

## NOTICES OF PUBLIC INFORMATION

Notices of Public Information contain corrections that agencies wish to make to their notices of rulemaking; miscellaneous rulemaking information that does not fit into any other category of notice; and other types of information required by statute to be published in the *Register*. Because of the variety of material that is contained in a Notice of Public Information, the Office of the Secretary of State has not established a specific format for these notices.

### NOTICE OF PUBLIC INFORMATION

#### DEPARTMENT OF ENVIRONMENTAL QUALITY

1. **A.R.S. Title and its heading:** 49, The Environment  
**A.R.S. Chapter and its heading:** 2, Water Quality Control  
**A.R.S. Article and its heading:** 2.1, Total Maximum Daily Loads  
**A.R.S. Section:** A.R.S. § 49-234, Total maximum daily loads; implementation plans
2. **The public information relating to the listed statute:**

Pursuant to A.R.S. § 49-234, the Department is required to develop a total maximum daily load (TMDL) for navigable waters that are listed as impaired. This purpose of this Notice is to publish the Arizona Department of Environmental Quality's ("Department") determinations of total pollutant loadings for a TMDL in the Little Colorado River Basin that the Department intends to submit to the Regional Administrator for Region 9, U.S. Environmental Protection Agency ("EPA") for approval.

The Department previously provided public notice and an opportunity for public comment on the "Little Colorado River Draft TMDL for Turbidity" in the *White Mountain Independent*, a newspaper of general circulation in the affected area, on March 26, 2002. The Department did not receive any written comments on the TMDL during the public notice period. If comments had been received, the Department would have included a summary of the comments, and the Department's responses, in this Notice. The purpose of this Notice is to satisfy A.R.S. § 49-234(D) and § 49-234(E), which require the Department to publish in the *Arizona Administrative Register* the determination of total pollutant loadings that will not result in impairment and the proposed allocations among the contributing sources that are sufficient to achieve the total pollutant loadings.

3. **Total Maximum Daily Loads (TMDLs)**

#### A. Total Maximum Daily Load (TMDL) Process

A Total Maximum Daily Load (TMDL) represents the total load of a pollutant that can be discharged to a water body on a daily basis and still meet the applicable water quality standard. The TMDL can be expressed as the total mass or quantity of a pollutant that can enter the water body within a unit of time. In most cases, the TMDL determines the allowable pounds per day of a pollutant and divides it among the various contributors in the watershed as wasteload (i.e., point source discharge) and load (i.e., nonpoint source) allocations. The TMDL must also account for natural background sources and provide a margin of safety. For nonpoint sources such as accelerated erosion or internal nutrient cycling, it may not be feasible or useful to derive a pounds per day figure. In such cases, a percent reduction in pollutant loading may be proposed. A load analysis may take the form of a phased TMDL, if source reduction or remediation can be better accomplished through an iterative approach.

In Arizona, as in other states, changes in standards or the establishment of site-specific standards are the result of ongoing science-based investigations or changes in toxicity criteria from EPA. Changes in designated uses and standards are part of the surface water standards triennial review process and are subject to public review. Standards are not changed simply to bring the water body into compliance, but are based on existing uses and natural conditions.

This TMDL meets or exceeds the following EPA Region 9 criteria for approval:

**Plan to meet State Surface Water Quality Standards:** The TMDL includes a study and a plan for the specific pollutants that must be addressed to ensure that applicable water quality standards are attained.

**Describe quantified water quality goals, targets, or endpoints:** The TMDL must establish numeric endpoints for the water quality standards, including beneficial uses to be protected, as a result of implementing the TMDL. This often requires an interpretation that clearly describes the linkage(s) between factors impacting water quality standards.

**Analyze/account for all sources of pollutants.** All significant pollutant sources are described, including the magnitude and location of sources.

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**Identify pollution reduction goals.** The TMDL plan includes pollutant reduction targets for all point and nonpoint sources of pollution.

**Describe the linkage between water quality endpoints and pollutants of concern.** The TMDL must explain the relationship between the numeric targets and the pollutants of concern. That is, do the recommended pollutant load allocations exceed the loading capacity of the receiving water?

**Develop margin of safety that considers uncertainties, seasonal variations, and critical conditions.** The TMDL must describe how any uncertainties regarding the ability of the plan to meet water quality standards that have been addressed. The plan must consider these issues in its recommended pollution reduction targets.

**Provide implementation recommendations for pollutant reduction actions and a monitoring plan.** The TMDL should provide a specific process and schedule for achieving pollutant reduction targets. A monitoring plan should also be included, especially where management actions will be phased in over time and to assess the validity of the pollutant reduction goals.

**Include an appropriate level of public involvement in the TMDL process.** This is usually met by publishing public notice of the TMDL in a newspaper of general circulation in the area affected by the study, circulating the TMDL for public comment, and holding public meetings in local communities. Public involvement must be documented in the state's TMDL submittal to EPA Region 9.

**In addition, these TMDLs comply with the public notification requirements of A.R.S. Title 49, Chapter 2, Article 2.1.** Publication of these TMDLs in the *Arizona Administrative Register* is required per Arizona Revised Statute, Title 49, Chapter 2, Article 2.1 prior to submission of the TMDL to EPA. The Department shall:

1. Prepare a draft estimate of the total amount of each pollutant that causes impairment from all sources that may be added to a navigable water while still allowing the navigable water to achieve and maintain applicable surface water quality standards, and provide public notice and an opportunity for comment in a newspaper of general circulation in the affected area;
2. Publish a notice in the *Arizona Administrative Register* (this Notice) of the determination of total pollutant loadings that will not result in impairment, a summary of comments received to the initial TMDL public notice, and the Department's responses to the comments;
3. Make reasonable and equitable allocations among TMDL sources, and provide public notice and an opportunity for comment on the draft allocations in a newspaper of general circulation in the affected area;
4. Publish a notice in the *Arizona Administrative Register* of the allocations among contributing sources, along with responses to any comments received on the draft allocations in a newspaper of general circulation.

Federal law only requires the submittal of the pollutant loadings to EPA for approval. However, the Department considers the pollutant loadings and the draft allocations to be integrally related and should be presented together to afford the public a complete understanding of the issues, outcomes, and recommendations of the TMDL analysis. For that reason, the Department has combined the loadings and allocations in both the public notice in the local newspaper as well as in this publication in the *Arizona Administrative Register*.

**B. Total Maximum Daily Load for Little Colorado River**

Executive Summary

The Little Colorado River (LCR) is located in southern Apache County, Arizona near the border with New Mexico. Its headwaters originate in the White Mountains along the northern and eastern slopes of Mount Baldy (11,043 feet). The river flows east-northeast until it reaches Eagar, Arizona where it turns to a more northerly course. Two segments, totaling 16 miles of the Little Colorado River, near Springerville, Arizona, were listed as impaired due to violations of the turbidity standard for Aquatic and Wildlife coldwater streams, which is 10 Nephelometric Turbidity Units (NTU). The first segment, Water Canyon Creek to Nutrioso Creek (HUC 15020001-010), is four miles long. The second segment, Nutrioso Creek to Carnero Creek (HUC 15020001-009), is 12 miles long. Excessive turbidity is suspected as a possible stressor to the health of the aquatic ecosystem and detracts from recreational uses.

**Little Colorado River Watershed Overview**

Waterbody	Little Colorado River
Drainage	774 square miles above Lyman Lake
Designated Uses	Aquatic and Wildlife, cold water; Fish consumption; Full body contact
Communities	Springerville, Eagar, Greer

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County	Apache
Land Ownership	45% USFS; 37% State; 17% Private; 1% other federal, state or local
Land Use	59% rangeland; 38% forest; 2% agriculture; other [urban, lakes and streams, wetlands, unclassified (all < 1% each)]
Principal Geology	Volcanic (cinder cones and massive basalt flows)
Applicable Standards	Aquatic and Wildlife, cold water: turbidity standard = 10 NTUs
Potential Sources	Grazing practices; road cuts; stream channel instabilities; and resuspension of sediment moving through the system
Public Participation	Through the Upper Little Colorado Watershed Group, the internet, and public noticing procedures as required by Arizona Revised Statutes § 49-231, which includes a 30-day notice in the local newspaper (March 26, 2002) and a 45-day notice in the <i>Arizona Administrative Register</i>

The LCR was placed on the 303(d) List based on sampling taken from 1991 through 1996 (see Table 1). From June to October 2000, ADEQ conducted an intensive turbidity study of the LCR. Eighteen monitoring sites were established along the LCR from the intersection of Highways 260 and 373 (near Greer) to the end of the listed reach. The results indicate that the turbidity impairment actually starts upstream of the confluence of the LCR with Water Creek Canyon. Field observations indicated that the main cause of turbidity is loss of vegetative cover due to historic and current grazing practices. The loss of vegetation, especially riparian, allows increased runoff, soil erosion, and bank destabilization.

The turbidity impairment appears to be directly correlated to large flow events that occur during the Winter-Spring rain/snowmelt season and during the Summer-Fall monsoon season. These correlations were developed based on United States Geological Survey (USGS) historic flow data for the Little Colorado River. TMDL values were developed for each season to reflect these differences in flow regimes and resultant sediment delivery mechanisms. Because turbidity is a dimensionless unit, site specific TSS versus turbidity correlations were created for this TMDL. These correlations link TSS values in mg/L to turbidity standards and measurements. Target Load Reductions of TSS will equate to reductions of turbidity.

The target load capacity for the LCR during the Winter-Spring seasonal flows (28.9 cfs) was calculated to be 1,702 lbs./day as Total Suspended Solids (TSS). The Measured Load was estimated to be 6,959 lbs./day. Using a 10% explicit MOS, the Load Reduction necessary is 5,257 lbs./day. During the Summer-Fall seasonal flows (13.1 cfs), the target load capacity was calculated to be 681 lbs./day. The Measured Load is 2,509 lbs./day. Using a 25% MOS, the Load Reduction necessary is 1,828 lbs./day.

**LITTLE COLORADO RIVER TMDL CALCULATIONS AND VALUES**

<b><u>WINTER-SPRING FLOWS</u></b>		<b><u>SUMMER-FALL FLOWS</u></b>	
Discharge Designed for	28.9 cfs (18.9 mgd)	Discharge Designed for	13.1 cfs (8.5 mgd)
Background, lbs./day TSS	354	Background, lbs./day TSS	354
Waste Load Allocation, lbs./day TSS	0	Waste Load Allocation, lbs./day TSS	0
Load Allocation, lbs./day TSS	1,225	Load Allocation, lbs./day TSS	262
Margin of Safety, lbs./day TSS (10%)	123	Margin of Safety, lbs./day TSS (25%)	65
TMDL, lbs./day TSS	1,702	TMDL, lbs./day TSS	681
Measured Load, lbs./day TSS	6,959	Measured Load, lbs./day TSS	2,509
Load Reduction, lbs./day TSS	5,257	Load Reduction, lbs./day TSS	1,828

**TMDL LOAD ALLOCATIONS AND LOAD REDUCTION TARGETS BY SOURCE**

<b>Potential source</b>	<b>% Contribution to TMDL load</b>	<b>Load Value</b>	<b>% reduction in Loading</b>	<b>Load Reduction</b>	<b>% of total Reduction</b>
Grazing Practices	60	4,175	75	3,132	60
Stream Channel Instabilities	15	1,044	65	679	13
Road Cuts	5	348	55	191	4
Golf Course	5	348	85	296	6
Streambed Load	5	348	55	191	4
Natural Conditions	10	696	0	0	0
<b>Totals</b>	<b>100%</b>	<b>6,969</b>	<b>N/A</b>	<b>4,420</b>	<b>85% (5,257)</b>

Table 1 below was taken from Arizona’s Clean Water Act (CWA) Section 305(b) report, entitled “Arizona Water Quality Assessment, 1998, Volume II --Assessment Data and Standards.” Table 1 shows the data used to list the Little Colorado River as impaired due to turbidity.

<b>TABLE 1 Surface Water Monitoring Data For the LITTLE COLORADO Watershed</b>			
<b>Agency Program Site Description</b>	<b>Samples: Year-number</b>	<b>WATER QUALITY STANDARD EXCEEDED Turbidity standard = 10 NTU</b>	
		<b>Range of Values</b>	<b>Frequency Exceeded</b>
ADEQ Fixed Station Network Hwy 260 Bridge	1994 - 6 1995 - 6 1996 - 6	7.06 - 96.4 NTU	12 / 18 (67%)
ADEQ Biocriteria Below Nutrioso	1992 - 1	16.2 NTU	1 / 1 (100%)
ADEQ Fixed Station Network Below Springerville	1991 - 5 1992 - 6 1993 - 3	3.9 - 47 NTU	7 / 14 (50%)

**TMDL Implementation**

The key to TMDL implementation will be to identify management strategies necessary to improve water quality in the Little Colorado River. The LCR TMDL will use a phased approach, recognizing that nonpoint sources of pollution can be difficult to manage and that these problems have been generated over general large expanses of time and will require a number of years to correct. The turbidity impairment appears to be directly correlated with large storm events. Therefore, implementation projects and best management practices will be aimed at improving the water quality by improving vegetative ground cover, thereby reducing excessive storm runoff and soil erosion through: road maintenance or closures, improved grazing strategies and practices, and watershed improvements on both uplands and riparian areas. Implementation of Best Management Practices (BMPs) will increase riparian vegetation, stabilize the stream banks, promote the development of flood plains, and minimize the impact of cattle in the general area, thus decreasing the contributions of sediment to the Little Colorado River during higher flow storm events.

**Public Participation Component**

The public participation requirement of this TMDL has been met through notice and participation by stakeholders in the

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Upper Little Colorado River Watershed Group, and through local meetings which were attended by community members, staff from state, federal, and local agencies and other stakeholders. ADEQ staff were present at all meetings; the ADEQ contractor, Tetra Tech, Inc., was present at two meetings to explain the modeling approach and respond to questions. The draft TMDL was released in March 2002, concurrent with the 30-day notice in the *White Mountain Independent* newspaper on March 26, 2002. The Department received no comments pursuant to that public notice. This publication in the *Arizona Administrative Register* is required per Arizona Revised Statute, Title 49, Chapter 2, Article 2.1.

**4. The name and address of agency personnel with whom persons may communicate regarding the public information:**

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Copies of the draft TMDL may be obtained from the Department by contacting the numbers above. The draft TMDL may also be downloaded from the Department's website at:

<http://www.adeq.state.az.us/environ/water/assess/download/status.pdf>

**5. The time during which the agency will accept written comments and the time and place where oral comments may be made:**

There is no public comment period associated with this Notice. The Department previously provided an opportunity for comment on the proposed TMDLs.