

## 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 HEALTH SERVICES

- 1. Title and its heading:** 9, Health Services  
**Chapter and its heading:** 19, Department of Health Services - Vital Records and Statistics  
**Article and its heading:** 4, Access to Records; Copies; Fees  
**Section numbers:** R9-19-412
- 2. The public information relating to the listed Section:**  
This Notice of Public Information provides notice of an oral proceeding being held to obtain public comment about an increase in fees for certificates issued by the Office of Vital Records that will be promulgated in rule under exempt rule-making procedures by the Department of Health Services pursuant to Laws 2002, Chapter 160 (SB1145).
- 3. The name, address, and telephone number of agency personnel to whom questions and comments on the rules may be addressed:**  
Name: Julie Frasco, Assistant State Registrar  
Address: Department of Health Services  
2727 W. Glendale  
Phoenix, AZ 85051  
Telephone: (602) 364-1227  
Fax: (602) 364-1257  
or  
Name: Kathleen Phillips, Rules Administrator  
Address: Arizona Department of Health Services  
1740 W. Adams, Room 102  
Phoenix, AZ 85007  
Telephone: (602) 542-1264  
Fax: (602) 364-1150
- 4. The time during which the agency will accept written comments and the time and place where oral comments may be made:**  
The date, time, and place of the public hearing are as follows:  
Date: July 22, 2002  
Time: 10:00 a.m.  
Address: Arizona Department of Health Services  
1740 W. Adams, Room 412  
Phoenix, AZ 85007

Persons interested in submitting written formal comments should submit them to one of the persons listed in item #3 by 5:00 p.m. on July 24, 2002.

**Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting one of the persons listed in item #3. Requests should be made as early as possible to allow time to arrange the accommodation.**

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. Sections:** 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”) 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 the Middle Gila 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 “Draft TMDLs for Cadmium, Copper and Zinc in the Hassayampa River” in the *Prescott Daily Courier*, a newspaper of general circulation in the affected area, on April 29, 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. 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 TMDLs 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?

**Develop a 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 meeting(s) 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 Record* is required per Arizona Revised Statute, Title 49, Chapter 2, Article 2.1 prior to submission of the TMDLs 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 Loads for the Hassayampa River**

**Executive Summary**

The Hassayampa River from its headwaters to its confluence with Blind Indian Creek (HUC# 15070103-007) is listed as "water quality limited" by the state of Arizona according to the provisions of the Clean Water Act Section 303(d). The Department listed the reach for non-attainment of Aquatic and Wildlife warm water designated use standards for cadmium, copper, and zinc.

To verify and quantify the pollutant loads, the ADEQ TMDL Program conducted a watershed wide sampling effort. The results demarcated a two mile stretch of metals impairment in the upper reaches of the watershed. Several significant sources were identified within this stretch: the Wetlands tailings pile, the Maple Gulch drainage including the McClellan tailings piles, and the Senator Gold Mine adit and tailings pile. Currently, there are no permitted point source discharges in the watershed. Exceedences of applicable standards were not observed downstream of the impaired stretch.

The TMDLs have been calculated based on real loads at low flow and spring runoff critical conditions. Cadmium, copper, and zinc loads were calculated for each of the sources in a spreadsheet containing formulas for target, background, and measured loads, wasteload and load allocations, and the necessary load reductions. An explicit margin of safety (MOS) of 10% was applied to the TMDLs to account for potential laboratory and analysis error. An additional implicit MOS was incorporated into the modeling using conservative considerations including: use of the more restrictive water quality standards for cadmium and copper based on proposed changes in designated uses predicated on elevation of the affected reach, and calculation of the TMDLs using chronic exposure criteria, while portions of the reach are actually intermittent rather than perennial.

These TMDLs are being developed under a phased approach. This document presents the first phase of an overall effort to bring the Hassayampa River into compliance. This phase was designed to verify the water quality concerns, to identify sources of pollution, to determine the water quality goals in the affected subwatershed, and to recommend actions to reduce pollutant loading. The second phase is intended to collect additional data, to refine loading as necessary, and to expand on the implementation plan.

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**Hassayampa River Watershed Overview**

Waterbody: Hassayampa River (headwaters to confluence with Blind Indian Creek)  
 Waterbody ID: HUC#15070103-007  
 Basin: Middle Gila  
 Drainage: 220 square miles above Blind Indian Creek  
 Reach Length: 31 miles (total length of Hassayampa River is 112 miles)  
 Elevation: Headwaters at 7,400 ft. msl; confluence with Blind Indian Creek at 3,350 ft. msl  
 Designated Uses: Aquatic & Wildlife warm water (A&Ww), Fish Consumption (FC), Full Body Contact (FBC), Agricultural Livestock Watering (AgL), Agricultural Irrigation (AgI)  
 Communities: Prescott, Potato Patch, Walnut Grove, Wagoner  
 County: Yavapai  
 Land Ownership: U.S. Forest Service (USFS), BLM, state, and Private  
 Land Use: Recreation, timber harvesting, grazing, mining, wildlife  
 Potential Sources: Abandoned mine tailings piles and adit discharge  
 Principal Geology: Proterozoic metavolcanic and metasedimentary rocks, Tertiary to Quaternary sandstone and conglomerate, and basin fill

**Applicable Standards**

	FC Standard (µg/L)	FBC Standard (µg/L)	AgL Standard (µg/L)	AgI Standard (µg/L)	A&Ww chronic exposure Standard (µg/L)
Cadmium	41 T	70 T	50 T	50 T	$e^{(0.7852[\ln(\text{Hardness})]-3.490)}$ D
Copper	NNS	5,200 D	500 T	5,000 T	$e^{(0.8545[\ln(\text{Hardness})]-1.465)}$ D
Zinc	22,000 T	42,000 T	25,000 T	10,000 T	$e^{(0.8473[\ln(\text{Hardness})]+0.761)}$ D

µg/L = micrograms per liter      T = total recoverable  
 NNS = no numeric standard      D = dissolved

**Hassayampa River TMDL Calculations and Values**

Wetlands Tailings Pile Load Calculations

Q (cfs)	Hardness (mg/L)	Dissolved Metal	Natural Background		Downstream of Wetlands		Measured Load (kg/day)
			Conc. (µg/L)	Load (kg/day)	Conc. (µg/L)	Load (kg/day)	
0.15	108	Cadmium	2.5	0.001	3	0.001	0
0.15	108	Copper	7.5	0.003	35	0.013	0.010
0.15	108	Zinc	20	0.007	130	0.046	0.039
3.97	28	Cadmium	2.5	0.024	2.5	0.024	0
3.97	28	Copper	7.5	0.073	38	0.369	0.296
3.97	28	Zinc	20	0.194	40	0.388	0.194

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Senator Gold Mine Tailings Pile Load Calculations

Q (cfs)	Hardness (mg/L)	Dissolved Metal	Upstream of Senator		Downstream of Senator		Measured Load (kg/day)
			Conc. (µg/L)	Load (kg/day)	Conc. (µg/L)	Load (kg/day)	
0.11	251	Cadmium	5	0.001	19	0.005	0.004
0.11	251	Copper	227	0.062	52	0.014	0
0.11	251	Zinc	329	0.090	1892	0.518	0.428
5.4	60	Cadmium	2.5	0.033	8	0.106	0.073
5.4	60	Copper	296	3.908	315	4.159	0.251
5.4	60	Zinc	450	5.941	720	9.509	3.565

Maple Gulch Drainage Wasteload Calculations

Q (cfs)	Hardness (mg/L)	Dissolved Metal	Concentration (µg/L)	Measured Load (kg/day)
0.238	219	Cadmium	25.2	0.015
0.238	219	Copper	2122.9	1.235
0.238	219	Zinc	1962	1.142

Senator Gold Mine Adit Wasteload Calculations

Q (cfs)	Hardness (mg/L)	Dissolved Metal	Concentration (µg/L)	Measured Load (kg/day)
0.063	400	Cadmium	51.7	0.008
0.063	400	Copper	13.1	0.002
0.063	400	Zinc	5097	0.785

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**TMDL and Load Allocations based on Current Standards**

Wetlands Tailings Pile

Q (cfs)	Dissolved Metal	A&Ww Standard (µg/L)	TMDL (kg/day)	Allocation (kg/day)	Measured Load (kg/day)	Load Reduction (kg/day)
0.15	Cadmium	1.2	0	0	0	0
0.15	Copper	12.6	0.004	0.004	0.010	0.006
0.15	Zinc	113.1	0.040	0.036	0.040	0.004
3.97	Cadmium	0.4	0.004	0.004	0	0
3.97	Copper	4.0	0.039	0.035	0.296	0.261
3.97	Zinc	36.0	0.350	0.315	0.194	0

Senator Gold Mine Tailings Pile

Q (cfs)	Dissolved Metal	A&Ww Standard (µg/L)	TMDL (kg/day)	Allocation (kg/day)	Measured Load (kg/day)	Load Reduction (kg/day)
0.11	Cadmium	2.3	0.001	0.001	0.004	0.003
0.11	Copper	26.0	0.007	0.006	0	0
0.11	Zinc	231.1	0.063	0.057	0.420	0.363
5.4	Cadmium	0.8	0.010	0.009	0.073	0.064
5.4	Copper	7.6	0.101	0.091	0.251	0.160
5.4	Zinc	68.7	0.907	0.817	3.565	2.748

Maple Gulch Drainage

Q (cfs)	Dissolved Metal	A&Ww Standard (µg/L)	TMDL (kg/day)	Allocation (kg/day)	Measured Load (kg/day)	Load Reduction (kg/day)
0.238	Cadmium	2.1	0.001	0.001	0.015	0.014
0.238	Copper	23.1	0.013	0.012	1.235	1.223
0.238	Zinc	206.2	0.120	0.108	1.142	1.034

Senator Gold Mine Adit

Q (cfs)	Dissolved Metal	A&Ww Standard (µg/L)	TMDL (kg/day)	Allocation (kg/day)	Measured Load (kg/day)	Load Reduction (kg/day)
0.063	Cadmium	3.4	0.001	0	0.008	0.007

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0.063	Copper	38.7	0.006	0.005	0.002	0
0.063	Zinc	342.9	0.053	0.048	0.785	0.738

**TMDL and Load Allocations based on Proposed Standards**

Wetlands Tailings Pile

Q (cfs)	Dissolved Metal	A&Wc Standard (µg/L)	TMDL (kg/day)	Allocation (kg/day)	Measured Load (kg/day)	Load Reduction (kg/day)
0.15	Cadmium	2.4	0.001	0.001	0	0
0.15	Copper	9.6	0.003	0.003	0.010	0.007
0.15	Zinc	126.1	0.045	0.042	0.039	0
3.97	Cadmium	0.9	0.008	0.007	0	0
3.97	Copper	3.0	0.029	0.026	0.296	0.270
3.97	Zinc	40.2	0.390	0.351	0.194	0

Senator Gold Mine Tailings Pile

Q (cfs)	Dissolved Metal	A&Wc Standard (µg/L)	TMDL (kg/day)	Allocation (kg/day)	Measured Load (kg/day)	Load Reduction (kg/day)
0.11	Cadmium	4.4	0.001	0.001	0.004	0.003
0.11	Copper	19.7	0.005	0.005	0	0
0.11	Zinc	257.7	0.071	0.064	0.428	0.364
5.4	Cadmium	1.5	0.020	0.018	0.073	0.055
5.4	Copper	5.8	0.076	0.068	0.251	0.183
5.4	Zinc	76.6	1.012	0.911	3.565	2.654

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Maple Gulch Drainage

Q (cfs)	Dissolved Metal	A&Wc Standard (µg/L)	TMDL (kg/day)	Allocation (kg/day)	Measured Load (kg/day)	Load Reduction (kg/day)
0.238	Cadmium	4.0	0.002	0.002	0.015	0.013
0.238	Copper	17.5	0.010	0.009	1.235	1.226
0.238	Zinc	229.5	0.134	0.120	1.142	1.022

Senator Gold Mine Adit

Q (cfs)	Dissolved Metal	A&Wc Standard (µg/L)	TMDL (kg/day)	Allocation (kg/day)	Measured Load (kg/day)	Load Reduction (kg/day)
0.063	Cadmium	6.2	0.001	0.001	0.008	0.007
0.063	Copper	29.3	0.005	0.004	0.002	0
0.063	Zinc	382.4	0.059	0.053	0.785	0.732

**TMDL Implementation**

Removing and/or capping the Wetland, McCleure, and Senator Mine tailings piles, remediating the Senator Mine adit drainage and/or closing the Senator Mine adit should reduce dissolved cadmium, copper, and zinc loads such that the Has-sayampa River will comply with surface water quality standards. These suggested strategies are general and should not to be construed as requirements; site specific studies must be undertaken before selection, design, and implementation can be accomplished.

**Public Participation Component**

Public participation was encouraged and received throughout the development of these TMDLs. USFS personnel from Prescott National Forest, Bradshaw Ranger District accompanied ADEQ on three sampling trips, and the U.S. EPA accompanied ADEQ personnel on one sampling trip. The draft TMDLs were made available for a public comment period lasting 30 days starting April 29, 2002. Public notice of the availability of the draft document was posted in a newspaper of general circulation, the *Prescott Daily Courier*; by e-mail notifications; phone calls; and the ADEQ web site (<http://www.adeq.state.az.us>). The draft TMDLs were available for review at the ADEQ library and the Prescott Public Library. Additionally, ADEQ mailed copies of the draft TMDLs to staff at the USFS, U.S. EPA, Arizona Department of Game and Fish, and other interested stakeholders. A public meeting was held on May 15, 2002 at the Prescott Public Library in Prescott, AZ with ADEQ staff present. The Department received no comments pursuant to the public meeting. This publication in the Arizona Administrative Record as required per Arizona Revised Statutes, Title 49, Chapter 2, Article 2.1.

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

Name: Sara Konrad  
 Address: Arizona Department of Environmental Quality  
 3033 N. Central Avenue (M0301D)  
 Phoenix, AZ 85012-2809  
 Telephone: (602) 207-4539 (in Arizona: (800) 234-5677; ask for four-digit extension)  
 Fax: (602) 207-4528  
 E-mail: [sk2@ev.state.az.us](mailto:sk2@ev.state.az.us)

Copies of the draft TMDLs may be obtained from the Department by contacting the numbers above. The draft TMDLs may also be downloaded from the Department's web site 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:**

This notice is for a period of 45 days commencing on the date of publication in the *Administrative Register*. There are no oral proceedings scheduled for this TMDL pursuant to this notice; a public meeting was held during the original 30-day notice in the area of concern.