

NOTICES OF PUBLIC INFORMATION

Notices of Public Information contain corrections that agencies wish to make to their notices of rulemaking; miscellaneous rule-making 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

[M05-84]

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
- 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 Arizona Department of Environmental Quality (Department or ADEQ) is required to develop a total maximum daily load (TMDL) for navigable waters that are listed as impaired. The purpose of this notice is to publish the Department's determinations of total pollutant loadings for TMDLs in Lakeside Lake 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 draft "Lakeside Lake TMDL & Associated Parameters" in *The Arizona Daily Star*, a newspaper of general circulation in the affected area, on February 15, 2005. The Department did not receive any written comments based on that 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 assimilated by a waterbody 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 waterbody 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 figure in terms of pounds per day. 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 waterbody into compliance, but are based on sound science that includes evaluation of the risk of impact to humans or aquatic and wildlife. Existing uses of the waterbody and natural conditions are considered when standards for specific water segments are established.

These TMDLs meet or exceed the following EPA Region 9 criteria for approval:

Plan to meet State Surface Water Quality Standards: The TMDLs include 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 TMDLs. 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.

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 TMDLs 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?

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Develop margin of safety that considers uncertainties, seasonal variations, and critical conditions: The TMDLs 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 TMDLs 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 TMDLs in a newspaper of general circulation in the area affected by the study, circulating the TMDLs 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 in a newspaper of general circulation in the affected area;
4. Publish a notice in the *Arizona Administrative Register* (this notice) 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 Lakeside Lake

EXECUTIVE SUMMARY

Section 303(d) of the Clean Water Act requires each state to develop Total Maximum Daily Loads (TMDLs) for surface waters that do not meet and maintain applicable water quality standards. A TMDL establishes the amount of a given pollutant that the waterbody can withstand without creating an impairment of that surface water's designated use. The TMDL by definition (40 Code of Federal Regulations Part 130) is the sum of all point and non-point sources with the inclusion of a margin of safety and natural background considerations.

Lakeside Lake, an urban lake located in Tucson, AZ, in Pima County, appeared on the Arizona Department of Environmental Quality's 2002 List of Water Quality Limited Waters for exceedances of surface water quality standards for dissolved oxygen, pH, ammonia, and narrative nutrient violations. The lake has also experienced several fish kills since the early 1990s. Specific surface water quality standards for these parameters are listed in Title 18, Chapter 11 of the Arizona Administrative Code. For this TMDL investigation, samples were collected to discern pollutant sources, the extent of impairment, and allow for the calculation of pollutant loads and allocations. Sample results did not support delisting any of these parameters. Rather than set TMDLs for dissolved oxygen, pH, and narrative nutrients, TMDLs were calculated for reductions in nitrate-nitrogen, ortho-phosphorus, and ammonia-nitrogen. Reductions in nutrient loading as modeled were shown to bring the waterbody into compliance with all parameters.

The significant sources of pollutants are reclaimed water supplied to the lake and runoff from Atterbury Wash which flows into and out of the lake. Secondary sources include runoff from Lakeside Lake Park and atmospheric inputs. Lakeside Lake and Park are owned and managed by the city of Tucson. The Tucson Water Department has supplied Lakeside Lake with reclaimed water since 1992 which, because Lakeside Lake was created in a "waters of the U.S.", requires an individual AZPDES permit. Sampling was conducted in 1998, 2002, and 2003 in order to characterize the lake and build a database for TMDL development. At this writing, Lakeside Lake is one of only a few "waters of the U.S." supplied primarily with reclaimed water.

In January 2002, ADEQ hired a contractor (PBS&J) to develop a Load Analysis Study for Lakeside based on 1998 data. In June 2002, the city of Tucson installed two large-capacity aerators in the lake and began monitoring lake response. In February 2004, ADEQ extended the Load Analysis contract to update the model with 2002-2003 post aerator data and to calculate the necessary nutrient load reductions to meet water quality standards.

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WATERSHED OVERVIEW

Waterbody	Lakeside Lake
Drainage	12 square miles
Designated Uses	Aquatic & Wildlife, warm water; Fish consumption; Partial body contact
Communities	Tucson
County	Pima
Land Ownership	Municipal; military (Davis Monthan Air Force Base)
Land Use	Undeveloped; military; residential
Principal Geology	Basin and Range
Potential Sources	Reclaimed water (secondary-treatment and filtered); storm runoff

LOADS AND ALLOCATIONS

The range of data and information used to develop these TMDLs included GIS coverages, meteorological data, reclaimed water data, lake monitoring and morphological data, and stormwater data from outside the watershed. The lake monitoring data used to determine impairment for the 303(d) listing were collected in 1998, 2002, and 2003. Water quality samples were collected quarterly in 1998, weekly during the summer of 2002 and 2003, and monthly during the remainder of the time.

Existing Loads

Existing Loadings from Reclaimed Water (lbs/day)

Ortho-Phosphorus	Nitrate-N	Ammonia-N
0.282 average year	1.409 average year	0.564 average year
0.222 wet year	1.108 wet year	0.443 wet year
0.335 dry year	1.673 dry year	0.669 dry year

Existing Loadings from Runoff (lbs/day)

Ortho-Phosphorus	Nitrate-N	Ammonia-N
0.026 average year	0.104 average year	0.052 average year
0.063 wet year	0.250 wet year	0.125 wet year
0.007 dry year	0.029 dry year	0.014 dry year

Load Allocations

The following allocations are for nitrate-N, ammonia-N and ortho-phosphorus from reclaimed water (WLA); a) runoff and no groundwater (LA); b) runoff plus groundwater (LA). Allocations were set for the average year, with the margin of safety (MOS) set to account for differences between wet and dry years. These allocations were based on the model results which looked at reductions of all the pollutants simultaneously in order to meet the appropriate surface water quality standards. Applying the reduction values to all pollutants at each source will assure that all parameters will meet the appropriate water quality standards.

Wasteload Allocation (WLAs) (lbs/day) – Reclaimed water with use of alum and no groundwater

Ortho-Phosphorus	Nitrate-N	Ammonia-N	Reduction (%) from Existing Loadings
0.113	1.409	0.564	60% phosphorus only

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Wasteload Allocation (WLAs) (lbs/day) – Reclaimed water with use of alum and groundwater

Ortho-Phosphorus	Nitrate-N	Ammonia-N	Reduction (%) from Existing Loadings
0.113	0.874	0.007	60% phosphorus; 38% Nitrate-N; 99% ammonia-N

Load Allocations (LA) (lbs/day) for a) runoff without groundwater; b) runoff with groundwater

Condition	Ortho-Phosphorus	Nitrate-N	Ammonia-N	Average Reduction (%) from Existing Loadings
a) runoff w/o groundwater	0.026	0.104	0.052	No change
b) runoff with groundwater	0.026	0.104	0.052	No change

TMDLs

A TMDL is the total amount of a pollutant that can be assimilated by the receiving water while still achieving water quality standards. TMDLs can be expressed in terms of mass per time or by other appropriate measures. TMDLs are comprised of the sum of individual wasteload allocations (WLAs) for point sources, and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL contains an explicit margin of safety (MOS) to account for differences between modeled and monitored data. Conceptually, this definition is denoted by the equation:

$$TMDL = \Sigma WLA + \Sigma LA + MOS$$

The TMDLs for Lakeside Lake identify the total amount of pollutant that can be assimilated by the receiving system while still achieving water quality standards. These TMDLs are for ortho-phosphorus, nitrate-N, and ammonia-N. (PBS&J, 2005).

Lakeside Lake TMDLs

	Reclaimed water (with alum treatment to achieve total phosphorus of 0.4 mg/L + runoff (no groundwater))		
	Ortho-phosphorus (lbs/day)	Nitrate-N (lbs/day)	Ammonia-N (lbs/day)
LA	0.026	0.104	0.052
WLA	0.113	1.409	0.564
MOS	0.058	0.410	0.178
TMDL	0.197	1.922	0.794

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	Reclaimed water (with alum treatment to achieve total phosphorus of 0.4 mg/L + runoff + ground-water)		
	Ortho-phosphorus (lbs/day)	Nitrate-N (lbs/day)	Ammonia-N (lbs/day)
LA	0.026	0.104	0.052
WLA	0.113	0.874	0.007
MOS	0.058	0.309	0.074
TMDL	0.197	1.287	0.133

IMPLEMENTATION

Lake Management

Implementation to restore Lakeside Lake to optimal health and standards attainment will be multi-faceted. In 2001, the city of Tucson contracted the development of a Lake Management Manual for several urban lakes in Tucson, including Lakeside Lake. This Manual sets out the conditions of the lake and several alternatives for physical, chemical and biological management alternatives. The city has implemented some of the prescribed measures, in particular, chemical treatment as necessary to control excess algal growth and installation of a new and improved aeration system.

AZPDES Permit

TMDL implementation will apply additional lake improvement measures directed at phosphorus load reduction. ADEQ, with contractor assistance, has determined through modeling that Lakeside Lake productivity can be controlled in a cost-effective manner through the use of alum (aluminum sulfate), a flocculent that binds available phosphate and makes it unavailable for algae growth. Alum will be dosed directly into the reclaimed line prior to reaching the lake. Testing must be done to determine the optimum dose rate and contact time to achieve the target of 0.4 mg/L total phosphorus at the end of pipe. This and other related provisions will become part of the AZPDES permit. Additionally, the city will investigate and implement an alum dosing system in the lake, possibly coupled to the two large aerators. In-lake alum application will provide an extra margin of safety in meeting water quality targets through the ability to respond quickly to storm inputs. The in-lake dosing will also require bench testing. The third component of this TMDL will be development and implementation of a thorough monitoring plan for the reclaimed water, the lake, and wash inputs. ADEQ will work with the city of Tucson to ensure that monitoring is sufficient to track TMDL success and is consistent with permitting requirements. The AZPDES permit is scheduled to be issued in the summer of 2005.

PUBLIC PARTICIPATION

Stakeholder and public participation was encouraged and received throughout the development of this TMDL. Numerous meetings have been held during this process. Involved parties include EPA, ADEQ, the Arizona Game and Fish Department, City of Tucson Water Department, City of Tucson Environmental Management Division, City of Tucson Parks and Recreation Department, City of Tucson Transportation (Stormwater) Department, Pima County Association of Governments, Pima County DEQ, Pima County Wastewater Department, the University of Arizona Environmental Research Lab, Aquatic Consulting and Testing, Inc., representatives from contractors involved with all levels of the projects, and a few concerned citizens. The draft TMDL report was made available for a 30-day public comment period starting February 15, 2005. Public notice of the availability of the draft document was made via a posting in a newspaper of general circulation *The Arizona Daily Star*; via e-mail notifications; via phone calls; and via web page postings. Two copies of the draft Lakeside Lake TMDL were made available at public libraries close to Lakeside Lake. The draft Lakeside Lake TMDL was presented in a public meeting in Tucson, AZ, on February 17, 2005. No written or oral comments were received during the 30-day public notice period. This draft will now be submitted to the *Arizona Administrative Register* and a 45-day public review period will follow the notice. After completion of the 45-day review period, this report will be submitted to the EPA for final approval.

4. Name and address of agency personnel with whom persons may communicate:

Name: Susan T. Fitch, Lakes Program Coordinator
 Address: Arizona Department of Environmental Quality
 1110 W. Washington St.
 Phoenix, AZ 85007
 Telephone: (602) 771-4541 (in Arizona: 1-800-234-5677; ask for seven-digit extension)
 E-mail: fitch.susan@azdeq.gov

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Fax: (602) 207-4528

Copies of the revised draft TMDL may be obtained from the Department by contacting the numbers above. The draft TMDL may also be downloaded from the Department's web site at: <http://www.azdeq.gov/enviro/water/assessment/status.html>

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.

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BOARD OF DISPENSING OPTICIANS

[M05-102]

- 1. **Name of Agency:** Board of Dispensing Opticians
- 2. **Title and its heading:** 4, Professions and Occupations
- Chapter and its heading:** 20, Board of Dispensing Opticians
- Article and its heading:** 1, In General
- Section numbers:** R-4-20-112

3. The public information relating to the listed Sections:

In the Notice of Proposed Rulemaking published in 11 A.A.R. 976, March 4, 2005, item #10 of the preamble inadvertently stated that the end of comment period was March 30, 2005. Since this date did not allow 30 days for comment, the agency is publishing this notice of information to re-open the record for comment, and the close of record will be June 3, 2005.

4. The name and address of agency personnel to whom questions and comments on the rules may be addressed:

Name: Lori D. Scott, Executive Director
Address: 1400 W. Washington, Rm 230
Phoenix, AZ 85007
Telephone: (602) 542-3095
Fax: (602) 542-3093
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