

# Arizona Administrative REGISTER

*Published by the Department of State ~ Office of the Secretary of State*

Vol. 22, Issue 8

~ Administrative Register Contents ~

February 19, 2016

**Information** ..... 252

**Rulemaking Guide** ..... 253

**RULES AND RULEMAKING**

**Proposed Rulemaking, Notices of**

        18 A.A.C. 11 Department of Environmental Quality - Water Quality Standards. .... 255

**Final Rulemaking, Notices of**

        4 A.A.C. 21 Board of Optometry. .... 328

**Termination, Notices of Rule**

        18 A.A.C. 11 Department of Environmental Quality - Water Quality Standards. .... 343

**OTHER AGENCY NOTICES**

**Docket Opening, Notices of Rulemaking**

        3 A.A.C. 2 Department of Agriculture - Animal Services Division ..... 344

        18 A.A.C. 11 Department of Environmental Quality - Water Quality Standards. .... 345

**Public Information, Notices of**

        Department of Health Services - Loan Repayment Services. .... 346

**Substantive Policy Statement, Notices of Agency**

        Board of Technical Registration ..... 348

        Peace Officers Standards and Training Board. .... 348

        Water Infrastructure Finance Authority. .... 349

        Water Infrastructure Finance Authority. .... 350

        Water Infrastructure Finance Authority. .... 351

**Ombudsman, Notices of Agency**

        Department of Health Services ..... 353

        Early Childhood Development and Health Board/First Things First. .... 353

**INDEXES**

    Register Index Ledger ..... 354

    Rulemaking Activity, Cumulative Index for 2016 ..... 355

    Other Notices and Public Records, Cumulative Index for 2016 ..... 355

**CALENDAR/DEADLINES**

    Rules Effective Dates Calendar ..... 357

    Register Publishing Deadlines ..... 359

**GOVERNOR'S REGULATORY REVIEW COUNCIL**

    Governor's Regulatory Review Council Deadlines. .... 360

---

**DIRECTOR**  
Public Services Division  
Scott Cancelosi

**PUBLISHER**  
Secretary of State  
**MICHELE REAGAN**

**RULES MANAGING EDITOR**  
Arizona Administrative Register  
Rhonda Paschal

# From the Publisher

## ABOUT THIS PUBLICATION

The paper copy of the *Administrative Register* (A.A.R.) is the official publication for rules and rulemaking activity in the state of Arizona.

Rulemaking is defined in Arizona Revised Statutes known as the Arizona Administrative Procedure Act (APA), A.R.S. Title 41, Chapter 6, Articles 1 through 10.

The Office of the Secretary of State does not interpret or enforce rules published in the *Arizona Administrative Register* or *Code*. Questions should be directed to the state agency responsible for the promulgation of the rule as provided in its published filing.

The *Register* is cited by volume and page number. Volumes are published by calendar year with issues published weekly. Page numbering continues in each weekly issue.

In addition, the *Register* contains the full text of the Governor's Executive Orders and Proclamations of general applicability, summaries of Attorney General opinions, notices of rules terminated by the agency, and the Governor's appointments of state officials and members of state boards and commissions.

## ABOUT RULES

Rules can be: made (all new text); amended (rules on file, changing text); repealed (removing text); or renumbered (moving rules to a different Section number). Rules activity published in the *Register* includes: proposed, final, emergency, expedited, and exempt rules as defined in the APA.

Rulemakings initiated under the APA as effective on and after January 1, 1995, include the full text of the rule in the *Register*. New rules in this publication (whether proposed or made) are denoted with underlining; repealed text is stricken.

## WHERE IS A "CLEAN" COPY OF THE FINAL OR EXEMPT RULE PUBLISHED IN THE REGISTER?

The *Arizona Administrative Code* (A.A.C.) contains the codified text of rules. The A.A.C. contains rules promulgated and filed by state agencies that have been approved by the Attorney General or the Governor's Regulatory Review Council. The *Code* also contains rules exempt from the rulemaking process.

The printed *Code* is the official publication of a rule in the A.A.C. is prima facie evidence of the making, amendment, or repeal of that rule as provided by A.R.S. § 41-1012. Paper copies of rules are available by full Chapter or by subscription. The *Code* is posted online for free.

## LEGAL CITATIONS AND FILING NUMBERS

On the cover: Each agency is assigned a Chapter in the *Arizona Administrative Code* under a specific Title. Titles represent broad subject areas. The Title number is listed first; with the acronym A.A.C., which stands for the *Arizona Administrative Code*; following the Chapter number and Agency name, then program name. For example, the Secretary of State has rules on rulemaking in Title 1, Chapter 1 of the *Arizona Administrative Code*. The citation for this chapter is 1 A.A.C. 1, Secretary of State, Rules and Rulemaking

Every document filed in the office is assigned a file number. This number, enclosed in brackets, is located at the top right of the published documents in the *Register*. The original filed document is available for 10 cents a copy.

# Arizona Administrative REGISTER

Vol. 22

Issue 8

**PUBLISHER**  
SECRETARY OF STATE  
Michele Reagan

**PUBLIC SERVICES STAFF**  
DIRECTOR  
Scott Cancelosi

**RULES MANAGING EDITOR**  
Rhonda Paschal

**SUBSCRIPTIONS**  
**ADMINISTRATIVE REGISTER**  
The printed version of the *Administrative Register* is the official publication of Arizona state agency rules.  
Rates: \$276 yearly  
New subscriptions, renewals and address changes contact us at (602) 364-3223.

This publication is available online for free at [www.azsos.gov](http://www.azsos.gov).

**ADMINISTRATIVE CODE**  
A price list for the *Arizona Administrative Code* is available online. You may also request a paper price list by mail. To purchase a paper Chapter, contact us at (602) 364-3223.

**PUBLICATION DEADLINES**  
Publication dates are published in the back of the *Register*. These dates include file submittal dates with a three-week turnaround from filing to published document.

**CONTACT US**  
The Honorable Michele Reagan  
Office of the Secretary of State  
1700 W. Washington Street, Fl. 7  
Phoenix, AZ 85007  
(602) 364-3223

*The Office of the Secretary of State is an equal opportunity employer.*



# Participate in the Process

## Look for the Agency Notice

Review (inspect) notices published in the *Arizona Administrative Register*. Many agencies maintain stakeholder lists and would be glad to inform you when they proposed changes to rules. Check an agency's website and its newsletters for news about notices and meetings.

Feel like a change should be made to a rule and an agency has not proposed changes? You can petition an agency to make, amend, or repeal a rule. The agency must respond to the petition. (See A.R.S. § 41-1033)

## Attend a public hearing/meeting

Attend a public meeting that is being conducted by the agency on a Notice of Proposed Rulemaking. Public meetings may be listed in the Preamble of a Notice of Proposed Rulemaking or they may be published separately in the *Register*. Be prepared to speak, attend the meeting, and make an oral comment.

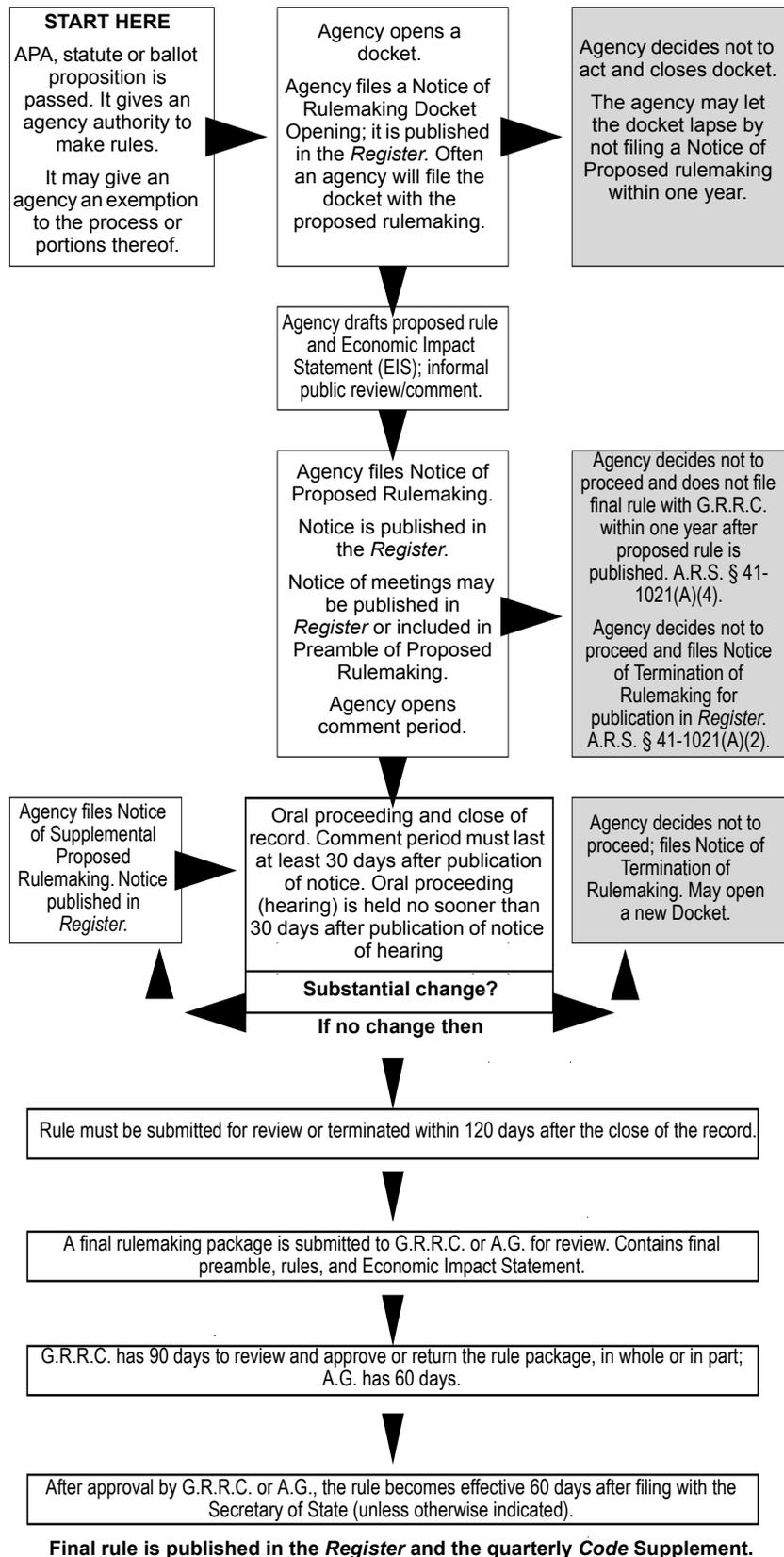
An agency may not have a public meeting scheduled on the Notice of Proposed Rulemaking. If not, you may request that the agency schedule a proceeding. This request must be put in writing within 30 days after the published Notice of Proposed Rulemaking.

## Write the agency

Put your comments in writing to the agency. In order for the agency to consider your comments, the agency must receive them by the close of record. The comment must be received within the 30-day comment timeframe following the *Register* publication of the Notice of Proposed Rulemaking.

You can also submit to the Governor's Regulatory Review Council written comments that are relevant to the Council's power to review a given rule (A.R.S. § 41-1052). The Council reviews the rule at the end of the rulemaking process and before the rules are filed with the Secretary of State.

# Arizona Regular Rulemaking Process



## Definitions

**Arizona Administrative Code (A.A.C.):** Official rules codified and published by the Secretary of State's Office. Available online at [www.azsos.gov](http://www.azsos.gov).

**Arizona Administrative Register (A.A.R.):** The official publication that includes filed documents pertaining to Arizona rulemaking. Available online at [www.azsos.gov](http://www.azsos.gov).

**Administrative Procedure Act (APA):** A.R.S. Title 41, Chapter 6, Articles 1 through 10. Available online at [www.azleg.gov](http://www.azleg.gov).

**Arizona Revised Statutes (A.R.S.):** The statutes are made by the Arizona State Legislature during a legislative session. They are compiled by Legislative Council, with the official publication codified by Thomson West. Citations to statutes include Titles which represent broad subject areas. The Title number is followed by the Section number. For example, A.R.S. § 41-1001 is the definitions Section of Title 41 of the Arizona Administrative Procedures Act. The "§" symbol simply means "section." Available online at [www.azleg.gov](http://www.azleg.gov).

**Chapter:** A division in the codification of the *Code* designating a state agency or, for a large agency, a major program.

**Close of Record:** The close of the public record for a proposed rulemaking is the date an agency chooses as the last date it will accept public comments, either written or oral.

**Code of Federal Regulations (CFR):** The *Code of Federal Regulations* is a codification of the general and permanent rules published in the *Federal Register* by the executive departments and agencies of the federal government.

**Docket:** A public file for each rulemaking containing materials related to the proceedings of that rulemaking. The docket file is established and maintained by an agency from the time it begins to consider making a rule until the rulemaking is finished. The agency provides public notice of the docket by filing a Notice of Rulemaking Docket Opening with the Office for publication in the *Register*.

**Economic, Small Business, and Consumer Impact Statement (EIS):** The EIS identifies the impact of the rule on private and public employment, on small businesses, and on consumers. It includes an analysis of the probable costs and benefits of the rule. An agency includes a brief summary of the EIS in its preamble. The EIS is not published in the *Register* but is available from the agency promulgating the rule. The EIS is also filed with the rulemaking package.

**Governor's Regulatory Review (G.R.R.C.):** Reviews and approves rules to ensure that they are necessary and to avoid unnecessary duplication and adverse impact on the public. G.R.R.C. also assesses whether the rules are clear, concise, understandable, legal, consistent with legislative intent, and whether the benefits of a rule outweigh the cost.

**Incorporated by Reference:** An agency may incorporate by reference standards or other publications. These standards are available from the state agency with references on where to order the standard or review it online.

**Federal Register (FR):** The *Federal Register* is a legal newspaper published every business day by the National Archives and Records Administration (NARA). It contains federal agency regulations; proposed rules and notices; and executive orders, proclamations, and other presidential documents.

**Session Laws or "Laws":** When an agency references a law that has not yet been codified into the Arizona Revised Statutes, use the word "Laws" is followed by the year the law was passed by the Legislature, followed by the Chapter number using the abbreviation "Ch.," and the specific Section number using the Section symbol (§). For example, Laws 1995, Ch. 6, § 2. Session laws are available at [www.azleg.gov](http://www.azleg.gov).

**United States Code (U.S.C.):** The Code is a consolidation and codification by subject matter of the general and permanent laws of the United States. The Code does not include regulations issued by executive branch agencies, decisions of the federal courts, treaties, or laws enacted by state or local governments.

## Acronyms

A.A.C. – *Arizona Administrative Code*

A.A.R. – *Arizona Administrative Register*

APA – *Administrative Procedure Act*

A.R.S. – *Arizona Revised Statutes*

CFR – *Code of Federal Regulations*

EIS – *Economic, Small Business, and Consumer Impact Statement*

FR – *Federal Register*

G.R.R.C. – *Governor's Regulatory Review Council*

U.S.C. – *United States Code*

## About Preambles

The Preamble is the part of a rulemaking package that contains information about the rulemaking and provides agency justification and regulatory intent.

It includes reference to the specific statutes authorizing the agency to make the rule, an explanation of the rule, reasons for proposing the rule, and the preliminary Economic Impact Statement.

The information in the Preamble differs between rulemaking notices used and the stage of the rulemaking.



NOTICES OF PROPOSED RULEMAKING

This section of the Arizona Administrative Register contains Notices of Proposed Rulemakings.

A proposed rulemaking is filed by an agency upon completion and submittal of a Notice of Rulemaking Docket Opening. Often these two documents are filed at the same time and published in the same Register issue.

When an agency files a Notice of Proposed Rulemaking under the Administrative Procedure Act (APA), the notice is published in the Register within three weeks of filing. See the publication schedule in the back of each issue of the Register for more information.

Under the APA, an agency must allow at least 30 days to elapse after the publication of the Notice of Proposed Rulemaking in the Register before beginning any proceedings for making, amending, or repealing any rule. (A.R.S. §§ 41-1013 and 41-1022)

The Office of the Secretary of State is the filing office and publisher of these rules. Questions about the interpretation of the proposed rules should be addressed to the agency the promulgated the rules. Refer to item #4 below to contact the person charged with the rulemaking and item #10 for the close of record and information related to public hearings and oral comments.

NOTICE OF PROPOSED RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 11. DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY STANDARDS

[R16-19]

PREAMBLE

Table with 2 columns: Article, Part of Sections Affected (as applicable) and Rulemaking Action. Lists rule numbers (R18-11-106 to R18-11-121) and their corresponding actions (Amend).

Citations to the agency's statutory rulemaking authority to include the authorizing statute (general) and the implementing statute (specific):

Authorizing statutes: A.R.S. §§ 49-202(A), 49-203(A)(1), 49-221, 49-222

Implementing statute: A.R.S. §§ 49-221, 49-222(C)

Citations to all related notices published in the Register as specified in R1-1-409(A) that pertain to the record of the proposed rule:

Notice of Termination of Rulemaking: 22 A.A.R. 343, February 19, 2016 (in this issue).

Notice of Rulemaking Docket Opening: 22 A.A.R. 345, February 19, 2016 (in this issue).

**4. The agency's contact person who can answer question about the rulemaking:**

Name: Wendy LeStarge  
Address: Department of Environmental Quality  
Water Quality Division  
1110 W. Washington St.  
Phoenix, AZ 85007  
Telephone: (602) 771-4836 (Toll-free number in Arizona: (800) 234-5677)  
Fax: (602) 771-4834  
E-mail: lestarge.wendy@azdeq.gov

**5. An agency's justification and reason why a rule should be made, amended, repealed or renumbered, to include an explanation about the rulemaking:**

Water quality standards are used both as a mechanism to establish goals and as a regulatory requirement for permits when controls for discharges are inadequate. The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and establishing water quality standards for surface waters. Section 303(c) of the CWA requires all states to review, and revise as necessary, surface water quality standards at least once every three years, subject to approval by the U.S. Environmental Protection Agency (EPA). The Arizona Department of Environmental Quality (ADEQ) is the state agency responsible for administering the CWA. ADEQ previously amended these rules in 2009, and now proposes these changes to the surface water quality standards:

**R18-11-106 Net Ecological Benefit**

Under R18-11-106, ADEQ can modify a surface water quality standard when there is a net ecological benefit associated with the discharge of effluent that supports or creates a riparian habitat. Usually the discharger or Arizona Pollutant Discharge Elimination System (AZPDES) permittee requests a modification to its permit because it cannot meet the existing surface water quality standard. ADEQ proposes to eliminate the requirement in subsection (A)(3) that a discharger have a plan to eliminate the discharge under active consideration as part of what must be demonstrated.

**R18-11-109 Numeric Water Quality Standards**

- In subsection (E), ADEQ is rewording how the dissolved oxygen water quality standard is described due to reported confusion from permittees. There is no substantive change in the standard.
- Subsection (F) identifies nutrient standards for certain streams and their perennial tributaries, with the intent to protect downstream lakes from nutrient accumulation. ADEQ proposes to limit the applicability of these standards to discharges that actually impact the surface water. Any tributary of a listed surface water would be included in the nutrient standard if the source discharging to the tributary has the reasonable potential to impact the listed surface water based on consideration of the factors listed.
- ADEQ is clarifying location segments of the Little Colorado River subject to the nutrient standards in subsection (F).
- ADEQ is correcting the pollutant limits for phosphorus and nitrogen for Oak Creek that were reversed in subsection (F).

**R18-11-110 Salinity Standards for the Colorado River**

ADEQ proposes to update the incorporation by reference in R18-11-110(B) to the most current salinity standards and plan of implementation for the Colorado River. The Colorado River Basin Salinity Control Forum approved its last triennial review of salinity standards and plan of implementation in 2014, but there are no changes affecting Arizona.

**R18-11-112. Outstanding Arizona Waters**

ADEQ proposes to eliminate the latitude/longitude coordinates since the Outstanding Arizona Water location is listed in Appendix B.

**R18-11-115 Site-Specific Standards**



R18-11-115 allows ADEQ to consider the effect of local water quality characteristics on the toxicity of specific pollutants and the varying sensitivities of local, affected aquatic populations to pollutants to set a site-specific numeric water quality standard. ADEQ is adding more flexibility to the process that allows an outside party to submit a scientifically defensible study to support development of the site-specific standard.

- ADEQ is proposing to add “natural adaptive process” as one of the reasons to adopt a site-specific standard in subsection (B).
- In subsection (C), ADEQ proposes to delete the requirement that limits a study to only EPA methods that have been incorporated by reference. Instead, a person can propose a site-specific standard by first submitting a study outline to the Director for approval. The person can choose to submit an abbreviated study outline that uses the most recent EPA-recognized procedures, or submit a more rigorously documented study outline using any scientifically defensible procedure.

R18-11-121 Schedules of Compliance

When a new or revised surface water quality standard is promulgated, some dischargers need time to modify equipment or practices in order to achieve that standard. When developing an AZPDES permit, ADEQ establishes time to comply with the steps in a compliance schedule. ADEQ proposes to delete the set time of three years and create a more flexible standard that allows ADEQ to look at certain factors in determining the time needed in the compliance schedule. The five factors listed are based on EPA’s guidance in interpreting whether a compliance schedule is appropriate under 40 C.F.R. § 122.47(a). ADEQ is deleting subsections B through D as redundant; the flexible standard applies to all necessary situations.

Appendix A Numeric Water Quality Standards

Surface water quality standards consist of designating beneficial uses to a body of water, assigning criteria for allowable concentrations of pollutants, and establishing provisions or policies to protect the designated uses. In the 2009 rulemaking, ADEQ proposed new or revised numeric criteria for dozens of pollutants in Table 1. However, EPA did not approve revised criteria for twenty-one of the pollutants. As a result, the revised, state-approved criteria for these pollutants cannot be used in AZPDES permits and ADEQ must use the numeric criteria that EPA last approved in 2003.

- In order to state clearly what standards are being used in permits and for compliance, ADEQ proposes to repeal the current standards for these twenty-one pollutants and revert to the prior (2003) EPA-approved criteria (see table below).

| Parameter            | Affected Designated Use   |
|----------------------|---|
| Benzene              | Fish consumption  |
| Beryllium            | Acute and chronic for Aquatic and wildlife (cold water) (A&Wc), Aquatic and wildlife (warm water) (A&Ww), Aquatic and wildlife (effluent-dependent water) (A&Wedw), and acute Aquatic and wildlife (ephemeral) (A&We) |
| Bromodichloromethane | Full body contact   |
| Cadmium              | Acute and chronic for A&Ww and A&Wedw, and A&We   |
| Carbon tetrachloride | Partial Body contact  |
| Chloroform           | Fish consumption and full body contact  |

|                                       |  |
|---------------------------------------|--|
| Chromium (Total)                      | Full and partial body contact  |
| Dibromochloromethane                  | Full body contact  |
| 1,2-Dibromo-3-chloropropane           | Full and partial body contact  |
| Di (2-ethylhexyl) phthalate           | Full body contact  |
| Hexachlorocyclohexane gamma (lindane) | Chronic A&Wc, A&Ww, and A&Wedw   |
| Hexachlorocyclopentadiene             | Fish consumption, full body and partial body contact                     |
| Indeno (1,2,3-cd) pyrene              | Fish consumption   |
| Nickel                                | Domestic water source and fish consumption                               |
| Paraquat                              | Returning to no standard for Acute and chronic for A&Wc, A&Ww and A&Wedw |
| Pentachlorophenol                     | Fish consumption   |
| Permethrin                            | Returning to no standard for Acute and chronic for A&Wc, A&Ww and A&Wedw |
| Sulfides                              | Acute A&We   |
| 1,1,2,2-Tetrachloroethane             | Partial body contact   |
| Thallium                              | Fish consumption   |
| Toluene                               | Fish consumption, full body and partial body contact                     |

- Also in Table 1, two radionuclides, strontium and tritium, were part of the surface water quality standards in the past, but were inadvertently deleted in the 2009 rulemaking. ADEQ proposes to list these pollutants in Appendix A, Table 1, and include a footnote explaining the measurement for all radionuclides.
- Tables 22 – 26 for ammonia and pentachlorophenol are correct but are overly precise in having values to the fourth place of significant figures. ADEQ proposes to round numeric values only to the first significant figure to the right of the decimal point. The tables will be renumbered as 10 – 12.
- Tables 2 – 21 for hardness-based metals (cadmium, chromium III, dissolved copper, dissolved lead, dissolved nickel, silver, and zinc) are correct but are overly precise. ADEQ is amending the tables, using the calculation formula for each designated use, but listing only three hardness values as examples: 20 mg/L (low), 100 mg/L (median), and 400 mg/L (high). The tables will be renumbered, 2 – 9.



Appendix B Surface Waters and Designated Uses

Appendix B lists surface waters in Arizona, their locations, and their designated uses. ADEQ proposes the following types of corrections throughout Appendix B:

- Change latitude/longitude coordinates from the North American Datum (NAD) of 27 to NAD 83, which conforms to the coordinate system ADEQ uses on its internet GIS mapping system;
- Remove decimals from seconds portion of latitude and longitude as it is overly precise and not used consistently;
- Name changes to conform to the U.S. Geological Survey naming conventions;
- Consistent segment description and locations as beginning at Point A and ending at Point B, so that:
  - A surface water begins at its headwaters and ends at some point.
  - If a surface water ends when it meets another surface water, it ends at the confluence with that water.
  - Remove latitude/longitude when stream reach ends at a named stream or lake as it is redundant to have both the name and latitude/longitude.
- Verify reference locations, such as road names or other surface waters;
- Eliminate unnamed washes designated as EDW if the discharging facility no longer exists. By default, the wash would be regulated under R18-11-105 (Tributaries; Designated Uses).
- Adjust EDW reach origin latitude/longitude to where effluent actually enters stream channel, creating the EDW, rather than using the locational information of the facility or outfall;
- Eliminate “urban lake” in the segment description because it is redundant with “Urban” as listed in the “Lake Category” column;

ADEQ also made specific changes to the following surface waters:

| Watershed | Surface Water              | Change   |
|-----------|----------------------------|--|
| BW        | Boulder Creek              | ADEQ proposes to delete the agricultural irrigation designated use for Boulder Creek because there is no crop irrigation in the watershed.   |
| BW        | Carter Tank                | Correction from Verde River to Bill Williams watershed   |
| BW        | Coors Lake                 | ADEQ is proposing to remove Coors Lake from Appendix B, Surface Waters and Designated Uses. Coors Lake is a 35 acre impoundment of Butte Creek completed in 1982. Subsequent unmineralized overburden deposits have isolated the lake from Butte Creek. Coors Lake is maintained partially by precipitation runoff and by active groundwater pumping, which is required to keep Coors Lake as a viable lake. There is no outflow from the lake to any tributary. Coors Lake has been listed as an impaired water due to mercury. |
| BW        | Red Lake                   | Correction from Verde River to Bill Williams watershed   |
| CG        | Redondo Lake               | Correction from Colorado – Grand Canyon to Colorado –Lower Gila watershed  |
| LC        | Bow and Arrow Wash         | Permitted outfall from Estate at Pine Canyon no longer exists so deleted as EDW; as a named wash, the designated use is changed to ephemeral   |
| LC        | Estate at Pine Canyon lake | A new listing that receives reclaimed water from the City of Flagstaff and then is discharged to three storage impoundments created in the drainage tributary to the Rio de Flag   |
| LC        | Huffer Tank                | Correction from Little Colorado to Verde River watershed   |
| LC        | Pool Corral Lake           | Correction from Little Colorado to Salt River watershed  |
| LC        | Salt House Lake            | Correction from Little Colorado to Salt River watershed  |

|    |                               |   |
|----|-------------------------------|---|
| LC | Unnamed wash                  | Permitted outfall from Estate at Pine Canyon no longer exists so deleted as EDW   |
| LC | Unnamed wash                  | Permitted outfall from Estate at Pine Canyon no longer exists so deleted as EDW   |
| MG | Andorra Wash                  | Permitted outfall from Town of Cave Creek no longer exists so deleted as EDW; as a named wash, the designated use is changed to ephemeral   |
| MG | East Maricopa Floodway        | A new listing recognizing that the East Maricopa Floodway (EMF) is a flood control channel with the primary function of regional stormwater flows. It receives water from numerous ephemeral drainages and redirects the flows south to the Gila River. Drainages that connect two or more surface water bodies are surface waters. The Army Corps of Engineers issued a Section 404 permit for maintenance activities in the EMF in February of 2003. In addition, two wastewater treatment plants discharge to the EMF and have AZPDES permits. |
| MG | Hank Raymond Lake             | Name correction to more prevalent “Lower Lake Pleasant”   |
| MG | The Lake Tank                 | Correction from Santa Cruz to Middle Gila watershed   |
| MG | Mineral Creek                 | Segmenting Mineral Creek into three reaches to account for proposed changes in designated uses applied to the diversion channel and tunnel that convey flow around mining operations. The hydrologic modifications within the diversion channel and tunnel prevent the attainment of the current designated uses. The natural stream channel exists above and below mine operations.  |
| MG | Unnamed wash                  | Permitted outfall from City of Phoenix Cave Creek WRF no longer exists so deleted as EDW  |
| MG | Unnamed wash                  | A new listing for the new outfall from Town of Cave Creek WRF discharges to an unnamed wash   |
| MG | Unnamed wash                  | Permitted outfall from Queen Valley Sanitary District WWTP no longer exists so deleted as EDW   |
| SC | Greene Wash                   | Adding a second segment in order to delineate tribal boundaries   |
| SC | Paradise Lake                 | ADEQ is proposing to remove Paradise Lake from Appendix B, Surface Waters and Designated Uses. Paradise Lake was constructed around 1960. It is privately-owned and has no significant nexus with any surface waters. The homeowners association no longer has the water rights it had to keep the lake filled. To prevent the lake from drying up, the homeowners association wants to use treated effluent from the Arizona City Sanitary District.   |
| SC | Santa Cruz River, West Branch | Clarifying the surface water’s name, by deleting Santa Cruz Wash, West Branch and adding Santa Cruz River, West Branch  |
| SC | Sycamore Canyon               | Clarifying that part of the surface water is above 5,000 feet in elevation  |
| SC | Unnamed wash                  | Deleting because an ephemeral wash is covered under R18-11-105 and the wash is unnamed.   |
| SP | Mule Gulch                    | ADEQ proposes to change the aquatic and wildlife designated use of Mule Gulch from an effluent dependent water to an ephemeral. The Mule Gulch  |



|    |                     |   |
|----|---------------------|---|
|    |                     | wastewater treatment plant was decommissioned in early 2006 and has not discharged into Mule Gulch since the first quarter of 2006, making the designated use of effluent dependent water no longer accurate nor necessary. |
| SP | Rucker Canyon Creek | Incorrectly listed in lake category   |
| SP | Soldier Creek       | Permitted outfall from Fort Huachuca WWTP no longer exists so deleted as EDW  |
| SR | Unnamed wash        | Permitted outfall from Cobre Valley Plaza WWTP no longer exists so deleted as EDW   |
| UG | Bennett Wash        | Permitted outfall from ADOC Safford WWTP no longer exists so deleted as EDW; as a named wash, the designated use is changed to ephemeral  |
| UG | Cluff Ranch Pond #2 | Name and location corrections by deleting Cluff Ranch Pond #2 and adding Evans Pond #2  |
| UG | Unnamed Wash        | Permitted outfall from ADOC Globe WWTP no longer exists so deleted as EDW   |
| VR | Del Monte Wash      | Adding two segments to reflect an ephemeral wash and an EDW wash that receives treated effluent from the City of Cottonwood wastewater treatment plant  |
| VR | Green Valley Lake   | A new listing created within American Gulch, a water of the U.S., which receives treated effluent from the Northern Gila County Sanitary District, American Gulch Water Reclamation Facility.                               |

Appendix C Site-Specific Standards

ADEQ proposes to establish three site-specific standards for dissolved copper for the Aquatic and Wildlife designated use:

- For a segment of Pinto Creek in the Salt River Watershed near Globe-Miami, the proposed standard would be 34 µg/L;
- For a segment of Bright Angel Wash, which receives treated effluent from the Grand Canyon National Park South Rim Wastewater Treatment Plant, the proposed standard would be 42.5 µg/L;
- For a segment of Transept Canyon, which receives treated effluent from the Grand Canyon National Park North Rim Wastewater Treatment Plant, the proposed standard would be 42.5 µg/L.

Surface water quality standards are implemented through and affect various surface water programs, such as the AZPDES permitting program. Under § 402 of the Clean Water Act, an entity seeking to discharge pollutants to a surface water as a point source must have an AZPDES permit, and its discharge must meet limits established in the permit to meet applicable surface water quality standards. Water quality standards also are implemented through a biennial assessment of a State’s surface waters. When a water body does not meet one or more of the applicable surface water quality standards, it is considered impaired under § 303(d) of the CWA. The consequence of an impaired water is that it may require a State to establish stricter water quality-based limitations, thereby impacting any source seeking to discharge to the impaired water. Section 303(d) requires that states list impaired waters in a biennial report evaluating and describing the status of water quality, which must be approved by EPA.

State and federal law authorize the adoption of site-specific standards that reflect local environmental conditions. The federal water quality standards at 40 CFR 131.11(b)(1)(ii) provides ADEQ with the authority to adopt water quality criteria that are “modified to reflect site-specific conditions.” Similarly, A.R.S. § 49-221(C)(6) directs ADEQ to consider “[a]ny unique physical, biological, or chemical properties of the waters” when establishing surface water quality

standards. Under A.R.S. § 49-222(C), ADEQ may consider the effect of local water quality characteristics on the toxicity of specific pollutants and the varying sensitivities of local, affected aquatic populations to pollutants when setting numeric water quality standards. ADEQ has specific authority for site-specific standards under R18-11-115, which identifies acceptable methods for developing a site-specific standard. Site-specific standards, like all surface water quality standards, must be based on a sound scientific rationale to protect the aquatic and wildlife designated use.

#### Background on Pinto Creek

Pinto Creek has not met the surface water quality standard for copper and has been listed as impaired since 1988. Pinto Creek flows in the historic Globe-Miami mining area, one of the major copper districts in the southwestern United States, with mining activities dating back to the late 1800's.

EPA developed a total maximum daily load analyses (TMDL) for Pinto Creek in 2001 based on existing available data. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet surface water quality standards. The TMDL allocates, or budgets, that amount among the point and non-point sources in the watershed that discharge the pollutant of concern. The ultimate goal of a TMDL is restoring water quality so that an impaired water no longer exceeds but rather attains applicable surface water quality standards. A TMDL is implemented through a variety of actions, including effluent limits in permits and watershed restoration efforts aimed at reducing or eliminating the pollutant of concern.

ADEQ began monitoring activities in the Pinto Creek watershed in 2002. ADEQ issued its Phase II TMDL Modeling Report (Phase II Report) in February 2006. Based on the monitoring results, ADEQ concluded that even after aggressive remediation of surrounding mining sites, much of upper Pinto Creek would not meet the copper standard because copper occurs naturally in the area. Because the natural background concentration of copper is higher than the standard in this copper-rich mining area, ADEQ determined that a site-specific standard needed to be developed for Pinto Creek.

ADEQ collected 670 water quality samples at 48 sites between 2000 and 2005. Of these water samples, approximately 126 were obtained from 21 sites in sub-watersheds judged to be representative of natural, pre-anthropogenic conditions. This information combined with numerous other environmental data was used to construct a dynamic watershed-water quality model of Pinto Creek using the Hydrologic Simulation Program Fortran (HSPF). This model provided a tool by which natural background water quality for all of Pinto Creek could be estimated with a reasonable degree of confidence.

A water quality model is a mathematical tool used to estimate or predict water quality conditions of water bodies under a specific set of environmental conditions. Part of the modeling process requires that a model be calibrated, which is the process by which a model's parameters or assumptions are changed to match available current field observations. A calibrated model should accurately predict existing conditions, and therefore should be reliable to estimate future conditions. An additional step in determining a representation of natural condition is to remove the model inputs that represent the human-caused sources of the pollutant from the model of the existing condition.

Using the Phase II Report, ADEQ calculated a site-specific standard for Pinto Creek of 42 µg/L ["Pinto Creek Site-Specific Water Quality Standard for Dissolved Copper," Arizona Department of Environmental Quality, Water Quality Division, (March 12, 2007)]. The design of ADEQ's 2007 study focused on monitoring results from multiple sites chosen to characterize different rock types but having no known anthropogenic sources of copper. Therefore, data from these sites should contain only naturally occurring levels of copper.

In the 2008 triennial review rulemaking, ADEQ proposed a site-specific standard of 42 µg/L for Pinto Creek, higher than the maximum amount of 29.28 µg/L set by EPA (based on a maximum allowable hardness of 400 mg/L). During the public comment period, commenters were generally opposed to the proposed standard for a variety of reasons including: consideration of past mining activities in the area, aerial deposition of copper from current and historic mines, impacts of wildfire, and the proximity of mining roads as well as other disturbances to areas thought to be the naturally occurring sites. Some of the commenters presented new information, including photos of disturbed areas upstream of one or more of ADEQ's sampling locations thought to have no influence by anthropogenic activities related to copper. Based on the new information, ADEQ withdrew the site-specific standard for Pinto Creek from the final rule package, and revised the modeling calculations, which resulted in a modest change in the proposed standard.

One limitation of the modeling approach is that the effects of any unknown human-caused sources may be excluded from the model. This can result in human impacts being erroneously attributed to the natural condition. ADEQ reran the watershed model used to calculate the site-specific standard model after eliminating three sampling locations that had been used to estimate natural background because information presented by some commenters showed that these



locations had been subject to anthropogenic activities related to copper. The current model predicted the natural background concentration of 26 µg/L as exceeding the default standard (23 µg/L based on the mean hardness). The average standard deviation (8.0) of copper from sites identified as representing natural background was added. ADEQ is proposing a site-specific standard of dissolved copper for Pinto Creek of 34 µg/L. This value is equal to the estimated maximum natural background concentration of dissolved copper in Pinto Creek thru the identified reach, and is a static value, not adjusted for variations in hardness for the A&Ww chronic criteria. The site specific standard for the A&Ww acute criteria will also be 34 µg/L where hardness values are less than 268 mg/L, but where hardness values are 268 mg/L or greater, the default hardness formula for acute copper values will need to be calculated.

#### Background on Grand Canyon surface waters

The Grand Canyon National Park's two wastewater treatment plants discharge to Bright Angel Wash and Transept Canyon under AZPDES permits. Both facilities receive the same source water and have reported copper levels above the standard. With no industrial dischargers to these facilities, the initial hypothesis was naturally elevated copper concentrations in the source water.

A water effects ratio (WER) study was performed with effluent from each facility. The WER procedure is an EPA-approved procedure for developing site-specific standards for metals. A number of physical and chemical characteristics of site water and a metal can affect the toxicity of that metal to aquatic organisms in a particular surface water. When deriving site-specific aquatic life criteria for a metal, the difference between the toxicity of the metal in laboratory water and site water may be adjusted with a site water effect ratio. Toxicity differences of site water and synthetic laboratory water are compared in the laboratory, and evaluated for differential lethal concentrations. The toxicity endpoints from these two tests are used to calculate the WER, which is then multiplied by the national or state aquatic life criterion to calculate the site-specific limit. Based on the WER results, the current chronic water quality standard for copper can be increased to 42.5 µg/L without compromising the protection of sensitive aquatic species.

#### Background on this Rulemaking

The 2009 rulemaking had considerable stakeholder comments, amended most of the rule sections in Article 1, and reformatted the tables listing pollutant limits for specified designated uses. With such extensive amendments, some necessary elements were inadvertently omitted or listed erroneously. ADEQ began reviewing the rules for future amendments, but did not proceed with rulemaking until 2014 due to executive orders limiting agency rulemaking. ADEQ sought and received approval to proceed with rulemaking from both Governors Brewer and Ducey. ADEQ has taken the past actions related to these rules:

- December 26, 2014 Notice of Proposed Rulemaking, with an oral proceeding set for January 26, 2015.
- January 23, 2015, Notice of Public Information canceling the oral proceeding in response to Executive Order 2015-01 (Internal Review of Administrative Rules; Moratorium to Promote Jobs Creation and Customer-Service-Oriented Agencies).
- September 18, 2015 Notice of Termination to terminate the December 26, 2014 Notice of Proposed Rulemaking because the comment period had not been completed.
- September 18, 2015 Notice of Proposed Rulemaking, with an oral proceeding set and held on October 19, 2015.

After the comment period closed, EPA Region 9 expressed concern that the Notice of Proposed Rulemaking did not comply with the requirements in 40 CFR § 25.5(b) that notice of a hearing must be at least 45 days before the date of the hearing, and that reports, documents and data relevant to the discussion were not available to the public at least 30 days before the hearing. ADEQ had been concerned of the unknown impact of EPA's recently amended water quality standards rules, which became effective October 20, 2015. In subsequent discussions, ADEQ and EPA Region 9 have agreed that ADEQ will renotece the proposed rule changes for 45 days and ADEQ will provide explanation on why it is not adopting new or revised EPA criteria, as required under 40 C.F.R. § 131.20(a).

In order to ensure that what it is proposing is unambiguous, ADEQ is terminating the September 18, 2015 Notice of Proposed Rulemaking. Any comments submitted previously will need to be re-submitted for this Notice of Proposed Rulemaking. Other than adding explanation in this Preamble, ADEQ made the following changes in these proposed rules from the September 18, 2015 version:

- In R18-11-121(A), deleting the additional language in the second sentence of “~~for an existing point source, other than a stormwater discharge,~~”. This was an oversight on ADEQ’s part; ADEQ had intended to apply the flexible standard for compliance schedules to any AZPDES permit.
- In Appendix B, amended the coordinates for:
  - Mineral Creek (diversion channel) in response to comments;
  - Queen Creek headwaters to the town of Superior WWTP outfall, in response to an internal review; and
  - Salt River below Interstate 10 bridge to the City of Phoenix 23<sup>rd</sup> Avenue WWTP outfall, in response to comments.
- In Appendix C, in response to comments, added designated uses for Rio de Flag, Yuma East Wetlands (for Selenium), and the proposed additions of Pinto Creek, Bright Angel Wash and Transept Canyon.

The Clean Water Act requires states to hold, at least once every three years, a public hearing for the purpose of reviewing applicable water quality standards. EPA’s role is one of oversight to review and approve or disapprove state water quality standards. EPA also is responsible for publishing national recommended criteria to assist states in establishing water quality criteria. States may use EPA’s Clean Water Act section 304(a) criteria recommendations, modify them to reflect site-specific conditions, or establish criteria using other scientifically defensible methods. Under EPA’s recently amended rules, if states choose not to adopt new or revised criteria during their triennial review for any parameters for which EPA has published new or updated criteria recommendations under Clean Water Act section 304(a), they must explain their decision when reporting the results of their triennial review to EPA.

Since the extensive amendments to these rules in 2009, ADEQ has always intended that this proposed rulemaking would be to address past errors and make minor adjustments. With two Arizona administrations issuing executive orders limiting agency rulemaking, ADEQ also considered suggested changes that would comply with the executive orders, mainly to lessen or ease a regulatory burden while achieving the same regulatory objective. ADEQ stated in the Preamble of the December 26, 2014 Notice of Proposed Rulemaking that although some stakeholders requested additional amendments, those suggestions did not meet the scope of the Governor’s authorization or would require more in depth analysis, and would be postponed for the next Triennial Review. ADEQ is aware that since 2009, EPA has published new Clean Water Act section 304(a) criteria recommendations. At this time, ADEQ does not have adequate information to make informed decisions on those recommendations. It has been over seven years since the last amendments to the Arizona surface water quality standards rules; ADEQ needs to correct errors from the 2009 rulemaking, including reverting criteria in Appendix A to what was previously approved in 2003. Although ADEQ welcomes all comments on this Notice of Proposed Rulemaking, suggestions that would require more in depth analysis likely will be postponed for the next Triennial Review so that ADEQ can complete these long-delayed clarifying amendments.

ADEQ is beginning to develop plans for the next Triennial Review. ADEQ will need to evaluate its rules according to EPA’s recently amended rules and the Clean Water Act section 304(a) criteria recommendations. ADEQ would like to begin to discuss future changes with stakeholders. For future suggestions, such as for proposed changes to designated uses, ADEQ would encourage stakeholders to develop a use attainability analysis meeting the requirements of 40 C.F.R. § 131.10 in order to support a change to a suggested designated use.

**6. A reference to any study relevant to the rule that the agency reviewed and proposes either to rely on or not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**

These studies are available on ADEQ’s rulemaking website: <http://www.azdeq.gov/function/laws/draft.html#water>  
ADEQ “Pinto Creek Site-Specific Water Quality Standard for Dissolved Copper, Salt River Watershed – HUC# 15060103-018, Gila, Maricopa and Pinal Counties, Arizona” (February 2011)  
AECOM “Grand Canyon National Park –Water Effect Ratio Studies – Round 1; Acute Toxicity of Copper to *Ceriodaphnis dubia* in Site and Reconstituted Laboratory Water Under Static Test Conditions” (May 2008).  
AECOM “Grand Canyon National Park –Water Effect Ratio Studies – Round 2; Acute Toxicity of Copper to *Ceriodaphnis dubia* in Site and Reconstituted Laboratory Water Under Static Test Conditions” (October 2008).  
ADEQ “Location and Application of LCR Nutrient Standards” (February 2014)  
ADEQ “A Review of the Status of Paradise Lake as an Arizona Surface Water” (August 2010)  
ADEQ “Proposal to Remove Coors Lake from Appendix B” (January 2016)  
ADEQ “Review of Proposed Designated Use Changes to Mineral Creek” (January 2016)

**7. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:**



Not applicable

**8. The preliminary summary of the economic, small business, and consumer impact:**

The overall impact of the proposed changes should be very minor. A few of the rule changes may have a more specific, but overall beneficial impact. The nutrient change in R18-11-106 should benefit a wastewater treatment facility that discharges to a tributary of one of the listed waters. Such a facility will no longer have to conform with rigorous nutrient standards unless their discharges have the potential to impact the downstream surface waters. Other proposed rule changes promote flexibility. ADEQ is expanding the process that allows an outside party to submit a scientifically defensible study to support development of the site-specific standard under R18-11-115. The flexibility in time allowed in a compliance schedule should benefit the regulated community by allowing more time to achieve compliance.

For the numeric water quality standards in Table 1, Appendix A, that are reverting to the 2003 version, ADEQ already uses the 2003 version in AZPDES permits because ADEQ cannot use criteria not approved by EPA. Changes to designated uses in Appendix B may impact entities that discharge to those surface waters; the proposed changes to Boulder Creek and Mineral Creek should benefit any entity that discharges to these surface waters because the new designated uses have higher pollutant limits.

The proposed site-specific standards in Appendix C would allow ADEQ to issue an AZPDES permit for an entity that can discharge at or below the site specific standard, which will lessen the burden to any AZPDES permit applicant seeking to discharge to these surface waters.

**9. The agency's contact person who can answer questions about the economic, small business, and consumer impact statement:**

Name: Wendy LeStarge  
Address: Department of Environmental Quality  
Water Quality Division  
1110 W. Washington St.  
Phoenix, AZ 85007  
Telephone: (602) 771-4836 (Toll-free number in Arizona: (800) 234-5677)  
Fax: (602) 771-4834  
E-mail: lestarge.wendy@azdeq.gov

**10. The time, place, and nature of the proceedings to make, amend, repeal, or renumber the rule or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:**

ADEQ has scheduled an oral proceeding to receive oral comments on the rules, in accordance with A.R.S. § 41-1023; the time, place, and location of the hearing is listed below:

Date: April 6, 2016  
Time: 10:00 a.m.  
Location: Department of Environmental Quality  
1110 W. Washington, Room 3175 A & B  
Phoenix, AZ 85007  
Nature: Oral Proceeding on the proposed rules, with opportunity for formal comments on the record

Written, faxed, or e-mailed comments may be made with the contact person listed in item #4. Written comments on the proposed rules or preliminary economic, small business, and consumer impact statement must be received by 5:00 p.m. April 6, 2016. Upon request, ADEQ will provide appropriate auxiliary aids and services to persons with disabilities, at no charge, to assist in accessible communication to enable people who have speech, hearing, vision, learning, or other impairments to participate equally, including qualified sign language interpreters. To request an auxiliary aid or service, to obtain this document in alternative format, or for further information, please contact Alicia Pollard at (602) 771-4791 or via email at aap@azdeq.gov as early as possible to allow time to arrange the accommodation. TTY/TTD Services: 7-1-1. The ADA does not require ADEQ to take any action that would fundamentally alter the nature of its programs, services or activities, or impose an undue financial or administration burden on ADEQ. This rulemaking's public record will close at 5:00 p.m. on April 6, 2016.

**11. All agencies shall list other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:**

**a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general**

**permit is not used:**

The rules do not require permits, but establish standards. Standards are enforced as limitations in both individual and general permits. The rules governing permits are in Title 18, Chapter 9.

**b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:**

The administrative rules are consistent with federal law and are no more stringent than federal law.

**c. Whether a person submitted an analysis to the agency that compares the rule’s impact of the competitiveness of business in this state to the impact on business in other states:**

No analysis has been submitted.

**12. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rules:**

- R18-11-110(B) 2014 Review, Water Quality Standards for Salinity, Colorado River System
- R18-11-112(D)(4)(a) Endangered and Threatened Wildlife, 50 CFR 17.11 (revised 2005) and Endangered and Threatened Plants, 50 CFR 17.12 (revised 2005)

**13. The full text of the rules follows:**

**TITLE 18. ENVIRONMENTAL QUALITY**

**CHAPTER 11. DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY STANDARDS**

**ARTICLE 1. WATER QUALITY STANDARDS FOR SURFACE WATERS**

Section

- R18-11-106. Net Ecological Benefit
- R18-11-109. Numeric Water Quality Standards
- R18-11-110. Salinity Standards for the Colorado River
- R18-11-112. Outstanding Arizona Waters
- R18-11-115. Site-Specific Standards
- R18-11-121. Schedules of Compliance
- Appendix A. Numeric Water Quality Standards
- Appendix B. Surface Waters and Designated Uses
- Appendix C. Site-Specific Standards

**ARTICLE 1. WATER QUALITY STANDARDS FOR SURFACE WATERS**

**R18-11-106. Net Ecological Benefit**

- A.** The Director may, by rule, modify a water quality standard on the ground that there is a net ecological benefit associated with the discharge of effluent to support or create a riparian and aquatic habitat in an area where water resources are limited. The Director may modify a water quality standard for a pollutant if it is demonstrated that:
  1. The discharge of effluent creates or supports an ecologically valuable aquatic, wetland, or riparian ecosystem in an area where these resources are limited;
  2. The ecological benefits associated with the discharge of effluent under a modified water quality standard exceed the environmental costs associated with the elimination of the discharge of effluent;
  3. The cost of treatment to achieve compliance with a water quality standard is so high that it is more cost effective to eliminate the discharge of effluent to the surface water. The discharger shall demonstrate that it is feasible to eliminate the discharge of effluent that creates or supports the ecologically valuable aquatic, wetland, or riparian ecosystem ~~and that a plan to eliminate the discharge is under active consideration;~~
  4. The discharge of effluent to the surface water will not cause or contribute to a violation of a water quality standard that has been established for a downstream surface water;
  5. All practicable point source discharge control programs, including local pretreatment, waste minimization, and source reduction programs are implemented; and
  6. The discharge of effluent does not produce or contribute to the concentration of a pollutant in the tissues of aquatic organisms or wildlife that is likely to be harmful to humans or wildlife through food chain concentration.
- B.** The Director shall not modify a water quality criterion for a pollutant to be less stringent than a technology-based effluent limitation that applies to the discharge of that effluent. The discharge of effluent shall, at a minimum, comply with applicable technology-based effluent limitations.



**R18-11-109. Numeric Water Quality Standards**

A. *E. coli* bacteria. The following water quality standards for *Escherichia coli* (*E. coli*) are expressed in colony forming units per 100 milliliters of water (cfu / 100 ml) or as a Most Probable Number (MPN):

| <i>E. coli</i>                                      | FBC | PBC |
|---|-----|-----|
| Geometric mean (minimum of four samples in 30 days) | 126 | 126 |
| Single sample maximum                               | 235 | 575 |

B. pH. The following water quality standards for pH are expressed in standard units:

| pH      | DWS | FBC, PBC, A&W <sup>1</sup> | AgI | AgL |
|---------|-----|----------------------------|-----|-----|
| Maximum | 9.0 | 9.0                        | 9.0 | 9.0 |
| Minimum | 5.0 | 6.5                        | 4.5 | 6.5 |

C. The maximum allowable increase in ambient water temperature, due to a thermal discharge is as follows:

| A&Ww   | A&Wedw | A&Wc   |
|--------|--------|--------|
| 3.0° C | 3.0° C | 1.0° C |

D. Suspended sediment concentration.

1. The following water quality standards for suspended sediment concentration, expressed in milligrams per liter (mg/L), are expressed as a median value determined from a minimum of four samples collected at least seven days apart:

| A&Wc | A&Ww |
|------|------|
| 25   | 80   |

2. The Director shall not use the results of a suspended sediment concentration sample collected during or within 48 hours after a local storm event to determine the median value.

E. Dissolved oxygen. ~~The following water quality standards for dissolved oxygen are expressed in milligrams per liter (mg/L) A surface water meets the water quality standard for dissolved oxygen when either:~~

|               |   |                       |                     |
|---------------|---|-----------------------|---------------------|
| <del>1.</del> | <del>Dissolved oxygen</del>   | <del>A&amp;Ww</del>   | <del>A&amp;Wc</del> |
|               | <del>Single sample minimum<sup>2</sup></del>  | <del>6.0</del>        | <del>7.0</del>      |
| <del>2.</del> | <del>Dissolved oxygen in effluent dependent waters</del>  |                       |                     |
|               | <del>(single sample minimum)</del>  | <del>A&amp;Wedw</del> |                     |
|               | <del>Three hours after sunrise to sunset</del>  | <del>3.0</del>        |                     |
|               | <del>Sunset to three hours after sunrise</del>  | <del>1.0</del>        |                     |
| <del>3.</del> | <del>A surface water meets with the water quality standard for dissolved oxygen if the percent saturation of dissolved oxygen is equal to or greater than 90 percent.</del> |                       |                     |

- ~~The percent saturation of dissolved oxygen is equal to or greater than 90 percent, or~~
- ~~The single sample minimum concentration for the designated use, as expressed in milligrams per liter (mg/L) is as follows:~~

| Designated Use  | Single sample minimum concentration in mg/L |
|---|---|
| <u>A&amp;Ww</u>   | <u>6.0</u>                                  |
| <u>A&amp;Wc</u>   | <u>7.0</u>                                  |
| <u>A&amp;Wedw for a sample taken from three hours after sunrise to sunset</u> | <u>3.0</u>                                  |
| <u>A&amp;Wedw for a sample taken from sunset to three hours after sunrise</u> | <u>1.0</u>                                  |

The single sample minimum concentration is the same for the designated use in a lake, but the sample must be taken from a depth no greater than one meter

F. Nutrient criteria. The following are water quality standards for total phosphorus and total nitrogen ~~are~~ (expressed in milligrams per liter (mg/L)) that apply to the surface waters listed below. A minimum of 10 samples, each taken at least

10 days apart in a consecutive 12-month period, are required to determine a 90th percentile. Not more than 10 percent of the samples may exceed the 90th percentile value listed below. The Director will apply these water quality standards for total phosphorus and total nitrogen to a surface water listed below, and to any source discharging to a tributary (ephemeral, intermittent, effluent dependent water or perennial) based on volume, frequency, magnitude and duration of the discharge and distance to the downstream surface water listed below:

- Verde River and its perennial tributaries from the Verde headwaters to Bartlett Lake:

|                  | Annual | 90th       | Single  |
|------------------|--------|------------|---------|
| Surface Water    | Mean   | Percentile | Sample  |
|                  |        |            | Maximum |
| Total phosphorus | 0.10   | 0.30       | 1.00    |
| Total nitrogen   | 1.00   | 1.50       | 3.00    |

- Black River, Tonto Creek and their perennial tributaries for any segments that are not located on tribal lands:

|                  | Annual | 90th       | Single  |
|------------------|--------|------------|---------|
| Surface Water    | Mean   | Percentile | Sample  |
|                  |        |            | Maximum |
| Total phosphorus | 0.10   | 0.20       | 0.80    |
| Total nitrogen   | 0.50   | 1.00       | 2.00    |

- Salt River and its perennial tributaries above Roosevelt Reservoir, ~~excluding Pinal Creek, Lake~~ for any segments that are not located on tribal lands:

|                  | Annual | 90th       | Single  |
|------------------|--------|------------|---------|
| Surface Water    | Mean   | Percentile | Sample  |
|                  |        |            | Maximum |
| Total phosphorus | 0.12   | 0.30       | 1.00    |
| Total nitrogen   | 0.60   | 1.20       | 2.00    |

- Salt River below Stewart Mountain Dam to its confluence with the Verde River:

|                  | Annual | 90th       | Single  |
|------------------|--------|------------|---------|
| Surface Water    | Mean   | Percentile | Sample  |
|                  |        |            | Maximum |
| Total phosphorus | 0.05   | –          | 0.20    |
| Total nitrogen   | 0.60   | –          | 3.00    |

- Little Colorado River and its perennial tributaries ~~upstream above River Reservoir in Greer, South Fork of Little Colorado River above South Fork Campground, and Water Canyon Creek above Apache-Sitgreaves National Forest boundary from:~~

- The headwaters to River Reservoir,
- South Fork of Little Colorado River at 34°00'49"/109°24'18" to above South Fork Campground at 34°04'49"/109°24'18", and
- The headwaters of Water Canyon Creek to the Apache-Sitgreaves National Forest boundary:

|                  | Annual | 90th       | Single  |
|------------------|--------|------------|---------|
| Surface Water    | Mean   | Percentile | Sample  |
|                  |        |            | Maximum |
| Total phosphorus | 0.08   | 0.10       | 0.75    |
| Total nitrogen   | 0.60   | 0.75       | 1.10    |

- ~~Little Colorado River at the crossing of Apache County Road No. 124.~~

|                  | Annual | 90th       | Single  |
|------------------|--------|------------|---------|
| Surface Water    | Mean   | Percentile | Sample  |
|                  |        |            | Maximum |
| Total phosphorus | –      | –          | 0.75    |
| Total nitrogen   | –      | –          | 1.80    |



7. ~~From the Little Colorado River above Lyman Lake to above the Amity Ditch diversion near crossing of Arizona Highway 273 (applies only when in stream turbidity is less than 50 NTU); and State Route 260 at 34°06'39"/109°18'55" to Lyman Lake:~~

| Surface Water    | Annual Mean | 90th Percentile | Single Sample Maximum |
|------------------|-------------|-----------------|-----------------------|
| Total phosphorus | 0.20        | 0.30            | 0.75                  |
| Total nitrogen   | 0.70        | 1.20            | 1.50                  |

~~8. 7.~~ Colorado River at the Northern International Boundary near Morelos Dam:

| Surface Water    | Annual Mean | 90th Percentile | Single Sample Maximum |
|------------------|-------------|-----------------|-----------------------|
| Total phosphorus | –           | 0.33            | –                     |
| Total nitrogen   | –           | 2.50            | –                     |

~~9. 8.~~ Oak Creek from its headwaters at 35°01'30"/111°44'12" to its confluence with the Verde River at 34°40'41"/111°56'30" and the West Fork of Oak Creek from its headwaters at 35°02'44"/111°54'48" to its confluence with Oak Creek at 34°59'14"/111°44'46".

| Surface Water    | Annual Mean          | 90th Percentile      | Single Sample Maximum |
|------------------|----------------------|----------------------|-----------------------|
| Total phosphorus | <del>1.00</del> 0.1  | <del>1.50</del> 0.25 | <del>2.50</del> 0.30  |
| Total nitrogen   | <del>0.10</del> 1.00 | <del>0.25</del> 1.50 | <del>0.30</del> 2.50  |

~~10. 9.~~ No discharge of wastewater to Show Low Creek or its perennial tributaries upstream of and including Fools Hollow Lake shall exceed 0.16 mg/L total phosphates as P.

~~11. 10.~~ No discharge of wastewater to the San Francisco River or its perennial tributaries upstream of Luna Lake Dam shall exceed 1.0 mg/L total phosphates as P.

G. Footnotes:

- <sup>1</sup> Includes A&Wc, A&Ww, A&Wedw, and A&We.
- <sup>2</sup> ~~The dissolved oxygen water quality standard for a lake applies below the water surface but not at a depth greater than one meter.~~

R18-11-110. Salinity Standards for the Colorado River

A. The flow-weighted average annual salinity in the lower main stem of the Colorado River shall not exceed the following criteria:

| Location         | Total Dissolved Solids |
|------------------|------------------------|
| Below Hoover Dam | 723 mg/L               |
| Below Parker Dam | 747 mg/L               |
| At Imperial Dam  | 879 mg/L               |

B. The plan of implementation contained in the “~~2005~~ 2014 Review, Water Quality Standards for Salinity, Colorado River System,” approved October ~~2005~~ 2014, is incorporated by reference to preserve the basin-wide approach to salinity control developed by the Colorado River Basin Salinity Control Forum and to ensure compliance with the numeric criteria for salinity in subsection (A). This material does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 West Washington Street, Phoenix, Arizona 85007 or may be obtained from the Colorado River Basin Salinity Control Forum, 106 West 500 South, Suite 101, Bountiful, Utah 84010-6232 or at <http://www.coloradoriversalinity.org/>.

R18-11-112. Outstanding Arizona Waters

A. The Director shall classify a surface water as an outstanding Arizona water (OAW) by rule.

- B.** The Director may adopt, under R18-11-115, a site-specific standard to maintain and protect existing water quality in an OAW.
- C.** Any person may nominate a surface water for classification as an OAW by filing a nomination with the Director. The nomination shall include:
1. A map and a description of the surface water;
  2. A written statement in support of the nomination, including specific reference to the applicable criteria for an OAW classification prescribed in subsection (D);
  3. Supporting evidence demonstrating that the criteria prescribed in subsection (D) are met; and
  4. Available water quality data relevant to establishing the baseline water quality of the proposed OAW.
- D.** The Director may classify a surface water as an OAW based upon the following criteria:
1. The surface water is a perennial or intermittent water;
  2. The surface water is in a free-flowing condition. For purposes of this subsection, "in a free-flowing condition" means that a surface water does not have an impoundment, diversion, channelization, rip-rapping or other bank armor, or another hydrological modification within the reach nominated for an OAW classification;
  3. The surface water has good water quality. For purposes of this subsection, "good water quality" means that the surface water has water quality that meets or is better than applicable surface water quality standards. A surface water that is listed as impaired under R18-11-604(E) is ineligible for OAW classification; and
  4. The surface water meets one or both of the following conditions:
    - a. The surface water is of exceptional recreational or ecological significance because of its unique attributes, such as the geology, flora and fauna, water quality, aesthetic value, or the wilderness characteristic of the surface water;
    - b. An endangered or threatened species is associated with the surface water and the existing water quality is essential to the species' maintenance and propagation or the surface water provides critical habitat for the threatened or endangered species. An endangered or threatened species is identified in "Endangered and Threatened Wildlife," 50 CFR 17.11 (revised 2005), and "Endangered and Threatened Plants," 50 CFR 17.12 (revised 2005). This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 West Washington Street, Phoenix, Arizona 85007 or may be obtained from the National Archives and Records Administration at <http://www.access.gpo.gov/nara/cfr/cfr-table-search.html#page1>.
- E.** The Director shall hold at least one public meeting in the local area of a surface water that is nominated for classification as an OAW to solicit public comment on the nomination.
- F.** The Director shall consider the following factors when deciding whether to classify a surface water as an OAW:
1. Whether there is the ability to manage the surface water and its watershed to maintain and protect existing water quality;
  2. The social and economic impact of Tier 3 antidegradation protection;
  3. The public comments in support of, or in opposition to, an OAW classification;
  4. The timing of the nomination relative to the triennial review of surface water quality standards;
  5. The consistency of an OAW classification with applicable water quality management plans; and
  6. Whether the nominated surface water is located within a national or state park, national monument, national recreation area, wilderness area, riparian conservation area, area of critical environmental concern, or it has another special use designation (for example, Wild and Scenic River).
- G.** The following surface waters are classified as OAWs:
1. The West Fork of the Little Colorado River, from its headwaters at ~~33°55'02"/109°33'30"~~ to Government Springs at ~~33°59'33"/109°27'54"~~ (approximately 9.1 river miles);
  2. Oak Creek, from its headwaters at ~~35°01'30"/111°44'12"~~ to its confluence with the Verde River at ~~34°40'41"/111°56'30"~~ (approximately 50.3 river miles);
  3. West Fork of Oak Creek, from its headwaters at ~~35°02'44"/111°54'48"~~ to its confluence with Oak Creek at ~~34°59'14"/111°44'46"~~ (approximately 15.8 river miles);
  4. Peeples Canyon Creek, from its headwaters at ~~34°23'57"/113°19'45"~~ to its confluence with the Santa Maria River at ~~34°20'36"/113°15'12"~~ (approximately 8.1 river miles);
  5. Burro Creek, from its headwaters at ~~34°52'46.5"/113°05'13.5"~~ to its confluence with Boulder Creek at ~~34°37'4.5"/113°18'36"~~ (approximately 29.5 miles);



6. Francis Creek, from its headwaters at ~~34°54'38"/113°20'30"~~ to its confluence with Burro Creek at ~~34°44'29"/113°14'37"~~ (approximately 22.9 river miles);
7. Bonita Creek, from its boundary of the San Carlos Indian Reservation at ~~33°03'08"/109°33'41"~~ to its confluence with the Gila River at ~~32°53'36"/109°28'43"~~ (approximately 14.7 river miles);
8. Cienega Creek, from its confluence with Gardner Canyon ~~and Spring Water Canyon at 31°47'38.5"/110°35'21.5"~~ to the USGS gaging station at ~~32°02'09"/110°40'34"~~ (#09484600) (approximately 28.3 river miles);
9. Aravaipa Creek, from its confluence with Stowe Gulch at ~~32°52'10"/110°22'03"~~ to the downstream boundary of the Aravaipa Canyon Wilderness Area at ~~32°54'23"/110°33'42"~~ (approximately 15.5 river miles);
10. Cave Creek, from its headwaters at ~~31°50'30"/109°17'04.5"~~ to the Coronado National Forest boundary at ~~31°54'38"/109°08'40"~~ (approximately 10.4 river miles);
11. South Fork of Cave Creek, from its headwaters at ~~31°50'20"/109°16'33"~~ to its confluence with Cave Creek at ~~31°53'04"/109°10'30"~~ (approximately 8.6 river miles);
12. Buehman Canyon Creek, from its headwaters at ~~32°52'0.5"/110°39'54.5"~~ to its confluence with unnamed tributary at ~~32°24'31.5"/110°32'08"~~ 32°24'31"/110°32'08" (approximately 9.8 river miles);
13. Lee Valley Creek, from its headwaters at ~~33°55'49"/109°31'34"~~ to its confluence with Lee Valley Reservoir at ~~33°56'28"/109°30'15.5"~~ (approximately 1.6 river miles);
14. Bear Wallow Creek, from its headwaters at ~~33°35'54"/109°26'54.5"~~ to the boundary of the San Carlos Indian Reservation at ~~33°37'52"/109°29'44"~~ (approximately 4.25 river miles);
15. North Fork of Bear Wallow Creek, from its headwaters at ~~33°34'47.5"/109°21'59.5"~~ to its confluence with Bear Wallow Creek at ~~33°35'54"/109°26'54.5"~~ (approximately 3.8 river miles);
16. South Fork of Bear Wallow Creek, from its headwaters at ~~33°34'38.5"/109°23'58"~~ to its confluence with Bear Wallow Creek at ~~33°35'54"/109°26'54.5"~~ (approximately 3.8 river miles);
17. Snake Creek, from its headwaters at ~~33°37'21.5"/109°26'11"~~ to its confluence with the Black River at ~~33°40'31.5"/109°28'58.5"~~ (approximately 6.2 river miles);
18. Hay Creek, from its headwaters at ~~33°51'00"/109°28'48"~~ to its confluence with the West Fork of the Black River at ~~33°48'30"/109°25'19"~~ (approximately 5.5 river miles);
19. Stinky Creek, from the White Mountain Apache Indian Reservation boundary at ~~33°52'36.5"/109°29'45"~~ to its confluence with the West Fork of the Black River at ~~33°51'21.5"/109°27'09.5"~~ (approximately 3.0 river miles);
20. KP Creek, from its headwaters at ~~33°34'03"/109°21'49"~~ to its confluence with the Blue River at ~~33°31'44"/109°12'04.5"~~ (approximately 12.7 river miles);
21. Davidson Canyon, from the unnamed spring at ~~31°59'00"/110°38'46"~~ 31°59'00"/110°38'49" to its confluence with Cienega Creek; and
22. Fossil Creek, from its headwaters at the confluence of Sandrock and Calf Pen Canyons above Fossil Springs at ~~34°26'48.7"/111°32'25"~~ to its confluence with the Verde River at ~~34°18'21.8"/111°40'31.6"~~ (approximately 17.2 river miles).

**R18-11-115. Site-Specific Standards**

- A. The Director shall adopt a site-specific standard by rule.
- B. The Director may adopt a site-specific standard based upon a request or upon the Director's initiative for any of the following reasons:
  1. Local physical, chemical, or hydrological conditions of a surface water such as pH, hardness, fate and transport, or temperature alters the biological availability or toxicity of a pollutant;
  2. The sensitivity of resident aquatic organisms that occur in a surface water to a pollutant differs from the sensitivity of the species used to derive the numeric water quality standards to protect aquatic life in Appendix A;

3. Resident aquatic organisms that occur in a surface water represent a narrower mix of species than those in the dataset used by the Department to derive numeric water quality standards to protect aquatic life in Appendix A; or
  4. The natural background concentration of a pollutant is greater than the numeric water quality standard to protect aquatic life prescribed in Appendix A. “Natural background” means the concentration of a pollutant in a surface water due only to non-anthropogenic sources.
  5. Natural adaptive processes have enabled a viable, balanced population of aquatic life to exist in a surface water where the level of a pollutant is greater than the numeric water quality standard to protect aquatic life prescribed in Appendix A; or
  6. Other factors or combination of factors that upon review by the Director warrant changing a numeric water quality standard for a surface water.
- C. Site-specific study. A person shall conduct a study to support the development of a site-specific standard using one of the following procedures:
1. The Recalculation Procedure, Appendix L, pages 90–98, Water Quality Standards Handbook, Second Edition, EPA 823-B-94-005b, August 1994. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. A copy of the incorporated material is available for inspection at the Arizona Department of Environmental Quality, 1110 West Washington Street, Phoenix, Arizona 85007 or: may be obtained from the U.S. Environmental Protection Agency, Office of Water at <http://www.epa.gov/waterscience/standards/handbook/handbookappxL.pdf>.
  2. Water Effects Ratio for Metals, Appendix L, pages 1–89, Water Quality Standards Handbook, Second Edition, EPA 823-B-94-005b, August 1994. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. A copy of the incorporated material is available for inspection at the Arizona Department of Environmental Quality, 1110 West Washington Street, Phoenix, Arizona 85007 or: may be obtained from the U.S. Environmental Protection Agency, Office of Water at <http://www.epa.gov/waterscience/standards/handbook/handbookappxL.pdf>.
  3. Streamlined Water Effects Ratio Procedure for Discharges of Copper, EPA 822-R-01-005, March 2001. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. A copy of the incorporated material is available for inspection at the Arizona Department of Environmental Quality, 1110 West Washington Street, Phoenix, Arizona 85007 or: may be obtained from the U.S. Environmental Protection Agency, Office of Water at <http://www.epa.gov/ost/criteria/copper/copper.pdf>.
  4. Natural background:
    - a. A person seeking to develop a site-specific standard based on natural background shall provide a study outline to the Director and obtain the Director’s approval before conducting the study.
      - i. The person may use statistical or modeling approaches to determine natural background concentration.
      - ii. Modeling approaches include Better Assessment Science Integrating Source and Nonpoint Sources (Basins), Hydrologic Simulation Program Fortran (HSPF), and Hydrologic Engineering Center (HEC) programs developed by the U.S. Army Corps of Engineers.
    - b. The Director may establish a site-specific standard at a concentration equal to the natural background concentration.
    - c. For purposes of this subsection, “natural background” means the concentration of a pollutant in a surface water due only to non-anthropogenic sources.

Site-specific standard by request. To request that the Director adopt a site-specific standard, a person must conduct a study to support the development of a site-specific standard using a scientifically-defensible procedure.

1. Before conducting the study, a person shall submit a study outline to the Director for approval that contains the following elements:
  - a. Identifies the pollutant;
  - b. Describes the reach’s boundaries;
  - c. Uses one of the following procedures, as defined by the most recent EPA guidance documents:
    - i. The recalculation procedure,
    - ii. The water effects ratio for metals,



- iii. The streamlined water effects ratio, or
- iv. The Biotic ligand model.
- d. Demonstrates that all designated uses are protected.
- 2. Alternatively, a study outline submitted for the Director’s approval must contain the following elements:
  - a. Identifies the pollutant;
  - b. Describes the reach’s boundaries;
  - c. Describes the hydrologic regime of the waterbody;
  - d. Describes the scientifically-defensible procedure, which can include relevant aquatic life studies, ecological studies, laboratory tests, biological translators, fate and transport models, and risk analyses;
  - e. Describes and compares the taxonomic composition, distribution and density of the aquatic biota within the reach to a reference reach and describes the basis of any major taxonomic differences;
  - f. Describes the pollutant’s effect on the affected species or appropriate surrogate species and on the other designated uses listed for the reach;
  - g. Demonstrates that all designated uses are protected; and
  - h. A person seeking to develop a site-specific standard based on natural background may use statistical or modeling approaches to determine natural background concentration. Modeling approaches include Better Assessment Science Integrating Source and Nonpoint Sources (Basins), Hydrologic Simulation Program-Fortran (HSPF), and Hydrologic Engineering Center (HEC) programs developed by the U.S. Army Corps of Engineers.

**R18-11-121. Schedules of Compliance**

- ~~A. The Director may establish a schedule in an AZPDES permit to bring an existing point source into compliance with a new or revised water quality standard. A compliance schedule in an AZPDES permit for an existing point source, other than a stormwater discharge, shall require the permittee to comply with a discharge limitation based upon a new or revised water quality standard no later than three years after the effective date of the AZPDES permit as soon as possible to achieve compliance. The permittee shall demonstrate that all requirements under § 301(b) and § 306 of the Clean Water Act [33 U.S.C. 1311(b) and 1316] are achieved and that the point source cannot comply with a discharge limitation based upon the new or revised water quality standard through the application of existing water pollution control technology, operational changes, or source reduction. In establishing a compliance schedule, the Director shall consider:~~
  - 1. How much time the permittee has already had to meet any effluent limitations under a prior permit;
  - 2. The extent to which the permittee has made good faith efforts to comply with the effluent limitations and other requirements in a prior permit;
  - 3. Whether treatment facilities, operations, or measures must be modified to meet the effluent limitations;
  - 4. How long any necessary modifications would take to implement; and
  - 5. Whether the permittee would be expected to use the same treatment facilities, operations or other measures to meet the effluent limitations as it would have used to meet the effluent limitations in a prior permit.
- ~~B. The Director may establish a schedule of compliance in an AZPDES permit for a new point source. The first AZPDES permit issued to a new point source may contain a schedule of compliance only when necessary to allow the permittee to attain compliance with a new or revised water quality standard that becomes effective after commencement of construction but less than three years before the discharge begins. For purposes of this subsection, “commencement of construction” means that the owner or operator of the point source has obtained the federal, state, and local approvals or permits necessary to begin physical construction of the point source and either:~~
  - 1. Onsite physical construction has begun; or
  - 2. The owner or operator has entered into a contract for physical construction of the point source and the contract cannot be cancelled or modified without substantial loss. For purposes of this subsection, “substantial loss” means in excess of 10 percent of the total cost incurred for physical construction.
- ~~C. The Director may establish a schedule of compliance in an AZPDES permit for a recommencing point source discharge. The first AZPDES permit issued to a recommencing point source discharger may contain a schedule of compliance only when necessary to attain compliance with a new or revised water quality standard that is effective less than three years before recommencement of the discharge.~~

**D.** The Director may establish a schedule to bring a point source discharge of stormwater into compliance with a water quality standard in an AZPDES permit. A compliance schedule for a stormwater discharge shall require implementation of all reasonable and cost effective best management practices to control the discharge of pollutants in stormwater.

**APPENDIX A. NUMERIC WATER QUALITY STANDARDS**

**Table 1. Water Quality Criteria By Designated Use (see f)**

| PARAMETER                             | CAS NUMBER | DWS (µG/L)                | FC (µG/L) | FBC (µG/L)          | PBC (µG/L) | A&W c Acute (µg/L)    | A&W c Chronic (µg/L)  | A&W w Acute (µg/L)    | A&W w Chronic (µg/L)  | A&W e Acute (µg/L)    | A&W e Chronic (µg/L)  | A&W e Acute (µg/L)  | AgI (µg/L) | AgL (µg/L) |
|---------------------------------------|------------|---------------------------|-----------|---------------------|------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------|------------|------------|
| Acenaphthene                          | 83329      | 420                       | 198       | 56,000              | 56,000     | 850                   | 550                   | 850                   | 550                   | 850                   | 550                   |                     |            |            |
| Acrolein                              | 107028     | 3.5                       | 1.9       | 467                 | 467        | 34                    | 30                    | 34                    | 30                    | 34                    | 30                    |                     |            |            |
| Acrylonitrile                         | 107131     | 0.06                      | 0.2       | 3                   | 37,333     | 3,800                 | 250                   | 3,800                 | 250                   | 3,800                 | 250                   |                     |            |            |
| Alachlor                              | 15972608   | 2                         |           | 9,333               | 9,333      | 2,500                 | 170                   | 2,500                 | 170                   | 2,500                 | 170                   |                     |            |            |
| Aldrin                                | 309002     | 0.002                     | 0.00005   | 0.08                | 28         | 3                     |                       | 3                     |                       | 3                     |                       | 4.5                 | 0.003      | See (b)    |
| Alpha Particles (Gross) Radioactivity |            | 15 pCi/L See (h)          |           |                     |            |                       |                       |                       |                       |                       |                       |                     |            |            |
| Ammonia                               | 7664417    |                           |           |                     |            | See (e) & Table 25 11 | See (e) & Table 26 12 | See (e) & Table 25 11 | See (e) & Table 26 12 | See (e) & Table 25 11 | See (e) & Table 26 12 |                     |            |            |
| Anthracene                            | 120127     | 2,100                     | 74        | 280,000             | 280,000    |                       |                       |                       |                       |                       |                       |                     |            |            |
| Antimony                              | 7440360    | 6 T                       | 640 T     | 747 T               | 747 T      | 88 D                  | 30 D                  | 88 D                  | 30 D                  | 1,000 D               | 600 D                 |                     |            |            |
| Arsenic                               | 7440382    | 10 T                      | 80 T      | 30 T                | 280 T      | 340 D                 | 150 D                 | 340 D                 | 150 D                 | 340 D                 | 150 D                 | 440 D               | 2,000 T    | 200 T      |
| Asbestos                              | 1332214    | See (a)                   |           |                     |            |                       |                       |                       |                       |                       |                       |                     |            |            |
| Atrazine                              | 1912249    | 3                         |           | 32,667              | 32,667     |                       |                       |                       |                       |                       |                       |                     |            |            |
| Barium                                | 7440393    | 2,000 T                   |           | 98,000 T            | 98,000 T   |                       |                       |                       |                       |                       |                       |                     |            |            |
| Benz(a)anthracene                     | 56553      | 0.005                     | 0.02      | 0.2                 | 0.2        |                       |                       |                       |                       |                       |                       |                     |            |            |
| Benzene                               | 71432      | 5                         | 444 140   | 93                  | 3,733      | 2,700                 | 180                   | 2,700                 | 180                   | 8,800                 | 560                   |                     |            |            |
| 3, 4 Benzfluoranthene                 | 205992     | 0.005                     | 0.02      | 1.9                 | 1.9        |                       |                       |                       |                       |                       |                       |                     |            |            |
| Benzidine                             | 92875      | 0.0002                    | 0.0002    | 0.01                | 2,800      | 1,300                 | 89                    | 1,300                 | 89                    | 1,300                 | 89                    | 10,000              | 0.01       | 0.01       |
| Benzo(a)pyrene                        | 50328      | 0.2                       | 0.02      | 0.2                 | 0.2        |                       |                       |                       |                       |                       |                       |                     |            |            |
| Benzo(k)fluoranthene                  | 207089     | 0.005                     | 0.02      | 1.9                 | 1.9        |                       |                       |                       |                       |                       |                       |                     |            |            |
| Beryllium                             | 7440417    | 4 T                       | 84 T      | 1,867 T             | 1,867 T    | 65 D                  | 5.3 D                 | 65 D                  | 5.3 D                 | 65 D                  | 5.3 D                 |                     |            |            |
| Beta particles and photon emitters    |            | 4 millirems /year See (i) |           |                     |            |                       |                       |                       |                       |                       |                       |                     |            |            |
| Bis(2-chloroethyl) ether              | 111444     | 0.03                      | 0.5       | 1                   | 1          | 120,000               | 6,700                 | 120,000               | 6,700                 | 120,000               | 6,700                 |                     |            |            |
| Bis(2-chloroisopropyl) ether          | 108601     | 280                       | 3,441     | 37,333              | 37,333     |                       |                       |                       |                       |                       |                       |                     |            |            |
| Boron                                 | 7440428    | 1,400 T                   |           | 186,667 T           | 186,667 T  |                       |                       |                       |                       |                       |                       |                     | 1,000 T    |            |
| Bromodichloromethane                  | 75274      | TTHM See (g)              | 17        | 18,667 TTHM See (g) | 18,667     |                       |                       |                       |                       |                       |                       |                     |            |            |
| p-Bromodiphenyl ether                 | 101553     |                           |           |                     |            | 180                   | 14                    | 180                   | 14                    | 180                   | 14                    |                     |            |            |
| Bromoform                             | 75252      | TTHM See (g)              | 133       | 180                 | 18,667     | 15,000                | 10,000                | 15,000                | 10,000                | 15,000                | 10,000                |                     |            |            |
| Bromomethane                          | 74839      | 9.8                       | 299       | 1,307               | 1,307      | 5,500                 | 360                   | 5,500                 | 360                   | 5,500                 | 360                   |                     |            |            |
| Butyl benzyl phthalate                | 85687      | 1,400                     | 386       | 186,667             | 186,667    | 1,700                 | 130                   | 1,700                 | 130                   | 1,700                 | 130                   |                     |            |            |
| Cadmium                               | 7440439    | 5 T                       | 84 T      | 700 T               | 700 T      | See (d) & Table 2     | See (d) & Table 3     | See (d) & Table 4 2   | See (d) & Table 5 3   | See (d) & Table 4 2   | See (d) & Table 5 3   | See (d) & Table 6 2 | 50         | 50         |
| Carbofuran                            | 1563662    | 40                        |           | 4,667               | 4,667      | 650                   | 50                    | 650                   | 50                    | 650                   | 50                    |                     |            |            |
| Carbon tetrachloride                  | 56235      | 5                         | 2         | 11                  | 1,307 980  | 18,000                | 1,100                 | 18,000                | 1,100                 | 18,000                | 1,100                 |                     |            |            |
| Chlordane                             | 57749      | 2                         | 0.0008    | 4                   | 467        | 2.4                   | 0.004                 | 2.4                   | 0.2                   | 2.4                   | 0.2                   | 3.2                 |            |            |



| PARAMETER  | CAS NUMBER | DWS (µG/L)   | FC (µG/L)            | FBC (µG/L)                     | PBC (µG/L)       | A&W c Acute (µg/L)   | A&W c Chronic (µg/L) | A&W w Acute (µg/L)   | A&W w Chronic (µg/L) | A&Wed w Acute (µg/L) | A&Wed w Chronic (µg/L) | A&W e Acute (µg/L)   | AgI (µg/L) | AgL (µg/L) |
|--|------------|--------------|----------------------|--------------------------------|------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------------------------|----------------------|------------|------------|
| Chlorine (total residual)  | 7782505    | 4,000        |                      | 4,000                          | 4,000            | 19                   | 11                   | 19                   | 11                   | 19                   | 11                     |                      |            |            |
| Chlorobenzene  | 108907     | 100          | 1,553                | 18,667                         | 18,667           | 3,800                | 260                  | 3,800                | 260                  | 3,800                | 260                    |                      |            |            |
| 2-Chloroethyl vinyl ether  | 110758     |              |                      |                                |                  | 180,000              | 9,800                | 180,000              | 9,800                | 180,000              | 9,800                  |                      |            |            |
| Chloroform   | 67663      | TTHM See (g) | <del>2,433</del> 470 | <del>9,333</del> 230           | 9,333            | 14,000               | 900                  | 14,000               | 900                  | 14,000               | 900                    |                      |            |            |
| p-Chloro-m-cresol  | 59507      |              |                      |                                |                  | 15                   | 4.7                  | 15                   | 4.7                  | 15                   | 4.7                    | 48,000               |            |            |
| Chloromethane  | 74873      |              |                      |                                |                  | 270,000              | 15,000               | 270,000              | 15,000               | 270,000              | 15,000                 |                      |            |            |
| 2-Chloronaphthalene  | 91587      | 560          | 317                  | 74,667                         | 74,667           |                      |                      |                      |                      |                      |                        |                      |            |            |
| 2-Chlorophenol   | 95578      | 35           | 30                   | 4,667                          | 4,667            | 2,200                | 150                  | 2,200                | 150                  | 2,200                | 150                    |                      |            |            |
| Chlorpyrifos   | 2921882    | 21           |                      | 2,800                          | 2,800            | 0.08                 | 0.04                 | 0.08                 | 0.04                 | 0.08                 | 0.04                   |                      |            |            |
| Chromium III   | 16065831   |              | 75,000 T             | 1,400,000 T                    | 1,400,000 T      | See (d) & Table 7.4  | See (d) & Table 8.4  | See (d) & Table 7.4  | See (d) & Table 8.4  | See (d) & Table 7.4  | See (d) & Table 8.4    | See (d) & Table 9.4  |            |            |
| Chromium VI  | 18540299   | 21 T         | 150 T                | 2,800 T                        | 2,800 T          | 16 D                 | 11 D                 | 16 D                 | 11 D                 | 16 D                 | 11 D                   | 34 D                 |            |            |
| Chromium (Total)   | 7440473    | 100 T        |                      | 100 T                          | 100 T            |                      |                      |                      |                      |                      |                        |                      | 1,000      | 1,000      |
| Chrysene   | 218019     | 0.005        | 0.02                 | 19                             | 19               |                      |                      |                      |                      |                      |                        |                      |            |            |
| Copper   | 7440508    | 1,300 T      |                      | 1,300 T                        | 1,300 T          | See (d) & Table 49.5 | See (d) & Table 44.5 | See (d) & Table 40.5 | See (d) & Table 44.5 | See (d) & Table 40.5 | See (d) & Table 44.5   | See (d) & Table 42.5 | 5,000 T    | 500 T      |
| Cyanide (as free cyanide)  | 57125      | 200 T        | 16,000 T             | 18,667 T                       | 18,667 T         | 22 T                 | 5.2 T                | 41 T                 | 9.7 T                | 41 T                 | 9.7 T                  | 84 T                 |            | 200 T      |
| Dalapon  | 75990      | 200          | 8,000                | 28,000                         | 28,000           |                      |                      |                      |                      |                      |                        |                      |            |            |
| Dibenz (ah) anthracene   | 53703      | 0.005        | 0.02                 | 1.9                            | 1.9              |                      |                      |                      |                      |                      |                        |                      |            |            |
| Dibromochloromethane   | 124481     | TTHM See (g) | 13                   | <del>18,667</del> TTHM See (g) | 18,667           |                      |                      |                      |                      |                      |                        |                      |            |            |
| 1,2-Dibromo-3-chloropropane  | 96128      | 0.2          |                      | <del>2,800</del>               | <del>2,800</del> |                      |                      |                      |                      |                      |                        |                      |            |            |
| 1,2-Dibromoethane  | 106934     | 0.05         |                      | 8,400                          | 8,400            |                      |                      |                      |                      |                      |                        |                      |            |            |
| Dibutyl phthalate  | 84742      | 700          | 899                  | 93,333                         | 93,333           | 470                  | 35                   | 470                  | 35                   | 470                  | 35                     | 1,100                |            |            |
| 1,2-Dichlorobenzene  | 95501      | 600          | 205                  | 84,000                         | 84,000           | 790                  | 300                  | 1,200                | 470                  | 1,200                | 470                    | 5,900                |            |            |
| 1,3-Dichlorobenzene  | 541731     |              |                      |                                |                  | 2,500                | 970                  | 2,500                | 970                  | 2,500                | 970                    |                      |            |            |
| 1,4-Dichlorobenzene  | 106467     | 75           | 5,755                | 373,333                        | 373,333          | 560                  | 210                  | 2,000                | 780                  | 2,000                | 780                    | 6,500                |            |            |
| 3,3'-Dichlorobenzidine   | 91941      | 0.08         | 0.03                 | 3                              | 3                |                      |                      |                      |                      |                      |                        |                      |            |            |
| p,p'-Dichlorodiphenyltrichloroethane (DDT) and metabolites (DDD) and (DDE) | 50293      | 0.1          | 0.0002               | 4                              | 467              | 1.1                  | 0.001                | 1.1                  | 0.001                | 1.1                  | 0.001                  | 1.1                  | 0.001      | 0.001      |
| 1,2-Dichloroethane   | 107062     | 5            | 37                   | 15                             | 186,667          | 59,000               | 41,000               | 59,000               | 41,000               | 59,000               | 41,000                 |                      |            |            |
| 1,1-Dichloroethylene   | 75354      | 7            | 7,143                | 46,667                         | 46,667           | 15,000               | 950                  | 15,000               | 950                  | 15,000               | 950                    |                      |            |            |
| 1,2-cis-Dichloroethylene   | 156592     | 70           |                      | 70                             | 70               |                      |                      |                      |                      |                      |                        |                      |            |            |
| 1,2-trans-Dichloroethylene   | 156605     | 100          | 10,127               | 18,667                         | 18,667           | 68,000               | 3,900                | 68,000               | 3,900                | 68,000               | 3,900                  |                      |            |            |
| Dichloromethane  | 75092      | 5            | 593                  | 190                            | 56,000           | 97,000               | 5,500                | 97,000               | 5,500                | 97,000               | 5,500                  |                      |            |            |
| 2,4-Dichlorophenol   | 120832     | 21           | 59                   | 2,800                          | 2,800            | 1,000                | 88                   | 1,000                | 88                   | 1,000                | 88                     |                      |            |            |
| 2,4-Dichlorophenoxyacetic acid (2,4-D)                                     | 94757      | 70           |                      | 9,333                          | 9,333            |                      |                      |                      |                      |                      |                        |                      |            |            |
| 1,2-Dichloropropane  | 78875      | 5            | 17,518               | 84,000                         | 84,000           | 26,000               | 9,200                | 26,000               | 9,200                | 26,000               | 9,200                  |                      |            |            |
| 1,3-Dichloropropene  | 542756     | 0.7          | 42                   | 420                            | 28,000           | 3,000                | 1,100                | 3,000                | 1,100                | 3,000                | 1,100                  |                      |            |            |
| Dieldrin   | 60571      | 0.002        | 0.00005              | 0.09                           | 47               | 0.2                  | 0.06                 | 0.2                  | 0.06                 | 0.2                  | 0.06                   | 4                    | 0.003      | See (b)    |
| Diethyl phthalate  | 84662      | 5,600        | 8,767                | 746,667                        | 746,667          | 26,000               | 1,600                | 26,000               | 1,600                | 26,000               | 1,600                  |                      |            |            |
| Di (2-ethylhexyl) adipate  | 103231     | 400          |                      | 560,000                        | 560,000          |                      |                      |                      |                      |                      |                        |                      |            |            |
| Di (2-ethylhexyl) phthalate  | 117817     | 6            | 3                    | <del>1,200</del> 100           | 18,667           | 400                  | 360                  | 400                  | 360                  | 400                  | 360                    | 3,100                |            |            |

| PARAMETER                             | CAS NUMBER | DWS (µG/L)             | FC (µG/L)                | FBC (µG/L)              | PBC (µG/L)              | A&W c Acute (µg/L)   | A&W c Chronic (µg/L) | A&W w Acute (µg/L)   | A&W w Chronic (µg/L) | A&Wed w Acute (µg/L) | A&Wed w Chronic (µg/L) | A&W e Acute (µg/L)   | AgI (µg/L) | AgL (µg/L) |
|---------------------------------------|------------|------------------------|--------------------------|-------------------------|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------------------------|----------------------|------------|------------|
| 2,4-Dimethylphenol                    | 105679     | 140                    | 171                      | 18,667                  | 18,667                  | 1,000                | 310                  | 1,000                | 310                  | 1,000                | 310                    | 150,000              |            |            |
| Dimethyl phthalate                    | 131113     |                        |                          |                         |                         | 17,000               | 1,000                | 17,000               | 1,000                | 17,000               | 1,000                  |                      |            |            |
| 4,6-Dinitro-o-cresol                  | 534521     | 28                     | 582                      | 3,733                   | 3,733                   | 310                  | 24                   | 310                  | 24                   | 310                  | 24                     |                      |            |            |
| 2,4-Dinitrophenol                     | 51285      | 14                     | 1,067                    | 1,867                   | 1,867                   | 110                  | 9.2                  | 110                  | 9.2                  | 110                  | 9.2                    |                      |            |            |
| 2,4-Dinitrotoluene                    | 121142     | 14                     | 421                      | 1,867                   | 1,867                   | 14,000               | 860                  | 14,000               | 860                  | 14,000               | 860                    |                      |            |            |
| 2,6-Dinitrotoluene                    | 606202     | 0.05                   |                          | 2                       | 3,733                   |                      |                      |                      |                      |                      |                        |                      |            |            |
| Di-n-octyl phthalate                  | 117840     | 2,800                  |                          | 373,333                 | 373,333                 |                      |                      |                      |                      |                      |                        |                      |            |            |
| Dinoseb                               | 88857      | 7                      |                          | 933                     | 933                     |                      |                      |                      |                      |                      |                        |                      |            |            |
| 1,2-Diphenylhydrazine                 | 122667     | 0.04                   | 0.2                      | 1.8                     | 1.8                     | 130                  | 11                   | 130                  | 11                   | 130                  | 11                     |                      |            |            |
| Diquat                                | 85007      | 20                     |                          | 2,053                   | 2,053                   |                      |                      |                      |                      |                      |                        |                      |            |            |
| Endosulfan sulfate                    | 1031078    | 42                     | 18                       | 5,600                   | 5,600                   | 0.2                  | 0.06                 | 0.2                  | 0.06                 | 0.2                  | 0.06                   | 3                    |            |            |
| Endosulfan (Total)                    | 115297     | 42                     | 18                       | 5,600                   | 5,600                   | 0.2                  | 0.06                 | 0.2                  | 0.06                 | 0.2                  | 0.06                   | 3                    |            |            |
| Endothall                             | 145733     | 100                    |                          | 18,667                  | 18,667                  |                      |                      |                      |                      |                      |                        |                      |            |            |
| Endrin                                | 72208      | 2                      | 0.06                     | 280                     | 280                     | 0.09                 | 0.04                 | 0.09                 | 0.04                 | 0.09                 | 0.04                   | 0.7                  | 0.004      | 0.004      |
| Endrin aldehyde                       | 7421933    |                        |                          |                         |                         | 0.09                 | 0.04                 | 0.09                 | 0.04                 | 0.09                 | 0.04                   | 0.7                  |            |            |
| Ethylbenzene                          | 100414     | 700                    | 2,133                    | 93,333                  | 93,333                  | 23,000               | 1,400                | 23,000               | 1,400                | 23,000               | 1,400                  |                      |            |            |
| Fluoranthene                          | 206440     | 280                    | 28                       | 37,333                  | 37,333                  | 2,000                | 1,600                | 2,000                | 1,600                | 2,000                | 1,600                  |                      |            |            |
| Fluorene                              | 86737      | 280                    | 1,067                    | 37,333                  | 37,333                  |                      |                      |                      |                      |                      |                        |                      |            |            |
| Fluoride                              | 7782414    | 4,000                  |                          | 140,000                 | 140,000                 |                      |                      |                      |                      |                      |                        |                      |            |            |
| Glyphosate                            | 1071836    | 700                    | 266,667                  | 93,333                  | 93,333                  |                      |                      |                      |                      |                      |                        |                      |            |            |
| Guthion                               | 86500      |                        |                          |                         |                         |                      | 0.01                 |                      | 0.01                 |                      | 0.01                   |                      |            |            |
| Heptachlor                            | 76448      | 0.4                    | 0.00008                  | 0.4                     | 467                     | 0.5                  | 0.004                | 0.5                  | 0.004                | 0.6                  | 0.01                   | 0.9                  |            |            |
| Heptachlor epoxide                    | 1024573    | 0.2                    | 0.00004                  | 0.2                     | 12                      | 0.5                  | 0.004                | 0.5                  | 0.004                | 0.6                  | 0.01                   | 0.9                  |            |            |
| Hexachlorobenzene                     | 118741     | 1                      | 0.0003                   | 1                       | 747                     | 6                    | 3.7                  | 6                    | 3.7                  | 6                    | 3.7                    |                      |            |            |
| Hexachlorobutadiene                   | 87683      | 0.4                    | 18                       | 18                      | 187                     | 45                   | 8.2                  | 45                   | 8.2                  | 45                   | 8.2                    |                      |            |            |
| Hexachlorocyclohexane alpha           | 319846     | 0.006                  | 0.005                    | 0.22                    | 7,467                   | 1,600                | 130                  | 1,600                | 130                  | 1,600                | 130                    | 1,600                |            |            |
| Hexachlorocyclohexane beta            | 319857     | 0.02                   | 0.02                     | 0.78                    | 560                     | 1,600                | 130                  | 1,600                | 130                  | 1,600                | 130                    | 1,600                |            |            |
| Hexachlorocyclohexane delta           | 319868     |                        |                          |                         |                         | 1,600                | 130                  | 1,600                | 130                  | 1,600                | 130                    | 1,600                |            |            |
| Hexachlorocyclohexane gamma (lindane) | 58899      | 0.2                    | 1.8                      | 280                     | 280                     | 1                    | 0.08                 | 1                    | 0.28                 | 1                    | 0.61                   | 11                   |            |            |
| Hexachlorocyclopentadiene             | 77474      | 50                     | <del>74</del> 580        | <del>11,200</del> 9,800 | <del>11,200</del> 9,800 | 3.5                  | 0.3                  | 3.5                  | 0.3                  | 3.5                  | 0.3                    |                      |            |            |
| Hexachloroethane                      | 67721      | 2.5                    | 3.3                      | 100                     | 933                     | 490                  | 350                  | 490                  | 350                  | 490                  | 350                    | 850                  |            |            |
| Hydrogen sulfide                      | 7783064    |                        |                          |                         |                         |                      | 2 See (c)            |                      | 2 See (c)            |                      | 2 See (c)              |                      |            |            |
| Indeno (1,2,3-cd) pyrene              | 193395     | 0.05                   | <del>0.2</del> 0.49      | 1.9                     | 1.9                     |                      |                      |                      |                      |                      |                        |                      |            |            |
| Iron                                  | 7439896    |                        |                          |                         |                         |                      | 1,000 D              |                      | 1,000 D              |                      | 1,000 D                |                      |            |            |
| Isophorone                            | 78591      | 37                     | 961                      | 1,500                   | 186,667                 | 59,000               | 43,000               | 59,000               | 43,000               | 59,000               | 43,000                 |                      |            |            |
| Lead                                  | 7439971    | 15 T                   |                          | 15 T                    | 15 T                    | See (d) & Table 13 G | See (d) & Table 14 G | See (d) & Table 13 G | See (d) & Table 14 G | See (d) & Table 13 G | See (d) & Table 14 G   | See (d) & Table 15 G | 10,000 T   | 100 T      |
| Malathion                             | 121755     | 140                    |                          | 18,667                  | 18,667                  |                      | 0.1                  |                      | 0.1                  |                      | 0.1                    |                      |            |            |
| Manganese                             | 7439965    | 980                    |                          | 130,667                 | 130,667                 |                      |                      |                      |                      |                      |                        |                      | 10,000     |            |
| Mercury                               | 7439976    | 2 T                    |                          | 280 T                   | 280 T                   | 2.4 D                | 0.01 D               | 2.4 D                | 0.01 D               | 2.4 D                | 0.01 D                 | 5 D                  |            | 10 T       |
| Methoxychlor                          | 72435      | 40                     |                          | 4,667                   | 4,667                   |                      | 0.03                 |                      | 0.03                 |                      | 0.03                   |                      |            |            |
| Methylmercury                         |            |                        | 0.3 mg/kg                |                         |                         |                      |                      |                      |                      |                      |                        |                      |            |            |
| Mirex                                 | 2385855    | 1                      |                          | 187                     | 187                     |                      | 0.001                |                      | 0.001                |                      | 0.001                  |                      |            |            |
| Naphthalene                           | 91203      | 140                    | 1,524                    | 18,667                  | 18,667                  | 1,100                | 210                  | 3,200                | 580                  | 3,200                | 580                    |                      |            |            |
| Nickel                                | 7440020    | <del>210</del> T 140 T | <del>511</del> T 4,600 T | 28,000 T                | 28,000 T                | See (d) & Table 16 G | See (d) & Table 17 G | See (d) & Table 16 G | See (d) & Table 17 G | See (d) & Table 16 G | See (d) & Table 17 G   | See (d) & Table 18 G |            |            |
| Nitrate                               | 1479755    | 10,000                 |                          | 3,733,333               | 3,733,333               |                      |                      |                      |                      |                      |                        |                      |            |            |



| PARAMETER  | CAS NUMBER | DWS (µG/L) | FC (µG/L)                 | FBC (µG/L)                 | PBC (µG/L)                 | A&W c Acute (µg/L)                       | A&W c Chronic (µg/L)                     | A&W w Acute (µg/L)                       | A&W w Chronic (µg/L)                     | A&Wed w Acute (µg/L)                     | A&Wed w Chronic (µg/L)                   | A&W e Acute (µg/L)                       | AgI (µg/L) | AgL (µg/L) |
|--|------------|------------|---------------------------|----------------------------|----------------------------|--|--|--|--|--|--|--|------------|------------|
|  | 8          |            |                           |                            | 3                          |  |  |  |  |  |  |  |            |            |
| Nitrite  | 14797650   | 1,000      |                           | 233,333                    | 233,333                    |  |  |  |  |  |  |  |            |            |
| Nitrate + Nitrite                                  |            | 10,000     |                           |                            |                            |  |  |  |  |  |  |  |            |            |
| Nitrobenzene                                       | 98953      | 3.5        | 138                       | 467                        | 467                        | 1,300                                    | 850                                      | 1,300                                    | 850                                      | 1,300                                    | 850                                      |  |            |            |
| p-Nitrophenol                                      | 100027     |            |                           |                            |                            | 4,100                                    | 3,000                                    | 4,100                                    | 3,000                                    | 4,100                                    | 3,000                                    |  |            |            |
| N-nitrosodimethylamine                             | 62759      | 0.001      | 3                         | 0.03                       | 0.03                       |  |  |  |  |  |  |  |            |            |
| N-nitrosodi-n-phenylamine                          | 86306      | 7.1        | 6                         | 290                        | 290                        | 2,900                                    | 200                                      | 2,900                                    | 200                                      | 2,900                                    | 200                                      |  |            |            |
| N-nitrosodi-n-propylamine                          | 621647     | 0.005      | 0.5                       | 0.2                        | 88,667                     |  |  |  |  |  |  |  |            |            |
| Oxamyl   | 23135220   | 200        |                           | 23,333                     | 23,333                     |  |  |  |  |  |  |  |            |            |
| Parathion  | 56382      |            |                           |                            |                            | 0.07                                     | 0.01                                     | 0.07                                     | 0.01                                     | 0.07                                     | 0.01                                     |  |            |            |
| Paraquat   | 1910425    | 32         |                           | 4,200                      | 4,200                      | 400                                      | 54                                       | 400                                      | 54                                       | 400                                      | 54                                       |  |            |            |
| Pentachlorophenol                                  | 87865      | 1          | <del>370</del> 1,000      | 12                         | 28,000                     | See (e) <sub>1</sub> , (j) & Table 22 10 | See (e) <sub>1</sub> , (j) & Table 22 10 | See (e) <sub>1</sub> , (j) & Table 22 10 | See (e) <sub>2</sub> , (j) & Table 22 10 | See (e) <sub>2</sub> , (j) & Table 22 10 | See (e) <sub>2</sub> , (j) & Table 22 10 | See (e) <sub>1</sub> , (j) & Table 24 10 |            |            |
| Permethrin   | 52645531   | 350        |                           | 46,667                     | 46,667                     | 0.3                                      | 0.2                                      | 0.3                                      | 0.2                                      | 0.3                                      | 0.2                                      |  |            |            |
| Phenanthrene                                       | 85018      |            |                           |                            |                            | 30                                       | 6.3                                      | 30                                       | 6.3                                      | 30                                       | 6.3                                      |  |            |            |
| Phenol   | 108952     | 2,100      | 37                        | 280,000                    | 280,000                    | 5,100                                    | 730                                      | 7,000                                    | 1,000                                    | 7,000                                    | 1,000                                    | 180,000                                  |            |            |
| Picloram   | 1918021    | 500        | 2,710                     | 65,333                     | 65,333                     |  |  |  |  |  |  |  |            |            |
| Polychlorinatedbiphenyls (PCBs)                    | 1336363    | 0.5        | 0.00006                   | 19                         | 19                         | 2  | 0.01                                     | 2  | 0.02                                     | 2  | 0.02                                     | 11                                       | 0.001      | 0.001      |
| Pyrene   | 129000     | 210        | 800                       | 28,000                     | 28,000                     |  |  |  |  |  |  |  |            |            |
| Radium 226 + Radium 228                            |            | 5 pCi/L    |                           |                            |                            |  |  |  |  |  |  |  |            |            |
| Selenium   | 7782492    | 50 T       | 667 T                     | 4,667 T                    | 4,667 T                    |  | 2 T                                      |  | 2 T                                      |  | 2 T                                      | 33 T                                     | 20 T       | 50 T       |
| Silver   | 7440224    | 35 T       | 8,000 T                   | 4,667 T                    | 4,667 T                    | See (d) & Table 49 8                     |  | See (d) & Table 49 8                     |  | See (d) & Table 49 8                     |  | See (d) & Table 49 8                     |            |            |
| Simazine   | 112349     | 4          |                           | 4,667                      | 4,667                      |  |  |  |  |  |  |  |            |            |
| Strontium  |            | 8 pCi/L    |                           |                            |                            |  |  |  |  |  |  |  |            |            |
| Styrene  | 100425     | 100        |                           | 186,667                    | 186,667                    | 5,600                                    | 370                                      | 5,600                                    | 370                                      | 5,600                                    | 370                                      |  |            |            |
| Sulfides   |            |            |                           |                            |                            |  |  |  |  |  |  | 100                                      |            |            |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) | 1746016    | 0.00003    | 5x10-9                    | 0.00003                    | 0.0009                     | 0.01                                     | 0.005                                    | 0.01                                     | 0.005                                    | 0.01                                     | 0.005                                    | 0.1                                      |            |            |
| 1,1,2,2-Tetrachloroethane                          | 79345      | 0.2        | 4                         | 7                          | <del>93,333</del> 56,000   | 4,700                                    | 3,200                                    | 4,700                                    | 3,200                                    | 4,700                                    | 3,200                                    |  |            |            |
| Tetrachloroethylene                                | 127184     | 5          | 261                       | 9,333                      | 9,333                      | 2,600                                    | 280                                      | 6,500                                    | 680                                      | 6,500                                    | 680                                      | 15,000                                   |            |            |
| Thallium   | 7440280    | 2 T        | <del>4 T</del> 2 T        | 75 T                       | 75 T                       | 700 D                                    | 150 D                                    | 700 D                                    | 150 D                                    | 700 D                                    | 150 D                                    |  |            |            |
| Toluene  | 108883     | 1,000      | <del>29,907</del> 201,000 | <del>373,333</del> 280,000 | <del>373,333</del> 280,000 | 8,700                                    | 180                                      | 8,700                                    | 180                                      | 8,700                                    | 180                                      |  |            |            |
| Toxaphene  | 8001352    | 3          | 0.0003                    | 1.3                        | 933                        | 0.7                                      | 0.0002                                   | 0.7                                      | 0.0002                                   | 0.7                                      | 0.0002                                   | 11                                       | 0.005      | 0.005      |
| Tributyltin  |            |            |                           |                            |                            | 0.5                                      | 0.07                                     | 0.5                                      | 0.07                                     | 0.5                                      | 0.07                                     |  |            |            |
| 1,2,4-Trichlorobenzene                             | 120821     | 70         | 70                        | 9,333                      | 9,333                      | 750                                      | 130                                      | 1,700                                    | 300                                      | 1,700                                    | 300                                      |  |            |            |
| 1,1,1-Trichloroethane                              | 71556      | 200        | 428,571                   | 1,866,667                  | 1,866,667                  | 2,600                                    | 1,600                                    | 2,600                                    | 1,600                                    | 2,600                                    | 1,600                                    |  | 1,000      |            |
| 1,1,2-Trichloroethane                              | 79005      | 5          | 16                        | 25                         | 3,733                      | 18,000                                   | 12,000                                   | 18,000                                   | 12,000                                   | 18,000                                   | 12,000                                   |  |            |            |
| Trichloroethylene                                  | 79016      | 5          | 29                        | 280,000                    | 280                        | 20,000                                   | 1,300                                    | 20,000                                   | 1,300                                    | 20,000                                   | 1,300                                    |  |            |            |
| 2,4,6-Trichlorophenol                              | 88062      | 3.2        | 2                         | 130                        | 130                        | 160                                      | 25                                       | 160                                      | 25                                       | 160                                      | 25                                       | 3,000                                    |            |            |
| 2,4,5-Trichlorophenoxy propionic acid (2,4,5-TP)   | 93721      | 50         |                           | 7,467                      | 7,467                      |  |  |  |  |  |  |  |            |            |

| PARAMETER           | CAS NUMBER | DWS (µG/L)   | FC (µG/L) | FBC (µG/L) | PBC (µG/L) | A&Wc Acute (µg/L)   | A&Wc Chronic (µg/L) | A&Ww Acute (µg/L)   | A&Ww Chronic (µg/L) | A&Wedw Acute (µg/L) | A&Wedw Chronic (µg/L) | A&We Acute (µg/L)   | AgI (µg/L) | AgL (µg/L) |
|---------------------|------------|--------------|-----------|------------|------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----------------------|---------------------|------------|------------|
| Trihalomethanes (T) |            | 80           |           |            |            |                     |                     |                     |                     |                     |                       |                     |            |            |
| Tritium             |            | 20,000 pCi/L |           |            |            |                     |                     |                     |                     |                     |                       |                     |            |            |
| Uranium             | 7440611    | 30 D         |           | 2,800      | 2,800      |                     |                     |                     |                     |                     |                       |                     |            |            |
| Vinyl chloride      | 75014      | 2            | 5         | 2          | 2,800      |                     |                     |                     |                     |                     |                       |                     |            |            |
| Xylenes (T)         | 1330207    | 10,000       |           | 186,667    | 186,667    |                     |                     |                     |                     |                     |                       |                     |            |            |
| Zinc                | 7440666    | 2,100 T      | 5,106 T   | 280,000 T  | 280,000 T  | See (d) & Table 209   | See (d) & Table 209 | 10,000 T   | 25,000 T   |

Footnotes

- a. The asbestos standard is 7 million fibers (longer than 10 micrometers) per liter.
- b. The aldrin/dieldrin standard is exceeded when the sum of the two compounds exceeds 0.003 µg/L.
- c. In lakes, the acute criteria for hydrogen sulfide apply only to water samples taken from the epilimnion, or the upper layer of a lake or reservoir.
- d. Hardness, expressed as mg/L CaCO<sub>3</sub>, is determined according to the following criteria:
  - i. If the receiving water body has an A&Wc or A&Ww designated use, then hardness is based on the hardness of the receiving water body from a sample taken at the same time that the sample for the metal is taken, except that the hardness may not exceed 400 mg/L CaCO<sub>3</sub>.
  - ii. If the receiving water has an A&Wedw or A&We designated use, then the hardness is based on the hardness of the effluent from a sample taken at the same time that the sample for the metal is taken, except that the hardness may not exceed 400 mg/L CaCO<sub>3</sub>.
  - iii. The mathematical equations for the hardness-dependent parameter represent the water quality standards. Examples of criteria for the hardness-dependent parameters have been calculated and are presented in separate tables at the end of Appendix A for the convenience of the user.
- e. pH is determined according to the following criteria:
  - i. If the receiving water has an A&Wc or A&Ww designated use, then pH is based on the pH of the receiving water body from a sample taken at the same time that the sample for pentachlorophenol or ammonia is taken.
  - ii. If the receiving water body has an A&Wedw or A&We designated use, then the pH is based on the pH of the effluent from a sample taken at the same time that the sample for pentachlorophenol or ammonia is taken.
  - iii. The mathematical equations for ammonia represent the water quality standards. Examples of criteria for ammonia have been calculated and are presented in separate tables at the end of Appendix A for the convenience of the user.
- f. Table 1 abbreviations.
  - i. µg/L = micrograms per liter,
  - ii. mg/kg = milligrams per kilogram,
  - iii. pCi/L = picocuries per liter,
  - iv. D = dissolved,
  - v. T = total recoverable,
  - vi. TTHM indicates that the chemical is a trihalomethane.
- g. The total trihalomethane (TTHM) standard is exceeded when the sum of these four compounds exceeds 80 µg/L, as a rolling annual average.
- h. The concentration of gross alpha particle activity includes radium-226, but excludes radon and uranium.
- i. The average annual concentration of beta particle activity and photon emitters from manmade radionuclides shall not produce an annual dose equivalent to the total body or any internal organ greater than four millirems per year.
- j. The mathematical equations for the pH-dependent parameters represent the water quality standards. Examples of criteria for the pH-dependent parameters have been calculated and are presented in separate tables at the end of Appendix A for the convenience of the user.



**Table 2. Acute Water Quality Standards for Dissolved Cadmium Aquatic and Wildlife coldwater**

| Hard. mg/L | Std. µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | 0.02      | 41         | 0.85      | 81         | 1.64      | 121        | 2.42      | 161        | 3.20      | 201        | 3.97      | 241        | 4.73      | 281        | 5.49      | 321        | 6.25      | 361        | 7.00      |
| 2          | 0.04      | 42         | 0.87      | 82         | 1.66      | 122        | 2.44      | 162        | 3.22      | 202        | 3.99      | 242        | 4.75      | 282        | 5.51      | 322        | 6.27      | 362        | 7.02      |
| 3          | 0.07      | 43         | 0.89      | 83         | 1.68      | 123        | 2.46      | 163        | 3.24      | 203        | 4.01      | 243        | 4.77      | 283        | 5.53      | 323        | 6.29      | 363        | 7.04      |
| 4          | 0.09      | 44         | 0.91      | 84         | 1.70      | 124        | 2.48      | 164        | 3.26      | 204        | 4.03      | 244        | 4.79      | 284        | 5.55      | 324        | 6.31      | 364        | 7.06      |
| 5          | 0.11      | 45         | 0.93      | 85         | 1.72      | 125        | 2.50      | 165        | 3.28      | 205        | 4.04      | 245        | 4.81      | 285        | 5.57      | 325        | 6.33      | 365        | 7.08      |
| 6          | 0.13      | 46         | 0.95      | 86         | 1.74      | 126        | 2.52      | 166        | 3.30      | 206        | 4.06      | 246        | 4.83      | 286        | 5.59      | 326        | 6.34      | 366        | 7.10      |
| 7          | 0.15      | 47         | 0.97      | 87         | 1.76      | 127        | 2.54      | 167        | 3.31      | 207        | 4.08      | 247        | 4.85      | 287        | 5.61      | 327        | 6.36      | 367        | 7.12      |
| 8          | 0.17      | 48         | 0.99      | 88         | 1.78      | 128        | 2.56      | 168        | 3.33      | 208        | 4.10      | 248        | 4.87      | 288        | 5.63      | 328        | 6.38      | 368        | 7.14      |
| 9          | 0.19      | 49         | 1.01      | 89         | 1.80      | 129        | 2.58      | 169        | 3.35      | 209        | 4.12      | 249        | 4.88      | 289        | 5.64      | 329        | 6.40      | 369        | 7.15      |
| 10         | 0.21      | 50         | 1.03      | 90         | 1.82      | 130        | 2.60      | 170        | 3.37      | 210        | 4.14      | 250        | 4.90      | 290        | 5.66      | 330        | 6.42      | 370        | 7.17      |
| 11         | 0.23      | 51         | 1.05      | 91         | 1.84      | 131        | 2.62      | 171        | 3.39      | 211        | 4.16      | 251        | 4.92      | 291        | 5.68      | 331        | 6.44      | 371        | 7.19      |
| 12         | 0.26      | 52         | 1.07      | 92         | 1.86      | 132        | 2.64      | 172        | 3.41      | 212        | 4.18      | 252        | 4.94      | 292        | 5.70      | 332        | 6.46      | 372        | 7.21      |
| 13         | 0.28      | 53         | 1.09      | 93         | 1.88      | 133        | 2.66      | 173        | 3.43      | 213        | 4.20      | 253        | 4.96      | 293        | 5.72      | 333        | 6.48      | 373        | 7.23      |
| 14         | 0.30      | 54         | 1.11      | 94         | 1.90      | 134        | 2.68      | 174        | 3.45      | 214        | 4.22      | 254        | 4.98      | 294        | 5.74      | 334        | 6.50      | 374        | 7.25      |
| 15         | 0.32      | 55         | 1.13      | 95         | 1.92      | 135        | 2.70      | 175        | 3.47      | 215        | 4.24      | 255        | 5.00      | 295        | 5.76      | 335        | 6.51      | 375        | 7.27      |
| 16         | 0.34      | 56         | 1.15      | 96         | 1.94      | 136        | 2.72      | 176        | 3.49      | 216        | 4.26      | 256        | 5.02      | 296        | 5.78      | 336        | 6.53      | 376        | 7.29      |
| 17         | 0.36      | 57         | 1.17      | 97         | 1.95      | 137        | 2.73      | 177        | 3.51      | 217        | 4.27      | 257        | 5.04      | 297        | 5.80      | 337        | 6.55      | 377        | 7.30      |
| 18         | 0.38      | 58         | 1.19      | 98         | 1.97      | 138        | 2.75      | 178        | 3.53      | 218        | 4.29      | 258        | 5.06      | 298        | 5.81      | 338        | 6.57      | 378        | 7.32      |
| 19         | 0.40      | 59         | 1.21      | 99         | 1.99      | 139        | 2.77      | 179        | 3.55      | 219        | 4.31      | 259        | 5.08      | 299        | 5.83      | 339        | 6.59      | 379        | 7.34      |
| 20         | 0.42      | 60         | 1.23      | 100        | 2.01      | 140        | 2.79      | 180        | 3.56      | 220        | 4.33      | 260        | 5.09      | 300        | 5.85      | 340        | 6.61      | 380        | 7.36      |
| 21         | 0.44      | 61         | 1.25      | 101        | 2.03      | 141        | 2.81      | 181        | 3.58      | 221        | 4.35      | 261        | 5.11      | 301        | 5.87      | 341        | 6.63      | 381        | 7.38      |
| 22         | 0.46      | 62         | 1.26      | 102        | 2.05      | 142        | 2.83      | 182        | 3.60      | 222        | 4.37      | 262        | 5.13      | 302        | 5.89      | 342        | 6.65      | 382        | 7.40      |
| 23         | 0.48      | 63         | 1.28      | 103        | 2.07      | 143        | 2.85      | 183        | 3.62      | 223        | 4.39      | 263        | 5.15      | 303        | 5.91      | 343        | 6.66      | 383        | 7.42      |
| 24         | 0.50      | 64         | 1.30      | 104        | 2.09      | 144        | 2.87      | 184        | 3.64      | 224        | 4.41      | 264        | 5.17      | 304        | 5.93      | 344        | 6.68      | 384        | 7.44      |
| 25         | 0.52      | 65         | 1.32      | 105        | 2.11      | 145        | 2.89      | 185        | 3.66      | 225        | 4.43      | 265        | 5.19      | 305        | 5.95      | 345        | 6.70      | 385        | 7.45      |
| 26         | 0.54      | 66         | 1.34      | 106        | 2.13      | 146        | 2.91      | 186        | 3.68      | 226        | 4.45      | 266        | 5.21      | 306        | 5.97      | 346        | 6.72      | 386        | 7.47      |
| 27         | 0.56      | 67         | 1.36      | 107        | 2.15      | 147        | 2.93      | 187        | 3.70      | 227        | 4.47      | 267        | 5.23      | 307        | 5.99      | 347        | 6.74      | 387        | 7.49      |
| 28         | 0.58      | 68         | 1.38      | 108        | 2.17      | 148        | 2.95      | 188        | 3.72      | 228        | 4.48      | 268        | 5.25      | 308        | 6.00      | 348        | 6.76      | 388        | 7.51      |
| 29         | 0.60      | 69         | 1.40      | 109        | 2.19      | 149        | 2.97      | 189        | 3.74      | 229        | 4.50      | 269        | 5.27      | 309        | 6.02      | 349        | 6.78      | 389        | 7.53      |
| 30         | 0.62      | 70         | 1.42      | 110        | 2.21      | 150        | 2.99      | 190        | 3.76      | 230        | 4.52      | 270        | 5.28      | 310        | 6.04      | 350        | 6.80      | 390        | 7.55      |
| 31         | 0.64      | 71         | 1.44      | 111        | 2.23      | 151        | 3.01      | 191        | 3.78      | 231        | 4.54      | 271        | 5.30      | 311        | 6.06      | 351        | 6.82      | 391        | 7.57      |
| 32         | 0.66      | 72         | 1.46      | 112        | 2.25      | 152        | 3.03      | 192        | 3.80      | 232        | 4.56      | 272        | 5.32      | 312        | 6.08      | 352        | 6.83      | 392        | 7.59      |
| 33         | 0.68      | 73         | 1.48      | 113        | 2.27      | 153        | 3.04      | 193        | 3.81      | 233        | 4.58      | 273        | 5.34      | 313        | 6.10      | 353        | 6.85      | 393        | 7.60      |
| 34         | 0.70      | 74         | 1.50      | 114        | 2.29      | 154        | 3.06      | 194        | 3.83      | 234        | 4.60      | 274        | 5.36      | 314        | 6.12      | 354        | 6.87      | 394        | 7.62      |
| 35         | 0.72      | 75         | 1.52      | 115        | 2.31      | 155        | 3.08      | 195        | 3.85      | 235        | 4.62      | 275        | 5.38      | 315        | 6.14      | 355        | 6.89      | 395        | 7.64      |
| 36         | 0.75      | 76         | 1.54      | 116        | 2.33      | 156        | 3.10      | 196        | 3.87      | 236        | 4.64      | 276        | 5.40      | 316        | 6.16      | 356        | 6.91      | 396        | 7.66      |
| 37         | 0.77      | 77         | 1.56      | 117        | 2.35      | 157        | 3.12      | 197        | 3.89      | 237        | 4.66      | 277        | 5.42      | 317        | 6.17      | 357        | 6.93      | 397        | 7.68      |
| 38         | 0.79      | 78         | 1.58      | 118        | 2.37      | 158        | 3.14      | 198        | 3.91      | 238        | 4.68      | 278        | 5.44      | 318        | 6.19      | 358        | 6.95      | 398        | 7.70      |

|    |      |    |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |
|----|------|----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|
| 39 | 0.81 | 79 | 1.60 | 119 | 2.38 | 159 | 3.16 | 199 | 3.93 | 239 | 4.69 | 279 | 5.45 | 319 | 6.21 | 359 | 6.97 | 399 | 7.72 |
| 40 | 0.83 | 80 | 1.62 | 120 | 2.40 | 160 | 3.18 | 200 | 3.95 | 240 | 4.71 | 280 | 5.47 | 320 | 6.23 | 360 | 6.98 | 400 | 7.74 |

**Table 2. Acute Water Quality Standards for Dissolved Cadmium**

| <u>Aquatic and Wildlife coldwater</u>  |                  | <u>Aquatic and Wildlife warmwater, and edw</u>   |                  | <u>Aquatic and Wildlife ephemeral</u>  |                  |
|--|------------------|--|------------------|--|------------------|
| <u>Hard. mg/L</u>  | <u>Std. µg/L</u> | <u>Hard. mg/L</u>  | <u>Std. µg/L</u> | <u>Hard. mg/L</u>  | <u>Std. µg/L</u> |
| 20   | 0.42             | 20   | 0.74             | 20   | 11.3             |
| 100  | 2.0              | 100  | 4.3              | 100  | 64.6             |
| 400  | 7.7              | 400  | 19.1             | 400  | 290              |
| $e^{(1.0166 \cdot \text{LN}(\text{Hardness}) - 3.924)} \cdot (1.136672 - \text{LN}(\text{Hardness})) \cdot 0.041838$ |                  | $e^{(1.128 \cdot \text{LN}(\text{Hardness}) - 3.6867)} \cdot (1.136672 - \text{LN}(\text{Hardness})) \cdot 0.041838$ |                  | $e^{(1.128 \cdot \text{LN}(\text{Hardness}) - 0.9691)} \cdot (1.136672 - \text{LN}(\text{Hardness})) \cdot 0.041838$ |                  |

**Table 3. Chronic Water Quality Standards for Dissolved Cadmium Aquatic and Wildlife coldwater**

| Hard mg/L | Std. µg/L |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1         | 0.01      | 41        | 0.13      | 81        | 0.21      | 121       | 0.28      | 161       | 0.34      | 201       | 0.40      | 241       | 0.45      | 281       | 0.50      | 321       | 0.55      | 361       | 0.60      |
| 2         | 0.02      | 42        | 0.13      | 82        | 0.21      | 122       | 0.28      | 162       | 0.34      | 202       | 0.40      | 242       | 0.45      | 282       | 0.50      | 322       | 0.55      | 362       | 0.60      |
| 3         | 0.02      | 43        | 0.14      | 83        | 0.22      | 123       | 0.28      | 163       | 0.35      | 203       | 0.40      | 243       | 0.46      | 283       | 0.51      | 323       | 0.55      | 363       | 0.60      |
| 4         | 0.03      | 44        | 0.14      | 84        | 0.22      | 124       | 0.29      | 164       | 0.35      | 204       | 0.40      | 244       | 0.46      | 284       | 0.51      | 324       | 0.56      | 364       | 0.60      |
| 5         | 0.03      | 45        | 0.14      | 85        | 0.22      | 125       | 0.29      | 165       | 0.35      | 205       | 0.40      | 245       | 0.46      | 285       | 0.51      | 325       | 0.56      | 365       | 0.60      |
| 6         | 0.03      | 46        | 0.14      | 86        | 0.22      | 126       | 0.29      | 166       | 0.35      | 206       | 0.41      | 246       | 0.46      | 286       | 0.51      | 326       | 0.56      | 366       | 0.60      |
| 7         | 0.04      | 47        | 0.15      | 87        | 0.22      | 127       | 0.29      | 167       | 0.35      | 207       | 0.41      | 247       | 0.46      | 287       | 0.51      | 327       | 0.56      | 367       | 0.61      |
| 8         | 0.04      | 48        | 0.15      | 88        | 0.23      | 128       | 0.29      | 168       | 0.35      | 208       | 0.41      | 248       | 0.46      | 288       | 0.51      | 328       | 0.56      | 368       | 0.61      |
| 9         | 0.05      | 49        | 0.15      | 89        | 0.23      | 129       | 0.29      | 169       | 0.35      | 209       | 0.41      | 249       | 0.46      | 289       | 0.51      | 329       | 0.56      | 369       | 0.61      |
| 10        | 0.05      | 50        | 0.15      | 90        | 0.23      | 130       | 0.30      | 170       | 0.36      | 210       | 0.41      | 250       | 0.46      | 290       | 0.51      | 330       | 0.56      | 370       | 0.61      |
| 11        | 0.05      | 51        | 0.15      | 91        | 0.23      | 131       | 0.30      | 171       | 0.36      | 211       | 0.41      | 251       | 0.47      | 291       | 0.52      | 331       | 0.56      | 371       | 0.61      |
| 12        | 0.06      | 52        | 0.16      | 92        | 0.23      | 132       | 0.30      | 172       | 0.36      | 212       | 0.41      | 252       | 0.47      | 292       | 0.52      | 332       | 0.57      | 372       | 0.61      |
| 13        | 0.06      | 53        | 0.16      | 93        | 0.23      | 133       | 0.30      | 173       | 0.36      | 213       | 0.42      | 253       | 0.47      | 293       | 0.52      | 333       | 0.57      | 373       | 0.61      |
| 14        | 0.06      | 54        | 0.16      | 94        | 0.24      | 134       | 0.30      | 174       | 0.36      | 214       | 0.42      | 254       | 0.47      | 294       | 0.52      | 334       | 0.57      | 374       | 0.61      |
| 15        | 0.07      | 55        | 0.16      | 95        | 0.24      | 135       | 0.30      | 175       | 0.36      | 215       | 0.42      | 255       | 0.47      | 295       | 0.52      | 335       | 0.57      | 375       | 0.62      |
| 16        | 0.07      | 56        | 0.16      | 96        | 0.24      | 136       | 0.30      | 176       | 0.36      | 216       | 0.42      | 256       | 0.47      | 296       | 0.52      | 336       | 0.57      | 376       | 0.62      |
| 17        | 0.07      | 57        | 0.17      | 97        | 0.24      | 137       | 0.31      | 177       | 0.37      | 217       | 0.42      | 257       | 0.47      | 297       | 0.52      | 337       | 0.57      | 377       | 0.62      |
| 18        | 0.07      | 58        | 0.17      | 98        | 0.24      | 138       | 0.31      | 178       | 0.37      | 218       | 0.42      | 258       | 0.47      | 298       | 0.52      | 338       | 0.57      | 378       | 0.62      |
| 19        | 0.08      | 59        | 0.17      | 99        | 0.24      | 139       | 0.31      | 179       | 0.37      | 219       | 0.42      | 259       | 0.48      | 299       | 0.53      | 339       | 0.57      | 379       | 0.62      |
| 20        | 0.08      | 60        | 0.17      | 100       | 0.25      | 140       | 0.31      | 180       | 0.37      | 220       | 0.43      | 260       | 0.48      | 300       | 0.53      | 340       | 0.57      | 380       | 0.62      |
| 21        | 0.08      | 61        | 0.17      | 101       | 0.25      | 141       | 0.31      | 181       | 0.37      | 221       | 0.43      | 261       | 0.48      | 301       | 0.53      | 341       | 0.58      | 381       | 0.62      |
| 22        | 0.09      | 62        | 0.18      | 102       | 0.25      | 142       | 0.31      | 182       | 0.37      | 222       | 0.43      | 262       | 0.48      | 302       | 0.53      | 342       | 0.58      | 382       | 0.62      |
| 23        | 0.09      | 63        | 0.18      | 103       | 0.25      | 143       | 0.32      | 183       | 0.37      | 223       | 0.43      | 263       | 0.48      | 303       | 0.53      | 343       | 0.58      | 383       | 0.62      |
| 24        | 0.09      | 64        | 0.18      | 104       | 0.25      | 144       | 0.32      | 184       | 0.38      | 224       | 0.43      | 264       | 0.48      | 304       | 0.53      | 344       | 0.58      | 384       | 0.63      |



|    |      |    |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |
|----|------|----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|
| 25 | 0.09 | 65 | 0.18 | 105 | 0.25 | 145 | 0.32 | 185 | 0.38 | 225 | 0.43 | 265 | 0.48 | 305 | 0.53 | 345 | 0.58 | 385 | 0.63 |
| 26 | 0.10 | 66 | 0.18 | 106 | 0.26 | 146 | 0.32 | 186 | 0.38 | 226 | 0.43 | 266 | 0.48 | 306 | 0.53 | 346 | 0.58 | 386 | 0.63 |
| 27 | 0.10 | 67 | 0.19 | 107 | 0.26 | 147 | 0.32 | 187 | 0.38 | 227 | 0.43 | 267 | 0.49 | 307 | 0.54 | 347 | 0.58 | 387 | 0.63 |
| 28 | 0.10 | 68 | 0.19 | 108 | 0.26 | 148 | 0.32 | 188 | 0.38 | 228 | 0.44 | 268 | 0.49 | 308 | 0.54 | 348 | 0.58 | 388 | 0.63 |
| 29 | 0.10 | 69 | 0.19 | 109 | 0.26 | 149 | 0.32 | 189 | 0.38 | 229 | 0.44 | 269 | 0.49 | 309 | 0.54 | 349 | 0.59 | 389 | 0.63 |
| 30 | 0.11 | 70 | 0.19 | 110 | 0.26 | 150 | 0.33 | 190 | 0.38 | 230 | 0.44 | 270 | 0.49 | 310 | 0.54 | 350 | 0.59 | 390 | 0.63 |
| 31 | 0.11 | 71 | 0.19 | 111 | 0.26 | 151 | 0.33 | 191 | 0.39 | 231 | 0.44 | 271 | 0.49 | 311 | 0.54 | 351 | 0.59 | 391 | 0.63 |
| 32 | 0.11 | 72 | 0.20 | 112 | 0.27 | 152 | 0.33 | 192 | 0.39 | 232 | 0.44 | 272 | 0.49 | 312 | 0.54 | 352 | 0.59 | 392 | 0.63 |
| 33 | 0.11 | 73 | 0.20 | 113 | 0.27 | 153 | 0.33 | 193 | 0.39 | 233 | 0.44 | 273 | 0.49 | 313 | 0.54 | 353 | 0.59 | 393 | 0.64 |
| 34 | 0.12 | 74 | 0.20 | 114 | 0.27 | 154 | 0.33 | 194 | 0.39 | 234 | 0.44 | 274 | 0.50 | 314 | 0.54 | 354 | 0.59 | 394 | 0.64 |
| 35 | 0.12 | 75 | 0.20 | 115 | 0.27 | 155 | 0.33 | 195 | 0.39 | 235 | 0.45 | 275 | 0.50 | 315 | 0.55 | 355 | 0.59 | 395 | 0.64 |
| 36 | 0.12 | 76 | 0.20 | 116 | 0.27 | 156 | 0.33 | 196 | 0.39 | 236 | 0.45 | 276 | 0.50 | 316 | 0.55 | 356 | 0.59 | 396 | 0.64 |
| 37 | 0.12 | 77 | 0.21 | 117 | 0.27 | 157 | 0.34 | 197 | 0.39 | 237 | 0.45 | 277 | 0.50 | 317 | 0.55 | 357 | 0.59 | 397 | 0.64 |
| 38 | 0.13 | 78 | 0.21 | 118 | 0.28 | 158 | 0.34 | 198 | 0.40 | 238 | 0.45 | 278 | 0.50 | 318 | 0.55 | 358 | 0.60 | 398 | 0.64 |
| 39 | 0.13 | 79 | 0.21 | 119 | 0.28 | 159 | 0.34 | 199 | 0.40 | 239 | 0.45 | 279 | 0.50 | 319 | 0.55 | 359 | 0.60 | 399 | 0.64 |
| 40 | 0.13 | 80 | 0.21 | 120 | 0.28 | 160 | 0.34 | 200 | 0.40 | 240 | 0.45 | 280 | 0.50 | 320 | 0.55 | 360 | 0.60 | 400 | 0.64 |

**Table 3. Chronic Water Quality Standards for Dissolved Cadmium**

| <u>Aquatic and Wildlife coldwater</u>  |  |                  |  | <u>Aquatic and Wildlife warmwater, and edw</u>   |  |                  |  |
|--|--|------------------|--|--|--|------------------|--|
| <u>Hard. mg/L</u>  |  | <u>Std. µg/L</u> |  | <u>Hard. mg/L</u>  |  | <u>Std. µg/L</u> |  |
| <u>20</u>  |  | <u>0.08</u>      |  | <u>20</u>  |  | <u>0.68</u>      |  |
| <u>100</u>   |  | <u>0.25</u>      |  | <u>100</u>   |  | <u>2.2</u>       |  |
| <u>400</u>   |  | <u>0.64</u>      |  | <u>400</u>   |  | <u>6.2</u>       |  |
| $e^{(0.7409 \cdot \text{LN}(\text{Hardness}) - 4.719)} \cdot (1.101672 - \text{LN}(\text{Hardness}) \cdot 0.041838)$ |  |                  |  | $e^{(0.7852 \cdot \text{LN}(\text{Hardness}) - 2.715)} \cdot (1.101672 - \text{LN}(\text{Hardness}) \cdot 0.041838)$ |  |                  |  |

**Table 4. Acute Water Quality Standards for Dissolved Cadmium Aquatic and Wildlife warmwater, and edw**

| Hard mg/L | Std. µg/L |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1         | 0.09      | 41        | 3.30      | 81        | 6.41      | 121       | 9.47      | 161       | 12.50     | 201       | 15.51     | 241       | 18.49     | 281       | 21.47     | 321       | 24.42     | 361       | 27.37     |
| 2         | 0.17      | 42        | 3.38      | 82        | 6.49      | 122       | 9.55      | 162       | 12.58     | 202       | 15.58     | 242       | 18.57     | 282       | 21.54     | 322       | 24.50     | 362       | 27.44     |
| 3         | 0.26      | 43        | 3.46      | 83        | 6.57      | 123       | 9.62      | 163       | 12.65     | 203       | 15.66     | 243       | 18.64     | 283       | 21.61     | 323       | 24.57     | 363       | 27.52     |
| 4         | 0.34      | 44        | 3.54      | 84        | 6.64      | 124       | 9.70      | 164       | 12.73     | 204       | 15.73     | 244       | 18.72     | 284       | 21.69     | 324       | 24.64     | 364       | 27.59     |
| 5         | 0.42      | 45        | 3.62      | 85        | 6.72      | 125       | 9.78      | 165       | 12.80     | 205       | 15.81     | 245       | 18.79     | 285       | 21.76     | 325       | 24.72     | 365       | 27.66     |
| 6         | 0.51      | 46        | 3.70      | 86        | 6.80      | 126       | 9.85      | 166       | 12.88     | 206       | 15.88     | 246       | 18.87     | 286       | 21.84     | 326       | 24.79     | 366       | 27.74     |
| 7         | 0.59      | 47        | 3.77      | 87        | 6.87      | 127       | 9.93      | 167       | 12.95     | 207       | 15.96     | 247       | 18.94     | 287       | 21.91     | 327       | 24.87     | 367       | 27.81     |
| 8         | 0.67      | 48        | 3.85      | 88        | 6.95      | 128       | 10.00     | 168       | 13.03     | 208       | 16.03     | 248       | 19.02     | 288       | 21.98     | 328       | 24.94     | 368       | 27.88     |
| 9         | 0.75      | 49        | 3.93      | 89        | 7.03      | 129       | 10.08     | 169       | 13.10     | 209       | 16.11     | 249       | 19.09     | 289       | 22.06     | 329       | 25.01     | 369       | 27.96     |
| 10        | 0.83      | 50        | 4.01      | 90        | 7.10      | 130       | 10.16     | 170       | 13.18     | 210       | 16.18     | 250       | 19.16     | 290       | 22.13     | 330       | 25.09     | 370       | 28.03     |
| 11        | 0.92      | 51        | 4.09      | 91        | 7.18      | 131       | 10.23     | 171       | 13.25     | 211       | 16.26     | 251       | 19.24     | 291       | 22.21     | 331       | 25.16     | 371       | 28.10     |

|    |      |    |      |     |      |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
|----|------|----|------|-----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 12 | 1.00 | 52 | 4.17 | 92  | 7.26 | 132 | 10.31 | 172 | 13.33 | 212 | 16.33 | 252 | 19.31 | 292 | 22.28 | 332 | 25.23 | 372 | 28.18 |
| 13 | 1.08 | 53 | 4.24 | 93  | 7.33 | 133 | 10.38 | 173 | 13.40 | 213 | 16.40 | 253 | 19.39 | 293 | 22.35 | 333 | 25.31 | 373 | 28.25 |
| 14 | 1.16 | 54 | 4.32 | 94  | 7.41 | 134 | 10.46 | 174 | 13.48 | 214 | 16.48 | 254 | 19.46 | 294 | 22.43 | 334 | 25.38 | 374 | 28.32 |
| 15 | 1.24 | 55 | 4.40 | 95  | 7.49 | 135 | 10.53 | 175 | 13.56 | 215 | 16.55 | 255 | 19.54 | 295 | 22.50 | 335 | 25.46 | 375 | 28.40 |
| 16 | 1.32 | 56 | 4.48 | 96  | 7.56 | 136 | 10.61 | 176 | 13.63 | 216 | 16.63 | 256 | 19.61 | 296 | 22.58 | 336 | 25.53 | 376 | 28.47 |
| 17 | 1.40 | 57 | 4.55 | 97  | 7.64 | 137 | 10.69 | 177 | 13.71 | 217 | 16.70 | 257 | 19.68 | 297 | 22.65 | 337 | 25.60 | 377 | 28.54 |
| 18 | 1.48 | 58 | 4.63 | 98  | 7.72 | 138 | 10.76 | 178 | 13.78 | 218 | 16.78 | 258 | 19.76 | 298 | 22.72 | 338 | 25.68 | 378 | 28.62 |
| 19 | 1.56 | 59 | 4.71 | 99  | 7.79 | 139 | 10.84 | 179 | 13.86 | 219 | 16.85 | 259 | 19.83 | 299 | 22.80 | 339 | 25.75 | 379 | 28.69 |
| 20 | 1.64 | 60 | 4.79 | 100 | 7.87 | 140 | 10.91 | 180 | 13.93 | 220 | 16.93 | 260 | 19.91 | 300 | 22.87 | 340 | 25.82 | 380 | 28.77 |
| 21 | 1.72 | 61 | 4.87 | 101 | 7.95 | 141 | 10.99 | 181 | 14.01 | 221 | 17.00 | 261 | 19.98 | 301 | 22.95 | 341 | 25.90 | 381 | 28.84 |
| 22 | 1.80 | 62 | 4.94 | 102 | 8.02 | 142 | 11.07 | 182 | 14.08 | 222 | 17.08 | 262 | 20.06 | 302 | 23.02 | 342 | 25.97 | 382 | 28.91 |
| 23 | 1.88 | 63 | 5.02 | 103 | 8.10 | 143 | 11.14 | 183 | 14.16 | 223 | 17.15 | 263 | 20.13 | 303 | 23.09 | 343 | 26.05 | 383 | 28.99 |
| 24 | 1.96 | 64 | 5.10 | 104 | 8.18 | 144 | 11.22 | 184 | 14.23 | 224 | 17.23 | 264 | 20.20 | 304 | 23.17 | 344 | 26.12 | 384 | 29.06 |
| 25 | 2.04 | 65 | 5.18 | 105 | 8.25 | 145 | 11.29 | 185 | 14.31 | 225 | 17.30 | 265 | 20.28 | 305 | 23.24 | 345 | 26.19 | 385 | 29.13 |
| 26 | 2.12 | 66 | 5.25 | 106 | 8.33 | 146 | 11.37 | 186 | 14.38 | 226 | 17.38 | 266 | 20.35 | 306 | 23.32 | 346 | 26.27 | 386 | 29.21 |
| 27 | 2.20 | 67 | 5.33 | 107 | 8.40 | 147 | 11.44 | 187 | 14.46 | 227 | 17.45 | 267 | 20.43 | 307 | 23.39 | 347 | 26.34 | 387 | 29.28 |
| 28 | 2.28 | 68 | 5.41 | 108 | 8.48 | 148 | 11.52 | 188 | 14.53 | 228 | 17.53 | 268 | 20.50 | 308 | 23.46 | 348 | 26.41 | 388 | 29.35 |
| 29 | 2.36 | 69 | 5.49 | 109 | 8.56 | 149 | 11.59 | 189 | 14.61 | 229 | 17.60 | 269 | 20.58 | 309 | 23.54 | 349 | 26.49 | 389 | 29.43 |
| 30 | 2.44 | 70 | 5.56 | 110 | 8.63 | 150 | 11.67 | 190 | 14.68 | 230 | 17.67 | 270 | 20.65 | 310 | 23.61 | 350 | 26.56 | 390 | 29.50 |
| 31 | 2.52 | 71 | 5.64 | 111 | 8.71 | 151 | 11.75 | 191 | 14.76 | 231 | 17.75 | 271 | 20.72 | 311 | 23.69 | 351 | 26.63 | 391 | 29.57 |
| 32 | 2.60 | 72 | 5.72 | 112 | 8.79 | 152 | 11.82 | 192 | 14.83 | 232 | 17.82 | 272 | 20.80 | 312 | 23.76 | 352 | 26.71 | 392 | 29.65 |
| 33 | 2.67 | 73 | 5.79 | 113 | 8.86 | 153 | 11.90 | 193 | 14.91 | 233 | 17.90 | 273 | 20.87 | 313 | 23.83 | 353 | 26.78 | 393 | 29.72 |
| 34 | 2.75 | 74 | 5.87 | 114 | 8.94 | 154 | 11.97 | 194 | 14.98 | 234 | 17.97 | 274 | 20.95 | 314 | 23.91 | 354 | 26.85 | 394 | 29.79 |
| 35 | 2.83 | 75 | 5.95 | 115 | 9.01 | 155 | 12.05 | 195 | 15.06 | 235 | 18.05 | 275 | 21.02 | 315 | 23.98 | 355 | 26.93 | 395 | 29.87 |
| 36 | 2.91 | 76 | 6.03 | 116 | 9.09 | 156 | 12.12 | 196 | 15.13 | 236 | 18.12 | 276 | 21.09 | 316 | 24.05 | 356 | 27.00 | 396 | 29.94 |
| 37 | 2.99 | 77 | 6.10 | 117 | 9.17 | 157 | 12.20 | 197 | 15.21 | 237 | 18.20 | 277 | 21.17 | 317 | 24.13 | 357 | 27.08 | 397 | 30.01 |
| 38 | 3.07 | 78 | 6.18 | 118 | 9.24 | 158 | 12.27 | 198 | 15.28 | 238 | 18.27 | 278 | 21.24 | 318 | 24.20 | 358 | 27.15 | 398 | 30.08 |
| 39 | 3.15 | 79 | 6.26 | 119 | 9.32 | 159 | 12.35 | 199 | 15.36 | 239 | 18.35 | 279 | 21.32 | 319 | 24.28 | 359 | 27.22 | 399 | 30.16 |
| 40 | 3.23 | 80 | 6.33 | 120 | 9.40 | 160 | 12.43 | 200 | 15.43 | 240 | 18.42 | 280 | 21.39 | 320 | 24.35 | 360 | 27.30 | 400 | 30.23 |

**Table 4. Water Quality Standards for Dissolved Chromium III**

| <u>Acute Aquatic and Wildlife coldwater, warmwater and edw</u> |                  | <u>Chronic Aquatic and Wildlife coldwater, warmwater and edw</u> |                  | <u>Acute Aquatic and Wildlife ephemeral</u>     |                  |
|--|------------------|--|------------------|---|------------------|
| <u>Hard. mg/L</u>  | <u>Std. µg/L</u> | <u>Hard. mg/L</u>  | <u>Std. µg/L</u> | <u>Hard. mg/L</u>                               | <u>Std. µg/L</u> |
| <u>20</u>  | <u>152</u>       | <u>20</u>  | <u>19.8</u>      | <u>20</u>                                       | <u>512</u>       |
| <u>100</u>   | <u>570</u>       | <u>100</u>   | <u>74.1</u>      | <u>100</u>                                      | <u>1912</u>      |
| <u>400</u>   | <u>1773</u>      | <u>400</u>   | <u>231</u>       | <u>400</u>                                      | <u>5950</u>      |
| $e^{(0.819 * LN(Hardness) + 3.7256)} * (0.316)$                |                  | $e^{(0.819 * LN(Hardness) + 0.6848)} * (0.86)$                   |                  | $e^{(0.819 * LN(Hardness) + 4.9361)} * (0.316)$ |                  |



**Table 5. Chronic Water Quality Standards for Dissolved Cadmium Aquatic and Wildlife warmwater, and edw**

| Hard mg/L | Std. µg/L | STD. µG/L |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1         | 0.02      | 41        | 0.30      | 81        | 0.48      | 121       | 0.64      | 161       | 0.78      | 201       | 0.91      | 241       | 1.03      | 281       | 1.15      | 321       | 1.26      | 361       | 1.37      |           |
| 2         | 0.04      | 42        | 0.31      | 82        | 0.49      | 122       | 0.64      | 162       | 0.78      | 202       | 0.91      | 242       | 1.04      | 282       | 1.15      | 322       | 1.26      | 362       | 1.37      |           |
| 3         | 0.05      | 43        | 0.31      | 83        | 0.49      | 123       | 0.65      | 163       | 0.79      | 203       | 0.92      | 243       | 1.04      | 283       | 1.16      | 323       | 1.27      | 363       | 1.37      |           |
| 4         | 0.06      | 44        | 0.32      | 84        | 0.50      | 124       | 0.65      | 164       | 0.79      | 204       | 0.92      | 244       | 1.04      | 284       | 1.16      | 324       | 1.27      | 364       | 1.38      |           |
| 5         | 0.07      | 45        | 0.32      | 85        | 0.50      | 125       | 0.66      | 165       | 0.79      | 205       | 0.92      | 245       | 1.05      | 285       | 1.16      | 325       | 1.27      | 365       | 1.38      |           |
| 6         | 0.08      | 46        | 0.33      | 86        | 0.51      | 126       | 0.66      | 166       | 0.80      | 206       | 0.93      | 246       | 1.05      | 286       | 1.16      | 326       | 1.27      | 366       | 1.38      |           |
| 7         | 0.09      | 47        | 0.33      | 87        | 0.51      | 127       | 0.66      | 167       | 0.80      | 207       | 0.93      | 247       | 1.05      | 287       | 1.17      | 327       | 1.28      | 367       | 1.38      |           |
| 8         | 0.10      | 48        | 0.34      | 88        | 0.51      | 128       | 0.67      | 168       | 0.80      | 208       | 0.93      | 248       | 1.05      | 288       | 1.17      | 328       | 1.28      | 368       | 1.39      |           |
| 9         | 0.10      | 49        | 0.34      | 89        | 0.52      | 129       | 0.67      | 169       | 0.81      | 209       | 0.94      | 249       | 1.06      | 289       | 1.17      | 329       | 1.28      | 369       | 1.39      |           |
| 10        | 0.11      | 50        | 0.35      | 90        | 0.52      | 130       | 0.67      | 170       | 0.81      | 210       | 0.94      | 250       | 1.06      | 290       | 1.17      | 330       | 1.28      | 370       | 1.39      |           |
| 11        | 0.12      | 51        | 0.35      | 91        | 0.53      | 131       | 0.68      | 171       | 0.81      | 211       | 0.94      | 251       | 1.06      | 291       | 1.18      | 331       | 1.29      | 371       | 1.39      |           |
| 12        | 0.13      | 52        | 0.36      | 92        | 0.53      | 132       | 0.68      | 172       | 0.82      | 212       | 0.95      | 252       | 1.07      | 292       | 1.18      | 332       | 1.29      | 372       | 1.40      |           |
| 13        | 0.14      | 53        | 0.36      | 93        | 0.53      | 133       | 0.68      | 173       | 0.82      | 213       | 0.95      | 253       | 1.07      | 293       | 1.18      | 333       | 1.29      | 373       | 1.40      |           |
| 14        | 0.14      | 54        | 0.37      | 94        | 0.54      | 134       | 0.69      | 174       | 0.82      | 214       | 0.95      | 254       | 1.07      | 294       | 1.19      | 334       | 1.30      | 374       | 1.40      |           |
| 15        | 0.15      | 55        | 0.37      | 95        | 0.54      | 135       | 0.69      | 175       | 0.83      | 215       | 0.95      | 255       | 1.07      | 295       | 1.19      | 335       | 1.30      | 375       | 1.40      |           |
| 16        | 0.16      | 56        | 0.38      | 96        | 0.55      | 136       | 0.69      | 176       | 0.83      | 216       | 0.96      | 256       | 1.08      | 296       | 1.19      | 336       | 1.30      | 376       | 1.41      |           |
| 17        | 0.16      | 57        | 0.38      | 97        | 0.55      | 137       | 0.70      | 177       | 0.83      | 217       | 0.96      | 257       | 1.08      | 297       | 1.19      | 337       | 1.30      | 377       | 1.41      |           |
| 18        | 0.17      | 58        | 0.38      | 98        | 0.55      | 138       | 0.70      | 178       | 0.84      | 218       | 0.96      | 258       | 1.08      | 298       | 1.20      | 338       | 1.31      | 378       | 1.41      |           |
| 19        | 0.18      | 59        | 0.39      | 99        | 0.56      | 139       | 0.71      | 179       | 0.84      | 219       | 0.97      | 259       | 1.09      | 299       | 1.20      | 339       | 1.31      | 379       | 1.41      |           |
| 20        | 0.18      | 60        | 0.39      | 100       | 0.56      | 140       | 0.71      | 180       | 0.84      | 220       | 0.97      | 260       | 1.09      | 300       | 1.20      | 340       | 1.31      | 380       | 1.42      |           |
| 21        | 0.19      | 61        | 0.40      | 101       | 0.57      | 141       | 0.71      | 181       | 0.85      | 221       | 0.97      | 261       | 1.09      | 301       | 1.21      | 341       | 1.31      | 381       | 1.42      |           |
| 22        | 0.20      | 62        | 0.40      | 102       | 0.57      | 142       | 0.72      | 182       | 0.85      | 222       | 0.98      | 262       | 1.10      | 302       | 1.21      | 342       | 1.32      | 382       | 1.42      |           |
| 23        | 0.20      | 63        | 0.41      | 103       | 0.57      | 143       | 0.72      | 183       | 0.85      | 223       | 0.98      | 263       | 1.10      | 303       | 1.21      | 343       | 1.32      | 383       | 1.42      |           |
| 24        | 0.21      | 64        | 0.41      | 104       | 0.58      | 144       | 0.72      | 184       | 0.86      | 224       | 0.98      | 264       | 1.10      | 304       | 1.21      | 344       | 1.32      | 384       | 1.43      |           |
| 25        | 0.21      | 65        | 0.42      | 105       | 0.58      | 145       | 0.73      | 185       | 0.86      | 225       | 0.99      | 265       | 1.10      | 305       | 1.22      | 345       | 1.32      | 385       | 1.43      |           |
| 26        | 0.22      | 66        | 0.42      | 106       | 0.58      | 146       | 0.73      | 186       | 0.86      | 226       | 0.99      | 266       | 1.11      | 306       | 1.22      | 346       | 1.33      | 386       | 1.43      |           |
| 27        | 0.23      | 67        | 0.42      | 107       | 0.59      | 147       | 0.73      | 187       | 0.87      | 227       | 0.99      | 267       | 1.11      | 307       | 1.22      | 347       | 1.33      | 387       | 1.43      |           |
| 28        | 0.23      | 68        | 0.43      | 108       | 0.59      | 148       | 0.74      | 188       | 0.87      | 228       | 0.99      | 268       | 1.11      | 308       | 1.22      | 348       | 1.33      | 388       | 1.44      |           |
| 29        | 0.24      | 69        | 0.43      | 109       | 0.60      | 149       | 0.74      | 189       | 0.87      | 229       | 1.00      | 269       | 1.12      | 309       | 1.23      | 349       | 1.34      | 389       | 1.44      |           |
| 30        | 0.24      | 70        | 0.44      | 110       | 0.60      | 150       | 0.74      | 190       | 0.88      | 230       | 1.00      | 270       | 1.12      | 310       | 1.23      | 350       | 1.34      | 390       | 1.44      |           |
| 31        | 0.25      | 71        | 0.44      | 111       | 0.60      | 151       | 0.75      | 191       | 0.88      | 231       | 1.00      | 271       | 1.12      | 311       | 1.23      | 351       | 1.34      | 391       | 1.44      |           |
| 32        | 0.25      | 72        | 0.45      | 112       | 0.61      | 152       | 0.75      | 192       | 0.88      | 232       | 1.01      | 272       | 1.12      | 312       | 1.24      | 352       | 1.34      | 392       | 1.45      |           |
| 33        | 0.26      | 73        | 0.45      | 113       | 0.61      | 153       | 0.75      | 193       | 0.89      | 233       | 1.01      | 273       | 1.13      | 313       | 1.24      | 353       | 1.35      | 393       | 1.45      |           |
| 34        | 0.26      | 74        | 0.46      | 114       | 0.61      | 154       | 0.76      | 194       | 0.89      | 234       | 1.01      | 274       | 1.13      | 314       | 1.24      | 354       | 1.35      | 394       | 1.45      |           |
| 35        | 0.27      | 75        | 0.46      | 115       | 0.62      | 155       | 0.76      | 195       | 0.89      | 235       | 1.02      | 275       | 1.13      | 315       | 1.24      | 355       | 1.35      | 395       | 1.46      |           |
| 36        | 0.28      | 76        | 0.46      | 116       | 0.62      | 156       | 0.76      | 196       | 0.90      | 236       | 1.02      | 276       | 1.14      | 316       | 1.25      | 356       | 1.35      | 396       | 1.46      |           |
| 37        | 0.28      | 77        | 0.47      | 117       | 0.63      | 157       | 0.77      | 197       | 0.90      | 237       | 1.02      | 277       | 1.14      | 317       | 1.25      | 357       | 1.36      | 397       | 1.46      |           |

|    |      |    |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |
|----|------|----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|
| 38 | 0.29 | 78 | 0.47 | 118 | 0.63 | 158 | 0.77 | 198 | 0.90 | 238 | 1.02 | 278 | 1.14 | 318 | 1.25 | 358 | 1.36 | 398 | 1.46 |
| 39 | 0.29 | 79 | 0.48 | 119 | 0.63 | 159 | 0.77 | 199 | 0.91 | 239 | 1.03 | 279 | 1.14 | 319 | 1.26 | 359 | 1.36 | 399 | 1.47 |
| 40 | 0.30 | 80 | 0.48 | 120 | 0.64 | 160 | 0.78 | 200 | 0.91 | 240 | 1.03 | 280 | 1.15 | 320 | 1.26 | 360 | 1.36 | 400 | 1.47 |

**Table 5. Water Quality Standards for Dissolved Copper**

| <u>Acute Aquatic and Wildlife coldwater, warmwater and edw</u> |                  | <u>Chronic Aquatic and Wildlife coldwater, warmwater and edw</u> |                  | <u>Acute Aquatic and Wildlife ephemeral</u> |                  |
|--|------------------|--|------------------|---|------------------|
| <u>Hard. mg/L</u>  | <u>Std. µg/L</u> | <u>Hard. mg/L</u>  | <u>Std. µg/L</u> | <u>Hard. mg/L</u>                           | <u>Std. µg/L</u> |
| <u>20</u>  | <u>2.9</u>       | <u>20</u>  | <u>2.3</u>       | <u>20</u>                                   | <u>5.1</u>       |
| <u>100</u>   | <u>13.4</u>      | <u>100</u>   | <u>9.0</u>       | <u>100</u>                                  | <u>23.3</u>      |
| <u>400</u>   | <u>49.6</u>      | <u>400</u>   | <u>29.3</u>      | <u>400</u>                                  | <u>85.9</u>      |
| $e^{(0.9422*LN(Hardness)-1.702)}*(0.96)$                       |                  | $e^{(0.8545*LN(Hardness)-1.702)}*(0.96)$                         |                  | $e^{(0.9422*LN(Hardness)-1.1514)}*(0.96)$   |                  |

**Table 6. Acute Water Quality Standards for Dissolved Cadmium Aquatic and Wildlife ephemeral**

| Hard mg/L | Std. µg/L |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1         | 0.25      | 41        | 9.58      | 81        | 18.58     | 121       | 27.45     | 161       | 36.23     | 201       | 44.94     | 241       | 53.59     | 281       | 62.21     | 321       | 70.78     | 361       | 79.32     |
| 2         | 0.50      | 42        | 9.80      | 82        | 18.80     | 122       | 27.67     | 162       | 36.45     | 202       | 45.15     | 242       | 53.81     | 282       | 62.42     | 322       | 70.99     | 362       | 79.53     |
| 3         | 0.75      | 43        | 10.03     | 83        | 19.03     | 123       | 27.89     | 163       | 36.66     | 203       | 45.37     | 243       | 54.03     | 283       | 62.64     | 323       | 71.21     | 363       | 79.74     |
| 4         | 0.99      | 44        | 10.26     | 84        | 19.25     | 124       | 28.11     | 164       | 36.88     | 204       | 45.59     | 244       | 54.24     | 284       | 62.85     | 324       | 71.42     | 364       | 79.95     |
| 5         | 1.23      | 45        | 10.49     | 85        | 19.47     | 125       | 28.33     | 165       | 37.10     | 205       | 45.81     | 245       | 54.46     | 285       | 63.06     | 325       | 71.63     | 365       | 80.17     |
| 6         | 1.47      | 46        | 10.71     | 86        | 19.69     | 126       | 28.55     | 166       | 37.32     | 206       | 46.02     | 246       | 54.67     | 286       | 63.28     | 326       | 71.85     | 366       | 80.38     |
| 7         | 1.71      | 47        | 10.94     | 87        | 19.92     | 127       | 28.77     | 167       | 37.54     | 207       | 46.24     | 247       | 54.89     | 287       | 63.49     | 327       | 72.06     | 367       | 80.59     |
| 8         | 1.95      | 48        | 11.17     | 88        | 20.14     | 128       | 28.99     | 168       | 37.76     | 208       | 46.46     | 248       | 55.10     | 288       | 63.71     | 328       | 72.27     | 368       | 80.81     |
| 9         | 2.18      | 49        | 11.39     | 89        | 20.36     | 129       | 29.21     | 169       | 37.97     | 209       | 46.67     | 249       | 55.32     | 289       | 63.92     | 329       | 72.49     | 369       | 81.02     |
| 10        | 2.42      | 50        | 11.62     | 90        | 20.58     | 130       | 29.43     | 170       | 38.19     | 210       | 46.89     | 250       | 55.54     | 290       | 64.14     | 330       | 72.70     | 370       | 81.23     |
| 11        | 2.65      | 51        | 11.84     | 91        | 20.81     | 131       | 29.65     | 171       | 38.41     | 211       | 47.11     | 251       | 55.75     | 291       | 64.35     | 331       | 72.92     | 371       | 81.44     |
| 12        | 2.89      | 52        | 12.07     | 92        | 21.03     | 132       | 29.87     | 172       | 38.63     | 212       | 47.32     | 252       | 55.97     | 292       | 64.57     | 332       | 73.13     | 372       | 81.66     |
| 13        | 3.13      | 53        | 12.30     | 93        | 21.25     | 133       | 30.09     | 173       | 38.85     | 213       | 47.54     | 253       | 56.18     | 293       | 64.78     | 333       | 73.34     | 373       | 81.87     |
| 14        | 3.36      | 54        | 12.52     | 94        | 21.47     | 134       | 30.31     | 174       | 39.06     | 214       | 47.76     | 254       | 56.40     | 294       | 65.00     | 334       | 73.56     | 374       | 82.08     |
| 15        | 3.59      | 55        | 12.75     | 95        | 21.70     | 135       | 30.53     | 175       | 39.28     | 215       | 47.97     | 255       | 56.61     | 295       | 65.21     | 335       | 73.77     | 375       | 82.30     |
| 16        | 3.83      | 56        | 12.97     | 96        | 21.92     | 136       | 30.75     | 176       | 39.50     | 216       | 48.19     | 256       | 56.83     | 296       | 65.42     | 336       | 73.98     | 376       | 82.51     |
| 17        | 4.06      | 57        | 13.20     | 97        | 22.14     | 137       | 30.97     | 177       | 39.72     | 217       | 48.41     | 257       | 57.04     | 297       | 65.64     | 337       | 74.20     | 377       | 82.72     |
| 18        | 4.29      | 58        | 13.42     | 98        | 22.36     | 138       | 31.19     | 178       | 39.94     | 218       | 48.62     | 258       | 57.26     | 298       | 65.85     | 338       | 74.41     | 378       | 82.93     |
| 19        | 4.53      | 59        | 13.65     | 99        | 22.58     | 139       | 31.41     | 179       | 40.15     | 219       | 48.84     | 259       | 57.48     | 299       | 66.07     | 339       | 74.62     | 379       | 83.15     |
| 20        | 4.76      | 60        | 13.87     | 100       | 22.81     | 140       | 31.63     | 180       | 40.37     | 220       | 49.06     | 260       | 57.69     | 300       | 66.28     | 340       | 74.84     | 380       | 83.36     |
| 21        | 4.99      | 61        | 14.10     | 101       | 23.03     | 141       | 31.85     | 181       | 40.59     | 221       | 49.27     | 261       | 57.91     | 301       | 66.50     | 341       | 75.05     | 381       | 83.57     |
| 22        | 5.22      | 62        | 14.32     | 102       | 23.25     | 142       | 32.07     | 182       | 40.81     | 222       | 49.49     | 262       | 58.12     | 302       | 66.71     | 342       | 75.26     | 382       | 83.78     |
| 23        | 5.45      | 63        | 14.55     | 103       | 23.47     | 143       | 32.29     | 183       | 41.03     | 223       | 49.71     | 263       | 58.34     | 303       | 66.93     | 343       | 75.48     | 383       | 84.00     |
| 24        | 5.68      | 64        | 14.77     | 104       | 23.69     | 144       | 32.50     | 184       | 41.24     | 224       | 49.92     | 264       | 58.55     | 304       | 67.14     | 344       | 75.69     | 384       | 84.21     |



|    |      |    |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
|----|------|----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 25 | 5.91 | 65 | 15.00 | 105 | 23.91 | 145 | 32.72 | 185 | 41.46 | 225 | 50.14 | 265 | 58.77 | 305 | 67.35 | 345 | 75.90 | 385 | 84.42 |
| 26 | 6.14 | 66 | 15.22 | 106 | 24.13 | 146 | 32.94 | 186 | 41.68 | 226 | 50.35 | 266 | 58.98 | 306 | 67.57 | 346 | 76.12 | 386 | 84.64 |
| 27 | 6.37 | 67 | 15.45 | 107 | 24.36 | 147 | 33.16 | 187 | 41.90 | 227 | 50.57 | 267 | 59.20 | 307 | 67.78 | 347 | 76.33 | 387 | 84.85 |
| 28 | 6.60 | 68 | 15.67 | 108 | 24.58 | 148 | 33.38 | 188 | 42.11 | 228 | 50.79 | 268 | 59.41 | 308 | 68.00 | 348 | 76.54 | 388 | 85.06 |
| 29 | 6.83 | 69 | 15.90 | 109 | 24.80 | 149 | 33.60 | 189 | 42.33 | 229 | 51.00 | 269 | 59.63 | 309 | 68.21 | 349 | 76.76 | 389 | 85.27 |
| 30 | 7.06 | 70 | 16.12 | 110 | 25.02 | 150 | 33.82 | 190 | 42.55 | 230 | 51.22 | 270 | 59.84 | 310 | 68.42 | 350 | 76.97 | 390 | 85.49 |
| 31 | 7.29 | 71 | 16.34 | 111 | 25.24 | 151 | 34.04 | 191 | 42.77 | 231 | 51.44 | 271 | 60.06 | 311 | 68.64 | 351 | 77.18 | 391 | 85.70 |
| 32 | 7.52 | 72 | 16.57 | 112 | 25.46 | 152 | 34.26 | 192 | 42.98 | 232 | 51.65 | 272 | 60.27 | 312 | 68.85 | 352 | 77.40 | 392 | 85.91 |
| 33 | 7.75 | 73 | 16.79 | 113 | 25.68 | 153 | 34.48 | 193 | 43.20 | 233 | 51.87 | 273 | 60.49 | 313 | 69.07 | 353 | 77.61 | 393 | 86.12 |
| 34 | 7.98 | 74 | 17.02 | 114 | 25.90 | 154 | 34.70 | 194 | 43.42 | 234 | 52.08 | 274 | 60.70 | 314 | 69.28 | 354 | 77.82 | 394 | 86.33 |
| 35 | 8.21 | 75 | 17.24 | 115 | 26.12 | 155 | 34.91 | 195 | 43.63 | 235 | 52.30 | 275 | 60.92 | 315 | 69.49 | 355 | 78.04 | 395 | 86.55 |
| 36 | 8.44 | 76 | 17.46 | 116 | 26.34 | 156 | 35.13 | 196 | 43.85 | 236 | 52.52 | 276 | 61.13 | 316 | 69.71 | 356 | 78.25 | 396 | 86.76 |
| 37 | 8.67 | 77 | 17.69 | 117 | 26.57 | 157 | 35.35 | 197 | 44.07 | 237 | 52.73 | 277 | 61.35 | 317 | 69.92 | 357 | 78.46 | 397 | 86.97 |
| 38 | 8.89 | 78 | 17.91 | 118 | 26.79 | 158 | 35.57 | 198 | 44.29 | 238 | 52.95 | 278 | 61.56 | 318 | 70.14 | 358 | 78.68 | 398 | 87.18 |
| 39 | 9.12 | 79 | 18.13 | 119 | 27.01 | 159 | 35.79 | 199 | 44.50 | 239 | 53.16 | 279 | 61.78 | 319 | 70.35 | 359 | 78.89 | 399 | 87.40 |
| 40 | 9.35 | 80 | 18.36 | 120 | 27.23 | 160 | 36.01 | 200 | 44.72 | 240 | 53.38 | 280 | 61.99 | 320 | 70.56 | 360 | 79.10 | 400 | 87.61 |

**Table 6. Water Quality Standards for Dissolved Lead**

| <u>Acute Aquatic and Wildlife coldwater, warmwater and edw</u>      |                  | <u>Chronic Aquatic and Wildlife coldwater, warmwater and edw</u>     |                  | <u>Acute Aquatic and Wildlife ephemeral</u>                             |                  |
|---|------------------|--|------------------|---|------------------|
| <u>Hard. mg/L</u>   | <u>Std. µg/L</u> | <u>Hard. mg/L</u>  | <u>Std. µg/L</u> | <u>Hard. mg/L</u>   | <u>Std. µg/L</u> |
| <u>20</u>   | <u>10.8</u>      | <u>20</u>  | <u>0.4</u>       | <u>20</u>   | <u>22.8</u>      |
| <u>100</u>  | <u>64.6</u>      | <u>100</u>   | <u>2.5</u>       | <u>100</u>  | <u>136.3</u>     |
| <u>400</u>  | <u>281</u>       | <u>400</u>   | <u>10.9</u>      | <u>400</u>  | <u>592.7</u>     |
| $e^{(1.273*LN(Hardness)-1.46)}*(1.46203-(LN(Hardness))*(0.145712))$ |                  | $e^{(1.273*LN(Hardness)-4.705)}*(1.46203-(LN(Hardness))*(0.145712))$ |                  | $e^{(1.273*(LN(Hardness))-0.7131)}*(1.46203-(LN(Hardness))*(0.145712))$ |                  |

**Table 7. Acute Water Quality Standards for Dissolved Chromium III Aquatic and Wildlife coldwater, warmwater and edw**

| Hard mg/L | Std. µg/L |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1         | 13        | 41        | 275       | 81        | 479       | 121       | 666       | 161       | 842       | 201       | 1009      | 241       | 1171      | 281       | 1328      | 321       | 1481      | 361       | 1630      |
| 2         | 23        | 42        | 280       | 82        | 484       | 122       | 671       | 162       | 846       | 202       | 1013      | 242       | 1175      | 282       | 1332      | 322       | 1485      | 362       | 1634      |
| 3         | 32        | 43        | 285       | 83        | 489       | 123       | 675       | 163       | 850       | 203       | 1017      | 243       | 1179      | 283       | 1336      | 323       | 1488      | 363       | 1638      |
| 4         | 41        | 44        | 291       | 84        | 494       | 124       | 680       | 164       | 854       | 204       | 1022      | 244       | 1183      | 284       | 1340      | 324       | 1492      | 364       | 1641      |
| 5         | 49        | 45        | 296       | 85        | 499       | 125       | 684       | 165       | 859       | 205       | 1026      | 245       | 1187      | 285       | 1343      | 325       | 1496      | 365       | 1645      |
| 6         | 57        | 46        | 302       | 86        | 504       | 126       | 688       | 166       | 863       | 206       | 1030      | 246       | 1191      | 286       | 1347      | 326       | 1500      | 366       | 1649      |
| 7         | 65        | 47        | 307       | 87        | 508       | 127       | 693       | 167       | 867       | 207       | 1034      | 247       | 1195      | 287       | 1351      | 327       | 1504      | 367       | 1653      |
| 8         | 72        | 48        | 312       | 88        | 513       | 128       | 697       | 168       | 871       | 208       | 1038      | 248       | 1199      | 288       | 1355      | 328       | 1507      | 368       | 1656      |
| 9         | 79        | 49        | 318       | 89        | 518       | 129       | 702       | 169       | 876       | 209       | 1042      | 249       | 1203      | 289       | 1359      | 329       | 1511      | 369       | 1660      |
| 10        | 86        | 50        | 323       | 90        | 523       | 130       | 706       | 170       | 880       | 210       | 1046      | 250       | 1207      | 290       | 1363      | 330       | 1515      | 370       | 1664      |
| 11        | 93        | 51        | 328       | 91        | 527       | 131       | 711       | 171       | 884       | 211       | 1050      | 251       | 1211      | 291       | 1367      | 331       | 1519      | 371       | 1667      |
| 12        | 100       | 52        | 334       | 92        | 532       | 132       | 715       | 172       | 888       | 212       | 1054      | 252       | 1215      | 292       | 1370      | 332       | 1522      | 372       | 1671      |
| 13        | 107       | 53        | 339       | 93        | 537       | 133       | 720       | 173       | 893       | 213       | 1058      | 253       | 1219      | 293       | 1374      | 333       | 1526      | 373       | 1675      |

|    |     |    |     |     |     |     |     |     |      |     |      |     |      |     |      |     |      |     |      |
|----|-----|----|-----|-----|-----|-----|-----|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|
| 14 | 114 | 54 | 344 | 94  | 542 | 134 | 724 | 174 | 897  | 214 | 1062 | 254 | 1223 | 294 | 1378 | 334 | 1530 | 374 | 1678 |
| 15 | 120 | 55 | 349 | 95  | 546 | 135 | 729 | 175 | 901  | 215 | 1067 | 255 | 1226 | 295 | 1382 | 335 | 1534 | 375 | 1682 |
| 16 | 127 | 56 | 354 | 96  | 551 | 136 | 733 | 176 | 905  | 216 | 1071 | 256 | 1230 | 296 | 1386 | 336 | 1537 | 376 | 1686 |
| 17 | 133 | 57 | 360 | 97  | 556 | 137 | 737 | 177 | 909  | 217 | 1075 | 257 | 1234 | 297 | 1390 | 337 | 1541 | 377 | 1689 |
| 18 | 140 | 58 | 365 | 98  | 560 | 138 | 742 | 178 | 914  | 218 | 1079 | 258 | 1238 | 298 | 1393 | 338 | 1545 | 378 | 1693 |
| 19 | 146 | 59 | 370 | 99  | 565 | 139 | 746 | 179 | 918  | 219 | 1083 | 259 | 1242 | 299 | 1397 | 339 | 1549 | 379 | 1697 |
| 20 | 152 | 60 | 375 | 100 | 570 | 140 | 751 | 180 | 922  | 220 | 1087 | 260 | 1246 | 300 | 1401 | 340 | 1552 | 380 | 1700 |
| 21 | 159 | 61 | 380 | 101 | 574 | 141 | 755 | 181 | 926  | 221 | 1091 | 261 | 1250 | 301 | 1405 | 341 | 1556 | 381 | 1704 |
| 22 | 165 | 62 | 385 | 102 | 579 | 142 | 759 | 182 | 930  | 222 | 1095 | 262 | 1254 | 302 | 1409 | 342 | 1560 | 382 | 1708 |
| 23 | 171 | 63 | 390 | 103 | 584 | 143 | 764 | 183 | 935  | 223 | 1099 | 263 | 1258 | 303 | 1413 | 343 | 1564 | 383 | 1711 |
| 24 | 177 | 64 | 395 | 104 | 588 | 144 | 768 | 184 | 939  | 224 | 1103 | 264 | 1262 | 304 | 1416 | 344 | 1567 | 384 | 1715 |
| 25 | 183 | 65 | 400 | 105 | 593 | 145 | 772 | 185 | 943  | 225 | 1107 | 265 | 1266 | 305 | 1420 | 345 | 1571 | 385 | 1719 |
| 26 | 189 | 66 | 405 | 106 | 598 | 146 | 777 | 186 | 947  | 226 | 1111 | 266 | 1270 | 306 | 1424 | 346 | 1575 | 386 | 1722 |
| 27 | 195 | 67 | 410 | 107 | 602 | 147 | 781 | 187 | 951  | 227 | 1115 | 267 | 1274 | 307 | 1428 | 347 | 1578 | 387 | 1726 |
| 28 | 201 | 68 | 415 | 108 | 607 | 148 | 785 | 188 | 955  | 228 | 1119 | 268 | 1277 | 308 | 1432 | 348 | 1582 | 388 | 1730 |
| 29 | 207 | 69 | 420 | 109 | 611 | 149 | 790 | 189 | 960  | 229 | 1123 | 269 | 1281 | 309 | 1435 | 349 | 1586 | 389 | 1733 |
| 30 | 213 | 70 | 425 | 110 | 616 | 150 | 794 | 190 | 964  | 230 | 1127 | 270 | 1285 | 310 | 1439 | 350 | 1590 | 390 | 1737 |
| 31 | 218 | 71 | 430 | 111 | 621 | 151 | 799 | 191 | 968  | 231 | 1131 | 271 | 1289 | 311 | 1443 | 351 | 1593 | 391 | 1741 |
| 32 | 224 | 72 | 435 | 112 | 625 | 152 | 803 | 192 | 972  | 232 | 1135 | 272 | 1293 | 312 | 1447 | 352 | 1597 | 392 | 1744 |
| 33 | 230 | 73 | 440 | 113 | 630 | 153 | 807 | 193 | 976  | 233 | 1139 | 273 | 1297 | 313 | 1451 | 353 | 1601 | 393 | 1748 |
| 34 | 235 | 74 | 445 | 114 | 634 | 154 | 811 | 194 | 980  | 234 | 1143 | 274 | 1301 | 314 | 1454 | 354 | 1604 | 394 | 1751 |
| 35 | 241 | 75 | 450 | 115 | 639 | 155 | 816 | 195 | 985  | 235 | 1147 | 275 | 1305 | 315 | 1458 | 355 | 1608 | 395 | 1755 |
| 36 | 247 | 76 | 455 | 116 | 643 | 156 | 820 | 196 | 989  | 236 | 1151 | 276 | 1309 | 316 | 1462 | 356 | 1612 | 396 | 1759 |
| 37 | 252 | 77 | 460 | 117 | 648 | 157 | 824 | 197 | 993  | 237 | 1155 | 277 | 1312 | 317 | 1466 | 357 | 1616 | 397 | 1762 |
| 38 | 258 | 78 | 465 | 118 | 652 | 158 | 829 | 198 | 997  | 238 | 1159 | 278 | 1316 | 318 | 1470 | 358 | 1619 | 398 | 1766 |
| 39 | 263 | 79 | 470 | 119 | 657 | 159 | 833 | 199 | 1001 | 239 | 1163 | 279 | 1320 | 319 | 1473 | 359 | 1623 | 399 | 1770 |
| 40 | 269 | 80 | 475 | 120 | 662 | 160 | 837 | 200 | 1005 | 240 | 1167 | 280 | 1324 | 320 | 1477 | 360 | 1627 | 400 | 1773 |

Table 7. Water Quality Standards for Dissolved Nickel

| <u>Acute Aquatic and Wildlife coldwater, warmwater and edw</u> |                  | <u>Chronic Aquatic and Wildlife coldwater, warmwater and edw</u> |                  | <u>Acute Aquatic and Wildlife ephemeral</u> |                  |
|--|------------------|--|------------------|---|------------------|
| <u>Hard. mg/L</u>  | <u>Std. µg/L</u> | <u>Hard. mg/L</u>  | <u>Std. µg/L</u> | <u>Hard. mg/L</u>                           | <u>Std. µg/L</u> |
| <u>20</u>  | <u>120.0</u>     | <u>20</u>  | <u>13.3</u>      | <u>20</u>                                   | <u>1066</u>      |
| <u>100</u>   | <u>468</u>       | <u>100</u>   | <u>52.0</u>      | <u>100</u>                                  | <u>4158</u>      |
| <u>400</u>   | <u>1513</u>      | <u>400</u>   | <u>168</u>       | <u>400</u>                                  | <u>13436</u>     |
| $e^{(0.846*LN(Hardness)+2.255)}*(0.998)$                       |                  | $e^{(0.846*LN(Hardness)+0.0584)}*(0.997)$                        |                  | $e^{(0.846*LN(Hardness)+4.4389)}*(0.998)$   |                  |

Table 8. Chronic Water Quality Standards for Dissolved Chromium III Aquatic and Wildlife coldwater, warmwater and edw

| Hard. mg/L | Std. µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | 1.71      | 41         | 35.71     | 81         | 62.37     | 121        | 86.64     | 161        | 109.47    | 201        | 131.29    | 241        | 152.33    | 281        | 172.74    | 321        | 192.63    | 361        | 212.08    |
| 2          | 3.01      | 42         | 36.42     | 82         | 63.00     | 122        | 87.22     | 162        | 110.03    | 202        | 131.82    | 242        | 152.84    | 282        | 173.24    | 322        | 193.12    | 362        | 212.56    |
| 3          | 4.19      | 43         | 37.13     | 83         | 63.63     | 123        | 87.81     | 163        | 110.58    | 203        | 132.36    | 243        | 153.36    | 283        | 173.75    | 323        | 193.62    | 363        | 213.04    |
| 4          | 5.31      | 44         | 37.83     | 84         | 64.25     | 124        | 88.39     | 164        | 111.14    | 204        | 132.89    | 244        | 153.88    | 284        | 174.25    | 324        | 194.11    | 364        | 213.52    |
| 5          | 6.37      | 45         | 38.54     | 85         | 64.88     | 125        | 88.98     | 165        | 111.69    | 205        | 133.42    | 245        | 154.39    | 285        | 174.75    | 325        | 194.60    | 365        | 214.00    |
| 6          | 7.40      | 46         | 39.24     | 86         | 65.50     | 126        | 89.56     | 166        | 112.25    | 206        | 133.96    | 246        | 154.91    | 286        | 175.25    | 326        | 195.09    | 366        | 214.48    |
| 7          | 8.40      | 47         | 39.93     | 87         | 66.13     | 127        | 90.14     | 167        | 112.80    | 207        | 134.49    | 247        | 155.43    | 287        | 175.76    | 327        | 195.58    | 367        | 214.96    |
| 8          | 9.37      | 48         | 40.63     | 88         | 66.75     | 128        | 90.72     | 168        | 113.35    | 208        | 135.02    | 248        | 155.94    | 288        | 176.26    | 328        | 196.07    | 368        | 215.44    |
| 9          | 10.31     | 49         | 41.32     | 89         | 67.37     | 129        | 91.30     | 169        | 113.90    | 209        | 135.55    | 249        | 156.46    | 289        | 176.76    | 329        | 196.56    | 369        | 215.92    |
| 10         | 11.24     | 50         | 42.01     | 90         | 67.99     | 130        | 91.88     | 170        | 114.46    | 210        | 136.08    | 250        | 156.97    | 290        | 177.26    | 330        | 197.05    | 370        | 216.40    |
| 11         | 12.16     | 51         | 42.70     | 91         | 68.61     | 131        | 92.46     | 171        | 115.01    | 211        | 136.61    | 251        | 157.48    | 291        | 177.76    | 331        | 197.53    | 371        | 216.88    |
| 12         | 13.05     | 52         | 43.38     | 92         | 69.22     | 132        | 93.04     | 172        | 115.56    | 212        | 137.14    | 252        | 158.00    | 292        | 178.26    | 332        | 198.02    | 372        | 217.36    |



|    |       |    |       |     |       |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
|----|-------|----|-------|-----|-------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|
| 13 | 13.94 | 53 | 44.06 | 93  | 69.84 | 133 | 93.61  | 173 | 116.11 | 213 | 137.67 | 253 | 158.51 | 293 | 178.76 | 333 | 198.51 | 373 | 217.84 |
| 14 | 14.81 | 54 | 44.74 | 94  | 70.45 | 134 | 94.19  | 174 | 116.66 | 214 | 138.20 | 254 | 159.02 | 294 | 179.26 | 334 | 199.00 | 374 | 218.32 |
| 15 | 15.67 | 55 | 45.42 | 95  | 71.07 | 135 | 94.76  | 175 | 117.21 | 215 | 138.73 | 255 | 159.54 | 295 | 179.76 | 335 | 199.49 | 375 | 218.79 |
| 16 | 16.52 | 56 | 46.10 | 96  | 71.68 | 136 | 95.34  | 176 | 117.75 | 216 | 139.26 | 256 | 160.05 | 296 | 180.26 | 336 | 199.97 | 376 | 219.27 |
| 17 | 17.36 | 57 | 46.77 | 97  | 72.29 | 137 | 95.91  | 177 | 118.30 | 217 | 139.79 | 257 | 160.56 | 297 | 180.76 | 337 | 200.46 | 377 | 219.75 |
| 18 | 18.20 | 58 | 47.44 | 98  | 72.90 | 138 | 96.49  | 178 | 118.85 | 218 | 140.31 | 258 | 161.07 | 298 | 181.25 | 338 | 200.95 | 378 | 220.23 |
| 19 | 19.02 | 59 | 48.11 | 99  | 73.51 | 139 | 97.06  | 179 | 119.40 | 219 | 140.84 | 259 | 161.58 | 299 | 181.75 | 339 | 201.44 | 379 | 220.70 |
| 20 | 19.84 | 60 | 48.78 | 100 | 74.11 | 140 | 97.63  | 180 | 119.94 | 220 | 141.37 | 260 | 162.09 | 300 | 182.25 | 340 | 201.92 | 380 | 221.18 |
| 21 | 20.64 | 61 | 49.44 | 101 | 74.72 | 141 | 98.20  | 181 | 120.49 | 221 | 141.89 | 261 | 162.60 | 301 | 182.75 | 341 | 202.41 | 381 | 221.66 |
| 22 | 21.45 | 62 | 50.10 | 102 | 75.33 | 142 | 98.77  | 182 | 121.03 | 222 | 142.42 | 262 | 163.11 | 302 | 183.24 | 342 | 202.89 | 382 | 222.13 |
| 23 | 22.24 | 63 | 50.76 | 103 | 75.93 | 143 | 99.34  | 183 | 121.58 | 223 | 142.94 | 263 | 163.62 | 303 | 183.74 | 343 | 203.38 | 383 | 222.61 |
| 24 | 23.03 | 64 | 51.42 | 104 | 76.53 | 144 | 99.91  | 184 | 122.12 | 224 | 143.47 | 264 | 164.13 | 304 | 184.24 | 344 | 203.87 | 384 | 223.09 |
| 25 | 23.81 | 65 | 52.08 | 105 | 77.14 | 145 | 100.48 | 185 | 122.66 | 225 | 143.99 | 265 | 164.64 | 305 | 184.73 | 345 | 204.35 | 385 | 223.56 |
| 26 | 24.59 | 66 | 52.74 | 106 | 77.74 | 146 | 101.04 | 186 | 123.21 | 226 | 144.52 | 266 | 165.15 | 306 | 185.23 | 346 | 204.84 | 386 | 224.04 |
| 27 | 25.36 | 67 | 53.39 | 107 | 78.34 | 147 | 101.61 | 187 | 123.75 | 227 | 145.04 | 267 | 165.66 | 307 | 185.72 | 347 | 205.32 | 387 | 224.51 |
| 28 | 26.13 | 68 | 54.04 | 108 | 78.94 | 148 | 102.18 | 188 | 124.29 | 228 | 145.56 | 268 | 166.17 | 308 | 186.22 | 348 | 205.81 | 388 | 224.99 |
| 29 | 26.89 | 69 | 54.69 | 109 | 79.53 | 149 | 102.74 | 189 | 124.83 | 229 | 146.09 | 269 | 166.67 | 309 | 186.72 | 349 | 206.29 | 389 | 225.46 |
| 30 | 27.65 | 70 | 55.34 | 110 | 80.13 | 150 | 103.31 | 190 | 125.37 | 230 | 146.61 | 270 | 167.18 | 310 | 187.21 | 350 | 206.77 | 390 | 225.94 |
| 31 | 28.40 | 71 | 55.99 | 111 | 80.73 | 151 | 103.87 | 191 | 125.91 | 231 | 147.13 | 271 | 167.69 | 311 | 187.70 | 351 | 207.26 | 391 | 226.41 |
| 32 | 29.15 | 72 | 56.63 | 112 | 81.32 | 152 | 104.43 | 192 | 126.45 | 232 | 147.65 | 272 | 168.20 | 312 | 188.20 | 352 | 207.74 | 392 | 226.88 |
| 33 | 29.89 | 73 | 57.27 | 113 | 81.92 | 153 | 104.99 | 193 | 126.99 | 233 | 148.17 | 273 | 168.70 | 313 | 188.69 | 353 | 208.22 | 393 | 227.36 |
| 34 | 30.63 | 74 | 57.92 | 114 | 82.51 | 154 | 105.56 | 194 | 127.53 | 234 | 148.69 | 274 | 169.21 | 314 | 189.19 | 354 | 208.71 | 394 | 227.83 |
| 35 | 31.37 | 75 | 58.56 | 115 | 83.10 | 155 | 106.12 | 195 | 128.07 | 235 | 149.21 | 275 | 169.71 | 315 | 189.68 | 355 | 209.19 | 395 | 228.31 |
| 36 | 32.10 | 76 | 59.20 | 116 | 83.69 | 156 | 106.68 | 196 | 128.61 | 236 | 149.73 | 276 | 170.22 | 316 | 190.17 | 356 | 209.67 | 396 | 228.78 |
| 37 | 32.83 | 77 | 59.83 | 117 | 84.28 | 157 | 107.24 | 197 | 129.14 | 237 | 150.25 | 277 | 170.72 | 317 | 190.66 | 357 | 210.15 | 397 | 229.25 |
| 38 | 33.55 | 78 | 60.47 | 118 | 84.87 | 158 | 107.80 | 198 | 129.68 | 238 | 150.77 | 278 | 171.23 | 318 | 191.16 | 358 | 210.64 | 398 | 229.72 |
| 39 | 34.28 | 79 | 61.10 | 119 | 85.46 | 159 | 108.35 | 199 | 130.22 | 239 | 151.29 | 279 | 171.73 | 319 | 191.65 | 359 | 211.12 | 399 | 230.20 |
| 40 | 34.99 | 80 | 61.74 | 120 | 86.05 | 160 | 108.91 | 200 | 130.75 | 240 | 151.81 | 280 | 172.24 | 320 | 192.14 | 360 | 211.60 | 400 | 230.67 |

**Table 8. Water Quality Standards for Dissolved Silver**

|   |                         |
|---|-------------------------|
| <b><u>Acute Aquatic and Wildlife coldwater, warmwater, edw, and ephemeral</u></b> |                         |
| <b><u>Hard. mg/L</u></b>  | <b><u>Std. µg/L</u></b> |
| <u>20</u>   | <u>0.20</u>             |
| <u>100</u>  | <u>3.2</u>              |
| <u>400</u>  | <u>34.9</u>             |
| $\frac{e^{(1.72 \cdot \text{LN}(\text{Hardness}) - 6.59)}}{(0.85)}$               |                         |

**Table 9. Acute Water Quality Standards for Dissolved Chromium III Aquatic and Wildlife ephemeral**

| Hard. mg/L | Std. µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | 44        | 41         | 921       | 81         | 1609      | 121        | 2235      | 161        | 2824      | 201        | 3386      | 241        | 3929      | 281        | 4456      | 321        | 4969      | 361        | 5470      |
| 2          | 78        | 42         | 939       | 82         | 1625      | 122        | 2250      | 162        | 2838      | 202        | 3400      | 242        | 3942      | 282        | 4469      | 322        | 4981      | 362        | 5483      |
| 3          | 108       | 43         | 958       | 83         | 1641      | 123        | 2265      | 163        | 2852      | 203        | 3414      | 243        | 3956      | 283        | 4481      | 323        | 4994      | 363        | 5495      |
| 4          | 137       | 44         | 976       | 84         | 1657      | 124        | 2280      | 164        | 2867      | 204        | 3428      | 244        | 3969      | 284        | 4494      | 324        | 5007      | 364        | 5507      |
| 5          | 164       | 45         | 994       | 85         | 1673      | 125        | 2295      | 165        | 2881      | 205        | 3441      | 245        | 3982      | 285        | 4507      | 325        | 5019      | 365        | 5520      |

|    |      |    |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |
|----|------|----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|
| 6  | -191 | 46 | 1012 | 86  | 1690 | 126 | 2310 | 166 | 2895 | 206 | 3455 | 246 | 3996 | 286 | 4520 | 326 | 5032 | 366 | 5532 |
| 7  | -217 | 47 | 1030 | 87  | 1706 | 127 | 2325 | 167 | 2909 | 207 | 3469 | 247 | 4009 | 287 | 4533 | 327 | 5045 | 367 | 5545 |
| 8  | -242 | 48 | 1048 | 88  | 1722 | 128 | 2340 | 168 | 2924 | 208 | 3483 | 248 | 4022 | 288 | 4546 | 328 | 5057 | 368 | 5557 |
| 9  | -266 | 49 | 1066 | 89  | 1738 | 129 | 2355 | 169 | 2938 | 209 | 3496 | 249 | 4035 | 289 | 4559 | 329 | 5070 | 369 | 5569 |
| 10 | -290 | 50 | 1084 | 90  | 1754 | 130 | 2370 | 170 | 2952 | 210 | 3510 | 250 | 4049 | 290 | 4572 | 330 | 5082 | 370 | 5582 |
| 11 | -314 | 51 | 1101 | 91  | 1770 | 131 | 2385 | 171 | 2966 | 211 | 3524 | 251 | 4062 | 291 | 4585 | 331 | 5095 | 371 | 5594 |
| 12 | -337 | 52 | 1119 | 92  | 1785 | 132 | 2400 | 172 | 2981 | 212 | 3537 | 252 | 4075 | 292 | 4598 | 332 | 5108 | 372 | 5606 |
| 13 | -360 | 53 | 1137 | 93  | 1801 | 133 | 2415 | 173 | 2995 | 213 | 3551 | 253 | 4088 | 293 | 4611 | 333 | 5120 | 373 | 5619 |
| 14 | -382 | 54 | 1154 | 94  | 1817 | 134 | 2429 | 174 | 3009 | 214 | 3565 | 254 | 4102 | 294 | 4624 | 334 | 5133 | 374 | 5631 |
| 15 | -404 | 55 | 1172 | 95  | 1833 | 135 | 2444 | 175 | 3023 | 215 | 3578 | 255 | 4115 | 295 | 4637 | 335 | 5145 | 375 | 5643 |
| 16 | -426 | 56 | 1189 | 96  | 1849 | 136 | 2459 | 176 | 3037 | 216 | 3592 | 256 | 4128 | 296 | 4649 | 336 | 5158 | 376 | 5656 |
| 17 | -448 | 57 | 1206 | 97  | 1865 | 137 | 2474 | 177 | 3051 | 217 | 3606 | 257 | 4141 | 297 | 4662 | 337 | 5171 | 377 | 5668 |
| 18 | -469 | 58 | 1224 | 98  | 1880 | 138 | 2489 | 178 | 3066 | 218 | 3619 | 258 | 4155 | 298 | 4675 | 338 | 5183 | 378 | 5680 |
| 19 | -491 | 59 | 1241 | 99  | 1896 | 139 | 2503 | 179 | 3080 | 219 | 3633 | 259 | 4168 | 299 | 4688 | 339 | 5196 | 379 | 5693 |
| 20 | -512 | 60 | 1258 | 100 | 1912 | 140 | 2518 | 180 | 3094 | 220 | 3646 | 260 | 4181 | 300 | 4701 | 340 | 5208 | 380 | 5705 |
| 21 | -532 | 61 | 1275 | 101 | 1927 | 141 | 2533 | 181 | 3108 | 221 | 3660 | 261 | 4194 | 301 | 4714 | 341 | 5221 | 381 | 5717 |
| 22 | -553 | 62 | 1292 | 102 | 1943 | 142 | 2548 | 182 | 3122 | 222 | 3673 | 262 | 4207 | 302 | 4726 | 342 | 5233 | 382 | 5730 |
| 23 | -574 | 63 | 1309 | 103 | 1958 | 143 | 2562 | 183 | 3136 | 223 | 3687 | 263 | 4220 | 303 | 4739 | 343 | 5246 | 383 | 5742 |
| 24 | -594 | 64 | 1326 | 104 | 1974 | 144 | 2577 | 184 | 3150 | 224 | 3701 | 264 | 4234 | 304 | 4752 | 344 | 5258 | 384 | 5754 |
| 25 | 614  | 65 | 1343 | 105 | 1990 | 145 | 2592 | 185 | 3164 | 225 | 3714 | 265 | 4247 | 305 | 4765 | 345 | 5271 | 385 | 5766 |
| 26 | 634  | 66 | 1360 | 106 | 2005 | 146 | 2606 | 186 | 3178 | 226 | 3728 | 266 | 4260 | 306 | 4778 | 346 | 5283 | 386 | 5779 |
| 27 | 654  | 67 | 1377 | 107 | 2021 | 147 | 2621 | 187 | 3192 | 227 | 3741 | 267 | 4273 | 307 | 4790 | 347 | 5296 | 387 | 5791 |
| 28 | 674  | 68 | 1394 | 108 | 2036 | 148 | 2635 | 188 | 3206 | 228 | 3755 | 268 | 4286 | 308 | 4803 | 348 | 5308 | 388 | 5803 |
| 29 | 694  | 69 | 1411 | 109 | 2051 | 149 | 2650 | 189 | 3220 | 229 | 3768 | 269 | 4299 | 309 | 4816 | 349 | 5321 | 389 | 5815 |
| 30 | 713  | 70 | 1427 | 110 | 2067 | 150 | 2665 | 190 | 3234 | 230 | 3781 | 270 | 4312 | 310 | 4829 | 350 | 5333 | 390 | 5828 |
| 31 | 733  | 71 | 1444 | 111 | 2082 | 151 | 2679 | 191 | 3248 | 231 | 3795 | 271 | 4325 | 311 | 4841 | 351 | 5346 | 391 | 5840 |
| 32 | 752  | 72 | 1461 | 112 | 2098 | 152 | 2694 | 192 | 3262 | 232 | 3808 | 272 | 4338 | 312 | 4854 | 352 | 5358 | 392 | 5852 |
| 33 | 771  | 73 | 1477 | 113 | 2113 | 153 | 2708 | 193 | 3276 | 233 | 3822 | 273 | 4351 | 313 | 4867 | 353 | 5371 | 393 | 5864 |
| 34 | 790  | 74 | 1494 | 114 | 2128 | 154 | 2723 | 194 | 3289 | 234 | 3835 | 274 | 4364 | 314 | 4880 | 354 | 5383 | 394 | 5877 |
| 35 | 809  | 75 | 1510 | 115 | 2143 | 155 | 2737 | 195 | 3303 | 235 | 3849 | 275 | 4377 | 315 | 4892 | 355 | 5396 | 395 | 5889 |
| 36 | 828  | 76 | 1527 | 116 | 2159 | 156 | 2752 | 196 | 3317 | 236 | 3862 | 276 | 4390 | 316 | 4905 | 356 | 5408 | 396 | 5901 |
| 37 | 847  | 77 | 1543 | 117 | 2174 | 157 | 2766 | 197 | 3331 | 237 | 3875 | 277 | 4404 | 317 | 4918 | 357 | 5421 | 397 | 5913 |
| 38 | 865  | 78 | 1560 | 118 | 2189 | 158 | 2780 | 198 | 3345 | 238 | 3889 | 278 | 4417 | 318 | 4931 | 358 | 5433 | 398 | 5925 |
| 39 | 884  | 79 | 1576 | 119 | 2204 | 159 | 2795 | 199 | 3359 | 239 | 3902 | 279 | 4430 | 319 | 4943 | 359 | 5445 | 399 | 5938 |
| 40 | 903  | 80 | 1592 | 120 | 2220 | 160 | 2809 | 200 | 3372 | 240 | 3916 | 280 | 4443 | 320 | 4956 | 360 | 5458 | 400 | 5950 |

**Table 9. Water Quality Standards for Dissolved Zinc**

| <b>Acute and Chronic Aquatic and Wildlife coldwater, warmwater and edw</b> |                  | <b>Acute Aquatic and Wildlife ephemeral</b>                            |                  |
|--|------------------|--|------------------|
| <b>Hard. mg/L</b>  | <b>Std. µg/L</b> | <b>Hard. mg/L</b>  | <b>Std. µg/L</b> |
| <u>20</u>  | <u>30.0</u>      | <u>20</u>  | <u>284</u>       |
| <u>100</u>   | <u>117</u>       | <u>100</u>   | <u>1112</u>      |
| <u>400</u>   | <u>379</u>       | <u>400</u>   | <u>3599</u>      |
| $e^{(0.8473 \cdot \text{LN}(\text{Hardness}) + 0.884)} \cdot (0.978)$      |                  | $e^{(0.8473 \cdot \text{LN}(\text{Hardness}) + 3.1342)} \cdot (0.978)$ |                  |



**Table 10. Acute Water Quality Standards for Dissolved Copper Aquatic and Wildlife coldwater, warmwater and edw**

| Hard. mg/L | Std. µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | 0.18      | 41         | 5.80      | 81         | 11.02     | 121        | 16.08     | 161        | 21.05     | 201        | 25.94     | 241        | 30.78     | 281        | 35.57     | 321        | 40.33     | 361        | 45.05     |
| 2          | 0.34      | 42         | 5.93      | 82         | 11.15     | 122        | 16.21     | 162        | 21.17     | 202        | 26.07     | 242        | 30.90     | 282        | 35.69     | 322        | 40.45     | 362        | 45.16     |
| 3          | 0.49      | 43         | 6.07      | 83         | 11.28     | 123        | 16.33     | 163        | 21.30     | 203        | 26.19     | 243        | 31.02     | 283        | 35.81     | 323        | 40.56     | 363        | 45.28     |
| 4          | 0.65      | 44         | 6.20      | 84         | 11.40     | 124        | 16.46     | 164        | 21.42     | 204        | 26.31     | 244        | 31.14     | 284        | 35.93     | 324        | 40.68     | 364        | 45.40     |
| 5          | 0.80      | 45         | 6.33      | 85         | 11.53     | 125        | 16.58     | 165        | 21.54     | 205        | 26.43     | 245        | 31.26     | 285        | 36.05     | 325        | 40.80     | 365        | 45.52     |
| 6          | 0.95      | 46         | 6.47      | 86         | 11.66     | 126        | 16.71     | 166        | 21.66     | 206        | 26.55     | 246        | 31.38     | 286        | 36.17     | 326        | 40.92     | 366        | 45.63     |
| 7          | 1.10      | 47         | 6.60      | 87         | 11.79     | 127        | 16.83     | 167        | 21.79     | 207        | 26.67     | 247        | 31.50     | 287        | 36.29     | 327        | 41.04     | 367        | 45.75     |
| 8          | 1.24      | 48         | 6.73      | 88         | 11.91     | 128        | 16.96     | 168        | 21.91     | 208        | 26.79     | 248        | 31.62     | 288        | 36.41     | 328        | 41.16     | 368        | 45.87     |
| 9          | 1.39      | 49         | 6.86      | 89         | 12.04     | 129        | 17.08     | 169        | 22.03     | 209        | 26.92     | 249        | 31.74     | 289        | 36.53     | 329        | 41.27     | 369        | 45.99     |
| 10         | 1.54      | 50         | 6.99      | 90         | 12.17     | 130        | 17.21     | 170        | 22.16     | 210        | 27.04     | 250        | 31.86     | 290        | 36.65     | 330        | 41.39     | 370        | 46.10     |
| 11         | 1.68      | 51         | 7.13      | 91         | 12.30     | 131        | 17.33     | 171        | 22.28     | 211        | 27.16     | 251        | 31.98     | 291        | 36.77     | 331        | 41.51     | 371        | 46.22     |
| 12         | 1.82      | 52         | 7.26      | 92         | 12.42     | 132        | 17.46     | 172        | 22.40     | 212        | 27.28     | 252        | 32.10     | 292        | 36.89     | 332        | 41.63     | 372        | 46.34     |
| 13         | 1.97      | 53         | 7.39      | 93         | 12.55     | 133        | 17.58     | 173        | 22.52     | 213        | 27.40     | 253        | 32.22     | 293        | 37.00     | 333        | 41.75     | 373        | 46.46     |
| 14         | 2.11      | 54         | 7.52      | 94         | 12.68     | 134        | 17.71     | 174        | 22.65     | 214        | 27.52     | 254        | 32.34     | 294        | 37.12     | 334        | 41.86     | 374        | 46.57     |
| 15         | 2.25      | 55         | 7.65      | 95         | 12.81     | 135        | 17.83     | 175        | 22.77     | 215        | 27.64     | 255        | 32.46     | 295        | 37.24     | 335        | 41.98     | 375        | 46.69     |
| 16         | 2.39      | 56         | 7.78      | 96         | 12.93     | 136        | 17.96     | 176        | 22.89     | 216        | 27.76     | 256        | 32.58     | 296        | 37.36     | 336        | 42.10     | 376        | 46.81     |
| 17         | 2.53      | 57         | 7.91      | 97         | 13.06     | 137        | 18.08     | 177        | 23.02     | 217        | 27.89     | 257        | 32.70     | 297        | 37.48     | 337        | 42.22     | 377        | 46.92     |
| 18         | 2.67      | 58         | 8.04      | 98         | 13.19     | 138        | 18.20     | 178        | 23.14     | 218        | 28.01     | 258        | 32.82     | 298        | 37.60     | 338        | 42.34     | 378        | 47.04     |
| 19         | 2.81      | 59         | 8.17      | 99         | 13.31     | 139        | 18.33     | 179        | 23.26     | 219        | 28.13     | 259        | 32.94     | 299        | 37.72     | 339        | 42.45     | 379        | 47.16     |
| 20         | 2.95      | 60         | 8.31      | 100        | 13.44     | 140        | 18.45     | 180        | 23.38     | 220        | 28.25     | 260        | 33.06     | 300        | 37.84     | 340        | 42.57     | 380        | 47.28     |
| 21         | 3.09      | 61         | 8.44      | 101        | 13.57     | 141        | 18.58     | 181        | 23.50     | 221        | 28.37     | 261        | 33.18     | 301        | 37.96     | 341        | 42.69     | 381        | 47.39     |
| 22         | 3.23      | 62         | 8.57      | 102        | 13.69     | 142        | 18.70     | 182        | 23.63     | 222        | 28.49     | 262        | 33.30     | 302        | 38.07     | 342        | 42.81     | 382        | 47.51     |
| 23         | 3.37      | 63         | 8.70      | 103        | 13.82     | 143        | 18.82     | 183        | 23.75     | 223        | 28.61     | 263        | 33.42     | 303        | 38.19     | 343        | 42.93     | 383        | 47.63     |
| 24         | 3.50      | 64         | 8.83      | 104        | 13.95     | 144        | 18.95     | 184        | 23.87     | 224        | 28.73     | 264        | 33.54     | 304        | 38.31     | 344        | 43.04     | 384        | 47.74     |
| 25         | 3.64      | 65         | 8.96      | 105        | 14.07     | 145        | 19.07     | 185        | 23.99     | 225        | 28.85     | 265        | 33.66     | 305        | 38.43     | 345        | 43.16     | 385        | 47.86     |
| 26         | 3.78      | 66         | 9.09      | 106        | 14.20     | 146        | 19.20     | 186        | 24.12     | 226        | 28.97     | 266        | 33.78     | 306        | 38.55     | 346        | 43.28     | 386        | 47.98     |
| 27         | 3.91      | 67         | 9.22      | 107        | 14.32     | 147        | 19.32     | 187        | 24.24     | 227        | 29.09     | 267        | 33.90     | 307        | 38.67     | 347        | 43.40     | 387        | 48.10     |
| 28         | 4.05      | 68         | 9.34      | 108        | 14.45     | 148        | 19.44     | 188        | 24.36     | 228        | 29.22     | 268        | 34.02     | 308        | 38.79     | 348        | 43.52     | 388        | 48.21     |
| 29         | 4.19      | 69         | 9.47      | 109        | 14.58     | 149        | 19.57     | 189        | 24.48     | 229        | 29.34     | 269        | 34.14     | 309        | 38.91     | 349        | 43.63     | 389        | 48.33     |
| 30         | 4.32      | 70         | 9.60      | 110        | 14.70     | 150        | 19.69     | 190        | 24.60     | 230        | 29.46     | 270        | 34.26     | 310        | 39.02     | 350        | 43.75     | 390        | 48.45     |
| 31         | 4.46      | 71         | 9.73      | 111        | 14.83     | 151        | 19.82     | 191        | 24.73     | 231        | 29.58     | 271        | 34.38     | 311        | 39.14     | 351        | 43.87     | 391        | 48.56     |
| 32         | 4.59      | 72         | 9.86      | 112        | 14.95     | 152        | 19.94     | 192        | 24.85     | 232        | 29.70     | 272        | 34.50     | 312        | 39.26     | 352        | 43.99     | 392        | 48.68     |
| 33         | 4.73      | 73         | 9.99      | 113        | 15.08     | 153        | 20.06     | 193        | 24.97     | 233        | 29.82     | 273        | 34.62     | 313        | 39.38     | 353        | 44.10     | 393        | 48.80     |
| 34         | 4.86      | 74         | 10.12     | 114        | 15.20     | 154        | 20.19     | 194        | 25.09     | 234        | 29.94     | 274        | 34.74     | 314        | 39.50     | 354        | 44.22     | 394        | 48.92     |
| 35         | 5.00      | 75         | 10.25     | 115        | 15.33     | 155        | 20.31     | 195        | 25.21     | 235        | 30.06     | 275        | 34.86     | 315        | 39.62     | 355        | 44.34     | 395        | 49.03     |
| 36         | 5.13      | 76         | 10.38     | 116        | 15.46     | 156        | 20.43     | 196        | 25.34     | 236        | 30.18     | 276        | 34.98     | 316        | 39.74     | 356        | 44.46     | 396        | 49.15     |
| 37         | 5.27      | 77         | 10.51     | 117        | 15.58     | 157        | 20.56     | 197        | 25.46     | 237        | 30.30     | 277        | 35.10     | 317        | 39.85     | 357        | 44.58     | 397        | 49.27     |
| 38         | 5.40      | 78         | 10.63     | 118        | 15.71     | 158        | 20.68     | 198        | 25.58     | 238        | 30.42     | 278        | 35.22     | 318        | 39.97     | 358        | 44.69     | 398        | 49.38     |
| 39         | 5.53      | 79         | 10.76     | 119        | 15.83     | 159        | 20.80     | 199        | 25.70     | 239        | 30.54     | 279        | 35.34     | 319        | 40.09     | 359        | 44.81     | 399        | 49.50     |
| 40         | 5.67      | 80         | 10.89     | 120        | 15.96     | 160        | 20.93     | 200        | 25.82     | 240        | 30.66     | 280        | 35.46     | 320        | 40.21     | 360        | 44.93     | 400        | 49.62     |

**Table 10. Water Quality Standards for Pentachlorophenol**

| <u>Acute Aquatic and Wildlife coldwater, warmwater and edw</u> |             | <u>Chronic Aquatic and Wildlife coldwater, warmwater and edw</u> |             | <u>Acute Aquatic and Wildlife ephemeral</u> |             |
|--|-------------|--|-------------|---|-------------|
| <u>pH</u>  | <u>µg/L</u> | <u>pH</u>  | <u>µg/L</u> | <u>pH</u>                                   | <u>µg/L</u> |
| <u>3</u>   | <u>0.16</u> | <u>3</u>   | <u>0.1</u>  | <u>3</u>                                    | <u>0.66</u> |
| <u>6</u>   | <u>3.3</u>  | <u>6</u>   | <u>2.1</u>  | <u>6</u>                                    | <u>13.5</u> |
| <u>9</u>   | <u>67.7</u> | <u>9</u>   | <u>42.7</u> | <u>9</u>                                    | <u>274</u>  |

|                         |                         |                           |
|-------------------------|-------------------------|---------------------------|
| $e^{(1.005*(pH)-4.83)}$ | $e^{(1.005*(pH)-5.29)}$ | $e^{(1.005*(pH)-3.4306)}$ |
|-------------------------|-------------------------|---------------------------|

**Table 11. Chronic Water Quality Standards for Dissolved Copper Aquatic and Wildlife coldwater, warmwater and edw**

| Hard. mg/L | Std. µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | 0.18      | 41         | 4.18      | 81         | 7.48      | 121        | 10.54     | 161        | 13.45     | 201        | 16.26     | 241        | 18.99     | 281        | 21.65     | 321        | 24.26     | 361        | 26.82     |
| 2          | 0.32      | 42         | 4.27      | 82         | 7.56      | 122        | 10.61     | 162        | 13.52     | 202        | 16.33     | 242        | 19.06     | 282        | 21.72     | 322        | 24.33     | 362        | 26.89     |
| 3          | 0.45      | 43         | 4.35      | 83         | 7.64      | 123        | 10.69     | 163        | 13.60     | 203        | 16.40     | 243        | 19.13     | 283        | 21.78     | 323        | 24.39     | 363        | 26.95     |
| 4          | 0.57      | 44         | 4.44      | 84         | 7.72      | 124        | 10.76     | 164        | 13.67     | 204        | 16.47     | 244        | 19.19     | 284        | 21.85     | 324        | 24.45     | 364        | 27.01     |
| 5          | 0.69      | 45         | 4.53      | 85         | 7.79      | 125        | 10.84     | 165        | 13.74     | 205        | 16.54     | 245        | 19.26     | 285        | 21.92     | 325        | 24.52     | 365        | 27.08     |
| 6          | 0.81      | 46         | 4.61      | 86         | 7.87      | 126        | 10.91     | 166        | 13.81     | 206        | 16.61     | 246        | 19.33     | 286        | 21.98     | 326        | 24.58     | 366        | 27.14     |
| 7          | 0.92      | 47         | 4.70      | 87         | 7.95      | 127        | 10.99     | 167        | 13.88     | 207        | 16.68     | 247        | 19.39     | 287        | 22.05     | 327        | 24.65     | 367        | 27.20     |
| 8          | 1.03      | 48         | 4.78      | 88         | 8.03      | 128        | 11.06     | 168        | 13.95     | 208        | 16.75     | 248        | 19.46     | 288        | 22.11     | 328        | 24.71     | 368        | 27.27     |
| 9          | 1.14      | 49         | 4.87      | 89         | 8.11      | 129        | 11.13     | 169        | 14.02     | 209        | 16.81     | 249        | 19.53     | 289        | 22.18     | 329        | 24.78     | 369        | 27.33     |
| 10         | 1.25      | 50         | 4.95      | 90         | 8.18      | 130        | 11.21     | 170        | 14.09     | 210        | 16.88     | 250        | 19.59     | 290        | 22.24     | 330        | 24.84     | 370        | 27.39     |
| 11         | 1.36      | 51         | 5.04      | 91         | 8.26      | 131        | 11.28     | 171        | 14.16     | 211        | 16.95     | 251        | 19.66     | 291        | 22.31     | 331        | 24.91     | 371        | 27.46     |
| 12         | 1.46      | 52         | 5.12      | 92         | 8.34      | 132        | 11.35     | 172        | 14.24     | 212        | 17.02     | 252        | 19.73     | 292        | 22.38     | 332        | 24.97     | 372        | 27.52     |
| 13         | 1.57      | 53         | 5.21      | 93         | 8.42      | 133        | 11.43     | 173        | 14.31     | 213        | 17.09     | 253        | 19.80     | 293        | 22.44     | 333        | 25.03     | 373        | 27.58     |
| 14         | 1.67      | 54         | 5.29      | 94         | 8.49      | 134        | 11.50     | 174        | 14.38     | 214        | 17.16     | 254        | 19.86     | 294        | 22.51     | 334        | 25.10     | 374        | 27.65     |
| 15         | 1.77      | 55         | 5.37      | 95         | 8.57      | 135        | 11.57     | 175        | 14.45     | 215        | 17.23     | 255        | 19.93     | 295        | 22.57     | 335        | 25.16     | 375        | 27.71     |
| 16         | 1.87      | 56         | 5.46      | 96         | 8.65      | 136        | 11.65     | 176        | 14.52     | 216        | 17.29     | 256        | 20.00     | 296        | 22.64     | 336        | 25.23     | 376        | 27.77     |
| 17         | 1.97      | 57         | 5.54      | 97         | 8.73      | 137        | 11.72     | 177        | 14.59     | 217        | 17.36     | 257        | 20.06     | 297        | 22.70     | 337        | 25.29     | 377        | 27.83     |
| 18         | 2.07      | 58         | 5.62      | 98         | 8.80      | 138        | 11.79     | 178        | 14.66     | 218        | 17.43     | 258        | 20.13     | 298        | 22.77     | 338        | 25.35     | 378        | 27.90     |
| 19         | 2.17      | 59         | 5.71      | 99         | 8.88      | 139        | 11.87     | 179        | 14.73     | 219        | 17.50     | 259        | 20.20     | 299        | 22.83     | 339        | 25.42     | 379        | 27.96     |
| 20         | 2.26      | 60         | 5.79      | 100        | 8.96      | 140        | 11.94     | 180        | 14.80     | 220        | 17.57     | 260        | 20.26     | 300        | 22.90     | 340        | 25.48     | 380        | 28.02     |
| 21         | 2.36      | 61         | 5.87      | 101        | 9.03      | 141        | 12.01     | 181        | 14.87     | 221        | 17.64     | 261        | 20.33     | 301        | 22.96     | 341        | 25.55     | 381        | 28.09     |
| 22         | 2.46      | 62         | 5.95      | 102        | 9.11      | 142        | 12.08     | 182        | 14.94     | 222        | 17.70     | 262        | 20.40     | 302        | 23.03     | 342        | 25.61     | 382        | 28.15     |
| 23         | 2.55      | 63         | 6.03      | 103        | 9.18      | 143        | 12.16     | 183        | 15.01     | 223        | 17.77     | 263        | 20.46     | 303        | 23.09     | 343        | 25.68     | 383        | 28.21     |
| 24         | 2.65      | 64         | 6.12      | 104        | 9.26      | 144        | 12.23     | 184        | 15.08     | 224        | 17.84     | 264        | 20.53     | 304        | 23.16     | 344        | 25.74     | 384        | 28.28     |
| 25         | 2.74      | 65         | 6.20      | 105        | 9.34      | 145        | 12.30     | 185        | 15.15     | 225        | 17.91     | 265        | 20.60     | 305        | 23.22     | 345        | 25.80     | 385        | 28.34     |
| 26         | 2.83      | 66         | 6.28      | 106        | 9.41      | 146        | 12.37     | 186        | 15.22     | 226        | 17.98     | 266        | 20.66     | 306        | 23.29     | 346        | 25.87     | 386        | 28.40     |
| 27         | 2.93      | 67         | 6.36      | 107        | 9.49      | 147        | 12.45     | 187        | 15.29     | 227        | 18.04     | 267        | 20.73     | 307        | 23.35     | 347        | 25.93     | 387        | 28.46     |
| 28         | 3.02      | 68         | 6.44      | 108        | 9.56      | 148        | 12.52     | 188        | 15.36     | 228        | 18.11     | 268        | 20.79     | 308        | 23.42     | 348        | 25.99     | 388        | 28.53     |
| 29         | 3.11      | 69         | 6.52      | 109        | 9.64      | 149        | 12.59     | 189        | 15.43     | 229        | 18.18     | 269        | 20.86     | 309        | 23.48     | 349        | 26.06     | 389        | 28.59     |
| 30         | 3.20      | 70         | 6.60      | 110        | 9.72      | 150        | 12.66     | 190        | 15.50     | 230        | 18.25     | 270        | 20.93     | 310        | 23.55     | 350        | 26.12     | 390        | 28.65     |
| 31         | 3.29      | 71         | 6.68      | 111        | 9.79      | 151        | 12.74     | 191        | 15.57     | 231        | 18.32     | 271        | 20.99     | 311        | 23.61     | 351        | 26.19     | 391        | 28.72     |
| 32         | 3.38      | 72         | 6.76      | 112        | 9.87      | 152        | 12.81     | 192        | 15.64     | 232        | 18.38     | 272        | 21.06     | 312        | 23.68     | 352        | 26.25     | 392        | 28.78     |
| 33         | 3.47      | 73         | 6.84      | 113        | 9.94      | 153        | 12.88     | 193        | 15.71     | 233        | 18.45     | 273        | 21.13     | 313        | 23.74     | 353        | 26.31     | 393        | 28.84     |
| 34         | 3.56      | 74         | 6.92      | 114        | 10.02     | 154        | 12.95     | 194        | 15.78     | 234        | 18.52     | 274        | 21.19     | 314        | 23.81     | 354        | 26.38     | 394        | 28.90     |
| 35         | 3.65      | 75         | 7.00      | 115        | 10.09     | 155        | 13.02     | 195        | 15.85     | 235        | 18.59     | 275        | 21.26     | 315        | 23.87     | 355        | 26.44     | 395        | 28.97     |
| 36         | 3.74      | 76         | 7.08      | 116        | 10.17     | 156        | 13.10     | 196        | 15.92     | 236        | 18.65     | 276        | 21.32     | 316        | 23.94     | 356        | 26.50     | 396        | 29.03     |
| 37         | 3.83      | 77         | 7.16      | 117        | 10.24     | 157        | 13.17     | 197        | 15.99     | 237        | 18.72     | 277        | 21.39     | 317        | 24.00     | 357        | 26.57     | 397        | 29.09     |
| 38         | 3.92      | 78         | 7.24      | 118        | 10.32     | 158        | 13.24     | 198        | 16.05     | 238        | 18.79     | 278        | 21.46     | 318        | 24.07     | 358        | 26.63     | 398        | 29.15     |
| 39         | 4.01      | 79         | 7.32      | 119        | 10.39     | 159        | 13.31     | 199        | 16.12     | 239        | 18.86     | 279        | 21.52     | 319        | 24.13     | 359        | 26.70     | 399        | 29.22     |
| 40         | 4.09      | 80         | 7.40      | 120        | 10.47     | 160        | 13.38     | 200        | 16.19     | 240        | 18.92     | 280        | 21.59     | 320        | 24.20     | 360        | 26.76     | 400        | 29.28     |

**Table 12. Acute Water Quality Standards for Dissolved Copper Aquatic and Wildlife ephemeral**

| Hard. mg/L | Std. µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | 0.30      | 41         | 10.04     | 81         | 19.07     | 121        | 27.84     | 161        | 36.43     | 201        | 44.91     | 241        | 53.28     | 281        | 61.57     | 321        | 69.80     | 361        | 77.97     |
| 2          | 0.58      | 42         | 10.27     | 82         | 19.29     | 122        | 28.05     | 162        | 36.65     | 202        | 45.12     | 242        | 53.49     | 282        | 61.78     | 322        | 70.00     | 362        | 78.17     |
| 3          | 0.85      | 43         | 10.50     | 83         | 19.52     | 123        | 28.27     | 163        | 36.86     | 203        | 45.33     | 243        | 53.70     | 283        | 61.99     | 323        | 70.21     | 363        | 78.37     |
| 4          | 1.12      | 44         | 10.73     | 84         | 19.74     | 124        | 28.49     | 164        | 37.07     | 204        | 45.54     | 244        | 53.90     | 284        | 62.19     | 324        | 70.41     | 364        | 78.58     |
| 5          | 1.38      | 45         | 10.96     | 85         | 19.96     | 125        | 28.70     | 165        | 37.29     | 205        | 45.75     | 245        | 54.11     | 285        | 62.40     | 325        | 70.62     | 365        | 78.78     |
| 6          | 1.64      | 46         | 11.19     | 86         | 20.18     | 126        | 28.92     | 166        | 37.50     | 206        | 45.96     | 246        | 54.32     | 286        | 62.61     | 326        | 70.82     | 366        | 78.98     |
| 7          | 1.90      | 47         | 11.42     | 87         | 20.40     | 127        | 29.14     | 167        | 37.71     | 207        | 46.17     | 247        | 54.53     | 287        | 62.81     | 327        | 71.03     | 367        | 79.19     |



|    |      |    |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
|----|------|----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 8  | 2.15 | 48 | 11.65 | 88  | 20.62 | 128 | 29.35 | 168 | 37.92 | 208 | 46.38 | 248 | 54.74 | 288 | 63.02 | 328 | 71.23 | 368 | 79.39 |
| 9  | 2.41 | 49 | 11.88 | 89  | 20.84 | 129 | 29.57 | 169 | 38.14 | 209 | 46.59 | 249 | 54.94 | 289 | 63.22 | 329 | 71.44 | 369 | 79.59 |
| 10 | 2.66 | 50 | 12.11 | 90  | 21.06 | 130 | 29.78 | 170 | 38.35 | 210 | 46.80 | 250 | 55.15 | 290 | 63.43 | 330 | 71.64 | 370 | 79.80 |
| 11 | 2.91 | 51 | 12.33 | 91  | 21.28 | 131 | 30.00 | 171 | 38.56 | 211 | 47.01 | 251 | 55.36 | 291 | 63.64 | 331 | 71.85 | 371 | 80.00 |
| 12 | 3.16 | 52 | 12.56 | 92  | 21.50 | 132 | 30.22 | 172 | 38.77 | 212 | 47.22 | 252 | 55.57 | 292 | 63.84 | 332 | 72.05 | 372 | 80.20 |
| 13 | 3.40 | 53 | 12.79 | 93  | 21.72 | 133 | 30.43 | 173 | 38.99 | 213 | 47.43 | 253 | 55.78 | 293 | 64.05 | 333 | 72.26 | 373 | 80.41 |
| 14 | 3.65 | 54 | 13.02 | 94  | 21.94 | 134 | 30.65 | 174 | 39.20 | 214 | 47.64 | 254 | 55.98 | 294 | 64.25 | 334 | 72.46 | 374 | 80.61 |
| 15 | 3.89 | 55 | 13.24 | 95  | 22.16 | 135 | 30.86 | 175 | 39.41 | 215 | 47.85 | 255 | 56.19 | 295 | 64.46 | 335 | 72.66 | 375 | 80.81 |
| 16 | 4.14 | 56 | 13.47 | 96  | 22.38 | 136 | 31.08 | 176 | 39.62 | 216 | 48.06 | 256 | 56.40 | 296 | 64.67 | 336 | 72.87 | 376 | 81.02 |
| 17 | 4.38 | 57 | 13.70 | 97  | 22.60 | 137 | 31.29 | 177 | 39.84 | 217 | 48.27 | 257 | 56.61 | 297 | 64.87 | 337 | 73.07 | 377 | 81.22 |
| 18 | 4.62 | 58 | 13.92 | 98  | 22.82 | 138 | 31.51 | 178 | 40.05 | 218 | 48.48 | 258 | 56.81 | 298 | 65.08 | 338 | 73.28 | 378 | 81.42 |
| 19 | 4.86 | 59 | 14.15 | 99  | 23.04 | 139 | 31.72 | 179 | 40.26 | 219 | 48.68 | 259 | 57.02 | 299 | 65.28 | 339 | 73.48 | 379 | 81.62 |
| 20 | 5.11 | 60 | 14.37 | 100 | 23.26 | 140 | 31.94 | 180 | 40.47 | 220 | 48.89 | 260 | 57.23 | 300 | 65.49 | 340 | 73.69 | 380 | 81.83 |
| 21 | 5.35 | 61 | 14.60 | 101 | 23.48 | 141 | 32.15 | 181 | 40.68 | 221 | 49.10 | 261 | 57.44 | 301 | 65.69 | 341 | 73.89 | 381 | 82.03 |
| 22 | 5.59 | 62 | 14.83 | 102 | 23.70 | 142 | 32.37 | 182 | 40.89 | 222 | 49.31 | 262 | 57.64 | 302 | 65.90 | 342 | 74.09 | 382 | 82.23 |
| 23 | 5.82 | 63 | 15.05 | 103 | 23.92 | 143 | 32.58 | 183 | 41.11 | 223 | 49.52 | 263 | 57.85 | 303 | 66.11 | 343 | 74.30 | 383 | 82.44 |
| 24 | 6.06 | 64 | 15.28 | 104 | 24.14 | 144 | 32.80 | 184 | 41.32 | 224 | 49.73 | 264 | 58.06 | 304 | 66.31 | 344 | 74.50 | 384 | 82.64 |
| 25 | 6.30 | 65 | 15.50 | 105 | 24.36 | 145 | 33.01 | 185 | 41.53 | 225 | 49.94 | 265 | 58.26 | 305 | 66.52 | 345 | 74.71 | 385 | 82.84 |
| 26 | 6.54 | 66 | 15.73 | 106 | 24.57 | 146 | 33.23 | 186 | 41.74 | 226 | 50.15 | 266 | 58.47 | 306 | 66.72 | 346 | 74.91 | 386 | 83.04 |
| 27 | 6.77 | 67 | 15.95 | 107 | 24.79 | 147 | 33.44 | 187 | 41.95 | 227 | 50.36 | 267 | 58.68 | 307 | 66.93 | 347 | 75.11 | 387 | 83.25 |
| 28 | 7.01 | 68 | 16.17 | 108 | 25.01 | 148 | 33.65 | 188 | 42.16 | 228 | 50.57 | 268 | 58.89 | 308 | 67.13 | 348 | 75.32 | 388 | 83.45 |
| 29 | 7.25 | 69 | 16.40 | 109 | 25.23 | 149 | 33.87 | 189 | 42.37 | 229 | 50.78 | 269 | 59.09 | 309 | 67.34 | 349 | 75.52 | 389 | 83.65 |
| 30 | 7.48 | 70 | 16.62 | 110 | 25.45 | 150 | 34.08 | 190 | 42.59 | 230 | 50.99 | 270 | 59.30 | 310 | 67.54 | 350 | 75.73 | 390 | 83.85 |
| 31 | 7.72 | 71 | 16.85 | 111 | 25.66 | 151 | 34.30 | 191 | 42.80 | 231 | 51.19 | 271 | 59.51 | 311 | 67.75 | 351 | 75.93 | 391 | 84.06 |
| 32 | 7.95 | 72 | 17.07 | 112 | 25.88 | 152 | 34.51 | 192 | 43.01 | 232 | 51.40 | 272 | 59.71 | 312 | 67.95 | 352 | 76.13 | 392 | 84.26 |
| 33 | 8.18 | 73 | 17.29 | 113 | 26.10 | 153 | 34.72 | 193 | 43.22 | 233 | 51.61 | 273 | 59.92 | 313 | 68.16 | 353 | 76.34 | 393 | 84.46 |
| 34 | 8.42 | 74 | 17.52 | 114 | 26.32 | 154 | 34.94 | 194 | 43.43 | 234 | 51.82 | 274 | 60.13 | 314 | 68.36 | 354 | 76.54 | 394 | 84.66 |
| 35 | 8.65 | 75 | 17.74 | 115 | 26.53 | 155 | 35.15 | 195 | 43.64 | 235 | 52.03 | 275 | 60.33 | 315 | 68.57 | 355 | 76.74 | 395 | 84.87 |
| 36 | 8.88 | 76 | 17.96 | 116 | 26.75 | 156 | 35.37 | 196 | 43.85 | 236 | 52.24 | 276 | 60.54 | 316 | 68.77 | 356 | 76.95 | 396 | 85.07 |
| 37 | 9.12 | 77 | 18.18 | 117 | 26.97 | 157 | 35.58 | 197 | 44.06 | 237 | 52.45 | 277 | 60.75 | 317 | 68.98 | 357 | 77.15 | 397 | 85.27 |
| 38 | 9.35 | 78 | 18.41 | 118 | 27.19 | 158 | 35.79 | 198 | 44.27 | 238 | 52.65 | 278 | 60.95 | 318 | 69.18 | 358 | 77.36 | 398 | 85.47 |
| 39 | 9.58 | 79 | 18.63 | 119 | 27.40 | 159 | 36.01 | 199 | 44.48 | 239 | 52.86 | 279 | 61.16 | 319 | 69.39 | 359 | 77.56 | 399 | 85.68 |
| 40 | 9.81 | 80 | 18.85 | 120 | 27.62 | 160 | 36.22 | 200 | 44.69 | 240 | 53.07 | 280 | 61.37 | 320 | 69.59 | 360 | 77.76 | 400 | 85.88 |

Table 13. Acute Water Quality Standards for Dissolved Lead Aquatic and Wildlife coldwater, warmwater and edw

| Hard. mg/L | Std. µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | 0.34      | 41         | 24.17     | 81         | 51.30     | 121        | 79.43     | 161        | 108.02    | 201        | 136.86    | 241        | 165.82    | 281        | 194.81    | 321        | 223.79    | 361        | 252.72    |
| 2          | 0.76      | 42         | 24.82     | 82         | 52.00     | 122        | 80.14     | 162        | 108.74    | 202        | 137.59    | 242        | 166.55    | 282        | 195.54    | 322        | 224.52    | 362        | 253.44    |
| 3          | 1.22      | 43         | 25.48     | 83         | 52.69     | 123        | 80.85     | 163        | 109.46    | 203        | 138.31    | 243        | 167.27    | 283        | 196.26    | 323        | 225.24    | 363        | 254.16    |
| 4          | 1.71      | 44         | 26.14     | 84         | 53.39     | 124        | 81.56     | 164        | 110.18    | 204        | 139.03    | 244        | 167.99    | 284        | 196.99    | 324        | 225.96    | 364        | 254.89    |
| 5          | 2.21      | 45         | 26.81     | 85         | 54.08     | 125        | 82.27     | 165        | 110.90    | 205        | 139.76    | 245        | 168.72    | 285        | 197.71    | 325        | 226.69    | 365        | 255.61    |
| 6          | 2.73      | 46         | 27.47     | 86         | 54.78     | 126        | 82.98     | 166        | 111.62    | 206        | 140.48    | 246        | 169.44    | 286        | 198.44    | 326        | 227.41    | 366        | 256.33    |
| 7          | 3.26      | 47         | 28.13     | 87         | 55.48     | 127        | 83.69     | 167        | 112.34    | 207        | 141.20    | 247        | 170.17    | 287        | 199.16    | 327        | 228.14    | 367        | 257.05    |
| 8          | 3.80      | 48         | 28.80     | 88         | 56.17     | 128        | 84.41     | 168        | 113.06    | 208        | 141.93    | 248        | 170.89    | 288        | 199.89    | 328        | 228.86    | 368        | 257.77    |
| 9          | 4.35      | 49         | 29.47     | 89         | 56.87     | 129        | 85.12     | 169        | 113.78    | 209        | 142.65    | 249        | 171.62    | 289        | 200.61    | 329        | 229.58    | 369        | 258.50    |
| 10         | 4.91      | 50         | 30.14     | 90         | 57.57     | 130        | 85.83     | 170        | 114.50    | 210        | 143.37    | 250        | 172.34    | 290        | 201.34    | 330        | 230.31    | 370        | 259.22    |
| 11         | 5.47      | 51         | 30.81     | 91         | 58.27     | 131        | 86.54     | 171        | 115.22    | 211        | 144.10    | 251        | 173.07    | 291        | 202.06    | 331        | 231.03    | 371        | 259.94    |
| 12         | 6.04      | 52         | 31.48     | 92         | 58.97     | 132        | 87.26     | 172        | 115.94    | 212        | 144.82    | 252        | 173.79    | 292        | 202.79    | 332        | 231.75    | 372        | 260.66    |
| 13         | 6.62      | 53         | 32.15     | 93         | 59.67     | 133        | 87.97     | 173        | 116.66    | 213        | 145.54    | 253        | 174.52    | 293        | 203.51    | 333        | 232.48    | 373        | 261.38    |
| 14         | 7.20      | 54         | 32.82     | 94         | 60.37     | 134        | 88.68     | 174        | 117.38    | 214        | 146.27    | 254        | 175.24    | 294        | 204.24    | 334        | 233.20    | 374        | 262.10    |
| 15         | 7.79      | 55         | 33.49     | 95         | 61.07     | 135        | 89.40     | 175        | 118.10    | 215        | 146.99    | 255        | 175.97    | 295        | 204.96    | 335        | 233.92    | 375        | 262.83    |
| 16         | 8.38      | 56         | 34.17     | 96         | 61.77     | 136        | 90.11     | 176        | 118.82    | 216        | 147.71    | 256        | 176.69    | 296        | 205.69    | 336        | 234.65    | 376        | 263.55    |
| 17         | 8.98      | 57         | 34.84     | 97         | 62.47     | 137        | 90.83     | 177        | 119.54    | 217        | 148.44    | 257        | 177.42    | 297        | 206.41    | 337        | 235.37    | 377        | 264.27    |
| 18         | 9.58      | 58         | 35.52     | 98         | 63.18     | 138        | 91.54     | 178        | 120.26    | 218        | 149.16    | 258        | 178.14    | 298        | 207.13    | 338        | 236.09    | 378        | 264.99    |
| 19         | 10.18     | 59         | 36.20     | 99         | 63.88     | 139        | 92.25     | 179        | 120.98    | 219        | 149.89    | 259        | 178.87    | 299        | 207.86    | 339        | 236.82    | 379        | 265.71    |
| 20         | 10.79     | 60         | 36.88     | 100        | 64.58     | 140        | 92.97     | 180        | 121.70    | 220        | 150.61    | 260        | 179.59    | 300        | 208.58    | 340        | 237.54    | 380        | 266.43    |
| 21         | 11.40     | 61         | 37.56     | 101        | 65.28     | 141        | 93.68     | 181        | 122.42    | 221        | 151.33    | 261        | 180.32    | 301        | 209.31    | 341        | 238.26    | 381        | 267.15    |
| 22         | 12.02     | 62         | 38.24     | 102        | 65.99     | 142        | 94.40     | 182        | 123.14    | 222        | 152.06    | 262        | 181.04    | 302        | 210.03    | 342        | 238.99    | 382        | 267.88    |
| 23         | 12.64     | 63         | 38.92     | 103        | 66.69     | 143        | 95.12     | 183        | 123.87    | 223        | 152.78    | 263        | 181.77    | 303        | 210.76    | 343        | 239.71    | 383        | 268.60    |
| 24         | 13.26     | 64         | 39.60     | 104        | 67.40     | 144        | 95.83     | 184        | 124.59    | 224        | 153.51    | 264        | 182.49    | 304        | 211.48    | 344        | 240.43    | 384        | 269.32    |
| 25         | 13.88     | 65         | 40.28     | 105        | 68.10     | 145        | 96.55     | 185        | 125.31    | 225        | 154.23    | 265        | 183.22    | 305        | 212.21    | 345        | 241.16    | 385        | 270.04    |
| 26         | 14.51     | 66         | 40.97     | 106        | 68.81     | 146        | 97.26     | 186        | 126.03    | 226        | 154.95    | 266        | 183.94    | 306        | 212.93    | 346        | 241.88    | 386        | 270.76    |
| 27         | 15.14     | 67         | 41.65     | 107        | 69.51     | 147        | 97.98     | 187        | 126.75    | 227        | 155.68    | 267        | 184.67    | 307        | 213.65    | 347        | 242.60    | 387        | 271.48    |

|    |       |    |       |     |       |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
|----|-------|----|-------|-----|-------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|
| 28 | 15.77 | 68 | 42.33 | 108 | 70.22 | 148 | 98.70  | 188 | 127.47 | 228 | 156.40 | 268 | 185.39 | 308 | 214.38 | 348 | 243.33 | 388 | 272.20 |
| 29 | 16.40 | 69 | 43.02 | 109 | 70.93 | 149 | 99.41  | 189 | 128.20 | 229 | 157.13 | 269 | 186.12 | 309 | 215.10 | 349 | 244.05 | 389 | 272.92 |
| 30 | 17.04 | 70 | 43.71 | 110 | 71.63 | 150 | 100.13 | 190 | 128.92 | 230 | 157.85 | 270 | 186.84 | 310 | 215.83 | 350 | 244.77 | 390 | 273.64 |
| 31 | 17.68 | 71 | 44.39 | 111 | 72.34 | 151 | 100.85 | 191 | 129.64 | 231 | 158.58 | 271 | 187.57 | 311 | 216.55 | 351 | 245.49 | 391 | 274.36 |
| 32 | 18.32 | 72 | 45.08 | 112 | 73.05 | 152 | 101.56 | 192 | 130.36 | 232 | 159.30 | 272 | 188.29 | 312 | 217.28 | 352 | 246.22 | 392 | 275.08 |
| 33 | 18.96 | 73 | 45.77 | 113 | 73.75 | 153 | 102.28 | 193 | 131.08 | 233 | 160.02 | 273 | 189.02 | 313 | 218.00 | 353 | 246.94 | 393 | 275.80 |
| 34 | 19.61 | 74 | 46.46 | 114 | 74.46 | 154 | 103.00 | 194 | 131.81 | 234 | 160.75 | 274 | 189.74 | 314 | 218.72 | 354 | 247.66 | 394 | 276.52 |
| 35 | 20.25 | 75 | 47.15 | 115 | 75.17 | 155 | 103.72 | 195 | 132.53 | 235 | 161.47 | 275 | 190.47 | 315 | 219.45 | 355 | 248.38 | 395 | 277.25 |
| 36 | 20.90 | 76 | 47.84 | 116 | 75.88 | 156 | 104.43 | 196 | 133.25 | 236 | 162.20 | 276 | 191.19 | 316 | 220.17 | 356 | 249.11 | 396 | 277.97 |
| 37 | 21.55 | 77 | 48.53 | 117 | 76.59 | 157 | 105.15 | 197 | 133.97 | 237 | 162.92 | 277 | 191.92 | 317 | 220.90 | 357 | 249.83 | 397 | 278.69 |
| 38 | 22.20 | 78 | 49.22 | 118 | 77.30 | 158 | 105.87 | 198 | 134.70 | 238 | 163.65 | 278 | 192.64 | 318 | 221.62 | 358 | 250.55 | 398 | 279.41 |
| 39 | 22.86 | 79 | 49.92 | 119 | 78.01 | 159 | 106.59 | 199 | 135.42 | 239 | 164.37 | 279 | 193.36 | 319 | 222.34 | 359 | 251.27 | 399 | 280.13 |
| 40 | 23.51 | 80 | 50.61 | 120 | 78.72 | 160 | 107.31 | 200 | 136.14 | 240 | 165.10 | 280 | 194.09 | 320 | 223.07 | 360 | 252.00 | 400 | 280.85 |

**Table 14. Chronic Water Quality Standards for Dissolved Lead Aquatic and Wildlife coldwater, warmwater and edw**

| Hard: mg/L | Std: µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | 0.01      | 41         | 0.94      | 81         | 2.00      | 121        | 3.10      | 161        | 4.21      | 201        | 5.33      | 241        | 6.46      | 281        | 7.59      | 321        | 8.72      | 361        | 9.85      |
| 2          | 0.03      | 42         | 0.97      | 82         | 2.03      | 122        | 3.12      | 162        | 4.24      | 202        | 5.36      | 242        | 6.49      | 282        | 7.62      | 322        | 8.75      | 362        | 9.88      |
| 3          | 0.05      | 43         | 0.99      | 83         | 2.05      | 123        | 3.15      | 163        | 4.27      | 203        | 5.39      | 243        | 6.52      | 283        | 7.65      | 323        | 8.78      | 363        | 9.90      |
| 4          | 0.07      | 44         | 1.02      | 84         | 2.08      | 124        | 3.18      | 164        | 4.29      | 204        | 5.42      | 244        | 6.55      | 284        | 7.68      | 324        | 8.81      | 364        | 9.93      |
| 5          | 0.09      | 45         | 1.04      | 85         | 2.11      | 125        | 3.21      | 165        | 4.32      | 205        | 5.45      | 245        | 6.57      | 285        | 7.70      | 325        | 8.83      | 365        | 9.96      |
| 6          | 0.11      | 46         | 1.07      | 86         | 2.13      | 126        | 3.23      | 166        | 4.35      | 206        | 5.47      | 246        | 6.60      | 286        | 7.73      | 326        | 8.86      | 366        | 9.99      |
| 7          | 0.13      | 47         | 1.10      | 87         | 2.16      | 127        | 3.26      | 167        | 4.38      | 207        | 5.50      | 247        | 6.63      | 287        | 7.76      | 327        | 8.89      | 367        | 10.02     |
| 8          | 0.15      | 48         | 1.12      | 88         | 2.19      | 128        | 3.29      | 168        | 4.41      | 208        | 5.53      | 248        | 6.66      | 288        | 7.79      | 328        | 8.92      | 368        | 10.05     |
| 9          | 0.17      | 49         | 1.15      | 89         | 2.22      | 129        | 3.32      | 169        | 4.43      | 209        | 5.56      | 249        | 6.69      | 289        | 7.82      | 329        | 8.95      | 369        | 10.07     |
| 10         | 0.19      | 50         | 1.17      | 90         | 2.24      | 130        | 3.34      | 170        | 4.46      | 210        | 5.59      | 250        | 6.72      | 290        | 7.85      | 330        | 8.97      | 370        | 10.10     |
| 11         | 0.21      | 51         | 1.20      | 91         | 2.27      | 131        | 3.37      | 171        | 4.49      | 211        | 5.62      | 251        | 6.74      | 291        | 7.87      | 331        | 9.00      | 371        | 10.13     |
| 12         | 0.24      | 52         | 1.23      | 92         | 2.30      | 132        | 3.40      | 172        | 4.52      | 212        | 5.64      | 252        | 6.77      | 292        | 7.90      | 332        | 9.03      | 372        | 10.16     |
| 13         | 0.26      | 53         | 1.25      | 93         | 2.33      | 133        | 3.43      | 173        | 4.55      | 213        | 5.67      | 253        | 6.80      | 293        | 7.93      | 333        | 9.06      | 373        | 10.19     |
| 14         | 0.28      | 54         | 1.28      | 94         | 2.35      | 134        | 3.46      | 174        | 4.57      | 214        | 5.70      | 254        | 6.83      | 294        | 7.96      | 334        | 9.09      | 374        | 10.21     |
| 15         | 0.30      | 55         | 1.31      | 95         | 2.38      | 135        | 3.48      | 175        | 4.60      | 215        | 5.73      | 255        | 6.86      | 295        | 7.99      | 335        | 9.12      | 375        | 10.24     |
| 16         | 0.33      | 56         | 1.33      | 96         | 2.41      | 136        | 3.51      | 176        | 4.63      | 216        | 5.76      | 256        | 6.89      | 296        | 8.02      | 336        | 9.14      | 376        | 10.27     |
| 17         | 0.35      | 57         | 1.36      | 97         | 2.43      | 137        | 3.54      | 177        | 4.66      | 217        | 5.78      | 257        | 6.91      | 297        | 8.04      | 337        | 9.17      | 377        | 10.30     |
| 18         | 0.37      | 58         | 1.38      | 98         | 2.46      | 138        | 3.57      | 178        | 4.69      | 218        | 5.81      | 258        | 6.94      | 298        | 8.07      | 338        | 9.20      | 378        | 10.33     |
| 19         | 0.40      | 59         | 1.41      | 99         | 2.49      | 139        | 3.60      | 179        | 4.71      | 219        | 5.84      | 259        | 6.97      | 299        | 8.10      | 339        | 9.23      | 379        | 10.35     |
| 20         | 0.42      | 60         | 1.44      | 100        | 2.52      | 140        | 3.62      | 180        | 4.74      | 220        | 5.87      | 260        | 7.00      | 300        | 8.13      | 340        | 9.26      | 380        | 10.38     |
| 21         | 0.44      | 61         | 1.46      | 101        | 2.54      | 141        | 3.65      | 181        | 4.77      | 221        | 5.90      | 261        | 7.03      | 301        | 8.16      | 341        | 9.28      | 381        | 10.41     |
| 22         | 0.47      | 62         | 1.49      | 102        | 2.57      | 142        | 3.68      | 182        | 4.80      | 222        | 5.93      | 262        | 7.05      | 302        | 8.18      | 342        | 9.31      | 382        | 10.44     |
| 23         | 0.49      | 63         | 1.52      | 103        | 2.60      | 143        | 3.71      | 183        | 4.83      | 223        | 5.95      | 263        | 7.08      | 303        | 8.21      | 343        | 9.34      | 383        | 10.47     |
| 24         | 0.52      | 64         | 1.54      | 104        | 2.63      | 144        | 3.73      | 184        | 4.85      | 224        | 5.98      | 264        | 7.11      | 304        | 8.24      | 344        | 9.37      | 384        | 10.49     |
| 25         | 0.54      | 65         | 1.57      | 105        | 2.65      | 145        | 3.76      | 185        | 4.88      | 225        | 6.01      | 265        | 7.14      | 305        | 8.27      | 345        | 9.40      | 385        | 10.52     |
| 26         | 0.57      | 66         | 1.60      | 106        | 2.68      | 146        | 3.79      | 186        | 4.91      | 226        | 6.04      | 266        | 7.17      | 306        | 8.30      | 346        | 9.43      | 386        | 10.55     |
| 27         | 0.59      | 67         | 1.62      | 107        | 2.71      | 147        | 3.82      | 187        | 4.94      | 227        | 6.07      | 267        | 7.20      | 307        | 8.33      | 347        | 9.45      | 387        | 10.58     |
| 28         | 0.61      | 68         | 1.65      | 108        | 2.74      | 148        | 3.85      | 188        | 4.97      | 228        | 6.09      | 268        | 7.22      | 308        | 8.35      | 348        | 9.48      | 388        | 10.61     |
| 29         | 0.64      | 69         | 1.68      | 109        | 2.76      | 149        | 3.87      | 189        | 5.00      | 229        | 6.12      | 269        | 7.25      | 309        | 8.38      | 349        | 9.51      | 389        | 10.64     |
| 30         | 0.66      | 70         | 1.70      | 110        | 2.79      | 150        | 3.90      | 190        | 5.02      | 230        | 6.15      | 270        | 7.28      | 310        | 8.41      | 350        | 9.54      | 390        | 10.66     |
| 31         | 0.69      | 71         | 1.73      | 111        | 2.82      | 151        | 3.93      | 191        | 5.05      | 231        | 6.18      | 271        | 7.31      | 311        | 8.44      | 351        | 9.57      | 391        | 10.69     |
| 32         | 0.71      | 72         | 1.76      | 112        | 2.85      | 152        | 3.96      | 192        | 5.08      | 232        | 6.21      | 272        | 7.34      | 312        | 8.47      | 352        | 9.59      | 392        | 10.72     |
| 33         | 0.74      | 73         | 1.78      | 113        | 2.87      | 153        | 3.99      | 193        | 5.11      | 233        | 6.24      | 273        | 7.37      | 313        | 8.50      | 353        | 9.62      | 393        | 10.75     |
| 34         | 0.76      | 74         | 1.81      | 114        | 2.90      | 154        | 4.01      | 194        | 5.14      | 234        | 6.26      | 274        | 7.39      | 314        | 8.52      | 354        | 9.65      | 394        | 10.78     |
| 35         | 0.79      | 75         | 1.84      | 115        | 2.93      | 155        | 4.04      | 195        | 5.16      | 235        | 6.29      | 275        | 7.42      | 315        | 8.55      | 355        | 9.68      | 395        | 10.80     |
| 36         | 0.81      | 76         | 1.86      | 116        | 2.96      | 156        | 4.07      | 196        | 5.19      | 236        | 6.32      | 276        | 7.45      | 316        | 8.58      | 356        | 9.71      | 396        | 10.83     |
| 37         | 0.84      | 77         | 1.89      | 117        | 2.98      | 157        | 4.10      | 197        | 5.22      | 237        | 6.35      | 277        | 7.48      | 317        | 8.61      | 357        | 9.74      | 397        | 10.86     |
| 38         | 0.87      | 78         | 1.92      | 118        | 3.01      | 158        | 4.13      | 198        | 5.25      | 238        | 6.38      | 278        | 7.51      | 318        | 8.64      | 358        | 9.76      | 398        | 10.89     |
| 39         | 0.89      | 79         | 1.95      | 119        | 3.04      | 159        | 4.15      | 199        | 5.28      | 239        | 6.41      | 279        | 7.54      | 319        | 8.66      | 359        | 9.79      | 399        | 10.92     |
| 40         | 0.92      | 80         | 1.97      | 120        | 3.07      | 160        | 4.18      | 200        | 5.31      | 240        | 6.43      | 280        | 7.56      | 320        | 8.69      | 360        | 9.82      | 400        | 10.94     |



Table 15. Acute Water Quality Standards for Dissolved Lead Aquatic and Wildlife ephemeral

Table with 18 columns: Hard. mg/L, Std. µg/L, Hard. mg/L, Std. µg/L. Rows 1-40.

Table 16. Acute Water Quality Standards for Dissolved Nickel Aquatic and Wildlife coldwater, warmwater and edw

Table with 18 columns: Hard. mg/L, Std. µg/L, Hard. mg/L, Std. µg/L. Rows 1-26.

|    |     |    |     |     |     |     |     |     |     |     |     |     |      |     |      |     |      |     |      |
|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|-----|------|-----|------|
| 27 | 155 | 67 | 334 | 107 | 496 | 147 | 649 | 187 | 795 | 227 | 937 | 267 | 1075 | 307 | 1209 | 347 | 1341 | 387 | 1471 |
| 28 | 159 | 68 | 338 | 108 | 500 | 148 | 652 | 188 | 799 | 228 | 940 | 268 | 1078 | 308 | 1213 | 348 | 1345 | 388 | 1474 |
| 29 | 164 | 69 | 342 | 109 | 504 | 149 | 656 | 189 | 802 | 229 | 944 | 269 | 1082 | 309 | 1216 | 349 | 1348 | 389 | 1478 |
| 30 | 169 | 70 | 346 | 110 | 508 | 150 | 660 | 190 | 806 | 230 | 947 | 270 | 1085 | 310 | 1219 | 350 | 1351 | 390 | 1481 |
| 31 | 174 | 71 | 350 | 111 | 511 | 151 | 664 | 191 | 810 | 231 | 951 | 271 | 1088 | 311 | 1223 | 351 | 1355 | 391 | 1484 |
| 32 | 179 | 72 | 355 | 112 | 515 | 152 | 667 | 192 | 813 | 232 | 954 | 272 | 1092 | 312 | 1226 | 352 | 1358 | 392 | 1487 |
| 33 | 183 | 73 | 359 | 113 | 519 | 153 | 671 | 193 | 817 | 233 | 958 | 273 | 1095 | 313 | 1229 | 353 | 1361 | 393 | 1490 |
| 34 | 188 | 74 | 363 | 114 | 523 | 154 | 675 | 194 | 820 | 234 | 961 | 274 | 1099 | 314 | 1233 | 354 | 1364 | 394 | 1494 |
| 35 | 193 | 75 | 367 | 115 | 527 | 155 | 678 | 195 | 824 | 235 | 965 | 275 | 1102 | 315 | 1236 | 355 | 1368 | 395 | 1497 |
| 36 | 197 | 76 | 371 | 116 | 531 | 156 | 682 | 196 | 827 | 236 | 968 | 276 | 1105 | 316 | 1239 | 356 | 1371 | 396 | 1500 |
| 37 | 202 | 77 | 375 | 117 | 535 | 157 | 686 | 197 | 831 | 237 | 972 | 277 | 1109 | 317 | 1243 | 357 | 1374 | 397 | 1503 |
| 38 | 207 | 78 | 379 | 118 | 539 | 158 | 689 | 198 | 835 | 238 | 975 | 278 | 1112 | 318 | 1246 | 358 | 1377 | 398 | 1506 |
| 39 | 211 | 79 | 384 | 119 | 542 | 159 | 693 | 199 | 838 | 239 | 979 | 279 | 1115 | 319 | 1249 | 359 | 1381 | 399 | 1510 |
| 40 | 216 | 80 | 388 | 120 | 546 | 160 | 697 | 200 | 842 | 240 | 982 | 280 | 1119 | 320 | 1253 | 360 | 1384 | 400 | 1513 |

**Table 17. Chronic Water Quality Standards for Dissolved Nickel Aquatic and Wildlife coldwater, warmwater and edw**

| Hard. mg/L | Std. µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | -1.06     | 41         | 24.46     | 81         | 43.51     | 121        | 61.11     | 161        | 77.81     | 201        | 93.88     | 241        | 109.46    | 281        | 124.64    | 321        | 139.50    | 361        | 154.07    |
| 2          | -1.90     | 42         | 24.96     | 82         | 43.97     | 122        | 61.53     | 162        | 78.22     | 202        | 94.27     | 242        | 109.84    | 282        | 125.02    | 322        | 139.86    | 362        | 154.43    |
| 3          | -2.68     | 43         | 25.47     | 83         | 44.42     | 123        | 61.96     | 163        | 78.63     | 203        | 94.67     | 243        | 110.23    | 283        | 125.39    | 323        | 140.23    | 363        | 154.79    |
| 4          | -3.42     | 44         | 25.97     | 84         | 44.87     | 124        | 62.39     | 164        | 79.03     | 204        | 95.06     | 244        | 110.61    | 284        | 125.77    | 324        | 140.60    | 364        | 155.15    |
| 5          | -4.12     | 45         | 26.47     | 85         | 45.33     | 125        | 62.81     | 165        | 79.44     | 205        | 95.46     | 245        | 110.99    | 285        | 126.14    | 325        | 140.96    | 365        | 155.51    |
| 6          | -4.81     | 46         | 26.96     | 86         | 45.78     | 126        | 63.24     | 166        | 79.85     | 206        | 95.85     | 246        | 111.38    | 286        | 126.52    | 326        | 141.33    | 366        | 155.87    |
| 7          | -5.48     | 47         | 27.46     | 87         | 46.23     | 127        | 63.66     | 167        | 80.26     | 207        | 96.24     | 247        | 111.76    | 287        | 126.89    | 327        | 141.70    | 367        | 156.23    |
| 8          | -6.14     | 48         | 27.95     | 88         | 46.68     | 128        | 64.09     | 168        | 80.66     | 208        | 96.64     | 248        | 112.14    | 288        | 127.26    | 328        | 142.07    | 368        | 156.59    |
| 9          | -6.78     | 49         | 28.44     | 89         | 47.12     | 129        | 64.51     | 169        | 81.07     | 209        | 97.03     | 249        | 112.52    | 289        | 127.64    | 329        | 142.43    | 369        | 156.95    |
| 10         | -7.41     | 50         | 28.93     | 90         | 47.57     | 130        | 64.93     | 170        | 81.47     | 210        | 97.42     | 250        | 112.91    | 290        | 128.01    | 330        | 142.80    | 370        | 157.31    |
| 11         | -8.04     | 51         | 29.42     | 91         | 48.02     | 131        | 65.35     | 171        | 81.88     | 211        | 97.81     | 251        | 113.29    | 291        | 128.38    | 331        | 143.16    | 371        | 157.67    |
| 12         | -8.65     | 52         | 29.91     | 92         | 48.46     | 132        | 65.78     | 172        | 82.28     | 212        | 98.21     | 252        | 113.67    | 292        | 128.76    | 332        | 143.53    | 372        | 158.03    |
| 13         | -9.26     | 53         | 30.39     | 93         | 48.91     | 133        | 66.20     | 173        | 82.69     | 213        | 98.60     | 253        | 114.05    | 293        | 129.13    | 333        | 143.90    | 373        | 158.39    |
| 14         | -9.86     | 54         | 30.88     | 94         | 49.35     | 134        | 66.62     | 174        | 83.09     | 214        | 98.99     | 254        | 114.43    | 294        | 129.50    | 334        | 144.26    | 374        | 158.75    |
| 15         | -10.45    | 55         | 31.36     | 95         | 49.80     | 135        | 67.04     | 175        | 83.50     | 215        | 99.38     | 255        | 114.81    | 295        | 129.88    | 335        | 144.63    | 375        | 159.11    |
| 16         | -11.03    | 56         | 31.84     | 96         | 50.24     | 136        | 67.46     | 176        | 83.90     | 216        | 99.77     | 256        | 115.19    | 296        | 130.25    | 336        | 144.99    | 376        | 159.47    |
| 17         | -11.61    | 57         | 32.32     | 97         | 50.68     | 137        | 67.88     | 177        | 84.30     | 217        | 100.16    | 257        | 115.57    | 297        | 130.62    | 337        | 145.36    | 377        | 159.82    |
| 18         | -12.19    | 58         | 32.80     | 98         | 51.13     | 138        | 68.30     | 178        | 84.71     | 218        | 100.55    | 258        | 115.95    | 298        | 130.99    | 338        | 145.72    | 378        | 160.18    |
| 19         | -12.76    | 59         | 33.28     | 99         | 51.57     | 139        | 68.71     | 179        | 85.11     | 219        | 100.94    | 259        | 116.33    | 299        | 131.36    | 339        | 146.09    | 379        | 160.54    |
| 20         | -13.33    | 60         | 33.76     | 100        | 52.01     | 140        | 69.13     | 180        | 85.51     | 220        | 101.33    | 260        | 116.71    | 300        | 131.74    | 340        | 146.45    | 380        | 160.90    |
| 21         | -13.89    | 61         | 34.23     | 101        | 52.45     | 141        | 69.55     | 181        | 85.91     | 221        | 101.72    | 261        | 117.09    | 301        | 132.11    | 341        | 146.81    | 381        | 161.26    |
| 22         | -14.45    | 62         | 34.71     | 102        | 52.89     | 142        | 69.97     | 182        | 86.31     | 222        | 102.11    | 262        | 117.47    | 302        | 132.48    | 342        | 147.18    | 382        | 161.62    |
| 23         | -15.00    | 63         | 35.18     | 103        | 53.32     | 143        | 70.38     | 183        | 86.71     | 223        | 102.50    | 263        | 117.85    | 303        | 132.85    | 343        | 147.54    | 383        | 161.97    |
| 24         | -15.55    | 64         | 35.65     | 104        | 53.76     | 144        | 70.80     | 184        | 87.12     | 224        | 102.89    | 264        | 118.23    | 304        | 133.22    | 344        | 147.91    | 384        | 162.33    |
| 25         | -16.10    | 65         | 36.12     | 105        | 54.20     | 145        | 71.22     | 185        | 87.52     | 225        | 103.28    | 265        | 118.61    | 305        | 133.59    | 345        | 148.27    | 385        | 162.69    |
| 26         | -16.64    | 66         | 36.59     | 106        | 54.63     | 146        | 71.63     | 186        | 87.92     | 226        | 103.67    | 266        | 118.99    | 306        | 133.96    | 346        | 148.63    | 386        | 163.05    |
| 27         | -17.18    | 67         | 37.06     | 107        | 55.07     | 147        | 72.05     | 187        | 88.32     | 227        | 104.05    | 267        | 119.37    | 307        | 134.33    | 347        | 149.00    | 387        | 163.40    |
| 28         | -17.72    | 68         | 37.53     | 108        | 55.51     | 148        | 72.46     | 188        | 88.71     | 228        | 104.44    | 268        | 119.75    | 308        | 134.70    | 348        | 149.36    | 388        | 163.76    |
| 29         | -18.25    | 69         | 37.99     | 109        | 55.94     | 149        | 72.87     | 189        | 89.11     | 229        | 104.83    | 269        | 120.12    | 309        | 135.07    | 349        | 149.72    | 389        | 164.12    |
| 30         | -18.78    | 70         | 38.46     | 110        | 56.37     | 150        | 73.29     | 190        | 89.51     | 230        | 105.22    | 270        | 120.50    | 310        | 135.44    | 350        | 150.09    | 390        | 164.47    |
| 31         | -19.31    | 71         | 38.92     | 111        | 56.81     | 151        | 73.70     | 191        | 89.91     | 231        | 105.60    | 271        | 120.88    | 311        | 135.81    | 351        | 150.45    | 391        | 164.83    |
| 32         | -19.83    | 72         | 39.39     | 112        | 57.24     | 152        | 74.11     | 192        | 90.31     | 232        | 105.99    | 272        | 121.26    | 312        | 136.18    | 352        | 150.81    | 392        | 165.19    |
| 33         | -20.36    | 73         | 39.85     | 113        | 57.67     | 153        | 74.53     | 193        | 90.71     | 233        | 106.38    | 273        | 121.63    | 313        | 136.55    | 353        | 151.17    | 393        | 165.54    |
| 34         | -20.88    | 74         | 40.31     | 114        | 58.10     | 154        | 74.94     | 194        | 91.10     | 234        | 106.76    | 274        | 122.01    | 314        | 136.92    | 354        | 151.54    | 394        | 165.90    |
| 35         | -21.40    | 75         | 40.77     | 115        | 58.53     | 155        | 75.35     | 195        | 91.50     | 235        | 107.15    | 275        | 122.39    | 315        | 137.29    | 355        | 151.90    | 395        | 166.26    |
| 36         | -21.91    | 76         | 41.23     | 116        | 58.96     | 156        | 75.76     | 196        | 91.90     | 236        | 107.53    | 276        | 122.76    | 316        | 137.66    | 356        | 152.26    | 396        | 166.61    |
| 37         | -22.43    | 77         | 41.69     | 117        | 59.39     | 157        | 76.17     | 197        | 92.29     | 237        | 107.92    | 277        | 123.14    | 317        | 138.02    | 357        | 152.62    | 397        | 166.97    |
| 38         | -22.94    | 78         | 42.15     | 118        | 59.82     | 158        | 76.58     | 198        | 92.69     | 238        | 108.30    | 278        | 123.52    | 318        | 138.39    | 358        | 152.98    | 398        | 167.32    |
| 39         | -23.45    | 79         | 42.60     | 119        | 60.25     | 159        | 76.99     | 199        | 93.09     | 239        | 108.69    | 279        | 123.89    | 319        | 138.76    | 359        | 153.34    | 399        | 167.68    |
| 40         | -23.96    | 80         | 43.06     | 120        | 60.68     | 160        | 77.40     | 200        | 93.48     | 240        | 109.07    | 280        | 124.27    | 320        | 139.13    | 360        | 153.71    | 400        | 168.04    |

**Table 18. Acute Water Quality Standards for Dissolved Nickel Aquatic and Wildlife ephemeral**

| Hard. mg/L | Std. µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | -85       | 41         | 1956      | 81         | 3479      | 121        | 4886      | 161        | 6221      | 201        | 7506      | 241        | 8752      | 281        | 9966      | 321        | 11154     | 361        | 12319     |
| 2          | -152      | 42         | 1996      | 82         | 3516      | 122        | 4920      | 162        | 6254      | 202        | 7538      | 242        | 8783      | 282        | 9996      | 322        | 11183     | 362        | 12348     |
| 3          | -214      | 43         | 2036      | 83         | 3552      | 123        | 4954      | 163        | 6287      | 203        | 7569      | 243        | 8813      | 283        | 10026     | 323        | 11213     | 363        | 12377     |
| 4          | -273      | 44         | 2076      | 84         | 3588      | 124        | 4988      | 164        | 6319      | 204        | 7601      | 244        | 8844      | 284        | 10056     | 324        | 11242     | 364        | 12405     |
| 5          | -330      | 45         | 2116      | 85         | 3624      | 125        | 5022      | 165        | 6352      | 205        | 7632      | 245        | 8875      | 285        | 10086     | 325        | 11271     | 365        | 12434     |
| 6          | -385      | 46         | 2156      | 86         | 3660      | 126        | 5056      | 166        | 6385      | 206        | 7664      | 246        | 8905      | 286        | 10116     | 326        | 11301     | 366        | 12463     |
| 7          | -438      | 47         | 2195      | 87         | 3696      | 127        | 5090      | 167        | 6417      | 207        | 7695      | 247        | 8936      | 287        | 10146     | 327        | 11330     | 367        | 12492     |



|    |       |    |      |     |      |     |      |     |      |     |      |     |      |     |       |     |       |     |       |
|----|-------|----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|-------|-----|-------|-----|-------|
| 8  | -491  | 48 | 2235 | 88  | 3732 | 128 | 5124 | 168 | 6450 | 208 | 7727 | 248 | 8967 | 288 | 10176 | 328 | 11359 | 368 | 12521 |
| 9  | -542  | 49 | 2274 | 89  | 3768 | 129 | 5158 | 169 | 6482 | 209 | 7758 | 249 | 8997 | 289 | 10206 | 329 | 11389 | 369 | 12549 |
| 10 | -593  | 50 | 2313 | 90  | 3804 | 130 | 5192 | 170 | 6514 | 210 | 7790 | 250 | 9028 | 290 | 10235 | 330 | 11418 | 370 | 12578 |
| 11 | -643  | 51 | 2352 | 91  | 3839 | 131 | 5226 | 171 | 6547 | 211 | 7821 | 251 | 9058 | 291 | 10265 | 331 | 11447 | 371 | 12607 |
| 12 | -692  | 52 | 2391 | 92  | 3875 | 132 | 5259 | 172 | 6579 | 212 | 7852 | 252 | 9089 | 292 | 10295 | 332 | 11476 | 372 | 12636 |
| 13 | -740  | 53 | 2430 | 93  | 3911 | 133 | 5293 | 173 | 6612 | 213 | 7884 | 253 | 9119 | 293 | 10325 | 333 | 11506 | 373 | 12664 |
| 14 | -788  | 54 | 2469 | 94  | 3946 | 134 | 5327 | 174 | 6644 | 214 | 7915 | 254 | 9150 | 294 | 10355 | 334 | 11535 | 374 | 12693 |
| 15 | -835  | 55 | 2508 | 95  | 3982 | 135 | 5360 | 175 | 6676 | 215 | 7946 | 255 | 9180 | 295 | 10385 | 335 | 11564 | 375 | 12722 |
| 16 | -882  | 56 | 2546 | 96  | 4017 | 136 | 5394 | 176 | 6708 | 216 | 7978 | 256 | 9211 | 296 | 10414 | 336 | 11593 | 376 | 12751 |
| 17 | -929  | 57 | 2585 | 97  | 4053 | 137 | 5427 | 177 | 6741 | 217 | 8009 | 257 | 9241 | 297 | 10444 | 337 | 11622 | 377 | 12779 |
| 18 | -975  | 58 | 2623 | 98  | 4088 | 138 | 5461 | 178 | 6773 | 218 | 8040 | 258 | 9272 | 298 | 10474 | 338 | 11652 | 378 | 12808 |
| 19 | -1020 | 59 | 2661 | 99  | 4123 | 139 | 5494 | 179 | 6805 | 219 | 8071 | 259 | 9302 | 299 | 10504 | 339 | 11681 | 379 | 12837 |
| 20 | -1066 | 60 | 2699 | 100 | 4158 | 140 | 5528 | 180 | 6837 | 220 | 8102 | 260 | 9332 | 300 | 10533 | 340 | 11710 | 380 | 12865 |
| 21 | -1110 | 61 | 2737 | 101 | 4193 | 141 | 5561 | 181 | 6869 | 221 | 8133 | 261 | 9363 | 301 | 10563 | 341 | 11739 | 381 | 12894 |
| 22 | -1155 | 62 | 2775 | 102 | 4229 | 142 | 5594 | 182 | 6901 | 222 | 8165 | 262 | 9393 | 302 | 10593 | 342 | 11768 | 382 | 12922 |
| 23 | -1199 | 63 | 2813 | 103 | 4264 | 143 | 5628 | 183 | 6934 | 223 | 8196 | 263 | 9423 | 303 | 10622 | 343 | 11797 | 383 | 12951 |
| 24 | -1243 | 64 | 2851 | 104 | 4299 | 144 | 5661 | 184 | 6966 | 224 | 8227 | 264 | 9454 | 304 | 10652 | 344 | 11826 | 384 | 12980 |
| 25 | -1287 | 65 | 2888 | 105 | 4334 | 145 | 5694 | 185 | 6998 | 225 | 8258 | 265 | 9484 | 305 | 10682 | 345 | 11855 | 385 | 13008 |
| 26 | -1330 | 66 | 2926 | 106 | 4368 | 146 | 5727 | 186 | 7030 | 226 | 8289 | 266 | 9514 | 306 | 10711 | 346 | 11884 | 386 | 13037 |
| 27 | -1374 | 67 | 2963 | 107 | 4403 | 147 | 5761 | 187 | 7062 | 227 | 8320 | 267 | 9544 | 307 | 10741 | 347 | 11913 | 387 | 13065 |
| 28 | -1416 | 68 | 3001 | 108 | 4438 | 148 | 5794 | 188 | 7093 | 228 | 8351 | 268 | 9575 | 308 | 10770 | 348 | 11943 | 388 | 13094 |
| 29 | -1459 | 69 | 3038 | 109 | 4473 | 149 | 5827 | 189 | 7125 | 229 | 8382 | 269 | 9605 | 309 | 10800 | 349 | 11972 | 389 | 13123 |
| 30 | -1502 | 70 | 3075 | 110 | 4508 | 150 | 5860 | 190 | 7157 | 230 | 8413 | 270 | 9635 | 310 | 10830 | 350 | 12001 | 390 | 13151 |
| 31 | -1544 | 71 | 3112 | 111 | 4542 | 151 | 5893 | 191 | 7189 | 231 | 8444 | 271 | 9665 | 311 | 10859 | 351 | 12030 | 391 | 13180 |
| 32 | -1586 | 72 | 3149 | 112 | 4577 | 152 | 5926 | 192 | 7221 | 232 | 8475 | 272 | 9695 | 312 | 10889 | 352 | 12059 | 392 | 13208 |
| 33 | -1628 | 73 | 3186 | 113 | 4611 | 153 | 5959 | 193 | 7253 | 233 | 8506 | 273 | 9726 | 313 | 10918 | 353 | 12088 | 393 | 13237 |
| 34 | -1669 | 74 | 3223 | 114 | 4646 | 154 | 5992 | 194 | 7285 | 234 | 8536 | 274 | 9756 | 314 | 10948 | 354 | 12116 | 394 | 13265 |
| 35 | -1711 | 75 | 3260 | 115 | 4680 | 155 | 6025 | 195 | 7316 | 235 | 8567 | 275 | 9786 | 315 | 10977 | 355 | 12145 | 395 | 13294 |
| 36 | -1752 | 76 | 3297 | 116 | 4715 | 156 | 6058 | 196 | 7348 | 236 | 8598 | 276 | 9816 | 316 | 11007 | 356 | 12174 | 396 | 13322 |
| 37 | -1793 | 77 | 3333 | 117 | 4749 | 157 | 6090 | 197 | 7380 | 237 | 8629 | 277 | 9846 | 317 | 11036 | 357 | 12203 | 397 | 13350 |
| 38 | -1834 | 78 | 3370 | 118 | 4783 | 158 | 6123 | 198 | 7411 | 238 | 8660 | 278 | 9876 | 318 | 11066 | 358 | 12232 | 398 | 13379 |
| 39 | -1875 | 79 | 3407 | 119 | 4818 | 159 | 6156 | 199 | 7443 | 239 | 8691 | 279 | 9906 | 319 | 11095 | 359 | 12261 | 399 | 13407 |
| 40 | -1915 | 80 | 3443 | 120 | 4852 | 160 | 6189 | 200 | 7475 | 240 | 8721 | 280 | 9936 | 320 | 11124 | 360 | 12290 | 400 | 13436 |

Table 19. Water Quality Standards for Dissolved Silver Aquatic and Wildlife coldwater, warmwater, edw, and ephemeral

| Hard. mg/L | Std. µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | 0.001     | 41         | 0.69      | 81         | 2.24      | 121        | 4.46      | 161        | 7.30      | 201        | 10.69     | 241        | 14.60     | 281        | 19.02     | 321        | 23.91     | 361        | 29.26     |
| 2          | 0.004     | 42         | 0.72      | 82         | 2.29      | 122        | 4.53      | 162        | 7.38      | 202        | 10.78     | 242        | 14.71     | 282        | 19.14     | 322        | 24.04     | 362        | 29.40     |
| 3          | 0.01      | 43         | 0.75      | 83         | 2.33      | 123        | 4.59      | 163        | 7.45      | 203        | 10.87     | 243        | 14.81     | 283        | 19.25     | 323        | 24.17     | 363        | 29.54     |
| 4          | 0.01      | 44         | 0.78      | 84         | 2.38      | 124        | 4.66      | 164        | 7.53      | 204        | 10.96     | 244        | 14.92     | 284        | 19.37     | 324        | 24.30     | 364        | 29.68     |
| 5          | 0.02      | 45         | 0.81      | 85         | 2.43      | 125        | 4.72      | 165        | 7.61      | 205        | 11.06     | 245        | 15.02     | 285        | 19.49     | 325        | 24.43     | 365        | 29.82     |
| 6          | 0.02      | 46         | 0.85      | 86         | 2.48      | 126        | 4.79      | 166        | 7.69      | 206        | 11.15     | 246        | 15.13     | 286        | 19.61     | 326        | 24.56     | 366        | 29.96     |
| 7          | 0.03      | 47         | 0.88      | 87         | 2.53      | 127        | 4.85      | 167        | 7.77      | 207        | 11.24     | 247        | 15.24     | 287        | 19.72     | 327        | 24.69     | 367        | 30.11     |
| 8          | 0.04      | 48         | 0.91      | 88         | 2.58      | 128        | 4.92      | 168        | 7.85      | 208        | 11.34     | 248        | 15.34     | 288        | 19.84     | 328        | 24.82     | 368        | 30.25     |
| 9          | 0.05      | 49         | 0.94      | 89         | 2.63      | 129        | 4.98      | 169        | 7.93      | 209        | 11.43     | 249        | 15.45     | 289        | 19.96     | 329        | 24.95     | 369        | 30.39     |
| 10         | 0.06      | 50         | 0.98      | 90         | 2.68      | 130        | 5.05      | 170        | 8.01      | 210        | 11.52     | 250        | 15.56     | 290        | 20.08     | 330        | 25.08     | 370        | 30.53     |
| 11         | 0.07      | 51         | 1.01      | 91         | 2.74      | 131        | 5.12      | 171        | 8.09      | 211        | 11.62     | 251        | 15.66     | 291        | 20.20     | 331        | 25.21     | 371        | 30.67     |
| 12         | 0.08      | 52         | 1.04      | 92         | 2.79      | 132        | 5.19      | 172        | 8.18      | 212        | 11.71     | 252        | 15.77     | 292        | 20.32     | 332        | 25.34     | 372        | 30.81     |
| 13         | 0.10      | 53         | 1.08      | 93         | 2.84      | 133        | 5.25      | 173        | 8.26      | 213        | 11.81     | 253        | 15.88     | 293        | 20.44     | 333        | 25.47     | 373        | 30.96     |
| 14         | 0.11      | 54         | 1.11      | 94         | 2.89      | 134        | 5.32      | 174        | 8.34      | 214        | 11.91     | 254        | 15.99     | 294        | 20.56     | 334        | 25.60     | 374        | 31.10     |
| 15         | 0.12      | 55         | 1.15      | 95         | 2.95      | 135        | 5.39      | 175        | 8.42      | 215        | 12.00     | 255        | 16.09     | 295        | 20.68     | 335        | 25.73     | 375        | 31.24     |
| 16         | 0.14      | 56         | 1.19      | 96         | 3.00      | 136        | 5.46      | 176        | 8.51      | 216        | 12.10     | 256        | 16.20     | 296        | 20.80     | 336        | 25.87     | 376        | 31.39     |
| 17         | 0.15      | 57         | 1.22      | 97         | 3.05      | 137        | 5.53      | 177        | 8.59      | 217        | 12.19     | 257        | 16.31     | 297        | 20.92     | 337        | 26.00     | 377        | 31.53     |
| 18         | 0.17      | 58         | 1.26      | 98         | 3.11      | 138        | 5.60      | 178        | 8.67      | 218        | 12.29     | 258        | 16.42     | 298        | 21.04     | 338        | 26.13     | 378        | 31.67     |
| 19         | 0.18      | 59         | 1.30      | 99         | 3.16      | 139        | 5.67      | 179        | 8.76      | 219        | 12.39     | 259        | 16.53     | 299        | 21.16     | 339        | 26.26     | 379        | 31.82     |

|    |      |    |      |     |      |     |      |     |       |     |       |     |       |     |       |     |       |     |       |
|----|------|----|------|-----|------|-----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 20 | 0.20 | 60 | 1.34 | 100 | 3.22 | 140 | 5.74 | 180 | 8.84  | 220 | 12.48 | 260 | 16.64 | 300 | 21.28 | 340 | 26.40 | 380 | 31.96 |
| 21 | 0.22 | 61 | 1.37 | 101 | 3.27 | 141 | 5.81 | 181 | 8.93  | 221 | 12.58 | 261 | 16.75 | 301 | 21.41 | 341 | 26.53 | 381 | 32.11 |
| 22 | 0.24 | 62 | 1.41 | 102 | 3.33 | 142 | 5.88 | 182 | 9.01  | 222 | 12.68 | 262 | 16.86 | 302 | 21.53 | 342 | 26.67 | 382 | 32.25 |
| 23 | 0.26 | 63 | 1.45 | 103 | 3.38 | 143 | 5.95 | 183 | 9.10  | 223 | 12.78 | 263 | 16.97 | 303 | 21.65 | 343 | 26.80 | 383 | 32.40 |
| 24 | 0.28 | 64 | 1.49 | 104 | 3.44 | 144 | 6.02 | 184 | 9.18  | 224 | 12.88 | 264 | 17.08 | 304 | 21.78 | 344 | 26.93 | 384 | 32.54 |
| 25 | 0.30 | 65 | 1.53 | 105 | 3.50 | 145 | 6.09 | 185 | 9.27  | 225 | 12.98 | 265 | 17.19 | 305 | 21.90 | 345 | 27.07 | 385 | 32.69 |
| 26 | 0.32 | 66 | 1.57 | 106 | 3.56 | 146 | 6.17 | 186 | 9.35  | 226 | 13.08 | 266 | 17.31 | 306 | 22.02 | 346 | 27.20 | 386 | 32.84 |
| 27 | 0.34 | 67 | 1.62 | 107 | 3.61 | 147 | 6.24 | 187 | 9.44  | 227 | 13.18 | 267 | 17.42 | 307 | 22.15 | 347 | 27.34 | 387 | 32.98 |
| 28 | 0.36 | 68 | 1.66 | 108 | 3.67 | 148 | 6.31 | 188 | 9.53  | 228 | 13.28 | 268 | 17.53 | 308 | 22.27 | 348 | 27.47 | 388 | 33.13 |
| 29 | 0.38 | 69 | 1.70 | 109 | 3.73 | 149 | 6.39 | 189 | 9.61  | 229 | 13.38 | 269 | 17.64 | 309 | 22.39 | 349 | 27.61 | 389 | 33.28 |
| 30 | 0.41 | 70 | 1.74 | 110 | 3.79 | 150 | 6.46 | 190 | 9.70  | 230 | 13.48 | 270 | 17.76 | 310 | 22.52 | 350 | 27.75 | 390 | 33.42 |
| 31 | 0.43 | 71 | 1.78 | 111 | 3.85 | 151 | 6.54 | 191 | 9.79  | 231 | 13.58 | 271 | 17.87 | 311 | 22.64 | 351 | 27.88 | 391 | 33.57 |
| 32 | 0.45 | 72 | 1.83 | 112 | 3.91 | 152 | 6.61 | 192 | 9.88  | 232 | 13.68 | 272 | 17.98 | 312 | 22.77 | 352 | 28.02 | 392 | 33.72 |
| 33 | 0.48 | 73 | 1.87 | 113 | 3.97 | 153 | 6.68 | 193 | 9.97  | 233 | 13.78 | 273 | 18.10 | 313 | 22.90 | 353 | 28.16 | 393 | 33.87 |
| 34 | 0.50 | 74 | 1.92 | 114 | 4.03 | 154 | 6.76 | 194 | 10.06 | 234 | 13.88 | 274 | 18.21 | 314 | 23.02 | 354 | 28.29 | 394 | 34.02 |
| 35 | 0.53 | 75 | 1.96 | 115 | 4.09 | 155 | 6.84 | 195 | 10.15 | 235 | 13.98 | 275 | 18.33 | 315 | 23.15 | 355 | 28.43 | 395 | 34.16 |
| 36 | 0.55 | 76 | 2.01 | 116 | 4.15 | 156 | 6.91 | 196 | 10.24 | 236 | 14.09 | 276 | 18.44 | 316 | 23.27 | 356 | 28.57 | 396 | 34.31 |
| 37 | 0.58 | 77 | 2.05 | 117 | 4.21 | 157 | 6.99 | 197 | 10.33 | 237 | 14.19 | 277 | 18.56 | 317 | 23.40 | 357 | 28.71 | 397 | 34.46 |
| 38 | 0.61 | 78 | 2.10 | 118 | 4.28 | 158 | 7.06 | 198 | 10.42 | 238 | 14.29 | 278 | 18.67 | 318 | 23.53 | 358 | 28.85 | 398 | 34.61 |
| 39 | 0.64 | 79 | 2.14 | 119 | 4.34 | 159 | 7.14 | 199 | 10.51 | 239 | 14.40 | 279 | 18.79 | 319 | 23.66 | 359 | 28.99 | 399 | 34.76 |
| 40 | 0.67 | 80 | 2.19 | 120 | 4.40 | 160 | 7.22 | 200 | 10.60 | 240 | 14.50 | 280 | 18.90 | 320 | 23.78 | 360 | 29.12 | 400 | 34.91 |

**Table 20. Acute and Chronic Water Quality Standards for Dissolved Zinc Aquatic and Wildlife coldwater, warmwater and edw**

| Hard: mg/L | Std: µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | 2.4       | 41         | 55.1      | 81         | 98.0      | 121        | 137.7     | 161        | 175.4     | 201        | 211.7     | 241        | 246.9     | 281        | 281.2     | 321        | 314.8     | 361        | 347.7     |
| 2          | 4.3       | 42         | 56.2      | 82         | 99.0      | 122        | 138.7     | 162        | 176.4     | 202        | 212.6     | 242        | 247.8     | 282        | 282.1     | 322        | 315.6     | 362        | 348.5     |
| 3          | 6.0       | 43         | 57.3      | 83         | 100.1     | 123        | 139.6     | 163        | 177.3     | 203        | 213.5     | 243        | 248.6     | 283        | 282.9     | 323        | 316.4     | 363        | 349.4     |
| 4          | 7.7       | 44         | 58.4      | 84         | 101.1     | 124        | 140.6     | 164        | 178.2     | 204        | 214.4     | 244        | 249.5     | 284        | 283.8     | 324        | 317.3     | 364        | 350.2     |
| 5          | 9.3       | 45         | 59.6      | 85         | 102.1     | 125        | 141.6     | 165        | 179.1     | 205        | 215.3     | 245        | 250.4     | 285        | 284.6     | 325        | 318.1     | 365        | 351.0     |
| 6          | 10.8      | 46         | 60.7      | 86         | 103.1     | 126        | 142.5     | 166        | 180.0     | 206        | 216.2     | 246        | 251.2     | 286        | 285.5     | 326        | 318.9     | 366        | 351.8     |
| 7          | 12.3      | 47         | 61.8      | 87         | 104.1     | 127        | 143.5     | 167        | 181.0     | 207        | 217.1     | 247        | 252.1     | 287        | 286.3     | 327        | 319.8     | 367        | 352.6     |
| 8          | 13.8      | 48         | 62.9      | 88         | 105.2     | 128        | 144.4     | 168        | 181.9     | 208        | 217.9     | 248        | 253.0     | 288        | 287.1     | 328        | 320.6     | 368        | 353.4     |
| 9          | 15.2      | 49         | 64.0      | 89         | 106.2     | 129        | 145.4     | 169        | 182.8     | 209        | 218.8     | 249        | 253.8     | 289        | 288.0     | 329        | 321.4     | 369        | 354.2     |
| 10         | 16.7      | 50         | 65.1      | 90         | 107.2     | 130        | 146.4     | 170        | 183.7     | 210        | 219.7     | 250        | 254.7     | 290        | 288.8     | 330        | 322.2     | 370        | 355.1     |
| 11         | 18.1      | 51         | 66.2      | 91         | 108.2     | 131        | 147.3     | 171        | 184.6     | 211        | 220.6     | 251        | 255.6     | 291        | 289.7     | 331        | 323.1     | 371        | 355.9     |
| 12         | 19.4      | 52         | 67.3      | 92         | 109.2     | 132        | 148.3     | 172        | 185.5     | 212        | 221.5     | 252        | 256.4     | 292        | 290.5     | 332        | 323.9     | 372        | 356.7     |
| 13         | 20.8      | 53         | 68.4      | 93         | 110.2     | 133        | 149.2     | 173        | 186.4     | 213        | 222.4     | 253        | 257.3     | 293        | 291.4     | 333        | 324.7     | 373        | 357.5     |
| 14         | 22.1      | 54         | 69.5      | 94         | 111.2     | 134        | 150.2     | 174        | 187.4     | 214        | 223.3     | 254        | 258.1     | 294        | 292.2     | 334        | 325.6     | 374        | 358.3     |
| 15         | 23.5      | 55         | 70.6      | 95         | 112.2     | 135        | 151.1     | 175        | 188.3     | 215        | 224.1     | 255        | 259.0     | 295        | 293.0     | 335        | 326.4     | 375        | 359.1     |
| 16         | 24.8      | 56         | 71.7      | 96         | 113.2     | 136        | 152.1     | 176        | 189.2     | 216        | 225.0     | 256        | 259.9     | 296        | 293.9     | 336        | 327.2     | 376        | 359.9     |
| 17         | 26.1      | 57         | 72.8      | 97         | 114.2     | 137        | 153.0     | 177        | 190.1     | 217        | 225.9     | 257        | 260.7     | 297        | 294.7     | 337        | 328.0     | 377        | 360.7     |
| 18         | 27.4      | 58         | 73.9      | 98         | 115.2     | 138        | 153.9     | 178        | 191.0     | 218        | 226.8     | 258        | 261.6     | 298        | 295.6     | 338        | 328.9     | 378        | 361.5     |
| 19         | 28.7      | 59         | 74.9      | 99         | 116.2     | 139        | 154.9     | 179        | 191.9     | 219        | 227.7     | 259        | 262.4     | 299        | 296.4     | 339        | 329.7     | 379        | 362.4     |
| 20         | 30.0      | 60         | 76.0      | 100        | 117.2     | 140        | 155.8     | 180        | 192.8     | 220        | 228.6     | 260        | 263.3     | 300        | 297.2     | 340        | 330.5     | 380        | 363.2     |
| 21         | 31.2      | 61         | 77.1      | 101        | 118.2     | 141        | 156.8     | 181        | 193.7     | 221        | 229.4     | 261        | 264.2     | 301        | 298.1     | 341        | 331.3     | 381        | 364.0     |
| 22         | 32.5      | 62         | 78.2      | 102        | 119.2     | 142        | 157.7     | 182        | 194.6     | 222        | 230.3     | 262        | 265.0     | 302        | 298.9     | 342        | 332.2     | 382        | 364.8     |
| 23         | 33.7      | 63         | 79.2      | 103        | 120.2     | 143        | 158.7     | 183        | 195.5     | 223        | 231.2     | 263        | 265.9     | 303        | 299.8     | 343        | 333.0     | 383        | 365.6     |



|    |      |    |      |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |
|----|------|----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 24 | 35.0 | 64 | 80.3 | 104 | 121.1 | 144 | 159.6 | 184 | 196.4 | 224 | 232.1 | 264 | 266.7 | 304 | 300.6 | 344 | 333.8 | 384 | 366.4 |
| 25 | 36.2 | 65 | 81.3 | 105 | 122.1 | 145 | 160.5 | 185 | 197.3 | 225 | 232.9 | 265 | 267.6 | 305 | 301.4 | 345 | 334.6 | 385 | 367.2 |
| 26 | 37.4 | 66 | 82.4 | 106 | 123.1 | 146 | 161.5 | 186 | 198.3 | 226 | 233.8 | 266 | 268.4 | 306 | 302.3 | 346 | 335.4 | 386 | 368.0 |
| 27 | 38.6 | 67 | 83.5 | 107 | 124.1 | 147 | 162.4 | 187 | 199.2 | 227 | 234.7 | 267 | 269.3 | 307 | 303.1 | 347 | 336.3 | 387 | 368.8 |
| 28 | 39.9 | 68 | 84.5 | 108 | 125.1 | 148 | 163.3 | 188 | 200.1 | 228 | 235.6 | 268 | 270.2 | 308 | 304.0 | 348 | 337.1 | 388 | 369.6 |
| 29 | 41.1 | 69 | 85.6 | 109 | 126.1 | 149 | 164.3 | 189 | 201.0 | 229 | 236.5 | 269 | 271.0 | 309 | 304.8 | 349 | 337.9 | 389 | 370.4 |
| 30 | 42.2 | 70 | 86.6 | 110 | 127.0 | 150 | 165.2 | 190 | 201.9 | 230 | 237.3 | 270 | 271.9 | 310 | 305.6 | 350 | 338.7 | 390 | 371.2 |
| 31 | 43.4 | 71 | 87.7 | 111 | 128.0 | 151 | 166.2 | 191 | 202.8 | 231 | 238.2 | 271 | 272.7 | 311 | 306.5 | 351 | 339.5 | 391 | 372.1 |
| 32 | 44.6 | 72 | 88.7 | 112 | 129.0 | 152 | 167.1 | 192 | 203.7 | 232 | 239.1 | 272 | 273.6 | 312 | 307.3 | 352 | 340.4 | 392 | 372.9 |
| 33 | 45.8 | 73 | 89.8 | 113 | 130.0 | 153 | 168.0 | 193 | 204.6 | 233 | 239.9 | 273 | 274.4 | 313 | 308.1 | 353 | 341.2 | 393 | 373.7 |
| 34 | 47.0 | 74 | 90.8 | 114 | 130.9 | 154 | 168.9 | 194 | 205.5 | 234 | 240.8 | 274 | 275.3 | 314 | 309.0 | 354 | 342.0 | 394 | 374.5 |
| 35 | 48.1 | 75 | 91.8 | 115 | 131.9 | 155 | 169.9 | 195 | 206.3 | 235 | 241.7 | 275 | 276.1 | 315 | 309.8 | 355 | 342.8 | 395 | 375.3 |
| 36 | 49.3 | 76 | 92.9 | 116 | 132.9 | 156 | 170.8 | 196 | 207.2 | 236 | 242.6 | 276 | 277.0 | 316 | 310.6 | 356 | 343.6 | 396 | 376.1 |
| 37 | 50.5 | 77 | 93.9 | 117 | 133.9 | 157 | 171.7 | 197 | 208.1 | 237 | 243.4 | 277 | 277.8 | 317 | 311.5 | 357 | 344.5 | 397 | 376.9 |
| 38 | 51.6 | 78 | 94.9 | 118 | 134.8 | 158 | 172.7 | 198 | 209.0 | 238 | 244.3 | 278 | 278.7 | 318 | 312.3 | 358 | 345.3 | 398 | 377.7 |
| 39 | 52.8 | 79 | 96.0 | 119 | 135.8 | 159 | 173.6 | 199 | 209.9 | 239 | 245.2 | 279 | 279.5 | 319 | 313.1 | 359 | 346.1 | 399 | 378.5 |
| 40 | 53.9 | 80 | 97.0 | 120 | 136.8 | 160 | 174.5 | 200 | 210.8 | 240 | 246.0 | 280 | 280.4 | 320 | 314.0 | 360 | 346.9 | 400 | 379.3 |

Table 21. Acute Water Quality Standards for Dissolved Zinc Aquatic and Wildlife ephemeral

| Hard. mg/L | Std. µg/L |
|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| 1          | 22        | 41         | 522       | 81         | 930       | 121        | 1307      | 161        | 1665      | 201        | 2099      | 241        | 2343      | 281        | 2669      | 321        | 2987      | 361        | 3300      |
| 2          | 40        | 42         | 533       | 82         | 940       | 122        | 1316      | 162        | 1674      | 202        | 2018      | 242        | 2351      | 282        | 2677      | 322        | 2995      | 362        | 3307      |
| 3          | 57        | 43         | 544       | 83         | 950       | 123        | 1325      | 163        | 1682      | 203        | 2026      | 243        | 2360      | 283        | 2685      | 323        | 3003      | 363        | 3315      |
| 4          | 73        | 44         | 555       | 84         | 959       | 124        | 1334      | 164        | 1691      | 204        | 2034      | 244        | 2368      | 284        | 2693      | 324        | 3011      | 364        | 3323      |
| 5          | 88        | 45         | 565       | 85         | 969       | 125        | 1343      | 165        | 1700      | 205        | 2043      | 245        | 2376      | 285        | 2701      | 325        | 3019      | 365        | 3331      |
| 6          | 103       | 46         | 576       | 86         | 979       | 126        | 1353      | 166        | 1708      | 206        | 2051      | 246        | 2384      | 286        | 2709      | 326        | 3027      | 366        | 3338      |
| 7          | 117       | 47         | 587       | 87         | 988       | 127        | 1362      | 167        | 1717      | 207        | 2060      | 247        | 2392      | 287        | 2717      | 327        | 3034      | 367        | 3346      |
| 8          | 131       | 48         | 597       | 88         | 998       | 128        | 1371      | 168        | 1726      | 208        | 2068      | 248        | 2401      | 288        | 2725      | 328        | 3042      | 368        | 3354      |
| 9          | 145       | 49         | 608       | 89         | 1007      | 129        | 1380      | 169        | 1735      | 209        | 2077      | 249        | 2409      | 289        | 2733      | 329        | 3050      | 369        | 3362      |
| 10         | 158       | 50         | 618       | 90         | 1017      | 130        | 1389      | 170        | 1743      | 210        | 2085      | 250        | 2417      | 290        | 2741      | 330        | 3058      | 370        | 3369      |
| 11         | 171       | 51         | 629       | 91         | 1027      | 131        | 1398      | 171        | 1752      | 211        | 2093      | 251        | 2425      | 291        | 2749      | 331        | 3066      | 371        | 3377      |
| 12         | 184       | 52         | 639       | 92         | 1036      | 132        | 1407      | 172        | 1761      | 212        | 2102      | 252        | 2433      | 292        | 2757      | 332        | 3074      | 372        | 3385      |
| 13         | 197       | 53         | 649       | 93         | 1046      | 133        | 1416      | 173        | 1769      | 213        | 2110      | 253        | 2442      | 293        | 2765      | 333        | 3082      | 373        | 3392      |
| 14         | 210       | 54         | 660       | 94         | 1055      | 134        | 1425      | 174        | 1778      | 214        | 2119      | 254        | 2450      | 294        | 2773      | 334        | 3089      | 374        | 3400      |
| 15         | 223       | 55         | 670       | 95         | 1065      | 135        | 1434      | 175        | 1787      | 215        | 2127      | 255        | 2458      | 295        | 2781      | 335        | 3097      | 375        | 3408      |
| 16         | 235       | 56         | 680       | 96         | 1074      | 136        | 1443      | 176        | 1795      | 216        | 2135      | 256        | 2466      | 296        | 2789      | 336        | 3105      | 376        | 3416      |
| 17         | 248       | 57         | 691       | 97         | 1084      | 137        | 1452      | 177        | 1804      | 217        | 2144      | 257        | 2474      | 297        | 2797      | 337        | 3113      | 377        | 3423      |
| 18         | 260       | 58         | 701       | 98         | 1093      | 138        | 1461      | 178        | 1813      | 218        | 2152      | 258        | 2482      | 298        | 2805      | 338        | 3121      | 378        | 3431      |
| 19         | 272       | 59         | 711       | 99         | 1103      | 139        | 1470      | 179        | 1821      | 219        | 2161      | 259        | 2491      | 299        | 2813      | 339        | 3129      | 379        | 3439      |
| 20         | 284       | 60         | 721       | 100        | 1112      | 140        | 1479      | 180        | 1830      | 220        | 2169      | 260        | 2499      | 300        | 2821      | 340        | 3136      | 380        | 3446      |
| 21         | 296       | 61         | 732       | 101        | 1121      | 141        | 1488      | 181        | 1838      | 221        | 2177      | 261        | 2507      | 301        | 2829      | 341        | 3144      | 381        | 3454      |
| 22         | 308       | 62         | 742       | 102        | 1131      | 142        | 1497      | 182        | 1847      | 222        | 2186      | 262        | 2515      | 302        | 2837      | 342        | 3152      | 382        | 3462      |
| 23         | 320       | 63         | 752       | 103        | 1140      | 143        | 1506      | 183        | 1856      | 223        | 2194      | 263        | 2523      | 303        | 2845      | 343        | 3160      | 383        | 3469      |
| 24         | 332       | 64         | 762       | 104        | 1150      | 144        | 1515      | 184        | 1864      | 224        | 2202      | 264        | 2531      | 304        | 2853      | 344        | 3168      | 384        | 3477      |
| 25         | 344       | 65         | 772       | 105        | 1159      | 145        | 1523      | 185        | 1873      | 225        | 2211      | 265        | 2539      | 305        | 2861      | 345        | 3175      | 385        | 3485      |
| 26         | 355       | 66         | 782       | 106        | 1168      | 146        | 1532      | 186        | 1881      | 226        | 2219      | 266        | 2547      | 306        | 2869      | 346        | 3183      | 386        | 3492      |
| 27         | 367       | 67         | 792       | 107        | 1178      | 147        | 1541      | 187        | 1890      | 227        | 2227      | 267        | 2556      | 307        | 2876      | 347        | 3191      | 387        | 3500      |
| 28         | 378       | 68         | 802       | 108        | 1187      | 148        | 1550      | 188        | 1898      | 228        | 2236      | 268        | 2564      | 308        | 2884      | 348        | 3199      | 388        | 3508      |
| 29         | 390       | 69         | 812       | 109        | 1196      | 149        | 1559      | 189        | 1907      | 229        | 2244      | 269        | 2572      | 309        | 2892      | 349        | 3207      | 389        | 3515      |
| 30         | 401       | 70         | 822       | 110        | 1206      | 150        | 1568      | 190        | 1916      | 230        | 2252      | 270        | 2580      | 310        | 2900      | 350        | 3214      | 390        | 3523      |
| 31         | 412       | 71         | 832       | 111        | 1215      | 151        | 1577      | 191        | 1924      | 231        | 2260      | 271        | 2588      | 311        | 2908      | 351        | 3222      | 391        | 3531      |
| 32         | 423       | 72         | 842       | 112        | 1224      | 152        | 1586      | 192        | 1933      | 232        | 2269      | 272        | 2596      | 312        | 2916      | 352        | 3230      | 392        | 3538      |
| 33         | 435       | 73         | 852       | 113        | 1233      | 153        | 1594      | 193        | 1941      | 233        | 2277      | 273        | 2604      | 313        | 2924      | 353        | 3238      | 393        | 3546      |
| 34         | 446       | 74         | 862       | 114        | 1243      | 154        | 1603      | 194        | 1950      | 234        | 2285      | 274        | 2612      | 314        | 2932      | 354        | 3245      | 394        | 3554      |
| 35         | 457       | 75         | 871       | 115        | 1252      | 155        | 1612      | 195        | 1958      | 235        | 2294      | 275        | 2620      | 315        | 2940      | 355        | 3253      | 395        | 3561      |
| 36         | 468       | 76         | 881       | 116        | 1261      | 156        | 1621      | 196        | 1967      | 236        | 2302      | 276        | 2628      | 316        | 2948      | 356        | 3261      | 396        | 3569      |
| 37         | 479       | 77         | 891       | 117        | 1270      | 157        | 1630      | 197        | 1975      | 237        | 2310      | 277        | 2636      | 317        | 2956      | 357        | 3269      | 397        | 3577      |
| 38         | 490       | 78         | 901       | 118        | 1279      | 158        | 1638      | 198        | 1984      | 238        | 2318      | 278        | 2645      | 318        | 2964      | 358        | 3276      | 398        | 3584      |
| 39         | 501       | 79         | 911       | 119        | 1289      | 159        | 1647      | 199        | 1992      | 239        | 2327      | 279        | 2653      | 319        | 2971      | 359        | 3284      | 399        | 3592      |
| 40         | 512       | 80         | 920       | 120        | 1298      | 160        | 1656      | 200        | 2001      | 240        | 2335      | 280        | 2661      | 320        | 2979      | 360        | 3292      | 400        | 3599      |

**Table 22. Acute Water Quality Standards for Pentachlorophenol Aquatic and Wildlife coldwater, warmwater, and edw**

| pH  | µg/L  | pH   | µg/L    |
|-----|-------|------|---------|
| 3   | 0.163 | 7    | 9.070   |
| 3.1 | 0.180 | 7.1  | 40.029  |
| 3.2 | 0.199 | 7.2  | 11.090  |
| 3.3 | 0.220 | 7.3  | 12.262  |
| 3.4 | 0.243 | 7.4  | 13.558  |
| 3.5 | 0.269 | 7.5  | 14.992  |
| 3.6 | 0.298 | 7.6  | 16.577  |
| 3.7 | 0.329 | 7.7  | 18.329  |
| 3.8 | 0.364 | 7.8  | 20.267  |
| 3.9 | 0.402 | 7.9  | 22.410  |
| 4   | 0.445 | 8    | 24.779  |
| 4.1 | 0.492 | 8.1  | 27.399  |
| 4.2 | 0.544 | 8.2  | 30.296  |
| 4.3 | 0.601 | 8.3  | 33.498  |
| 4.4 | 0.665 | 8.4  | 37.040  |
| 4.5 | 0.735 | 8.5  | 40.956  |
| 4.6 | 0.813 | 8.6  | 45.286  |
| 4.7 | 0.899 | 8.7  | 50.074  |
| 4.8 | 0.994 | 8.8  | 55.368  |
| 4.9 | 1.099 | 8.9  | 61.222  |
| 5   | 1.215 | 9    | 67.694  |
| 5.1 | 1.344 | 9.1  | 74.851  |
| 5.2 | 1.486 | 9.2  | 82.765  |
| 5.3 | 1.643 | 9.3  | 91.515  |
| 5.4 | 1.817 | 9.4  | 101.190 |
| 5.5 | 2.009 | 9.5  | 111.888 |
| 5.6 | 2.221 | 9.6  | 123.717 |
| 5.7 | 2.456 | 9.7  | 136.797 |
| 5.8 | 2.716 | 9.8  | 151.260 |
| 5.9 | 3.003 | 9.9  | 167.252 |
| 6   | 3.320 | 10   | 184.934 |
| 6.1 | 3.671 | 10.1 | 204.486 |
| 6.2 | 4.059 | 10.2 | 226.105 |
| 6.3 | 4.488 | 10.3 | 250.010 |
| 6.4 | 4.963 | 10.4 | 276.442 |
| 6.5 | 5.488 | 10.5 | 305.668 |
| 6.6 | 6.068 | 10.6 | 337.984 |
| 6.7 | 6.709 | 10.7 | 373.717 |
| 6.8 | 7.419 | 10.8 | 413.228 |

**Table 23. Chronic Water Quality Standards for Pentachlorophenol Aquatic and Wildlife coldwater, warmwater, and edw**

| pH  | µg/L   | pH   | µg/L    |
|-----|--------|------|---------|
| 3   | 0.103  | 7    | 5.726   |
| 3.1 | 0.114  | 7.1  | 6.331   |
| 3.2 | 0.126  | 7.2  | 7.001   |
| 3.3 | 0.139  | 7.3  | 7.741   |
| 3.4 | 0.154  | 7.4  | 8.559   |
| 3.5 | 0.170  | 7.5  | 9.464   |
| 3.6 | 0.188  | 7.6  | 10.465  |
| 3.7 | 0.208  | 7.7  | 11.571  |
| 3.8 | 0.230  | 7.8  | 12.794  |
| 3.9 | 0.254  | 7.9  | 14.147  |
| 4   | 0.281  | 8    | 15.643  |
| 4.1 | 0.311  | 8.1  | 17.296  |
| 4.2 | 0.343  | 8.2  | 19.125  |
| 4.3 | 0.380  | 8.3  | 21.147  |
| 4.4 | 0.420  | 8.4  | 23.383  |
| 4.5 | 0.464  | 8.5  | 25.855  |
| 4.6 | 0.513  | 8.6  | 28.588  |
| 4.7 | 0.568  | 8.7  | 31.611  |
| 4.8 | 0.628  | 8.8  | 34.953  |
| 4.9 | 0.694  | 8.9  | 38.648  |
| 5   | 0.767  | 9    | 42.734  |
| 5.1 | 0.848  | 9.1  | 47.252  |
| 5.2 | 0.938  | 9.2  | 52.248  |
| 5.3 | 1.037  | 9.3  | 57.772  |
| 5.4 | 1.147  | 9.4  | 63.880  |
| 5.5 | 1.268  | 9.5  | 70.633  |
| 5.6 | 1.4022 | 9.6  | 78.101  |
| 5.7 | 1.550  | 9.7  | 86.358  |
| 5.8 | 1.714  | 9.8  | 95.488  |
| 5.9 | 1.896  | 9.9  | 105.583 |
| 6   | 2.096  | 10   | 116.746 |
| 6.1 | 2.318  | 10.1 | 129.089 |
| 6.2 | 2.563  | 10.2 | 142.736 |
| 6.3 | 2.833  | 10.3 | 157.827 |
| 6.4 | 3.133  | 10.4 | 174.513 |
| 6.5 | 3.464  | 10.5 | 192.963 |
| 6.6 | 3.831  | 10.6 | 213.364 |
| 6.7 | 4.235  | 10.7 | 235.922 |
| 6.8 | 4.683  | 10.8 | 260.864 |

**Table 24. Acute Water Quality Standards for Pentachlorophenol Aquatic and Wildlife ephemeral**

| pH  | µg/L   | pH   | µg/L     |
|-----|--------|------|----------|
| 3   | 0.660  | 7    | 36.760   |
| 3.1 | 0.730  | 7.1  | 40.646   |
| 3.2 | 0.807  | 7.2  | 44.943   |
| 3.3 | 0.892  | 7.3  | 49.695   |
| 3.4 | 0.986  | 7.4  | 54.949   |
| 3.5 | 1.091  | 7.5  | 60.758   |
| 3.6 | 1.206  | 7.6  | 67.182   |
| 3.7 | 1.334  | 7.7  | 74.284   |
| 3.8 | 1.475  | 7.8  | 82.138   |
| 3.9 | 1.631  | 7.9  | 90.822   |
| 4   | 1.803  | 8    | 100.424  |
| 4.1 | 1.994  | 8.1  | 111.041  |
| 4.2 | 2.204  | 8.2  | 122.781  |
| 4.3 | 2.437  | 8.3  | 135.762  |
| 4.4 | 2.695  | 8.4  | 150.115  |
| 4.5 | 2.980  | 8.5  | 165.985  |
| 4.6 | 3.295  | 8.6  | 183.534  |
| 4.7 | 3.643  | 8.7  | 202.938  |
| 4.8 | 4.029  | 8.8  | 224.393  |
| 4.9 | 4.454  | 8.9  | 248.117  |
| 5   | 4.925  | 9    | 274.349  |
| 5.1 | 5.446  | 9.1  | 303.354  |
| 5.2 | 6.022  | 9.2  | 335.426  |
| 5.3 | 6.659  | 9.3  | 370.888  |
| 5.4 | 7.363  | 9.4  | 410.100  |
| 5.5 | 8.141  | 9.5  | 453.457  |
| 5.6 | 9.002  | 9.6  | 501.398  |
| 5.7 | 9.953  | 9.7  | 554.408  |
| 5.8 | 11.006 | 9.8  | 613.021  |
| 5.9 | 12.169 | 9.9  | 677.832  |
| 6   | 13.456 | 10   | 749.495  |
| 6.1 | 14.878 | 10.1 | 828.735  |
| 6.2 | 16.451 | 10.2 | 916.351  |
| 6.3 | 18.191 | 10.3 | 1013.231 |
| 6.4 | 20.114 | 10.4 | 1120.354 |
| 6.5 | 22.240 | 10.5 | 1238.802 |
| 6.6 | 24.591 | 10.6 | 1369.773 |
| 6.7 | 27.191 | 10.7 | 1514.590 |
| 6.8 | 30.066 | 10.8 | 1674.718 |



|     |       |      |         |     |       |      |         |     |        |      |          |
|-----|-------|------|---------|-----|-------|------|---------|-----|--------|------|----------|
| 6.9 | 8.203 | 10.9 | 456.916 | 6.9 | 5.178 | 10.9 | 288.444 | 6.9 | 33.245 | 10.9 | 1851.775 |
|     |       | 11   | 505.223 |     |       | 11   | 318.939 |     |        | 11   | 2047.552 |

**Table 25 11. Acute Criteria for Total Ammonia (in mg/L as N) Aquatic and Wildlife coldwater, warmwater, and edw**

| pH       | A&Wc   | A&Ww and A&W edw   |
|----------|--|--|
|          | 6.5  | 32.6   |
| 6.6      | 31.3   | 46.8   |
| 6.7      | 29.8   | 44.6   |
| 6.8      | 28.1   | 42.0   |
| 6.9      | 26.2   | 39.1   |
| 7.0      | 24.1   | 36.1   |
| 7.1      | 22.0   | 32.8   |
| 7.2      | 19.7   | 29.5   |
| 7.3      | 17.5   | 26.2   |
| 7.4      | 15.4   | 23.0   |
| 7.5      | 13.3   | 19.9   |
| 7.6      | 11.4   | 17.0   |
| 7.7      | <del>9.65</del> <u>9.7</u>   | 14.4   |
| 7.8      | <del>8.11</del> <u>8.1</u>   | 12.1   |
| 7.9      | <del>6.77</del> <u>6.8</u>   | 10.1   |
| 8.0      | <del>5.62</del> <u>5.6</u>   | <del>8.40</del> <u>8.4</u>   |
| 8.1      | <del>4.64</del> <u>4.6</u>   | <del>6.95</del> <u>7.0</u>   |
| 8.2      | <del>3.83</del> <u>3.8</u>   | <del>5.72</del> <u>5.7</u>   |
| 8.3      | <del>3.15</del> <u>3.2</u>   | <del>4.71</del> <u>4.7</u>   |
| 8.4      | <del>2.59</del> <u>2.6</u>   | <del>3.88</del> <u>3.9</u>   |
| 8.5      | <del>2.14</del> <u>2.1</u>   | <del>3.20</del> <u>3.2</u>   |
| 8.6      | <del>1.77</del> <u>1.8</u>   | <del>2.65</del> <u>2.7</u>   |
| 8.7      | <del>1.47</del> <u>1.5</u>   | <del>2.20</del> <u>2.2</u>   |
| 8.8      | <del>1.23</del> <u>1.2</u>   | <del>1.84</del> <u>1.8</u>   |
| 8.9      | <del>1.04</del> <u>1.0</u>   | <del>1.56</del> <u>1.6</u>   |
| 9.0      | <del>0.885</del> <u>0.9</u>  | <del>1.32</del> <u>1.3</u>   |
| Formula: | $\frac{0.275}{1+10^{7.204-pH}} \pm \frac{39.0}{1+10^{\frac{pH-7.204}{7.204}}}$ | $\frac{0.411}{1+10^{7.204-pH}} \pm \frac{58.4}{1+10^{\frac{pH-7.204}{7.204}}}$ |

**Table 26 12. Chronic Criteria for Total Ammonia (mg/L as N) Aquatic and Wildlife coldwater, warmwater, and edw**

| pH  | Temperature, °C |      |      |      |      |      |      |      |      |      |
|-----|-----------------|------|------|------|------|------|------|------|------|------|
|     | 0               | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
| 6.5 | 6.67            | 6.67 | 6.06 | 5.33 | 4.68 | 4.12 | 3.62 | 3.18 | 2.80 | 2.46 |
| 6.6 | 6.57            | 6.57 | 5.97 | 5.25 | 4.61 | 4.05 | 3.56 | 3.13 | 2.75 | 2.42 |
| 6.7 | 6.44            | 6.44 | 5.86 | 5.15 | 4.52 | 3.98 | 3.50 | 3.07 | 2.70 | 2.37 |
| 6.8 | 6.29            | 6.29 | 5.72 | 5.03 | 4.42 | 3.89 | 3.42 | 3.00 | 2.64 | 2.32 |
| 6.9 | 6.12            | 6.12 | 5.56 | 4.89 | 4.30 | 3.78 | 3.32 | 2.92 | 2.57 | 2.25 |
| 7.0 | 5.91            | 5.91 | 5.37 | 4.72 | 4.15 | 3.65 | 3.21 | 2.82 | 2.48 | 2.18 |
| 7.1 | 5.67            | 5.67 | 5.15 | 4.53 | 3.98 | 3.50 | 3.08 | 2.70 | 2.38 | 2.09 |

|     |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 7.2 | 5.39  | 5.39  | 4.90  | 4.31  | 3.78  | 3.33  | 2.92  | 2.57  | 2.26  | 1.99  |
| 7.3 | 5.08  | 5.08  | 4.61  | 4.06  | 3.57  | 3.13  | 2.76  | 2.42  | 2.13  | 1.87  |
| 7.4 | 4.73  | 4.73  | 4.30  | 3.78  | 3.33  | 2.92  | 2.57  | 2.26  | 1.98  | 1.74  |
| 7.5 | 4.36  | 4.36  | 3.97  | 3.49  | 3.06  | 2.69  | 2.37  | 2.08  | 1.83  | 1.61  |
| 7.6 | 3.98  | 3.98  | 3.61  | 3.18  | 2.79  | 2.45  | 2.16  | 1.90  | 1.67  | 1.47  |
| 7.7 | 3.58  | 3.58  | 3.25  | 2.86  | 2.51  | 2.21  | 1.94  | 1.71  | 1.50  | 1.32  |
| 7.8 | 3.18  | 3.18  | 2.89  | 2.54  | 2.23  | 1.96  | 1.73  | 1.52  | 1.33  | 1.17  |
| 7.9 | 2.80  | 2.80  | 2.54  | 2.24  | 1.96  | 1.73  | 1.52  | 1.33  | 1.17  | 1.03  |
| 8.0 | 2.43  | 2.43  | 2.21  | 1.94  | 1.71  | 1.50  | 1.32  | 1.16  | 1.02  | 0.897 |
| 8.1 | 2.10  | 2.10  | 1.91  | 1.68  | 1.47  | 1.29  | 1.14  | 1.00  | 0.879 | 0.773 |
| 8.2 | 1.79  | 1.79  | 1.63  | 1.43  | 1.26  | 1.11  | 0.973 | 0.855 | 0.752 | 0.661 |
| 8.3 | 1.52  | 1.52  | 1.39  | 1.22  | 1.07  | 0.941 | 0.827 | 0.727 | 0.639 | 0.562 |
| 8.4 | 1.29  | 1.29  | 1.17  | 1.03  | 0.906 | 0.796 | 0.700 | 0.615 | 0.541 | 0.475 |
| 8.5 | 1.09  | 1.09  | 0.990 | 0.870 | 0.765 | 0.672 | 0.591 | 0.520 | 0.457 | 0.401 |
| 8.6 | 0.920 | 0.920 | 0.836 | 0.735 | 0.646 | 0.568 | 0.499 | 0.439 | 0.386 | 0.339 |
| 8.7 | 0.778 | 0.778 | 0.707 | 0.622 | 0.547 | 0.480 | 0.422 | 0.371 | 0.326 | 0.287 |
| 8.8 | 0.661 | 0.661 | 0.601 | 0.528 | 0.464 | 0.408 | 0.359 | 0.315 | 0.277 | 0.244 |
| 8.9 | 0.565 | 0.565 | 0.513 | 0.451 | 0.397 | 0.349 | 0.306 | 0.269 | 0.237 | 0.208 |
| 9.0 | 0.486 | 0.486 | 0.442 | 0.389 | 0.342 | 0.300 | 0.264 | 0.232 | 0.204 | 0.179 |

| pH  | Temperature, °C |      |      |      |      |      |      |      |      |      |
|-----|-----------------|------|------|------|------|------|------|------|------|------|
|     | 0               | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
| 6.5 | 6.7             | 6.7  | 6.1  | 5.3  | 4.7  | 4.1  | 3.6  | 3.2  | 2.8  | 2.5  |
| 6.6 | 6.6             | 6.6  | 6.0  | 5.3  | 4.6  | 4.1  | 3.6  | 3.1  | 2.8  | 2.4  |
| 6.7 | 6.4             | 6.4  | 5.9  | 5.2  | 4.5  | 4.0  | 3.5  | 3.1  | 2.7  | 2.4  |
| 6.8 | 6.3             | 6.3  | 5.7  | 5.0  | 4.4  | 3.9  | 3.4  | 3.0  | 2.6  | 2.3  |
| 6.9 | 6.1             | 6.1  | 5.6  | 4.9  | 4.3  | 3.8  | 3.3  | 2.9  | 2.6  | 2.3  |
| 7.0 | 5.9             | 5.9  | 5.4  | 4.7  | 4.2  | 3.6  | 3.2  | 2.8  | 2.5  | 2.2  |
| 7.1 | 5.7             | 5.7  | 5.2  | 4.5  | 4.0  | 3.5  | 3.1  | 2.7  | 2.4  | 2.1  |
| 7.2 | 5.4             | 5.4  | 4.9  | 4.3  | 3.8  | 3.3  | 2.9  | 2.6  | 2.3  | 2.0  |
| 7.3 | 5.1             | 5.1  | 4.6  | 4.1  | 3.6  | 3.1  | 2.8  | 2.4  | 2.1  | 1.9  |
| 7.4 | 4.7             | 4.7  | 4.3  | 3.8  | 3.3  | 2.9  | 2.6  | 2.3  | 2.0  | 1.7  |
| 7.5 | 4.4             | 4.4  | 4.0  | 3.5  | 3.1  | 2.7  | 2.4  | 2.1  | 1.8  | 1.6  |
| 7.6 | 4.0             | 4.0  | 3.6  | 3.2  | 2.8  | 2.5  | 2.2  | 1.9  | 1.7  | 1.5  |
| 7.7 | 3.6             | 3.6  | 3.3  | 2.9  | 2.5  | 2.2  | 1.9  | 1.7  | 1.5  | 1.3  |
| 7.8 | 3.1             | 3.2  | 2.9  | 2.5  | 2.2  | 2.0  | 1.7  | 1.5  | 1.3  | 1.2  |
| 7.9 | 2.8             | 2.8  | 2.5  | 2.2  | 2.0  | 1.7  | 1.5  | 1.3  | 1.2  | 1.0  |
| 8.0 | 2.4             | 2.4  | 2.2  | 1.9  | 1.7  | 1.5  | 1.3  | 1.2  | 1.0  | 0.90 |
| 8.1 | 2.1             | 2.1  | 1.9  | 1.7  | 1.5  | 1.3  | 1.1  | 1.0  | 0.88 | 0.77 |
| 8.2 | 1.8             | 1.8  | 1.6  | 1.4  | 1.3  | 1.1  | 0.97 | 0.86 | 0.75 | 0.66 |
| 8.3 | 1.5             | 1.5  | 1.4  | 1.2  | 1.1  | 0.94 | 0.83 | 0.73 | 0.64 | 0.56 |
| 8.4 | 1.3             | 1.3  | 1.2  | 1.0  | 0.91 | 0.80 | 0.70 | 0.62 | 0.54 | 0.48 |
| 8.5 | 1.1             | 1.1  | 1.0  | 0.90 | 0.77 | 0.67 | 0.59 | 0.52 | 0.46 | 0.40 |
| 8.6 | 0.92            | 0.92 | 0.84 | 0.74 | 0.65 | 0.57 | 0.50 | 0.44 | 0.37 | 0.34 |
| 8.7 | 0.78            | 0.78 | 0.71 | 0.62 | 0.55 | 0.48 | 0.42 | 0.37 | 0.33 | 0.29 |
| 8.8 | 0.66            | 0.66 | 0.60 | 0.53 | 0.46 | 0.41 | 0.36 | 0.32 | 0.28 | 0.24 |
| 8.9 | 0.57            | 0.57 | 0.51 | 0.45 | 0.40 | 0.35 | 0.31 | 0.27 | 0.24 | 0.21 |
| 9.0 | 0.49            | 0.49 | 0.44 | 0.39 | 0.34 | 0.30 | 0.26 | 0.23 | 0.20 | 0.18 |

$$CCC = \left( \frac{0.0577}{1+10^{7.688 - pH}} \pm \frac{2.487}{1+10^{pH - 7.688}} \right) - \text{MIN} (2.85, 1.45*10^{0.028-(25-T)})$$



APPENDIX B. SURFACE WATERS AND DESIGNATED USES

(Coordinates are from the North American Datum of 1983 (NAD83). All latitudes in Arizona are north and all longitudes are west, but the negative signs are not included in the Appendix B table. Some web-based mapping systems require a negative sign before the longitude values to indicate it is a west longitude.)

| Watershed | Surface Waters       | Segment Description and Location (Latitude and Longitudes are in NAD 83)                                | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     | Agricultural |     |     |
|-----------|----------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|--------------|-----|-----|
|           |                      |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC           | AgI | AgL |
| BW        | Alamo Lake           | 34°14'45"/113°35'00" 34°14'06"/113°35'00"   | Deep          |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Big Sandy River      | Headwaters to confluence at Alamo Lake at 34°18'36"/113°31'34"  |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Bill Williams River  | Alamo Lake to confluence with Colorado River at 34°18'04"/114°08'10"                                    |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Blue Tank            | 34°40'14"/112°58'16" 34°40'14"/112°58'17"   |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Boulder Creek        | Headwaters to confluence with unnamed tributary at 34°41'14"/113°03'24" 34°41'13"/113°03'37"            |               | A&Wc                 |      |      |        | FBC          |     |     | FC           | AgI | AgL |
| BW        | Boulder Creek        | Below confluence with unnamed tributary to confluence with Burro Creek at 34°26'47"/113°18'00"          |               |                      | A&Ww |      |        | FBC          |     |     | FC           | AgI | AgL |
| BW        | Burro Creek (OAW)    | Headwaters to confluence with Boulder Creek at 34°26'47"/113°18'00"                                     |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Burro Creek          | Below confluence with Boulder Creek to confluence with Big Sandy River at 34°22'24"/113°34'19.2"        |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Carter Tank          | 34°52'27"/112°57'31"  |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Conger Creek         | Headwaters to confluence with unnamed tributary at 34°45'13"/113°05'45" 34°45'15"/113°05'46"            |               | A&Wc                 |      |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Conger Creek         | Below confluence with unnamed tributary to confluence with Burro Creek at 34°26'05"/113°12'54"          |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Coors Lake           | 34°26'20"/113°11'25"  | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Copper Basin Wash    | Headwaters to confluence with unnamed tributary at 34°28'11"/112°35'31" 34°28'12"/112°35'33"            |               | A&Wc                 |      |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Copper Basin Wash    | Below confluence with unnamed tributary to confluence with Skull Valley Wash at 34°25'55"/112°41'42"    |               |                      |      | A&We |        |              | PBC |     |              |     | AgL |
| BW        | Cottonwood Canyon    | Headwaters to Bear Trap Spring at 34°45'10"/112°52'32"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Cottonwood Canyon    | Below Bear Trap Spring to confluence at Smith Canyon at 34°37'34"/112°54'46.8"                          |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Date Creek           | Headwaters to confluence with Santa Maria River at 34°18'11"/113°29'53"                                 |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Francis Creek (OAW)  | Headwaters to confluence with Burro Creek at 34°44'28"/113°14'25"                                       |               |                      | A&Ww |      |        | FBC          |     | DWS | FC           | AgI | AgL |
| BW        | Kirkland Creek       | Headwaters to confluence with Santa Maria River at 34°22'02"/112°59'38"                                 |               |                      | A&Ww |      |        | FBC          |     |     | FC           | AgI | AgL |
| BW        | Knight Creek         | Headwaters to confluence with Big Sandy River at 34°55'16"/113°37'30"                                   |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Peeples Canyon (OAW) | Headwaters to confluence with Santa Maria River at 34°20'35"/113°15'11"                                 |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Red Lake             | 35°12'18"/113°03'57"  | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Santa Maria River    | Headwaters to confluence with Alamo Lake at 34°18'36"/113°31'34"  |               |                      | A&Ww |      |        | FBC          |     |     | FC           | AgI | AgL |
| BW        | Trout Creek          | Headwaters to confluence with unnamed tributary at 35°06'47"/113°13'01"                                 |               | A&Wc                 |      |      |        | FBC          |     |     | FC           |     | AgL |
| BW        | Trout Creek          | Below confluence with unnamed tributary to confluence with Knight Creek at 34°55'16"/113°37'30"         |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| CG        | Agate Canyon Creek   | Headwaters to confluence with the Colorado River at 36°08'28"/112°16'48"                                |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     |     |
| CG        | Beaver Dam Wash      | Headwaters to confluence with the Virgin River at 36°53'42"/113°55'09"                                  |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     | AgL |
| CG        | Big Springs Tank     | 36°26'40"/112°20'58" 36°26'08"/112°21'01"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC           |     | AgL |
| CG        | Boucher Creek        | Headwaters to confluence with the Colorado River at 36°06'54"/112°13'44"                                |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     |     |
| CG        | Bright Angel Creek   | Headwaters to confluence with Roaring Springs Canyon at 36°11'34"/112°01'54" Creek                      |               | A&Wc                 |      |      |        | FBC          |     |     | FC           |     |     |
| CG        | Bright Angel Creek   | Below Roaring Spring Springs Canyon Creek to confluence with Colorado River at 36°05'56"/112°05'27.6"   |               |                      | A&Ww |      |        | FBC          |     |     | FC           |     |     |
| CG        | Bright Angel Wash    | Headwaters to Grand Canyon National Park South Rim of Grand Canyon WWTP outfall at 36°02'59"/112°09'02" |               |                      |      | A&We |        |              | PBC |     |              |     |     |

| Watershed | Surface Waters          | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)   | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |     | Agricultural |     |     |
|-----------|-------------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|-----|--------------|-----|-----|
|           |                         |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC  | AgI          | AgL |     |
| CG        | Bright Angel Wash (EDW) | Grand Canyon National Park South Rim Grand Canyon WWTP outfall at 36°00'14" N 112°29'06" W to Coconino Wash                         |               |                      |      |      | A&Wedw |              |     | PBC |     |              |     | AgL |
| CG        | Bulrush Canyon Wash     | Headwaters to confluence with Kanab Creek at 36°46'55" N 112°37'08" W   |               |                      |      | A&We |        |              |     | PBC |     |              |     |     |
| CG        | Cataract Creek          | Headwaters to Santa Fe Reservoir  |               | A&Wc                 |      |      |        | FBC          |     |     | DWS | FC           | AgI | AgL |
| CG        | Cataract Creek          | Santa Fe Reservoir to City of Williams WWTP outfall at 35°15'40" N 112°10'40" W 35°14'40" N 112°11'18" W                            |               | A&Wc                 |      |      |        | FBC          |     |     |     | FC           | AgI | AgL |
| CG        | Cataract Creek (EDW)    | City of Williams WWTP outfall to 1 km downstream  |               |                      |      |      | A&Wedw |              |     | PBC |     |              |     |     |
| CG        | Cataract Creek          | Red Lake Wash to Havasupai Indian Reservation at 33°56'52" N 112°30'38.3" W boundary  |               |                      |      | A&We |        |              |     | PBC |     |              |     | AgL |
| CG        | Cataract Lake           | 35°15'05" N 112°12'58" W 35°15'04" N 112°12'58" W   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | DWS | FC           |     | AgL |
| CG        | Chuar Creek             | Headwaters to confluence with unnamed tributary at 36°11'36" N 111°52'17" W 36°11'35" N 111°52'20" W                                |               | A&Wc                 |      |      |        | FBC          |     |     |     | FC           |     |     |
| CG        | Chuar Creek             | Below unnamed tributary at 36°11'36.4" N 111°52'17" W to confluence with the Colorado River at 36°08'20.4" N 111°48'58.7" W         |               |                      |      | A&Ww |        | FBC          |     |     |     | FC           |     |     |
| CG        | City Reservoir          | 35°13'57" N 112°11'23" W 35°13'57" N 112°11'25" W   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | DWS | FC           |     |     |
| CG        | Clear Creek             | Headwaters to confluence with unnamed tributary at 36°09'42" N 111°58'25" W 36°07'33" N 112°00'03" W                                |               | A&Wc                 |      |      |        | FBC          |     |     |     | FC           |     |     |
| CG        | Clear Creek             | Below confluence with unnamed tributary to confluence with Colorado River at 36°04'55" N 112°02'09.6" W                             |               |                      |      | A&Ww |        | FBC          |     |     |     | FC           |     |     |
| CG        | Coconino Wash (EDW)     | South Grand Canyon Sanitary District Tusayan WRF outfall at 35°58'39" N 112°08'25" W to 1 km downstream at 35°58'36" N 112°08'54" W |               |                      |      |      | A&Wedw |              |     | PBC |     |              |     |     |
| CG        | Colorado River          | Lake Powell to Lake Mead  |               | A&Wc                 |      |      |        | FBC          |     |     | DWS | FC           | AgI | AgL |
| CG        | Cottonwood Creek        | Headwaters to confluence with unnamed tributary at 35°20'45.5" N 113°35'34" W 35°20'46" N 113°35'31" W                              |               | A&Wc                 |      |      |        | FBC          |     |     |     | FC           |     | AgL |
| CG        | Cottonwood Creek        | Below confluence with unnamed tributary to confluence with Colorado River at 35°22'55" N 113°40'04.8" W                             |               |                      |      | A&Ww |        | FBC          |     |     |     | FC           |     | AgL |
| CG        | Crystal Creek           | Headwaters to confluence with unnamed tributary at 36°13'42" N 112°11'48" W 36°13'41" N 112°11'49" W                                |               | A&Wc                 |      |      |        | FBC          |     |     |     | FC           |     |     |
| CG        | Crystal Creek           | Below confluence with unnamed tributary to confluence with Colorado River at 36°08'06" N 112°14'34.8" W                             |               |                      |      | A&Ww |        | FBC          |     |     |     | FC           |     |     |
| CG        | Deer Creek              | Headwaters to confluence with unnamed tributary at 36°26'46" N 112°28'15.5" W 36°26'15" N 112°28'20" W                              |               | A&Wc                 |      |      |        | FBC          |     |     |     | FC           |     |     |
| CG        | Deer Creek              | Below confluence with unnamed tributary to confluence with Colorado River at 36°23'20" N 112°30'28.8" W                             |               |                      |      | A&Ww |        | FBC          |     |     |     | FC           |     |     |
| CG        | Detrital Wash           | Headwaters to Lake Mead at 36°02'20" N 114°27'47" W   |               |                      |      | A&We |        |              |     | PBC |     |              |     |     |
| CG        | Dogtown Reservoir       | 35°12'40" N 112°07'46" W 35°12'40" N 112°07'54" W   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | DWS | FC           | AgI | AgL |
| CG        | Dragon Creek            | Headwaters to confluence with Milk Creek at 36°12'25" N 112°09'33" W  |               | A&Wc                 |      |      |        | FBC          |     |     |     | FC           |     |     |
| CG        | Dragon Creek            | Below confluence with Milk Creek to confluence with Crystal Creek at 36°10'12" N 112°12'10.8" W                                     |               |                      |      | A&Ww |        | FBC          |     |     |     | FC           |     |     |
| CG        | Garden Creek            | Headwaters to confluence with Pipe Creek at 36°05'35" N 112°06'40" W  |               |                      |      | A&Ww |        | FBC          |     |     |     | FC           |     |     |
| CG        | Gonzalez Lake           | 35°15'26" N 112°12'07" W 35°15'26" N 112°12'09" W   | Shallow       |                      |      | A&Ww |        | FBC          |     |     |     | FC           | AgI | AgL |
| CG        | Grand Wash              | Headwaters to Lake Mead at 36°15'29" N 114°00'18" W   |               |                      |      | A&We |        |              |     | PBC |     |              |     |     |
| CG        | Grapevine Creek         | Headwaters to confluence with the Colorado River at 36°03'29" N 112°00'00" W  |               |                      |      | A&Ww |        | FBC          |     |     |     | FC           |     |     |
| CG        | Grapevine Wash          | Headwaters to Lake Mead at 36°06'29" N 114°00'07" W   |               |                      |      | A&We |        |              |     | PBC |     |              |     |     |
| CG        | Hakatai Canyon Creek    | Headwaters to confluence with the Colorado River at 36°14'42" N 112°22'59" W  |               |                      |      | A&Ww |        | FBC          |     |     |     | FC           |     |     |
| CG        | Hance Creek             | Headwaters to confluence with the Colorado River at 36°02'46" N 111°57'07" W  |               |                      |      | A&Ww |        | FBC          |     |     |     | FC           |     |     |
| CG        | Havasupai Canyon Creek  | From the Havasupai Indian Reservation ; boundary to confluence with the Colorado River at 36°18'29" N 112°45'43" W                  |               |                      |      | A&Ww |        | FBC          |     |     |     | FC           |     |     |
| CG        | Hermit Creek            | Headwaters to Hermit Pack Trail crossing at 36°03'23" N 112°13'25" W 36°03'38" N 112°14'00" W                                       |               | A&Wc                 |      |      |        | FBC          |     |     |     | FC           |     |     |
| CG        | Hermit Creek            | Below Hermit Pack Trail crossing to confluence with the Colorado River at 36°06'00" N 112°32'04" W                                  |               |                      |      | A&Ww |        | FBC          |     |     |     | FC           |     |     |



| Watershed | Surface Waters               | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)   | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|------------------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                              |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| CG        | Horn Creek                   | Headwaters to confluence with the Colorado River at 36°05'56"/112°07'59"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Hualapai Wash                | Headwaters to Lake Mead at 36°00'40"/114°07'37"   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| CG        | Jacob Lake                   | 36°42'26"/112°13'48" 36°42'27"/112°13'50"   | Sedimentary   | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | Kaibab Lake                  | 35°17'04"/112°09'17" 35°17'04"/112°09'32"   | Igneous       | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| CG        | Kanab Creek                  | Headwaters to confluence with the Colorado River at 36°23'31"/112°37'44"  |               |                      | A&Ww |      |        | FBC          |     | DWS | FC |              | AgL |
| CG        | Kwagunt Creek                | Headwaters to confluence with unnamed tributary at 36°13'29"/111°55'24" 36°13'37"/111°54'50"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | Kwagunt Creek                | Below confluence with unnamed tributary to confluence with the Colorado River at 36°15'47"/111°49'40.8"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Lake Mead                    | 36°01'00"/114°44'15" 36°06'18"/114°26'33"   | Deep          | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| CG        | Lake Powell                  | 36°57'00"/111°29'15" 36°59'53"/111°08'17"   | Deep          | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| CG        | Lonetree Canyon Creek        | Headwaters to confluence with the Colorado River at 36°04'48"/112°01'52"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Matkatamiba Creek            | Below Havasupai Indian Reservation ; boundary to confluence with the Colorado River at 36°20'38"/112°40'19"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Monument Creek               | Headwaters to confluence with the Colorado River at 36°05'53"/112°10'55"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Nankoweap Creek              | Headwaters to confluence with unnamed tributary at 36°15'30"/111°57'23" 36°15'29"/111°57'26"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | Nankoweap Creek              | Below confluence with unnamed tributary to confluence with Colorado River at 36°18'25"/111°51'28.8"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | National Canyon Creek        | Portion of the creek that flows into the Colorado River at 36°15'25"/112°53'34.8" that is not located on the Headwaters to Hualapai Indian Reservation boundary at 36°15'15"/112°52'34" |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | North Canyon Creek           | Headwaters to confluence with unnamed tributary at 36°33'57"/111°55'39" 36°33'58"/111°55'41"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | North Canyon Creek           | Below confluence with unnamed tributary to confluence with Colorado River at 36°37'48"/111°45'46.8"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Olo Creek                    | Headwaters to confluence with the Colorado River at 36°22'16"/112°38'56"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Parashant Canyon             | Headwaters to confluence with unnamed tributary at 36°21'26"/113°28'10" 36°21'02"/113°27'56"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | Parashant Canyon             | Below confluence with unnamed tributary to confluence with the Colorado River   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Paria River                  | Utah border to confluence with the Colorado River at 36°51'29"/111°36'04"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Phantom Creek                | Headwaters to confluence with unnamed tributary at 36°10'04"/112°07'50" 36°09'29"/112°08'13"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | Phantom Creek                | Below confluence with unnamed tributary to Colorado River at 36°06'58"/112°05'09.6" confluence with Bright Angel Creek  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Pipe Creek                   | Headwaters to confluence with the Colorado River at 36°05'56"/112°06'36"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Red Canyon Creek             | Headwaters to confluence with the Colorado River at 36°02'42"/111°55'08"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Red Lake                     | 35°40'00"/114°03'45" 35°40'03"/114°04'07"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| CG        | Redondo Lake                 | 32°44'32"/114°29'02"  | Shallow       |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Roaring Springs              | Headwaters of Roaring Springs Creek at 36°11'25"/112°01'55.2" 36°11'45"/112°02'06"  |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              |     |
| CG        | Roaring Springs Canyon Creek | Headwaters to confluence with Bright Angel Creek at 36°11'35"/112°01'55"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | Rock Canyon                  | Tributary Headwaters to confluence with Truxton Wash at 35°26'56"/113°36'29"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| CG        | Royal Arch Creek             | Tributary Headwaters to confluence with the Colorado River at 36°11'52"/112°26'56"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Ruby Canyon Creek            | Tributary Headwaters to confluence with the Colorado River at 36°11'24"/112°18'54"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Russell Tank                 | 34°52'22"/111°52'44" 35°52'21"/111°52'45"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| CG        | Saddle Canyon Creek          | Headwaters to confluence with unnamed tributary at 36°21'35.5"/112°22'46" 36°21'36"/112°22'43"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | Saddle Canyon Creek          | Below confluence with unnamed tributary to confluence with Colorado River at 36°22'52"/112°23'16.8"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Santa Fe Reservoir           | 35°14'26"/112°11'04" 35°14'31"/112°11'10"   | Igneous       | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              |     |
| CG        | Sapphire Canyon Creek        | Headwaters to confluence with the Colorado River at 36°08'49"/112°17'28"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |

| Watershed | Surface Waters          | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)   | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|-------------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                         |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| CG        | Serpentine Canyon Creek | Headwaters to confluence with the Colorado River at 36°12'22"/112°19'37"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Shinumo Creek           | Headwaters to confluence with unnamed tributary at 36°18'21"/112°18'03" 36°18'18"/112°18'07"                                |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | Shinumo Creek           | Below confluence with unnamed tributary to confluence with the Colorado River at 36°14'13"/112°20'52.8"                     |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Short Creek             | Tributary Headwaters to confluence with the Virgin River at 36°58'23"/113°16'08"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| CG        | Slate Creek             | Headwaters to confluence with the Colorado River at 36°08'06"/112°14'42"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Spring Canyon Creek     | Headwaters to confluence with the Colorado River at 36°01'08"/113°21'00"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Stone Creek             | Headwaters to confluence with the Colorado River at 36°20'49"/112°27'14"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Tapeats Creek           | Headwaters to confluence with the Colorado River at 36°22'46"/112°28'05"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | Thunder River           | Tributary Headwaters to confluence with Tapeats Creek at 36°23'31"/112°27'00"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | Trail Canyon Creek      | Headwaters to confluence with the Colorado River at 35°50'20"/113°19'37"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Transept Canyon         | Headwaters to Grand Canyon National Park, North Rim WWTP outfall at 36°12'20"/112°03'35" 36°12'20"/112°03'35"               |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| CG        | Transept Canyon (EDW)   | Grand Canyon National Park North Rim WWTP outfall to 1 km downstream  |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| CG        | Transept Canyon         | From 1 km downstream of the Grand Canyon National Park North Rim WWTP outfall to confluence with Bright Angel Creek         |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| CG        | Travertine Canyon Creek | Tributary Headwaters to confluence with the Colorado River at 36°06'11"/112°13'05"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Truxton Wash            | Tributary Headwaters to Red Lake at 35°27'23"/114°03'00"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| CG        | Turquoise Canyon Creek  | Tributary Headwaters to confluence with the Colorado River at 36°09'14"/112°18'07"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Unkar Creek             | Below confluence with unnamed tributary at 36°07'54"/111°54'06" to confluence with Colorado River at 36°04'48"/111°52'22.8" |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Unnamed Wash (EDW)      | Grand Canyon NP National Park Desert View WWTP outfall at 36°02'06"/111°49'13" to confluence with Cedar Canyon              |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| CG        | Unnamed Wash (EDW)      | Valle Airpark WRF outfall at 35°38'34"/112°09'22" to confluence with Spring Valley Wash at 35°38'29"/112°10'47"             |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| CG        | Vasey's Paradise        | A spring at 36°26'49"/111°50'46" 36°29'52"/111°51'26"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | Virgin River            | Tributary Headwaters to confluence with the Colorado River at 36°47'28"/114°06'11"  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| CG        | Vishnu Creek            | Tributary Headwaters to confluence with the Colorado River at 36°03'18"/111°59'42"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Warm Springs Creek      | Tributary Headwaters to confluence with the Colorado River at 36°11'49"/113°04'55"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | West Cataract Creek     | Tributary Headwaters to confluence with Cataract Creek at 35°15'40"/112°11'38"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| CG        | White Creek             | Headwaters to confluence with unnamed tributary at 36°18'42"/112°21'02" 36°18'45"/112°21'03"                                |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| CG        | White Creek             | Below confluence with unnamed tributary to confluence with the Colorado River at 36°15'22"/112°19'30"                       |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CG        | Wright Canyon Creek     | Headwaters to confluence with unnamed tributary at 35°20'54"/113°30'35" 35°20'48"/113°30'40"                                |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| CG        | Wright Canyon Creek     | Below confluence with unnamed tributary to confluence with Truxton Wash   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| CL        | A10 Backwater           | 33°31'38"/114°33'19" 33°31'45"/114°33'19"   | Shallow       |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CL        | A7 Backwater            | 33°34'39"/114°39'42" 33°34'27"/114°32'04"   | Shallow       |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CL        | Adobe Lake              | 33°02'39"/114°39'19" 33°02'36"/114°39'26"   | Shallow       |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CL        | Cibola Lake             | 33°21'38"/114°31'19" 33°14'01"/114°40'31"   | Shallow       |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CL        | Clear Lake              | 33°01'57"/114°31'26" 33°01'59"/114°31'19"   | Shallow       |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| CL        | Columbus Wash           | Tributary Headwaters to confluence with the Gila River at 33°00'25"/113°16'08"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| CL        | Colorado River          | Lake Mead to Topock Marsh   |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| CL        | Colorado River          | Topock Marsh to Morelos Dam   |               |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| CL        | Gila River              | Painted Rock Dam to confluence with the Colorado River at 32°43'12"/114°33'14"  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |



| Watershed | Surface Waters                 | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)   | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |     | Agricultural |     |     |
|-----------|--------------------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|-----|--------------|-----|-----|
|           |                                |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC  | AgI          | AgL |     |
| CL        | Holy Moses Wash                | Headwaters to City of Kingman Downtown WWTP outfall at 35°10'30"/114°03'43" 35°10'33"/114°03'46"                        |               |                      |      | A&We |        |              |     | PBC |     |              |     |     |
| CL        | Holy Moses Wash (EDW)          | City of Kingman Downtown WWTP outfall to 3 km downstream  |               |                      |      |      | A&Wedw |              |     | PBC |     |              |     |     |
| CL        | Holy Moses Wash                | From 3 km downstream of City of Kingman Downtown WWTP outfall to confluence with Sawmill Wash at 35°09'43"/114°04'20"   |               |                      |      | A&We |        |              |     | PBC |     |              |     |     |
| CL        | Hunter's Hole Backwater        | 32°31'15"/114°48'03" 32°31'13"/114°48'07"   | Shallow       |                      |      | A&Ww |        |              | FBC |     |     | FC           |     | AgL |
| CL        | Imperial Reservoir             | 32°53'04"/114°27'40" 32°53'02"/114°27'54"   | Shallow       |                      |      | A&Ww |        |              | FBC |     | DWS | FC           | AgI | AgL |
| CL        | Island Lake                    | 33°01'52"/114°35'07" 33°01'44"/114°36'42"   | Shallow       |                      |      | A&Ww |        |              | FBC |     |     | FC           |     |     |
| CL        | Laguna Reservoir               | 32°51'15"/114°28'38" 32°51'35"/114°28'29"   | Shallow       |                      |      | A&Ww |        |              | FBC |     | DWS | FC           | AgI | AgL |
| CL        | Lake Havasu                    | 34°18'15"/114°08'15" 34°35'18"/114°25'47"   | Deep          |                      |      | A&Ww |        |              | FBC |     | DWS | FC           | AgI | AgL |
| CL        | Lake Mohave                    | 35°11'45"/114°34'00" 35°26'58"/114°38'30"   | Deep          | A&Wc                 |      |      |        |              | FBC |     | DWS | FC           | AgI | AgL |
| CL        | Martinez Lake                  | 32°58'52"/114°28'23" 32°58'49"/114°28'09"   | Shallow       |                      |      | A&Ww |        |              | FBC |     |     | FC           | AgI | AgL |
| CL        | Mittry Lake                    | 32°49'11"/114°27'41" 32°49'17"/114°27'54"   | Shallow       |                      |      | A&Ww |        |              | FBC |     |     | FC           |     |     |
| CL        | Mohave Wash                    | Headwaters to Lake Havasu at 33°28'55"/114°35'56"   |               |                      |      | A&We |        |              |     | PBC |     |              |     |     |
| CL        | Nortons Lake                   | 33°02'35"/114°37'58" 33°02'30"/114°37'59"   | Shallow       |                      |      | A&Ww |        |              | FBC |     |     | FC           |     |     |
| CL        | Painted Rock (Borrow Pit) Lake | 33°05'00"/113°01'20" 33°04'55"/113°01'17"   | Sedimentary   |                      |      | A&Ww |        |              | FBC |     |     | FC           | AgI | AgL |
| CL        | Pretty Water Lake              | 33°19'45"/114°42'15" 33°19'51"/114°42'19"   | Shallow       |                      |      | A&Ww |        |              | FBC |     |     | FC           |     |     |
| CL        | Quigley Ponds                  | 32°43'00"/113°58'00" 32°43'40"/113°57'44"   | Shallow       |                      |      | A&Ww |        |              | FBC |     |     | FC           |     |     |
| CL        | Redondo Lake                   | 32°44'32"/114°29'03"  | Shallow       |                      |      | A&Ww |        |              | FBC |     |     | FC           |     |     |
| CL        | Sacramento Wash                | Tributary Headwaters to Topock Marsh at 34°43'48"/114°29'13"  |               |                      |      | A&We |        |              |     | PBC |     |              |     |     |
| CL        | Sawmill Canyon                 | Headwaters to abandoned gaging station at 35°09'46.5"/113°57'54" 35°09'45"/113°57'56"                                   |               |                      |      | A&Ww |        |              | FBC |     |     | FC           |     | AgL |
| CL        | Sawmill Canyon                 | Below abandoned gaging station to confluence with Sacramento Holy Moses Wash at 35°09'43"/113°58'01.2"                  |               |                      |      | A&We |        |              |     | PBC |     |              |     | AgL |
| CL        | Topock Marsh                   | 34°47'30"/114°31'00" 34°43'27"/114°28'59"   | Shallow       |                      |      | A&Ww |        |              | FBC |     | DWS | FC           | AgI | AgL |
| CL        | Tyson Wash (EDW)               | Town of Quartzsite WWTP outfall at 33°42'30"/114°13'14" 33°42'39"/114°13'10" to 1 km downstream at 33°42'30"/114°13'45" |               |                      |      |      | A&Wedw |              |     | PBC |     |              |     |     |
| CL        | Wellton Canal                  | Wellton-Mohawk Irrigation District  |               |                      |      |      |        |              |     |     | DWS |              | AgI | AgL |
| CL        | Wellton Ponds                  | 32°42'15"/114°06'15" 32°40'32"/114°00'26"   |               |                      |      | A&Ww |        |              | FBC |     |     | FC           |     |     |
| CL        | YPG Pond                       | 32°50'22"/114°26'25" 32°50'58"/114°26'14"   |               |                      |      | A&Ww |        |              | FBC |     |     | FC           |     |     |
| CL        | Yuma Area Canals               | Above municipal water treatment plant intakes   |               |                      |      |      |        |              |     |     | DWS |              | AgI | AgL |
| CL        | Yuma Area Canals               | Below municipal water treatment plant intakes and all drains  |               |                      |      |      |        |              |     |     |     |              | AgI | AgL |
| LC        | Als Lake                       | 35°02'17"/111°25'13" 35°02'10"/111°25'17"   | Igneous       |                      |      | A&Ww |        |              | FBC |     |     | FC           |     | AgL |
| LC        | Ashurst Lake                   | 35°01'40"/111°24'09" 35°01'06"/111°24'18"   | Igneous       | A&Wc                 |      |      |        |              | FBC |     |     | FC           | AgI | AgL |
| LC        | Atcheson Reservoir             | 34°00'00"/109°20'41" 33°59'59"/109°20'43"   | Igneous       |                      |      | A&Ww |        |              | FBC |     |     | FC           | AgI | AgL |
| LC        | Auger Creek                    | Tributary Headwaters to confluence with Nutrioso Creek at 33°57'22"/109°12'58"  |               |                      |      | A&Wc |        |              | FBC |     |     | FC           |     | AgL |
| LC        | Barbershop Canyon Creek        | Tributary Headwaters to confluence with East Clear Creek at 34°33'00"/111°09'43"  |               |                      |      | A&Wc |        |              | FBC |     |     | FC           |     | AgL |
| LC        | Bear Canyon Creek              | Tributary Headwaters to confluence with General Springs Canyon at 34°32'18"/111°12'18"                                  |               |                      |      | A&Wc |        |              | FBC |     |     | FC           |     | AgL |
| LC        | Bear Canyon Creek              | Tributary Headwaters to confluence with Willow Creek at 34°27'29"/111°00'00"  |               |                      |      | A&Wc |        |              | FBC |     |     | FC           |     | AgL |
| LC        | Bear Canyon Lake               | 34°24'10"/111°00'09" 34°24'00"/111°00'06"   | Sedimentary   | A&Wc                 |      |      |        |              | FBC |     |     | FC           | AgI | AgL |
| LC        | Becker Lake                    | 34°09'16"/109°18'18" 34°09'11"/109°18'23"   | Shallow       | A&Wc                 |      |      |        |              | FBC |     |     | FC           |     | AgL |
| LC        | Billy Creek                    | Tributary Headwaters to confluence with Show Low Creek at 34°12'25"/110°00'00"  |               |                      |      | A&Wc |        |              | FBC |     |     | FC           |     | AgL |
| LC        | Black Canyon Creek             | Tributary Headwaters to confluence with Chevelon Creek at 34°47'38"/110°36'22"  |               |                      |      | A&Wc |        |              | FBC |     |     | FC           | AgI | AgL |
| LC        | Black Canyon Lake              | 34°19'50"/110°41'59" 34°20'32"/110°40'13"   | Sedimentary   | A&Wc                 |      |      |        |              | FBC |     | DWS | FC           | AgI | AgL |
| LC        | Blue Ridge Reservoir           | 34°33'15"/111°11'01" 34°32'40"/111°11'33"   | Deep          | A&Wc                 |      |      |        |              | FBC |     |     | FC           | AgI | AgL |

| Watershed | Surface Waters                     | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)   | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|------------------------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                                    |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| LC        | Boot Lake                          | 34°58'53"/111°20'00" 34°58'54"/111°20'11"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Bow and Arrow Wash (EDW)           | Estates at Pine Canyon WWTP outfall #1 at 35°09'31"/111°38'24" Headwaters, to confluence with Rio de Flag at 35°10'35"/111°36'42" |               |                      |      | A&We | A&Wedw |              | PBC |     |    |              |     |
| LC        | Buck Springs Canyon Creek          | Tributary Headwaters to confluence with Leonard Canyon Creek at 34°28'52"/111°05'24"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Bunch Reservoir                    | 34°02'12"/109°26'45" 34°02'20"/109°26'48"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Camillo Tank                       | 34°55'03"/111°22'41" 34°55'03"/111°22'40"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Carnero Lake                       | 34°06'57"/109°31'39" 34°06'57"/109°31'42"   | Shallow       | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Chevelon Canyon Lake               | 34°30'39"/110°49'28" 34°29'18"/110°49'30"   | Sedimentary   | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Chevelon Creek                     | Tributary Headwaters to confluence with the Little Colorado River at 34°57'04"/110°31'30"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Chevelon Creek, West Fork          | Tributary Headwaters to confluence with Chevelon Creek at 34°36'58"/110°46'05"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Chilson Tank                       | 34°51'46"/111°22'52" 34°51'43"/111°22'54"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Clear Creek                        | Tributary Headwaters to confluence with the Little Colorado River at 34°59'13"/110°38'17"   |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              | AgL |
| LC        | Clear Creek Reservoir              | 34°58'10"/110°38'33" 34°57'09"/110°39'14"   | Shallow       | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| LC        | Coconino Reservoir                 | 35°00'16"/111°23'52" 35°00'05"/111°24'10"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Colter Creek                       | Tributary Headwaters to confluence with Nutrioso Creek at 33°58'19"/109°12'29"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Colter Reservoir                   | 33°56'40"/109°28'50" 33°56'39"/109°28'53"   | Shallow       | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Concho Creek                       | Tributary Headwaters to confluence with Carrizo Wash at 34°36'25"/109°33'54"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Concho Lake                        | 34°26'36"/109°37'40" 34°26'37"/109°37'40"   | Shallow       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Cow Lake                           | 34°53'19"/111°18'49" 34°53'14"/111°18'51"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Coyote Creek                       | Tributary Headwaters to confluence with the Little Colorado River at 34°18'22"/109°20'53"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Crisis Lake (Snake Tank #2)        | 34°47'51"/111°17'01" 34°47'51"/111°17'32"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Dane Canyon Creek                  | Tributary Headwaters to confluence with Barbershop Canyon Creek at 34°30'29"/111°09'07"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Daves Tank                         | 34°44'23"/111°17'08" 34°44'22"/111°17'15"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Deep Lake                          | 35°03'30"/111°24'55" 35°03'34"/111°25'00"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Dry Lake (EDW)                     | 34°37'52"/110°23'40" 34°38'02"/110°23'40"   | Igneous EDW   |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| LC        | Ducksnest Lake                     | 34°59'15"/111°23'53" 34°59'14"/111°23'57"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | East Clear Creek                   | Tributary Headwaters to confluence with Clear Creek at 34°38'31"/110°59'49"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Ellis Wiltbank Reservoir           | 34°05'25"/109°28'24" 34°05'25"/109°28'25"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Estates at Pine Canyon lakes (EDW) | 35°09'32"/111°38'26"  | EDW           |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| LC        | Fish Creek                         | Tributary Headwaters to confluence with the Little Colorado River at 34°04'05"/109°26'49"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Fool's Hollow Lake                 | 34°16'14"/110°04'15" 34°16'30"/110°03'43"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | General Springs Canyon Creek       | Tributary Headwaters to confluence with East Clear Creek at 34°32'17"/111°12'18"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Geneva Reservoir                   | 34°01'44"/109°31'44" 34°01'45"/109°31'46"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Hall Creek                         | Tributary Headwaters to confluence with the Little Colorado River at 34°03'58"/109°27'07"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Hart Canyon Creek                  | Tributary Headwaters to confluence with Willow Creek at 34°30'40"/110°59'28"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Hay Lake                           | 34°00'11"/109°25'55" 34°00'11"/109°25'57"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Hog Wallow Lake                    | 33°58'57"/109°25'38" 33°58'57"/109°25'39"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Horse Lake                         | 35°03'53"/111°27'51" 35°03'55"/111°27'50"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Huffer Tank                        | 34°27'45"/111°23'09"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Hulsey Creek                       | Tributary Headwaters to confluence with Nutrioso Creek at 33°56'28"/109°11'28"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Hulsey Lake                        | 33°55'57"/109°09'33" 33°55'58"/109°09'40"   | Sedimentary   | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Indian Lake                        | 35°00'38"/111°22'37" 35°00'39"/111°22'41"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Jack's Canyon Creek                | Tributary Headwaters to confluence with the Little Colorado River at 35°00'07"/110°39'07"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Jarvis Lake                        | 33°58'59"/109°12'33" 33°58'59"/109°12'36"   | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |



| Watershed | Surface Waters                         | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)                                     | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|--|---|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |  |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| LC        | Kinnikinick Lake                       | 34°53'52"/111°18'20" 34°53'53"/111°18'18"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Knoll Lake                             | 34°25'38"/111°05'40" 34°25'38"/111°05'13"   | Sedimentary   | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Lake Humphreys (EDW)                   | 35°11'51"/111°35'16" 35°11'51"/111°35'19"   | EDW           |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| LC        | Lake Mary, Lower                       | 35°06'22"/111°34'20" 35°06'21"/111°34'38"   | Igneous       | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              | AgL |
| LC        | Lake Mary, Upper                       | 35°04'45"/111°34'56" 35°03'23"/111°28'34"   | Igneous       | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              | AgL |
| LC        | Lake of the Woods                      | 34°09'39"/109°58'45" 34°09'40"/109°58'47"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Lee Valley Creek (OAW)                 | Headwaters to Lee Valley Reservoir  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| LC        | Lee Valley Creek                       | From Lee Valley Reservoir to confluence with the East Fork of the Little Colorado River at 33°56'35"/109°29'06" |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Lee Valley Reservoir                   | 33°56'30"/109°30'00" 33°56'29"/109°30'04"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Leonard Canyon Creek                   | Tributary Headwaters to confluence with Clear Creek at 34°37'26"/111°02'20"                                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Leonard Canyon Creek, East Fork        | Tributary Headwaters to confluence with Leonard Canyon Creek at 34°25'52"/111°05'06"                            |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Leonard Canyon Creek, Middle Fork      | Tributary Headwaters to confluence with Leonard Canyon, West Fork at 34°26'17"/111°06'47"                       |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Leonard Canyon Creek, West Fork        | Tributary Headwaters to confluence with Leonard Canyon, East Fork at 34°28'01"/111°05'28"                       |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Lily Creek                             | Tributary Headwaters to confluence with Coyote Creek at 33°59'46"/109°03'58"                                    |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Little Colorado River                  | Headwaters to Lyman Reservoir   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Little Colorado River                  | Below Lyman Reservoir, to confluence with the Puerco River at 34°52'20"/110°07'41"                              |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| LC        | Little Colorado River                  | Below confluence with the Puerco River to the boundary of the Navajo Nation Reservation boundary                |               |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| LC        | Little Colorado River, East Fork       | Tributary Headwaters to confluence with the Little Colorado River at 34°00'14"/109°27'22"                       |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Little Colorado River, South Fork      | Tributary Headwaters to confluence with the Little Colorado River at 34°05'20"/109°24'58"                       |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Little Colorado River, West Fork (OAW) | Headwaters to Government Springs at 33°59'33"/109°27'52"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| LC        | Little Colorado River, West Fork       | Below Government Springs to confluence with the Little Colorado River at 34°00'14"/109°27'21.6"                 |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Little George Reservoir                | 34°00'37"/109°19'15"  | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          |     |
| LC        | Little Mormon Lake                     | 34°17'00"/109°58'03" 34°17'00"/109°58'06"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Little Ortega Lake                     | 34°22'45"/109°40'00" 34°22'47"/109°40'06"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| LC        | Long Lake, Lower                       | 34°46'45"/111°12'00" 34°47'16"/111°12'40"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Long Lake, Upper                       | 35°00'00"/111°21'00" 35°00'08"/111°21'23"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Long Tom Tank                          | 34°20'37"/110°49'20" 34°20'35"/110°49'22"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Lower Walnut Canyon Lake (EDW)         | 35°12'04"/111°34'07"  | EDW           |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| LC        | Lyman Reservoir                        | 34°21'30"/109°21'30" 34°21'21"/109°21'35"   | Deep          | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Mamie Creek                            | Tributary Headwaters to confluence with Coyote Creek at 33°59'24"/109°03'50"                                    |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Marshall Lake                          | 35°07'40"/111°32'04" 35°07'18"/111°32'07"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | McKay Reservoir                        | 34°01'27"/110°29'07" 34°01'27"/109°13'48"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Merritt Draw Creek                     | Tributary Headwaters to confluence with Barbershop Canyon Creek at 34°29'38"/111°09'54"                         |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Mexican Hay Lake                       | 34°01'57"/109°21'25" 34°01'58"/109°21'25"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Milk Creek                             | Tributary Headwaters to confluence with Hulsey Creek at 33°56'31"/109°11'17"                                    |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |

| Watershed | Surface Waters                        | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)                                       | Lake Category   | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|---------------------------------------|---|-----------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                                       |   |                 | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| LC        | Miller Canyon Creek                   | Tributary Headwaters to confluence with East Clear Creek at 34°33'00"/41°14'17"                                   |                 | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Miller Canyon Creek, East Fork        | Tributary Headwaters to confluence with Miller Canyon Creek at 34°30'18"/41°14'53"                                |                 | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Mineral Creek                         | Tributary Headwaters to Little Ortega Lake at 34°22'52"/109°39'50"  |                 | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Mormon Lake                           | 34°56'40"/111°27'10" 34°56'38"/111°27'25"   | Shallow         | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| LC        | Morton Lake                           | 34°53'36"/111°17'39" 34°53'37"/111°17'41"   | Igneous         | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Mud Lake                              | 34°55'24"/111°21'18" 34°55'19"/111°21'29"   | Shallow         |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Ned Lake (EDW)                        | 32°17'18"/110°03'20" 34°17'17"/110°03'22"   | EDW             |                      |      |      | A&Wedw |              |     | PBC |    |              |     |
| LC        | Nelson Reservoir                      | 34°03'12"/109°11'18" 34°02'52"/109°11'19"   | Sedimentary     | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Norton Reservoir                      | 34°03'57"/109°31'21" 34°03'57"/109°31'27"   | Igneous         |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Nutriosio Creek                       | Tributary Headwaters to confluence with the Little Colorado River at 34°09'04"/109°17'35"                         |                 | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Paddy Creek                           | Tributary Headwaters to confluence with Nutriosio Creek at 33°54'47"/109°10'16"                                   |                 | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Phoenix Park Wash                     | Tributary Headwaters to Dry Lake at 34°37'30"/110°22'12"  |                 |                      |      | A&We |        |              |     | PBC |    |              |     |
| LC        | Pierce Seep                           | 34°23'35"/110°31'22" 34°23'39"/110°31'17"   |                 | A&Wc                 |      |      |        |              |     | PBC |    |              |     |
| LC        | Pine Tank                             | 34°46'49"/111°17'17" 34°46'49"/111°17'21"   | Igneous         |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Pintail Lake (EDW)                    | 34°18'06"/110°01'17" 34°18'05"/110°01'21"   | EDW             |                      |      |      | A&Wedw |              |     | PBC |    |              |     |
| LC        | Pool Corral Lake                      | 33°58'16"/109°24'53"  | Igneous         |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Porter Creek                          | Tributary Headwaters to confluence with Show Low Creek at 34°10'16"/109°58'48"                                    |                 | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Potato Lake                           | 34°27'44"/111°20'42" 35°03'15"/111°24'13"   | Igneous         | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Pratt Lake                            | 34°01'31"/109°04'16" 34°01'32"/109°04'18"   | Sedimentary     | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| LC        | Puerto River                          | Tributary Headwaters to confluence with the Little Colorado River at 34°53'20"/110°07'41"                         |                 |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| LC        | Puerto River (EDW)                    | Sanders Unified School District WWTP outfall at 35°12'52"/109°19'40" to 0.5 km downstream at 35°12'39"/109°19'52" |                 |                      |      |      | A&Wedw |              |     | PBC |    |              |     |
| LC        | Rainbow Lake                          | 34°09'03"/109°59'01" 34°09'00"/109°59'09"   | Shallow Igneous | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Reagan Reservoir                      | 34°02'09"/109°08'43" 34°02'09"/109°08'41"   | Igneous         |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Rio de Flag                           | Headwaters to City of Flagstaff WWTP outfall at 35°12'21"/111°39'17"  |                 |                      |      | A&We |        |              |     | PBC |    |              |     |
| LC        | Rio de Flag (EDW)                     | From City of Flagstaff WWTP outfall at 35°12'21"/111°39'17" to the confluence with San Francisco Wash             |                 |                      |      |      | A&Wedw |              |     | PBC |    |              |     |
| LC        | River Reservoir                       | 34°02'01"/109°26'07"  | Igneous         | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Rogers Reservoir                      | 33°58'30"/109°16'18" 33°56'30"/109°16'20"   | Igneous         |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Rudd Creek                            | Tributary Headwaters to confluence with Nutriosio Creek at 34°04'12"/109°11'56"                                   |                 | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Russel Reservoir                      | 33°59'29"/109°20'00" 33°59'29"/109°20'01"   | Igneous         |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Salt House Lake                       | 33°57'06"/109°20'12"  | Igneous         |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | San Salvador Reservoir                | 33°58'51"/109°19'51" 33°58'51"/109°19'55"   | Igneous         | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Scott Reservoir                       | 34°10'27"/109°57'27" 34°10'31"/109°57'31"   | Igneous         | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Show Low Creek                        | Tributary Headwaters to confluence with Silver Creek at 34°25'26"/110°04'05"                                      |                 | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Show Low Lake                         | 34°11'25"/109°59'55" 34°11'36"/110°00'12"   | Igneous         | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Silver Creek                          | Tributary Headwaters to confluence with the Little Colorado River at 34°44'24"/110°02'17"                         |                 | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Slade Reservoir                       | 33°59'50"/109°20'00" 33°59'41"/109°20'26"   | Igneous         |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Soldiers Annex Lake                   | 34°47'13"/111°13'48" 34°47'15"/111°13'51"   | Igneous         | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Soldiers Lake                         | 34°47'49"/110°13'59" 34°47'47"/111°14'04"   | Igneous         | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Spaulding Tank                        | 34°20'17"/111°02'03" 34°20'17"/111°02'06"   |                 |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Sponseller Lake                       | 34°14'10"/109°50'42" 34°14'09"/109°50'45"   | Igneous         | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | St Johns Reservoir (Little Reservoir) | 34°29'14"/109°21'57" 34°29'10"/109°22'06"   | Igneous         |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Telephone Lake (EDW)                  | 34°17'35"/110°02'39" 34°17'35"/110°02'42"   | EDW             |                      |      |      | A&Wedw |              |     | PBC |    |              |     |
| LC        | Tremaine Lake                         | 34°46'00"/111°14'10" 34°46'02"/111°13'51"   | Igneous         | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Tunnel Reservoir                      | 34°01'51"/109°26'32" 34°01'53"/109°26'34"   | Igneous         | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |



| Watershed | Surface Waters              | Segment Description and Location (Latitude and Longitudes are in NAD 83)  | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|-----------------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                             |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| LC        | Turkey Draw (EDW)           | High Country Pines II WWTP outfall at 34°25'35"/110°38'13" 33°25'35"/110°38'13" to confluence of Turkey Draw with Black Canyon Creek at 34°25'20"/110°36'36"      |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| LC        | Unnamed Wash (EDW)          | Bison Ranch WWTP outfall at 34°23'31"/110°31'29" to Pierce Seep at 34°23'35"/110°31'22"   |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| LC        | Unnamed Wash (EDW)          | Black Mesa Ranger Station WWTP outfall at 34°23'32"/110°53'32" 34°23'35"/110°33'36" to confluence of Oklahoma Flat Draw with Pierce Wash at 34°26'47"/110°29'25"  |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| LC        | Unnamed Wash (EDW)          | Estates at Pine Canyon WWTP outfall at 35°09'17"/111°38'22" to confluence of unnamed wash with Bow Wash and Arrow Wash at 35°09'51"/111°37'29"                    |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| LC        | Unnamed Wash (EDW)          | Estates at Pine Canyon WWTP outfall #3 at 35°09'45"/111°38'48" to confluence with Rio de Flag at 35°10'05"/111°38'37"   |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| LC        | Vail Lake                   | 35°05'24"/111°30'42" 35°05'23"/111°30'46"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Walnut Creek                | Tributary Headwaters to confluence with Billy Creek at 34°09'50"/109°58'48"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Water Canyon Creek          | Tributary Headwaters to confluence with the Little Colorado River at 34°06'47"/109°18'43"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Water Canyon Reservoir      | 34°00'15"/109°20'05" 34°00'16"/109°20'05"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Whale Lake (EDW)            | 35°12'32"/111°34'42" 35°11'13"/111°35'21"   | EDW           |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| LC        | Whipple Lake                | 34°16'47"/109°58'28" 34°16'49"/109°58'29"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| LC        | White Mountain Lake         | 34°21'54"/109°59'38" 34°21'57"/109°59'21"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | White Mountain Reservoir    | 34°00'15"/109°30'48" 34°00'12"/109°30'39"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Willow Creek                | Tributary Headwaters to confluence with Clear Creek at 34°38'31"/110°59'49"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Willow Springs Canyon Creek | Tributary Headwaters to confluence with Chevelon Creek at 34°21'32"/110°53'20"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Willow Springs Lake         | 34°18'45"/110°52'34" 34°18'13"/110°52'16"   | Sedimentary   | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Woodland Reservoir          | 34°07'36"/109°57'06" 34°07'35"/109°57'01"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Woods Canyon Creek          | Tributary Headwaters to confluence with Chevelon Creek at 34°21'32"/110°53'20"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| LC        | Woods Canyon Lake           | 34°20'05"/110°56'35" 34°20'09"/110°56'45"   | Sedimentary   | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| LC        | Zuni River                  | Tributary Headwaters to confluence with the Little Colorado River at 34°38'42"/109°40'26"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Agua Fria River             | Headwaters to confluence with unnamed EDW wash tributary at 34°35'43"/112°16'29", receiving treated wastewater from the Prescott Valley WWTP 34°35'14"/112°16'18" |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| MG        | Agua Fria River (EDW)       | Below confluence with unnamed wash receiving treated wastewater from the Prescott Valley WWTP tributary to State Route 169 at 34°31'43"/112°14'7.5"               |               |                      |      |      | A&Wedw |              | PBC |     |    |              | AgL |
| MG        | Agua Fria River             | From State Route 169 to Lake Pleasant at 34°54'54.7"/112°14'7.5"  |               |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| MG        | Agua Fria River             | Below Lake Pleasant to the City of El Mirage WWTP at 33°34'36"/112°48'45" 33°34'20"/112°18'32"  |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| MG        | Agua Fria River (EDW)       | From City of El Mirage WWTP outfall to 2 km downstream  |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Agua Fria River             | Below 2 km downstream of the City of El Mirage WWTP to City of Avondale WWTP outfall at 33°23'55"/112°21'16"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| MG        | Agua Fria River             | From City of Avondale WWTP outfall at 33°23'24"/112°21'50.4" to confluence with Gila River at 33°23'22"/112°21'48"  |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Alvord Park Lake            | Urban Lake: 35th Avenue & Baseline Road, Phoenix at 33°22'34"/112°08'11" 33°22'23"/112°08'20"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Andorra Wash (EDW)          | Town of Cave Creek WWTP outfall #1 at 33°50'00"/111°56'32" Headwaters to confluence with Cave Creek Wash at 33°49'54"/111°57'57.4"                                |               |                      |      | A&We | A&Wedw |              | PBC |     |    |              |     |
| MG        | Antelope Creek              | Tributary Headwaters to confluence with Martinez Creek at 34°16'37"/112°08'46"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Arlington Canal             | From Gila River at 33°20'54"/112°35'39" to Gila River at 33°13'44"/112°46'15"   |               |                      |      |      |        |              |     |     |    |              | AgL |

| Watershed | Surface Waters                        | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)  | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|---------------------------------------|--|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                                       |  |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| MG        | Ash Creek                             | Headwaters to confluence with Tex Canyon at 34°24'44"/112°07'18"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Ash Creek                             | Below confluence with Tex Canyon to confluence with Agua Fria at 34°19'34"/112°04'30"  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Beehive Tank                          | 32°52'36"/111°02'19" 32°52'37"/111°02'20"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Big Bug Creek                         | Headwaters to confluence with Eugene Gulch at 34°27'11"/112°18'28.5"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Big Bug Creek                         | Below confluence with Eugene Gulch to confluence with Agua Fria River at 34°18'54"/112°03'58"  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Black Canyon Creek                    | Tributary Headwaters to confluence with the Agua Fria River at 34°04'12"/112°09'29"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Blind Indian Creek                    | Tributary Headwaters to confluence with the Hassayampa River at 34°12'40"/112°32'12"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Bonsall Park Lake                     | Urban Lake-59th Avenue & Bethany Home Road, Phoenix at 33°31'23"/112°11'05" 33°31'24"/112°11'08"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Canal Park Lake                       | Urban Lake-College Avenue & Curry Road, Tempe at 33°26'57"/111°56'14" 33°26'54"/111°56'19"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Cave Creek                            | Headwaters to the Cave Creek Dam   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Cave Creek                            | Cave Creek Dam to the Arizona Canal at 33°24'24"/112°06'25"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| MG        | Centennial Wash                       | Tributary Headwaters to confluence with the Gila River at 33°14'44"/112°46'46" 33°16'32"/112°48'08"  |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| MG        | Centennial Wash Ponds                 | 33°55'40"/113°23'05" 33°54'52"/113°23'47"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Chaparral Park Lake                   | Urban Lake-Hayden Road & Chaparral Road, Scottsdale at 33°30'41"/111°54'25" 33°30'40"/111°54'27"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC | AgI          |     |
| MG        | Cortez Park Lake                      | Urban Lake-35th Avenue & Dunlap, Glendale at 33°34'13"/112°07'51" 33°34'13"/112°07'52"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC | AgI          |     |
| MG        | Desert Breeze Lake                    | Urban Lake-Galaxy Drive, West Chandler at 33°18'47.5"/111°55'08" 33°18'47"/111°55'10"  | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Devils Canyon                         | Tributary Headwaters to confluence with Mineral Creek at 33°12'58"/110°59'42"  |               |                      | A&Ww |      |        |              | FBC |     | FC |              | AgL |
| MG        | Dobson Lake                           | Urban Lake-Dobson Road & Los Lagos Vista Avenue, Mesa at 33°22'17"/111°53'12" 33°22'48"/111°52'35"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | East Maricopa Floodway                | From Brown and Greenfield Rds to the Gila River Indian Reservation Boundary  |               |                      | A&We |      |        |              | PBC |     |    |              | AgL |
| MG        | Eldorado Park Lake                    | Urban Lake-Miller Road & Oak Street, Tempe at 33°28'25"/111°54'51" 33°28'25"/111°54'53"  | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Encanto Park Lake                     | Urban Lake-15th Avenue & Encanto Blvd., Phoenix at 33°28'36"/112°05'47" 33°28'28"/112°05'18"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC | AgI          |     |
| MG        | Fain Lake                             | City Town of Prescott Valley Park Lake at 34°34'29"/112°21'03" 34°34'29"/112°21'06"  | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | French Gulch                          | Headwaters to confluence with Hassayampa River   |               |                      | A&Ww |      |        |              | PBC |     |    |              | AgL |
| MG        | Galena Gulch                          | Tributary Headwaters to confluence with the Agua Fria River at 34°28'37"/112°15'44"  |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| MG        | Galloway Wash (EDW)                   | Town of Cave Creek WWTP outfall #2 at 33°49'58"/111°57'30" 33°50'15"/111°57'35" to confluence with Andorra Wash at 33°49'59"/111°57'41" Cave Creek |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Gila River                            | San Carlos Indian Reservation boundary to the Ashurst-Hayden Dam at 33°06'01"/111°14'46"   |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Gila River                            | Ashurst-Hayden Dam to the Town of Florence WWTP outfall at 33°02'30"/111°24'16" 33°02'20"/111°24'19"   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| MG        | Gila River (EDW)                      | Town of Florence WWTP outfall to Felix Road at 33°01'49"/111°17'16"  |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Gila River                            | Felix Road to the Gila River Indian Reservation boundary   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| MG        | Gila River (EDW)                      | From the confluence with the Salt River to the Gillespie Dam at 33°13'45"/112°46'07"   |               |                      |      |      | A&Wedw |              | PBC |     | FC | AgI          | AgL |
| MG        | Gila River                            | Gillespie Dam to confluence with Painted Rock Dam at 33°04'23"/113°00'40"  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Granada Park Lake                     | Urban Lake; 6505 North 20th Street, Phoenix at 33°31'58.6"/112°02'06" 33°31'56"/112°02'16"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Groom Creek                           | Tributary Headwaters to confluence with the Hassayampa River at 34°27'14"/112°29'24"   |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              | AgL |
| MG        | Hank Raymond Lake Lower Lake Pleasant | 33°50'18"/112°16'07" 33°50'32"/112°16'03"  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Hassayampa Lake                       | 34°25'45"/112°25'29" 34°25'45"/112°25'33"  | Igneous       | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              |     |



| Watershed | Surface Waters                    | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)  | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|-----------------------------------|--|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                                   |  |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| MG        | Hassayampa River                  | Headwaters to confluence with unnamed tributary at 34°26'09"/112°30'32"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Hassayampa River                  | Below confluence with unnamed tributary to 8-miles south of Wickenburg confluence with unnamed tributary at 33°51'52"/112°39'56"                           |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Hassayampa River                  | 8-miles south of Wickenburg Below unnamed tributary to the Buckeye Irrigation Company Canal at 33°23'38"/112°22'22.8"                                      |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| MG        | Hassayampa River                  | Below Buckeye Irrigation Company canal to the Gila River at 33°49'34"/112°42'39.6"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Horsethief Lake                   | 34°09'42"/112°17'56" 34°09'42"/112°17'57"  | Igneous       | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              | AgL |
| MG        | Indian Bend Wash                  | Tributary Headwaters to confluence with the Salt River at 33°26'13"/111°54'58"   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| MG        | Indian Bend Wash Lakes            | Urban Lake; Scottsdale at 33°30'31"/111°54'24" 33°30'32"/111°54'24"  | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Indian School Park Lake           | Urban Lake; Indian School Road & Hayden Road, Scottsdale at 33°29'45"/111°54'33" 33°29'39"/111°54'37"  | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Kiwanis Park Lake                 | Urban Lake; 6000 South Mill Avenue, Tempe at 33°22'27"/111°56'21" 33°22'27"/111°56'22"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC | AgI          |     |
| MG        | Lake Pleasant                     | 33°51'15"/112°16'45" 33°53'46"/112°16'29"  | Deep          |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| MG        | The Lake Tank                     | 32°54'14"/111°04'15"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Lion Canyon                       | Tributary Headwaters to confluence with Weaver Creek at 34°10'12"/112°41'49"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Little Ash Creek                  | Tributary Headwaters to confluence with Ash Creek at 34°20'46"/112°04'16"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Lynx Creek                        | Headwaters to confluence with unnamed tributary at 34°34'29"/112°21'05" 34°34'29"/112°21'07"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Lynx Creek                        | Below confluence with unnamed tributary to confluence with Agua Fria River at 34°37'49"/112°14'42"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Lynx Lake                         | 34°31'08"/112°23'05" 34°31'07"/112°23'07"  | Deep          | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| MG        | Maricopa Park Lake                | 33°35'30"/112°18'16" 33°35'28"/112°18'15"  | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Martinez Canyon                   | Tributary Headwaters to confluence with Box Canyon at 33°06'33"/111°21'48"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Martinez Creek                    | Tributary Headwaters to confluence with the Hassayampa River at 33°59'56"/112°44'38"   |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | McKellips Park Lake               | Urban Lake; Miller Road & McKellips Road, Scottsdale at 33°27'14"/111°54'45" 33°27'14"/111°54'49"  | Urban         |                      | A&Ww |      |        |              | PBC |     | FC | AgI          |     |
| MG        | McMicken Wash (EDW)               | City of Peoria Jomax WWTP outfall at 33°43'30"/112°20'11" 33°43'31"/112°20'15" to confluence of McMicken Wash with Agua Fria River at 33°29'39"/112°18'56" |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Mineral Creek                     | Tributary Headwaters to the Gila River at 34°17'42"/112°13'34" 33°12'34"/110°59'58"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Mineral Creek (diversion channel) | 33°12'34"/110°59'58" to 33°07'56"/110°58'34"   |               |                      |      |      |        |              | PBC |     |    |              |     |
| MG        | Mineral Creek                     | End of diversion channel to confluence with Gila River   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Minnehaha Creek                   | Tributary Headwaters to confluence with the Hassayampa River at 34°14'49"/112°32'24"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Mountain Valley Park Ponds (EDW)  | Town of Prescott Valley WWTP outfall 002 at 34°26'07"/112°18'48" 34°26'07"/112°18'48" to Navajo Wash   | EDW           |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | New River                         | Headwaters to I-17 at 33°54'19.5"/112°08'46" Interstate 17   |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | New River                         | Below I-17 Interstate 17 to confluence with Agua Fria River at 33°30'47"/112°18'14"  |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| MG        | Painted Rock Reservoir            | 33°04'15"/113°00'30" 33°04'23"/113°00'38"  | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Papago Park Ponds                 | Urban Lake; Galvin Parkway, Phoenix at 33°26'56"/111°56'50" 33°27'15"/111°56'45"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Papago Park South Pond            | Urban Lake; Curry Road, Tempe 33°26'22"/111°55'55"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Perry Mesa Tank                   | 34°11'03"/112°01'59" 34°11'03"/112°02'01"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Phoenix Area Canals               | Granite Reef Dam to all municipal WTP intakes  |               |                      |      |      |        |              |     | DWS |    | AgI          | AgL |
| MG        | Phoenix Area Canals               | Below municipal WTP intakes and all other locations  |               |                      |      |      |        |              |     |     |    | AgI          | AgL |
| MG        | Picacho Reservoir                 | 32°51'17"/111°28'49" 32°51'10"/111°28'25"  | Shallow       |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Poland Creek                      | Headwaters to confluence with Lorena Gulch at 34°12'32"/112°19'07"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |

| Watershed | Surface Waters              | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)  | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|-----------------------------|--|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                             |  |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| MG        | Poland Creek                | Below confluence with Lorena Gulch to confluence with Black Canyon Creek at 34°14'20"/112°12'54"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Queen Creek                 | Headwaters to the Town of Superior WWTP outfall at 33°16'45"/111°17'25"<br>33°16'33"/111°07'44"  |               |                      | A&Ww |      |        |              | PBC |     |    |              | AgL |
| MG        | Queen Creek (EDW)           | Below Town of Superior WWTP outfall to confluence with Potts Canyon at 33°17'47"/111°14'36"  |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Queen Creek                 | Below Potts Canyon to Queen Valley golf course at 33°17'55"/111°17'17" Whitlow Dam   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Queen Creek                 | Below Queen Valley golf course Whitlow Dam to confluence with Gila River at 33°09'50"/111°53'16.8"   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| MG        | Riverview Park Lake         | Urban Lake; Dobson Road & 8th Street, Mesa at 33°25'50"/111°52'29" 33°25'50"/111°52'29"  | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Roadrunner Park Lake        | Urban Lake; 36th Street & Cactus, Phoenix at 33°35'57"/112°00'18" 33°35'56"/112°00'21"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Salt River                  | Verde River to 2 km below Granite Reef Dam (Granite Reef Dam is at 31°26'23"/111°12'40")   |               |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| MG        | Salt River                  | 2 km below Granite Reef Dam to City of Mesa NW WRF outfall at 33°26'45"/111°56'35"<br>33°26'22"/111°53'14"                                   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| MG        | Salt River (EDW)            | City of Mesa NW WRF outfall at 33°26'45"/111°56'35" to Tempe Town Lake at 33°26'01"/111°54'55"   |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Salt River                  | Below Tempe Town Lake to I-10 Interstate 10 bridge   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| MG        | Salt River                  | I-10 Below Interstate 10 bridge to the City of Phoenix 23rd Avenue WWTP outfall at 33°25'03"/112°06'41.6" 33°24'44"/112°07'59"               |               |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Salt River (EDW)            | From City of Phoenix 23rd Avenue WWTP outfall to confluence with Gila River at 33°22'55"/112°18'21.6"  |               |                      |      |      | A&Wedw |              | PBC |     | FC | AgI          | AgL |
| MG        | Siphon Draw (EDW)           | Superstition Mountains CED WWTP outfall at 33°21'40"/111°33'30" to 6 km downstream at 32°21'01"/111°36'59"                                   |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Sycamore Creek              | Headwaters to confluence with Tank Canyon at 34°19'32"/111°50'12"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Sycamore Creek              | Below confluence with Tank Canyon to the confluence with Agua Fria River at 34°19'30"/112°04'12"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Tempe Town Lake             | At Mill Avenue Bridge at 33°26'30"/111°53'30" 33°26'00"/111°56'26"   | Urban         |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| MG        | Tule Creek                  | Tributary Headwaters to confluence with the Agua Fria River at 33°57'25"/112°14'13"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | Turkey Creek                | Headwaters to confluence with unnamed tributary at 34°19'28"/112°21'28" 34°19'28"/112°21'33"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Turkey Creek                | Below confluence with unnamed tributary to confluence with Poland Creek at 34°14'20"/112°12'54"  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| MG        | Unnamed Wash (EDW)          | City of Phoenix Cave Creek WRF outfall at 33°45'20"/112°00'59" to unnamed wash to 0.5 km downstream at 33°35'07"/112°01'12"                  |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Unnamed Wash (EDW)          | Gila Bend WWTP outfall to confluence with the Gila River at 32°58'13"/112°43'46"   |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Unnamed Wash (EDW)          | Luke Air Force Base WWTP outfall at 33°32'00"/112°19'03" to confluence with the Agua Fria River at 33°32'21"/112°19'15"                      |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Unnamed Wash (EDW)          | North Florence Gardens WWTP outfall at 33°03'49.54"/111°23'43.28" 33°03'50"/111°23'13" to confluence with Gila River at 33°02'59"/111°23'15" |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Unnamed Wash (EDW)          | Town of Prescott Valley WWTP outfall at 34°35'16"/112°16'18" to confluence with the Agua Fria River at 34°35'16"/112°16'18"                  |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Unnamed Wash (EDW)          | Town of Cave Creek WRF outfall at 33°48'02"/111°59'22" to confluence with Cave Creek   |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Unnamed Wash (EDW)          | Queen Valley Sanitary District WWTP outfall at 33°17'38"/111°18'21" to the confluence with Queen Creek                                       |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Wagner Wash (EDW)           | City of Buckeye Festival Ranch WRF outfall at 33°39'14"/112°40'18" to 2 km downstream  |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| MG        | Vista Del Camino Park North | Urban Lake; 7700 East Roosevelt Street, Scottsdale at 33°27'33"/111°54'49.3" 33°27'33"/111°54'52"  | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| MG        | Walnut Canyon Creek         | Tributary Headwaters to confluence with the Gila River at 33°06'47"/111°05'20"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |



| Watershed | Surface Waters        | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)  | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|-----------------------|--|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                       |  |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| MG        | Weaver Creek          | Tributary to Martinez Creek at 34°03'18"/112°46'48"<br>Headwaters to confluence with Antelope Creek  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| MG        | White Canyon Creek    | Tributary Headwaters to confluence with Walnut Canyon Creek at 33°09'25"/111°04'48"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Agua Caliente Lake    | Urban Lake; 12325 East Roger Road, Tucson<br>32°16'51"/110°43'52"  | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| SC        | Agua Caliente Wash    | Headwaters to confluence with Soldier Trail at<br>32°17'48"/110°42'58.5"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Agua Caliente Wash    | Below Soldier Trail to confluence with Tanque Verde Creek at 32°14'35"/110°47'17"  |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SC        | Aguirre Wash          | These reaches not located on From the Tohono O'odham Indian Reservation boundary to<br>32°28'38"/111°46'51"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Alambre Wash          | Tributary Headwaters to confluence with Brawley Wash at 31°57'47"/111°23'28"   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Alamo Wash            | Tributary Headwaters to confluence with Rillito Creek at 32°16'23"/110°54'18"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Altar Wash            | Tributary Headwaters to confluence with Brawley Wash at 31°57'47"/111°23'28"   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Alum Gulch            | Headwaters to 31°28'20"/110°43'51"   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SC        | Alum Gulch            | From 31°28'20"/110°43'51" to 31°29'17"/110°44'25"  |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Alum Gulch            | Below 31°29'17"/110°44'25" to confluence with Sonoita Creek at 31°30'58"/110°47'06"  |               |                      |      |      | A&We   |              | PBC |     |    |              | AgL |
| SC        | Arivaca Creek         | Tributary Headwaters to confluence with Altar Wash at<br>31°43'01"/111°25'41"  |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Arivaca Lake          | 31°21'50"/111°15'05" 31°31'52"/111°15'06"  | Igneous       |                      |      | A&Ww |        | FBC          |     |     | FC | AgI          | AgL |
| SC        | Atterbury Wash        | Tributary Headwaters to confluence with Pantano Wash at 32°10'52"/110°48'50"   |               |                      |      |      | A&We   |              | PBC |     |    |              | AgL |
| SC        | Bear Grass Tank       | 31°33'01"/111°14'32" 31°33'01"/111°11'03"  |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Big Wash              | Tributary Headwaters to confluence with Cañada del Oro at 32°24'47"/110°56'28"   |               |                      |      |      | A&We   |              | PBC |     |    |              |     |
| SC        | Black Wash (EDW)      | Pima County WWM D Avra Valley WWTP outfall at 32°09'50"/111°10'49" 32°09'58"/111°11'17" to confluence with Brawley Wash at 32°15'00"/111°14'34"                |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| SC        | Bog Hole Tank         | 31°28'34"/110°37'07" 31°28'36"/110°37'09"  |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Brawley Wash          | Tributary Headwaters to confluence with Los Robles Wash at 32°21'54"/111°17'31"  |               |                      |      |      | A&We   |              | PBC |     |    |              |     |
| SC        | California Gulch      | South of Ruby Headwaters To U.S./Mexico border   |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Cañada del Oro        | Headwaters to Highway 89 at 32°24'48"/110°56'14" State Route 77  |               |                      |      | A&Ww |        | FBC          |     |     | FC | AgI          | AgL |
| SC        | Cañada del Oro        | Below Highway 89 State Route 77 to confluence with the Santa Cruz River at 32°19'30"/111°03'47"  |               |                      |      |      | A&We   |              | PBC |     |    |              | AgL |
| SC        | Cienega Creek         | Headwaters to confluence with Gardner Canyon and Spring Water Canyon at 31°47'38"/110°35'17"   |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Cienega Creek (OAW)   | From confluence with Gardner Canyon and Spring Water Canyon to USGS gaging station at 32°02'09"/110°40'34" (becomes Pantano Wash below this point) (#09484600) |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Davidson Canyon       | Headwaters to unnamed spring at 31°59'00"/110°38'46" 31°59'00"/110°38'49"  |               |                      |      |      | A&We   |              | PBC |     |    |              | AgL |
| SC        | Davidson Canyon (OAW) | Unnamed From unnamed Spring to confluence with unnamed tributary at 31°59'32.5"/110°38'43.5" 31°59'09"/110°38'44"  |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Davidson Canyon (OAW) | From Below confluence with unnamed tributary to unnamed spring at 32°00'54"/110°38'54" 32°00'40"/110°38'36"  |               |                      |      |      | A&We   |              | PBC |     |    |              | AgL |
| SC        | Davidson Canyon (OAW) | From unnamed spring at 32°00'54"/110°38'54" to confluence with Cienega Creek at 32°01'05"/110°38'32"   |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Empire Gulch          | Headwaters to unnamed spring at 31°47'14"/110°38'13" 31°47'18"/110°38'17"  |               |                      |      |      | A&We   |              | PBC |     |    |              |     |
| SC        | Empire Gulch          | From 31°47'14"/110°38'13" 31°47'18"/110°38'17" to 31°47'11"/110°00'39" 31°47'03"/110°37'35"  |               |                      |      | A&Ww |        | FBC          |     |     | FC |              |     |
| SC        | Empire Gulch          | Below 31°47'11"/110°00'39" From 31°47'03"/110°37'35" to 31°47'18"/110°36'57" 31°47'05"/110°36'58"  |               |                      |      |      | A&We   |              | PBC |     |    |              | AgL |
| SC        | Empire Gulch          | From 31°47'18"/110°36'57" 31°47'05"/110°36'58" to confluence with Cienega Creek at 31°48'32"/110°35'20"  |               |                      |      | A&Ww |        | FBC          |     |     | FC |              |     |
| SC        | Flux Canyon           | Tributary Headwaters to confluence with Alum Canyon at 31°30'22"/110°46'41"  |               |                      |      |      | A&We   |              | PBC |     |    |              | AgL |

| Watershed | Surface Waters        | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)  | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|-----------------------|--|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                       |  |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| SC        | Gardner Canyon Creek  | Headwaters to confluence with Sawmill Canyon at 31°42'51"/110°44'43"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| SC        | Gardner Canyon Creek  | Below Sawmill Canyon to confluence with Cienega Creek at 31°47'38"/110°35'47"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SC        | Greene Wash           | Tributary Greene Reservoir at 32°37'09"/111°41'12" to the Santa Cruz River at 33°00'54"/111°59'46" Tohono Oodham Indian Reservation boundary |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Greene Wash           | Tohono Oodham Indian Reservation boundary to confluence with Santa Rosa Wash at 32°53'52"/111°56'48"   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Harshaw Creek         | Tributary Headwaters to confluence with Sonoita Creek at 31°32'35"/110°44'42"  |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SC        | Hit Tank              | 32°43'57"/111°03'18"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Holden Canyon Creek   | Headwaters to U.S./Mexico border at 31°23'38"/111°15'54" in the Coronado National Forest   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SC        | Huachuca Tank         | 31°21'41"/110°30'42" 31°21'11"/110°30'18"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Julian Wash           | Tributary Headwaters to confluence with the Santa Cruz River at 32°11'20"/110°59'43"   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Kennedy Lake          | Urban Lake; Mission Road & Ajo Road, Tucson at 32°40'48.5"/111°00'27" 32°10'49"/111°00'27"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| SC        | Lakeside Lake         | Urban Lake; 8300 East Stella Road, Tucson at 32°41'10.5"/110°49'00" 32°11'11"/110°49'00"   | Urban         |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| SC        | Lemmon Canyon Creek   | Headwaters to confluence with unnamed tributary at 32°23'47"/110°47'46" 32°23'48"/110°47'49"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| SC        | Lemmon Canyon Creek   | Below unnamed tributary to confluence with Sabino Canyon Creek at 32°23'02"/110°47'28"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SC        | Los Robles Wash       | Tributary Headwaters to confluence with the Santa Cruz River at 32°32'13"/111°23'53"   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Madera Canyon Creek   | Headwaters to confluence with unnamed tributary at 31°43'42"/110°52'50" 31°43'42"/110°52'51"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Madera Canyon Creek   | Below unnamed tributary to confluence with the Santa Cruz River at 31°46'55"/111°00'58"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Mattie Canyon         | Tributary Headwaters to confluence with Cienega Creek at 31°51'31"/110°34'25" "  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Nogales Wash          | Tributary Headwaters to confluence with Potrero Creek at 31°24'07"/110°57'14"  |               |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| SC        | Oak Tree Canyon       | Tributary Headwaters to confluence with Cienega Creek at 31°48'43"/110°35'24"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Palisade Canyon Creek | Headwaters to confluence with unnamed tributary at 32°22'34"/110°45'35" 32°21'59"/110°46'16"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| SC        | Palisade Canyon Creek | Below unnamed tributary to confluence with Sabino Canyon Creek at 32°21'54"/110°46'23"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SC        | Pantano Wash          | Tributary Headwaters to confluence with Tanque Verde Creek at 32°16'27"/110°54'48"   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Paradise Lake         | 32°44'18"/111°40'42"   | Urban         |                      | A&Ww |      |        |              | PBC |     |    |              | AgI |
| SC        | Parker Canyon Creek   | Headwaters to confluence with unnamed tributary at 31°24'47"/110°28'44.5" 31°24'17"/110°28'47"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| SC        | Parker Canyon Creek   | Below unnamed tributary to U.S./Mexico border at 31°19'59"/110°33'58"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SC        | Parker Canyon Lake    | 31°25'35"/110°27'15"   | Deep          | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SC        | Patagonia Lake        | 31°29'30"/110°52'00" 31°29'56"/110°50'49"  | Deep          |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| SC        | Peña Blanca Lake      | 31°24'12"/111°05'04" 31°24'15"/111°05'12"  | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| SC        | Potrero Creek         | Headwaters to Interstate 19 at 31°23'24"/110°57'30"  |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SC        | Potrero Creek         | Below Interstate 19 to confluence with Santa Cruz River at 31°27'07"/110°57'40"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Puertocito Wash       | Tributary Headwaters to confluence with Altar Wash at 31°43'01"/111°25'41"   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Quitobaquito Spring   | (Pond and Springs) 31°56'39"/113°01'06"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Redrock Canyon Creek  | Tributary Headwaters to confluence with Harshaw Creek at 31°32'35"/110°44'43"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SC        | Rillito Creek         | Tributary Headwaters to confluence with the Santa Cruz River at 32°18'50"/111°03'48"   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SC        | Romero Canyon Creek   | Headwaters to confluence with unnamed tributary at 32°24'30"/110°50'35" 32°24'29"/110°50'39"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| SC        | Romero Canyon Creek   | Below unnamed tributary to confluence with Sutherland Wash at 32°25'52"/110°53'56"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SC        | Rose Canyon Creek     | Tributary Headwaters to Rose Canyon Lake at 32°23'40"/110°43'01"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |



| Watershed | Surface Waters                      | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)  | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|-------------------------------------|--|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                                     |  |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| SC        | Rose Canyon Lake                    | 32°23'13"/110°42'38"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Ruby Lakes                          | Near the town of Ruby at 31°26'28.5"/111°14'19.2" 31°26'29"/111°14'22"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Sabino Canyon Creek                 | Headwaters to confluence with unnamed tributary at 32°23'28"/110°47'00" 32°23'28"/110°47'03"   |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          |     |
| SC        | Sabino Canyon Creek                 | Below unnamed tributary to confluence with Tanque Verde River at 32°45'40"/110°49'30"  |               |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          |     |
| SC        | Salero Ranch Tank                   | 31°25'42"/110°53'22" 31°35'43"/110°53'25"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Santa Cruz River                    | Headwaters to the International Boundary at 31°19'58"/110°35'48" U.S./Mexico border  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| SC        | Santa Cruz River                    | International Boundary U.S./Mexico border to the Nogales International WWTP outfall at 31°27'24"/110°58'05" 31°27'25"/110°58'04"                         |               |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| SC        | Santa Cruz River (EDW)              | Nogales International WWTP outfall to the Tubac Bridge at 31°36'25"/110°02'00"   |               |                      |      |      | A&Wedw |              | PBC |     |    |              | AgL |
| SC        | Santa Cruz River                    | The Tubac Bridge to Roger Road WWTP Agua Nueva WRF outfall at 32°17'04"/111°01'45"   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SC        | Santa Cruz River (EDW)              | Roger Road WWTP Agua Nueva WRF outfall to Baumgartner Road at 32°35'37"/111°28'08"   |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| SC        | Santa Cruz River, West Branch       | Headwaters to the confluence with Santa Cruz River   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SC        | Santa Cruz Wash                     | Baumgartner Road to the Ak Chin Indian Reservation boundary  |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SC        | Santa Cruz Wash, West Branch        | Tributary to the Santa Cruz Wash at 32°12'07"/110°59'20"   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SC        | Santa Cruz Wash, North Branch       | Tributary to the Santa Cruz Wash at 32°55'55"/111°53'40" Headwaters to City of Casa Grande WRF outfall at 32°54'57"/111°47'13"                           |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Santa Cruz Wash, North Branch (EDW) | City of Casa Grande WRF outfall at 32°54'57"/111°47'13" to 1 km downstream at 32°54'49"/111°47'48"   |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| SC        | Santa Rosa Wash                     | Below Tohono O'odham Indian Reservation to the Ak Chin Indian Reservation  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SC        | Santa Rosa Wash (EDW)               | Palo Verde Utilities WWTP outfall at 33°04'20"/112°01'47" to the Gila River Indian Reservation   |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| SC        | Soldier Lake                        | 32°25'34"/110°44'41" 32°25'34"/110°44'43"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Sonoita Creek                       | Headwaters to the Town of Patagonia WWTP outfall at 31°32'45"/110°45'30" 31°32'25"/110°45'31"  |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SC        | Sonoita Creek (EDW)                 | Town of Patagonia WWTP outfall to permanent groundwater upwelling point approximately 1600 feet downstream of outfall                                    |               |                      |      |      | A&Wedw |              | PBC |     |    |              | AgL |
| SC        | Sonoita Creek                       | Below 1600 feet downstream of Town of Patagonia WWTP outfall groundwater upwelling point to confluence with the Santa Cruz River at 31°29'43"/110°58'37" |               |                      |      | A&Ww |        | FBC          |     |     | FC | AgI          | AgL |
| SC        | Split Tank                          | 31°28'15"/111°05'15" 31°28'11"/111°05'12"  |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Sutherland Wash                     | Tributary Headwaters to confluence with Cañada del Oro at 32°25'05"/110°55'26"   |               |                      |      | A&Ww |        | FBC          |     |     | FC |              |     |
| SC        | Sycamore Canyon                     | Headwaters to 32°21'60" / 110°44'48"   |               |                      | A&Wc |      |        | FBC          |     |     | FC |              |     |
| SC        | Sycamore Canyon                     | From 32°21'36" / 110°45'24" 32°21'60" / 110°44'48" to Sycamore Reservoir   |               |                      |      | A&Ww |        | FBC          |     |     | FC |              |     |
| SC        | Sycamore Canyon Creek               | Headwaters to the U.S./Mexico border at 31°22'48"/111°13'19"   |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Sycamore Reservoir                  | 32°20'57"/110°44'52" 32°20'57"/110°47'38"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SC        | Tanque Verde Creek                  | Headwaters to Houghton Road at 32°14'13"/110°46'04"  |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Tanque Verde Creek                  | Below Houghton Road to confluence with Rillito Creek at 32°16'08"/110°52'30"   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SC        | The Lake Tank                       | 32°54'14"/111°04'14"   |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Three R Canyon                      | Headwaters to 31°28'35"/110°46'19" 31°28'26"/110°46'04"  |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SC        | Three R Canyon                      | From 31°28'35"/110°46'19" 31°28'26"/110°46'04" to 31°28'27"/110°47'12" 31°28'28"/110°47'15"  |               |                      |      | A&Ww |        | FBC          |     |     | FC |              | AgL |
| SC        | Three R Canyon                      | From 31°28'27"/110°47'12" 31°28'28"/110°47'15" to confluence with Sonoita Creek at 31°29'56"/110°48'54"  |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |

| Watershed | Surface Waters             | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)   | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |     |
|-----------|----------------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|-----|
|           |                            |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |     |
| SC        | Tinaja Wash                | Headwaters to confluence with the Santa Cruz River at 31°32'58.4"/111°02'45.7"  |               |                      |      | A&We |        |              |     | PBC |    |              |     | AgL |
| SC        | Unnamed Wash (EDW)         | Oracle Sanitary District WWTP outfall at 32°36'54"/110°48'02" to 5 km downstream  |               |                      |      |      | A&Wedw |              |     | PBC |    |              |     |     |
| SC        | Unnamed Wash               | 5 km downstream of the Oracle Sanitary District WWTP outfall  |               |                      |      | A&We |        |              |     | PBC |    |              |     |     |
| SC        | Unnamed Wash (EDW)         | Arizona City Sanitary District WWTP outfall at 32°45'47"/111°44'20" 32°45'43"/111°44'24" to confluence with Santa Cruz Wash at 35°45'45"/111°46'42" |               |                      |      |      | A&Wedw |              |     | PBC |    |              |     |     |
| SC        | Unnamed Wash (EDW)         | Saddlebrook WWTP outfall at 32°32'00"/110°52'59" 32°32'00"/110°53'01" to confluence with Cañada del Oro at 32°30'20"/110°52'27"                     |               |                      |      |      | A&Wedw |              |     | PBC |    |              |     |     |
| SC        | Vekol Wash                 | Those reaches not located on the Ak-Chin, Tohono O'odham and Gila River Indian Reservations   |               |                      |      | A&We |        |              |     | PBC |    |              |     |     |
| SC        | Wakefield Canyon           | Headwaters to confluence with unnamed tributary 31°52'47"/110°26'25" at 31°52'48"/110°26'27"  |               | A&Wc                 |      |      |        |              | FBC |     |    | FC           |     | AgL |
| SC        | Wakefield Canyon           | Below confluence with unnamed tributary to confluence with Cienega Creek at 31°52'47.5"/110°26'25"  |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SC        | Wild Burro Canyon          | Headwaters to confluence with unnamed tributary at 32°28'36"/111°05'18" 32°27'43"/111°05'47"  |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SC        | Wild Burro Canyon          | Below confluence with unnamed tributary to confluence with Santa Cruz River at 32°28'34"/111°05'15.5"   |               |                      |      | A&We |        |              |     | PBC |    |              |     | AgL |
| SC        | Williams Ranch Tanks       | 31°55'15"/110°25'30" 31°55'14"/110°25'31"   |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Abbot Canyon               | Headwaters to confluence with Whitewater Draw at 31°33'32"/109°48'39.6"   |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Aravaipa Creek             | Headwaters to confluence with Stowe Gulch at 32°52'10"/110°22'00"   |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Aravaipa Creek (OAW)       | Stowe Gulch confluence to downstream boundary of Aravaipa Canyon Wilderness Area at 32°54'23"/110°33'40"  |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Aravaipa Creek             | Below downstream boundary of Aravaipa Canyon Wilderness Area to confluence with the San Pedro River at 32°50'20"/110°42'50"                         |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Ash Creek                  | Chiricahua Mountains, near Whitewater Draw at 31°50'28"/109°40'1.2" Headwaters to 31°50'28"/109°40'04"  |               |                      | A&Ww |      |        |              | FBC |     |    | FC           | AgI | AgL |
| SP        | Babocomari River           | Tributary Headwaters to confluence with the San Pedro River at 31°43'19"/110°11'35"   |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Bass Canyon Creek          | Headwaters to confluence with unnamed tributary at 32°26'06"/110°13'18" 32°26'06"/110°13'22"  |               | A&Wc                 |      |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Bass Canyon Creek          | Below confluence with unnamed tributary to confluence with Hot Springs Canyon Creek at 32°20'53"/110°15'14"   |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Bass Canyon Tank           | 32°24'00"/110°13'00"  |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Bear Creek                 | Headwaters to U.S./Mexico border at 31°19'59"/110°22'58.5"  |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Big Creek                  | Tributary Headwaters to confluence with Pitchfork Canyon at 32°35'24"/109°57'07"  |               | A&Wc                 |      |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Blacktail Pond             | Fort Huachuca Military Reservation at 31°24'13"/110°17'21" 31°24'13"/110°17'23"   |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     |     |
| SP        | Blackwater Draw            | Headwaters to the U.S./Mexico border at 31°20'02"/109°15'36" in the San Bernardino Valley   |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Booger Canyon Creek        | Tributary Headwaters to confluence with Aravaipa Creek at 32°54'54"/110°29'35"  |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Buck Canyon                | Headwaters to confluence with Buck Creek Tank at 31°33'06"/109°52'43"   |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Buck Canyon                | Below Buck Creek Tank to confluence with Dry Creek at 31°31'08"/109°18'25"  |               |                      |      | A&We |        |              |     | PBC |    |              |     | AgL |
| SP        | Buehman Canyon Creek (OAW) | Headwaters to confluence with unnamed tributary at 32°24'31.5"/110°32'08" 32°24'54"/110°32'10"  |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Buehman Canyon Creek       | Below confluence with unnamed tributary at 32°25'41"/110°29'53" to confluence with San Pedro River  |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Bull Tank                  | 32°31'45"/110°12'45" 32°31'13"/110°12'52"   |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Bullock Canyon             | Tributary Headwaters to confluence with Buehman Canyon at 32°23'06"/110°33'04"  |               |                      | A&Ww |      |        |              | FBC |     |    | FC           |     | AgL |
| SP        | Carr Canyon Creek          | Headwaters to confluence with unnamed tributary at 31°27'00"/110°15'45" 31°27'01"/110°15'48"  |               | A&Wc                 |      |      |        |              | FBC |     |    | FC           |     | AgL |



| Watershed | Surface Waters               | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)                              | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|------------------------------|--|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                              |  |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| SP        | Carr Canyon Creek            | Below confluence with unnamed tributary to confluence with the San Pedro River at 34°30'32"/110°07'37"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Copper Creek                 | Headwaters to confluence with Prospect Canyon at 32°44'48"/110°30'18"                                    |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Copper Creek                 | Below confluence with Prospect Canyon to confluence with the San Pedro River at 32°41'17"/110°36'43"     |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SP        | Deer Creek                   | Headwaters to confluence with unnamed tributary at 32°59'56"/110°20'09" 32°59'57"/110°20'11"             |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Deer Creek                   | Below confluence with unnamed tributary to confluence with Aravaipa Creek at 32°54'25"/110°28'01"        |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Dixie Canyon                 | Headwaters to confluence with Mexican Canyon at 31°29'02"/109°45'04" in the Mule Mountains               |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Double R Canyon Creek        | Tributary Headwaters to confluence with Bass Canyon at 32°21'06"/110°14'23"                              |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SP        | Dry Canyon                   | Headwaters to confluence with Abbot Canyon at 31°23'25"/109°43'23" in the Mule Mountains                 |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | East Gravel Pit Pond         | Fort Huachuca Military Reservation at 31°30'54"/110°19'42" 31°30'54"/110°19'44"                          | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SP        | Espirito Canyon Creek        | Tributary Headwaters to confluence with Soza Wash at 32°18'52"/110°28'35"                                |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Fly Pond                     | Fort Huachuca Military Reservation at 31°22'52"/110°21'14" 31°32'53"/110°21'16"                          |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SP        | Fourmile Canyon Creek        | Tributary Headwaters to confluence with Aravaipa Creek at 32°50'14"/110°20'08"                           |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Fourmile Canyon, Left Prong  | Headwaters to confluence with unnamed tributary at 32°43'14"/110°23'43" 32°43'15"/110°23'46"             |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Fourmile Canyon, Left Prong  | Below confluence with unnamed tributary to confluence with Fourmile Canyon Creek at 32°47'33"/110°22'36" |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Fourmile Canyon, Right Prong | Tributary Headwaters to confluence with Fourmile Canyon at 32°47'33"/110°22'36"                          |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Gadwell Canyon               | Headwaters to confluence with Whitewater Draw at 31°26'50"/109°43'41" in the Mule Mountains              |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Garden Canyon Creek          | Headwaters to confluence with unnamed tributary at 31°29'00"/110°19'42" 31°29'01"/110°19'44"             |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          |     |
| SP        | Garden Canyon Creek          | Below confluence with unnamed tributary to confluence with the San Pedro River at 31°41'46"/110°12'40"   |               |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          |     |
| SP        | Glance Creek                 | Headwaters to confluence with Whitewater Draw at 31°27'04"/109°42'29" in the Mule Mountains              |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Gold Gulch                   | Headwaters to U.S./Mexico border at 31°20'10"/109°50'06" in the Mule Mountains                           |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Golf Course Pond             | Fort Huachuca Military Reservation at 31°32'14"/110°18'52"   | Sedimentary   |                      | A&Ww |      |        |              | PBC |     | FC |              |     |
| SP        | Goudy Canyon Creek           | Headwaters to confluence with Grant Creek at 32°35'13"/109°58'37" in the Pinaleno Mountains              |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Grant Creek                  | Headwaters to confluence with unnamed tributary at 32°38'09.5"/109°56'35" 32°38'10"/109°56'37"           |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              | AgL |
| SP        | Grant Creek                  | Below confluence with unnamed tributary to terminus near Willcox Playa at 32°33'43"/109°58'55"           |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Gravel Pit Pond              | Fort Huachuca Military Reservation at 31°30'51"/110°19'47.6" 31°30'52"/110°19'49"                        | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SP        | Greenbrush Draw              | From Mexican U.S./Mexico border to confluence with San Pedro River                                       |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SP        | Hidden Pond                  | Fort Huachuca Military Reservation at 32°30'30"/109°22'17"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SP        | High Creek                   | Headwaters to confluence with unnamed tributary at 32°33'07"/110°14'40" 32°33'08"/110°14'42"             |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SP        | High Creek                   | Below confluence with unnamed tributary to terminus near Willcox Playa at 32°31'41"/109°02'38"           |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Horse Camp Canyon Creek      | Tributary Headwaters to confluence with Aravaipa Creek at 32°55'07"/110°30'56"                           |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Hot Springs Canyon Creek     | Tributary Headwaters to confluence with the San Pedro River at 32°17'24"/110°22'55"                      |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Johnson Canyon               | Headwaters to Whitewater Draw at 31°32'56"/109°46'19" in the Chiricahua Mountains 31°32'46"/109°43'32"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Lake Cochise (EDW)           | South of Twin Lakes Municipal Golf Course at 32°13'58"/109°49'25" 32°13'50"/109°49'27"                   | EDW           |                      |      |      | A&Wedw |              | PBC |     |    |              |     |

| Watershed | Surface Waters             | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)   | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|----------------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                            |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| SP        | Leslie Canyon Creek        | Headwaters to confluence with Whitewater Draw at 34°32'10"/109°40'12" in the Chiricahua Mountains   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Lower Garden Canyon Pond   | Fort Huachuca Military Reservation at 31°29'39"/110°18'34"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SP        | Mexican Canyon             | Headwaters to Whitewater Draw at 34°29'43"/109°46'30" in the Mule Mountains confluence with Dixie Canyon  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Miller Canyon Creek        | Headwaters to Broken Arrow Ranch Road at 34°25'33"/110°15'04"   |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              | AgL |
| SP        | Miller Canyon Creek        | Below Broken Arrow Ranch Road to confluence with the San Pedro River at 34°29'56"/110°07'37"  |               |                      | A&Ww |      |        | FBC          |     | DWS | FC |              | AgL |
| SP        | Moonshine Creek            | Tributary Headwaters to confluence with Post Creek at 32°40'52"/109°54'25"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Mule Gulch                 | Headwaters to just above the Lavender Pit at 34°26'23.7"/109°45'36.7" 31°26'11"/109°54'02"  |               |                      | A&Ww |      |        |              |     | PBC | FC |              |     |
| SP        | Mule Gulch                 | Just above the The Lavender Pit to the Bisbee WWTP outfall at 34°25'30"/109°52'40" Highway 80 bridge at 31°26'30"/109°49'28"                                    |               |                      |      | A&We |        |              |     | PBC |    |              |     |
| SP        | Mule Gulch (EDW)           | Below the Bisbee WWTP outfall to the Highway 80 bridge at 31°26'30"/109°49'28"  |               |                      |      |      | A&Wedw |              |     | PBC |    |              |     |
| SP        | Mule Gulch                 | Below the Highway 80 bridge to confluence with Whitewater Draw at 31°28'03"/109°42'21"  |               |                      |      | A&We |        |              |     | PBC |    |              | AgL |
| SP        | Oak Grove Creek Canyon     | Tributary Headwaters to confluence with Turkey Creek at 32°45'32"/110°14'06"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Officers Club Pond         | Fort Huachuca Military Reservation at 34°32'54"/110°21'35" 31°32'51"/110°21'37"   | Sedimentary   |                      | A&Ww |      |        |              |     | PBC | FC |              |     |
| SP        | Paige Canyon Creek         | Tributary Headwaters to confluence with the San Pedro River at 32°47'10"/110°22'48"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Parsons Canyon Creek       | Tributary Headwaters to confluence with Aravaipa Creek at 32°54'11"/110°27'40"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Pinery Creek               | Headwaters to State Highway 181 at 32°00'24"/109°25'16"   |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              | AgL |
| SP        | Pinery Creek               | Below State Highway 181 to terminus near Willcox Playa at 32°01'05"/109°34'23"  |               |                      | A&Ww |      |        | FBC          |     | DWS | FC |              | AgL |
| SP        | Post Creek                 | Tributary Headwaters to confluence with Grant Creek at 32°40'05"/109°54'58"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SP        | Ramsey Canyon Creek        | Headwaters to Forest Service Road #110 at 34°27'44"/110°17'27" 31°27'44"/110°17'30"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SP        | Ramsey Canyon Creek        | Below Forest Service Road #110 to confluence with Carr Wash at 34°30'04"/110°09'11"   |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| SP        | Rattlesnake Canyon         | Headwaters to confluence with Brush Canyon at 32°38'27"/110°21'24"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Rattlesnake Canyon         | Below confluence with Brush Canyon to confluence with Aravaipa Creek at 32°48'00"/110°17'32"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Redfield Canyon Creek      | Headwaters to confluence with unnamed tributary at 32°33'39"/110°18'41" 32°33'40"/110°18'42"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Redfield Canyon Creek      | Below confluence with unnamed tributary to confluence with the San Pedro River at 32°09'32"/110°17'56"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Riggs Flat Lake            | 32°42'27"/109°57'51" 32°42'28"/109°57'53"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SP        | Rock Creek                 | Tributary Headwaters to confluence with Turkey Creek at 34°53'20"/109°30'00" Alc  |               |                      |      |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Rucker Canyon Creek        | Headwaters to confluence with Whitewater Draw at 34°44'46"/109°26'06"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Rucker Canyon Lake         | 31°46'46"/109°18'30"  | Shallow       | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SP        | San Pedro River            | U.S./ Mexico Border to Redington at 32°25'39"/110°29'33"  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| SP        | San Pedro River            | From Redington to confluence with the Gila River at 32°59'02"/110°46'55"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Snow Flat Lake             | 32°39'09"/109°51'52" 32°39'10"/109°51'54"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SP        | Soldier Creek              | Tributary Headwaters to confluence with Post Creek at 32°40'52"/109°54'40" 32°40'50"/109°54'41"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Soldier Creek (EDW)        | Fort Huachuca WWTP outfall to unnamed wash at 34°24'48"/110°18'35" to confluence with Soldier Creek to confluence with Babocomari River at 34°39'46"/110°17'24" |               |                      |      |      | A&Wedw |              |     | PBC |    |              |     |
| SP        | Soto Canyon                | Headwaters to confluence with Dixie Canyon at 34°29'46"/109°55'37" in the Mule Mountains  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Swamp Springs Canyon Creek | Tributary Headwaters to confluence with Redfield Canyon at 32°26'40"/110°19'30"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Sycamore Pond I            | Fort Huachuca Military Reservation at 34°35'42"/110°26'09" 31°35'12"/110°26'11"   | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |



| Watershed | Surface Waters                       | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)                         | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|--------------------------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                                      |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| SP        | Sycamore Pond II                     | Fort Huachuca Military Reservation at 31°24'38.6"/110°26'07" 31°34'39"/110°26'10"                   | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SP        | Turkey Creek                         | Tributary Headwaters to confluence with Aravaipa Creek at 32°53'49"/110°26'35"                      |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Turkey Creek                         | Headwaters to confluence with Rock Creek at 31°53'20"/109°20'00"                                    |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SP        | Turkey Creek                         | Below confluence with Rock Creek to terminus near Willcox Playa at 31°59'56"/109°49'01"             |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| SP        | Unnamed Wash (EDW)                   | Mt. Lemmon WWTP outfall at 32°26'51"/110°45'08" to 0.25 km downstream                               |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| SP        | Virgus Canyon Creek                  | Tributary Headwaters to confluence with Aravaipa Creek at 32°54'58"/110°31'46"                      |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Walnut Gulch                         | Headwaters to Tombstone WWTP outfall at 31°43'47"/110°04'06"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SP        | Walnut Gulch (EDW)                   | Tombstone WWTP outfall to the confluence of with Tombstone Wash at 31°44'02"/110°05'58"             |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| SP        | Walnut Gulch                         | Tombstone Wash to confluence with San Pedro River at 31°43'49"/110°11'35"                           |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SP        | Ward Canyon Creek                    | Tributary Headwaters to confluence with Turkey Creek at 31°51'47"/109°20'13"                        |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Whitewater Draw                      | Headwaters to confluence with unnamed tributary at 31°20'26"/109°34'46" 31°20'36"/109°43'48"        |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SP        | Whitewater Draw                      | Below confluence with unnamed tributary to U.S./Mexico border at 31°20'02"/109°34'44"               |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Willcox Playa                        | From 32°08'19"/109°50'59" in the Sulphur Springs Valley   | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SP        | Woodcutters Pond                     | Fort Huachuca Military Reservation at 31°21'11.5"/110°20'15" 31°30'09"/110°20'12"                   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SR        | Ackre (Judge) Lake                   | 33°37'00"/109°20'37" 33°37'01"/109°20'40"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Apache Lake                          | 33°25'30"/111°20'30" 33°37'23"/111°12'26"   | Deep          |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| SR        | Barnhardt Creek                      | Headwaters to confluence with unnamed tributary at 34°05'36"/111°26'38" 34°05'37"/111°26'40"        |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Barnhardt Creek                      | Below confluence with unnamed tributary to confluence with Rye Creek at 34°06'58"/111°21'32"        |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Basin Lake                           | 33°55'00"/109°26'05" 33°55'00"/109°26'09"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Bear Creek                           | Tributary Headwaters to confluence with the Black River at 33°43'26"/109°22'30"                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Bear Wallow Creek (OAW)              | Tributary Headwaters to confluence with the Black River at 33°37'44"/109°31'23"                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Bear Wallow Creek, North Fork (OAW)  | Tributary Headwaters to confluence with Bear Wallow Creek at 33°35'53"/109°26'49"                   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Bear Wallow Creek, South Fork (OAW)  | Tributary Headwaters to confluence with Bear Wallow Creek at 33°35'53"/109°26'49"                   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Beaver Creek                         | Tributary Headwaters to the confluence with Black River at 33°42'44"/109°21'07"                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Big Lake                             | 33°52'45"/109°25'00" 33°52'36"/109°25'33"   | Igneous       | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| SR        | Black River                          | Tributary Headwaters to the confluence with Salt River at 33°44'20"/110°13'30"                      |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| SR        | Black River, East Fork               | Tributary From 33°51'19"/109°18'54" to confluence with the Black River at 33°45'07"/109°21'43"      |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| SR        | Black River, North Fork of East Fork | Tributary Headwaters to confluence with Black River, East Fork at 33°56'17"/109°24'11"              |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| SR        | Black River, West Fork               | Tributary Headwaters to confluence with the Black River at 33°45'07"/109°21'43"                     |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| SR        | Bloody Tanks Wash                    | Headwaters to Schultze Ranch at 33°22'29"/110°54'29" Road   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SR        | Bloody Tanks Wash                    | Schultze Ranch Road to confluence with Miami Wash at 33°25'05"/110°50'02"                           |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SR        | Boggy Creek                          | Tributary to the Black River Headwaters to confluence with Centerfire Creek at 33°44'31"/109°26'20" |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Boneyard Creek                       | Tributary Headwaters to confluence with Black River, East Fork at 33°51'22"/109°18'50"              |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Boulder Creek                        | Tributary Headwaters to confluence with LaBarge Creek at 33°30'54"/111°24'40"                       |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SR        | Campaign Creek                       | Tributary Headwaters to Roosevelt Lake at 33°37'30"/111°00'04"                                      |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Canyon Creek                         | Headwaters to the White Mountain Apache Reservation at 33°57'53"/110°47'00" boundary                |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |

| Watershed | Surface Waters           | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)                                    | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|--------------------------|--|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                          |  |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| SR        | Canyon Lake              | 33°23'45"/111°26'30" 33°32'44"/111°26'19"  | Deep          |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| SR        | Centerfire Creek         | Tributary Headwaters to confluence with the Black River at 33°42'47"/109°26'47"                                |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Chambers Draw Creek      | Tributary Headwaters to confluence with the North Fork of the East Fork of Black River at 33°53'03"/109°20'13" |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Cherry Creek             | Headwaters to confluence with unnamed tributary at 34°05'09"/110°56'04" 34°05'09"/110°56'07"                   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Cherry Creek             | Below unnamed tributary to confluence with the Salt River at 33°40'46"/110°48'03.6"                            |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Christopher Creek        | Tributary Headwaters to confluence with Tonto Creek at 34°18'36"/111°04'23"                                    |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Cold Spring Canyon Creek | Headwaters to confluence with unnamed tributary at 33°49'50"/110°52'55" 33°49'50"/110°52'58"                   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Cold Spring Canyon Creek | Below confluence with unnamed tributary to confluence with Cherry Creek at 33°50'06"/110°51'28.8"              |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Conklin Creek            | Tributary Headwaters to confluence with the Black River at 33°41'49"/109°27'36"                                |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Coon Creek               | Headwaters to confluence with unnamed tributary at 33°46'42"/110°54'25" 33°46'41"/110°54'26"                   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Coon Creek               | Below confluence with unnamed tributary to confluence with Salt River at 33°29'47"/110°50'24"                  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Corduoy Creek            | Tributary Headwaters to confluence with Fish Creek at 33°59'46"/110°17'31"                                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Coyote Creek             | Tributary Headwaters to confluence with the Black River, East Fork at 33°50'53"/109°18'18"                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Crescent Lake            | 33°54'36"/109°25'08" 33°54'38"/109°25'18"  | Shallow       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Deer Creek               | Tributary Headwaters to confluence with the Black River, East Fork at 33°48'07"/109°19'26"                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Del Shay Creek           | Tributary Headwaters to confluence with Gun Creek at 34°00'22"/111°15'43"                                      |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Devils Chasm Creek       | Headwaters to confluence with unnamed tributary at 33°48'46"/110°52'33" 33°48'46"/110°52'35"                   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Devils Chasm Creek       | Below confluence with unnamed tributary to confluence with Cherry Creek at 33°49'34"/110°54'18"                |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Dipping Vat Reservoir    | 33°55'54"/109°25'15" 33°55'47"/109°25'31"  | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Double Cienega Creek     | Tributary Headwaters to confluence with Fish Creek at 33°38'35"/109°22'08"                                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Fish Creek               | Tributary Headwaters to confluence with the Black River at 33°42'40"/109°26'31"                                |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Fish Creek               | Tributary Headwaters to confluence with the Salt River at 33°34'37"/111°21'11"                                 |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SR        | Gold Creek               | Headwaters to confluence with unnamed tributary at 33°59'47"/111°25'07" 33°59'47"/111°25'10"                   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Gold Creek               | Below confluence with unnamed tributary to confluence with Tonto Creek at 33°58'55"/111°18'03.6"               |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Gordon Canyon Creek      | Headwaters to confluence with Hog Canyon at 34°13'49"/111°00'27"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Gordon Canyon Creek      | Below confluence with Hog Canyon to confluence with Haigler Creek at 34°11'56"/111°03'21"                      |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Greenback Creek          | Tributary Headwaters to confluence with Tonto Creek at 33°47'38"/111°15'22"                                    |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Haigler Creek            | Headwaters to confluence with unnamed tributary at 34°12'23.5"/111°00'11" 34°12'23"/111°00'15"                 |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Haigler Creek            | Below confluence with unnamed tributary to confluence with Tonto Creek at 34°12'54"/111°05'45.6"               |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Hannagan Creek           | Tributary Headwaters to confluence with Beaver Creek at 33°42'07"/109°14'46"                                   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Hay Creek (OAW)          | Tributary Headwaters to confluence with the Black River, West Fork at 33°48'32"/109°25'46"                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Home Creek               | Tributary Headwaters to confluence with the Black River, West Fork at 33°45'43"/109°22'48"                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Horse Creek              | Tributary Headwaters to confluence with the Black River, West Fork at 33°45'41"/109°21'50"                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Horse Camp Creek         | Headwaters to confluence with unnamed tributary at 33°53'53"/110°50'10" 33°54'00"/110°50'07"                   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Horse Camp Creek         | Below confluence with unnamed tributary to confluence with Cherry Creek at 33°52'08"/110°52'33.6"              |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |



| Watershed | Surface Waters      | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)   | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|---------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                     |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| SR        | Horton Creek        | Tributary Headwaters to confluence with Tonto Creek at 34°20'24"/41°30'54"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Houston Creek       | Tributary Headwaters to confluence with Tonto Creek at 34°07'30"/41°15'25"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Hunter Creek        | Tributary Headwaters to confluence with Christopher Creek at 34°18'29"/41°30'15"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | LaBarge Creek       | Headwaters to Canyon Lake at 33°41'34"/41°25'15.6"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SR        | Lake Sierra Blanca  | 33°52'25"/109°16'05"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Miami Wash          | Tributary Headwaters to confluence with Pinal Creek at 33°27'04"/41°50'17"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SR        | Mule Creek          | Tributary Headwaters to confluence with Canyon Creek at 34°16'34"/41°48'00"   |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| SR        | Open Draw Creek     | Tributary Headwaters to confluence with the East Fork of Black River at 33°49'52"/409°18'18"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | P B Creek           | Headwaters to Forest Service Road #203 at 33°57'08"/41°56'09" 33°57'08"/110°56'12"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | P B Creek           | Below Forest Service Road #203 to Cherry Creek at 33°55'34"/41°54'18"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Pinal Creek         | Headwaters to confluence with unnamed EDW wash (Globe WWTP) at 33°25'29"/41°48'18" 33°25'29"/110°48'20"   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SR        | Pinal Creek (EDW)   | Globe WWTP outfall on unnamed wash at 33°25'46"/41°47'28" to confluence with Pinal Creek to Radium at 33°26'54"/41°49'02" Confluence with unnamed EDW wash (Globe WWTP) to 33°26'55"/110°49'25" |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| SR        | Pinal Creek         | Radium From 33°26'55"/110°49'25" to lower Lower Pinal Creek water treatment plant discharge at 33°22'05"/41°52'17" outfall #001 at 33°31'04"/110°51'55"   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| SR        | Pinal Creek         | From Lower Pinal Creek WTP outfall #1 at 33°31'56"/41°52'14" to See Ranch Crossing at 33°32'25"/110°52'28"  |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| SR        | Pinal Creek         | From See Ranch Crossing to 33°35'33"/41°54'33" confluence with unnamed tributary at 33°35'28"/110°54'31"  |               |                      | A&Ww |      |        | FBC          |     |     |    |              |     |
| SR        | Pinal Creek         | From 33°35'33"/41°54'33" unnamed tributary to confluence with Salt River  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SR        | Pine Creek          | Tributary Headwaters to confluence with the Salt River at 33°36'04"/41°42'26"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SR        | Pinto Creek         | Headwaters to confluence with unnamed tributary at 33°19'27"/41°54'56" 33°19'27"/110°54'58"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Pinto Creek         | Below confluence with unnamed tributary to Roosevelt Lake at 33°39'11"/41°00'43"  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Pool Corral Lake    | 33°30'38"/110°00'15"  | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Pueblo Canyon Creek | Headwaters to confluence with unnamed tributary at 33°50'30"/41°53'13" 33°50'23"/110°51'37"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Pueblo Canyon Creek | Below confluence with unnamed tributary to confluence with Cherry Creek at 33°52'30"/41°52'55"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Reevis Creek        | Tributary Headwaters to confluence with Pine Creek at 33°33'07"/41°09'40"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| SR        | Reservation Creek   | Tributary Headwaters to confluence with the Black River at 33°41'42"/409°28'26"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Reynolds Creek      | Tributary Headwaters to confluence with Workman Creek at 33°52'16"/41°30'14"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Roosevelt Lake      | 33°40'45"/41°09'15" 33°52'17"/111°00'17"  | Deep          |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| SR        | Russell Gulch       | From headwaters to confluence with Miami Wash   |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| SR        | Rye Creek           | Tributary Headwaters to confluence with Tonto Creek at 34°01'41"/41°17'06"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Saguaro Lake        | 33°34'00"/41°32'06" 33°33'44"/111°30'55"  | Deep          |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| SR        | Salome Creek        | Tributary Headwaters to confluence with the Salt River at 33°41'56"/41°05'46"   |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Salt House Lake     | 33°57'04"/109°20'11"  | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Salt River          | Theodore Roosevelt Dam to 2 km below Granite Reef Dam   |               |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| SR        | Slate Creek         | Tributary Headwaters to confluence with Tonto Creek at 33°56'24"/41°18'28"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Snake Creek (OAW)   | Tributary Headwaters to confluence with the Black River at 33°40'30"/409°28'55"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |

| Watershed | Surface Waters         | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)                             | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|------------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                        |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| SR        | Spring Creek           | Tributary Headwaters to confluence with Tonto Creek at 34°09'54"/111°10'08"                             |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Stinky Creek (OAW)     | Tributary Headwaters to confluence with the Black River, West Fork at 33°51'22"/109°27'07"              |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Thomas Creek           | Tributary Headwaters to confluence with Beaver Creek at 33°42'29"/109°15'11"                            |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Thompson Creek         | Tributary Headwaters to confluence with the West Fork of the Black River at 33°53'24"/109°28'48"        |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Tonto Creek            | Headwaters to confluence with unnamed tributary at 34°18'10"/111°04'14" 34°18'11"/111°04'18"            |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Tonto Creek            | Below confluence with unnamed tributary to Roosevelt Lake at 33°45'14"/111°14'17"                       |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Turkey Creek           | Tributary Headwaters to confluence with Rock Creek at 33°58'30"/111°06'47"                              |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| SR        | Unnamed Wash (EDW)     | Cobre Valley Plaza WWTP at 32°24'56"/110°49'43" to confluence with Russell Gulch                        |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| SR        | Wildcat Creek          | Tributary Headwaters to confluence with Centerfire Creek at 33°43'41"/109°26'28"                        |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Willow Creek           | Tributary Headwaters to confluence with Beaver Creek at 33°43'52"/109°18'04"                            |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| SR        | Workman Creek          | Headwaters to confluence with Reynolds Creek at 33°52'17"/111°00'14.5"                                  |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| SR        | Workman Creek          | Below confluence with Reynolds Creek to confluence with Salome Creek at 32°52'37"/111°02'20"            |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Apache Creek           | Tributary Headwaters to confluence with the Gila River at 32°52'08"/109°11'53"                          |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Ash Creek              | Headwaters to confluence with unnamed tributary at 32°45'37"/109°52'22" 32°46'15"/109°51'45"            |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Ash Creek              | Below confluence with unnamed tributary to confluence with the Gila River at 32°53'35"/109°47'34.8"     |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Bennett Wash (EDW)     | ADOC Safford WWTP outfall at 32°50'20"/109°34'44" Headwaters to the Gila River                          |               |                      |      | A&We | A&Wedw |              | PBC |     |    |              |     |
| UG        | Bitter Creek           | Tributary Headwaters to confluence with the Gila River at 32°50'17"/109°10'59"                          |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| UG        | Blue River             | Headwaters to confluence with Strayhorse Creek at 33°29'02"/110°12'12" 33°29'02"/109°12'14"             |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Blue River             | Below confluence with Strayhorse Creek to confluence with San Francisco River at 33°12'36"/109°11'27.6" |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Bonita Creek (OAW)     | San Carlos Indian Reservation boundary to confluence with the Gila River at 32°53'35"/109°28'41"        |               |                      | A&Ww |      |        | FBC          |     | DWS | FC |              | AgL |
| UG        | Buckalou Creek         | Tributary Headwaters to confluence with Castle Creek at 33°43'34"/109°09'07"                            |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Campbell Blue Creek    | Tributary Headwaters to confluence with the Blue River at 33°43'30"/109°02'46"                          |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Castle Creek           | Tributary Headwaters to confluence with Campbell Blue Creek at 33°44'06"/109°08'10"                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Cave Creek (OAW)       | Headwaters to confluence with South Fork Cave Creek at 31°53'04"/109°10'27"                             |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Cave Creek (OAW)       | Below confluence with South Fork Cave Creek to Coronado National Forest boundary                        |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Cave Creek             | Below Coronado National Forest boundary to New Mexico border at 31°58'19"/109°03'00"                    |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Cave Creek, South Fork | Tributary Headwaters to confluence with Cave Creek at 31°53'04"/109°10'27"                              |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Chase Creek            | Headwaters to the Phelps-Dodge Morenci Mine   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Chase Creek            | Below the Phelps-Dodge Morenci Mine to confluence with San Francisco River                              |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| UG        | Chitty Canyon Creek    | Tributary Headwaters to confluence with Salt House Creek at 33°30'32"/109°24'04"                        |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Cima Creek             | Tributary Headwaters to confluence with Cave Creek at 31°52'19"/109°14'02"                              |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Cluff Ranch Pond #1    | 32°48'55"/109°49'15" 32°48'55"/109°50'46"   | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Cluff Ranch Pond #2    | 32°49'15"/109°50'33"  | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Cluff Ranch Pond #3    | 32°48'20"/109°51'43" 32°48'21"/109°51'46"   | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Coleman Creek          | Tributary Headwaters to confluence with Campbell Blue Creek at 33°44'20"/109°09'32"                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |



| Watershed | Surface Waters           | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)  | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|--------------------------|--|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                          |  |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| UG        | Dankworth Ponds Lake     | 32°43'45"/109°42'15" 32°43'13"/109°42'17"  | Sedimentary   | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| UG        | Deadman Canyon Creek     | Headwaters to confluence with unnamed tributary at 32°43'50"/109°49'01" 32°43'50"/109°49'03"                               |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              | AgL |
| UG        | Deadman Canyon Creek     | Below confluence with unnamed tributary to confluence with Graveyard Wash at 32°46'48"/109°44'13"                          |               |                      | A&Ww |      |        | FBC          |     | DWS | FC |              | AgL |
| UG        | Eagle Creek              | Headwaters to confluence with unnamed tributary at 32°23'24"/109°29'35" 33°22'32"/109°29'43"                               |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| UG        | Eagle Creek              | Below confluence with unnamed tributary to Eagle Creek at 32°57'36"/109°24'21.6" confluence with the Gila River            |               |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| UG        | East Eagle Creek         | Tributary Headwaters to confluence with Eagle Creek at 33°29'38"/109°28'05"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | East Turkey Creek        | Headwaters to confluence with unnamed tributary at 31°58'22"/109°12'47" 31°58'22"/109°12'20"                               |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | East Turkey Creek        | Below confluence with unnamed tributary to terminus near San Simon River at 31°59'53"/109°07'37"                           |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | East Whitetail           | Headwaters to terminus near San Simon River at 32°08'52"/109°09'25" in the Chiricahua Mountains                            |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Emigrant Canyon          | Headwaters to terminus near San Simon River at 32°17'02"/109°20'27.6" in the Chiricahua Mountains                          |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Evans Pond #1            | 32°49'15"/109°51'15" 32°49'19"/109°51'12"  | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Evans Pond #2            | 32°49'14"/109°51'09"   | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Fishhook Creek           | Tributary Headwaters to confluence with the Blue River at 33°35'13"/109°40'01"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Foote Creek              | Tributary Headwaters to confluence with the Blue River at 33°35'24"/109°08'49"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Frye Canyon Creek        | Headwaters to Frye Mesa Reservoir at 32°45'09.5"/109°50'02"  |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              | AgL |
| UG        | Frye Canyon Creek        | Below Frye Mesa Reservoir to Highline Canal Headwaters headwaters to terminus near San Simon River at 32°50'10"/109°45'43" |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Frye Mesa Reservoir      | 32°45'13"/109°50'00" 32°45'14"/109°50'02"  | Igneous       | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              |     |
| UG        | Gibson Creek             | Tributary Headwaters to confluence with Marijilda Creek at 32°41'24"/109°48'11"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Gila River               | New Mexico border to the San Carlos Indian Reservation at 33°05'37"/110°03'21" boundary                                    |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Grant Creek              | Tributary Headwaters to confluence with the Blue River at 33°34'16"/109°40'37"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Judd Lake                | 33°51'45"/109°09'15" 33°51'15"/109°09'35"  | Sedimentary   | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| UG        | K P Creek (OAW)          | Tributary Headwaters to confluence with the Blue River at 33°31'44"/109°42'04"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Lanphier Canyon Creek    | Tributary Headwaters to confluence with the Blue River at 33°35'42"/109°07'52"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Little Blue Creek        | Headwaters to confluence with Dutch Blue Creek at 33°24'26.5"/109°09'48"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Little Blue Creek        | Below confluence with Dutch Blue Creek to confluence with Blue Creek at 32°22'30"/109°40'30"                               |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Little Creek             | Tributary Headwaters to confluence with the San Francisco River at 33°49'41"/109°04'26"                                    |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| UG        | Lower George's Reservoir | 33°51'23.5"/109°08'28" 33°51'24"/109°08'30"  | Sedimentary   | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Luna Lake                | 33°49'45"/109°05'45" 33°49'50"/109°05'06"  | Sedimentary   | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Marijilda Creek          | Headwaters to confluence with Gibson Creek at 32°41'22"/109°48'13"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Marijilda Creek          | Below confluence with Gibson Creek to confluence with Stockton Wash at 32°46'30"/109°40'51.6"                              |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Markham Creek            | Tributary Headwaters to confluence with the Gila River at 32°56'17"/109°53'43"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Pigeon Creek             | Tributary Headwaters to confluence with the Blue River at 33°16'08"/109°41'42"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Raspberry Creek          | Tributary Headwaters to confluence with the Blue River at 33°30'07"/109°42'32"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| UG        | Roper Lake               | 32°45'20"/109°42'11" 32°45'23"/109°42'14"  | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| UG        | San Francisco River      | Headwaters to the New Mexico border at 33°49'24.5"/109°02'46"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | San Francisco River      | New Mexico border to confluence with the Gila River at 33°14'25"/109°02'49"  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |

| Watershed | Surface Waters       | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)  | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|----------------------|--|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                      |  |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| UG        | San Simon River      | Tributary Headwaters to confluence with the Gila River at 32°49'52"/109°38'53"   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| UG        | Sheep Tank           | 32°46'15"/109°48'08" 32°46'14"/109°48'09"  | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Smith Pond           | 32°49'09"/109°50'26" 32°49'15"/109°50'36"  | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| UG        | Squaw Creek          | Tributary Headwaters to confluence with Thomas Creek at 33°23'38"/109°12'22"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Stone Creek          | Tributary Headwaters to confluence with the San Francisco River at 33°50'38"/109°02'46"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| UG        | Strayhorse Creek     | Tributary Headwaters to confluence with the Blue River at 33°29'02"/109°12'11"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| UG        | Thomas Creek         | Headwaters to confluence with Rousesock Creek at 33°23'45"/109°13'13"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Thomas Creek         | Below confluence with Rousesock Creek to confluence with Blue River at 33°23'20"/109°11'20"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Tinny Pond           | 33°47'49"/109°04'23" 33°47'49"/109°04'27"  | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Turkey Creek         | Tributary Headwaters to confluence with Campbell Blue Creek at 33°44'10"/109°04'05"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| UG        | Unnamed Wash (EDW)   | ADOC Globe WWTP outfall at 33°24'55"/110°42'35" to the San Carlos Indian Reservation   |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| VR        | American Gulch       | Headwaters to the Northern Gila County Sanitary District WWTP outfall (Payson) at 34°14'05"/111°22'18" 34°14'02"/111°22'14"        |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| VR        | American Gulch (EDW) | Below Northern Gila County Sanitary District WWTP outfall (Payson) to confluence with the East Verde River at 34°14'42"/111°25'08" |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| VR        | Apache Creek         | Tributary Headwaters to confluence with Walnut Creek at 34°55'12"/112°50'42"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Ashbrook Wash        | Headwaters to the Fort McDowell Indian Reservation boundary at 33°36'54"/111°42'06"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| VR        | Aspen Creek          | Tributary Headwaters to confluence with Granite Creek at 34°31'55"/112°28'19"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| VR        | Bar Cross Tank       | 35°00'40"/112°05'34" 35°00'41"/112°05'39"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Barrata Tank         | 35°02'43"/112°24'17" 35°02'43"/112°24'21"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Bartlett Lake        | 33°49'00"/111°37'45" 33°49'52"/111°37'44"  | Deep          |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| VR        | Beaver Creek         | Tributary Headwaters to confluence with the Verde River at 34°34'26"/111°51'14"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Big Chino Wash       | Tributary Headwaters to confluence with Sullivan Lake at 34°52'37"/112°28'37"  |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| VR        | Bitter Creek         | Headwaters to the Jerome WWTP outfall at 34°45'08"/112°06'25" 34°45'12"/112°06'24"   |               |                      |      | A&We |        |              | PBC |     |    |              | AgL |
| VR        | Bitter Creek (EDW)   | Jerome WWTP outfall to the Yavapai Apache Indian Reservation at 34°45'45.5"/112°04'44" boundary                                    |               |                      |      |      | A&Wedw |              | PBC |     |    |              | AgL |
| VR        | Bitter Creek         | Below the Yavapai Apache Indian Reservation boundary to confluence with the Verde River at 34°46'37"/112°02'53"                    |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| VR        | Black Canyon Creek   | Headwaters to confluence with unnamed tributary at 34°39'20"/112°05'05" 34°39'20"/112°05'06"                                       |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Black Canyon Creek   | Below confluence with unnamed tributary to confluence with the Verde River at 34°40'59"/111°57'28.8"                               |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Bonita Creek         | Tributary Headwaters to confluence with Ellison Creek at 34°20'56"/111°14'20"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |
| VR        | Bray Creek           | Tributary Headwaters to confluence with Webber Creek at 34°22'37"/111°20'53"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Camp Creek           | Tributary Headwaters to confluence with the Verde River at 33°45'32"/111°30'14"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Carter Tank          | 34°52'27"/112°57'28"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Cereus Wash          | Headwaters to the Fort McDowell Indian Reservation at 33°24'13"/111°42'28" boundary  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| VR        | Chase Creek          | Tributary Headwaters to confluence with the East Verde River at 34°22'48"/111°16'59"   |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              |     |
| VR        | Clover Creek         | Tributary Headwaters to confluence with headwaters of West Clear Creek at 34°33'04"/111°24'11"                                     |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Coffee Creek         | Tributary Headwaters to confluence with Spring Creek at 34°48'18"/111°55'41"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Colony Wash          | Headwaters to the Fort McDowell Indian Reservation at 33°35'42"/111°42'45" boundary  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| VR        | Dead Horse Lake      | 34°45'00"/112°00'30" 34°45'08"/112°00'42"  | Shallow       |                      | A&Ww |      |        | FBC          |     |     | FC |              |     |
| VR        | Deadman Creek        | Tributary Headwaters to Horseshoe Reservoir at 34°00'00"/111°42'36"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Del Monte Wash       | Headwaters to confluence with City of Cottonwood WWTP outfall 002 at 34°43'57"/112°02'46"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |



| Watershed | Surface Waters             | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)   | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|----------------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                            |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| VR        | Del Monte Wash (EDW)       | City of Cottonwood WWTP outfall 002 at 34°43'57"/112°02'46" to confluence with Verde River  |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| VR        | Del Rio Dam Lake           | 34°48'55"/112°28'00" 34°48'55"/112°28'03"   | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Dry Beaver Creek           | Tributary Headwaters to confluence with Beaver Creek at 34°37'59"/111°49'34"  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| VR        | Dry Creek (EDW)            | Sedona Ventures WWTP outfall at 34°50'45"/111°52'45" 34°50'02"/111°52'17" to confluence with Dry Creek at 34°50'31"/111°52'39" 34°48'12"/111°52'48" |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| VR        | Dude Creek                 | Tributary Headwaters to confluence with the East Verde River at 34°23'06"/111°16'26"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| VR        | East Verde River           | Headwaters to confluence with Ellison Creek at 34°21'40"/111°16'47.5"   |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| VR        | East Verde River           | Below confluence with Ellison Creek to confluence with the Verde River at 34°17'02"/111°40'49"  |               |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| VR        | Ellison Creek              | Tributary Headwaters to confluence with the East Verde River at 34°21'41"/111°16'48"  |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Fossil Creek (OAW)         | Tributary Headwaters to confluence with the Verde River at 34°18'22"/111°40'30"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Fossil Springs (OAW)       | 34°25'24"/111°34'25" 34°25'24"/111°34'27"   |               |                      | A&Ww |      |        | FBC          |     | DWS | FC |              |     |
| VR        | Foxboro Lake               | 34°53'48"/111°40'00" 34°53'42"/111°39'55"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Fry Lake                   | 35°03'45"/111°48'02" 35°03'45"/111°48'04"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Gap Creek                  | Headwaters to confluence with Government Spring at 34°23'23"/111°50'53.5"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Gap Creek                  | Below Government Spring to confluence with the Verde River at 34°24'50"/111°46'51.6"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Garrett Tank               | 35°18'57"/112°42'16" 35°18'57"/112°42'20"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Goldwater Lake, Lower      | 34°29'55"/112°27'18" 34°29'56"/112°27'17"   | Sedimentary   | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              |     |
| VR        | Goldwater Lake, Upper      | 34°29'51"/112°26'55" 34°29'52"/112°26'59"   | Igneous       | A&Wc                 |      |      |        | FBC          |     | DWS | FC |              |     |
| VR        | Granite Basin Lake         | 34°37'01"/112°42'46" 34°37'01"/112°32'58"   | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| VR        | Granite Creek              | Headwaters to Watson Lake at 34°35'45"/112°25'05"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| VR        | Granite Creek              | Below Watson Lake to confluence with the Verde River at 34°52'54"/112°25'05"  |               |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| VR        | Green Valley Lake (EDW)    | 34°13'54"/111°20'45"  | Urban         |                      |      |      | A&Wedw |              | PBC |     | FC |              |     |
| VR        | Heifer Tank                | 35°20'28"/112°32'56" 35°20'27"/112°32'59"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Hell Canyon Tank           | 35°05'00"/112°24'06" 35°04'59"/112°24'07"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Homestead Tank             | 35°21'23"/112°41'32" 35°21'24"/112°41'36"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Horse Park Tank            | 34°58'45"/111°36'29" 34°58'15"/111°36'32"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Horseshoe Reservoir        | 33°59'00"/111°42'30" 34°00'25"/111°43'36"   | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| VR        | Houston Creek              | Tributary Headwaters to confluence with the Verde River at 34°16'55"/111°41'06"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Huffer Tank                | 34°27'46"/111°23'11"  |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | J.D. Dam Lake              | 35°04'01"/112°01'40" 35°04'02"/112°01'48"   | Shallow       | A&Wc                 |      |      |        | FBC          |     |     | FC | AgI          | AgL |
| VR        | Jacks Canyon Wash          | Headwaters to Big Park WWTP outfall at 34°45'32"/111°45'10" 34°45'46"/111°45'51"  |               |                      |      | A&We |        |              | PBC |     |    |              |     |
| VR        | Jacks Canyon Wash (EDW)    | Below Big Park WWTP outfall to confluence with Dry Beaver Creek at 34°44'28"/111°46'01"   |               |                      |      |      | A&Wedw |              | PBC |     |    |              |     |
| VR        | Lime Creek                 | Tributary Headwaters to Horseshoe Reservoir at 33°59'20"/111°44'13"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | McLellan Reservoir         | 35°13'45"/112°17'05" 35°13'09"/112°17'06"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC | AgI          | AgL |
| VR        | Meath Dam Tank             | 35°07'46"/112°27'35" 35°07'52"/112°27'35"   |               |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Mullican Place Tank        | 34°44'16"/111°36'08" 34°44'16"/111°36'10"   | Igneous       |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Oak Creek (OAW)            | Headwaters to confluence with unnamed tributary at 34°57'08.5"/111°45'13" 34°59'15"/111°44'47"  |               | A&Wc                 |      |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| VR        | Oak Creek (OAW)            | Below confluence with unnamed tributary at 34°57'08.5"/111°45'13" to confluence with Verde River  |               |                      | A&Ww |      |        | FBC          |     | DWS | FC | AgI          | AgL |
| VR        | Oak Creek, West Fork (OAW) | Tributary Headwaters to confluence with Oak Creek at 34°59'13"/111°44'46"   |               | A&Wc                 |      |      |        | FBC          |     |     | FC |              | AgL |
| VR        | Odell Lake                 | 34°56'02"/111°37'52" 34°56'5"/111°37'53"  | Igneous       | A&Wc                 |      |      |        | FBC          |     |     | FC |              |     |

| Watershed     | Surface Waters         | Segment Description and Location (Latitude and Longitudes are in NAD 27 83)   | Lake Category          | Aquatic and Wildlife |                     |      |        | Human Health   |     |     |               | Agricultural |                |
|---------------|------------------------|---|------------------------|----------------------|---------------------|------|--------|----------------|-----|-----|---------------|--------------|----------------|
|               |                        |   |                        | A&Wc                 | A&Ww                | A&We | A&Wedw | FBC            | PBC | DWS | FC            | AgI          | AgL            |
| VR            | Peck's Lake            | 34°47'07"/112°02'30" 34°46'51"/112°02'01"   | Shallow                |                      | A&Ww                |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Perkins Tank           | 35°06'42"/112°04'08" 35°06'42"/112°04'12"   | Shallow                | A&Wc                 |                     |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | Pine Creek             | Headwaters to confluence with unnamed tributary at 34°21'51"/111°26'46" 34°21'51"/111°26'49"                          |                        | A&Wc                 |                     |      |        | FBC            |     | DWS | FC            | AgI          | AgL            |
| VR            | Pine Creek             | Below confluence with unnamed tributary to confluence with East Verde River at 34°13'19"/111°29'27.6"                 |                        |                      | A&Ww                |      |        | FBC            |     | DWS | FC            | AgI          | AgL            |
| VR            | Red Creek              | Tributary Headwaters to confluence with the Verde River at 34°09'47"/111°43'42"                                       |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            |              | AgL            |
| <del>VR</del> | <del>Red Lake</del>    | <del>35°12'19"/113°03'55"</del>   | <del>Sedimentary</del> |                      | <del>A&amp;Ww</del> |      |        | <del>FBC</del> |     |     | <del>FC</del> |              | <del>AgL</del> |
| VR            | Reservoir #1           | 35°13'05"/111°50'07" 35°13'5"/111°50'09"  | Igneous                |                      | A&Ww                |      |        | FBC            |     |     | FC            |              |                |
| VR            | Reservoir #2           | 35°13'16"/111°50'36" 35°13'17"/111°50'39"   | Igneous                |                      | A&Ww                |      |        | FBC            |     |     | FC            |              |                |
| VR            | Roundtree Canyon Creek | Tributary Headwaters to confluence with Tangle Creek at 34°09'04"/111°48'18"  |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | Scholze Lake           | 35°11'53"/112°00'31" 35°11'53"/112°00'37"   | Igneous                | A&Wc                 |                     |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | Spring Creek           | Headwaters to confluence with unnamed tributary at 34°57'23.5"/111°57'19" 34°57'23"/111°57'21"                        |                        | A&Wc                 |                     |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Spring Creek           | Below confluence with unnamed tributary at 34°44'38"/111°54'19" to confluence with Oak Creek                          |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Steel Dam Lake         | 35°13'36"/112°24'54" 35°13'36"/112°24'54"   | Igneous                | A&Wc                 |                     |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | Stehr Lake             | 34°21'59"/111°40'00" 34°22'01"/111°40'02"   | Sedimentary            |                      | A&Ww                |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | Stone Dam Lake         | 35°13'36"/112°24'16" 35°13'32"/112°24'10"   |                        | A&Wc                 |                     |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Stoneman Lake          | 34°46'44"/111°31'05" 34°46'47"/111°31'14"   | Shallow                | A&Wc                 |                     |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Sullivan Lake          | 34°51'46"/112°27'41" 34°51'42"/112°27'51"   |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Sycamore Creek         | Headwaters to confluence with unnamed tributary at 35°03'40"/111°57'28" 35°03'41"/111°57'31"                          |                        | A&Wc                 |                     |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Sycamore Creek         | Below confluence with unnamed tributary to confluence with Verde River at 34°51'47"/112°04'41"                        |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Sycamore Creek         | Tributary Headwaters to confluence with Verde River at 33°37'55"/111°39'58"   |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Sycamore Creek         | Tributary Headwaters to confluence with Verde River at 34°04'42"/111°42'14"   |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | Tangle Creek           | Tributary Headwaters to confluence with Verde River at 34°05'06"/111°42'36"   |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Trinity Tank           | 35°27'44"/112°47'56" 35°27'44"/112°48'01"   |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | Unnamed Wash           | Flagstaff Meadows WWTP outfall at 36°14'17"/111°49'28" 35°13'59"/111°48'35" to Volunteer Wash at 35°11'55"/111°49'42" |                        |                      |                     |      | A&Wedw |                | PBC |     |               |              |                |
| VR            | Verde River            | Above Bartlett Dam from From confluence of Chino Wash and Granite Creek to Bartlett Lake Dam                          |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Verde River            | Below Bartlett Lake Dam to Salt River   |                        |                      | A&Ww                |      |        | FBC            |     | DWS | FC            | AgI          | AgL            |
| VR            | Walnut Creek           | Tributary Headwaters to confluence with Big Chino Wash at 34°58'12"/112°34'55"  |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | Watson Lake            | 34°35'15"/112°25'05" 34°34'58"/112°25'26"   | Igneous                |                      | A&Ww                |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Webber Creek           | Tributary Headwaters to confluence with the East Verde River at 34°18'50"/111°19'55"                                  |                        | A&Wc                 |                     |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | West Clear Creek       | Headwaters to confluence with Meadow Canyon at 34°33'40"/111°31'30"   |                        | A&Wc                 |                     |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | West Clear Creek       | Below confluence with Meadow Canyon to confluence with the Verde River at 34°30'14"/111°49'41"                        |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Wet Beaver Creek       | Headwaters to unnamed springs at 34°41'17"/111°34'34"   |                        | A&Wc                 |                     |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Wet Beaver Creek       | Below unnamed springs to confluence with Dry Beaver Creek at 34°37'59"/111°49'33.6"                                   |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            | AgI          | AgL            |
| VR            | Whitehorse Lake        | 35°07'00"/112°00'47" 35°06'59"/112°00'48"   | Igneous                | A&Wc                 |                     |      |        | FBC            |     | DWS | FC            | AgI          | AgL            |
| VR            | Williamson Valley Wash | Headwaters to confluence with Mint Wash at 34°49'05"/112°37'55"   |                        |                      | A&We                |      |        |                | PBC |     |               |              | AgL            |
| VR            | Williamson Valley Wash | Confluence From confluence of Mint Wash to 10.5 km downstream at 34°49'05"/111°37'55"                                 |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | Williamson Valley Wash | Below From 10.5 km downstream of Mint Wash confluence to confluence with Big Chino Wash at 32°52'52"/112°28'48"       |                        |                      | A&We                |      |        |                | PBC |     |               |              | AgL            |
| VR            | Williscraft Tank       | 35°11'23"/112°35'38" 35°11'22"/112°35'40"   |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | Willow Creek           | Above Willow Creek Reservoir  | Shallow                | A&Wc                 |                     |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | Willow Creek           | Below Willow Creek Reservoir to confluence with Granite Creek   |                        |                      | A&Ww                |      |        | FBC            |     |     | FC            |              | AgL            |
| VR            | Willow Creek Reservoir | 34°36'17"/112°26'19"  | Shallow                |                      | A&Ww                |      |        | FBC            |     |     | FC            | AgI          | AgL            |



| Watershed | Surface Waters     | Segment Description and Location (Latitude and Longitudes are in NAD 27 83) | Lake Category | Aquatic and Wildlife |      |      |        | Human Health |     |     |    | Agricultural |     |
|-----------|--------------------|---|---------------|----------------------|------|------|--------|--------------|-----|-----|----|--------------|-----|
|           |                    |   |               | A&Wc                 | A&Ww | A&We | A&Wedw | FBC          | PBC | DWS | FC | AgI          | AgL |
| VR        | Willow Valley Lake | 34°41'08"/111°19'57" 34°41'08"/111°20'02"                                   | Sedimentary   |                      | A&Ww |      |        | FBC          |     |     | FC |              | AgL |

**Watersheds**

- BW = Bill Williams
- CG = Colorado – Grand Canyon
- CL = Colorado – Lower Gila
- LC = Little Colorado
- MG = Middle Gila
- SC = Santa Cruz – Rio Magdalena – Rio Sonoyta
- SP = San Pedro – Willcox Playa – Rio Yaqui
- SR = Salt River
- UG = Upper Gila
- VR = Verde River

**Other Abbreviations**

- WWTP = Wastewater Treatment Plant
- Km = kilometers

**APPENDIX C. SITE-SPECIFIC STANDARDS**

| Watershed | Surface Water            | Surface Water Description & Location  | Parameter                                   | Site-Specific Criterion   |
|-----------|--------------------------|---|---|---|
| LC        | Rio de Flag (EDW)        | Flagstaff WWTP outfall to the confluence with San Francisco Wash at 35°14'04"/111°28'02.5"  | Copper (D)                                  | 36 µg/L<br>(A&Wedw)   |
| CL        | Yuma East Wetlands       | From inlet culvert from Colorado River into restored channel to Ocean bridge <u>Bridge</u>  | Selenium (T)<br><br>Total residual chlorine | 2.2 mg/L<br>(A&Ww chronic)<br><br>33 µg/L<br>(A&Ww acute)<br><br>20 µg/L<br>(A&Ww chronic)                |
| <u>SR</u> | <u>Pinto Creek</u>       | <u>From confluence of Ellis Ranch tributary at 33°19'26.7"/110°54'57.5" to the confluence of West Fork of Pinto Creek at 33°27'32.3"/111°00'19.7"</u> | <u>Copper (D)</u>                           | <u>34 µg/L</u><br>(A&Ww acute for hardness values below 268 mg/L)<br><br><u>34 µg/L</u><br>(A&Ww chronic) |
| <u>CG</u> | <u>Bright Angel Wash</u> | <u>South Rim Grand Canyon National Park WWTP at 36°02'59"/112°09'02" to Coconino Wash</u>   | <u>Copper (D)</u>                           | <u>42.5 µg/L</u><br>(A&W edw)   |
| <u>CG</u> | <u>Transept Canyon</u>   | <u>North Rim Grand Canyon WWTP at 36°12'20"/112°03'35" to 1km downstream</u>  | <u>Copper (D)</u>                           | <u>42.5 µg/L</u><br>(A&W edw)   |

---

---

## NOTICES OF FINAL RULEMAKING

---

---

This section of the *Arizona Administrative Register* contains Notices of Final Rulemaking. Final rules have been through the regular rulemaking process as defined in the Administrative Procedures Act. These rules were either approved by the Governor's Regulatory Review Council or the Attorney General's Office. Certificates of Approval are on file with the Office.

The final published notice includes a preamble and

text of the rules as filed by the agency. Economic Impact Statements are not published.

The Office of the Secretary of State is the filing office and publisher of these rules. Questions about the interpretation of the final rules should be addressed to the agency that promulgated them. Refer to Item #5 to contact the person charged with the rulemaking. The codified version of these rules will be published in the *Arizona Administrative Code*.

---

---

### NOTICE OF FINAL RULEMAKING

#### TITLE 4. PROFESSIONS AND OCCUPATIONS

#### CHAPTER 21. BOARD OF OPTOMETRY

[R16-20]

#### PREAMBLE

- | <u>1. Article, Part, or Section Affected (as applicable)</u> | <u>Rulemaking Action</u> |
|--|--------------------------|
| R4-21-101  | Amend                    |
| R4-21-102  | Amend                    |
| R4-21-103  | Amend                    |
| R4-21-201  | Amend                    |
| R4-21-202  | Amend                    |
| R4-21-203  | Amend                    |
| R4-21-205  | Amend                    |
| R4-21-205.1  | New Section              |
| R4-21-206  | Amend                    |
| R4-21-208  | Amend                    |
| R4-21-209  | Amend                    |
| R4-21-210  | Amend                    |
| R4-21-211  | Amend                    |
| R4-21-213  | Repeal                   |
| R4-21-302  | Amend                    |
| R4-21-305  | Amend                    |
| R4-21-306  | Amend                    |
| R4-21-308  | Amend                    |
- 2. Citations to the agency's statutory rulemaking authority to include both the authorizing statute (general) and the implementing statute (specific):**  
Authorizing statute: A.R.S. § 32-1704(A)  
Implementing statute: A.R.S. §§ 32-1701 et seq.
- 3. The effective date of the rule:**  
March 28, 2016
- a. If the agency selected a date earlier than the 60 day effective date as specified in A.R.S. § 41-1032(A), include the earlier date and state the reason or reasons the agency selected the earlier effective date as provided in A.R.S. § 41-1032(A)(1) through (5):**  
Not applicable
- b. If the agency selected a date later than the 60 day effective date as specified in A.R.S. § 41-1032(A), include the later date and state the reason or reasons the agency selected the later effective date as provided in A.R.S. § 41-1032(B):**  
Not applicable
- 4. Citations to all related notices published in the Register as specified in R1-1-409(A) that pertain to the record of the final rulemaking package:**  
Notice of Rulemaking Docket Opening: 20 A.A.R. 2981, November 14, 2014  
Notice of Proposed Rulemaking: 4 A.A.C. 21 3484, December 19, 2014

**5. The agency's contact person who can answer questions about the rulemaking:**

Name: Margaret Whelan, Executive Director  
Address: Arizona State Board of Optometry  
1400 W. Washington, Suite 230  
Phoenix, AZ 85007  
Telephone: (602) 542-8155  
Fax: (602) 542-3093  
E-mail: margaret.whelan@optometry.az.gov  
Website: www.optometry.az.gov

**6. An agency's justification and reason why a rule should be made, amended, repealed or renumbered, to include an explanation about the rulemaking:**

The Board is updating its rules to make them more clear, concise, and understandable; consistent with statute and current agency and industry practice. This rulemaking will update language and terminology used in the rules to improve consistency and clarity as well as conform to statutes amended in the 2013 legislative session (50th Legislature, 1st Regular Session) and 2014 legislative session (51st Legislature, 2nd Regular Session).

**7. A reference to any study relevant to the rule that the agency reviewed and either relied on or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**

None

**8. A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision of this state:**

Not applicable

**9. A summary of the economic, small business, and consumer impact:**

The proposed fee increase in aggregate is subject to the total number of license renewals and is estimated, based on current number of licensees, to generate possible revenue to both the Board and the State's General Fund for the requisite operating expenses of the Board in the estimated amount of \$25, 942 annually with \$2,882 to the State General Fund. Such fees will be a cost to current licensees only. Some optometrists may practice in a small business setting however, the proposed rule amendments impact the optometrists themselves rather than the small business practice and therefore have minimal economic impact to current licensees only. There is no economic impact to the consumer/public.

**10. A description of any changes between the proposed rulemaking, to include supplemental notices, and the final rulemaking:**

No substantial substantive changes have been made to the rules. Non-substantive technical changes have been made at the recommendation of GRRC staff. In addition, after a great deal of public feedback for portions of sections 209 and 210, the Board is reverting the rule back to existing language. The Board took all comments under advisement and compromised on some of the changes to the rules regarding COPE and OE Tracker. The Board did not mandate COPE as originally planned but did keep the OE Tracker requirement in order to audit 100% of its licensees, adding a provision in the amended rule that should any of the required CE hours not be reported to OE Tracker, a licensee could submit certificates of attendance to the Board for those particular courses.

**11. An agency's summary of the public or stakeholder comments made about the rulemaking and the agency response to the comments:**

Comments were received by the regulated public. Main concerns were use of COPE and OE Tracker. Some commenters were concerned that mandating COPE would negatively impact the local optometric associations' ability to give Continuing Education ("CE") courses as they would not utilize the COPE process since they do not charge members for the CE courses. Other commenters had concern over the use of OE Tracker for auditing purposes claiming that the reporting was not accurate. Miscellaneous comments related and unrelated to the proposed rules changes were also received and addressed by the Board. Those comments include wording changes to proposed language; specifically R4-21-306(E)(b) to add "of what was written on the prescription" however, this would not be a reasonable change as the prescription already must be filled as written; change would be redundant and confusing. In R4-21-308(A)(B), a question was raised about doctors who use an auto-injector pen for anaphylaxis getting an "injection certificate". Under the current statutes/scope of practice, Arizona licensed optometrists do not have injection authority other than the emergency auto-injectors; therefore, a rule like that would be illegal as it would have no statutory authority to support or permit it. Another comment submitted was inquiring about addressing online entities and other professions who are not optometrists from practicing optometry "in Arizona" over the internet. Again, this would need some statutory authority to address such an issue. A comment regarding wanting to charge an additional fee for taking interpupillary distance ("PD") was submitted. Under the current rules, a PD is required as part of the prescription and cannot generate an extra fee to the patient for providing it. Even when the PD requirement is removed, it still would not be appropriate to charge a fee for taking a PD as a doctor may still choose



to include it on a prescription for specificity of the prescription; but it is never a stand-alone charge and a PD can be taken by the optometrist or an optician.

**12. All agencies shall list other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:**

**a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general permit is not used:**

The rule does not require a permit. The following are general “permits”: Licensure by Examination as required under R4-21-201; Licensure by Endorsement as required under R4-21-202; License Renewal registration as required under R4-21-205; and Certificate of Special Qualification as required under R4-21-208.

**b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:**

Not applicable

**c. Whether a person submitted an analysis to the agency that compares the rule’s impact of the competitiveness of business in this state to the impact on business in other states:**

None

**13. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rule:**

None

**14. Whether the rule was previously made, amended or repealed as an emergency rule. If so, cite the notice published in the Register as specified in R1-1-409(A). Also, the agency shall state where the text was changed between the emergency and the final rulemaking packages:**

Not applicable

**15. The full text of the rules follows:**

**TITLE 4. PROFESSIONS AND OCCUPATIONS**

**CHAPTER 21. BOARD OF OPTOMETRY**

**ARTICLE 1. GENERAL PROVISIONS**

- Section
- R4-21-101. Definitions
- R4-21-102. Fees and other Charges
- R4-21-103. Time-frames for Board Action
- Table 1. Time-frames (in calendar days)

**ARTICLE 2. LICENSING PROVISIONS**

- Section
- R4-21-201. Licensure by Examination
- R4-21-202. Licensure by Endorsement
- R4-21-203. Jurisprudence Examination
- R4-21-205. License Renewal
- R4-21-205.1. Cardiopulmonary Resuscitation Requirements
- R4-21-206. License Reinstatement; Application for Licensure following License Expiration
- R4-21-208. Certificate of Special Qualification; Pharmaceutical Agent Number
- R4-21-209. Continuing Education Requirement
- R4-21-210. Approval of Continuing Education
- R4-21-211. Audit of Compliance with Continuing Education Requirement
- R4-21-213. Registration of Nonresident Contact-lens Dispenser; Renewal

**ARTICLE 3. STANDARDS; RECORDKEEPING; REHEARING OR REVIEW OF BOARD DECISION**

- Section
- R4-21-302. Advertising
- R4-21-305. Recordkeeping
- R4-21-306. Optometric Prescription Standards; Release to Patients
- R4-21-308. Anaphylactic-related Supplies



## ARTICLE 1. GENERAL PROVISIONS

**R4-21-101. Definitions**

In addition to the definitions in A.R.S. §§32-1701 and ~~32-1771~~, the following apply to this Chapter:

“Accredited” means approved by the ACOE.

“ACOE” means the Accreditation Council on Optometric Education.

“Active license” means a license that is current and has not expired.

“Advertisement” means a written, oral, or electronic communication that an ordinary person would perceive is designed to influence, directly or indirectly, a decision regarding ophthalmic goods or optometric services.

“Applicant” means:

An individual who applies to the Board under A.R.S. §§ 32-1722 or 32-1723, R4-21-201 or R4-21-202 for a license to practice the profession of optometry, but has not been granted the license;

A licensee who applies under A.R.S. § 32-1726 and R4-21-205 for license renewal;

A licensee who applies under A.R.S. § 32-1728 and R4-21-208 for a pharmaceutical ~~agents~~ agent number;

A licensee or provider of continuing education that applies for approval of a continuing education under R4-21-~~210~~ 210-01

~~A person who applies to the Board under A.R.S. § 32-1774 and R4-21-213 for registration as a non-resident dispenser of replacement soft contact lenses.~~

“Application package” means the forms, documents, and fees that the Board requires an applicant to submit or have submitted on the applicant’s behalf.

“Approved continuing education” means a planned educational experience relevant to the practice of the profession of optometry that the Board determines meets the criteria at R4-21-210.

“ARBO” means Association of Regulatory Boards of Optometry.

“Audit” means the selection of licensees and process of reviewing documents for verification of satisfactory completion of continuing education requirements during a specified time period.

“CPR” means Cardiopulmonary Resuscitation.

“CELMO” means the Council on Endorsed Licensure Mobility for Optometrists.

“Certificate of special qualification” means a document that specifies whether the holder, who was licensed by the Board before July 1, 2000, and has not completed a course of study approved by the Board, may prescribe, administer, and dispense a pharmaceutical agent and if so, whether the holder may prescribe, administer, and dispense:

A topical diagnostic pharmaceutical agent only, or

Topical diagnostic and topical therapeutic pharmaceutical agents.

“Continuing Education” means planned, organized learning acts designed to maintain, improve, or expand a licensee’s knowledge and skills in order for the licensee to develop new knowledge and skills relevant to the enhancement of practice, education, or theory development to improve the safety and welfare of the public.

“COPE” means Council on Optometric Practitioner Education.

“Course of study,” as used in A.R.S. § 32-1722, means education approved by the Board under R4-21-207 that qualifies an optometrist to prescribe, administer, and dispense topical diagnostic, topical therapeutic, and oral pharmaceutical agents.

“Injectable Epinephrine auto-injector” means an intramuscular dose of epinephrine used for emergency treatment of an allergic reaction and delivered by a spring-loaded syringe.

“Good cause” means a reason that is substantial enough to afford a legal excuse.

“Hour of Continuing Education” means no less than 50 minutes of learning in one hour of time.

“Incompetence,” as used in A.R.S. § 32-1701(8), means lack of professional skill, fidelity, or physical or mental fitness, or substandard examination or treatment while practicing the profession of optometry.

“Low vision” means chronic impairment to vision that significantly interferes with daily routine activities and cannot be adequately corrected with medical, surgical, or therapeutic means or conventional eyewear or contact lenses.

“Low-vision rehabilitation” means use of optical and non-optical devices, adaptive techniques, and community resources to assist an individual to compensate for low vision in performing daily routine activities.

“Negligence,” as used in A.R.S. § 32-1701(8), means conduct that falls below the standard of care for the protection of patients and the public against unreasonable risk of harm and that is a departure from the conduct expected of a reasonably prudent licensee under the circumstances.



“OE Tracker” means an Online Education Tracker used for the purpose of electronically tracking Continuing Education hours taken by a licensee.

“Oral pharmaceutical agent,” as used in A.R.S. § 32-1728, means an ingested prescription or non-prescription substance used to examine, diagnose, or treat disease of the eye and its adnexa.

“Party” has the same meaning as prescribed in A.R.S. §41-1001.

“Plano lenses” means contact lenses that have cosmetic function only.

“Practice management” means the study of management of the affairs of optometric practice.

“Self-instructed media” means educational material in a printed, audio, video, ~~or electronic format~~ or distance learning format.

“Topical diagnostic pharmaceutical agent,” as used in A.R.S. § 32-1728, means an externally applied prescription or non-prescription substance used to examine and diagnose disease and conditions of the eye and its adnexa.

“Topical therapeutic pharmaceutical agent,” as used in A.R.S. § 32-1728, means an externally applied prescription or non-prescription substance used to treat disease of the eye and its adnexa.

“Vision rehabilitation” means an individualized course of treatment and education prescribed to improve conditions of the human eye or adnexa or develop compensatory approaches. Vision rehabilitation is designed to help individuals learn, relearn, or reinforce specific vision skills, including eye movement control, focusing control, eye coordination, and the teamwork of the two eyes. Vision rehabilitation includes, but is not limited to optical, non-optical, electronic, or other assistive treatments.

**R4-21-102. Fees and other Charges**

A. The Board shall collect the fees established by A.R.S. § 32-1727.

B. Under the authority provided at A.R.S. § 32-1727, the Board establishes and shall collect the following fees:

- 1. License issuance fee of ~~\$400~~ \$450, which is prorated from date of issuance to date of renewal;
- 2. Biennial license renewal fee of ~~\$400~~ \$450; and
- 3. Late renewal fee of \$200.

~~C.~~ Under the authority provided at A.R.S. §32-1773(B), the Board establishes and shall collect a fee of \$500 for registration or biennial registration renewal as a nonresident dispenser of contact lenses.

~~D.~~C. Except as provided in subsection ~~(D)~~(C)(3), a person requesting a public record shall pay the following for searches and copies of Board records under A.R.S. §§ 39-121.01 or 39-121.03:

- 1. Noncommercial copy:
  - a. 5¢ per name and address for directory listings or 15¢ each if printed on labels, and
  - b. 25¢ per page for other records;
- 2. Commercial copy:
  - a. 25¢ per name and address for directory listings or 35¢ each if printed on labels, and
  - b. 50¢ per page for other records; and
- 3. The Board waives the charges listed in subsections ~~(D)~~(C)(1) and ~~(D)~~(C)(2) for a government agency.

~~E.~~D. The Board establishes and shall collect the following charges for the services specified:

- 1. Written or certified license verification: \$10; and
- 2. Duplicate or replacement renewal receipt: \$10.

**R4-21-103. Time-frames for Board Action**

A. For each type of license, certificate, or approval issued by the Board, the overall ~~time frame~~ time frame described in A.R.S. § 41-1072(2) is listed in Table 1.

B. For each type of license, certificate, or approval issued by the Board, the administrative completeness review ~~time frame~~ time frame described in A.R.S. §41-1072(1) is listed in Table 1 and begins on the date the Board receives an application package.

- 1. If an application package is not administratively complete, the Board shall send a deficiency notice to the applicant that specifies each piece of information or document needed to complete the application package. Within the time provided in Table 1 for response to a deficiency notice, beginning on the postmark date of the deficiency notice, the applicant shall submit to the Board the missing information or document specified in the deficiency notice. The ~~time frame~~ time frame for the Board to finish the administrative completeness review is suspended from the date the Board mails the deficiency notice to the applicant until the date the Board receives the missing information or document.
- 2. If an application package is administratively complete, the Board shall send a written notice of administrative completeness to the applicant.
- 3. If an application package is not completed with the time provided to respond to the deficiency notice, the Board shall send a written notice to the applicant informing the applicant that the Board considers the application withdrawn.

C. For each type of license, certificate, or approval issued by the Board, the substantive review ~~time frame~~ time frame described in A.R.S. § 41-1072(3) is listed in Table 1 and begins on the date the Board sends written notice of administrative completeness to the applicant.



1. During the substantive review ~~time-frame~~ time frame, the Board may make one comprehensive written request for additional information. Within the time provided in Table 1 for response to a comprehensive written request for additional information, beginning on the postmark date of the comprehensive written request for additional information, the applicant shall submit to the Board the requested additional information. The ~~time-frame~~ time frame for the Board to finish the substantive review is suspended from the date the Board mails the comprehensive written request for additional information to the applicant until the Board receives the additional information.
  2. If, under A.R.S. § 32-1722(C), the Board determines that a hearing is needed to obtain information on the character of an applicant, the Board shall include a notice of the hearing in its comprehensive written request for additional information.
  3. If the applicant fails to provide the additional information within the time provided to respond to a comprehensive written request for additional information, the Board shall send a written notice to the applicant informing the applicant that the Board considers the application withdrawn.
- D.** An applicant may, pursuant to A.R.S. § 41-1075(B), receive a ~~40-day~~ an extension of up to twenty-five percent of the overall time frame the time to respond under subsection (B)(3) or (C)(3) by sending a ~~notice of request for extension of time~~ notice of request for extension of time to the Board before expiration of the time to respond. The ~~time-frame~~ time frame for the Board to act remains suspended during any extension of time. If the applicant fails to provide the requested information during the extension of time, the Board shall send a written notice to the applicant informing the applicant that the Board considers the application withdrawn.
- E.** Within the overall ~~time-frame~~ time frame listed in the Table 1, the Board shall:
1. Deny a license, certificate, or approval to an applicant if the Board determines that the applicant does not meet all of the substantive criteria required by statute and this Chapter; or
  2. Grant a license, certificate, or approval to an applicant if the Board determines that the applicant meets all of the substantive criteria required by statute and this Chapter.
- F.** If the Board denies a license, certificate, or approval under subsection (E)(1), the Board shall provide a written notice of denial to the applicant that explains:
1. The reason for the denial, with citations to supporting statutes or rules;
  2. The applicant's right to seek a fair hearing to appeal the denial;
  3. The time for appealing the denial; and
  4. The right to request an informal settlement conference.
- G.** In computing any period prescribed in this Section, the day of the act, event, or default after which the designated period begins to run is not included. The period begins on the date of personal service, date shown as received on a certified mail receipt, or postmark date. The last day of the period is included unless it falls on a Saturday, Sunday, or state holiday in which case, the period ends on the next business day.

**Table 1. Time-frames (in calendar days)**

| Type of License  | Overall Time-frame | Administrative Review Time-frame | Time to Respond to Deficiency Notice | Substantive Review Time-frame | Time to Respond to Request for Additional Information |
|--|--------------------|----------------------------------|--------------------------------------|-------------------------------|---|
| Licensure by examination<br>A.R.S. § 32-1722; R4-21-201                          | 75                 | 15                               | 60                                   | 60                            | 20  |
| Licensure by endorsement<br>A.R.S. § 32-1723; R4-21-202                          | 75                 | 15                               | 75                                   | 60                            | 20  |
| Renewal of license<br>A.R.S. § 32-1726; R4-21-205                                | 45                 | 15                               | 20                                   | 30                            | 20  |
| <u>Renewal of</u> Pharmaceutical agents<br>number A.R.S. § 32-1728;<br>R4-21-208 | 75                 | 15                               | 60                                   | 60                            | 20  |
| Approval of a Continuing Education<br>A.R.S. § 32-1704(D); R4-21-210             | 75                 | 15                               | 20                                   | 60                            | 20  |



|   |    |    |    |    |    |
|---|----|----|----|----|----|
| Registration of nonresident dispenser of replacement soft contact lenses<br>A.R.S. § 32-1773; R4-21-213 | 75 | 15 | 20 | 60 | 20 |
|---|----|----|----|----|----|

ARTICLE 2. LICENSING PROVISIONS

R4-21-201. Licensure by Examination

- A. An individual is eligible to apply for licensure by examination if the individual graduated from an accredited optometry program but is not eligible for licensure by endorsement under R4-21-202(A).
- B. To apply for licensure by examination, an individual who is eligible under subsection (A) shall submit an application form, which is available from the Board, and provide the following information about the applicant:
  - 1. Full legal name;
  - 2. Other names ever used, if any, and if applicable, a copy of the court document or marriage license resulting in a name change;
  - 3. Social Security number;
  - 4. Mailing address;
  - 5. E-mail address, if any;
  - 6. Residential, business, and mobile telephone numbers, if applicable;
  - 7. Date and place of birth;
  - 8. Residential addresses for the past five years;
  - 9. Educational background including the name and address of, dates of attendance at, and date of graduation from:
    - a. An accredited optometry program,
    - b. A pre-optometric school or undergraduate educational institution, and
    - e. ~~High school, and~~
    - d.c. Other post-secondary schools attended, if any;
  - 10. Experience in the practice of the profession of optometry including the business form and location of the practice;
  - 11. Work experience or occupation, other than the practice of the profession of optometry, for the past five years;
  - 12. List of the states in which the applicant is professionally licensed including the name of the state, type of professional license, date issued, and expiration date;
  - 13. List of the states in which the applicant was but no longer is professionally licensed including the name of the state, type of professional license, date issued, and reason the license is no longer valid;
  - 14. Statement of whether the applicant:
    - a. Has ever been denied the right to take an examination for optometric licensure by any state or jurisdiction and if so, the name of the state or jurisdiction, date, and reason for the denial;
    - b. Has ever been denied an optometric license or renewal in any state or jurisdiction and if so, the name of the state or jurisdiction, date, and reason for the denial;
    - c. Has ever had a license or certificate of registration to practice the profession of optometry suspended or revoked by any optometric licensing agency and if so, the name of the optometric licensing agency, date, reason for the suspension or revocation, and current status;
    - d. Has ever had an investigation conducted or has an investigation pending by an optometric regulatory agency of any state or jurisdiction and if so, name of the optometric regulatory agency and state or jurisdiction, date, reason for the investigation, and current status;
    - e. Has ever had a disciplinary action instituted against the applicant by any optometric licensing agency and if so, the name of the optometric licensing agency, date, nature of the disciplinary action, reason for the disciplinary action, and current status;
    - f. Has ever been convicted of, pled guilty or no contest to, or entered into diversion in lieu of prosecution for any criminal offense in any jurisdiction of the United States or foreign country and if so, name of the jurisdiction, date, offense charged, offense for which convicted, pled guilty, or no contest, and current status;
    - g. ~~Has been~~ Is currently, or has ever been addicted to narcotic substances or habitually abused alcohol within the last 10 years, and if if so, dates during which the addiction or abuse occurred, date, steps taken to address the addiction or abuse, and current status, ; and a statement as to why the addiction or abuse does not amount to unprofessional conduct.
    - h. ~~Is presently addicted to narcotic substances or habitually abuses alcohol and if so, why the addiction or abuse does not amount to unprofessional conduct; and~~
  - 15. Dated and sworn signature of the applicant verifying that the information provided is true to the best of the applicant's knowledge, information, and belief.
- C. In addition to submitting the application form required under subsection (B), an applicant shall submit or have submitted on the applicant's behalf:
  - 1. A ~~two-inch by three-inch~~ passport-quality photograph of the applicant's head and shoulders that is taken within six months of the date of application and signed by the applicant in ink across the lower portion of the front side;



2. A full set of readable fingerprints taken by a criminal justice agency for the purpose of obtaining a state and federal criminal records check;
3. To process the fingerprints: a cashier's check or money order payable to the Arizona Department of Public Safety in the amount listed on the application for licensure; required to obtain a state and federal criminal records check;
4. The application fee required under A.R.S. § 32-1727;
5. A copy of the scores obtained by the applicant on Parts I, II, and III of the National Board of Examiners in Optometry examination less than ten years before the date of the application;
6. A passing score obtained by the applicant on the jurisprudence examination described at R4-21-203;
7. An official transcript submitted directly to the Board by the educational institution with an accredited optometry program from which the applicant graduated with a degree in optometry;
8. An official transcript submitted directly to the Board by the educational institution at which the applicant took pre-optometry or undergraduate courses;
9. A self-query from the National Practitioner Data Bank-Healthcare Integrity and Protection Data Bank made within three months before the date of application; and
10. A copy of the front and back of ~~the a current CPR cardiopulmonary resuscitation card issued to the applicant, or other written documentation of current certification in cardiopulmonary resuscitation.~~

#### **R4-21-202. Licensure by Endorsement**

- A. An individual is eligible to apply for licensure by endorsement if the individual:
  1. Graduated from an accredited optometry program;
  2. Is licensed to practice the profession of optometry in another state that has licensing requirements that the Board determines meet or exceed Arizona's requirements;
  3. Has engaged in the practice of the profession of optometry continuously in the other state or military for at least four of the five years before the date of application; and
  4. Has not had a license to practice the profession of optometry suspended or revoked by any licensing jurisdiction for a cause that is a ground for suspension or revocation of a license in Arizona.
- B. To apply for licensure by endorsement, an individual who is eligible under subsection (A) shall submit the application form described in R4-21-201(B).
- C. In addition to complying with subsection (B), an applicant for licensure by endorsement shall submit or have submitted on the applicant's behalf:
  1. The materials required under R4-21-201(C)(1) through (C)(4) and (C)(6) through (C)(10);
  2. A state board certification and license verification form, which is submitted directly to the Board from the state that issued the license on which the applicant's endorsement application is based, indicating:
    - a. Name and title of the individual completing the verification form;
    - b. ~~Number of the applicant's~~ Applicant's optometry license number in the state;
    - c. Date on which the applicant was issued an optometry license by the state;
    - d. A statement of whether the applicant:
      - i. Has been licensed in the state for at least four of the last five years;
      - ii. Is certified to use topical diagnostic, topical therapeutic, or oral pharmaceutical agents and if so, the date on which the certification was obtained;
      - iii. Is currently in good standing in the state;
      - iv. Is known to be licensed to practice the profession of optometry in another state and if so, the name of the other state;
      - v. Has been subject to any disciplinary action and if so, the date, nature of, and reason for the disciplinary action; and
      - vi. Is subject to any pending investigation or complaint and if so, the nature of the investigation or complaint; and
    - e. The dated, notarized signature of the individual completing the verification form; and
  3. A letter on official letterhead, in substantially the form provided by the Board, from a representative of the accredited optometry program at the educational institution from which the applicant graduated, providing details that demonstrate the applicant's education meets the standards at R4-21-207; and
  4. If the applicant does not meet the requirements listed in R4-21-201 or R4-21-202(A)(2), a current certificate issued by the CELMO or its successor organization.

#### **R4-21-203. Jurisprudence Examination**

- A. To be licensed, an applicant shall obtain a score of at least 75% on a jurisprudence examination that assesses knowledge of Arizona's statutes and rules relating to the practice of optometry in Arizona.
- B. An applicant may take the jurisprudence examination at any time up to six months prior to submitting an application for licensure or after submitting to the Board the application form required under R4-21-201(B) or R4-21-202(B).
- C. The jurisprudence exam may be taken in person at the Arizona State Board of Optometry offices, through the National Board of Examiners in Optometry, or at a proctored testing center approved by the Board.



~~C.D.~~ An applicant who fails the jurisprudence examination may retake the examination one time within ~~six months from the date of the original examination.~~ the deficiency time frame of the related application for licensure listed in Table 1.

~~D.E.~~ The Board shall further consider an applicant who fails the jurisprudence examination a second time only if the applicant:

1. Waits at least six months from the date of the second taking of the jurisprudence examination;
2. Submits a new application form under R4-21-201(B) or R4-21-202(B);
3. Submits a full set of readable fingerprints taken by a criminal justice agency for the purpose of obtaining a state and federal criminal records check; and a cashier's check or money order payable to the Arizona Department of Public Safety in the amount listed on the application for licensure; ~~payable to the Arizona Department of Public Safety; in the amount required to obtain a state and federal criminal records check;~~
4. Submits a ~~two inch by three inch~~ passport-quality photograph of the applicant's head and shoulders that is taken within six months of the date of the new application and signed by the applicant in ink across the lower portion of the front side;
5. Submits a self-query from the National Practitioner Data Bank-Healthcare Integrity and Protection Data Bank made within three months before the date of the new application; and
6. Submits the application fee required under A.R.S. § 32-1727.

**R4-21-205. License Renewal**

A. To continue practicing the profession of optometry in Arizona, a licensee shall renew the licensee's license and certificate of special qualification, if applicable, on or before the date on which the license and certificate expire. Timely renewal is a licensee's responsibility. As a courtesy, the Board may provide a licensee with notice that the licensee's license is going to expire. Failure to obtain notice of the need to renew is not good cause for failing to renew.

B. To renew a license and, if applicable, certificate of special qualification, a licensee shall submit to the Board a license renewal application and provide the following information:

1. Whether the licensee wants to renew the licensee's license and, if applicable, certificate of special qualification;
2. The licensee's current public mailing address, ~~and~~ telephone and fax numbers;
3. The licensee's current residential address, e-mail address, and residential ~~and or~~ mobile telephone numbers;
4. The licensee's current permanent and temporary practice addresses and telephone and fax numbers;
5. A statement of whether the licensee:
  - a. Has practiced the profession of optometry within the last two years;
  - b. Has been denied the right to take an examination for optometric licensure by any state or jurisdiction within the preceding two years and if so, the name of the state or jurisdiction, date, and reason for the denial;
  - c. Has been denied an optometric license or renewal in any state or jurisdiction within the preceding two years and if so, the name of the state or jurisdiction, date, and reason for denial;
  - d. Has had a license or certificate of registration to practice the profession of optometry suspended or revoked by any optometric regulatory agency within the preceding two years and if so, the name of the optometric regulatory agency, date, action taken, reason for the action, and current status;
  - e. Has had disciplinary action instituted against the licensee by any optometric regulatory agency within the preceding two years and if so, the name of the optometric regulatory agency, date, nature of the disciplinary action, reason for the disciplinary action, and current status;
  - f. Has had an investigation conducted within the preceding two years or has an investigation pending by an optometric regulatory agency of any state or jurisdiction and if so, name of the optometric regulatory agency and the state or jurisdiction, date, reason for the investigation, and current status;
  - g. Has been convicted of, pled guilty or no contest to, or entered into diversion in lieu of prosecution for any criminal offense in any jurisdiction of the United States or foreign country within the preceding two years, and if so, the name of the jurisdiction, date, offense charged, offense for which convicted, pled guilty, or no contest, and current status;
  - h. ~~Has been~~ Is currently, or has been addicted to narcotic substances or habitually abused alcohol within the preceding two years, ~~and if so, dates during which the addiction or abuse occurred, date,~~ steps taken to address the addiction or abuse, ~~and current status;~~ and a statement as to why the addiction or abuse does not amount to unprofessional conduct.
  - i. ~~Is presently addicted to narcotic substances or habitually abuses alcohol and if so, why the addiction or abuse does not amount to unprofessional conduct;~~
  - j. ~~Has had the authority to prescribe, dispense, or administer pharmaceutical agents limited, restricted, modified, denied, surrendered, or revoked by a federal or state agency within the preceding two years and if so, name of agency taking action, nature of action taken, date, reason for action, and current status; and~~
  - k. ~~Is in compliance with the provisions of A.R.S. § 32-3211;~~
6. The following information about each approved Continuing Education course attended by the licensee during the preceding two years:
  - a. Name of Continuing Education provider,
  - b. Title,
  - c. COPE course identification number, if any



- e-d. Date(s) of attendance, and
- d-e. Number of hours of attendance; and
- 7. The licensee's dated signature affirming that the information provided is true and correct.
- C. In addition to the license renewal application required under subsection (B), a licensee shall submit to the Board:
  1. The license renewal fee listed at R4-21-102(B); and
  2. The certificate of special qualification fee required under A.R.S. §32-1727 if the licensee has a certificate of special qualification; or
  3. Written documentation that the licensee is currently certified in ~~cardiopulmonary resuscitation~~ CPR if the licensee has a pharmaceutical ~~agents~~ agent number.
- D. A licensee who fails to renew the licensee's license and, if applicable, certificate of special qualification within 30 days after the date of expiration, may apply for late renewal by complying with subsections (B) and (C) within four months after the date of expiration and paying the late renewal fee listed at R4-21-102(B).
- E. A licensee who fails to renew timely and fails to comply with subsection (D) shall not engage in the practice of the profession of optometry. The holder of a license that is not renewed within four months after the date of expiration may apply under R4-21-206 for license reinstatement but is not eligible for license renewal.
- F. If a licensee timely applies for license renewal or complies with subsection (D), the licensee's license and, if applicable, certificate of special qualification remain in effect until the license renewal is granted or denied.

#### **R4-21-205.1 Cardiopulmonary Resuscitation ("CPR") Requirements**

1. A CPR course shall be as recommended by the American Heart Association, the American Red Cross, or the National Safety Council and shall include an exam of the materials presented in the course;
2. A CPR certification card or other documentation with an expiration date received from the CPR course provider shall be presented to the Board as proof of CPR certification.
3. Failure to maintain current CPR certification shall result in immediate loss of the licensee's Pharmaceutical Agent certification. The Pharmaceutical Agent certification shall not be reinstated until written documentation that the CPR certification deficiency has been met and proof of completion is presented to the Board; and
4. Any licensee whose Pharmaceutical Agent certification is suspended due to expiration of their CPR certification shall not prescribe utilizing the Pharmaceutical Agent certification. Upon submission of proof of current CPR certification to the Board, the Pharmaceutical Agent certification shall be immediately reinstated.

#### **R4-21-206. License Reinstatement; Application for Licensure following License Expiration**

- A. Reinstatement following license expiration. Under A.R.S. § 32-1726, if ~~if~~ an individual holds a license that has been expired at least four months but less than five years, the individual may apply to the Board to have the license and, if applicable, certificate of special qualification reinstated. To have an expired license reinstated, the former licensee shall:
  1. Submit the renewal form described in R4-21-205(B);
  2. Submit the renewal fee listed in R4-21-102(B) for each biennial period that the license was not renewed;
  3. Submit, if applicable, the fee for a certificate of special qualification listed at A.R.S. § 32-1727 for each biennial period that the license was not renewed;
  4. Submit the late renewal fee listed in R4-21-102(B) for each biennial period that the license was not renewed;
  5. Submit a \$50 penalty fee for each year or portion of a year that the license was not renewed; and
  6. Submit written documentation that the former licensee is currently certified in cardiopulmonary resuscitation if the former licensee had a pharmaceutical ~~agents~~ agent number.
- B. Reinstatement following license suspension. If an individual holds a license that was suspended by the Board following a disciplinary proceeding and if the individual timely renewed the suspended license under R4-21-205, the individual may apply to the Board to have the license and, if applicable, certificate of special qualification reinstated. To have a suspended license reinstated, the suspended licensee shall submit evidence of completing all terms of suspension imposed by the Board.
- C. Application for new license following license expiration. If an individual holds a license that has been expired for five years or more, the individual may apply for a new license:
  1. Under R4-21-202 if the individual has continuously practiced the profession of optometry in another state or the military for at least four of the last five years, or
  2. Under R4-21-201 if the individual is not qualified to apply for a new license under subsection (C)(1).

#### **R4-21-208. Certificate of Special Qualification; Pharmaceutical Agent Number**

- A. The Board shall issue a certificate of special qualification that allows a licensee to prescribe, administer, and dispense topical diagnostic and therapeutic pharmaceutical agents or only topical diagnostic pharmaceutical agents if the licensee:
  1. Was licensed by the Board before July 1, 2000;
  2. Held a comparable certificate of special qualification issued by the Board before July 1, 2000; and
  3. Pays the fee prescribed at A.R.S. § 32-1727.
- B. The Board shall issue a certificate of special qualification that indicates a licensee shall not prescribe, administer, or dispense a pharmaceutical agent if the licensee:
  1. Was licensed by the Board before July 1, 2000,
  2. Did not hold a certificate of special qualification issued by the Board before July 1, 2000, and



- 3. Pays the fee prescribed at A.R.S. § 32-1727.
- C. A licensee who holds a certificate of special qualification issued under subsection (A) or (B) may apply to the Board for a pharmaceutical agent number that indicates the licensee is authorized to prescribe, administer, or dispense topical diagnostic, topical therapeutic, and oral pharmaceutical agents. To apply for a pharmaceutical agent number, a licensee who holds a certificate of special qualification issued under subsection (A) or (B) shall:
  - 1. Submit to the Board an application, using a form that is available from the Board, and provide the following information:
    - a. Name of licensee;
    - b. Social Security number;
    - c. Mailing address;
    - d. Telephone and fax numbers at the address listed under subsection (C)(1)(c);
    - e. License number;
    - f. Number of certificate of special qualification for diagnostic pharmaceutical agents, if any;
    - g. Number of certificate of special qualification for therapeutic pharmaceutical agents, if any;
    - h. Residential address;
    - i. Telephone ~~number~~ and ~~fax numbers~~ at the address listed under subsection (C)(1)(h);
    - j. Name of the course of study approved under R4-21-207 that the licensee completed and date of completion; and
    - k. Applicant's dated signature affirming that the information provided is true and correct; and
  - 2. Have a representative of the educational institution at which the licensee completed the approved course of study submit to the Board evidence that the course of study is approved and the licensee completed all course requirements; and
  - 3. Submit written documentation that the licensee is currently certified in ~~cardiopulmonary resuscitation~~ CPR.
- D. The Board shall issue a pharmaceutical agent number that indicates a licensee is authorized to prescribe, administer, or dispense topical diagnostic, topical therapeutic, and oral pharmaceutical agents if the licensee is initially licensed by the Board under R4-21-201 or R4-21-202 after June 30, 2000.

**R4-21-209. Continuing Education Requirement**

- A. A licensee shall complete 32 hours of approved Continuing Education during each biennial license renewal period. The licensee shall ensure that in each biennial license renewal period:
  - 1. At least ~~four~~ eight hours of the approved Continuing Education is in the area of diagnosis, treatment, and management of disease of the human eye and its adnexa and pharmaceutical use appropriate to the authority held by the licensee;
  - 2. No more than 12 hours of the approved Continuing Education ~~are~~ shall be obtained through self-instructed media; All self-instructed media shall be COPE approved.
  - 3. No more than four hours of the approved Continuing Education are in the area of practice management;
  - 4. No more than one hour of approved Continuing Education is claimed for each day of instruction in a course of study approved under R4-21-207 to a maximum of four hours; and
  - 5. No more than four hours of approved Continuing Education are claimed for publishing or presenting a paper, report, or book that deals with current developments, skills, procedures, or treatments related to the practice of the profession of optometry.
  - 6. No more than one (1) hour of Continuing Education requirements shall be claimed for obtaining CPR certification.
- B. If a licensee obtains more than 32 hours of approved Continuing Education during a biennial renewal period, the licensee shall not claim the extra hours of approved Continuing Education during a subsequent biennial renewal period.
- C. During the biennial renewal period in which a licensee is first licensed, the licensee shall obtain a prorated number of hours of approved Continuing Education for each month remaining in the biennial renewal period. The hours shall be calculated at four hours per quarter of a year to include the quarter in which the application for licensure is approved by the Board.
- D. A licensee shall not claim as approved Continuing Education any educational program or course completed before being licensed in Arizona.
- E. A licensee shall obtain a certificate or other evidence of attendance from the provider of each approved Continuing Education attended that includes the following:
  - 1. Name of the licensee,
  - 2. License number of the licensee,
  - 3. Name of the approved Continuing Education,
  - 4. Name of the Continuing Education provider,
  - 5. Date, time, and location of the approved Continuing Education, and
  - 6. Number of hours of approved Continuing Education and number of hours relating to practice management.
- ~~F.~~ For the purpose of license renewal, Continuing Education shall be verified through the ARBO OE Tracker Program, using the licensee's individual OE Tracker report.
- ~~F.G.~~ A licensee shall maintain the ~~certificates~~ OE Tracker report or other evidence of attendance described in subsection (E) for ~~three years~~ at least two years from the date of attendance.
- ~~G.H.~~ A licensee shall submit to the Board a copy of the OE Tracker report ~~the certificates or other evidence of attendance~~



obtained during a biennial renewal period as proof of attendance at Continuing Education courses if subject to an audit by the Board under R4-21-211.

**R4-21-210. Approval of Continuing Education**

- A.** The Board approves the following as Continuing Education:
1. An internship, residency, or fellowship attended at an educational institution with an accredited optometry program; and
  2. An educational program designed to provide understanding of current developments, procedures, or treatments, or improve skills related to the practice of the profession of optometry and:
    - a. Provided by an educational institution with an accredited optometry program; or
    - b. Sponsored or approved by the Association of Schools and Colleges of Optometry, The Council on Optometric Practitioner Education, or a local, regional, or national optometric association.
- B.** To obtain approval of a Continuing Education that is not approved under subsection (A), the provider of the Continuing Education or a licensee shall, before providing or participating in the Continuing Education:
1. Submit an application for approval, using a form that is available from the Board, and provide the following information:
    - a. Name of applicant,
    - b. Address and telephone number of applicant,
    - c. Provider of the Continuing Education,
    - d. Name and telephone number of a contact person with the Continuing Education provider,
    - e. Name of the Continuing Education,
    - f. Date and location of the Continuing Education,
    - g. Manner in which potential participants will be notified that the Continuing Education is available,
    - h. Number of hours of the Continuing Education and the number of hours that relate to practice management,
    - i. Name of instructor of the Continuing Education, and
    - j. Dated signature of the applicant;
  2. Submit a curriculum vitae for the instructor of the Continuing Education; and
  3. Submit a syllabus of the Continuing Education that identifies learning objectives, teaching methods, and content.
- C.** The provider of an approved Continuing Education shall provide each participant with a certificate or other evidence of attendance that meets the standards at R4-21-209(E).
- D.** The Board shall approve a Continuing Education if the application required under subsection (B) is submitted and the Board determines that the Continuing Education is designed to provide understanding of current developments, procedures, or treatments, or improve skills related to the practice of the profession of optometry.

**R4-21-211. Audit of Compliance with Continuing Education Requirement**

- A.** At the time of license renewal, the Board shall provide notice of an audit of Continuing Education records to a random sample of licensees. A licensee subject to a Continuing Education audit shall submit documentation that demonstrates compliance with the Continuing Education requirement at the same time the licensee submits the license renewal application form required under R4-21-205.
- B.** To perform an audit, the Board shall use the information entered into the ARBO OE Tracker software to perform its audit. The Board shall consider a licensee's Continuing Education requirement met if the licensee has recorded the required number of Continuing Education credits into the OE tracker.
- C.** At the time of license renewal, each licensee shall certify to the Board, through an OE Tracker report, completion of the Continuing Education required for license renewal. In the event that Continuing Education credits are not able to be recorded in the OE Tracker, a licensee may submit to the Board certificates of attendance for those hours only to meet the Continuing Education requirement. A licensee may not renew the license until required Continuing Education hours are submitted.

**R4-21-213. Registration of Nonresident Contact lens Dispenser; Renewal Repealed**

- A.** ~~To register with the Board as a nonresident dispenser of replacement soft contact lenses, a person shall maintain a valid license to conduct the business of a pharmacist or pharmacy in the state in which the person is domiciled.~~
- B.** ~~To register with the Board, a nonresident contact lens dispenser that is qualified under subsection (A) shall submit to the Board:~~
- ~~1. An application, using a form that is available from the Board, that provides the following information:~~
    - ~~a. Name of applicant;~~
    - ~~b. Social Security number;~~
    - ~~c. Date of applicant's birth;~~
    - ~~d. Mailing address;~~
    - ~~e. Telephone and fax numbers at the address listed under subsection (B)(1)(d);~~
    - ~~f. State in which the applicant is licensed as a pharmacist or pharmacy;~~
    - ~~g. Number of pharmacist or pharmacy license;~~
    - ~~h. Whether license held is for a pharmacist or pharmacy;~~
    - ~~i. Taxpayer identification number;~~
    - ~~j. Primary business name;~~



- k. Address of business location at which inventory and records are stored;
  - l. Telephone and fax numbers at the address listed under subsection (B)(1)(k);
  - m. Toll-free telephone number for use by Arizona customers; and
  - n. Applicant's dated signature affirming that the information provided is true and correct;
2. The names of all corporate officers and of all general partners, if any;
  3. The fee listed at R4-21-102(C); and
  4. A certified copy of the license referenced in subsection (B)(1)(g).
- C. Registration as a nonresident contact lens dispenser is valid for two years from the date issued. To renew registration, a registered nonresident contact lens dispenser shall comply with subsection (B) before the registration expires.

**ARTICLE 3. STANDARDS; RECORDKEEPING;  
REHEARING OR REVIEW OF BOARD DECISION**

**R4-21-302. Advertising**

- A. A licensee shall not knowingly make, publish, or use an advertisement that contains a false, fraudulent, deceptive, or misleading representation.
- B. A licensee may advertise that the licensee has a practice limited in some way if the licensee does not use the term "specialist" or any derivative of the term "specialist."
- C. A licensee shall ensure that the content of an advertisement or directory that includes the name and address of the licensee is accurate.
- D. An advertisement for health care services that includes a licensee's name shall identify the title and type of license the licensee holds.

**R4-21-305. Recordkeeping**

- A. A licensee shall create and maintain a complete and legible record of each examination including all findings. A licensee shall ensure that a patient record is maintained for at least six years after the licensee's last contact with the patient and includes:
  1. Patient's name and contact information;
  2. Date on which an entry is made in the patient's record;
  3. Identification of the person making the entry in the patient's record;
  4. Complete health history;
  5. Visual acuity of each eye: entering and best corrected;
  6. Ocular health examination;
  7. Assessment of intraocular and extra-ocular muscle function;
  8. Objective or subjective refraction of the eyes;
  9. Diagnosis, treatment, and disposition;
  10. Type and dosage of each use of a pharmaceutical agent;
  11. Final optometric prescription given, if any;
  12. Corrective procedure program prescribed, if any; and
  13. Signature of licensee providing diagnosis, treatment, and disposition.
- B. A licensee may create and maintain any record required under A.R.S. Title 32, Chapter 16 or this Chapter in electronic format. A licensee may convert any record maintained under A.R.S. Title 32, Chapter 16 or this Chapter to electronic format. A licensee who converts a record to electronic format shall ensure that the record contains all the information required under A.R.S. Title 32, Chapter 16 and this Chapter.
- C. A licensee who discontinues practice for any reason shall arrange for a patient's record to be available to the patient for six years from the date the licensee discontinues practice. Before discontinuing practice, a licensee shall notify the Board of the location at which patient records from the practice will be maintained.
- D. A licensee who acquires the patient records of a licensee who discontinued practice, either with or without succeeding to the practice of the other licensee, shall ensure that the records are available to the patients for six years after the licensee from whom the records were acquired discontinued practice.
- E. A licensee shall provide a tangible or electronic copy of a patient's record within five business days after receiving a written request from the patient. The licensee shall provide the copy to any person designated by the patient. The licensee may charge a fee to cover the costs of providing the copy. The licensee shall maintain a record of providing the copy for six years.
- F. Regardless of the form in which a licensee creates and maintains patient records, the licensee shall comply with all ~~law~~ laws regarding security, confidentiality, maintenance and release of the records.

**R4-21-306. Optometric Prescription Standards; Release to Patients**

- A. When a licensee completes an eye examination and generates an optometric prescription, the licensee shall provide the patient with a copy of the optometric prescription without charging a fee other than the examination fee.
- B. A licensee shall ensure that an optometric prescription written by the licensee includes:
  1. For ophthalmic lenses other than contact lenses:
    - a. Name of the patient;
    - b. Refractive power of the lenses;
  - e. Interpupillary distance;



- d-c. Printed name, office address, telephone number, and signature of the licensee; and
- e-d. Date of the examination and expiration date of the prescription;

2. For contact lenses, including plano lenses:
  - a. Name of the patient;
  - b. For a patient who has not completed a trial period appropriate under the circumstances and desires to have a prescription, the information required for the patient to purchase trial lenses at another optical establishment or location;
  - c. For a patient who has completed a trial period appropriate under the circumstances for the lenses prescribed, all information necessary to reproduce the contact lenses accurately;
  - d. Printed name, office address, telephone number, license number, and signature of the licensee;
  - e. Date of the examination and the issue and expiration date of the prescription; and
  - f. Information regarding the prescribed contact lenses:
    - i. Refractive power;
    - ii. Base curve or other appropriate designation;
    - iii. Diameter, if appropriate;
    - iv. Tint, if applicable;
    - v. Material, manufacturer, or both; and
    - vi. In the case of private-label contact lenses, manufacturer, trade name, and, if applicable, trade name of equivalent brand name; and
3. For pharmaceutical agents:
  - a. Name and address of the patient;
  - b. Date the prescription is issued;
  - c. Name, strength, and quantity of the pharmaceutical agent prescribed;
  - d. Directions for use of the pharmaceutical agent prescribed;
  - e. Name, office address, and telephone number of the prescribing licensee;
  - f. When prescribing controlled substances, the DEA number of the prescribing licensee;
  - g. Two adjacent signature lines with the following printed words:
    - i. "Dispense as written" under the left signature line, and
    - ii. "Substitution permissible" under the right signature line; and
  - h. Original signature of the prescribing licensee on one of the signature lines; and

4. Additional information that the licensee considers necessary.

- C. A licensee who dispenses or directs the dispensing of ophthalmic materials shall ensure that a prescription is filled accurately.
- D. A licensee shall be available to verify that a prescription written by the licensee but filled by another provider of ophthalmic goods is accurately filled. The licensee may charge a fee for verifying the accuracy or quality of ophthalmic goods dispensed by another provider.
- E. A licensee shall not:
  1. Require purchase of contact lenses from the prescriber or from another person as a condition of providing a copy of the prescription;
  2. Require a payment in addition to, or as part of, the fee for an eye examination, fitting, and evaluation as a condition of providing a copy of a prescription or verification of a prescription;
  3. Require the patient to sign a waiver or release as a condition of verifying or releasing a prescription.

#### **R4-21-308. Anaphylactic-related Supplies**

- A. If a patient to whom a licensee administers a pharmaceutical agent experiences an anaphylactic reaction, the licensee may, as provided by A.R.S. § 32-1706(E)(F), use ~~an injectable epinephrine auto-injector~~ to counteract the anaphylactic reaction.
- B. A licensee who maintains injectable epinephrine auto-injectors at the licensee's practice location shall also maintain the following medically necessary supportive equipment and supplies:
  1. Diphenhydramine in injectable, capsule or tablet, and syrup forms;
  2. Syringes for injecting diphenhydramine;
  3. Wristwatch with a second hand;
  4. Sphygmomanometer with both adult and extra-large cuffs;
  5. Stethoscope;
  6. Adult-size pocket mask with one-way valve;
  7. Tongue depressors; and
  8. Telephone.

#### **R4-21-309. Rehearing or Review of Board Decision**

- A. The Board shall provide for a rehearing and review of its decisions under A.R.S. Title 41, Chapter 6, Article 10 and the rules established by the Office of Administrative Hearings.
- B. Except as provided in subsection (H), a party is required to file a motion for rehearing or review of a decision of the



Board to exhaust the party's administrative remedies.

- C. A party may amend a motion for rehearing or review at any time before the Board rules on the motion.
- D. The Board may grant a rehearing or review for any of the following reasons materially affecting a party's rights:
  - 1. Irregularity in the proceedings of the Board or any order or abuse of discretion that deprived the moving party of a fair hearing;
  - 2. Misconduct of the Board, its staff, or the administrative law judge;
  - 3. Accident or surprise that could not have been prevented by ordinary prudence;
  - 4. Newly discovered material evidence that could not, with reasonable diligence, have been discovered and produced at the hearing;
  - 5. Excessive or insufficient penalties;
  - 6. Error in the admission or rejection of evidence or other errors of law occurring at the hearing or in the course of the proceedings; and
  - 7. The findings of fact or decision is not justified by the evidence or is contrary to law.
- E. The Board may affirm or modify a decision or grant a rehearing or review to all or some of the parties on all or some of the issues for any of the reasons listed in subsection (D). An order modifying a decision or granting a rehearing or review shall specify with particularity the grounds for the order. If a rehearing or review is granted, the rehearing or review shall cover only the matters specified in the order.
- F. Not later than 30 days after the date of a decision and after giving the parties notice and an opportunity to be heard, the Board may, on its own initiative, order a rehearing or review of its decision for any reason it might have granted a rehearing or review on motion of a party. The Board may grant a motion for rehearing or review, timely served, for a reason not stated in the motion. An order granting a rehearing or review shall specify with particularity the grounds on which the rehearing or review is granted.
- G. When a motion for rehearing is based upon affidavits, they shall be served with the motion. An opposing party may, within 15 days after service, serve opposing affidavits. This period may be extended by the Board for a maximum of 20 days for good cause or by written stipulation of the parties. Reply affidavits may be permitted.
- H. If, in a particular decision, the Board makes a specific finding that the immediate effectiveness of the decision is necessary for preservation of the public peace, health, or safety and that a rehearing or review of the decision is impracticable, unnecessary, or contrary to the public interest, the Board may issue the decision as a final decision without opportunity for a rehearing or review.



**NOTICES OF TERMINATION OF RULEMAKING**

This section of the *Arizona Administrative Register* contains Notices of Termination of Rulemaking.

The Office of the Secretary of State is the filing office and publisher of these rules.

Questions about the interpretation of the termination of rulemaking should be addressed to the agency terminating the rulemaking.

**NOTICE OF TERMINATION OF RULEMAKING**

**TITLE 18. ENVIRONMENTAL QUALITY**

**CHAPTER 11. DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY STANDARDS**

[R16-21]

**1. The Register citation and the date of the Notice of Rulemaking Docket Opening:**

Notice of Rulemaking Docket Opening: 21 A.A.R. 1989, September 18, 2015

**2. The Register citation and the date of the Notice of Proposed Rulemaking:**

Notice of Proposed Rulemaking: 21 A.A.R. 1895, September 18, 2015

**3. Article, Part, or Section Affected (as applicable)**

**Rulemaking Action**

|            |       |
|------------|-------|
| R18-11-106 | Amend |
| R18-11-109 | Amend |
| R18-11-110 | Amend |
| R18-11-112 | Amend |
| R18-11-115 | Amend |
| R18-11-121 | Amend |
| Appendix A | Amend |
| Appendix B | Amend |
| Appendix C | Amend |

**NOTICES OF RULEMAKING DOCKET OPENING**

This section of the *Arizona Administrative Register* contains Notices of Rulemaking Docket Opening.

A docket opening is the first part of the administrative rulemaking process. It is an “announcement” that the agency intends to work on its rules.

When an agency opens a rulemaking docket to consider rulemaking, the Administrative Procedure Act (APA) requires the publication of the Notice of Rulemaking Docket Opening.

Under the APA effective January 1, 1995, agencies must submit a Notice of Rulemaking Docket Opening before beginning the formal rulemaking process. Many times an agency may file the Notice of Rulemaking Docket Opening with the Notice of Proposed Rulemaking.

The Office of the Secretary of State is the filing office and publisher of these notices. Questions about the interpretation of this information should be directed to the agency contact person listed in item #4 of this notice.

**NOTICE OF RULEMAKING DOCKET OPENING**

**DEPARTMENT OF AGRICULTURE**

[R16-22]

- 1. Title and its heading:** 3, Agriculture
- Chapter and its heading:** 2, Department of Agriculture - Animal Services Division
- Articles and their headings:** 2, Meat and Poultry Inspection
- Section numbers:** R3-2-202 (*Sections may be added, deleted, or modified as necessary.*)
- 2. The subject matter of the proposed rules:**  
The purpose of this rulemaking is to update the federal regulations incorporated by reference in the rule.
- 3. A citation to all published notices relating to the proceeding:**  
None
- 4. The name and address of agency personnel with whom persons may communicate regarding the rule:**  
Name: Rick Mann  
Address: Arizona Department of Agriculture  
1688 W. Adams St.  
Phoenix, AZ 85007  
Telephone: (602) 542-6398  
E-mail: rmann@azda.gov
- 5. The time during which the agency will accept written comments and the time and place where oral comments may be made:**  
Written comments may be submitted by using the address listed in item 4 until the close of the record, which has not yet been determined. The Department has not scheduled any oral proceedings at this time.
- 6. A timetable for agency decisions or other action on the proceeding, if known:**  
The Department is hopeful that the rulemaking can be completed and the rule can become effective by the end of the calendar year.

**NOTICE OF RULEMAKING DOCKET OPENING**

**DEPARTMENT OF AGRICULTURE**

[R16-23]

- 1. Title and its heading:** 3, Agriculture
- Chapter and its heading:** 2, Department of Agriculture – Animal Services Division
- Articles and their headings:** 8, Dairy and Dairy Products Control
- Section numbers:** R3-2-801 and R3-2-806 (*Sections may be added, deleted, or modified as necessary.*)
- 2. The subject matter of the proposed rules:**  
The purpose of this rulemaking is to modernize the structural requirements for dairy farms contained in the rules.
- 3. A citation to all published notices relating to the proceeding:**  
None



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

Name: Roland Mader  
 Address: Arizona Department of Agriculture  
 1688 W. Adams St.  
 Phoenix, AZ 85007  
 Telephone: (602) 542-0884  
 E-mail: rmader@azda.gov

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

Written comments may be submitted by using the address listed in item 4 until the close of the record, which has not yet been determined. The Department has not scheduled any oral proceedings at this time.

**6. A timetable for agency decisions or other action on the proceeding, if known:**

The Department is hopeful that the rulemaking can be completed and the rule can become effective by the end of the calendar year.

**NOTICE OF RULEMAKING DOCKET OPENING**

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

[R16-24]

- 1. Title and its heading:** 18, Environmental Quality
- Chapter and its heading:** 11, Department of Environmental Quality – Water Quality Standards
- Articles and their headings:** 1, Water Quality Standards for Surface Waters
- Section numbers:** R18-11-106, R18-11-109, R18-11-110, R18-11-112, R18-11-115, R18-11-121, Appendix A, Appendix B, Appendix C (*Sections may be added, deleted, or modified as necessary.*)

- 2. The subject matter of the proposed rule:**  
 The Clean Water Act requires that states review, modify as appropriate, and adopt surface water quality standards for “waters of the U.S.” at least once every three years, subject to approval by the U.S. Environmental Protection Agency (EPA). The Arizona Department of Environmental Quality’s (ADEQ) last rulemaking for the surface water quality standards was in 2009. ADEQ is seeking to amend errors or clarify language from the 2009 rules changes.

- 3. A citation to all published notices relating to the proceeding:**  
 Notice of Proposed Rulemaking: 22 A.A.R. 255, February 19, 2016 (*in this issue*).

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

Name: Wendy LeStarge  
 Telephone: (602) 771-4836, or (800) 234-5677, ext. 771-4836  
 Fax: (602) 771-4834  
 E-mail: lestarge.wendy@azdeq.gov  
 Address: Arizona Department of Environmental Quality  
 1110 W. Washington St. (5415B-2)  
 Phoenix, AZ 85007  
 Web site: www.azdeq.gov

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

Written comments on this rulemaking may be submitted at any time to the person referenced in item # 4 above. Formal written comments for the rulemaking record should be submitted after publication of the notice of proposed rulemaking in the *Arizona Administrative Register* and prior to the close of public record date, which has not yet been determined.

**6. A timetable for agency decisions or other action on the proceeding, if known:**

To be determined.

---

---

## 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 Notices of Public Information, the Office of the Secretary of State has not established a specific publishing format for these notices. We do however require agencies to use a numbered list of questions and answers and follow our filing requirements by presenting receipts with electronic and paper copies.

---

---

### NOTICE OF PUBLIC INFORMATION DEPARTMENT OF HEALTH SERVICES

[M16-22]

- 1. Title and its heading:** 9, Health Services

**Chapter and its heading:** 15, Department of Health Services - Loan Repayment

**Article and its heading:** 1, Definitions

2, Primary Care Provider Loan Repayment Program

3, Rural Private Primary Care Provider Loan Repayment Program
- 2. The public information relating to the listed Section:**

Arizona Revised Statutes (A.R.S.) §§ 36-2172 and 36-2174 provides authorization to the Department to establish a loan repayment program to pay off portions of education loans taken out by physicians, dentists, and mid-level providers who agree to provide primary care services to patients in Health Professional Shortage areas (HPSA) or Arizona medically underserved areas. The Department has implemented A.R.S. §§ 36-2172 and 36-2174 in Arizona Administrative Code (A.A.C.) Title 9, Chapter 15. Laws 2015, Ch. 3 provides the Department with exempt rulemaking authority to amend the rules to add physicians in the discipline of geriatrics and psychiatry, pharmacists, advance practice providers, and behavioral health providers to the list of providers; to increase amounts awarded to primary care providers; and to allow telemedicine, part-time primary care providers, as well as prioritization for state residents and primary care providers in high HPSAs. In compliance with Laws 2015, Ch. 3, the Department is amending the rules and will post the amended rules to the Department's website at <http://azdhs.gov/ops/oacr/rules/rulemakings/active/index.php?pg=loan-repayment> for a 30-day public comment period beginning February 19, 2016. This Notice of Public Information provides notice that the Department has notified the public of an opportunity for public comment before adopting amended rules.
- 3. The name, address, and telephone number of agency personnel to whom questions and comments on the rules may be addressed:**

Name: Ana Roscetti, Workforce Section Manager  
Bureau of Health Systems Development

Address: Department of Health Services  
Division of Public Health Services, Public Health Prevention Services  
150 N. 18th Ave., Suite 300  
Phoenix, AZ 85007

Telephone: (602) 542-1066  
Fax: (602) 542-2011  
E-mail: Ana.Lyn.Roscetti@azdhs.gov

or

Name: Robert Lane, Manager  
Address: Department of Health Services  
Office of Administrative Counsel and Rules  
1740 W. Adams, Suite 203  
Phoenix, AZ 85007

Telephone: (602) 542-1020  
Fax: (602) 364-1150  
E-mail: Robert.Lane@azdhs.gov
- 4. The website where persons may obtain information about the rulemaking:**

The amended Loan Repayment Program rules will be available beginning February 19, 2016 at Department Rules'



webpage: <http://azdhs.gov/ops/oacr/rules/rulemakings/active/index.php?pg=loan-repayment> for the 30-day public comment period required by Laws 2015, Ch. 3.



NOTICES OF SUBSTANTIVE POLICY STATEMENT

The Administrative Procedure Act (APA) requires the publication of Notices of Substantive Policy Statement issued by agencies (A.R.S. § 41-1013(B)(14)).

Substantive policy statements are written expressions which inform the general public of an agency's current approach to rule or regulation practice.

Substantive policy statements are advisory only. A substantive policy statement does not include internal procedural documents that only affect the internal

procedures of the agency and does not impose additional requirements or penalties on regulated parties or include confidential information or rules made in accordance with the APA.

If you believe that a substantive policy statement does impose additional requirements or penalties on regulated parties you may petition the agency under A.R.S. § 41-1033 for a review of the statement.

NOTICE OF SUBSTANTIVE POLICY STATEMENT

BOARD OF TECHNICAL REGISTRATION

[M16-28]

1. Title of the Substantive Policy Statement and the substantive policy statement number by which the substantive policy statement is referenced:

16. Referring Tradesmen to Identify and/or Correct Adverse Conditions

2. Date the substantive policy statement was issued and the effective date of the policy statement if different from the issuance date:

January 26, 2016

3. Summary of the contents of the substantive policy statement:

This substantive policy statement provides guidance to certified home inspectors regarding the referral of other types of tradesmen to inspect for and/or correct adverse conditions beyond the scope of a home inspection.

4. Federal or state constitutional provision; federal or state statute, administrative rule, or regulation; or final court judgment that underlies the substantive policy statement:

A.R.S. § 32-122.02(D); A.A.C. R4-30-301.01(B)(1)(2).

5. A statement as to whether the substantive policy statement is a new statement or a revision:

This is a new substantive policy statement.

6. The agency contact person who can answer questions about the substantive policy statement:

Name: Melissa Cornelius, Executive Director
Address: 1110 W. Washington, Suite 240
Phoenix, AZ 85007
Telephone: (602)364-4930
Fax: (602) 364-4931
E-mail: melissa.cornelius@azbtr.gov
Web site: azbtr.gov

7. Information about where a person may obtain a copy of the substantive policy statement and the costs for obtaining the policy statement:

The substantive policy statement is available, free of charge, on the Arizona State Board of Technical Registration's website at www.azbtr.gov. Copies of the substantive policy statement may also be obtained from the Board office at the above address for \$0.20 per page.

NOTICE OF SUBSTANTIVE POLICY STATEMENT

PEACE OFFICERS STANDARDS AND TRAINING BOARD

[M16-21]

1. Title of the Substantive Policy Statement and the substantive policy statement number by which the substantive policy statement is referenced:

Adderall Usage by Applicants for Peace Officer Certification

2. Date the substantive policy statement was issued and the effective date of the policy statement if different from the issuance date:

January 20, 2016



3. **Summary of the contents of the substantive policy statement:**  
Applicants for peace officer certification who have used Adderall or similar medication for the purpose of aiding in academic studies, will be subject to analysis to prescription drug rules, rather than dangerous drug rules.
4. **Federal or state constitutional provision; federal or state statute, administrative rule, or regulation; or final court judgment that underlies the substantive policy statement:**  
Arizona Administrative Code R13-4-105(A)(14)
5. **A statement as to whether the substantive policy statement is new statement or a revision:**  
New statement
6. **The agency contact person who can answer questions about the substantive policy statement:**  
Name: Lyle Mann - Executive Director  
Address: Arizona Peace Officers Standards and Training Board  
2643 E. University Dr.  
Phoenix AZ 85034  
Telephone: (602) 774-9350  
E-mail: lylem@azpost.gov  
Website: www.azpost.gov
7. **Information about where a person may obtain a copy of the substantive policy statement and the costs for obtaining the policy statement:**  
AZPOST website: www.azpost.gov – no charge for download. Standard copy fee for hard copy.

## NOTICE OF SUBSTANTIVE POLICY STATEMENT

### WATER INFRASTRUCTURE FINANCE AUTHORITY

[M16-14]

1. **Title of the Substantive Policy Statement and the substantive policy statement number by which the substantive policy statement is referenced:**  
Document Title: Project of the Year Award  
Identification Number: I.12
2. **Date the substantive policy statement was issued and the effective date of the policy statement if different from the issuance date:**  
February 19, 2014
3. **Summary of the contents of the substantive policy statement:**  
The Authority issued a policy to annually recognize exceptional Water Infrastructure Finance Authority projects.
4. **Federal or state constitutional provision; federal or state statute, administrative rule, or regulation; or final court judgment that underlies the substantive policy statement:**  
Not applicable
5. **A statement as to whether the substantive policy statement is a new statement or a revision:**  
This is a revised substantive policy statement.
6. **The agency contact person who can answer questions about the substantive policy statement:**  
Name: Patricia Incognito  
Address: Water Infrastructure Finance Authority  
1110 W. Washington St., Suite 290  
Phoenix, AZ 85007  
Telephone: (602) 364-1310  
Fax: (602) 364-1327  
E-mail: pincognito@azwifa.gov  
Web site: www.azwifa.gov
7. **Information about where a person may obtain a copy of the substantive policy statement and the costs for obtaining the policy statement:**  
Copies are available at the Water Infrastructure Finance Authority, 1110 W. Washington St., Suite 290, Phoenix, AZ 85007 or from the person listed above.



NOTICE OF SUBSTANTIVE POLICY STATEMENT

WATER INFRASTRUCTURE FINANCE AUTHORITY

[M16-15]

- 1. **Title of the Substantive Policy Statement and the substantive policy statement number by which the substantive policy statement is referenced:**  
Document Title: Construction Observation  
Identification Number: II.3
- 2. **Date the substantive policy statement was issued and the effective date of the policy statement if different from the issuance date:**  
August 19, 2015
- 3. **Summary of the contents of the substantive policy statement:**  
The Authority issued a policy to establish the need for and purpose of construction observations.
- 4. **Federal or state constitutional provision; federal or state statute, administrative rule, or regulation; or final court judgment that underlies the substantive policy statement:**  
A.R.S. Title 49, Chapter 8; A.C.C. R18-15-105
- 5. **A statement as to whether the substantive policy statement is a new statement or a revision:**  
This is a revised substantive policy statement.
- 6. **The agency contact person who can answer questions about the substantive policy statement:**  
Name: Patricia Incognito  
Address: Water Infrastructure Finance Authority  
1110 W. Washington St., Suite 290  
Phoenix, AZ 85007  
Telephone: (602) 364-1310  
Fax: (602) 364-1327  
E-mail: pincognito@azwifa.gov  
Web site: www.azwifa.gov
- 7. **Information about where a person may obtain a copy of the substantive policy statement and the costs for obtaining the policy statement:**  
Copies are available at the Water Infrastructure Finance Authority, 1110 W. Washington St., Suite 290, Phoenix, AZ 85007 or from the person listed above.

NOTICE OF SUBSTANTIVE POLICY STATEMENT

WATER INFRASTRUCTURE FINANCE AUTHORITY

[M16-16]

- 1. **Title of the Substantive Policy Statement and the substantive policy statement number by which the substantive policy statement is referenced:**  
Document Title: Green Project Reserve Incentives Policy  
Identification Number: II.7
- 2. **Date the substantive policy statement was issued and the effective date of the policy statement if different from the issuance date:**  
August 19, 2015
- 3. **Summary of the contents of the substantive policy statement:**  
The Authority issued a policy to establish an incentive-based program for WIFA Financial Assistance borrowers and Technical Assistance recipients who are actively integrating energy efficiency, water efficiency/conservation, or green storm water infrastructure concepts.
- 4. **Federal or state constitutional provision; federal or state statute, administrative rule, or regulation; or final court judgment that underlies the substantive policy statement:**  
A.R.S. Title 49, Chapter 8; A.C.C. R18-15-204 and R18-15-304
- 5. **A statement as to whether the substantive policy statement is a new statement or a revision:**  
This is a revised substantive policy statement.



**6. The agency contact person who can answer questions about the substantive policy statement:**

Name: Patricia Incognito  
 Address: Water Infrastructure Finance Authority  
 1110 W. Washington St., Suite 290  
 Phoenix, AZ 85007  
 Telephone: (602) 364-1310  
 Fax: (602) 364-1327  
 E-mail: pincognito@azwifa.gov  
 Web site: www.azwifa.gov

**7. Information about where a person may obtain a copy of the substantive policy statement and the costs for obtaining the policy statement:**

Copies are available at the Water Infrastructure Finance Authority, 1110 W. Washington St., Suite 290, Phoenix, AZ 85007 or from the person listed above.

## NOTICE OF SUBSTANTIVE POLICY STATEMENT

### WATER INFRASTRUCTURE FINANCE AUTHORITY

[M16-17]

**1. Title of the Substantive Policy Statement and the substantive policy statement number by which the substantive policy statement is referenced:**

Document Title: Drinking Water Eligibility Requirements  
 Identification Number: II.9

**2. Date the substantive policy statement was issued and the effective date of the policy statement if different from the issuance date:**

August 19, 2015

**3. Summary of the contents of the substantive policy statement:**

The Authority issued a policy to provide guidance on determining eligibility for WIFA Drinking Water funding.

**4. Federal or state constitutional provision; federal or state statute, administrative rule, or regulation; or final court judgment that underlies the substantive policy statement:**

A.R.S. Title 49, Chapter 8; A.C.C. R18-15-104 and R18-15-301

**5. A statement as to whether the substantive policy statement is a new statement or a revision:**

This is a revised substantive policy statement.

**6. The agency contact person who can answer questions about the substantive policy statement:**

Name: Patricia Incognito  
 Address: Water Infrastructure Finance Authority  
 1110 W. Washington St., Suite 290  
 Phoenix, AZ 85007  
 Telephone: (602) 364-1310  
 Fax: (602) 364-1327  
 E-mail: pincognito@azwifa.gov  
 Web site: www.azwifa.gov

**7. Information about where a person may obtain a copy of the substantive policy statement and the costs for obtaining the policy statement:**

Copies are available at the Water Infrastructure Finance Authority, 1110 W. Washington St., Suite 290, Phoenix, AZ 85007 or from the person listed above.

## NOTICE OF SUBSTANTIVE POLICY STATEMENT

### WATER INFRASTRUCTURE FINANCE AUTHORITY

[M16-18]

**1. Title of the Substantive Policy Statement and the substantive policy statement number by which the substantive policy statement is referenced:**

Document Title: Governmental Security Levels and Loan Structures



Identification Number: III.11

- 2. **Date the substantive policy statement was issued and the effective date of the policy statement if different from the issuance date:**  
August 19, 2015
- 3. **Summary of the contents of the substantive policy statement:**  
The Authority issued a policy to determine and establish appropriate loan security structures for governmental applicants.
- 4. **Federal or state constitutional provision; federal or state statute, administrative rule, or regulation; or final court judgment that underlies the substantive policy statement:**  
A.R.S. §49-1224, §49-1225 and §49-1244, §49-1245; A.A.C. R18-15-104, R18-15-105, and R18-15-701
- 5. **A statement as to whether the substantive policy statement is a new statement or a revision:**  
This is a revised substantive policy statement.
- 6. **The agency contact person who can answer questions about the substantive policy statement:**  
Name: Patricia Incognito  
Address: Water Infrastructure Finance Authority  
1110 W. Washington St., Suite 290  
Phoenix, AZ 85007  
Telephone: (602) 364-1310  
Fax: (602) 364-1327  
E-mail: [pincognito@azwifa.gov](mailto:pincognito@azwifa.gov)  
Web site: [www.azwifa.gov](http://www.azwifa.gov)
- 7. **Information about where a person may obtain a copy of the substantive policy statement and the costs for obtaining the policy statement:**  
Copies are available at the Water Infrastructure Finance Authority, 1110 W. Washington St., Suite 290, Phoenix, AZ 85007 or from the person listed above.



NOTICES OF AGENCY OMBUDSMAN

The Administrative Procedure Act requires the publication of Notices of Agency Ombudsman. Agencies shall publish annually in the Register the name or names of those employees who are designated by the agency to

assist members of the public or regulated community in seeking information or assistance from the agency. (A.R.S. § 41-1006)

NOTICE OF AGENCY OMBUDSMAN

DEPARTMENT OF HEALTH SERVICES

[M16-20]

- 1. The agency name: Arizona Department of Health Services
2. The ombudsman's: a. Name: Shannon Whiteaker, b. Title: Chief Legislative Liaison, c. Specific agency division, if applicable: N/A
3. The ombudsman's office address to include the city, state and zip code: Division of Policy and Intergovernmental Affairs, 150 N. 18th Ave., Phoenix, AZ 85007
4. The ombudsman's area code and telephone number, fax number and e-mail address, if available: Telephone: (602) 364-0415, Fax: (602) 542-0883, E-mail: Shannon.Whiteaker@azdhs.gov

NOTICE OF AGENCY OMBUDSMAN

EARLY CHILDHOOD DEVELOPMENT AND HEALTH BOARD/FIRST THINGS FIRST

[M16-19]

- 1. The agency name: Early Childhood Development and Health Board/First Things First
2. The ombudsman's: a. Name: Ofelia Gonzales, b. Title: Public Information Officer, c. Specific agency division, if applicable: Communications and Public Affairs
3. The ombudsman's office address to include the city, state and zip code: 4000 N. Central Ave., Suite 800, Phoenix, AZ 85012
4. The ombudsman's area code and telephone number, fax number and e-mail address, if available: Telephone: (602) 771-5087, Fax: (602) 274-7040, E-mail: ogonzalez@azftf.gov

---

---

**REGISTER INDEXES**

---

---

The *Register* is published by volume in a calendar year (See “Information” in the front of each issue for a more detailed explanation).

---

---

Abbreviations for rulemaking activity in this Index include:

**PROPOSED RULEMAKING**

PN = Proposed new Section  
PM = Proposed amended Section  
PR = Proposed repealed Section  
P# = Proposed renumbered Section

**SUPPLEMENTAL PROPOSED RULEMAKING**

SPN = Supplemental proposed new Section  
SPM = Supplemental proposed amended Section  
SPR = Supplemental proposed repealed Section  
SP# = Supplemental proposed renumbered Section

**FINAL RULEMAKING**

FN = Final new Section  
FM = Final amended Section  
FR = Final repealed Section  
F# = Final renumbered Section

**SUMMARY RULEMAKING****PROPOSED SUMMARY**

PSMN = Proposed Summary new Section  
PSMM = Proposed Summary amended Section  
PSMR = Proposed Summary repealed Section  
PSM# = Proposed Summary renumbered Section

**FINAL SUMMARY**

FSMN = Final Summary new Section  
FSMM = Final Summary amended Section  
FSMR = Final Summary repealed Section  
FSM# = Final Summary renumbered Section

**EXPEDITED RULEMAKING****PROPOSED EXPEDITED**

PEN = Proposed Expedited new Section  
PEM = Proposed Expedited amended Section  
PER = Proposed Expedited repealed Section  
PE# = Proposed Expedited renumbered Section

**SUPPLEMENTAL EXPEDITED**

SPEN = Supplemental Proposed Expedited new Section  
SPEM = Supplemental Proposed Expedited amended Section  
SPER = Supplemental Proposed Expedited repealed Section  
SPE# = Supplemental Proposed Expedited renumbered Section

**FINAL EXPEDITED**

FEN = Final Expedited new Section  
FEM = Final Expedited amended Section  
FER = Final Expedited repealed Section  
FE# = Final Expedited renumbered Section

**EXEMPT RULEMAKING****EXEMPT PROPOSED**

PXN = Proposed Exempt new Section  
PXM = Proposed Exempt amended Section  
PXR = Proposed Exempt repealed Section  
PX# = Proposed Exempt renumbered Section

**EXEMPT SUPPLEMENTAL PROPOSED**

SPXN = Supplemental Proposed Exempt new Section  
SPXR = Supplemental Proposed Exempt repealed Section  
SPXM = Supplemental Proposed Exempt amended Section  
SPX# = Supplemental Proposed Exempt renumbered Section

**FINAL EXEMPT RULMAKING**

FXN = Final Exempt new Section  
FXM = Final Exempt amended Section  
FXR = Final Exempt repealed Section  
FX# = Final Exempt renumbered Section

**EMERGENCY RULEMAKING**

EN = Emergency new Section  
EM = Emergency amended Section  
ER = Emergency repealed Section  
E# = Emergency renumbered Section  
EEXP = Emergency expired

**RECODIFICATION OF RULES**

RC = Recodified

**REJECTION OF RULES**

RJ = Rejected by the Attorney General

**TERMINATION OF RULES**

TN = Terminated proposed new Sections  
TM = Terminated proposed amended Section  
TR = Terminated proposed repealed Section  
T# = Terminated proposed renumbered Section

**RULE EXPIRATIONS**

EXP = Rules have expired

*See also “emergency expired” under emergency rulemaking*

**CORRECTIONS**

C = Corrections to Published Rules

**2016 Arizona Administrative Register  
Volume 22 Page Guide**

---

|                                    |                                   |                                   |
|------------------------------------|-----------------------------------|-----------------------------------|
| Issue 1, Jan. 1, 2016.....1-44     | Issue 2, Jan. 8, 2016.....45-74   | Issue 3, Jan. 15, 2016.....75-100 |
| Issue 4, Jan. 22, 2016.....101-134 | Issue 5, Jan. 29, 2016.....75-172 | Issue 6, Feb. 5, 2016.....173-214 |
| Issue 7, Feb. 12, 2016.....215-250 |                                   |                                   |

---

**RULEMAKING ACTIVITY INDEX**

---

Rulemakings are listed in the Index by Chapter, Section number, rulemaking activity abbreviation and by volume page number. Use the page guide above to determine the *Register* issue number to review the rule. Headings for the Subchapters, Articles, Parts, and Sections are not indexed.

---

**THIS INDEX INCLUDES RULEMAKING ACTIVITY THROUGH ISSUE 7 OF VOLUME 22.**

|   |  |                |   |          |
|---|--|----------------|---|----------|
| <b>Acupuncture Board of Examiners</b>               | R9-26-511.   | PR-177; PN-177 | R7-2-621.   | FXM-219; |
| R4-8-411.   | R9-26-512.   | PM-177         |   | FXM-227  |
| R4-8-412.   | R9-26-515.   | P#-177; PN-177 | <b>Environmental Quality, Department of - Air Pollution Control</b>             |          |
| <b>Corporation Commission - Transportation</b>      | R9-26-516.   | P#-177         | R18-2-709.  | EXP-15   |
| R14-5-202.  | R9-26-517.   | PM-177         | R18-2-711.  | EXP-15   |
| R14-5-203.  | R9-26-518.   | PM-177         | R18-2-712.  | EXP-15   |
| R14-5-204.  | <b>Economic Security, Department of - Developmental Disabilities</b> |                | R18-2-713.  | EXP-15   |
| R14-5-205.  | R6-6-1401.   | EXP-14         | R18-2-717.  | EXP-15   |
| R14-5-207.  | <b>Education, State Board of</b>                                     |                | R18-2-732.  | EXP-15   |
| <b>Deaf and the Hard of Hearing, Commission for</b> | R7-2-300.  | FXN-143        | <b>Health Services, Department of - Health Care Institutions: Licensing</b>     |          |
| R9-26-101.  | R7-2-301.  | FXM-143        | R9-10-119.  | PN-139   |
| R9-26-201.  | R7-2-302.  | FXM-143;       | <b>Retirement System Board, State</b>   |          |
| R9-26-202.  |  | FNM-197        | R2-8-115.   | FM-79    |
| R9-26-203.  | R7-2-302.01.   | FXR-143        | R2-8-116.   | PN-107   |
| R9-26-204.  | R7-2-302.02.   | FXR-143        | R2-8-118.   | FM-79    |
| R9-26-205.  | R7-2-302.04.   | FXR-143        | R2-8-122.   | FM-79    |
| R9-26-206.  | R7-2-302.05.   | FX#-111;       | R2-8-126.   | FM-79    |
| R9-26-207.  |  | FXN-111        | <b>Revenue, Department of - General Administration</b>                          |          |
| R9-26-301.  | R7-2-302.06.   | FX#-111;       | R15-10-105.   | FXM-116  |
|   |  | FXR-143        | R15-10-501.   | FXM-116  |
| R9-26-302.  | R7-2-302.07.   | FX#-111;       | R15-10-502.   | FXM-116  |
| R9-26-303.  |  | FXR-143        | R15-10-504.   | FXM-116  |
|   | R7-2-302.08.   | FXR-143        | R15-10-505.   | FXN-116  |
| R9-26-304.  | R7-2-302.09.   | FX#-111;       | <b>Secretary of State, Office of</b>  |          |
| R9-26-501.  |  | FXR-143        | R2-12-402.  | PM-109   |
| R9-26-502.  | R7-2-302.10.   | FX#-111;       | <b>Secretary of State - Rules and Rulemaking</b>                                |          |
| R9-26-503.  |  | FXN-111;       | R1-1-107.   | PM-105   |
| R9-26-504.  |  | FXM-143;       | <b>Transportation, Department of - Title, Registration, and Driver Licenses</b> |          |
| R9-26-505.  |  | FXR-197        | R17-4-407.  | PXN-194  |
| R9-26-506.  | R7-2-615.  | FXM-219;       | R17-4-409.  | PXM-194  |
| R9-26-507.  |  | FXM-227;       |   |          |
| R9-26-508.  |  | FXM-233        |   |          |
| R9-26-509.  | R7-2-616.  | FXM-219        |   |          |
| R9-26-510.  |  |                |   |          |

**OTHER NOTICES AND PUBLIC RECORDS INDEX**

---

Other notices related to rulemakings are listed in the Index by notice type, agency/county and by volume page number. Agency policy statements and proposed delegation agreements are included in this section of the Index by volume page number.

Public records, such as Governor Office executive orders, proclamations, declarations and terminations of emergencies, summaries of Attorney General Opinions, and county notices are also listed in this section of the Index as published by volume page number.

---

**THIS INDEX INCLUDES OTHER NOTICE ACTIVITY THROUGH ISSUE 7 OF VOLUME 22.**

**Agency Ombudsman, Notices of**

Game and Fish Commission; pp. 62-63

Transportation, Department of; p. 62

**Governor's Office**

**Executive Order:** pp. 19-20 (E.O. #2015-11); 20-21 (E.O. #2015-13); 21-22 (E.O. #2015-01); 84 (E.O. #2016-01); 85 (E.O. #2016-02); 86 (E.O. 2015-06); 87 (E.O. #2015-09); 88 (E.O. #2015-12)

**Proclamations:** pp. 23 (M15-350, M15-349); 24 (M15-348); 25 (M15-347); 64 (M15-354, M15-355); 65 (M15-356, M15-357); 66 (M15-358); 123 (M16-04, M16-05); 124 (M16-06, M16-07); 125 (M16-08); 126 (M16-09); 162 (M16-13); 202 (M16-23, M16-24); 203 (M16-25, M16-26); 204 (M16-27)

**Governor's Regulatory Review Council**

Notices of Action Taken at Monthly Meetings; pp. 96, 97-98

**Public Information, Notices of**

Arizona Health Care Cost Containment System; p. 49

Child Safety, Department of; p. 160

Environmental Quality, Department of; p. 49

**Rulemaking Docket Opening, Notices of**

Environmental Quality, Department of - Water Pollution Control; 18 A.A.C. 9; pp. 16-17

Environmental Quality, Department of - Water Quality Standards; 18 A.A.C. 11; pp. 17-18

Industrial Commission of Arizona; 20 A.A.C. 5; p. 239

Secretary of State, Office of; 2 A.A.C. 12; pp. 121-122; 239

Secretary of State - Rules and Rulemaking; 1 A.A.C. 1; p.121

**Substantive Policy Statement, Notices of**

Environmental Quality, Department of; pp. 58-59; 161

Registrar of Contractors; pp. 60-61



**2016 RULES EFFECTIVE DATES CALENDAR**

A.R.S. § 41-1032(A), as amended by Laws 2002, Ch. 334, § 8 (effective August 22, 2002), states that a rule generally becomes effective 60 days after the day it is filed with the Secretary of State's Office. The following table lists filing dates and effective dates for rules that follow this provision. Please also check the rulemaking Preamble for effective dates.

| January    |                | February   |                | March      |                | April      |                | May        |                | June       |                |
|------------|----------------|------------|----------------|------------|----------------|------------|----------------|------------|----------------|------------|----------------|
| Date Filed | Effective Date |
| 1/1        | 3/1            | 2/1        | 4/1            | 3/1        | 4/30           | 4/1        | 5/31           | 5/1        | 6/30           | 6/1        | 7/31           |
| 1/2        | 3/2            | 2/2        | 4/2            | 3/2        | 5/1            | 4/2        | 6/1            | 5/2        | 7/1            | 6/2        | 8/1            |
| 1/3        | 3/3            | 2/3        | 4/3            | 3/3        | 5/2            | 4/3        | 6/2            | 5/3        | 7/2            | 6/3        | 8/2            |
| 1/4        | 3/4            | 2/4        | 4/4            | 3/4        | 5/3            | 4/4        | 6/3            | 5/4        | 7/3            | 6/4        | 8/3            |
| 1/5        | 3/5            | 2/5        | 4/5            | 3/5        | 5/4            | 4/5        | 6/4            | 5/5        | 7/4            | 6/5        | 8/4            |
| 1/6        | 3/6            | 2/6        | 4/6            | 3/6        | 5/5            | 4/6        | 6/5            | 5/6        | 7/5            | 6/6        | 8/5            |
| 1/7        | 3/7            | 2/7        | 4/7            | 3/7        | 5/6            | 4/7        | 6/6            | 5/7        | 7/6            | 6/7        | 8/6            |
| 1/8        | 3/8            | 2/8        | 4/8            | 3/8        | 5/7            | 4/8        | 6/7            | 5/8        | 7/7            | 6/8        | 8/7            |
| 1/9        | 3/9            | 2/9        | 4/9            | 3/9        | 5/8            | 4/9        | 6/8            | 5/9        | 7/8            | 6/9        | 8/8            |
| 1/10       | 3/10           | 2/10       | 4/10           | 3/10       | 5/9            | 4/10       | 6/9            | 5/10       | 7/9            | 6/10       | 8/9            |
| 1/11       | 3/11           | 2/11       | 4/11           | 3/11       | 5/10           | 4/11       | 6/10           | 5/11       | 7/10           | 6/11       | 8/10           |
| 1/12       | 3/12           | 2/12       | 4/12           | 3/12       | 5/11           | 4/12       | 6/11           | 5/12       | 7/11           | 6/12       | 8/11           |
| 1/13       | 3/13           | 2/13       | 4/13           | 3/13       | 5/12           | 4/13       | 6/12           | 5/13       | 7/12           | 6/13       | 8/12           |
| 1/14       | 3/14           | 2/14       | 4/14           | 3/14       | 5/13           | 4/14       | 6/13           | 5/14       | 7/13           | 6/14       | 8/13           |
| 1/15       | 3/15           | 2/15       | 4/15           | 3/15       | 5/14           | 4/15       | 6/14           | 5/15       | 7/14           | 6/15       | 8/14           |
| 1/16       | 3/16           | 2/16       | 4/16           | 3/16       | 5/15           | 4/16       | 6/15           | 5/16       | 7/15           | 6/16       | 8/15           |
| 1/17       | 3/17           | 2/17       | 4/17           | 3/17       | 5/16           | 4/17       | 6/16           | 5/17       | 7/16           | 6/17       | 8/16           |
| 1/18       | 3/18           | 2/18       | 4/18           | 3/18       | 5/17           | 4/18       | 6/17           | 5/18       | 7/17           | 6/18       | 8/17           |
| 1/19       | 3/19           | 2/19       | 4/19           | 3/19       | 5/18           | 4/19       | 6/18           | 5/19       | 7/18           | 6/19       | 8/18           |
| 1/20       | 3/20           | 2/20       | 4/20           | 3/20       | 5/19           | 4/20       | 6/19           | 5/20       | 7/19           | 6/20       | 8/19           |
| 1/21       | 3/21           | 2/21       | 4/21           | 3/21       | 5/20           | 4/21       | 6/20           | 5/21       | 7/20           | 6/21       | 8/20           |
| 1/22       | 3/22           | 2/22       | 4/22           | 3/22       | 5/21           | 4/22       | 6/21           | 5/22       | 7/21           | 6/22       | 8/21           |
| 1/23       | 3/23           | 2/23       | 4/23           | 3/23       | 5/22           | 4/23       | 6/22           | 5/23       | 7/22           | 6/23       | 8/22           |
| 1/24       | 3/24           | 2/24       | 4/24           | 3/24       | 5/23           | 4/24       | 6/23           | 5/24       | 7/23           | 6/24       | 8/23           |
| 1/25       | 3/25           | 2/25       | 4/25           | 3/25       | 5/24           | 4/25       | 6/24           | 5/25       | 7/24           | 6/25       | 8/24           |
| 1/26       | 3/26           | 2/26       | 4/26           | 3/26       | 5/25           | 4/26       | 6/25           | 5/26       | 7/25           | 6/26       | 8/25           |
| 1/27       | 3/27           | 2/27       | 4/27           | 3/27       | 5/26           | 4/27       | 6/26           | 5/27       | 7/26           | 6/27       | 8/26           |
| 1/28       | 3/28           | 2/28       | 4/28           | 3/28       | 5/27           | 4/28       | 6/27           | 5/28       | 7/27           | 6/28       | 8/27           |
| 1/29       | 3/29           | 2/29       | 4/29           | 3/29       | 5/28           | 4/29       | 6/28           | 5/29       | 7/28           | 6/29       | 8/28           |
| 1/30       | 3/30           |            |                | 3/30       | 5/29           | 4/30       | 6/29           | 5/30       | 7/29           | 6/30       | 8/29           |
| 1/31       | 3/31           |            |                | 3/31       | 5/30           |            |                | 5/31       | 7/30           |            |                |



| July       |                | August     |                | September  |                | October    |                | November   |                | December   |                |
|------------|----------------|------------|----------------|------------|----------------|------------|----------------|------------|----------------|------------|----------------|
| Date Filed | Effective Date |
| 7/1        | 8/30           | 8/1        | 9/30           | 9/1        | 10/31          | 10/1       | 11/30          | 11/1       | 12/31          | 12/1       | 1/30/13        |
| 7/2        | 8/31           | 8/2        | 10/1           | 9/2        | 11/1           | 10/2       | 12/1           | 11/2       | 1/1/13         | 12/2       | 1/31/13        |
| 7/3        | 9/1            | 8/3        | 10/2           | 9/3        | 11/2           | 10/3       | 12/2           | 11/3       | 1/2/13         | 12/3       | 2/1/13         |
| 7/4        | 9/2            | 8/4        | 10/3           | 9/4        | 11/3           | 10/4       | 12/3           | 11/4       | 1/3/13         | 12/4       | 2/2/13         |
| 7/5        | 9/3            | 8/5        | 10/4           | 9/5        | 11/4           | 10/5       | 12/4           | 11/5       | 1/4/13         | 12/5       | 2/3/13         |
| 7/6        | 9/4            | 8/6        | 10/5           | 9/6        | 11/5           | 10/6       | 12/5           | 11/6       | 1/5/13         | 12/6       | 2/4/13         |
| 7/7        | 9/5            | 8/7        | 10/6           | 9/7        | 11/6           | 10/7       | 12/6           | 11/7       | 1/6/13         | 12/7       | 2/5/13         |
| 7/8        | 9/6            | 8/8        | 10/7           | 9/8        | 11/7           | 10/8       | 12/7           | 11/8       | 1/7/13         | 12/8       | 2/6/13         |
| 7/9        | 9/7            | 8/9        | 10/8           | 9/9        | 11/8           | 10/9       | 12/8           | 11/9       | 1/8/13         | 12/9       | 2/7/13         |
| 7/10       | 9/8            | 8/10       | 10/9           | 9/10       | 11/9           | 10/10      | 12/9           | 11/10      | 1/9/13         | 12/10      | 2/8/13         |
| 7/11       | 9/9            | 8/11       | 10/10          | 9/11       | 11/10          | 10/11      | 12/10          | 11/11      | 1/10/13        | 12/11      | 2/9/13         |
| 7/12       | 9/10           | 8/12       | 10/11          | 9/12       | 11/11          | 10/12      | 12/11          | 11/12      | 1/11/13        | 12/12      | 2/10/13        |
| 7/13       | 9/11           | 8/13       | 10/12          | 9/13       | 11/12          | 10/13      | 12/12          | 11/13      | 1/12/13        | 12/13      | 2/11/13        |
| 7/14       | 9/12           | 8/14       | 10/13          | 9/14       | 11/13          | 10/14      | 12/13          | 11/14      | 1/13/13        | 12/14      | 2/12/13        |
| 7/15       | 9/13           | 8/15       | 10/14          | 9/15       | 11/14          | 10/15      | 12/14          | 11/15      | 1/14/13        | 12/15      | 2/13/13        |
| 7/16       | 9/14           | 8/16       | 10/15          | 9/16       | 11/15          | 10/16      | 12/15          | 11/16      | 1/15/13        | 12/16      | 2/14/13        |
| 7/17       | 9/15           | 8/17       | 10/16          | 9/17       | 11/16          | 10/17      | 12/16          | 11/17      | 1/16/13        | 12/17      | 2/15/13        |
| 7/18       | 9/16           | 8/18       | 10/17          | 9/18       | 11/17          | 10/18      | 12/17          | 11/18      | 1/17/13        | 12/18      | 2/16/13        |
| 7/19       | 9/17           | 8/19       | 10/18          | 9/19       | 11/18          | 10/19      | 12/18          | 11/19      | 1/18/13        | 12/19      | 2/17/13        |
| 7/20       | 9/18           | 8/20       | 10/19          | 9/20       | 11/19          | 10/20      | 12/19          | 11/20      | 1/19/13        | 12/20      | 2/18/13        |
| 7/21       | 9/19           | 8/21       | 10/20          | 9/21       | 11/20          | 10/21      | 12/20          | 11/21      | 1/20/13        | 12/21      | 2/19/13        |
| 7/22       | 9/20           | 8/22       | 10/21          | 9/22       | 11/21          | 10/22      | 12/21          | 11/22      | 1/21/13        | 12/22      | 2/20/13        |
| 7/23       | 9/21           | 8/23       | 10/22          | 9/23       | 11/22          | 10/23      | 12/22          | 11/23      | 1/22/13        | 12/23      | 2/21/13        |
| 7/24       | 9/22           | 8/24       | 10/23          | 9/24       | 11/23          | 10/24      | 12/23          | 11/24      | 1/23/13        | 12/24      | 2/22/13        |
| 7/25       | 9/23           | 8/25       | 10/24          | 9/25       | 11/24          | 10/25      | 12/24          | 11/25      | 1/24/13        | 12/25      | 2/23/13        |
| 7/26       | 9/24           | 8/26       | 10/25          | 9/26       | 11/25          | 10/26      | 12/25          | 11/26      | 1/25/13        | 12/26      | 2/24/13        |
| 7/27       | 9/25           | 8/27       | 10/26          | 9/27       | 11/26          | 10/27      | 12/26          | 11/27      | 1/26/13        | 12/27      | 2/25/13        |
| 7/28       | 9/26           | 8/28       | 10/27          | 9/28       | 11/27          | 10/28      | 12/27          | 11/28      | 1/27/13        | 12/28      | 2/26/13        |
| 7/29       | 9/27           | 8/29       | 10/28          | 9/29       | 11/28          | 10/29      | 12/28          | 11/29      | 1/28/13        | 12/29      | 2/27/13        |
| 7/30       | 9/28           | 8/30       | 10/29          | 9/30       | 11/29          | 10/30      | 12/29          | 11/30      | 1/29/13        | 12/30      | 2/28/13        |
| 7/31       | 9/29           | 8/31       | 10/30          |            |                | 10/31      | 12/30          |            |                | 12/31      | 3/1/13         |



REGISTER PUBLISHING DEADLINES

The Secretary of State's Office publishes the Register weekly. There is a three-week turnaround period between a deadline date and the publication date of the Register. The weekly deadline dates and issue dates are shown below. Council meetings and Register deadlines do not correlate. Also listed are the earliest dates on which an oral proceeding can be held on proposed rulemakings or proposed delegation agreements following publication of the notice in the Register.

Table with 3 columns: Deadline Date (paper only) Friday, 5:00 p.m., Register Publication Date, and Oral Proceeding may be scheduled on or after. Rows list dates from September 4, 2015 to March 18, 2016.



## GOVERNOR’S REGULATORY REVIEW COUNCIL DEADLINES

The following deadlines apply to all Five-Year-Review Reports and any adopted rule submitted to the Governor’s Regulatory Review Council. Council meetings and *Register* deadlines do not correlate. We publish these deadlines as a courtesy.

All rules and Five-Year Review Reports are due in the Council office by noon of the deadline date. The Council’s office is located at 100 N. 15th Ave., Suite 402, Phoenix, AZ 85007. For more information, call (602) 542-2058 or visit [www.grrc.state.az.us](http://www.grrc.state.az.us).

### GOVERNOR’S REGULATORY REVIEW COUNCIL DEADLINES FOR 2016

| DEADLINE TO BE PLACED ON COUNCIL AGENDA | FINAL MATERIALS DUE FROM AGENCIES | DATE OF COUNCIL STUDY SESSION    | DATE OF COUNCIL MEETING          |
|---|-----------------------------------|----------------------------------|----------------------------------|
| November 17, 2015                       | December 18, 2015                 | December 29, 2015                | January 5, 2016                  |
| December 21, 2015                       | January 15, 2016                  | January 26, 2016                 | February 2, 2016                 |
| January 19, 2016<br>(Tuesday)           | February 12, 2016                 | February 23, 2016                | March 1, 2016                    |
| February 16, 2016<br>(Tuesday)          | March 18, 2016                    | March 29, 2016                   | April 5, 2016                    |
| March 21, 2016                          | April 15, 2016                    | April 26, 2016                   | May 3, 2016                      |
| April 18, 2016                          | May 20, 2016                      | June 1, 2016<br>(Wednesday)      | June 7, 2016                     |
| May 23, 2016                            | June 17, 2016                     | June 28, 2016                    | July 6, 2016<br>(Wednesday)      |
| June 20, 2016                           | July 15, 2016                     | July 26, 2016                    | August 2, 2016                   |
| July 18, 2016                           | August 19, 2016                   | August 30, 2016                  | September 7, 2016<br>(Wednesday) |
| August 22, 2016                         | September 16, 2016                | September 27, 2016               | October 4, 2016                  |
| September 19, 2016                      | October 14, 2016                  | October 25, 2016                 | November 1, 2016                 |
| October 17, 2016                        | November 18, 2016                 | November 29, 2016                | December 6, 2016                 |
| November 21, 2016                       | December 16, 2016                 | December 28, 2016<br>(Wednesday) | January 4, 2017 (Wednesday)      |

\*Materials must be submitted by **noon** on dates listed as a deadline for placement on a particular agenda. Placement on a particular agenda is not guaranteed.