



State of New Mexico  
Water Quality Control Commission



**2010 – 2012  
State of New Mexico  
Clean Water Act  
§303(d)/§305(b)  
Integrated Report**

**- Appendix B -**

**Water Quality  
Causes & Sources**



Prepared by:

New Mexico Environment Department  
Surface Water Quality Bureau  
1190 St. Francis Dr.  
Santa Fe, NM 87505

[www.nmenv.state.nm.us/swqb](http://www.nmenv.state.nm.us/swqb)

## **Appendix B**

### **New Mexico Water Quality Impairment Causes and Sources**

## Cause Summary for New Mexico's Rivers and Streams

Cause of Stream/River Water Quality Impairments	Total Size (miles)
PATHOGENS Escherichia coli Fecal Coliform	728.33 678.73 49.6
BIOLOGIC INTEGRITY (BIOASSESSMENTS) Benthic-Macroinvertebrate Bioassessments (Streams) Nutrient/Eutrophication Biological Indicators	971.46 234.31 758.35
BIOASSAYS Ambient Bioassays -- Acute Aquatic Toxicity	11.91 11.91
OXYGEN DEPLETION Oxygen, Dissolved	442.12 442.12
FLOW ALTERATIONS Low flow alterations	194.41 194.41
THERMAL IMPACTS Temperature, water	1,328.75 1,328.75
NUTRIENTS (Macronutrients/Growth Factors) Ammonia (Un-ionized) Nutrient/Eutrophication Biological Indicators Nitrogen, Nitrate	772.7 36.23 758.35 14.35
TOXIC INORGANICS Aluminum Ammonia (Un-ionized) Arsenic Boron Cadmium Copper Mercury Selenium Silver Sulfates Zinc	808.51 639.09 36.23 72.32 66.24 5.26 34.46 13.62 8.66 1.51 56 11.95
TOXIC ORGANICS PCB in Fish Tissue PCB in Water Column	318.53 238.28 80.25
METALS Aluminum Boron Cadmium	748.72 639.09 66.24 5.26

Copper	34.46
Mercury	13.62
Radium 226	7.03
Radium 228	7.03
Selenium	8.66
Silver	1.51
Zinc	11.95
Mercury in Fish Tissue	41.04
<b>PESTICIDES</b>	<b>132.23</b>
DDT in Fish Tissue	132.23
<b>MINERALIZATION</b>	<b>984.81</b>
Specific Conductance	341.75
Sulfates	56
Total Dissolved Solids	77.65
Turbidity	673.62
<b>pH/ACIDITY/CAUSTIC CONDITIONS</b>	<b>85.06</b>
pH	85.06
<b>RADIATION</b>	<b>98.97</b>
Radium 226	7.03
Radium 228	7.03
Gross Alpha	98.97
<b>SEDIMENTATION</b>	<b>487.92</b>
Sedimentation/Siltation	487.92
<b>OTHER</b>	<b>692.79</b>
Turbidity	673.62
Mercury in Fish Tissue	41.04

\*This information is generated using EPA's Assessment Database Software.

\*\*In some instances, more than a single cause of water quality impairment was identified for a particular waterbody. Where waterbodies have more than one cause of impairment, the appropriate waterbody length is entered in each category.

## Source Summary for New Mexico's Rivers and Streams

Sources of Stream/River Water Quality Impairments	Total Size (miles)
AGRICULTURE-ANIMAL FEEDING/HANDLING OPERATIONS (NPS - NOT REGULATED) Animal Feeding Operations (NPS) Aquaculture (Permitted) Confined Animal Feeding Operations (CAFOs) Agriculture	285.23 127.75 30.8 96.05 30.63
AGRICULTURE-CROP PRODUCTION Irrigated Crop Production Crop Production (Crop Land or Dry Land) Agriculture	283.37 205.19 47.55 30.63
AGRICULTURE-GRAZING-RELATED SOURCES Rangeland Grazing Livestock (Grazing or Feeding Operations) Agriculture	2,114.38 2,083.75 75.39 30.63
ATMOSPHERIC DEPOSITION Atmospheric Deposition - Toxics	299.16 299.16
CONSTRUCTION Highways, Roads, Bridges, Infrastructure (New Construction) Site Clearance (Land Development or Redevelopment) Low Water Crossing	152.9 12.7 117.12 23.08
GROUNDWATER LOADINGS Landfills	2.21 2.21
GROUNDWATER WITHDRAWALS Baseflow Depletion from Groundwater Withdrawals	53.03 53.03
HABITAT ALTERATIONS (NOT DIRECTLY RELATED TO HYDROMODIFICATION) Channelization Dam Construction (Other than Upstream Flood Control Projects) Dredging (E.g., for Navigation Channels) Loss of Riparian Habitat Streambank Modifications/destabilization Upstream Impoundments (e.g., PI-566 NRCS Structures) Habitat Modification - other than Hydromodification	1,163.61 106.38 8.1 25.52 943.24 746.81 11.29 164.07
HYDROMODIFICATION Baseflow Depletion from Groundwater Withdrawals Channelization Dam Construction (Other than Upstream Flood Control	1,271.49 53.03 106.38

Projects)	8.1
Dredging (E.g., for Navigation Channels)	25.52
Flow Alterations from Water Diversions	686.69
Highway/Road/Bridge Runoff (Non-construction Related)	533.54
Upstream Impoundments (e.g., PI-566 NRCS Structures)	11.29
Dam or Impoundment	32.43
<b>INDUSTRIAL PERMITTED DISCHARGES</b>	<b>34.46</b>
Industrial Point Source Discharge	9.44
Industrial/Commercial Site Stormwater Discharge (Permitted)	3.58
Petroleum/natural Gas Production Activities (Permitted)	21.44
<b>LAND APPLICATION/WASTE SITES</b>	<b>671.95</b>
Landfills	2.21
On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	609.26
Inappropriate Waste Disposal	62.69
<b>LEGACY/HISTORICAL POLLUTANTS</b>	<b>178.87</b>
Acid Mine Drainage	8.32
Contaminated Sediments	34.61
Dredging (E.g., for Navigation Channels)	25.52
Impacts from Abandoned Mine Lands (Inactive)	51.23
Mill Tailings	55.71
Mine Tailings	34.48
Petroleum/natural Gas Activities	21.44
<b>MUNICIPAL PERMITTED DISCHARGES (DIRECT AND INDIRECT)</b>	<b>698.09</b>
Municipal (Urbanized High Density Area)	238.58
Municipal Point Source Discharges	637.63
Post-development Erosion and Sedimentation	26.66
<b>STORMWATER PERMITTED DISCHARGES (DIRECT AND INDIRECT)</b>	<b>905.55</b>
Highway/Road/Bridge Runoff (Non-construction Related)	533.54
Highways, Roads, Bridges, Infrastructure (New Construction)	12.7
Industrial/Commercial Site Stormwater Discharge (Permitted)	3.58
Municipal (Urbanized High Density Area)	238.58
Petroleum/natural Gas Production Activities (Permitted)	21.44
Post-development Erosion and Sedimentation	26.66
Site Clearance (Land Development or Redevelopment)	117.12
<b>NATURAL</b>	<b>1,646.1</b>
Drought-related Impacts	441.09
Avian Sources (waterfowl and/or other)	330.51
Wildlife Other than Waterfowl	301.22
Natural Sources	1,095.63

RECREATION AND TOURISM (NON-BOATING)	560.36
Off-road Vehicles	137.63
Other Recreational Pollution Sources	454.8
Low Water Crossing	23.08
RESOURCE EXTRACTION	152.53
Impacts from Abandoned Mine Lands (Inactive)	51.23
Mill Tailings	55.71
Mine Tailings	34.48
Placer Mining	2.75
Surface Mining	47.63
Reclamation of Inactive Mining	16.17
SILVICULTURE-LARGE-SCALE (INDUSTRIAL) FORESTRY	528.11
Forest Roads (Road Construction and Use)	79.25
Silviculture Harvesting	74.68
Silviculture, Fire Suppression	261.17
Watershed Runoff following Forest Fire	144.89
SILVICULTURE-NON-INDUSTRIAL FORESTRY (WOODLOTS)	406.06
Silviculture, Fire Suppression	261.17
Watershed Runoff following Forest Fire	144.89
SPILLS AND UNPERMITTED DISCHARGES	62.69
Other Spill Related Impacts	9
Inappropriate Waste Disposal	62.69
URBAN-RELATED RUNOFF/STORMWATER (OTHER THAN REGULATED DISCHARGES)	1,028.71
Highway/Road/Bridge Runoff (Non-construction Related)	533.54
Highways, Roads, Bridges, Infrastructure (New Construction)	12.7
Industrial/Commercial Site Stormwater Discharge (Permitted)	3.58
Municipal (Urbanized High Density Area)	238.58
Post-development Erosion and Sedimentation	26.66
Site Clearance (Land Development or Redevelopment)	117.12
Wastes from Pets	269.31
Impervious Surface/Parking Lot Runoff	265.21
Urban Runoff/Storm Sewers	14.2
OTHER	2,383.34
Source Unknown	1,302.47
Natural Sources	1,095.63
Agriculture	30.63
Habitat Modification - other than Hydromodification	164.07
Silviculture, Fire Suppression	261.17
Watershed Runoff following Forest Fire	144.89
Low Water Crossing	23.08

\*This information is generated using EPA's Assessment Database Software.

\*\*In most instances, more than a single source contributed to water quality impairment. Where waterbodies have more than one source of impairment, the appropriate waterbody length is entered in each category

## Cause Summary for New Mexico's Lakes and Reservoirs

Causes of Lake Reservoir Water Quality Impairments	Total Size(acres)
BIOLOGIC INTEGRITY (BIOASSESSMENTS) Nutrient/Eutrophication Biological Indicators	4,412.94 4,412.94
OXYGEN DEPLETION Oxygen, Dissolved	11,424.31 11,424.31
THERMAL IMPACTS Temperature, water	187.45 187.45
NUTRIENTS (Macronutrients/Growth Factors) Nutrient/Eutrophication Biological Indicators	4,412.94 4,412.94
TOXIC INORGANICS Aluminum Arsenic Copper	4,447.48 3,767.75 1,668.57 11.16
TOXIC ORGANICS PCB in Fish Tissue	17,680.33 17,680.33
METALS Aluminum Copper Mercury in Fish Tissue	52,082.18 3,767.75 11.16 52,064.02
PESTICIDES DDT in Fish Tissue	3,058.67 3,058.67
pH/ACIDITY/CAUSTIC CONDITIONS pH	159.31 159.31
SEDIMENTATION Sedimentation/Siltation	5.95 5.95
OTHER Mercury in Fish Tissue	52,064.02 52,064.02

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## Source Summary for New Mexico's Lakes and Reservoirs

Source of Lake Reservoir Water Quality Impairments	Total Size (acres)
AGRICULTURE-ANIMAL FEEDING/HANDLING OPERATIONS (NPS - NOT REGULATED) Agriculture	68.37 68.37
AGRICULTURE-CROP PRODUCTION Agriculture Pesticide Application	79.53 68.37 11.16
AGRICULTURE-GRAZING-RELATED SOURCES Rangeland Grazing Agriculture	5,724.87 5,656.6 68.37
ATMOSPHERIC DEPOSITION Atmospheric Deposition - Toxics	44,493.12 44,493.12
HABITAT ALTERATIONS (NOT DIRECTLY RELATED TO HYDROMODIFICATION) Loss of Riparian Habitat Streambank Modifications/destabilization Habitat Modification - other than Hydromodification	4,283.63 4,267.5 4,251.19 39.94
HYDROMODIFICATION Highway/Road/Bridge Runoff (Non-construction Related)	23.81 23.81
LAND APPLICATION/WASTE SITES On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) Inappropriate Waste Disposal	8,167.22 1,357.62 6,809.6
LEGACY/HISTORICAL POLLUTANTS Contaminated Sediments	6,809.6 6,809.6
STORMWATER PERMITTED DISCHARGES (DIRECT AND INDIRECT) Highway/Road/Bridge Runoff (Non-construction Related)	23.81 23.81
NATURAL Wildlife Other than Waterfowl Natural Sources	6,197.5 1,333.81 6,197.5
RECREATION AND TOURISM (NON-BOATING) Other Recreational Pollution Sources	140.45 140.45
RESOURCE EXTRACTION Subsurface (Hardrock) Mining	1,333.81 1,333.81

SILVICULTURE-LARGE-SCALE (INDUSTRIAL) FORESTRY Silviculture Harvesting	50 50
SPILLS AND UNPERMITTED DISCHARGES Inappropriate Waste Disposal	6,809.6 6,809.6
TURF MANAGEMENT Pesticide Application	11.16 11.16
URBAN-RELATED RUNOFF/STORMWATER (OTHER THAN REGULATED DISCHARGES) Highway/Road/Bridge Runoff (Non-construction Related) Impervious Surface/Parking Lot Runoff	3,863.87 23.81 3,840.06
OTHER Source Unknown Natural Sources Agriculture Habitat Modification - other than Hydromodification	57,095.96 55,631.96 6,197.5 68.37 39.94

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