions</i>	1.52 x 10¹² = 7.85 x 10¹⁰ + 8.84 x 10¹¹ + 5.52 x 10¹¹
<i>Dry Flow Conditions</i>	4.10 x 10¹¹ = 6.29 x 10¹⁰ + 1.19 x 10¹¹ + 2.28 x 10¹¹
<i>Low Flow Conditions</i>	8.64 x 10¹⁰ = 6.05 x 10¹⁰ + 2.03 x 10¹⁰ + 4.25 x 10⁹

**TOTAL MAXIMUM DAILY LOAD FOR
BACTERIA
RIO GRANDE (LEASBURG DAM TO PERCHA DAM)**



New Mexico Standards Segment	20.6.4.101
Waterbody Identifier	NM-2101_10
Segment Length	44.35 mi.
Parameters of Concern	Bacteria
Uses Affected	Secondary Contact
Geographic Location	El Paso – Las Cruces USGS Hydrologic Unit Code 13030102
Scope/size of Watershed	29,267 mi ²
Land Type	Chihuahuan Deserts Ecoregion (24)
Land Use/Cover	Rangeland (82%), Forest (12%), Agriculture (2%), Barren (2%), Riparian (1%), and Urban (<1%)
Probable Sources	Impervious Surface/Parking Lot Runoff; Municipal Point Source Discharges; On-site Treatment Systems (Septic Systems and Similar Decentralized Systems);; Rangeland Grazing; Wastes from Pets; Waterfowl; Wildlife other than Waterfowl
Land Management	BLM (35%), Private (32%), USFS (18%), State (12%), Bureau of Reclamation (2%), and Department of Defense (<1%)
Priority Ranking	2
TMDL for <i>E. coli</i> : <i>Mid-Range Flow Conditions</i>	$\text{TMDL} = \text{WLA} + \text{LA} + \text{MOS}$ $3.03 \times 10^{12} = 2.39 \times 10^9 + 1.05 \times 10^{12} + 1.98 \times 10^{12}$

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