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## 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 documents 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 (NPS) 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 NPS and background conditions, and includes a Margin of Safety (MOS).

The San Juan River watershed is located in northwestern New Mexico. The Surface Water Quality Bureau (SWQB) conducted an intensive surface water quality survey of the San Juan River basin in 2002. Stations were located throughout the San Juan River basin during an intensive watershed survey to evaluate the impact of tributary streams. 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 low dissolved oxygen in the La Plata River (McDermott Arroyo to CO border), excessive temperature in Animas River (Estes Arroyo to CO border), and impairment of the narrative plant nutrient standard in the Animas River (San Juan River to Estes Arroyo). The upper Animas River assessment unit designated use of coldwater fishery is not existing or attainable in this stream reach. Accordingly, a change to the water quality standards will be proposed in future triennial reviews and a temperature TMDL will not be prepared. This total maximum daily load document addresses the above noted impairments as summarized in the tables below.

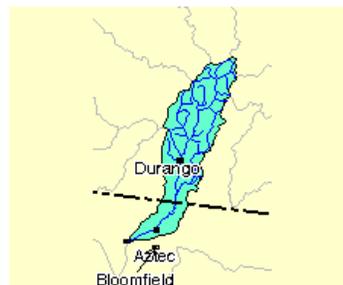
The following additional impairments were noted during the survey, but were previously addressed in the *Final Total Maximum Daily Load (TMDL) for the San Juan River Watershed (Part 1)* (NMED/SWQB 2005): fecal coliform were documented for the La Plata River (San Juan River to McDermott Arroyo), La Plata River (McDermott Arroyo to CO border), San Juan River (Navajo Nation boundary at the Hogback to Animas River), San Juan River (Animas River to Cañon Largo), and Animas River (San Juan River to Estes Arroyo). Impairment due to selenium exceedences was determined for Gallegos Canyon (San Juan River to Navajo bnd). In 2003, SWQB performed a special study with the U.S. Department of Agriculture National Sedimentation Lab to determine potential sedimentation impairment in the San Juan River and Animas River. As a result of the study, the San Juan River (Animas River to Cañon Largo) remained listed for sedimentation/siltation (stream bottom deposits). The La Plata River (San Juan River to McDermott Arroyo) was also determined to be impaired for sedimentation/siltation based on existing assessment protocols and data collected during the survey. Additional impairments based on benthic macroinvertebrate bioassessments and ambient water and sediment toxicity were documented on stream reaches based on 2002 and 2003 data, but additional data is needed to determine the exact cause of these impairments. Portions of the San Juan River and Navajo Reservoir are also listed for mercury in fish tissue because they are on the New Mexico Fish Consumption Guidelines due to mercury contamination (NMDOH *et al.* 2001).

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Additional water quality data will be collected by New Mexico Environment Department 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 attainment category on the Clean Water Act Integrated §303(d)/§305(b) list of waters (NMED/SWQB 2004a).

The SWQB's Watershed Protection Section has and will continue to work with the San Juan Watershed Group 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 WRAS will be done with participation of all interested and affected parties.

**TOTAL MAXIMUM DAILY LOAD FOR NUTRIENTS  
ANIMAS RIVER (SAN JUAN RIVER TO ESTES ARROYO)**



New Mexico Standards Segment	San Juan Basin 20.6.4.403
Assessment Unit Identifier	Animas River (San Juan River to Estes Arroyo), NM-2403.A_00 (formerly SJR4-10000)
Assessment Unit Length	16.9 miles
Parameters of Concern	Nutrients
Designated Uses Affected	Marginal Coldwater Fishery
Geographic Location	Animas USGS Hydrologic Unit Code 14080104
Scope/size of Watershed	1,357 mi <sup>2</sup> (277 mi <sup>2</sup> in NM)
Land Type	Arizona/New Mexico Plateau Ecoregion (22)
Land Use/Cover (NM only)	Forest (56%), Agriculture (8%), Rangeland (29%), Built-up (5%), Barren (<1%), Water (1%), Wetlands (<1%)
Identified Sources	Drought-related Impacts, Flow Alterations from Water Diversions, Municipal (Urbanized High Density Area), Municipal Point Source Discharges, On-site Treatment Systems (Septic Systems and Similar Decentralized Systems), Source Unknown, Streambank Modifications/destabilization
Land Management (NM only)	Private (34%), BLM (60%), State (6%)
Priority Ranking	High
TMDL for: Nutrients	
<b>Total Phosphorus</b>	<b>WLA (9.32) + LA (12.6) + Background (8.18) + MOS (3.35) = 33.5 lbs P/day</b>
<b>Total Nitrogen</b>	<b>WLA (25.3) + LA (40.6) + Background (115) + MOS (20.1) = 201 lbs N/day</b>

**TOTAL MAXIMUM DAILY LOAD FOR DISSOLVED OXYGEN  
LA PLATA RIVER (MCDERMOTT ARROYO TO COLORADO BORDER)**



New Mexico Standards Segment	San Juan Basin 20.6.4.402
Assessment Unit Identifier	La Plata River (McDermott Arroyo to Colorado border), NM-2402.A_01, (formerly SJR5-20100 split)
Assessment Unit Length	7.1 miles
Parameters of Concern	Dissolved Oxygen
Designated Uses Affected	Marginal Coldwater Fishery
Geographic Location	Middle San Juan USGS Hydrologic Unit Code 14080105
Scope/size of Watershed	435 mi <sup>2</sup> (30 mi <sup>2</sup> in NM)
Land Type	Arizona/New Mexico Plateau Ecoregion (22)
Land Use/Cover (NM only)	Forest (42%), Agriculture (20%), Rangeland (37%), Built-up (1%), Barren (<1%), Water (<1%)
Identified Sources	Animal Feeding Operations (NPS), Drought-related Impacts, Flow Alterations from Water Diversions, Loss of Riparian Habitat, On-site Treatment Systems (Septic Systems and Similar Decentralized Systems), Rangeland Grazing, Streambank Modifications/Destabilization
Land Management (NM only)	Private (47%), Native Lands (15%), BLM (32%), State (6%)
Priority Ranking	High
TMDL for: <b>Dissolved Oxygen</b>	<b>WLA (0.0) + LA (0.258) + MOS (0.0646) = 0.323 lbs TBODu/day</b>

NOTE: TBODu = Total ultimate biological oxygen demand.