SWMS-700.004

NOTICE OF PROPOSED RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 11. DEPARTMENT OF ENVIRONMENTAL QUALITY WATER QUALITY STANDARDS

ARTICLE 1. WATER QUALITY STANDARDS FOR SURFACE WATERS

PREAMBLE

1.

Sections Affected	Rulemaking Action
Chapter 11	Amendment
Article 1	Amendment
R18-11-101	Amendment
R18-11-102	Amendment
R18-11-103	Repeal
R18-11-104	Amendment
R18-11-105	New Section
R18-11-106	New Section
R18-11-107	Amendment
R18-11-108	Amendment
R18-11-109	Amendment
R18-11-111	Amendment
R18-11-112	Amendment
R18-11-113	Amendment
R18-11-114	Amendment
R18-11-115	Amendment
R18-11-117	Amendment
R18-11-118	Amendment
R18-11-120	Amendment
R18-11-121	Amendment
R18-11-122	New Section
R18-11-123	New Section
Appendix A	Repeal
Appendix A	New Section
Appendix B	Repeal
Appendix B	New Section
Appendix C	Repeal
Article 2	Repeal
R18-11-201	Repeal
R18-11-202	Repeal
R18-11-203	Repeal
R18-11-204	Repeal
R18-11-205	Repeal

2. **The specific authority for the rulemaking, including both the authorizing statute [general] and the statutes the rules are implementing [specific]:**

Authorizing statute: A.R.S. §49-221

Implementing statute: A.R.S. §49-222

3. **The names and addresses of agency personnel with whom persons may communicate regarding the rulemaking:**

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4. **An explanation of the rule, including the agency's reasons for initiating the rule:**

The Arizona Department of Environmental Quality [ADEQ] is initiating this rulemaking to comply with the requirements of the Clean Water Act. §303(c) of the Clean Water Act establishes the statutory basis in federal law for the water quality standards program. §303(c)(1) of the Clean Water Act requires states to review their surface water quality standards at least once every three years and to revise them where it is appropriate to do so. Under A.R.S. §49-202(A), ADEQ is the designated state agency for all purposes of the Clean Water Act and is responsible for conducting the triennial review of the state's water quality standards. The last triennial review of the Arizona's water quality standards was completed with the adoption of revisions to the state-adopted water quality standards rules effective Feb. 18, 1992.

State-adopted water quality standards are subject to review and approval or disapproval by the U.S. Environmental Protection Agency [EPA]. After the last revisions to Arizona's water quality standards were officially adopted on February 18, 1992, they were submitted to the Administrator of U.S. EPA Region IX for review.

EPA is required to review the state-adopted water quality standards and make a determination whether the standards meet

the requirements of the Clean Water Act and federal water quality standards regulations at 40 CFR, Part 131. EPA's review involves a determination of whether ADEQ has adopted use designations for surface waters in Arizona that are consistent with the requirements of the Clean Water Act; whether ADEQ has adopted water quality criteria that are sufficient to protect water quality for those designated uses; whether the state-adopted water quality standards include an antidegradation policy that is consistent with federal requirements; whether ADEQ complied with procedural requirements for adopting or revising water quality standards; and whether the state-adopted water quality standards are based upon appropriate technical or scientific analyses.

EPA can either approve, conditionally approve or disapprove state-adopted water quality standards, in whole or in part. If the Regional Administrator of EPA Region IX determines that revisions to state-adopted water quality standards are not consistent with the requirements of the Clean Water Act and its implementing regulations, then the Regional Administrator is required to disapprove the standards and provide written notice to the state specifying what changes must be made to the water quality standards in order for them to be approved. If a state fails to make the required changes within 90 days of notification, then EPA is required to promptly promulgate federal water quality standards for the state.

In the last triennial review of Arizona's water quality standards, the Regional Administrator of U.S. EPA Region IX reviewed the state-adopted water quality standards and subsequently issued four letters indicating EPA approvals and disapprovals. On March 2, 1992, EPA approved Arizona's numeric water quality standards for toxic pollutants. On July 6, 1992, EPA approved the state-adopted nutrient standards for the Lower Colorado River and the salinity standards for the Colorado River. On September 9, 1993, EPA disapproved certain portions of the state-adopted water quality standards. These disapprovals included the following:

1. Disapproval of the exclusion from water quality standards for mining-related impoundments;
2. Disapproval of the lack of the fish consumption designated use for certain surface waters in Arizona;
3. Disapproval of the lack of biomonitoring procedures for implementation of the narrative toxics standard at R18-11-108(A)(5);
4. Disapproval of the lack of implementation procedures for the narrative nutrient standard at R18-11-108(A)(6); and
5. Disapproval of the practical quantitation levels prescribed in Appendix C.

On November 8, 1993, Arizona informed EPA by letter that the

state would defer its response to the disapprovals of the state's water quality standards until after EPA completed a required consultation with the U.S Fish & Wildlife Service [USFWS] on Arizona's water quality standards under §7 of the Endangered Species Act. and took final action on the remainder of the water quality standards. §7 of the Endangered Species Act requires that EPA consult with the USFWS to determine whether EPA's action on the approval or disapproval of Arizona's water quality standards would be likely to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of their critical habitat.

On April 29, 1994, EPA completed its review, approving the remaining portions of the state-adopted water quality standards. However, EPA's final action included one additional disapproval. EPA disapproved Arizona's numeric water quality standards for mercury that had been established to protect aquatic life and wildlife. This additional disapproval was based upon a biological opinion issued by the USFWS. In the USFWS biological opinion, the USFWS stated that Arizona's water quality standards for mercury jeopardized endangered and threatened species because the state had failed to adequately consider the bioaccumulative effects of mercury on predatory birds and fish when the numeric water quality criteria were developed.

The Director of ADEQ responded to the EPA disapprovals by letter dated July 6, 1994. The response indicated that Arizona would propose required revisions to the state-adopted water quality standards rules in the current triennial review. ADEQ noted in the response to EPA that revisions to the water quality standards could not be accomplished within 90 days because rulemaking was needed to make the revisions. This rulemaking includes the necessary revisions. These revisions are discussed in the summary of the proposed changes to the rules below.

The triennial review of the state-adopted water quality standards rules is not limited to issues related to specific EPA disapprovals. ADEQ may identify other necessary revisions to designated uses, water quality criteria, antidegradation policy or other general policies based upon water quality monitoring data or public comment. This rulemaking also includes proposed revisions that are unrelated to EPA disapprovals.

Summary of Proposed Revisions to the Rules

"Navigable Water" v. "Surface Water"

The general authorizing statute for this rulemaking states at

A.R.S. §49-221(A) that the Director of the Arizona Department of Environmental Quality "shall adopt, by rule, water quality standards for all navigable waters...." The specific authorizing statute for this rulemaking, A.R.S. §49-222, also refers to water quality standards for "navigable waters."

The use of the term, "navigable waters," is consistent with the terminology used in §303(c) of the Clean Water Act. For example, §303(c)(2) of the Act provides that a water quality standard shall consist of "the designated uses of the navigable waters involved and the water quality criteria for such waters based upon their uses."

The term, "navigable waters," is a legal term of art. It is specifically defined in the Clean Water Act as "the waters of the United States, including the territorial seas" [See §502(7) of the Clean Water Act]. Arizona statute also defines "navigable waters" as the "waters of the United States" [See A.R.S. §49-201(17)]. The term, "waters of the United States," has a specific legal definition. "Waters of the United States" is defined in federal regulations which govern the National Pollutant Discharge Elimination System permit program at 40 CFR §122.2. The currently effective water quality standards rules also include a definition of "waters of the United States" [See R18-11-101(45)].

In the last triennial review of the water quality standards rules, Arizona revised the rules to consistently use the term, "navigable water." This change was made to make the terminology of the state-adopted water quality standards rules consistent with the terminology used in the Clean Water Act and to clarify that the water quality standards rules were adopted by the state pursuant to A.R.S. §49-221 and §49-222. ADEQ defined "navigable water" to mean a "water of the United States" [See R18-11-101(32)] and essentially imported the federal definition of "water of the United States" at 40 CFR §122.2 into the state water quality standards rules. [See R18-11-101(45)].

Unfortunately, the use of the term, "navigable water," created confusion in the regulated community. Many people did not understand that the term, "navigable water," was a term of art with a specific legal definition under both the Clean Water Act and Arizona law. Many persons understandably interpreted "navigable water" to mean a surface water that was navigable-in-fact. Confusion over the meaning of "navigable water" led to confusion over what surface waters in Arizona were governed by state-adopted water quality standards.

To avoid this confusion and to make the water quality standards rules more understandable, ADEQ proposes to eliminate all references to "navigable waters" in the rules.

ADEQ proposes to replace "navigable waters" with the term, "surface waters." ADEQ believes that "surface waters" more accurately describes the water bodies that are subject to water quality standards. ADEQ also believes that "surface waters" is less subject to misinterpretation by the regulated community.

The proposed use of the term, "surface water" should not be interpreted as a substantive change in the scope of the water quality standards rules. The terms "surface water," "navigable water," and "water of the United States" are synonymous. The proposed definition of "surface water" at R18-11-101(41) makes clear that a "surface water" is a "water of the United States." A comparison of the proposed definition of "surface water" with the federal definition of "water of the United States" at 40 CFR §122.2 will show that the two definitions are essentially the same.

Scope of the Proposed Water Quality Standards Rules

ADEQ proposes to amend R18-11-102 to clarify that water quality standards apply to surface waters but not to waste treatment systems or to certain man-made surface impoundments used in mining. The waste treatment system and mining impoundments exclusions from water quality standards were established by the state in the last triennial review of the water quality standards rules [See R18-11-103(1) and (2)]. In this rulemaking, ADEQ proposes to revise the language of both of the currently effective exclusions.

The Waste Treatment System Exclusion

The state-adopted water quality standards apply to surface waters [i.e, to "navigable waters" or "waters of the United States"]. Under the proposed waste treatment systems exclusion, water quality standards do <u>not</u> apply to waste treatment systems, including the impoundments, ponds, lagoons and constructed wetlands that are a part of such waste treatment systems [See R18-11-102(B)(1)].

The source of the waste treatment system exclusion is the federal definition of "waters of the United States." 40 CFR §122.2 provides, in relevant part:

> Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA [other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of

> the United States [such as a disposal area in wetlands] nor resulted from the impoundment of waters of the United States [See Note 1 of this Section].

Note 1 to the waste treatment system exclusion states that EPA suspended the second sentence cited above [starting with "This exclusion applies only to manmade..."] in 1980. The second sentence limited the application of the waste treatment systems exclusion to those waste treatment systems that were not originally created in waters of the United States nor resulted from the impoundment of waters of the United States [See 45 Federal Register 48620 (July 21, 1980)]. The suspension of this language by EPA means that the waste treatment system exclusion in the federal definition of "waters of the United States" is <u>not</u> conditioned. The suspension of this language remains in effect.

The same waste treatment system exclusion is found in the currently effective water quality standards rules at R18-11-103(1). However, the waste treatment system exclusion adopted by the state in 1992 includes the language suspended by EPA. ADEQ proposes to eliminate the suspended language from the state-adopted waste treatment system exclusion to make it more consistent with the currently effective federal definition of "waters of the United States" and the EPA suspension.

The elimination of the second sentence from the waste treatment system exclusion will broaden the exclusion and provide more regulatory flexibility. For example, the elimination of the second sentence from the waste treatment system exclusion will remove an existing legal barrier to the use of constructed wetlands in the channels of dry watercourses for wastewater treatment. Under the currently effective exclusion, the construction of a wetlands for wastewater treatment in the channel of a dry watercourse is effectively precluded because water quality standards have to be met at the point of discharge <u>into</u> the constructed wetlands. The requirement to comply with water quality standards at the point of discharge into a constructed wetlands defeats the wetland's intended purpose. If the limiting language in the wastewater treatment system exclusion is eliminated, then it is possible to construct a wetlands in the channel of a dry watercourse for the purpose of wastewater treatment. Water quality standards would not have to be met at the point of discharge into the constructed wetlands. Rather, compliance with water quality standards could be determined at the point of discharge <u>from</u> the constructed wetlands. The removal of the second sentence from the wastewater treatment system exclusion would allow in-channel constructed wetlands for wastewater treatment.

The Mining Impoundments Exclusion

In the last triennial review, ADEQ created an exclusion from water quality standards for certain mining-related impoundments. Water quality standards do not apply to:

> Man made surface impoundments and associated ditches and conveyances used in the extraction, beneficiation and processing of metallic ores, including pregnant leach solution ponds, raffinate ponds, tailing impoundments, decant ponds, concentrate or tailing thickeners, blowdown water ponds, ponds and sumps in mine pits associated with dewatering activity, ponds holding water that has come in contact with process or product that is being held for recycling, spill or upset catchment ponds or ponds used for on-site remediation provided that any discharge from any such surface impoundment to a navigable water is permitted under the National Pollutant Discharge Elimination System [See R18-11-103(2)].

On September 9, 1993, EPA disapproved the exclusion from water quality standards for manmade surface impoundments related to mining. EPA stated in its disapproval letter that the state must either delete the mining impoundments exclusion or otherwise revise the rule to ensure that mining-related impoundments which are waters of the United States are governed by appropriate water quality standards. In disapproving the exclusion, EPA acknowledged that most mining-related impoundments are not subject to water quality standards because they are located outside of waters of the United States.

The EPA disapproval of the mining impoundment exclusion did not require the repeal of the currently effective rule. EPA indicated that the exclusion provision was approvable if the state revised the language of the exclusion in a way that makes clear that the exclusion does not exempt any water of the United States from coverage by water quality standards.

ADEQ is proposing to revise the language of the mining impoundments exclusion in this rulemaking [R18-11-102(B)(2)]. The proposed revisions to the language of the mining impoundments exclusion are intended to ensure that any mining-related impoundments which are waters of the United States will be governed by appropriate water quality standards. ADEQ has revised the language of the rule to exempt from water quality standards only those mining-related impoundments that are: 1) located on lands that would not be otherwise be

considered surface waters or waters of the United States [e.g. upland areas]; or 2) that are located on fast lands. The term, "fast lands" means lands which may have been a surface water at one time, but which have been converted to land by the discharge of dredged or fill material [See proposed definition at R18-11-101(24)].

The retention of a revised mining impoundments exclusion will provide regulatory certainty by clarifying that the state does not consider the types of manmade impoundments that are described in the exclusion to be "waters of the United States." ADEQ continues to believe that it is unreasonable to apply water quality standards to the types of mining-related impoundments that would be covered by this exclusion. Congress did not intend that the goals and objectives of the Clean Water Act apply to such impoundments. For example, Congress could not reasonably have intended that mining-related impoundments meet the interim goal of water quality which provides for the protection and propagation of fish, shellfish and wildlife and which provides for recreation in and on the water. The "fishable/swimmable" goals of the Clean Water Act are clearly unreasonable water quality objectives for pregnant leach solution ponds, tailings impoundments and similar manmade impoundments.

The proposed exclusion includes a list of mining-related impoundments. This list provides examples of the types of mining impoundments that are covered by the exclusion. The list is provided for illustrative purposes and it is not intended to be an exclusive list.

Revisions to the Tributary Rule

The currently effective water quality standards rules include a provision at R18-11-104(D) which is commonly referred to as the tributary rule. The tributary rule establishes water quality standards for surface waters that are not specifically listed in Appendix B of the water quality standards rules.

The currently effective tributary rule at R18-11-104(D) provides a minimum level of water quality protection for unlisted tributaries by applying the water quality standards that have been established for the nearest downstream surface water that is listed in Appendix B. If the nearest listed downstream surface water is an ephemeral water, then the water quality standards that apply to that downstream ephemeral water [i.e., partial body contact (PBC) and aquatic and wildlife (ephemeral)(A&We)] apply only to those portions of an upstream tributary that also are ephemeral. For portions of an upstream tributary that are not ephemeral, the currently effective rule establishes the aquatic and wildlife (warm water fishery) and full body contact water quality standards

by default.

The operation of the currently effective tributary rule can result in the application of inappropriate water quality standards to unlisted tributaries. For example, if the nearest downstream surface water to an unlisted tributary is a perennial stream with a cold water fishery, then the tributary rule applies the water quality standards for that perennial water to all of the upstream tributaries, even if a triburary is an ephemeral water. A perennial stream with a cold water fishery typically will have the following designated uses: aquatic and wildlife [cold water fishery], fish consumption and full body contact. The operation of the tributary rule would apply these water quality standards to all upstream tributaries, even to a dry wash that flows only in response to a storm event.

ADEQ proposes to revise the tributary rule to avoid the application of inappropriate water quality standards to unlisted tributaries. The revised tributary rule establishes water quality standards for four different types of tributaries: ephemeral waters, effluent dependent waters, perennial tributaries that are cold water fisheries and perennial tributaries that are warm water fisheries.

Under the proposed rule, ephemeral tributaries will be protected by water quality standards that are appropriate for ephemeral waters: aquatic and wildlife [ephemeral] and partial body contact. For tributaries that are effluent dependent, the aquatic and wildlife [effluent dependent water] and partial body contact water quality standards will apply. Perennial tributaries that have salmonids present will be protected by aquatic and wildlife [cold water fishery] standards, fish consumption standards, and the water quality standards that apply to the nearest downstream surface water. Perennial tributaries that do not have salmonids will be protected by aquatic and wildlife [warm water fishery] standards, fish consumption standards and the water quality standards that apply to the nearest downstream surface water.

Modification of water quality standards on grounds of net ecological benefit

ADEQ is proposing a new Section, R18-11-106, which will allow the modification of a water quality standard where it can be demonstrated that there is a net ecological benefit associated with the discharge of effluent to support or create a riparian or aquatic habitat in an area where such water resources are limited. Under the proposed rule, a water quality standard may be modified if the following demonstrations are made:

1. The discharge of effluent creates or supports an

ecologically valuable aquatic, wetland or riparian habitat in an area where such resources are limited;

2. The cost of treatment to comply with a water quality standard is so high that it is more cost effective to eliminate the discharge of effluent rather than upgrade treatment;
3. It is feasible for a point source discharger to completely eliminate the discharge of effluent;
4. The environmental benefits associated with the discharge of effluent under a modified water quality standard exceed the environmental costs associated with elimination of the discharge and destruction of the effluent dependent ecosystem;
5. All practicable point source control discharge programs, including local pretreatment, waste minimization and source reduction programs are implemented;
6. The discharge of effluent under a modified water quality standard will not cause or contribute to a violation of a water quality standard that has been established for a downstream surface water;
7. The discharge of effluent will 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.

Because ephemeral streams provide little or no dilution, water quality criteria often have to be met at the "end-of-the-pipe." Where water quality criteria cannot be met, point source dischargers may consider alternatives to discharge, including the complete removal of effluent from a surface water. High treatment costs associated with compliance with water quality-based discharge limitations may encourage point source dischargers to remove the effluent from such streams, resulting in the total loss of the effluent dependent ecosystem that is created by the discharge. In such cases, it may be appropriate to modify a water quality standard in order to allow continued discharge and maintenance of the effluent dependent ecosystem. The proposed Section may help to preserve or create in-stream flows which support desirable aquatic or riparian ecosystems.

Antidegradation

Each state must develop, adopt and retain a statewide antidegradation policy regarding water quality standards and establish procedures for its implementation through the state's water quality management process. The state antidegradation policy and implementation procedures must be consistent with the federal antidegradation policy at 40 CFR §131.12.

Arizona's antidegradation policy is found in the water quality standards rules at R18-11-107. The antidegradation rule can be summarized as providing three levels of water quality protection. These levels of protection are commonly referred to as Tiers 1, 2 and 3. In this rulemaking, ADEQ proposes to revise the antidegradation rule to use this terminology.

ADEQ also proposes to revise the antidegradation rule by eliminating the language at R18-11-107(A) which states that "[t]he determination of whether there is any degradation of water quality in a navigable water shall be on a pollutant by pollutant basis." ADEQ is proposing the deletion of this language for two reasons. First, the subsection implies that an antidegradation review is done only on a chemical-specific basis. However, an antidegradation review may be broader in scope. For example, a degradation of water quality may be demonstrated by an overall increase in toxicity as indicated by biomonitoring or by a decrease in the general health of an aquatic community as measured by biocriteria. The currently effective antidegradation rule might be interpreted to prohibit antidegradation analyses based upon biocriteria or biomonitoring.

Second, R18-11-107(A) of the currently effective rule addresses how the antidegradation rule is implemented. Such implementation issues are more properly addressed in a guidance document. ADEQ currently is developing detailed antidegradation implementation procedures through the Continuing Planning Process [i.e., the state water quality management planning process].

Proposed Escherichia coli [E. coli] Water Quality Standards

The currently effective water quality standards rules include microbiological water quality standards to maintain and protect water quality in surface waters that are used for full body contact recreation. These full body contact standards are expressed in terms of concentrations of an indicator organism, fecal coliforms [See R18-11-109(B)].

The currently effective fecal coliform criteria are based on recommendations made by the National Technical Advisory Committee to the Federal Water Pollution Control Administration [NTAC]. In 1968, the NTAC recommended the following microbiological criterion:

> Fecal coliforms should be used as the indicator organism for evaluating the microbiological suitability of recreation waters. As determined by the multiple-tube fermentation or membrane filter procedures and based on a minimum of not less than five

samples taken over not more than a 30-day period, the fecal coliform content of primary contact recreation waters shall not exceed a log mean of 200 cfu/ 100 ml, nor shall more than 10% of total samples during any 30-day period exceed 400 cfu / 100 ml.

In 1976, EPA recommended the fecal coliform criteria cited above as the microbiological water quality standards for recreational waters. EPA recommended fecal coliform criteria even though those criteria had been criticized by the National Academy of Sciences and others for the poor quality of data base and for deficiencies in the study design that had been used in their development.

More recent studies by EPA have shown that in fresh waters, *E. coli* is a better indicator of swimming-associated gastrointestinal illness than fecal coliform [See Dufour, Alfred, *Health Effects Criteria for Fresh Recreational Waters*, EPA 600/ 1-84-004, Health Effects Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina (August 1984)]. The EPA freshwater studies confirm that there is a strong correlation between densities of *E. coli* and swimming-related gastrointestinal illness and that there is no correlation between densities of fecal coliform organisms and swimming-related gastrointestinal illness. ADEQ proposes to adopt *E. coli* water quality criteria for the full body contact designated use because *E. coli* organisms are a better indicator of the microbiological water quality in surface waters that are used for swimming.

The proposed numeric water quality criteria for *E. coli* are based upon EPA's national criteria guidance. EPA recommends that the geometric mean concentration of *E. coli* not exceed 126 cfu / 100 ml for freshwater bathing [See Ambient Water Quality Criteria for Bacteria - 1986, EPA 440/5-84-002, U.S. Environmental Protection Agency, Office of Water Regulations and Standards, Criteria and Standards Division, Washington, D.C. (January, 1986)]. EPA also recommends single sample sample maximum criteria that are calculated using different confidence limits associated with anticipated levels of use. EPA recommends a single sample maximum concentration of 576 cfu / 100 ml for surface waters that are infrequently used for bathing.

Based upon this EPA criteria guidance, ADEQ proposes to adopt *E. coli* water quality criteria for surface waters with the full body contact designated use. ADEQ proposes to adopt a 30-day geometric mean criterion [5-sample minimum] of 130 cfu / 100 ml [the EPA-recommended density rounded to the nearest ten]. ADEQ proposes to adopt a single sample maximum

criterion of 580 cfu / 100 ml [the EPA-recommended density rounded to the nearest ten].

Dissolved Oxygen in Effluent Dependent Waters

The currently effective water quality standard for dissolved oxygen in effluent dependent waters is 1.0 mg/L. The U.S. Environmental Protection Agency and others have criticized this dissolved oxygen standard as being inadequate to fully protect aquatic life in effluent dependent waters.

ADEQ proposes to revise the 1.0 mg/L dissolved oxygen standard by adopting diurnal water quality criteria for dissolved oxygen in effluent dependent waters. The proposed water quality criteria are expressed as single sample minimum concentrations. During the daylight hours, from 3 hours after sunrise to sunset, ADEQ proposes that the minimum dissolved oxygen concentration for an effluent dependent water be 3.0 mg/L. From sunset to 3 hours after sunrise, ADEQ proposes retention of the single sample minimum concentration of 1.0 mg/L.

Dissolved oxygen is essential for all aquatic organisms that utilize aerobic respiration. There must be adequate dissolved oxygen in the water to maintain a community of aquatic organisms, even in an effluent dependent water where other conditions may limit species diversity and abundance. Tolerances to low dissolved oxygen levels vary from one species to the next. EPA has surveyed a large body of literature to determine the range of tolerances of aquatic organisms [See Ambient Water Quality Criteria for Dissolved Oxygen, EPA 440/5-86-003, U.S Environmental Protection Agency, Office of Water Regulations and Standards, Criteria and Standards Division, Washington D.C., 20460 (April, 1986), p. 1]. EPA concludes that although some species need very little oxygen to survive, a dissolved oxygen minimum concentration is necessary to prevent mortality of aquatic organisms. A dissolved oxygen mean concentration may be necessary to prevent sustained low concentrations of dissolved oxygen which may adversely affect the reproduction, growth and behavior of aquatic organisms.

The research on the dissolved oxygen requirements of aquatic life that is reported in the criteria document is biased towards fish studies, especially salmonids. The criteria document presents separate dissolved oxygen criteria for coldwater and warmwater biota. The criteria document is divided into two fish groups: salmonids and non-salmonids. The criteria document does not specifically address fish species found in effluent dependent waters. Since most effluent dependent waters in Arizona have warm water and do not support salmonid populations, the dissolved oxygen

criteria for nonsalmonids appear to be most applicable to the development of appropriate dissolved oxygen criteria for effluent dependent waters.

In general, the research cited by EPA in the criteria document indicates that nonsalmonid species appear to be considerably less sensitive than salmonids to low dissolved oxygen concentrations. The data also indicate that the larval stage is the most sensitive life stage for nonsalmonid fish species. As a general rule, dissolved oxygen water quality criteria that are high enough to sustain larval forms of nonsalmonid species are probably adequate to maintain all fish and inverterbrate species in an effluent dependent water.

There is little data on the acute effects of low dissolved oxygen concentrations on nonsalmonid fish species. Generally, adults and juveniles of all fish species can survive at concentrations of dissolved oxygen as low as 3 mg/L. In most cases, no mortality results from acute exposures to 3 mg/L of dissolved oxygen for the 24-hour to 96-hour duration of acute tests. Some nonsalmonid fish species appear to be able to survive a several day exposure to concentrations of dissolved oxygen below 1 mg/L.

Several studies have been done on the effects of hypoxia on nonsalmonid fish species. In general, the results of these studies indicate that the critical dissolved oxygen concentration for nonsalmonid fish species lies between 2 and 4 mg/L [The critical dissolved oxgyen concentration is the concentration of dissolved oxygen at which a reduction in the resting metabolic rate first appears].

A number of studies of the effect of dissolved oxygen concentration on fish growth are reported in the EPA criteria document. In general, the growth of nonsalmonid species is reduced at lower dissolved oxygen concentrations. One researcher who studied channel catfish found that there was a graded reduction in growth at each dissolved oxygen concentration below 6 mg/L. Each mg/L increase in dissolved oxygen concentrations between 3 and 6 mg/L increased growth 10 to 13 percent.

Continuous low dissolved oxygen concentrations may have an adverse effect on the reproduction of fish. In a study of fathead minnows, it was found that no spawning occurred when the dissolved oxygen concentration of the water was 1 mg/L. At 2 mg/L, the number of eggs produced per female was reduced. However, there was no effect on the number of eggs produced at concentrations greater than 2 mg/L. In general, the studies show that embryos are more tolerant of low dissolved oxygen levels than are fish larvae. Several studies have provided evidence of mortality or other significant damage to young

nonsalmonids as a result of a few weeks exposure to dissolved oxygen concentrations in the 3 to 6 mg/L range.

The EPA national criteria recommendations for ambient dissolved oxygen concentrations for the protection of aquatic life in warm water are as follows:

	Early life stages	Other life stages
30-day mean	NA	5.5
7-day mean	6.0	NA
7-day mean minimum	NA	4.0
1-day minimum	5.0	3.0

These EPA recommendations are derived from production impairment estimates. The mean concentrations that are recommended by EPA represent values which fall somewhere between providing the maximum protection to the fishery resource and a high level of protection which risks only slight impairment of production in most cases. The EPA-recommended minimum concentration is established at a concentration which will prevent acute mortality of sensitive warmwater species.

The proposed diurnal standard for effluent dependent waters provides a minimum level of protection which prevents mortality of aquatic organisms. The proposed standards assume a greater degree of production impairment in an effluent dependent water. The proposed diurnal standards also recognize that dissolved oxygen levels in an effluent dependent water are subject to variation. During the day, the photosynthetic production of oxygen by aquatic plants in an effluent dependent water usually exceeds the uptake of dissolved oxygen by aquatic organisms and the oxygen demand associated with the decomposition of organic material in the effluent, resulting in higher concentrations of dissolved oxygen. However, at night, dissolved oxygen levels steadily decline as photosynthesis ceases and plant and animal respiration, coupled with the oxidation of carbonaceous and nitrogenous material gradually deplete the available dissolved oxygen in the water column. The proposed standard of 1.0 mg/L for the night recognizes the dissolved oxygen sag that typically occurs at night in an effluent dependent water.

The proposed diurnal standards for dissolved oxygen are an improvement over the currently effective water quality standard of 1.0 mg/L which applies to an effluent dependent water on a continuous basis. The daytime standard of 3.0 mg/L is more stringent and provides a higher level of protection

for aquatic organisms. ADEQ acknowledges that the 1 mg/L standard which will apply at night is not fully protective of aquatic species if it is applied continuously. However, the proposed 1.0 mg/L dissolved oxygen standard applies only during the night. In a recent study conducted on the South Platte River in Colorado [an EDW], researchers investigated diurnal variations in dissolved oxygen concentrations and their effect on fish. It was found that fish are capable of surviving dissolved oxygen concentrations as low as 1 mg/L during the night if the dissolved oxygen concentration returns to higher levels during the day. In the absence of site-specific data from effluent dependent waters to support an alternative dissolved oxygen standard, ADEQ proposes to retain the current standard of 1.0 mg/L.

Turbidity

Turbidity is a measure of water clarity. Changes in turbidity are caused by the presence of organic and inorganic particulate matter that is suspended in water such as clay, silt, finely divided organic material, bacteria, plankton and other microscopic organisms. Arizona's currently effective water quality standards for turbidity are expressed as maximum concentrations in nephelometric turbidity units [NTUs]. The following turbidity standards apply to surface waters in Arizona:

Waterbody	FBC, PBC, A&Ww, A&Wedw	A&Wc
Rivers, streams & other flowing waters	50 NTUs	10 NTUs
Lakes, reservoirs, tanks and ponds	25 NTUs	10 NTUs

The currently effective standards were established primarily to protect aquatic life from the adverse effects of high concentrations of suspended solids in water. ADEQ recognizes that turbid water may interfere with the recreational use and aesthetic enjoyment of water. For example, turbid water may be dangerous for swimming and diving because of the possibility of unseen submerged hazards and the difficulty of locating swimmers who are in danger of drowning. In general, the less turbid the water, the more desirable it becomes for swimming and other water recreation. However, the currently effective numeric water quality criteria for turbidity for the full body contact and partial body contact designated uses were not established to protect these designated uses. The numeric water quality criteria of 50 NTUs and 25 NTUs have no relationship to the maintenance of water quality for primary or secondary contact recreation. ADEQ proposes to eliminate the numeric water quality criteria for turbidity which have

been established for the full body contact and partial body contact water quality designated uses because they are not scientifically defensible.

Unique waters

The Director of the ADEQ may classify a surface water as a unique water upon making a finding that the surface water is an outstanding state resource water. The Director may make a finding that a surface water is an outstanding state resource water based upon one of the following:

1. The surface water is of exceptional recreational or ecological significance because of its unique attributes, including but not limited to, attributes related to the geology, flora, fauna, water quality, aesthetic values or wilderness characteristics of the surface water; or
2. Threatened or endangered species are known to be associated with the surface water and the existing water quality is essential to the maintenance and propagation of a threatened or endangered species, or the surface water provides critical habitat for a threatened or endangered species.

ADEQ proposes to classify the following surface waters as unique waters in this rulemaking:

1. Aravaipa Creek from the confluence of Stowe Gulch to the downstream boundary of the Aravaipa Canyon Wilderness Area;
2. Cave Creek and the South Fork of Cave Creek in the Chiricahua Moutains, from their headwaters to the Coronado National Forest boundary; and
3. Buehman Canyon Creek; from its headwaters to approximately 9.8 miles downstream.

Each of these surface waters meets the criteria for classification as a unique water. A brief description of each proposed unique water follows. A more complete description of each surface water is contained in the nomination document for each surface water which is on file in the ADEQ Water Quality Assessment Unit.

Aravaipa Creek

Aravaipa Creek is located within Graham and Pinal Counties and is tributary to the San Pedro River. The perennial reach of Aravaipa Creek begins at the confluence of Stowe Gulch and usually flows to the confluence of Holy Joe Canyon where the streamflow usually goes subsurface. The creek is located in the Aravaipa Canyon Wilderness Area. Aravaipa Creek has long been recognized as a significant natural resource because of

its ecological importance, wilderness characteristics and recreational value.

Aravaipa Creek is widely recognized as one of Arizona's best remaining native fish habitats. The creek provides habitat for seven species of native fish, two of which are currently listed on the U.S. Fish & Wildlife Service's list of threatened and endangered species [the spikedace (*Meda fulgida*) and the loach minnow (*Tiaroga cobitia*)]. Fish counts by the Arizona Game & Fish Department have shown the presence of the threatened Colorado Roundtail Chub [*Gila robusta*].

In addition to threatened or endangered fish species, Aravaipa Creek and its tributary canyons provide valuable habitat for the following threatened or endangered species which utilize the area either as full-time residents, winter residents or as migrants: American peregrine falcon, gray hawk, common black hawk, red bat, great egret, snowy egret, black-bellied whistling duck, bald eagle, osprey, yellow-billed cuckoo, belted kingfisher, rose-throated becard and willow flycatcher.

Cave Creek and South Fork of Cave Creek

Cave Creek and the South Fork of Cave Creek are located on the eastern side of the Chiricahua Mountains in southeastern Arizona. Both surface waters are located within the Coronado National Forest. The headwaters of both surface waters are located within the Chiricahua Wilderness Area.

Due to the presence of perennial flow in Cave Creek and the South Fork of Cave Creek and the combination of varied life zones through which these surface waters descend, the Cave Creek Canyon watershed has been described as a "natural treasure" and "one of the premier sites for field biology in the world." The American Museum of Natural History operates the Southwestern Research Station in Cave Creek Canyon to conduct long-term research into what has been described as "probably the richest biota in the United States."

The Cave Creek Canyon watershed is well known for the abundance and diversity of its bird species. Over 200 bird species have been identified. Other important wildlife species which inhabit the Cave Creek Canyon watershed include black bear, white-tailed deer, mountain lion, ringtail cat, coatimundi, striped skunk, Apache squirrel and wild turkey.

Cave Creek and the South Fork of Cave Creek provides critical habitat for the following threatened and endangered species: Sanborn's Long-nosed Bat, Mexican Long-Tongued Bat, Red Bat, Chiricahua Leopard Frog, American Peregrine Falcon, Mexican Spotted Owl, Violet-crowned Hummingbird, Elegant Trogon, Buff-

breasted Flycatcher and Northern Goshawk. Several threatened and endangered plant species also have been identified in the Cave Creek and South Fork of Cave Creek canyon areas.

Buehman Canyon Creek

Buehman Canyon Creek is an outstanding state resource water located approximately 20 miles northeast of Tucson, Arizona in the Coronado National Forest. Buehman Canyon Creek originates on the east slope of the Santa Catalina Mountains and trends in a generally easterly direction for approximately 13 miles to its confluence with the San Pedro River. Buehman Canyon Creek is an unusual and unique surface water which provides a continuous wildlife migration corridor between the upper elevations of the Santa Catalina Mountains and the San Pedro River valley.

Buehman Canyon Creek descends through several different life zones and supports a rich diversity of flora and fauna, including numerous species that are listed or are candidates for listing as threatened or endangered species. For example, the creek supports several species of native freshwater fish that are endangered or threatened, including the Longfin Dace, the Gila Topminnow and the Desert Pupfish.

Buehman Canyon Creek also provides exceptional recreational opportunities. The creek's proximity to Tucson, Arizona and its outstanding scenery and wilderness characteristics make it a valuable resource for outdoor recreation, including nature study, hiking photography and birdwatching.

Aravaipa Creek, Cave Creek, South Fork of Cave Creek and Buehman Canyon Creek support outstanding riparian areas. The protection and restoration of such riparian habitat is critically important in Arizona. Arizona's riparian ecosystems are limited, occupying less than 0.5% of the landscape. However, they constitute Arizona's richest environments in terms of plant and animal productivity and biodiversity. The Arizona Game and Fish Department has estimated that 75% or more of all Arizona's native wildlife species depend on healthy riparian ecosystems during some portion of their life cycle. Riparian systems are critical to the survival of approximately 60% of the Arizona fish and wildlife species that are identified as threatened or endangered.

Desert riparian areas have been described as Arizona's most threatened natural community. According to most estimates, over 90% of the riparian areas along Arizona's major desert watercourses have been lost, altered or degraded as a result of man's activities. These activities include mining, sand and gravel extraction, grazing, timber harvesting, groundwater

pumping, water diversion, impoundments, channelization, flood control and urbanization.

In recognition of the critical importance of desert riparian habitat to Arizona, Governor Rose Mofford signed Executive Order 89-16 on June 10, 1989. This executive order directs all state agencies to determine whether current and proposed policies, actions and requirements impact stream and riparian resources and, when appropriate, to implement changes that will allow for the restoration of riparian resources. On February 14, 1991, Governor Rose Mofford signed Executive Order 91-6. Executive Order 91-6 again recognizes the critical importance of riparian areas to Arizona and states that it is Arizona's policy to actively encourage and develop management practices that will result in the maintenance of existing riparian areas and the restoration of degraded riparian areas and to actively encourage the preservation, maintenance and restoration of instream flows throughout the State. The proposed unique waters classifications will further Arizona's policy with regard to protection and management of the state's remaining riparian areas.

ADEQ also proposes to repeal certain site-specific standards for unique waters that are precribed in R18-11-112(F). In general, ADEQ proposes to repeal the site-specific standards where the default water quality standards which apply to all surface waters are more stringent. Also, ADEQ is proposing to adopt site-specific standards for two unique waters, Cienega Creek and Bonita Creek which were classified as unique waters during the last triennial review. Finally, ADEQ is proposing to update the lists of endangered or threatened species that are incorporated by reference in the unique waters rule.

Effluent Dependent Waters

ADEQ proposes to revise the descriptions of many of the effluent dependent waters in the state. The proposed descriptions are more accurate because they are based upon survey information obtained from the operators of the wastewater treatment plants which create the effluent dependent waters. ADEQ is proposing that several effluent dependent waters be deleted from the rule either because: 1) they are located on tribal lands that are outside the state's jurisdiction, or 2) the wastewater treatment plant that originally created the effluent dependent water has stopped discharging and the effluent dependent water no longer exists.

Practical Quantitation Limits [PQLs]

In the last triennial review, ADEQ adopted R18-11-120(B). This subsection states:

> A numeric water quality standard may be established at a concentration that is below the practical quantitation limit. In such cases, the water quality is enforceable at the practical quantitation limit. The applicable practical quantitation limits are prescribed in Appendix C of this Article.

The PQL is defined as the lowest level that is achievable by laboratories, within specified limits, during routine laboratory operations. As such, the PQL represents a practical and routinely achievable detection limit with a relatively good certainty that any reported value is reliable. It thus provides a compliance limit that is both quantifiable and enforceable.

ADEQ adopted R18-11-120(B) during the last triennial review to provide regulatory certainty regarding the enforcement of water quality standards. During the last triennial review, ADEQ acknowledged that many of the state-adopted numeric water quality standards for toxic pollutants were established at concentrations that could not be reliably detected and quantified. ADEQ adopted R18-11-120(B) to provide guidance to the regulatory community regarding the enforcement of water quality standards that were expressed at concentrations below reliable levels of detection and quantification. ADEQ stated in the rule that such water quality standards are enforceable at the PQL. ADEQ also adopted Appendix C which prescribes the specific PQLs at which the water quality standards would be enforced.

On September 9, 1993, EPA disapproved the inclusion of PQLs in Appendix C. While EPA found that the PQLs that were prescribed in Appendix C were acceptably derived and reasonable, EPA objected to the inclusion of PQLs in the rule because the PQLs could not be readily modified to keep pace with improvements in analytical technology. EPA stated that the state must remove Appendix C from the rules for the water quality standards to be approved. EPA did not fundamentally object to the use of PQLs for enforcement purposes and stated that ADEQ could include PQLs in a policy statement or guidance document.

ADEQ is proposing to amend R18-11-120(B) in response to this EPA disapproval. ADEQ will retain the general statement of enforcement policy which states that ADEQ will enforce any water quality standard that is established at a concentration that is below the practical quantitation limit at the PQL. However, ADEQ proposes to repeal the sentence in R18-11-120(B) which states that "[t]he applicable PQLs are prescribed in Appendix C of this Article." The repeal of this sentence and Appendix C will resolve the EPA disapproval and avoids a

federal promulgation of water quality standards in this regard. ADEQ intends to list specific PQLs in a separate guidance document.

Schedules of compliance

ADEQ is proposing to amend the time frames that apply to schedules of compliance. The currently effective rule states at R18-11-121(A) that a compliance schedule which is established in an NPDES permit shall require compliance with water quality-based discharge limitations within three years of the effective date of the water quality standard. ADEQ proposes to amend this provision to require that compliance be required within three years of issuance of the NPDES permit. The currently effective rule is extremely difficult to administer because it requires knowledge of the effective dates of each water quality standard in Chapter 11, Article 1. The proposed rule ties the schedule of compliance to a known date, the date of issuance of the NPDES permit.

Also, ADEQ proposes to repeal the last sentence of R18-11-121(C) which states that a schedule of compliance for a stormwater discharge shall require compliance with water quality standards no later than 10 years after the effective date of the water quality standard. Again, this provision is difficult to administer because it requires knowledge of the effective date of each water quality standard in Chapter 11, Article 1. The water quality standards and their effective dates will change over time. It is not possible to determine the effective date of any single water quality standard from the rules as they are currently formatted.

In the last triennial review, ADEQ established a ten-year period as a compliance "window" for stormwater discharges. ADEQ created this "window" to allow time for Congress to resolve issues related to stormwater discharges in the debate over Clean Water Act reauthorization. The Clean Water Act has not been reauthorized as of the date of the proposal of these rules. ADEQ believes a repeal of the specific time frame for compliance with water quality standards is advisable while the Congressional debate over Clean Water Act reauthorization is still pending. Hopefully, Congress will specifically address issues related to stormwater discharges and the compliance with water quality standards when the Act is reauthorized.

Variances

ADEQ proposes a new Section which establishes a procedure for granting a variance from a water quality standard [See R18-11-122]. EPA has stated that variances from state-adopted water quality standards are allowed [See Water Quality Standards Handbook, 2nd Edition, EPA-823-B-94-005a, U.S. Environmental

Protection Agency, Water Quality Standards Branch, Office of Science & Technology, Washington, D.C., § 5.3 (August, 1994)].

According to EPA, a variance from water quality standards involves the same substantive and procedural requirements which apply to the removal of a designated use through the use attainability process, except that variances are discharger-specific, pollutant-specific, limited in duration and do not result in a change to a designated use. According to EPA guidance, a variance is viewed as an alternative to the permanent downgrade of a water quality standard. A variance is used where a state believes that a water quality standard can ultimately be attained. By maintaining the water quality standard and granting a variance, the state can assure that reasonable progress is made in improving water quality. With a variance, a NPDES permit may be written to ensure that reasonable progress is made toward attaining the water quality standard without violating §402(a)(1) of the Clean Water Act which requires that NPDES permits ensure compliance with water quality standards.

The proposed variance procedure which will make it possible to grant a variance where a point source discharger demonstrates that it is not feasible to immediately comply with an applicable water quality standard because of technological limitations or substantial economic hardship. The proposed procedure will allow short-term noncompliance with a water quality standard while maintaining the standard as a water quality goal for the surface water.

In the last triennial review, Arizona adopted a comprehensive set of numeric water quality standards for toxic pollutants. The numeric water quality criteria were derived using methodologies that did not take the economic or technical feasibility of achieving compliance into consideration. The criteria were established at concentrations deemed necessary to protect the various designated uses. ADEQ believes that a variance procedure should be included in the water quality standards rules to provide regulatory flexibility when it is not technically or economically feasible for a point source discharger to achieve compliance. Situations can and do arise where a point source discharger cannot comply with a water quality standard because the treatment technology is unavailable or the cost of treatment is too high. In such cases, a variance procedure provides a mechanism for maintaining the water quality standard as the ultimate water quality goal for a surface water while providing short-term relief from the water quality standard for a specific discharge. The grant of a variance does not modify a water quality standard, but would provide the legal basis for the establishment of alternative discharge limitations in an NPDES permit. The allowance of a variance on a discharger-specific,

pollutant-specific, short-term basis is preferable to a permanent downgrade of the water quality standards for a surface water through the use attainability process.

Under the proposed rule, a variance could be granted on a discharger-specific basis for a period of up to five years. ADEQ anticipates that a variance would be implemented through an NPDES permit for a specific discharge. The point source discharger would have to document that treatment more advanced than that required by technology-based effluent limitations prescribed by the Clean Water Act is necessary to achieve compliance with the water quality standard and that alternative discharge control strategies have been evaluated. The point source discharger will have to document that it is not technically or economically feasible to install and operate any of the available discharge control technologies to achieve compliance with the water quality standard. The applicant for a variance also will have to demonstrate that the discharge of the pollutant for which a variance is sought is reduced to the maximum extent practicable through implementation of a local pretreatment program, source reduction or waste minimization. Any person who requests a variance will be required to propose interim discharge limitations which represent the highest level of treatment achievable by the point source discharger during the term of the variance.

A variance may be renewed under the proposed rule, but a point source discharger who seeks renewal will have to demonstrate that reasonable progress towards achieving compliance with the water quality standard has been made during the term of the variance.

The proposed rule also includes public participation procedures and provides a right of appeal to any person who may be adversely affected by a decision to grant or deny a variance from a water quality standard. The proposed rule clarifies that all variances are subject to EPA review and approval.

Proposed Repeal of Article 2: Discharge Limitations

ADEQ proposes to repeal Article 2 in this rulemaking. The three currently effective Sections in Article 2 [R18-11-202, R18-11-203 and R18-11-205] have been moved to Article 1 of the proposed rules. R18-11-202, which establishes discharge limitations for phosphates for certain specific surface waters has been moved to R18-11-109(H)(11) and (12). In relocating this Section, ADEQ deleted references to surface waters that are located on tribal lands. The prohibition on the discharge of treated wastewater to Sabino Creek at R18-11-203 has been relocated to R18-11-123 without change. Finally, ADEQ

relocated R18-11-205 [which addresses discharge limitations for point source discharges to ephemeral waters] to R18-11-113(E).

Proposed Revisions to Numeric Water Quality Criteria in Appendix A

ADEQ proposes to repeal the currently effective Appendix A and to replace it with a new, reformatted Appendix A. The proposed Appendix A is separated into two tables. Table 1 lists the numeric water quality criteria to protect human health and agricultural uses. These include the domestic water source [DWS], fish consumption [FC], full body contact [FBC], partial body contact [PBC], agricultural irrigation [AgI] and agricultural livestock watering [AgL] designated uses. Table 2 lists the numeric water quality criteria to protect aquatic life and wildlife. The division of Appendix A into two tables will enhance its readability.

The reformatted table includes a column for the chemical abstract number [CAS] for each pollutant. Many chemicals have similar names and spellings and some have multiple names. The chemical abstract number is a specific identifier for each chemical. The identification of the chemical by CAS number will provide certainty as to the chemicals for which water quality standards have been established.

ADEQ proposes to update the numeric water quality criteria that have been established to protect human health. No changes are proposed to the numeric water quality criteria that have been established to protect the aquatic and wildlife designated uses or the agricultural uses [AgI and AgL].

In the last triennial review, ADEQ used EPA methodologies to derive water quality criteria to protect the domestic water source [DWS], full body contact [FBC] and fish consumption [FC] designated uses. Separate methodologies were used to derive water quality criteria for carcinogens and non-carcinogens. The methodology used to derive criteria for carcinogens utilizes a cancer potency slope value, or q1*, in the equation used to calculate the criterion. The methodology for non-carcinogens utilizes a reference dose, or Rfd. The q1* and Rfd values were obtained from EPA's Integrated Risk Information System database [IRIS]. ADEQ does not propose to change any of the methodologies used to derive water quality criteria to protect human health in this rulemaking [except for arsenic: see rationale in following table]. However, where values for cancer potency slopes or reference doses have been revised in the IRIS database, ADEQ has recalculated the numeric water quality criteria. If a new q1* or Rfd has been published in the IRIS database, ADEQ used the new value to recalculate the criteria. If a q1* has been withdrawn and a

Rfd is available, then ADEQ recalculated the standard using the methodology for non-carcinogens and the available Rfd. If a q1* has been withdrawn and no Rfd is available, then ADEQ has withdrawn the numeric water quality criterion and replaced it with "NNS" or "no numeric standard."

Numeric water quality criteria to protect the domestic water source designated use are based upon available National Primary Drinking Water Maximum Contaminant Levels [MCLs] or EPA methodologies for deriving criteria for water ingestion. If a new MCL has been published for a chemical since the last triennial review, then ADEQ has adopted the MCL as the numeric water quality criterion for that chemical for the domestic water source designated use.

The calculation of the numeric water quality criteria for the partial body contact designated use are based upon EPA one-day health advisory standards [ODHA]. Where an ODHA is unavailable, ADEQ calculated a water quality criterion for the partial body contact designated use using the Rfd. Where neither an ODHA or Rfd is available, then no numeric standard was calculated for the partial body contact designated use. After all the recalculations were completed, if the numeric water quality criterion for partial body contact was more stringent than the numeric water quality criterion for full body contact, then the full body contact criterion was lowered to equal the partial body contact standard.

The tables on the following pages present the revisions that have been made to the numeric water quality criteria for the DWS, FC, FBC and PBC designated uses. The table includes a column which indicates a "+" or a "-" for each pollutant. A "+" means that the proposed standard is less stringent than the 1992 standard or that the numeric water quality criterion was revised to "no numeric standard." A "-" means that the proposed standard is more stringent than the 1992 standard or that a "no numeric standard" is replaced with a calculated water quality criterion.

DOMESTIC WATER SOURCE				
Parameter	+ / -	1992 Standard	Proposed Standard December, 1995	Rationale For Proposed Standard Change
Acenaphthylene	+	0.003	NNS	Now classified as a Class D carcinogen. No RfD available.
Antimony	+	2.8 T	6 T	Published MCL is 6 μg/L and is expressed as total antimony.
Barium	+	1000 D	2000 T	Published MCL is 2000 μg/L and is expressed as total barium.
Benzo (a) pyrene	+	0.003	0.2	Published MCL is 0.2 μg/L.
Benzo (ghi) perylene	+	0.003	NNS	Now classified as a Class D carcinogen. No RfD available.
Beryllium	+	0.008 T	4 T	Published MCL is 4 μg/L and is expressed as total beryllium.
Bis(2-ethylhexyl)phthalate (Di(2-ethylhexyl)phthalate)	+	2.5	6	Published MCL is 6 μg/L.
Boron	-	NNS	630	A new RfD (0.09) has been listed on IRIS.
Cyanide	+	140 T	200 T	Published MCL is 200 μg/L.
1,3-Dichloropropene	-	2.1	0.2	Incorrectly considered non-carcinogen in 1992 standards. Recalculated as carcinogen with q1* of 0.18.
2,4-Dinitrotoluene	+	0.009	14	New RfD (0.002) published.
Endosulfan-alpha	+	0.35	Combine α&ß to Endosulfan (Total)	The stereoisomers of endosulfan (α and ß) will be combined into one standard and reflect the new RfD (0.006) listed on IRIS for Endosulfan (Total).
Endosulfan-beta	+	0.35	Combine α&ß to Endosulfan (Total)	The stereoisomers of endosulfan (α and ß) will be combined into one standard and reflect the new RfD (0.006) listed on IRIS for Endosulfan (Total).
Endosulfan (Total)	+		42	See rationale for Endosulfan-alpha or -beta.
Hexachlorobenzene	+	0.02	1	Published MCL is 1 μg/L.
Hexachlorocyclopentadiene	+	49	50	Published MCL is 50 μg/L.

DOMESTIC WATER SOURCE				
Parameter	+ / -	1992 Standard	Proposed Standard December, 1995	Rationale For Proposed Standard Change
Isophorone	+	8.5	36.8	New q1* (9.5E-4) published.
Manganese	-	NNS	4900 T	New RfD used to calculate draft standard. However, in November 1995, revised RfD (0.14) published resulting in new proposed standard.
Mercury	-	2.1 T	2 T	Published MCL is 2 μg/L.
Methylene Chloride (Dichloromethane)	+	4.7	5	Published MCL is 5 μg/L.
Nickel	-	140 T	100 T	Published MCL is 100 μg/L.
Pentachlorophenol	-	210	1	New q1* (0.12) published.
Phenanthrene	+	0.003	NNS	Classified as a Class D carcinogen. No RfD available.
Thallium	+	0.63 T	2 T	Published MCL is 2 μg/L.
1,2,4-Trichlorobenzene	-	NNS	70	Published MCL is 70 μg/L.
1,1,2-Trichloroethane	+	0.61	5	The MCL is now 5 μg/L.
Zinc	-	5000 T	2100 T	New RfD (0.3) published.

FISH CONSUMPTION				
Parameter	+ / -	1992 Standard	Proposed Standard December, 1995	Rationale For Proposed Standard Change
Acenaphthylene	+	0.002	NNS	Now classified as a Class D carcinogen. No RfD available.
Arsenic	+	3.1 T	1450	Now classified as a non-carcinogen for tissue consumption on the basis that arsenic in tissue is primarily the relatively non-toxic organic form rather than the relatively toxic inorganic form. The RfD (0.0003) was used to calculate the standard, and the result was multiplied by a 0.9 uncertainty factor to account for the possibility of some inorganic arsenic.
Benzidine	+	0.0007	0.002	New q1* (4.3) published.
Benzo (ghi) perylene	+	0.00001	NNS	Now classified as a Class D carcinogen. No RfD available.
Cadmium	-	83 T	41 T	Error in 1992 standards calculation corrected.
Dibromochloromethane (Bromodichloromethane)	+	10	22	New q1* (0.06) published.
1,3-Dichlorobenzene	+	1200	2000	Error in 1992 standards calculation corrected.
1,3-Dichloropropene	-	360	6.6	Error in 1992 standards calculation corrected.
2,4-Dinitrotoluene	+	0.02	163	New RfD (0.002) published.
Endosulfan-alpha	+	0.92	Combine α&ß to Endosulfan (Total)	The stereoisomers of endosulfan (α and ß) will be combined into one standard and reflect the new RfD (0.006) listed on IRIS for Endosulfan (Total).
Endosulfan-beta	+	0.92	Combine α&ß to Endosulfan (Total)	The stereoisomers of endosulfan (α and ß) will be combined into one standard and reflect the new RfD (0.006) listed on IRIS for Endosulfan (Total).
Endosulfan (Total)	+		110	See rationale for Endosulfan-alpha or -beta.
Isophorone	+	520	2300	New q1* (9.5E-4) published.
Nickel	+	400 T	730 T	Error in 1992 standards calculation corrected.

FISH CONSUMPTION				
Parameter	+/-	1992 Standard	Proposed Standard December, 1995	Rationale For Proposed Standard Change
N-nitrosodiphenylamine	+	12	14	Rounding error in 1992 standards calculation corrected.
Pentachlorophenol	-	29000	8.2	New q1* (0.12) published.
Phenanthrene	+	0.0005	NNS	Classified as a Class D carcinogen. No RfD available.
Thallium	-	44 T	41 T	The RfDs for 5 species of thallium were averaged to arrive at a total RfD of 8.4E-5.
1,2,4-Trichlorobenzene	-	NNS	155	New RfD (0.01) published.
Zinc	-	NNS	22000 T	New RfD (0.3) published.

FULL BODY CONTACT				
Parameter	+ / -	1992 Standard	Proposed Standard December, 1995	Rationale For Proposed Standard Change
Acenaphthylene	+	0.12	NNS	Acenaphthylene is now considered a class D carcinogen. No RfD is published.
Acrolein	+	1300	2200	The FBC standard for this toxicant is driven by the PBC standard[1]. See PBC change table.
Alachlor	-	NNS	1400	New RfD (0.01) published.
Anthracene	-	420000	42000	The FBC standard for this toxicant is driven by the PBC standard[1]. See PBC change table.
Atrazine	-	NNS	4900	New RfD (0.035) published.
Barium	+	1000 D	9800 D	New RfD (0.07) published.
Benzo (a) pyrene	+	0.12	0.2	New q1* (7.3) published.
Benzo (ghi) perylene	+	0.12	NNS	Benzo (ghi) perylene is now considered a class D carcinogen. No RfD is published.
Beryllium	+	0.33 T	4 T	The calculated standard is less than the MCL; the MCL was substituted[2].
Boron	-	NNS	12600	New RfD (0.09) published.
Carbofuran	-	NNS	700	New RfD (0.005) published.
Chlorine (total residual)	-	NNS	14000	New RfD (0.1) published.
Cyanide	-	3100 T	2800 T	The FBC standard for this toxicant is driven by the PBC standard[1]. See PBC change table.
Dichlorobromomethane (Bromodichloromethane)	+	11	100	The calculated standard is less than the MCL; the MCL was substituted[2].
1,2-Dibromoethane	-	NNS	1.6	New q1* (0.85) published.

FULL BODY CONTACT				
Parameter	+ / -	1992 Standard	Proposed Standard December, 1995	Rationale For Proposed Standard Change
1,1-Dichloroethane	+	14000	NNS	There is no RfD for 1,1-Dichloroethane and it is considered a class C carcinogen.
2,4-Dichlorophenoxyacetic acid	-	NNS	1400	New RfD (0.01) published.
1,2-Dichloropropane	+	200	NNS	There is no RfD or q1* available.
1,3-Dichloropropene	-	60	7.8	Error in 1992 standards calculation corrected.
2,4-Dimethylphenol	-	28000	2800	The FBC standard for this toxicant is driven by the PBC standard[1]. See PBC change table.
Dimethyl phthalate	-	14000000	1400000	The FBC standard for this toxicant is driven by the PBC standard[1]. See PBC change table.
2-methyl-4,6-Dinitrophenol (4,6-Dinitro-o-cresol)	-	550	55	The FBC standard for this toxicant is driven by the PBC standard[1]. See PBC change table.
2,4-Dinitrotoluene	+	0.380	280	The FBC standard for this toxicant is driven by the PBC standard[1]. See PBC change table.
Endosulfan-alpha	+	70	Combine α&ß to Endosulfan (Total)	The stereoisomers of endosulfan (α and ß) will be combined into one standard and reflect the new RfD (0.006) listed for Endosulfan (Total). The FBC standard for this toxicant is driven by the PBC standard. See PBC change table.
Endosulfan-beta	+	70	Combine α&ß to Endosulfan (Total)	The stereoisomers of endosulfan (α and ß) will be combined into one standard and reflect the new RfD (0.006) listed for Endosulfan (Total). The FBC standard for this toxicant is driven by the PBC standard. See PBC change table.
Endosulfan (Total)	+		840	See rationale for Endosulfan-alpha or -beta.
Ethylbenzene	-	64000	14000	The FBC standard for this toxicant is driven by the PBC standard.[1] See PBC change table.

FULL BODY CONTACT				
Parameter	+ / -	1992 Standard	Proposed Standard December, 1995	Rationale For Proposed Standard Change
Heptachlor	+	0.31	0.4	The calculated standard is less than the MCL; the MCL was substituted[2].
Heptachlor epoxide	+	0.15	0.2	The calculated standard is less than the MCL; the MCL was substituted[2].
Hexachlorobenzene	+	0.83	1	The calculated standard is less than the MCL; the MCL was substituted[2].
Isophorone	+	340	1500	New q1* (9.5E-4) published.
Manganese	-	NNS	19600 T	New RfD used to calculate draft standard. However, in November 1995, revised RfD (0.14) published resulting in new proposed standard.
Methoxychlor	-	NNS	700	New RfD (0.005) published.
Naphthalene	+	560	NNS	Naphthalene is now considered a class D carcinogen. No RfD is published.
Nitrate	-	NNS	224000	New RfD (1.6) published.
Nitrite	-	NNS	14000	New RfD (0.1) published.
Pentachlorophenol	-	2000	11.7	New q1* (0.12) published.
Phenanthrene	+	0.120	NNS	Phenanthrene is now considered a class D carcinogen. No RfD is published.
Polychlorinatedbiphenals	+	0.18	0.5	The calculated standard is less than the MCL; the MCL was substituted[2].
Selenium	+	420 T	700 T	Error in the 1992 standards calculation was corrected.
Styrene	-	NNS	28000	New RfD (0.2) published.
Thallium	-	3700 T	12 T	The FBC standard for this toxicant is driven by the PBC standard[1]. See PBC change table.
Toluene	-	42000	28000	The FBC standard for this toxicant is driven by the PBC standard[1]. See PBC change table.
1,2,4-Trichlorobenzene	-	2800	1400	New RfD (0.01) published.

FULL BODY CONTACT				
Parameter	+ / -	1992 Standard	Proposed Standard December, 1995	Rationale For Proposed Standard Change
1,1,1-Trichloroethane	-	13000	12600	1,1,1-Trichloroethane is a class D carcinogen and the RfD has been withdrawn. The FBC standard for this toxicant is driven by the PBC standard[1]. See PBC change table.
2-(2,4,5-Trichlorophenoxy) proprionic acid	-	NNS	1120	New RfD (0.01) published.
Xylenes	-	NNS	280000	New RfD (2.0) published.
Zinc	+	28000	42000 T	The FBC standard for this toxicant is driven by the PBC standard[1]. See PBC change table.

1 In some instances the methodology used to calculate the Full Body Contact (FBC) standard results in a value that is less stringent than the Partial Body Contact (PBC) standard. Because FBC is designed to protect submergence (or swimming) and PBC is designed to protect incidental contact with water, it is appropriate that the FBC standard be equal or more stringent than the PBC standard. If the calculation results in a FBC standard that is less stringent than the PBC standard, then the FBC standard is made equivalent to the PBC standard.

2 In instances where the methodology used to calculate the FBC standard results in a value that is less than the Domestic Water Source (DWS) standard that is based on an MCL, the MCL is substituted for the FBC calculated standard. This approach recognizes that the MCL is designed to protect drinking water. If it is safe to drink the water, then it is safe to swim in the water.

PARTIAL BODY CONTACT				
Parameter	+ / -	1992 Standard	Proposed Standard December, 1995	Rationale For Proposed Standard Change
Acrolein	+	1300	2200	EPA one day health advisory (ODHA) for a child[1].
Acrylonitrile	+	1400	NNS	No ODHA or RfD available to calculate standard.
Alachlor	-	NNS	1400	RfD (0.01) used to calculate standard.
Anthracene	-	NNS	42000	Error in 1992 standard calculation corrected.
Arsenic	-	2800 T	50 T	Calculated with RfD, but because MCL (50 T) is greater, it is substituted as the partial body contact standard.
Atrazine	-	NNS	4900	RfD (0.035) used to calculate standard.
Barium	-	NNS	9800 D	RfD (0.07) used to calculate standard.
Benzene	+	470	NNS	Standard based on the EPA ODHA for children.
BHC-gamma (lindane) (Hexachlorocyclohexane gamma)	-	2500	42	Standard based on the EPA ODHA for children.
Bis(2-ethylhexyl) phthalate (Di(2-ethylhexyl) phthalate)	-	28000	2800	Error in 1992 standard calculation corrected.
Boron	-	NNS	12600	RfD (0.09) used to calculate standard.
Carbofuran	-	NNS	700	RfD (0.005) used to calculate standard.
Carbon tetrachloride	-	8000	98	Standard based on the EPA ODHA for children.
Chlordane	-	110	8.4	Standard based on the EPA ODHA for children.
Chlorine (total residual)	-	NNS	14000	RfD (0.10) used to calculate standard.
Cyanide	-	3100 T	2800 T	Standard based on the EPA ODHA for children.
DDT	-	700	70	Error in 1992 standard calculation corrected.

PARTIAL BODY CONTACT				
Parameter	+ / -	1992 Standard	Proposed Standard December, 1995	Rationale For Proposed Standard Change
1-3 Dichlorobenzene	-	13000	1880	Error in 1992 standard calculation corrected.
1,4-Dichlorobenzene	-	13000	1880	Error in 1992 standard calculation corrected.
1,1-Dichloroethane	+	14000	NNS	No ODHA or RfD available to calculate standard.
1,2-Dichloroethane	+	10000	NNS	No ODHA or RfD available to calculate standard.
2,4-Dichlorophenoxyacetic acid	-	NNS	1400	
1,2-Dichloropropane	+	200	NNS	No ODHA or RfD available to calculate standard.
1,3-Dichloropropene	-	60	42	Standard based on the EPA ODHA for children.
2,4-Dimethylphenol	-	NNS	2800	RfD (0.02) used to calculate standard.
Dimethyl phthalate	-	NNS	1400000	Standard based on the EPA ODHA for children.
2-methyl-4,6-Dinitrophenol (4,6-Dinitro-o-cresol)	-	NNS	55	Standard based on the EPA ODHA for children.
2,4-Dinitrotoluene	-	NNS	280	RfD (0.002) used to calculate standard.
Endosulfan sulfate	-	NNS	7	Standard based on the EPA ODHA for children.
Endosulfan-alpha	-	NNS	Combine α&ß to Endosulfan (Total)	The stereoisomers of endosulfan (α and ß) will be combined into one standard and reflect the new RfD (0.006) listed on IRIS for Endosulfan (Total).
Endosulfan-beta	-	NNS	Combine α&ß to Endosulfan (Total)	The stereoisomers of endosulfan (α and ß) will be combined into one standard and reflect the new RfD (0.006) listed on IRIS for Endosulfan (Total).
Endosulfan (Total)	-		840	See rationale for Endosulfan-alpha or -beta.
Endrin Aldehyde	-	NNS	420	Standard based on the EPA ODHA for children.

PARTIAL BODY CONTACT				
Parameter	+ / -	1992 Standard	Proposed Standard December, 1995	Rationale For Proposed Standard Change
Ethylbenzene	-	64000	14000	Standard based on the EPA ODHA for children.
Fluoride	-	NNS	8400	RfD (0.06) used to calculate standard.
Heptachlor	+	20	70	RfD (0.0005) used to calculate standard.
Hexachlorobenzene	+	100	280	RfD (0.002) used to calculate standard.
Hexachlorobutadiene	+	280	NNS	No ODHA or RfD available to calculate standard.
Manganese	-	NNS	19600 T	RfD (0.003) used to calculate standard.
Methoxychlor	-	NNS	700	RfD (0.005) used to calculate standard.
Methylene chloride (Dichloromethane)	-	27000	8400	Standard based on the EPA ODHA for children.
Naphthalene	+	560	NNS	No ODHA or RfD available to calculate standard.
Nitrate	-	NNS	224000	RfD (1.6) used to calculate standard.
Nitrite	-	NNS	14000	RfD (0.1) used to calculate standard.
Selenium	+	420	700	RfD (0.005) used to calculate standard.
Styrene	-	NNS	28000	RfD (0.2) used to calculate standard.
1,1,2,2-Tetrachloroethane	+	450	NNS	No ODHA or RfD available to calculate standard.
Tetrachloroethylene	-	4000	1400	Standard based on the EPA ODHA for children.
Thallium	-	3700	12 T	RfD (0.00008) used to calculate standard.
Toluene	-	42000	28000	Error in 1992 standard calculation corrected.
Toxaphene	+	1000	NNS	No ODHA or RfD available to calculate standard.
1,2,4-Trichlorobenzene	-	2800	1400	RfD (0.01) used to calculate standard.

PARTIAL BODY CONTACT				
Parameter	+ / -	1992 Standard	Proposed Standard December, 1995	Rationale For Proposed Standard Change
1,1,1-Trichloroethane	-	13000	12600	Standard based on the EPA ODHA for children.
2-(2,4,5-Trichlorophenoxy) proprionic acid	-	NNS	1120	RfD (0.01) used to calculate standard.
Xylenes	-	NNS	280000	RfD (2.0) used to calculate standard.
Zinc	+	28000	42000	RfD (0.3) used to calculate standard.

1 Partial Body Contact standards calculation based on either the EPA one day health advisory (ODHA) for child. If the ODHA is not available, and the RfD is available, then the standard is calculated according to the RfD. If neither the ODHA or RfD are available, then No Numeric Standard (NNS) is used.

Hardness-dependent metals

The toxicity of certain metals is dependent upon the hardness of the water. The numeric water quality criteria for these metals are expressed as hardness dependent equations. ADEQ is proposing to revise the footnote to these equations which explains how hardness is determined. The revised footnote clarifies that it is the hardness of the receiving surface water that is used to calculate the numeric water quality criterion for a hardness-dependent metal. If the receiving surface water is an ephemeral water or an effluent dependent water, then the hardness of the effluent that is discharged is used to calculate the numeric water quality criterion. In the latter case, a hardness cap of 400 mg/L as $CaCO_3$ is imposed. The hardness cap of 400 mg/L is based upon the range of hardness values used by EPA in developing national criteria guidance recommendations for hardness-dependent metals. 40 CFR §131.36(c)(4) contains the following requirement with regard to the application of hardness-based metals criteria:

> For purposes of calculating freshwater aquatic life criteria for metals from the equations in paragraph (b)(2) of this section, the minimum hardness allowed for use in those equations shall not be less than 25 mg/L as calcium carbonate. The maximum hardness value for use in those equations shall not exceed 400 mg/L as calcium carbonate.

The rationale for the proposed 400 mg/L hardness cap is that the data base used for the development of the §304(a) criteria guidance for hardness-dependent metals does not include data which supports extrapolation of the hardness effects of metal toxicity beyond a range of hardness of 25 mg/L to 400 mg/L.

Mercury

In the last triennial review, ADEQ established water quality standards for mercury to protect aquatic life and wildlife using EPA methodologies and national criteria guidance. The methodologies used are fully explained in Appendix B of the Concise Explanatory Statement for the water quality standards rules which was prepared to support the state's adoption of water quality standards in the last triennial review [See Appendix B, "Rationale for the Development of Toxic Pollutant Criteria to Protect Aquatic and Wildlife Designated Uses" (January 10, 1992)].

For the state's aquatic and wildlife [cold water fishery] designated use, ADEQ used the EPA methodology described in the national "Guidelines for Deriving Water Quality Criteria for

the Protection of Aquatic Life and Its Uses [Guidelines methodology] to derive water quality criteria for mercury. The Guidelines methodology calls for the calculation of a final residue value if a maximum permissible tissue concentration and at least one acceptable bioconcentration factor determined from an aquatic animal species is available. The Guidelines Methodology specifically states that one of the purposes for deriving a final residue value is to protect wildlife, including predatory birds and fishes, from demonstrated adverse effects [See 45 Federal Register 79346 (November 28, 1980)]. ADEQ calculated a final residue value for mercury using data from EPA's national criteria document, "Ambient Water Quality Criteria for Mercury." The final residue value of 0.012 μg/L became Arizona's currently effective water quality standard to protect cold water and warm water fisheries from chronic toxicity from mercury. ADEQ also used the final residue value procedure to calculate a numeric water quality criterion to protect aquatic life and wildlife in effluent dependent waters [A&Wedw] from chronic toxicity from mercury. The recalculated numeric water quality criterion for the A&W edw designated use was 0.2 μg/L. In adopting the mercury standard for A&Wedw, ADEQ stated:

> The proposed standard was based on toxicity to aquatic life. However, mercury has a propensity to accumulate in tissues of aquatic life to levels that may be harmful to wildlife or human consumers. These routes of exposure should be considered in developing A&W standards. The EPA publication Ambient Water Quality Criteria for Mercury - 1984 [Criteria Document] does not contain information regarding the effects of mercury on wildlife but does contain information on the effects of mercury on humans. Setting a standard based strictly on toxicity to aquatic life may not adequately protect wildlife. ADEQ recalculated the A&Wedw chronic standard for mercury using the more appropriate Final Residue Value procedure.

The use of the final residue value procedure to derive water quality criteria for the aquatic and wildlife designated uses demonstrates that Arizona considered bioaccumulative effects when it adopted the water quality standards for mercury.

On April 29, 1994, EPA disapproved the state-adopted water quality standard for mercury that had been established to protect aquatic life and wildlife. EPA specifically disapproved the state's failure to adopt numeric water quality for mercury to protect wildlilfe. EPA's disapproval of the water quality standards for mercury was based primarily on a

biological opinion from the U.S. Fish & Wildlife Service [USFWS] that the state-adopted water quality standards had been developed without adequate consideration of the bioaccumulative effects of mercury on predatory wildlife. In its disapproval letter, EPA acknowledged that ADEQ had followed EPA national criteria guidance to derive water quality standards for mercury and that the currently available EPA methodology for criteria development may inadequately address food chain effects of mercury for predatory wildlife. EPA requested that ADEQ re-examine the state-adopted numeric water quality criteria for mercury in the next triennial review to determine whether those criteria adequately address bioaccumulation. In making this request, EPA acknowledged that national criteria guidance for the protection of wildlife was not available and that EPA would rely on the participation of the USFWS in the next triennial review to make recommendations for the adoption of numeric criteria that would be adequately protective of wildlife.

In response to this disapproval, ADEQ stated that Arizona would consider revision of its aquatic and wildlife criteria for mercury in the next triennial review if national program guidance becomes available which would support the derivation of scientifically defensible criteria to protect wildlife. Such guidance is currently unavailable. In the absence of national program guidance for developing wildlife criteria, ADEQ intends to retain the currently effective water quality standards.

To address the EPA disapproval and the concerns of the USFWS, ADEQ, in cooperation with the Arizona Game & Fish Department, the USFWS and EPA, will conduct a tissue monitoring program to evaluate the threat posed by mercury to bald eagles nesting along surface waters in Arizona. The objective of this monitoring program will be to assess the magnitude and extent of mercury bioaccumulation in the prey base of the bald eagle and other fish eating birds. A concurrent monitoring program will be conducted by the International Boundary Water Commission in the lower Colorado River basin to asssess the bioaccumulation of mercury in the prey base of the Brown Pelican, Yuma Clapper Rail and other fish eating birds. These tissue monitoring programs are not designed to develop a mercury standards for the protection of wildlife. The tissue monitoring program is a problem identification program. If mercury is found to be bioaccumulating in prey species at levels above 1.0 mg/kg, then it may be necessary to develop a more extensive sampling program to identify the contribution of mercury from different sources and to begin work on developing wildlife criteria for mercury.

Proposed Revisions to Surface Waters and Designated Uses in Appendix B

ADEQ is proposing the repeal of the currently effective Appendix B and its replacement with a more "user-friendly" Appendix B. The proposed Appendix B has been reformatted in tabular form to enhance its readability. Appendix B includes a new location information column which provide information which will help users locate specific surface waters. The new format makes it easier to find where specific designated uses are applied to surface waters in river basins. The river basin names referenced in Appendix B have been revised to be consistent with the river basins names referenced in the biennial State Water Quality Assessment Report [§305(b) report]. This change will make it easier for ADEQ and the regulated community to link water quality standards with the water quality assessment information contained in the §305(b) report. The number of surface waters that are specifically listed in Appendix B have been updated to reflect new knowledge gained about those surface waters since the last triennial review. Also, Appendix B was revised by deleting all surface waters that are located on tribal lands. The state has no jurisdiction over such surface waters and cannot prescribe water quality standards for them.

The other major revisions to Appendix B are in response to a specific EPA disapproval of the state-adopted water quality standards. On September 9, 1993, EPA disapproved the lack of the fish consumption designated use for certain surface waters listed in Appendix B. EPA notified the state that, in order to be in compliance with §101(a)(2) of the Clean Water Act and 40 CFR §131.10(a), the state would have to either: 1) designate the fish consumption designated use for all surface waters that did not have that designated use in Appendix B; or 2) provide use attainability analyses [UAAs] to justify the omission of the fish consumption designated use.

In its disapproval letter, EPA indicated that UAAs for categories of surface waters were acceptable as long as the methods used by the state were scientifically and technically supportable. An example of this type of a categorical UAA would be a UAA for ephemeral waters based upon the low flow factor prescribed at 40 CFR §131.10(g)(2) and R18-11-104(H)(1). EPA also indicated that the state could choose to conduct a two-tiered use attainability analysis to justify the omission of the fish consumption designated use in effluent dependent waters. The first tier of the UAA analysis would consist of the presentation of evidence presently available to ADEQ that there is no fishing in the effluent dependent waters. The second tier of the UAA would be triggered by the receipt of an application for reissuance of an NPDES permit for the point source discharge which creates the effluent dependent water. The second tier would be a more in-depth analysis to confirm that the fish consumption designated use is not attainable.

ADEQ submitted a categorical UAA for ephemeral waters to justify the omission of both the full body contact and fish consumption designated uses based upon low flow to EPA [dated August 18, 1995]. ADEQ also conducted the Tier 1 analysis referenced above to justify omission of the fish consumption designated use in effluent dependent waters [dated July 20, 1995]. Both of these UAAs were approved by EPA on November 20, 1995. Consequently, the proposed Appendix B does not include any new fish consumption designated uses for ephemeral waters or effluent dominated waters. ADEQ added the fish consumption designated use [FC] to any surface water with either the aquatic and wildlife [cold water fishery] or aquatic and wildlife [warm water fishery] designated use.

Repeal of Appendix C: Practical Quantitation Limits

ADEQ proposes to repeal Appendix C to address a specific EPA disapproval. See previous discussion of practical quantitation limits [See previous discussion of practical quantitation limits].

5. **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

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

ADEQ is required by A.R.S. §49-1051(A)(2) to provide a brief summary of the information included in the economic, small business and consumer impact statement for the proposed water quality standards. In general, ADEQ believes that the proposed water quality standards rules will have minimal economic impact. The majority of the proposed revisions to the rules are either organizational or editorial changes. Substantive revisions to the water quality standards that may have an economic impact include the following:

1. The proposed revision of the waste treatment system exclusion language;
2. The proposed adoption of the *E. coli* water quality standards for the full body contact designated use;
3. The proposed adoption of the net ecological benefit rule;
4. The repeal of the turbidity standards for the full body contact and partial body contact designated uses;
5. The proposed adoption of diurnal standards for dissolved oxygen in effluent dependent waters.
6. The proposed unique waters classifications;
7. The proposed adoption of the variance rule;
8. The proposed revision to the numeric water quality

criteria to protect the domestic water source, fish consumption, full body contact and partial body contact designated uses;

9. The proposed addition of the fish consumption designated use to surface waters that are cold water or warm water fisheries.

This section addresses each of the proposed revisions which are thought to have an economic impact. The economic impact of each Section are summarized qualitatively. The preliminary summary describes the persons who will be directly affected by the revision, the probable costs and benefits associated with adoption and implementation of the change, a general description of the probable impact of the revision on private and public employment and a description of the probable impact of the revisions on small businesses, private persons and consumers.

None of the proposed revisions to the water quality standards rules will have an effect on state revenues. Also, ADEQ does not believe there are any less costly or less intrusive alternative methods of achieving the purpose of the proposed rulemaking.

Economic Impact of the Revision of the Waste Treatment System Exclusion

The revision of the language of the waste treatment system exclusion will benefit persons who own or operate wastewater treatment plants that create effluent dependent waters. Counties, municipalities and sanitary districts which own and operate such plants will be the primary beneficiaries of the proposed revision. The proposed revision also could benefit industrial facilities which utilize lagoons or impoundments for industrial wastewater treatment or utilities which utilize cooling ponds, fly ash ponds or blowdown ponds.

The proposed revision removes a regulatory barrier to the construction of in-channel waste treatment systems. In particular, the revision provides more flexibility under the water quality standards program for the construction of wetlands to provide "natural" wastewater treatment in dry watercourses. In many cases, constructed wetlands are a cost-effective method of wastewater treatment and disposal. The proposed revision will benefit the owners and operators of wastewater treatment plants by providing an additional treatment and disposal option.

Economic Impact of the Proposed Adoption of the E. coli Water Quality Standards for Surface Waters With the Full Body Contact Designated Use

The proposed adoption of *E. coli* water quality criteria for the full body contact [FBC] designated use will affect those point source dischargers who discharge to those surface waters with the FBC designated use. Again, this revision will primarily affect wastewater treatment plants. If the new *E. coli* water quality standards are adopted, the standards will eventually be incorporated as discharge limitations in the NPDES permits for municipal wastewater treatment plants which discharge to surface waters with the FBC designated use. The monitoring costs for those dischargers will increase because they will be required to monitor the discharge of effluent for the presence of *E. coli*. However, the increase in the cost of monitoring should be minimal. For example, the State Laboratory currently charges $40 for an *E. coli* sample analysis under state contract as compared to $15 for fecal coliform analysis. Assuming that a wastewater treatment plant was required to conduct monitoring for *E. coli* twice a month, the predicted increase in monitoring costs would be approximately $1000 a year. It is not known how many point source dischargers would be affected by such an increase in monitoring costs. However, the number is certainly a small one. As of June 30, 1995, there were only 157 NPDES permitted-facilities in Arizona. Of these, 14 are located on Indian lands and could not be affected by the adoption of *E. coli* standards by the state. Not all of the remaining 143 NPDES-permitted facilities discharge to surface waters with the full body contact designated use. Approximately 30 wastewater treatment plants discharge to effluent dependent waters which do not have the FBC designated use. The remaining number of wastewater treatment plants is probably less than 100.

Economic Impact of the Proposed Adoption of the Net Ecological Benefit Rule

The net ecological benefit rule permits a modification of water quality standards for a wastewater treatment plant that supports or creates an effluent dependent water. The proposed rule provides a benefit to the owners and operators of the source wastewater treatment plants because it provides a mechanism for relief from specific water quality standards. This proposed rule may be used to obtain a modification to a water quality standard and to avoid high costs associated with wastewater treatment plant upgrades. ADEQ cannot predict how many wastewater treatment plants will take advantage of this procedure to modify a water quality standards.

Economic Impact of the Proposed Repeal of Turbidity Standards for the Full Body Contact and Partial Body Contact Designated Uses

ADEQ is proposing to repeal the turbidity standards for the full body contact and partial body contact designated uses. The repeal of these standards will affect ephemeral waters and associated land use activities. The repeal of the turbidity standards for partial body contact results in the turbidity standards no longer being applied to any ephemeral waters in Arizona. The removal of turbidity standards from ephemeral waters may benefit urbanized counties and municipalities that are regulated under NPDES stormwater permits. The repeal of the turbidity standard removes the possibility that NPDES stormwater permits would include water quality-based discharge limitations for turbidity. The repeal of the turbidity standard also may affect the types of best management practices that are employed by NPDES permittees to control their stormwater discharges.

Economic Impact of the Proposed Diurnal Standard for Dissolved Oxygen in Effluent Dependent Waters

ADEQ is proposing a more stringent dissolved oxygen standard for effluent dependent waters. This proposed standard will affect the 30 wastewater treatment plants which discharge to dry watercourses and create effluent dependent waters. While the proposed dissolved standard is more stringent, it should have no economic impact. Data collected by ADEQ shows that effluent dependent waters regularly meet or exceed the proposed minimum standards. The proposed standard will not force any wastewater treatment plant to upgrade treatment.

Economic Impact of Proposed Unique Waters Designations

Three surface waters are proposed for unique waters classification. Two of these are located in federal wilderness areas that will remain undeveloped. The proposed unique waters classifications for Aravaipa Creek and the Cave Creek watershed would have no economic impact. Buehman Canyon Creek is located on public lands managed by U.S. Forest Service and on private lands. If Buehman Canyon Creek is classified as a unique water, land use activities within the watershed which may degrade water quality in Buehman Canyon Creek would be prohibited. ADEQ is aware that there is interest in developing an open pit copper mine in Buehman Canyon. Although this mining project is not located on the nominated surface water, the development of the mining project could adversely affect water quality in Buehman Canyon Creek. The adoption of the proposed rule would directly affect the interests of persons interested in the development a mining project in the area. A unique waters classification for Buehman Canyon Creek would result in any mining project being given strict scrutiny under the antidegradation provisions of the water quality standards rules. A unique waters classification may effectively prohibit any mining

development.

Economic Impact of the Proposed Variance Provision

The proposed rule provides a mechanism for obtaining a variance from water quality standards. The proposed variance is discharger-specific. Thus, the only persons who are directly affected by the proposed rule are point source dischargers to surface waters. The proposed rule provides a benefit to dischargers because it provides a way for the discharger to obtain short-term relief from compliance with a water quality standard if compliance is not technically or economically feasible.

Economic Impact of Proposed Revisions to Numeric Water Quality Criteria

The proposed revisions to the numeric water quality for the domestic water source, fish consumption, full body contact and partial body contact designated uses may affect point source dischargers that discharge pollutants to surface waters with those designated uses. For example, revisions to the water quality criteria for the domestic water source designated use will only affect point source dischargers that discharge to surface waters with that designated use. In most cases, the point source dischargers who may be affected will be domestic and municipal wastewater treatment plants. A revision to an applicable water quality standard may result in a change in discharge limitation in a NPDES permit for the wastewater treatment plant or a new monitoring requirement.

The majority of the revisions to the numeric water quality criteria result in a less stringent water quality criterion. The proposed adoption of a less stringent water quality criterion will have no economic impact on point source dischargers. However, in some cases, the proposed revision results in a more stringent water quality criterion. In such cases, there is a possibility that a point source discharger may be required to upgrade treatment to ensure compliance with a more stringent standard. A treatment upgrade would only be required if a discharge contains the pollutant in a concentration that would result in a violation of the more stringent water quality standard. It is unlikely that more stringent water quality standards will affect point source dischargers because, in most cases, the more stringent water quality standards are for pollutants that are not typically found in effluents.

For the domestic water source designated use, ADEQ proposes to revise the water quality criteria for eight pollutants to be more stringent. These pollutants are: boron, 1,3-dichloropropene, manganese, mercury, nickel,

pentachlorophenol, 1,2,4-trichlorobenzene and zinc. ADEQ is interested in obtaining information on the potential economic impact of the revisions of these standards for point source dischargers that discharge to surface waters with the domestic water source designated use.

For the fish consumption designated use, ADEQ proposes to revise the water quality criteria for six pollutants to be more stringent. These pollutants are: cadmium, 1,3-dichloropropene, pentachlorophenol, thallium, 1,2,4-trichlorobenzene and zinc. ADEQ is interested in obtaining information on the potential economic impact of the revisions of these standards for point source dischargers that discharge to surface waters with the fish consumption designated use.

For the full body contact designated use, ADEQ proposes to revise the water quality criteria for twenty-five pollutants to be more stringent. These pollutants are: boron, carbofuran, total residual chlorine, cyanide, 1,2-dibromomethane, 2,4-dichlorophenoxyacetic acid, 1,3-dichloropropene, 2,4-dimethylphenol, dimethyl phthalate, 2-methyl-4,6-dinitrophenol, ethylbenzene, manganese, nitrate, nitrite, pentachlorophenol, styrene, thallium, toluene, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 2-(2,4,5-trichlorophenoxy) propionic acid and xylenes. ADEQ is interested in obtaining information on the potential economic impact of the revisions of these standards for point source dischargers that discharge to surface waters with the full body contact designated use. It should be noted that all surface waters in Arizona have multiple designated uses. Where there is more than one designated use and multiple water quality criteria for a surface water, the most stringent water quality criterion applies. In most cases, the water quality criteria for the full body contact designated use are less stringent than the water quality criteria that have been established to maintain and protect water quality for other designated uses. Thus, even where the the full body contact criteion is revised to be more stringent, it may have no economic impact because other applicable water quality criteria are more stringent.

For the partial body contact designated use, ADEQ proposes to revise the water quality criteria for forty-two pollutants to be more stringent. These pollutants are indicated by a "-" in the chart on pp. 36-39. ADEQ is interested in obtaining information on the potential economic impact of the revisions of these standards for point source dischargers that discharge to surface waters with the partial body contact designated use. It should be noted that all surface waters in Arizona have multiple designated uses. Where there is more than one designated use and multiple water quality criteria for a surface water, the most stringent water quality criterion

applies. In general, the water quality criteria for the partial body contact designated use are less stringent than the water quality criteria for any other designated use. Thus, ADEQ believes that the revision of partial body contact criteria will have no economic impact because other applicable water quality criteria are more stringent.

Economic Impact of Proposed Addition of Fish Consumption Designated Uses

The addition of the fish consumption designated use to surface waters that are identified as cold water or warm water fisheries may result in new discharge limitations or monitoring requirements for point source dischargers who discharge to surface waters with the added use. It is unclear how many NPDES-permitted facilities may be affected by these revisions. ADEQ is soliciting information from point source dischargers who may be affected in order to assess the economic impact.

7. **The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**

Steven Pawlowski
Arizona Department of Environmental Quality
3033 N. Central Avenue
Phoenix, Arizona 85012
Telephone: 207-2227
Fax Number: 207-2251

8. **The time, place and nature of the proceedings for the adoption, amendment or repeal of the rule, or if no proceeding is scheduled, where, when and how persons may request an oral proceeding on the proposed rule:**

Oral proceeedings to take public comment on the proposed rules are scheduled as follows:

February 6, 1996
7:00 p.m.
Coconino County Administration Building
Board of Supervisors Meeting Room
219 E. Cherry Avenue, 1st Floor
Flagstaff, Arizona

February 8, 1996
7:00 p.m.
State Government Complex Building
400 W. Congress, North Building
Room 222
Tucson, Arizona 85701

February 13, 1996
7:00 p.m.
City of Yuma City Hall
Council Chambers
180 W. 1st Street
Yuma, Arizona 85364

February 15, 1996
7:00 p.m.
Public Meeting Room
Arizona Department of Environmental Quality
3033 N. Central Avenue
Phoenix, Arizona

The public comment period for the proposed water quality standards rules closes on Friday, February 23, 1996.

9. **Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:**

Not applicable

10. **Incorporations by reference and their location in the rules:**

a. Endangered and Threatened Wildlife and Plants, 50 CFR §17.11 and §17.12 [revised as of July 12, 1995] in R18-11-112(D)(2)(a).

b. List of Highly Safeguarded Protected Native Plants in Arizona, Arizona Administrative Code, Title 3, Chapter 6, Appendix A, Subsection A [December 20, 1994] in R18-11-112(D)(2)(c).

c. Federally Listed Threatened and Endangered Species of Arizona, U.S. Fish & Wildlife Service [June 6, 1995] in R18-11-112(D)(2)(d).

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

TITLE 18

ENVIRONMENTAL QUALITY

CHAPTER 11. DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY ~~BOUNDARIES AND~~ STANDARDS

ARTICLE 1. WATER QUALITY STANDARDS FOR ~~NAVIGABLE~~ SURFACE WATERS

Section

R18-11-101. Definitions

R18-11-102. Applicability

R18-11-103. ~~Exclusions~~ Reserved

R18-11-104. Designated uses

R18-11-105. ~~Reserved~~ Tributary rule

R18-11-106. ~~Reserved~~ Net ecological benefit

R18-11-107. Antidegradation

R18-11-108. Narrative water quality standards

R18-11-109. Numeric water quality standards

R18-11-110. Salinity of the Colorado River

R18-11-111. Analytical methods

R18-11-112. Unique waters

R18-11-113. Effluent ~~dominated~~ dependent waters

R18-11-114. Mixing zones

R18-11-115. Nutrient waivers

R18-11-116. Resource management agencies

R18-11-117. Canals and municipal park lakes

R18-11-118. Dams and flood control structures

R18-11-119. Natural background

R18-11-120. Enforcement

R18-11-121. Schedules of compliance

R18-11-122. Variances

R18-11-123. Prohibition against discharge; Sabino Creek

App. A Numeric water quality criteria

App. B List of ~~navigable~~ surface waters and designated uses

~~App. C Practical quantitation limits~~

~~ARTICLE 2. DISCHARGE LIMITATIONS~~ RESERVED

~~R18-11-201. Reserved~~

~~R18-11-202. Discharge limitations for phosphates~~

~~R18-11-203. Prohibitions on discharge~~

~~R18-11-204. Reserved~~

~~R18-11-205. Discharges to ephemeral waters~~

ARTICLE 3. ~~WATER QUALITY DISCHARGE LIMITATIONS AND SPECIAL CLASSES OF WATER~~ RESERVED

ARTICLE 1.

WATER QUALITY STANDARDS FOR ~~NAVIGABLE~~ SURFACE WATERS

R18-11-101. Definitions

~~In addition to the definitions prescribed in A.R.S. §§ 49-101 and 49-201, the~~ The terms of ~~Article 1 and Article 2~~ this Article shall have the following meanings:

1. "Acute toxicity" means toxicity involving a stimulus severe enough to rapidly induce a response. In aquatic toxicity tests, an effect observed in 96 hours or less is considered acute.
2. "AgI" means agricultural irrigation.
3. "AgL" means agricultural livestock watering.
4. "Agricultural irrigation" means the use of a ~~navigable~~ surface water for the irrigation of crops.
5. "Agricultural livestock watering" means the use of a ~~navigable~~ surface water as a supply of water for consumption by livestock.
6. "Annual mean" means the arithmetic mean of monthly values determined over a consecutive 12 month period, provided that monthly values are determined for at least 3 months. The monthly value shall be the arithmetic mean of all values determined in a calendar month.
7. "Aquatic and wildlife (cold water fishery)" means the use of a ~~navigable~~ surface water by animals, plants or other organisms, including salmonids, for habitation, growth or propagation.
8. "Aquatic and wildlife (effluent ~~dominated~~ dependent water)"

means the use of an effluent ~~dominated~~ dependent water by animals, plants or other organisms for habitation, growth or propagation.

9. "Aquatic and wildlife (ephemeral)" means the use of an ephemeral water by animals, plants or other organisms, excluding fish, for habitation, growth or propagation.

10. "Aquatic and wildlife (warm water fishery)" means the use of a ~~navigable~~ surface water by animals, plants or other organisms, excluding salmonids, for habitation, growth or propagation.

11. "A&Wc" means aquatic and wildlife (cold water fishery).

12. "A&We" means aquatic and wildlife (ephemeral).

13. "A&Wedw" means aquatic and wildlife (effluent ~~dominated~~ dependent water).

14. "A&Ww" means aquatic and wildlife (warm water fishery).

15. "Clean Water Act" means the Federal Water Pollution Control Act, as amended by the Water Quality Act of 1987 ~~(and no future amendments), which is incorporated by reference and on file with the Office of the Secretary of State and the Department~~.

16. "Criteria" means elements of water quality standards that are expressed as pollutant concentrations, levels or narrative statements representing a water quality that supports a designated use.

17. "Designated use" means a use specified in Appendix B of this Article for a ~~navigable~~ surface water.

18. "Domestic water source" means the use of a ~~navigable~~ surface water as a potable water supply. Coagulation, sedimentation,

filtration, disinfection or other treatments may be necessary to yield a finished water suitable for human consumption.

19. "DWS" means domestic water source.

20. "EDW" means effluent ~~dominated~~ dependent water.

21. "Effluent ~~dominated~~ dependent water" means a ~~navigable~~ surface water that consists primarily of discharges of treated wastewater and that has been classified as an effluent ~~dominated~~ dependent water by the Director pursuant to A.A.C. R18-11-113.

22. "Ephemeral water" means a ~~navigable~~ surface water that has a channel that is at all times above the water table, that flows only in direct response to precipitation and that does not support a self-sustaining fish population.

23. "Existing use" means a use that is actually attained in a ~~navigable~~ surface water on or after November 28, 1975 or a use that the existing water quality of a ~~navigable~~ surface water will allow.

24. "Fast land" means land that was once a surface water but no longer remains a surface water because it has been and remains legally converted to land by the discharge of dredged or fill material that: 1) was authorized by a §404 permit; 2) exempt from §404 permit requirements; or 3) occurred before there was a §404 permit requirement for the discharge of the dredged or fill material.

~~24~~ 25 "FBC" means full body contact.

~~25~~ 26 "FC" means fish consumption.

~~26~~ 27 "Fish consumption" means the use of a ~~navigable~~ surface water by humans for harvesting aquatic organisms for

consumption. Harvestable aquatic organisms include, but are not limited to fish, clams, turtles, crayfish and frogs.

~~27~~ 28 "Full body contact" means the use of a ~~navigable~~ surface water which causes the human body to come into direct contact with the water to the point of complete submergence. The use is such that ingestion of the water is likely to occur and certain sensitive body organs, such as the eyes, ears or nose may be exposed to direct contact with the water.

~~28~~ 29 "Geometric mean" means the nth root of the product of n items or values. The geometric mean is calculated using the following formula:

$$G.M._y = \sqrt[n]{(Y_1)(Y_2)(Y_3) \ldots (Y_n)}$$

~~29~~ 30 "Hardness" means the sum of the calcium and magnesium concentrations, expressed as calcium carbonate ($CaCO_3$), in milligrams per liter.

~~30~~ 31 "Mixing zone" means a prescribed area or volume of a ~~navigable~~ surface water that is contiguous to a point source discharge where initial dilution of ~~a~~ the discharge takes place.

~~31~~ 32 "National Pollutant Discharge Elimination System" means the point source discharge permit program established by §402 of the Clean Water Act.

~~32. "Navigable waters" means the waters of the United States.~~

33. "Ninetieth percentile" means the value which may not be exceeded by more than ten percent of the observations in a consecutive 12 month period. A minimum of ten samples, each

taken at least ten days apart, are required to determine a ninetieth percentile.

34. "NNS" means no numeric standard.

~~34~~ 35 "Oil" means petroleum in any form, including but not limited to crude oil, gasoline, fuel oil, diesel oil, lubricating oil or sludge.

~~35~~ 36 "Partial body contact" means the use of a ~~navigable~~ surface water which may cause the human body to come into direct contact with the water, but normally not to the point of complete submergence. The use is such that ingestion of the water is not likely to occur, nor will sensitive body organs such as the eyes, ears or nose normally be exposed to direct contact with the water.

~~36~~ 37 "PBC" means partial body contact.

~~37~~ 38 "Practical quantitation limit" means the lowest level of quantitative measurement that can be reliably achieved during routine laboratory operations.

~~38~~ 39 "Recreational uses" means the full body contact and partial body contact designated uses.

~~39~~ 40 "Regional Administrator" means the regional Administrator of Region 9 of the Environmental Protection Agency.

41. Surface water" means a water of the United States and includes the following:

A. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce;

B. All interstate waters, including interstate wetlands;

C. All other waters such as intrastate lakes, reservoirs,

ponds, rivers, streams (including intermittent and ephemeral streams), creeks, washes, draws, mudflats, sandflats, wetlands, sloughs, backwaters, prairie potholes, wet meadows, or playa lakes, the use, degradation or destruction of which would affect or could affect interstate or foreign commerce, including any such waters:

1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
3. Which are used or could be used for industrial purposes by industries in interstate or foreign commerce;

D. All impoundments of surface waters;

E. Tributaries of surface waters; and

F. Wetlands.

~~40~~ 42 "Total nitrogen" means the sum of the concentrations of ammonia (NH_3), ammonium ion (NH_4^+), nitrite (NO_2^-), nitrate (NO_3^-) and dissolved and particulate organic nitrogen expressed as elemental nitrogen.

~~41~~ 43 "Total phosphorus" means all the phosphorus present in the sample, regardless of form, as measured by a persulfate digestion procedure.

~~42~~ 44 "Toxic" means those pollutants, or combination of pollutants, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by

ingestion through food chains, may cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.

~~43~~ 45 "Unique water" means a ~~navigable~~ surface water which has been classified as an outstanding state resource water by the Director pursuant to A.A.C. R18-11-112.

~~44~~ 46 "Use attainability analysis" means a structured scientific assessment of the factors affecting the attainment of a designated use which may include physical, chemical, biological, and economic factors.

~~45. "Waters of the United States" means:~~

~~A. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;~~

~~B. All interstate waters, including interstate wetlands;~~

~~C. All other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), creeks, washes, draws, mudflats, sandflats, wetlands, sloughs, backwaters, prairie potholes, wet meadows, playa lakes, reservoirs, or natural ponds, the use degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters:~~

~~1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;~~

~~2. From which fish or shellfish are or could be taken~~

~~and sold in interstate or foreign commerce; or~~

~~3. Which are used or could be used for industrial purposes by industries in interstate or foreign commerce;~~

~~D. All impoundments of waters otherwise defined as waters of the United States under this definition;~~

~~E. Tributaries of waters otherwise defined as waters of the United States under this definition; and~~

~~F. Wetlands adjacent to waters (other than waters that are themselves wetlands) otherwise defined as waters of the United States under this definition.~~

~~46~~ 47 "Wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include swamps, marshes, bogs, cienegas, tinajas and similar areas.

~~47~~ 48 "Zone of passage" means a continuous water route of volume, cross-sectional area and quality necessary to allow passage of free-swimming or drifting organisms with no toxic effect produced on the organisms.

R18-11-102. Applicability

A. The water quality standards prescribed in this Article apply to all ~~navigable~~ surface waters.

B. The water quality standards prescribed in this Article do not apply to the following:

1. Waste treatment systems, including impoundments, ponds, lagoons and constructed wetlands that are a part of such waste treatment systems.

2. Man-made surface impoundments and associated ditches and conveyances used in the extraction, beneficiation and processing of metallic ores, including pits, pregnant leach solution ponds, raffinate ponds, tailing impoundments, decant ponds, concentrate or tailing thickeners, blowdown water ponds, ponds and sumps in mine pits associated with dewatering activity, ponds holding water that has come in contact with process or product and that is being held for recycling, spill or upset catchment ponds, or ponds used for on-site remediation that are located either on lands that were not and are not surface waters or that are located on fast lands.

R18-11-103. ~~Exclusions~~ Reserved

~~The water quality standards prescribed in this Article do not apply to:~~

~~1. Waste treatment systems, including ponds, lagoons and constructed wetlands that are a part of such waste treatment systems. This exclusion applies only to manmade bodies of water which neither are originally created in a navigable water nor result from the impoundment of a navigable water.~~

~~2. Man made surface impoundments and associated ditches and conveyances used in the extraction, beneficiation and processing of metallic ores, including pregnant leach~~

~~solution ponds, raffinate ponds, tailing impoundments, decant ponds, concentrate or tailing thickeners, blowdown water ponds, ponds and sumps in mine pits associated with dewatering activity, ponds holding water that has come in contact with process or product and that is being held for recycling, spill or upset catchment ponds or ponds used for on site remediation provided that any discharge from any such surface impoundment to a navigable water is permitted under the National Pollutant Discharge Elimination System program.~~

R18-11-104. Designated uses

A. The Director shall adopt or remove designated uses and subcategories of designated uses by rule.

B. Designated uses of ~~navigable waters~~ a surface water may include full body contact, partial body contact, domestic water source, fish consumption, aquatic and wildlife (cold water fishery), aquatic and wildlife (warm water fishery), aquatic and wildlife (ephemeral), aquatic and wildlife (effluent ~~dominated~~ dependent water), agricultural irrigation and agricultural livestock watering. ~~Designated~~ The designated uses for specific ~~navigable~~ surface waters are listed in Appendix B of this Article.

C. Numeric water quality criteria to protect the designated uses are prescribed in Appendix A, R18-11-109, R18-11-110 and R18-11-112. Narrative standards to protect all ~~navigable~~ surface waters are prescribed in R18-11-108.

~~D. A navigable water that is not listed in Appendix B but that is~~

~~tributary to a listed navigable water shall be protected by the water quality standards that have been established for the nearest downstream navigable water listed in Appendix B that is not an effluent dominated water. Where the nearest downstream listed water is an ephemeral water, the A&Wc and PBC standards shall apply only to that portion of the tributary that is an ephemeral water. The A&Ww and FBC standards shall apply to that portion of the tributary that is not an ephemeral water.~~

~~E~~ D. If a ~~navigable~~ surface water has more than one designated use listed in Appendix B, ~~the applicable water quality criterion for a pollutant is the most stringent of those prescribed to protect the designated uses of the navigable water~~ then the most stringent water quality criterion applies.

~~F~~ E. The Director shall revise the designated uses of a ~~navigable~~ surface water if water quality improvements result in a level of water quality which permits a use that is not currently listed as a designated use in Appendix B.

~~G~~ F. In designating uses of a ~~navigable~~ surface water and in establishing water quality criteria to protect those designated uses, the Director shall take into consideration the applicable water quality standards for downstream ~~navigable~~ surface waters and shall ensure that the water quality standards that are established for an upstream surface water also provide for the attainment and maintenance of the water quality standards of downstream ~~navigable~~ surface waters.

~~H~~ G. A use attainability analysis shall be conducted prior to

removal of a designated use or adoption of a subcategory of a designated use that requires less stringent water quality criteria.

~~I~~ H. The Director may remove a designated use or adopt a subcategory of a designated use that requires less stringent water quality criteria provided the designated use is not an existing use and it is demonstrated through a use attainability analysis that attaining the designated use is not feasible for any of the following reasons:

1. Naturally occurring pollutant concentrations prevent the attainment of the use;
2. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use~~, unless these conditions may be compensated for by the discharge of a sufficient volume of treated wastewater without violating water conservation or other applicable requirements. Nothing herein shall be construed to require releases of treated wastewater~~;
3. Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place;
4. Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the ~~navigable~~ surface water to its original condition or to operate such modification in a way that would result in attainment of the use; ~~Nothing herein shall be construed to require the releases~~

~~of water from dams;~~

5. Physical conditions related to the natural features of the ~~navigable~~ surface water, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life designated uses; or

6. Controls more stringent than those required by §§ 301(b) and 306 of the Clean Water Act are necessary to attain the use and implementation of such controls would result in substantial and widespread economic and social impact.

R18-11-105. ~~Reserved~~ **Tributary rule**

The following water quality standards apply to a surface water that is not listed in Appendix B but that is tributary to a listed surface water:

1. For an unlisted tributary that is an ephemeral water, the aquatic and wildlife [ephemeral] and partial body contact standards shall apply.

2. For an unlisted tributary that is an effluent dependent water, the aquatic and wildlife [effluent dependent water] standards and partial body contact standards shall apply.

3. For an unlisted tributary that is not an ephemeral water or an effluent dependent water and which has salmonids present, the aquatic and wildlife [cold water fishery] and fish consumption standards shall apply as well as the water quality standards that have been established for the nearest downstream surface water that is not an

ephemeral water or an effluent dependent water.

4. For an unlisted tributary that is not an ephemeral water or an effluent dependent water and which does not have salmonids present, the aquatic and wildlife [warm water fishery] and fish consumption standards shall apply as well as the water quality standards which have been established for the nearest downstream surface water that is not an ephemeral water or effluent dependent water..

R18-11-106. ~~Reserved~~ Net ecological benefit

A. The Director may modify a water quality standard on the grounds 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 such water resources are limited. The Director may modify a water quality criterion 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 such resources are limited.

2. The ecological benefits associated with the discharge of effluent under a modified water quality standard exceeds 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 completely the discharge of

effluent which creates or supports the ecologically valuable aquatic, wetland or riparian ecosystem.

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 which applies to the discharge of that effluent. The discharge of effluent which creates or supports and ecologically valuable aquatic, riparian or wetland ecosystem shall, at a minimum, comply with applicable technology-based effluent limitations.

R18-11-107. Antidegradation

~~A. The determination of whether there is any degradation of water quality in a navigable water shall be on a pollutant by pollutant basis.~~

~~B~~ A. Tier 1: The level of water quality necessary to protect existing uses shall be maintained and protected. No

degradation of existing water quality is permitted in a ~~navigable~~ surface water where the existing water quality does not meet applicable water quality standards.

~~C~~ B. Tier 2: Where existing water quality in a ~~navigable~~ surface water is better than applicable water quality standards, the existing water quality shall be maintained and protected. The Director may allow limited degradation of existing water quality in ~~such navigable waters, except unique waters,~~ a Tier 2 surface water, provided that the Department has held a public hearing on whether degradation should be allowed pursuant to the general public hearing procedures prescribed at R18-1-401 and R18-1-402 and the Director makes all of the following findings:

1. The level of water quality necessary to protect existing uses is fully protected.
2. The highest statutory and regulatory requirements for all new and existing point sources as set forth in the Clean Water Act are achieved.
3. All cost-effective and reasonable best management practices for nonpoint source control are implemented.
4. Allowing lower water quality is necessary to accommodate important economic or social development in the area in which the ~~navigable~~ surface water is located.

~~D~~ C. Tier 3: Existing water quality shall be maintained and protected in a ~~navigable~~ surface water that is classified as a unique water or that the Director has proposed for classification as a unique water pursuant to A.A.C. R18-11-112. The Director shall not allow limited degradation

of a unique water pursuant to Subsection ~~C~~ B of this Section.

~~E~~ D. Nothing in this Section or in the implementation of this Section shall be inconsistent with §316 of the Clean Water Act where a potential water quality impairment associated with a thermal discharge is involved.

R18-11-108. Narrative water quality standards

A. ~~Navigable waters~~ A surface water shall be free from pollutants in amounts or combinations that:

1. Settle to form bottom deposits that inhibit or prohibit the habitation, growth or propagation of aquatic life or that impair recreational uses;
2. Cause objectionable odor in the area in which the ~~navigable~~ surface water is located;
3. Cause off-taste or odor in drinking water;
4. Cause off-flavor in aquatic organisms or waterfowl;
5. Are toxic to humans, animals, plants or other organisms;
6. Cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth or propagation of other aquatic life or that impair recreational uses;
7. Cause or contribute to a violation of an aquifer waterquality standard prescribed in A.A.C. R18-11-405 or A.A.C. R18-11-406; or
8. Change the color of the ~~navigable~~ surface water from natural background levels of color.

B. ~~Navigable waters~~ A surface water shall be free from oil, grease and other pollutants that float as debris, foam, or scum; or that cause a film or iridescent appearance on the

surface of the water; or that cause a deposit on a shoreline, bank or aquatic vegetation. The discharge of lubricating oil or gasoline associated with the normal operation of a recreational watercraft shall not be considered a violation of this narrative standard.

R18-11-109. Numeric water quality standards

A. The water quality standards prescribed in this Section and in Appendix A apply to ~~navigable~~ surface waters listed in Appendix B and their tributaries. Additional numeric water quality standards for unique waters are prescribed in R18-11-112.

B. The following water quality standards for fecal coliform, expressed in colony forming units per 100 milliliters of water (cfu/100 ml), shall not be exceeded:

		~~FBC~~	DWS,PBC,A&W[1],AgI,AgL
1.	Fecal Coliform		
	30-day geometric mean (5 sample minimum)	~~200~~	1000
	10% of samples for a 30-day period	~~400~~	2000
	Single sample maximum	~~800~~	4000
2.	Fecal coliform in effluent ~~dominated~~ dependent waters		All designated uses
	30-day geometric mean (5 sample minimum)		200
	10% of samples for a 30-day period		400

Single sample maximum	800

C. The following water quality standards for *Escherichia coli* [*E. coli*], expressed in colony forming units per 100 milliliters of water (cfu/100 ml), shall not be exceeded:

E. coli	FBC
30-day geometric mean (5 sample minimum)	130
10% of samples for a 30-day period	240
Single sample maximum	580

~~C~~ D. The following water quality standards for pH, expressed in standard units, shall not be violated:

pH	DWS	FBC,PBC,A&W[2]	AgI	AgL
Maximum	9.0	9.0	9.0	9.0
Minimum	5.0	6.5	4.5	6.5
Maximum change due to discharge	NNS	0.5	NNS	NNS

~~D~~ E. The following maximum allowable increase in ambient water temperature, expressed in degrees Celsius, shall not be exceeded:

Temperature[3]	A&Ww,A&Wedw	A&Wc
Maximum increase due to a discharge[4,5]	3.0	1.0

~~E~~ F. The following water quality standards for turbidity, expressed as a maximum concentration in nephelometric turbidity units (NTU), shall not be exceeded:

Turbidity	~~FBC,PBC,~~A&Ww,A&Wedw	A&Wc
Rivers, streams and other flowing waters	50	10

Lakes, reservoirs, tanks and ponds	25	10

~~F.~~G. The following are the water quality standards for dissolved oxygen, expressed in milligrams per liter (mg/L). The dissolved oxygen concentration in a ~~navigable~~ surface water shall not fall below the following minimum concentrations:

1. Dissolved oxygen[6]	A&Ww	A&Wc	~~A&Wedw~~
Single sample minimum[7,8]	6.0	7.0	~~1.0~~

2. Dissolved oxygen in effluent dependent waters [single sample minimum]:

3 hours after sunrise to sunset	3.0
Sunset to 3 hours after sunrise	1.0

3. If the dissolved oxygen (mg/L) of a surface water is less than the water quality standard, but the percent saturation of oxygen is equal to or greater than 90%, then the surface water shall be deemed to be in compliance with the dissolved oxygen water quality standard.

~~G~~ H. The following water quality standards for total phosphorus and total nitrogen, expressed in milligrams per liter (mg/L), shall not be exceeded:

	Annual mean	90th percentile	Single Sample Maximum
1. Verde River and its tributaries from headwaters to Bartlett Lake			
Total phosphorus	0.10	0.30	1.00
Total nitrogen	1.00	1.50	3.00

2. ~~White River,~~ Black River, Tonto Creek and their tributaries

that are not located on tribal lands:

Total phosphorus	0.10	0.20	0.80
Total nitrogen	0.50	1.00	2.00

3. Salt River and its tributaries, except Pinal Creek, ~~from the confluence of the White and Black Rivers to~~ above Theodore Roosevelt Lake that are not located on tribal lands

Total phosphorus	0.12	0.30	1.00
Total nitrogen	0.60	1.20	2.00

4. Theodore Roosevelt, Apache, Canyon and Saguaro Lakes

Total phosphorus	0.03[a]	NNS	0.60[b]
Total nitrogen	0.30[a]	NNS	1.00[b]

5. Salt River below Stewart Mountain Dam to confluence with the Verde River

Total phosphorus	0.05	NNS	0.20
Total nitrogen	0.60	NNS	3.00

6. Little Colorado River and its tributaries above River Reservoir in Greer; South Fork of Little Colorado River above South Fork Campground; Water Canyon Creek above Apache-Sitgreaves National Forest boundary

Total phosphorus	0.08	0.10	0.75
Total nitrogen	0.60	0.75	1.10

7. Little Colorado River at crossing of Apache County Road No. 124

Total phosphorus	NNS	NNS	0.75
Total nitrogen	NNS	NNS	1.80

8. Little Colorado River above Lyman Lake to above Amity Ditch diversion near crossing of Arizona Highway 273:
(applies only when in-stream turbidity is less than 50 NTU)

Total phosphorus	0.20	0.30	0.75
Total nitrogen	0.70	1.20	1.50

9. Colorado River, at Northern International Boundary near Morelos Dam

Total phosphorus	NNS	0.33	NNS
Total nitrogen	NNS	2.50	NNS

10. San Pedro River, from Curtiss to Benson:

Total phosphorus	NNS	NNS	NNS
Total nitrate as N	NNS	NNS	10.00

11. The discharge of wastewater to Show Low Creek and tributaries upstream of and including Fools Hollow Lake shall not exceed 0.16 mg/l total phosphates as P.

12. The discharge of wastewater to the San Francisco River and tributaries upstream of Luna Lake Dam shall not exceed 1.0 mg/l total phosphates as P.

~~H~~ I. The following water quality standards for radiochemicals shall not be exceeded:

1. In all ~~navigable~~ surface waters, the concentration of radiochemicals shall not exceed the limits established by the Arizona Radiation Regulatory Agency in Title 12, Chapter 1, Article 4, Appendix A, Table II, Column 2 of the Arizona Administrative Code, (effective June 30, 1977 and no future amendments), which is incorporated by reference and on file with the Office of the Secretary of State and with the Department.

2. In ~~navigable~~ surface waters that are designated as domestic water sources, the following water quality standards for radiochemicals shall not be exceeded:

a. The concentration of gross alpha particle activity, including radium-226 but excluding radon and uranium, shall not exceed 15 picocuries per liter of water.

b. The concentration of combined radium-226 and radium-228 shall not exceed 5 picocuries per liter of water.

c. The concentration of strontium-90 shall not exceed 8 picocuries per liter of water.

d. The concentration of tritium shall not exceed 20,000 picocuries per liter of water.

e. The average annual concentration of beta particle activity and photon emitters from man-made radionuclides shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirems per year.

Footnotes:

[1] Includes A&Wc, A&Ww and A&We.

[2] Includes A&Wc, A&Ww, A&Wedw and A&We.

[3] There is no water quality standard for temperature for the A&We designated use.

[4] Does not apply to Cholla Lake.

[5] Does not apply to a wastewater treatment plant discharge to a dry watercourse that creates an effluent ~~dominated~~ dependent water.

[6] There is no dissolved oxygen standard for the A&We designated use.

[7] ~~Or 90% saturation, whichever is less. If the dissolved oxygen (mg/L) of the waterbody is less than the the water quality standard, but the percent saturation of oxygen is equal to or greater than 90%, then the waterbody is in compliance with the dissolved oxygen water quality standard~~

[~~8~~7] The dissolved oxygen water quality standard for a lake shall apply below the surface but not at a depth greater than 1 meter.

[a] means annual mean of representative composite samples taken from the surface and at 2 and 5 meter depths.

[b] means maximum for any set of representative composite samples taken from the surface and at 2 and 5 meter depths.

~~"NNS" means no numeric standard.~~

R18-11-111. Analytical Methods

A. Analysis of a sample taken to determine compliance with a water quality standard shall be in accordance with an approved analytical method prescribed in Title 9, Chapter 14, Article 6 of the Arizona Administrative Code or an alternative analytical method that is approved by the Director of the Department of Health Services pursuant to A.A.C. ~~R9-14-607.B.~~ R9-14-607(B).

B. A test result from a sample taken to determine compliance with a water quality standard shall be valid only if the sample has been analyzed by a laboratory that is licensed by the Arizona Department of Health Services for the analysis performed.

R18-11-112. Unique waters

A. The classification of a ~~navigable~~ surface water as a unique water shall be by rule.

B. The Director may adopt, by rule, site-specific water quality standards to maintain and protect existing water quality in a unique water.

C. Any person may nominate a ~~navigable~~ surface water for classification as a unique water by filing a petition for rule adoption with the Department. A petition for rule adoption to classify a ~~navigable~~ surface water as a unique water shall include:

1. A map and a description of the ~~navigable~~ surface water;
2. A written statement in support of the nomination,

including specific reference to the applicable criteria for unique waters classification as prescribed in Subsection D of this Section;

3. Supporting evidence demonstrating that one or more of the applicable unique waters criteria prescribed in Subsection D of this Section has been met; and

4. ~~Relevant water quality data.~~ Available water quality data relevant to establishing baseline water quality of the proposed unique water.

D. A ~~navigable~~ surface water may be classified as a unique water by the Director upon a finding that the ~~navigable~~ surface water is an outstanding state resource water based upon one of the following criteria:

1. The ~~navigable~~ surface water is of exceptional recreational or ecological significance because of its unique attributes, including but not limited to, attributes related to the geology, flora, fauna, water quality, aesthetic values or the wilderness characteristics of the ~~navigable~~ surface water.

2. Threatened or endangered species are known to be associated with the ~~navigable~~ surface water and the existing water quality is essential to the maintenance and propagation of a threatened or endangered species or the ~~navigable~~ surface water provides critical habitat for a threatened or endangered species. Endangered or threatened species are identified on the following lists which are hereby incorporated by reference and on file with the Office of the Secretary of State and with the

Department:

a. Endangered and Threatened Wildlife and Plants, 50 CFR, §§ 17.11 and 17.12 (revised as of July 12, 1995);

b. "Threatened Native Wildlife of Arizona," Arizona Game and Fish Department (July 21, 1988);

c. ~~List of protected groups of plants prescribed in A.A.C. R3-1-615 and A.A.C. R3-1-616 (January 17, 1989)~~ List of highly safeguarded protected native plants in Arizona Administrative Code, Title 3, Chapter 6, Appendix A, Subsection A [December 20, 1994];

~~d. List of Migratory Birds, 50 CFR §10.13 (April 5, 1985);~~

~~e~~ d. ~~"Endangered and Threatened~~ Federally Listed Threatened and Endangered Species of Arizona," U.S. Fish & Wildlife Service (~~Summer 1991~~ June 6, 1995).

E. The following ~~navigable~~ surface waters are classified as unique waters:

1. The West Fork of the Little Colorado River, above Government Springs;

2. Oak Creek, including the West Fork of Oak Creek;

3. ~~People's~~ Peeples Canyon Creek, tributary to Santa Maria River;

4. Burro Creek, above its confluence with Boulder Creek;

5. Francis Creek, Mohave and Yavapai counties;

6. Bonita Creek, tributary to the upper Gila River;

7. Cienega Creek, from I-10 bridge to Del Lago Dam, Pima County;

8. Aravaipa Creek, from confluence of Stowe Gulch to the downstream boundary of the Aravaipa Canyon Wilderness

Area;

9. Cave Creek and South Fork of Cave Creek [Chiricahua Mountains], from headwaters to the Coronado National Forest boundary; and

10. Buehman Canyon Creek, from headwaters [Lat. 32°24'55.5", Long. 110°39'43.5"] to approximately 9.8 miles downstream [Lat 32°24'31.5", Longitude 110°32'08"].

F. The following water quality standards ~~apply to the listed~~ are established to maintain and protect existing water quality in the listed unique waters. Water quality standards prescribed in this subsection supplement ~~or supersede~~ the water quality standards prescribed pursuant to R18-11-109.

1. The West Fork of the Little Colorado River, above Government Springs:

Parameter	Standard
~~Fecal Coliform[a]~~	~~200 cfu/ 100 ml (single sample maximum)~~
pH (standard units)[b]	no change due to discharge
Temperature[b]	no increase due to discharge
Dissolved oxygen [b]	no decrease due to discharge
Total dissolved solids [b]	no increase due to discharge
Chromium (as Cr) (D) [a]	10 µg/L
~~Zinc (D)[a]~~	~~110 µg/L~~

2. Oak Creek, including the West Fork of Oak Creek:

Parameter	Standard
~~Fecal coliform[a]~~	~~150 cfu/100 ml*~~
pH (standard units) [b]	no change due to discharge
Nitrogen (T) [a]	1.00 mg/L (annual mean)

	1.50 mg/L (90th percentile)
	2.50 mg/L (single sample max.)
Phosphorus (T) [a]	0.10 mg/L (annual mean)
	0.25 mg/L (90th percentile)
	0.30 mg/L (single sample max.)
Chromium (as Cr) (D) [a]	5 µg/L
Zinc (D) [a]	50 µg/L
Turbidity change due to discharge [b]	3 NTU

~~* Geometric mean of a random set of a minimum of ten samples in any calendar month.~~

3. ~~People's~~ Peeples Canyon Creek, tributary to Santa Maria River:

Parameter	Standard
Temperature [b]	no increase due to discharge
Dissolved oxygen [b]	no decrease due to discharge
Turbidity change due to discharge [b]	5 NTU
~~Arsenic (T)[b]~~	~~20 µg/L~~
Manganese (T) [a]	500 µg/L

4. Burro Creek, above its confluence with Boulder Creek:

Parameter	Standard
~~Fecal coliform[a]~~	~~500 cfu/100 ml (single sample maximum)~~
Manganese (T) [a]	500 µg/L

5. Francis Creek, Mohave and Yavapai Counties:

Parameter	Standard
~~Fecal coliform[a]~~	~~500 cfu/ 100 ml~~

	~~(single sample maximum)~~
Manganese (T) [a]	500 µg/L

6. Cienega Creek, from I-10 bridge to Del Lago Dam, Pima County:

Parameter	Standard
pH	No change due to discharge
Temperature	No increase due to discharge
Dissolved oxygen	No decrease due to discharge
Total dissolved solids	No increase due to discharge
Turbidity	10 NTU

7. Bonita Creek, tributary to the Upper Gila River:

Parameter	Standard
pH	No change due to discharge
Temperature	No increase due to discharge
Dissolved oxygen	No decrease due to discharge
Total dissolved solids	No increase due to discharge
Turbidity	15 NTU

Abbreviations:

(D) means dissolved fraction
(T) means total recoverable
NTU means nephelometric turbidity unit
mg/L means milligrams per liter
µg/L means micrograms per liter
~~cfu/ml means colony forming units per milliliter~~
~~[a] means that the numeric water quality standard supersedes a water quality standard prescribed in R18-11-109 or Appendix A.~~
~~[b] means that the numeric water quality standard supplements the water quality standards prescribed in R18-11-109 and Appendix A.~~

R18-11-113. Effluent ~~dominated~~ dependent waters

A. The classification of a ~~navigable~~ surface water as an effluent ~~dominated~~ dependent water shall be by rule.

B. The Director may adopt, by rule, site-specific water quality

standards for an effluent ~~dominated~~ dependent water.

C. Any person may submit a petition for rule adoption requesting that the Director classify a ~~navigable~~ surface water as an effluent ~~dominated~~ dependent water. The petition for rule adoption shall include:

1. A map and a description of the ~~navigable~~ surface water.
2. Information that demonstrates that the ~~navigable~~ surface water consists primarily of discharges of treated wastewater.

D. The following ~~navigable~~ surface waters are classified as effluent ~~dominated~~ dependent waters:

1. **In the Colorado River Main Stem Basin:**
   a. Bright Angel Wash from South Rim Grand Canyon ~~wastewater treatment plant (WWTP)~~ WWTP outfall to confluence with ~~Cataract Creek~~ Coconino Wash.
   b. Cataract Creek from Williams WWTP outfall to ~~3 kilometers~~ 1 kilometer downstream from the outfall.
   c. Holy Moses Wash from Kingman WWTP outfall to ~~5~~ 3 kilometers downstream from the outfall.
   d. ~~Unnamed wash, tributary to Bright Angel Creek, from Grand Canyon North Rim WWTP~~ Transept Canyon from North Rim Grand Canyon WWTP outfall to 1 kilometer downstream ~~from the outfall~~.
2. **In the Little Colorado River Basin:**
   ~~a. Black Creek from Ft. Defiance WWTP outfall to the confluence with Rio Puerco River.~~
   ~~b.~~a. Dry Lake.
   ~~c~~b. Lake Humphreys.

~~d~~ c. Lower Walnut Canyon Lake.

~~e~~ d. Ned Lake.

~~f~~ e. Pintail Lake.

f. Telephone Lake

g. Rio de Flag from City of Flagstaff WWTP outfall to confluence with ~~Little Colorado River~~ San Francisco Wash.

h. ~~Telephone Lake.~~ Whale Lake

3. **In the Middle Gila River Basin:**

~~a. Agua Fria River from Surprise WWTP outfall to 5 kilometers downstream from the outfall.~~

a. Unnamed wash from the Town of Prescott Valley WWTP outfall to the confluence with the Agua Fria River, and the Agua Fria River below the confluence with the unnamed wash receiving treated wastewater from the Prescott Valley WWTP to State Route 169.

b. Agua Fria River from El Mirage WWTP outfall to ~~8~~ 2 kilometers downstream from the outfall.

~~c. Agua Fria River from Avondale WWTP outfall to confluence with the Gila River.~~

~~d~~ c. Gila River from Florence WWTP outfall to ~~5 kilometers downstream from the outfall~~ Felix Road .

~~e~~ d. Gila River from confluence with the Salt River to Gillespie Dam.

~~f~~ e. Queen Creek from Superior ~~WWTP~~ Mining Division discharge outfall to ~~8 kilometers downstream from the outfall~~ confluence with Potts Canyon.

~~g~~ f. Unnamed wash from Gila Bend WWTP outfall to

confluence with Gila River.

~~h~~ g. Unnamed wash from Luke AFB WWTP outfall to the confluence with Agua Fria River.

~~i~~ h. Unnamed wash from Queen Valley WWTP outfall to ~~3 kilometers downstream from the~~ confluence with Queen Creek.

4. **In the ~~Rio Yaqui~~ Rios de Mexico Basin:**

a. Mule Gulch, from Bisbee WWTP outfall to confluence with Whitewater Draw.

b. Unnamed wash from Bisbee-Douglas International Airport WWTP outfall to Whitewater Draw.

5. **In the Salt River Basin:**

a. ~~Pinal Creek from Globe WWTP outfall to 5 kilometers downstream from the outfall~~ Unnamed wash from Globe WWTP outfall to confluence with Pinal Creek and from confluence of unnamed wash and Pinal Creek to Radium.

b. Salt River from 23rd Avenue WWTP outfall to confluence with the Gila River.

6. **In the San Pedro River Basin:**

~~a. Unnamed wash from Oracle WWTP outfall to confluence with Big Wash.~~

~~b~~ a. Walnut Gulch from Tombstone WWTP outfall to confluence with ~~the San Pedro River~~ Tombstone Gulch.

7. **In the Santa Cruz River Basin:**

~~a. North Branch of the Santa Cruz Wash from the Casa Grande WWTP outfall to confluence with the Santa~~

~~Cruz Wash~~.

~~b~~ a. Santa Cruz River from ~~City of Nogales WWTP~~ Nogales International WWTP outfall to ~~Josephine Canyon~~ Tubac Bridge.

~~c~~ b. Santa Cruz River from Roger Road WWTP outfall to Baumgartner Road crossing.

c. Unnamed wash from Oracle WWTP outfall to 5 kilometers downstream.

8. **In the Upper Gila River Basin:**

a. ~~Bennet~~ Bennett Wash from Arizona ~~Dept.~~ Department of Corrections-Safford WWTP outfall to Gila River.

b. ~~Cammerman Wash~~ Unnamed wash from Arizona ~~Dept.~~ Department of Corrections-Globe WWTP outfall to ~~3 kilometers downstream from the outfall~~ the boundary of the San Carlos Indian Reservation.

9. **In the Verde River Basin:**

a. American Gulch from ~~Payson~~ Northern Gila County Sanitary District WWTP outfall to the East Verde River.

b. Bitter Creek from Jerome WWTP outfall to 2.5 kilometers downstream from the outfall.

c. ~~Jack's~~ Jacks Canyon Wash from Big Park WWTP outfall to confluence with Dry Beaver Creek.

E. The water quality standards that apply to an effluent dependent water shall be used to derive discharge limitations for a point source discharge from a wastewater treatment plant to an ephemeral water which changes that ephemeral water into an effluent dependent water.

R18-11-114. Mixing Zones

A. The Director may, by order, establish a mixing zone in a ~~navigable~~ surface water. Mixing zones are prohibited in ephemeral waters or where there is no water for dilution.

B. The owner or operator of a point source seeking the establishment of a mixing zone shall submit a mixing zone application to the Department on a standard form that is available from the Department. The application shall include:

1. Identification of the pollutant for which the mixing zone is requested;
2. A proposed outfall design;
3. A definition of the boundary of the proposed mixing zone. For purposes of this subsection, the boundary of a mixing zone means the location where the concentration of treated wastewater across a transect of the ~~navigable~~ surface water differs by less than five percent.
4. A complete and detailed description of the existing physical, biological and chemical conditions of the receiving water and of the predicted impact on such conditions from the proposed mixing zone.
5. Information which demonstrates that there will be no acute toxicity in the proposed mixing zone.

C. The Department shall review the application for a mixing zone to determine whether the application is complete. If the application is incomplete, the Department shall identify in writing the additional information that must be submitted to the Department before the Department can take administrative action on the application for a mixing zone.

D. When the application for a mixing zone is complete, the Department shall make a preliminary determination of whether to establish the mixing zone. The Department shall give public notice and conduct a public hearing on whether to establish a mixing zone pursuant to the administrative procedures prescribed in A.A.C. R18-1-401 and R18-1-402.

E. In making the determination of whether to grant or deny the request for the establishment of a mixing zone, the Director shall consider the following factors: sediment deposition, bioaccumulation, bioconcentration, predicted exposure of biota and the likelihood that resident biota will be adversely affected, whether there will be acute toxicity in the mixing zone, the known or predicted safe exposure levels for the pollutant of concern, the likelihood of adverse human health effects, the size of the mixing zone, location of the mixing zone relative to biologically sensitive areas in the ~~navigable~~ surface water, concentration gradient within the mixing zone, the physical habitat, the potential for attraction of aquatic life to the mixing zone, and the cumulative impacts of other mixing zones and other discharges to the ~~navigable~~ surface water.

F. The Director shall deny the request to establish a mixing zone if water quality standards outside the boundaries of the proposed mixing zone will be violated or if concentrations of pollutants within the proposed mixing zone will cause acute toxicity to aquatic life. Denials of applications for a mixing zone shall be in writing and shall state the reasons for the denial. If the Director determines that a mixing zone

should be established, he shall issue an order to establish the mixing zone. The Director may include conditions in the order that the Director deems are necessary to protect human health and the designated uses of the ~~navigable~~ surface water. A copy of the Director's decision and order shall be sent by certified mail to the applicant.

G. Any person who is adversely affected by an order of the Director pertaining to a mixing zone may appeal the Director's decision to an administrative law judge pursuant to A.R.S. §49-321.

H. A mixing zone shall be reevaluated upon issuance, reissuance or modification of the National Pollutant Discharge Elimination System permit for the point source or modification of the outfall structure.

I. The length of the mixing zone shall not exceed 500 meters in flowing streams. The total horizontal area allocated to all mixing zones on a lake shall not exceed 10% of the surface area of the lake. Adjacent mixing zones in a lake shall be no closer than the greatest horizontal dimension of any of the individual mixing zones.

J. A mixing zone shall provide for a zone of passage of not less than 50% of the cross-sectional area of the river or stream.

K. The discharge outfall shall be designed to maximize initial dilution of the treated wastewater in a ~~navigable~~ surface water.

R18-11-115. Nutrient waivers

A. The water quality standards for total phosphorus and total

nitrogen may be waived on a discharger-specific basis for a discharge to an ephemeral water which is tributary to a ~~navigable~~ surface water for which water quality standards for total nitrogen or total phosphorus are prescribed in A.A.C. ~~R18-11-109.G~~ R18-11-109(H).

B. A discharger who seeks a nutrient waiver shall submit an application to the Department on a standard form that is available from the Department. The application shall include:

1. Identification of the applicant.
2. Information on the discharging facility, including:
   a. Date the facility was placed in service;
   b. Location of the facility;
   c. Location of the discharge point;
   d. Wastewater treatment method; and
   e. Discharge flow.
3. Information on the receiving ~~navigable~~ surface water, including:
   a. Name of the receiving water;
   ~~b. Months of the year the receiving water is normally dry;~~
   ~~c~~ b. Distance in river miles to the nearest downstream ~~navigable~~ surface water with perennial flow; and
   ~~d~~ c. Distance from the point of discharge to the point where the flow goes subsurface during an average dry season.
4. Information which demonstrates that the ~~navigable water~~ nearest downstream surface water with perennial flow is free from pollutants in amounts or combinations which

cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth or propagation of other aquatic life or that impair recreational uses.

5. Water quality data, including:

   a. Monthly average, ninetieth percentile and single sample maximum concentrations of total phosphorus and total nitrogen as measured at the point of discharge;

   b. Monthly average, ninetieth percentile and single sample maximum concentrations of total phosphorus and total nitrogen as measured at a downstream control point established by the Department; and

   c. Discharge flow at the time of sampling.

C. The Department shall review the application for completeness and shall notify the applicant in writing whether the application is complete or whether additional information needs to be submitted to the Department.

D. Once an application for a nutrient waiver is complete, the Department shall make a preliminary determination of whether to grant or deny the nutrient waiver. The Department shall issue public notice and conduct a public hearing on whether the request for a nutrient waiver should be granted pursuant to procedures prescribed in A.A.C. R18-1-401 and A.A.C. R18-1-402.

E. The Director may, by order, grant a nutrient waiver provided the discharge will not cause a violation of a water quality standard for total phosphorus or total nitrogen in any downstream, perennial ~~navigable~~ surface water or cause a

violation of narrative standards prescribed in R18-11-108. A copy of the Director's decision and order shall be sent by certified mail to the applicant.

F. Any person who is adversely affected by an order granting or denying a nutrient waiver may appeal the decision to an administrative law judge pursuant to A.R.S. §49-321.

G. A nutrient waiver shall be for a fixed term not to exceed five years. A nutrient waiver shall be reevaluated upon issuance, reissuance or modification of the National Pollutant Discharge Elimination System permit for the point source.

R18-11-117. Canals and municipal park lakes

A. Nothing in this Article shall be construed to prevent the routine physical or mechanical maintenance of canals, drains and the municipal park lakes identified in Appendix B. Physical or mechanical maintenance includes dewatering, lining, dredging and the physical, biological or chemical control of weeds and algae. Increases in turbidity that result from physical or mechanical maintenance activities are permitted in canals, drains and the municipal park lakes identified in Appendix B.

B. The discharge of lubricating oil that is associated with the start-up of well pumps which discharge to canals shall not be considered a violation of ~~R18-11-108.B.~~ R18-11-108(B).

R18-11-118. Dams and flood control structures

A. Increases in turbidity that result from the routine physical or mechanical maintenance of dams and flood control structures

shall not be construed as violations of this Article.

B. Nothing in this Article shall be construed to require a person who operates a dam or flood control structure to operate such structure so as to cure or mitigate an exceedance of a water quality standard caused by another person.

C. Nothing in this Article shall be construed to require the releases of water from dams.

R18-11-120. Enforcement

A. Any person who causes a violation of a water quality standard or any provision of this Article is subject to the enforcement provisions prescribed in Title 49, Chapter 2, Article 4 of the Arizona Revised Statutes.

B. A numeric water quality standard may be established at a concentration that is below the practical quantitation limit. In such cases, the water quality standard is enforceable at the practical quantitation limit. ~~The applicable practical quantitation limits are prescribed in Appendix C of this Article.~~

C. Compliance with acute aquatic and wildlife criteria shall be determined from the analytical test result of ~~either a one-hour composite sample or~~ a grab sample. Compliance with chronic aquatic and wildlife criteria shall be determined from the arithmetic mean of the analytical results of grab samples collected over a period of four consecutive days at a minimum rate of one grab sample per day.

D. A person is not subject to penalties for violation of a water quality standard provided that such person is in compliance

with the provisions of a compliance schedule issued pursuant to R18-11-121.

R18-11-121. Schedules of compliance

A. A schedule to bring an existing point source into compliance with a water quality standard ~~adopted after August 13, 1986~~ may be established in a National Pollutant Discharge Elimination System permit for the existing point source. A compliance schedule for an existing point source shall require compliance with a discharge limitation based upon a water quality standard no later than three years after the ~~effective~~ date of issuance of the ~~water quality standard~~ National Pollutant Discharge Elimination System permit. In order for a schedule of compliance to be granted, the owner or operator of the existing point source shall demonstrate that all requirements under §301(b) and §306 of the Clean Water Act have been achieved and that the point source cannot comply with a discharge limitation based upon the water quality standard through the application of existing water pollution control technology, operational changes or source reduction.

B. A schedule of compliance shall not be established in a National Pollutant Discharge Elimination System permit for a new point source. For purposes of this subsection, a new point source means a point source, the construction of which commences after the effective date of a water quality standard. 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. On-site physical construction program 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 paragraph, "substantial loss" means in excess of ten percent of the total cost incurred for physical construction.

C. A schedule to bring a point source discharge of storm water into compliance with a water quality standard may be established in a National Pollutant Discharge Elimination System permit. A compliance schedule for a storm water discharge shall require implementation of all reasonable and cost-effective best management practices to control the discharge of pollutants in storm water. ~~A compliance schedule shall require compliance with a water quality standard but no later than ten years after the effective date of the water quality standard~~.

R18-11-122. Variances

A. The Director may grant a variance from a water quality standard for a point source discharge provided the discharger demonstrates that treatment more advanced than that required to comply with technology-based effluent limitations is necessary to achieve compliance with the water quality standard and it is not technically or economically feasible to achieve compliance within the next five years.

B. A variance may be granted only on a pollutant-specific basis. A point source discharge is required to comply with all other applicable water quality standards for which a variance is not granted.

C. A variance applies only to a specific point source discharge. The granting of a variance does not modify a water quality standard. Other point source discharges to the surface water are required to comply with applicable water quality standards, including any water quality standard for which a variance has been granted for a specific point source discharge.

D. A variance shall be for a fixed term not to exceed five years. Upon expiration of a variance, a point source discharger shall either comply with the water quality standard or apply for renewal of the variance. In order for a variance to be renewed, the applicant shall demonstrate that reasonable progress towards achieving compliance with the water quality standard has been made during the term of the variance.

E. A variance shall be reevaluated upon the issuance, reissuance or modification of the National Pollutant Discharge Elimination System permit for the point source discharge.

F. A person who seeks a variance from a water quality standard shall submit a letter to the Department requesting a variance. A request for a variance shall include the following information:

1. Identification of the specific pollutant and water quality standard for which a variance is sought;

2. Identification of the receiving surface water;

3. For an existing point source discharge, a detailed description of the existing discharge control technologies that are used to achieve compliance with applicable water quality standards. For a new point source discharge, a detailed description of the proposed discharge control technologies that will be used to achieve compliance with applicable water quality standards;

4. Documentation that the existing or proposed discharge control technologies will comply with technology-based effluent limitations and that more advanced treatment technology is necessary to achieve compliance with the water quality standard for which a variance is sought;

5. A detailed discussion of the reasons why compliance with the water quality standard cannot be achieved;

6. A detailed discussion of the discharge control technologies that are available for achieving compliance with the water quality standard for which a variance is sought;

7. Documentation that it is not technically or economically feasible to install and operate any of the available discharge control technologies to achieve compliance with the water quality standard for which a variance is sought;

8. Documentation that the point source discharger has reduced, to the maximum extent practicable, the discharge of the pollutant for which a variance is sought through implementation of a local pretreatment, source reduction

or waste minimization program;

9. A person who requests a variance shall propose interim discharge limitations which represent the highest level of treatment achievable by the point source discharge during the term of the variance. Interim discharge limitations shall not be less stringent than technology-based effluent limitations.

G. In making a decision on whether to grant or deny the request for a variance, the Director shall consider the following factors: Bioaccumulation, bioconcentration, predicted exposure of biota and the likelihood that resident biota will be adversely affected, the known or predicted safe exposure levels for the pollutant of concern, and the likelihood of adverse human health effects.

H. The Department shall issue public notice and shall provide an opportunity for a public hearing on whether the request for a variance should be granted or denied pursuant to procedures prescribed in A.A.C. R18-1-401 and A.A.C R18-1-402.

I. Any person who is adversely affected by a decision of the Director to grant or deny a variance may appeal the decision to an administrative law judge pursuant to A.R.S. §49-321.

J. Variances shall not be granted for a point source discharge to a unique water listed in R18-11-112.

K. A variance is subject to review and approval by the Regional Administrator of the U.S. Environmental Protection Agency.

R18-11-123. Prohibition against discharge; Sabino Creek

The discharge of treated wastewater to Sabino Creek is prohibited.

Appendix A: Table 1. Human Health and Agricultural Designated Use Numeric Water Quality Criteria

PARAMETER	CAS[1] NUMBER	DWS[2] (µg/L)	FC[2] (µg/L)	FBC[2] (µg/L)	PBC[2] (µg/L)	AgI[2] (µg/L)	AgL[2] (µg/L)
Acenaphthene	83-32-9	420	2600	8400	8400	NNS	NNS
Acenaphthylene	208-96-8	NNS	NNS	NNS	NNS	NNS	NNS
Acrolein	107-02-8	110	750	2200	2200	NNS	NNS
Acrylonitrile	107-13-1	0.06	0.64	2.6	NNS	NNS	NNS
Alachlor	15972-60-8	2	NNS	1400	1400	NNS	NNS
Aldrin	309-00-2	0.002	0.0003	0.08	4.2	k	k
Ammonia	7664-41-7	NNS	NNS	NNS	NNS	NNS	NNS
Anthracene	120-12-7	2100	6300	42000	42000	NNS	NNS
Antimony (as Sb)	7440-36-0	6 T	140 T	56 T	56 T	NNS	NNS
Arsenic (as As)	7440-38-2	50 T	1450 T	50 T	50 T	2000 T	200 T
Asbestos	1332-21-4	a	NNS	NNS	NNS	NNS	NNS
Atrazine	1912-24-9	3	NNS	4900	4900	NNS	NNS
Barium (as Ba)	7440-39-3	2000 T	NNS	9800 D	9800 D	NNS	NNS
Benzene	71-43-2	5	120	48	NNS	NNS	NNS
Benzidine	92-87-5	0.0002	0.002	0.006	420	0.01	0.01
Benz (a) anthracene	56-55-3	0.003	0.00008	0.12	NNS	NNS	NNS
Benzo (a) pyrene	50-32-8	0.2	0.002	0.2	NNS	NNS	NNS
Benzo (ghi) perylene	191-24-2	NNS	NNS	NNS	NNS	NNS	NNS
Benzo (k) fluoranthene	207-08-9	0.003	0.00001	0.12	NNS	NNS	NNS
3,4-Benzofluoranthene	205-99-2	0.003	0.00004	0.12	NNS	NNS	NNS
Beryllium (as Be)	7440-41-7	4 T	0.21 T	4 T	700 T	NNS	NNS

Appendix A: Table 1. Human Health and Agricultural Designated Use Numeric Water Quality Criteria							
PARAMETER	CAS[1] NUMBER	DWS[2] (µg/L)	FC[2] (µg/L)	FBC[2] (µg/L)	PBC[2] (µg/L)	AgI[2] (µg/L)	AgL[2] (µg/L)
Bis (2-chloroethoxy) methane	111-91-1	NNS	NNS	NNS	NNS	NNS	NNS
Bis (2-chloroethyl) ether	111-44-4	0.03	1.4	1.3	NNS	NNS	NNS
Bis (2-chloroisopropyl) ether	108-60-1	280	15000	5600	5600	NNS	NNS
Boron (as B)	7440-42-8	630	NNS	12600	12600	1000 T	NNS
Bromodichloromethane	75-27-4	TTHM	22	100	2800	NNS	NNS
p-Bromodiphenyl ether	101-55-3	NNS	NNS	NNS	NNS	NNS	NNS
Bromoform	75-25-2	TTHM	80	180	2800	NNS	NNS
Bromomethane	74-83-9	9.8	7500	200	200	NNS	NNS
Butyl benzyl phthalate	85-68-7	1400	5000	28000	28000	NNS	NNS
Cadmium (as Cd)	7440-43-9	5 T	41 T	70 T	70 T	50 T	50 T
Carbofuran	1563-66-2	40	NNS	700	700	NNS	NNS
Carbon tetrachloride	56-23-5	5	5.5	11	98	NNS	NNS
Chlordane	57-74-9	2	0.001	2	8.4	NNS	NNS
Chlorine (total residual)	7782-50-5	NNS	NNS	14000	14000	NNS	NNS
Chlorobenzene	108-90-7	100	500	2800	2800	NNS	NNS
p-Chloro-m-cresol	59-50-7	NNS	NNS	NNS	NNS	NNS	NNS
2-Chloroethyl vinyl ether	110-75-8	NNS	NNS	NNS	NNS	NNS	NNS
Chloroform	67-66-3	TTHM	590	230	1400	NNS	NNS
Chloromethane	74-87-3	5.7	1800	230	2800	NNS	NNS
Chloronapthalene beta	91-58-7	560	13000	11000	11000	NNS	NNS
2-Chlorophenol	95-57-8	35	2100	700	700	NNS	NNS

Appendix A: Table 1. Human Health and Agricultural Designated Use Numeric Water Quality Criteria

PARAMETER	CAS[1] NUMBER	DWS[2] (µg/L)	FC[2] (µg/L)	FBC[2] (µg/L)	PBC[2] (µg/L)	AgI[2] (µg/L)	AgL[2] (µg/L)
4-Chlorophenyl phenyl ether	7005-72-3	NNS	NNS	NNS	NNS	NNS	NNS
Chromium (as Cr III)	16065-83-1	NNS	67000 T	140000 T	140000 T	NNS	NNS
Chromium (as Cr VI)	18540-29-9	NNS	3400 T	700 T	700 T	NNS	NNS
Chromium (Total as Cr)	7440-47-3	100 T	NNS	NNS	NNS	1000 T	1000 T
Chrysene	218-01-9	0.003	.0001	0.12	NNS	NNS	NNS
Copper (as Cu)	7440-50-8	1000 D	NNS	5200 D	5200 D	5000 T	500 T
Cyanide	57-12-5	200 T	210000 T	2800 T	2800 T	NNS	200 T
Dibenz (ah) anthracene	53-70-3	0.003	0.00003	0.12	NNS	NNS	NNS
Dibromochloromethane	124-48-1	TTHM	12	17	2800	NNS	NNS
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.2	NNS	NNS	NNS	NNS	NNS
1,2-Dibromoethane (EDB)	106-93-4	0.05	NNS	1.6	NNS	NNS	NNS
Dibutyl phthalate	84-74-2	700	2300	14000	14000	NNS	NNS
1,2-Dichlorobenzene	95-50-1	600	2800	13000	13000	NNS	NNS
1,3-Dichlorobenzene	541-73-1	94	2000	1880	1880	NNS	NNS
1,4-Dichlorobenzene	106-46-7	75	1200	1880	1880	NNS	NNS
3,3'-Dichlorobenzidine	91-94-1	0.08	0.09	3.1	NNS	NNS	NNS
p,p'-Dichlorodiphenyldichloroethane (DDD)	72-54-8	0.15	0.0009	5.8	NNS	0.001	0.001
p,p'-Dichlorodiphenyldichloroethylene (DDE)	72-55-9	0.1	0.0006	4.1	NNS	0.001	0.001
p,p'-Dichlorodiphenyltrichloroethane (DDT)	50-29-3	0.1	0.0005	4.1	70	0.001	0.001
1,1-Dichloroethane	75-34-3	NNS	NNS	NNS	NNS	NNS	NNS
1,2-Dichloroethane	107-06-2	5	120	15	NNS	NNS	NNS

Appendix A: Table 1. Human Health and Agricultural Designated Use Numeric Water Quality Criteria							
PARAMETER	CAS[1] NUMBER	DWS[2] (µg/L)	FC[2] (µg/L)	FBC[2] (µg/L)	PBC[2] (µg/L)	AgI[2] (µg/L)	AgL[2] (µg/L)
1,1-Dichloroethylene	75-35-4	7	4.5	7	1300	NNS	NNS
1,2-cis-Dichloroethylene	156-59-2	70	NNS	NNS	NNS	NNS	NNS
1,2-trans-Dichloroethylene	156-60-5	100	13000	2800	2800	NNS	NNS
Dichloromethane	75-09-2	5	480	190	8400	NNS	NNS
2,4-Dichlorophenol	120-83-2	21	810	420	420	NNS	NNS
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	70	NNS	1400	1400	NNS	NNS
1,2-Dichloropropane	78-87-5	5	NNS	NNS	NNS	NNS	NNS
1,3-Dichloropropene	542-75-6	0.2	6.6	7.8	42	NNS	NNS
Dieldrin	60-57-1	0.002	0.0002	0.09	7	k	k
Diethyl phthalate	84-66-2	5600	110000	110000	110000	NNS	NNS
Di(2-ethylhexyl) phthalate	117-81-7	6	7.4	100	2800	NNS	NNS
2,4-Dimethylphenol	105-67-9	140	2200	2800	2800	NNS	NNS
Dimethyl phthalate	131-11-3	70000	2800000	1400000	1400000	NNS	NNS
4,6-Dinitro-o-cresol	534-52-1	2.7	120	55	55	NNS	NNS
2,4-Dinitrophenol	51-28-5	14	5400	280	280	NNS	NNS
2,4-Dinitrotoluene	121-14-2	14	163	280	280	NNS	NNS
2,6-Dinitrotoluene	606-20-2	NNS	NNS	NNS	NNS	NNS	NNS
Di-n-octyl phthalate	117-84-0	NNS	NNS	NNS	NNS	NNS	NNS
1,2-Diphenylhydrazine	122-66-7	0.04	0.25	1.8	NNS	NNS	NNS
Endosulfan sulfate	1031-07-8	0.35	0.78	7	7	NNS	NNS
Endosulfan (Total)	115-29-7	42	110	840	840	NNS	NNS

Appendix A: Table 1. Human Health and Agricultural Designated Use Numeric Water Quality Criteria

PARAMETER	CAS[1] NUMBER	DWS[2] (µg/L)	FC[2] (µg/L)	FBC[2] (µg/L)	PBC[2] (µg/L)	AgI[2] (µg/L)	AgL[2] (µg/L)
Endrin	72-20-8	0.2	1.1	40	40	0.004	0.004
Endrin aldehyde	7421-93-3	2.1	0.81	420	420	NNS	NNS
Ethylbenzene	100-41-4	700	110000	14000	14000	NNS	NNS
Ethyl chloride	75-00-3	NNS	NNS	NNS	NNS	NNS	NNS
Fluoranthene	206-44-0	280	130	5600	5600	NNS	NNS
Fluorene	86-73-7	280	580	5600	5600	NNS	NNS
Fluorine	7782-41-4	4000	NNS	8400	8400	NNS	NNS
Heptachlor	76-44-8	0.4	0.0002	0.4	70	NNS	NNS
Heptachlor epoxide	1024-57-3	0.2	0.0001	0.2	2	NNS	NNS
Hexachlorobenzene	118-74-1	1	0.002	1	280	NNS	NNS
Hexachlorobutadiene	87-68-3	0.45	0.52	18	NNS	NNS	NNS
Hexachlorocyclohexane alpha	319-84-6	0.006	0.03	0.22	NNS	NNS	NNS
Hexachlorocyclohexane beta	319-85-7	0.02	0.02	0.78	NNS	NNS	NNS
Hexachlorocyclohexane delta	319-86-8	NNS	NNS	NNS	NNS	NNS	NNS
Hexachlorocyclohexane gamma (lindane)	58-89-9	0.2	0.02	1	42	NNS	NNS
Hexachlorocyclopentadiene	77-47-4	50	550	1000	1000	NNS	NNS
Hexachloroethane	67-72-1	2.5	4.8	100	140	NNS	NNS
Indeno (1,2,3-cd) pyrene	193-39-5	0.003	0.000003	0.12	NNS	NNS	NNS
Isophorone	78-59-1	36.8	2300	1500	28000	NNS	NNS
Lead (as Pb)	7439-97-1	50 T	NNS	NNS	NNS	10000 T	100 T
Manganese (as Mn)	7439-96-5	4900 T	NNS	19600 T	19600 T	10000	NNS

Appendix A: Table 1. Human Health and Agricultural Designated Use Numeric Water Quality Criteria							
PARAMETER	CAS[1] NUMBER	DWS[2] (µg/L)	FC[2] (µg/L)	FBC[2] (µg/L)	PBC[2] (µg/L)	AgI[2] (µg/L)	AgL[2] (µg/L)
Mercury (as Hg)	7439-97-6	2 T	0.6 T	42 T	42 T	NNS	10 T
Methoxychlor	72-43-5	40	NNS	700	700	NNS	NNS
Naphthalene	91-20-3	NNS	NNS	NNS	NNS	NNS	NNS
Nickel (as Ni)	7440-02-0	100 T	730 T	2800 T	2800 T	NNS	NNS
Nitrate (as N)	14797-55-8	10000	NNS	224000	224000	NNS	NNS
Nitrite (as N)	14797-65-0	1000	NNS	14000	14000	NNS	NNS
Nitrate/Nitrite (as Total N)		10000	NNS	NNS	NNS	NNS	NNS
Nitrobenzene	98-95-3	3.5	600	70	70	NNS	NNS
o-Nitrophenol	88-75-5	NNS	NNS	NNS	NNS	NNS	NNS
p-Nitrophenol	100-02-7	NNS	NNS	NNS	NNS	NNS	NNS
N-nitrosodimethylamine	62-75-9	0.0007	2.1	0.03	NNS	NNS	NNS
N-nitrosodiphenylamine	86-30-6	7.1	14	290	NNS	NNS	NNS
N-nitrosodi-n-propylamine	621-64-7	0.005	0.51	0.2	NNS	NNS	NNS
Pentachlorophenol	87-86-5	1	8.2	11.7	2000	NNS	NNS
Phenanthrene	85-01-8	NNS	NNS	NNS	NNS	NNS	NNS
Phenol	108-95-2	4200	6500000	84000	84000	NNS	NNS
Polychlorinatedbiphenyls (PCBs)	1336-36-3	0.5	0.00009	0.5	NNS	0.001	0.001
Pyrene	129-00-0	210	1100	4200	4200	NNS	NNS
Selenium (as Se)	7782-49-2	50 T	9000 T	700 T	700 T	20 T	50 T
Silver (as Ag)	7440-22-4	NNS	NNS	NNS	NNS	NNS	NNS
Styrene	100-42-5	100	NNS	28000	28000	NNS	NNS

Appendix A: Table 1. Human Health and Agricultural Designated Use Numeric Water Quality Criteria

PARAMETER	CAS[1] NUMBER	DWS[2] (µg/L)	FC[2] (µg/L)	FBC[2] (µg/L)	PBC[2] (µg/L)	AgI[2] (µg/L)	AgL[2] (µg/L)
Sulfides		NNS	NNS	NNS	NNS	NNS	NNS
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	1746-01-6	0.0000003	0.000000004	0.00009	NNS	NNS	NNS
1,1,2,2-Tetrachloroethane	79-34-5	0.17	11	7	NNS	NNS	NNS
Tetrachloroethylene	127-18-4	5	11	35	1400	NNS	NNS
Thallium (as Tl)	7440-28-0	2 T	41 T	12 T	12 T	NNS	NNS
Toluene	108-88-3	1000	90000	28000	28000	NNS	NNS
Toxaphene	8001-35-2	3	0.0008	3	NNS	0.005	0.005
1,2,4-Trichlorobenzene	120-82-1	70	155	1400	1400	NNS	NNS
1,1,1-Trichloroethane	71-55-6	200	160000	12600	12600	NNS	NNS
1,1,2-Trichloroethane	79-00-5	5	31	25	560	NNS	NNS
Trichloroethylene	79-01-6	5	78	110	NNS	NNS	NNS
2,4,6-Trichlorophenol	88-06-2	3.2	4.9	130	NNS	NNS	NNS
2-(2,4,5-Trichlorophenoxy) proprionic acid (2,4,5-TP)	93-72-1	50	NNS	1120	1120	NNS	NNS
Trihalomethanes, Total		100	NNS	NNS	NNS	NNS	NNS
Uranium (as Ur)	7440-61-1	35 D	NNS	NNS	NNS	NNS	NNS
Vinyl chloride	75-01-4	2	620	80	NNS	NNS	NNS
Xylenes (Total)	1330-20-7	10000	NNS	280000	280000	NNS	NNS
Zinc (as Zn)	7440-66-6	2100 T	22000 T	42000 T	42000 T	10000 T	25000 T

Appendix A: Table 2. Aquatic & Wildlife Designated Use Numeric Water Quality Criteria

PARAMETER	CAS[1] NUMBER	A&Wc Acute[3] (µg/L)	A&Wc Chronic[4] (µg/L)	A&Ww Acute[3] (µg/L)	A&Ww Chronic[4] (µg/L)	A&Wedw Acute[3] (µg/L)	A&Wedw Chronic[4] (µg/L)	A&We Acute[3] (µg/L)	A&We Chronic[4] (µg/L)
Acenaphthene	83-32-9	850	550	850	550	850	550	NNS	NNS
Acenaphthylene	208-96-8	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Acrolein	107-02-8	34	30	34	30	34	30	NNS	NNS
Acrylonitrile	107-13-1	3800	250	3800	250	3800	250	NNS	NNS
Alachlor	15972-60-8	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Aldrin	309-00-2	2.0	NNS	2.0	NNS	2.0	NNS	4.5	NNS
Ammonia	7664-41-7	b	b	b	b	NNS	NNS	NNS	NNS
Anthracene	120-12-7	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Antimony (as Sb)	7440-36-0	88 D	30 D	88 D	30 D	1000 D	600 D	NNS	NNS
Arsenic (as As)	7440-38-2	360 D	190 D	360 D	190 D	360 D	190 D	440 D	230 D
Asbestos	1332-21-4	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Atrazine	1912-24-9	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Barium (as Ba)	7440-39-3	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Benzene	71-43-2	2700	180	2700	180	11000	700	NNS	NNS
Benzidine	92-87-5	1300	89	1300	89	1300	89	10000	640
Benz (a) anthracene	56-55-3	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Benzo (a) pyrene	50-32-8	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Benzo (ghi) perylene	191-24-2	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Benzo (k) fluoranthene	207-08-9	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
3,4-Benzofluoranthene	205-99-2	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS

Appendix A: Table 2. Aquatic & Wildlife Designated Use Numeric Water Quality Criteria

PARAMETER	CAS[1] NUMBER	A&Wc Acute[3] (µg/L)	A&Wc Chronic[4] (µg/L)	A&Ww Acute[3] (µg/L)	A&Ww Chronic[4] (µg/L)	A&Wedw Acute[3] (µg/L)	A&Wedw Chronic[4] (µg/L)	A&We Acute[3] (µg/L)	A&We Chronic[4] (µg/L)
Beryllium (as Be)	7440-41-7	65 D	5.3 D	65 D	5.3 D	65 D	5.3 D	NNS	NNS
Bis (2-chloroethoxy) methane	111-91-1	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Bis (2-chlorethyl) ether	111-44-4	120000	6700	120000	6700	120000	6700	NNS	NNS
Bis (2-chloroisopropyl) ether	108-60-1	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Boron (as B)	7440-42-8	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Bromodichloromethane	75-27-4	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
p-Bromodiphenyl ether	101-55-3	180	14	180	14	180	14	NNS	NNS
Bromoform	75-25-2	15000	10000	15000	10000	15000	10000	NNS	NNS
Bromomethane	74-83-9	5500	360	5500	360	5500	360	NNS	NNS
Butyl benzyl phthalate	85-68-7	1700	130	1700	130	1700	130	NNS	NNS
Cadmium (as Cd)	7440-43-9	c D	c D	c D	c D	c D	c D	c D	c D
Carbofuran	1563-66-2	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Carbon tetrachloride	56-23-5	18000	1100	18000	1100	18000	1100	NNS	NNS
Chlordane	57-74-9	2.4	0.004	2.4	0.21	2.4	0.21	3.2	0.45
Chlorine (total residual)	7782-50-5	11	5.0	11	5.0	11	5.0	NNS	NNS
Chlorobenzene	108-90-7	9800	620	9800	620	NNS	NNS	NNS	NNS
p-Chloro-m-cresol	59-50-7	15	4.7	15	4.7	15	4.7	48000	15000
2-Chloroethyl vinyl ether	110-75-8	180000	9800	180000	9800	180000	9800	NNS	NNS
Chloroform	67-66-3	14000	900	14000	900	14000	900	NNS	NNS
Chloromethane	74-87-3	270000	15000	270000	15000	270000	15000	NNS	NNS

Appendix A: Table 2. Aquatic & Wildlife Designated Use Numeric Water Quality Criteria

PARAMETER	CAS[1] NUMBER	A&Wc Acute[3] (µg/L)	A&Wc Chronic[4] (µg/L)	A&Ww Acute[3] (µg/L)	A&Ww Chronic[4] (µg/L)	A&Wedw Acute[3] (µg/L)	A&Wedw Chronic[4] (µg/L)	A&We Acute[3] (µg/L)	A&We Chronic[4] (µg/L)
Chloronapthalene beta	91-58-7	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
2-Chlorophenol	95-57-8	2200	150	2200	150	2200	150	NNS	NNS
4-Chlorophenyl phenyl ether	7005-72-3	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Chromium (as Cr III)	16065-83-1	d D	d D	d D	d D	d D	d D	d D	d D
Chromium (as Cr VI)	18540-29-9	16 D	11 D	16 D	11 D	16 D	11 D	34 D	23 D
Chromium (Total as Cr)	7440-47-3	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Chrysene	218-01-9	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Copper (as Cu)	7440-50-8	e D	e D	e D	e D	e D	e D	e D	e D
Cyanide	57-12-5	22 T	5.2 T	41 T	9.7 T	41 T	9.7 T	84 T	19 T
Dibenz (ah) anthracene	53-70-3	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Dibromochloromethane	124-48-1	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
1,2-Dibromoethane (EDB)	106-93-4	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Dibutyl phthalate	84-74-2	470	35	470	35	470	35	1100	84
1,2-Dichlorobenzene	95-50-1	790	300	1200	470	1200	470	5900	2300
1,3-Dichlorobenzene	541-73-1	2500	970	2500	970	2500	970	NNS	NNS
1,4-Dichlorobenzene	106-46-7	560	210	2000	780	2000	780	6500	2500
3,3'-Dichlorobenzidine	91-94-1	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
p,p'-Dichlorodiphenyldichloroethane (DDD)	72-54-8	1.1	0.001	1.1	0.02	1.1	0.02	1.1	0.02
p,p'-Dichlorodiphenyldichloroethylene (DDE)	72-55-9	1.1	0.001	1.1	0.02	1.1	0.02	1.1	0.03

Appendix A: Table 2. Aquatic & Wildlife Designated Use Numeric Water Quality Criteria

PARAMETER	CAS[1] NUMBER	A&Wc Acute[3] (µg/L)	A&Wc Chronic[4] (µg/L)	A&Ww Acute[3] (µg/L)	A&Ww Chronic[4] (µg/L)	A&Wedw Acute[3] (µg/L)	A&Wedw Chronic[4] (µg/L)	A&We Acute[3] (µg/L)	A&We Chronic[4] (µg/L)
p,p'-Dichlorodiphenyltrichloroethane (DDT)	50-29-3	1.1	0.001	1.1	0.001	1.1	0.001	1.1	0.006
1,1-Dichloroethane	75-34-3	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
1,2-Dichloroethane	107-06-2	59000	41000	59000	41000	59000	41000	NNS	NNS
1,1-Dichloroethylene	75-35-4	15000	950	15000	950	15000	950	NNS	NNS
1,2-cis-Dichloroethylene	156-59-2	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
1,2-trans-Dichloroethylene	156-60-5	68000	3900	68000	3900	68000	3900	NNS	NNS
Dichloromethane	75-09-2	97000	5500	97000	5500	97000	5500	NNS	NNS
2,4-Dichlorophenol	120-83-2	1000	88	1000	88	1000	88	NNS	NNS
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
1,2-Dichloropropane	78-87-5	26000	9200	26000	9200	26000	9200	NNS	NNS
1,3-Dichloropropene	542-75-6	3000	1100	3000	1100	3000	1100	NNS	NNS
Dieldrin	60-57-1	2.5	0.002	2.5	0.002	2.5	0.005	4	0.9
Diethyl phthalate	84-66-2	26000	1600	26000	1600	26000	1600	NNS	NNS
Di(2-ethylhexyl) phthalate	117-81-7	400	360	400	360	400	360	3100	360
2,4-Dimethylphenol	105-67-9	1000	310	1000	310	1100	310	150000	43000
Dimethyl phthalate	131-11-3	17000	1000	17000	1000	17000	1000	NNS	NNS
4,6-Dinitro-o-cresol	534-52-1	310	24	310	24	310	24	NNS	NNS
2,4-Dinitrophenol	51-28-5	110	9.2	110	9.2	110	9.2	NNS	NNS
2,4-Dinitrotoluene	121-14-2	15000	970	15000	970	15000	970	NNS	NNS
2,6-Dinitrotoluene	606-20-2	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS

Appendix A: Table 2. Aquatic & Wildlife Designated Use Numeric Water Quality Criteria

PARAMETER	CAS[1] NUMBER	A&Wc Acute[3] (µg/L)	A&Wc Chronic[4] (µg/L)	A&Ww Acute[3] (µg/L)	A&Ww Chronic[4] (µg/L)	A&Wedw Acute[3] (µg/L)	A&Wedw Chronic[4] (µg/L)	A&We Acute[3] (µg/L)	A&We Chronic[4] (µg/L)
Di-n-octyl phthalate	117-84-0	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
1,2-Diphenylhydrazine	122-66-7	130	11	130	11	130	11	NNS	NNS
Endosulfan sulfate	1031-07-8	0.22	0.06	0.22	0.06	0.22	0.06	3.0	1.5
Endosulfan (Total)	115-29-7	0.22	0.06	0.22	0.06	0.22	0.06	3.0	1.5
Endrin	72-20-8	0.18	0.002	0.2	0.08	0.2	0.08	0.7	0.3
Endrin aldehyde	7421-93-3	0.18	0.002	0.2	0.08	0.2	0.08	0.7	0.3
Ethylbenzene	100-41-4	23000	1400	23000	1400	23000	1400	NNS	NNS
Ethyl chloride	75-00-3	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Fluoranthene	206-44-0	2000	1600	2000	1600	2000	1600	NNS	NNS
Fluorene	86-73-7	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Fluorine	7782-41-4	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Heptachlor	76-44-8	0.52	0.004	0.52	0.004	0.58	0.013	0.9	0.1
Heptachlor epoxide	1024-57-3	0.52	0.004	0.52	0.004	0.58	0.013	0.9	0.1
Hexachlorobenzene	118-74-1	6.0	3.7	NNS	NNS	NNS	NNS	NNS	NNS
Hexachlorobutadiene	87-68-3	45	8.2	45	8.2	45	8.2	NNS	NNS
Hexachlorocyclohexane alpha	319-84-6	1600	130	1600	130	1600	130	1600	130
Hexachlorocyclohexane beta	319-85-7	1600	130	1600	130	1600	130	1600	130
Hexachlorocyclohexane delta	319-86-8	1600	130	1600	130	1600	130	1600	130
Hexachlorocyclohexane gamma (lindane)	58-89-9	2.0	0.08	3.4	0.28	7.6	0.61	11	0.9
Hexachlorocyclopentadiene	77-47-4	3.5	0.3	3.5	0.3	3.5	0.3	NNS	NNS

Appendix A: Table 2. Aquatic & Wildlife Designated Use Numeric Water Quality Criteria

PARAMETER	CAS[1] NUMBER	A&Wc Acute[3] (µg/L)	A&Wc Chronic[4] (µg/L)	A&Ww Acute[3] (µg/L)	A&Ww Chronic[4] (µg/L)	A&Wedw Acute[3] (µg/L)	A&Wedw Chronic[4] (µg/L)	A&We Acute[3] (µg/L)	A&We Chronic[4] (µg/L)
Hexachloroethane	67-72-1	490	350	490	350	490	350	850	610
Indeno (1,2,3-cd) pyrene	193-39-5	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Isophorone	78-59-1	59000	43000	59000	43000	59000	43000	NNS	NNS
Lead (as Pb)	7439-97-1	f D	f D	f D	f D	f D	f D	f D	f D
Manganese (as Mn)	7439-96-5	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Mercury (as Hg)	7439-97-6	2.4 D	0.01 D	2.4 D	0.01 D	2.6 D	0.2 D	5.0 D	2.7 D
Methoxychlor	72-43-5	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Naphthalene	91-20-3	1100	210	3300	600	3300	600	NNS	NNS
Nickel (as Ni)	7440-02-0	g D	g D	g D	g D	g D	g D	g D	g D
Nitrate (as N)	14797-55-8	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Nitrite (as N)	14797-65-0	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Nitrate/Nitrite (as Total N)		NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Nitrobenzene	98-95-3	1300	850	1300	850	1300	850	NNS	NNS
o-Nitrophenol	88-75-5	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
p-Nitrophenol	100-02-7	4100	3000	4100	3000	4100	3000	NNS	NNS
N-nitrosodimethylamine	62-75-9	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
N-nitrosodiphenylamine	86-30-6	2900	200	2900	200	2900	200	NNS	NNS
N-nitrosodi-n-propylamine	621-64-7	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Pentachlorophenol	87-86-5	h	h	h	h	h	h	h	h
Phenanthrene	85-01-8	30	6.3	30	6.3	54	6.3	NNS	NNS

Appendix A: Table 2. Aquatic & Wildlife Designated Use Numeric Water Quality Criteria

PARAMETER	CAS[1] NUMBER	A&Wc Acute[3] (µg/L)	A&Wc Chronic[4] (µg/L)	A&Ww Acute[3] (µg/L)	A&Ww Chronic[4] (µg/L)	A&Wedw Acute[3] (µg/L)	A&Wedw Chronic[4] (µg/L)	A&We Acute[3] (µg/L)	A&We Chronic[4] (µg/L)
Phenol	108-95-2	5100	730	7000	1000	7000	1000	180000	26000
Polychlorinatedbiphenyls (PCBs)	1336-36-3	2.0	0.01	2.0	0.02	2.0	0.02	11	2.5
Pyrene	129-00-0	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Selenium (as Se)	7782-49-2	20 T	2.0 T	20 T	2.0 T	50 T	2.0 T	33 T	2.0 T
Silver (as Ag)	7440-22-4	i D	NNS	i D	NNS	i D	NNS	i D	NNS
Styrene	100-42-5	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Sulfides		100	NNS	100	NNS	100	NNS	100	NNS
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	1746-01-6	0.01	0.005	0.01	0.005	0.12	0.01	0.1	0.01
1,1,2,2-Tetrachloroethane	79-34-5	4700	3200	4700	3200	4700	3200	NNS	NNS
Tetrachloroethylene	127-18-4	2600	280	6500	680	6500	680	15000	1600
Thallium (as Tl)	7440-28-0	700 D	150 D	700 D	150 D	700 D	150 D	NNS	NNS
Toluene	108-88-3	8700	180	8700	180	8700	180	NNS	NNS
Toxaphene	8001-35-2	0.73	0.0002	0.73	0.02	0.73	0.02	11	1.5
1,2,4-Trichlorobenzene	120-82-1	750	130	1700	300	NNS	NNS	NNS	NNS
1,1,1-Trichloroethane	71-55-6	2600	1600	2600	1600	2600	1600	NNS	NNS
1,1,2-Trichloroethane	79-00-5	18000	12000	18000	12000	18000	12000	NNS	NNS
Trichloroethylene	79-01-6	20000	1300	20000	1300	20000	1300	NNS	NNS
2,4,6-Trichlorophenol	88-06-2	160	25	160	25	160	25	3000	460
2-(2,4,5-Trichlorophenoxy) proprionic acid (2,4,5-TP)	93-72-1	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Trihalomethanes, Total		NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS

Appendix A: Table 2. Aquatic & Wildlife Designated Use Numeric Water Quality Criteria									
PARAMETER	CAS[1] NUMBER	A&Wc Acute[3] (µg/L)	A&Wc Chronic[4] (µg/L)	A&Ww Acute[3] (µg/L)	A&Ww Chronic[4] (µg/L)	A&Wedw Acute[3] (µg/L)	A&Wedw Chronic[4] (µg/L)	A&We Acute[3] (µg/L)	A&We Chronic[4] (µg/L)
Uranium (as Ur)	7440-61-1	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Vinyl chloride	75-01-4	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Xylenes (Total)	1330-20-7	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Zinc (as Zn)	7440-66-6	j D	j D	j D	j D	j D	j D	j D	j D

a - The standard to protect this use is 7 million fibers (longer than 10 micrometers) per liter.
b - Values for ammonia are contained in separate tables located at the end of Appendix A.

c - Cadmium

A&Wc acute standard: $e^{(1.128\ [\ln(Hardness)]\ -\ 3.828)}$
A&Wc chronic standard: $e^{(0.7852\ [\ln(Hardness)]\ -\ 3.490)}$
A&Ww acute standard: $e^{(1.128\ [\ln(Hardness)]\ -\ 2.0149)}$
A&Ww chronic standard: $e^{(0.7852\ [\ln(Hardness)]\ -\ 3.490)}$
A&Wedw acute standard: $e^{(1.128\ [\ln(Hardness)]\ -\ 2.0149)}$
A&Wedw chronic standard: $e^{(0.7852\ [\ln(Hardness)]\ -\ 3.490)}$
A&We acute standard: $e^{(1.128\ [\ln(Hardness)]\ -\ 0.9691)}$
A&We chronic standard: $e^{(0.7852\ [\ln(Hardness)]\ -\ 3.490)}$
(See Footnote 5)

d - Chromium III

A&Wc acute standard: $e^{(0.8190\ [\ln(Hardness)]\ +\ 3.688)}$
A&Wc chronic standard: $e^{(0.8190\ [\ln(Hardness)]\ +\ 1.561)}$
A&Ww acute standard: $e^{(0.8190\ [\ln(Hardness)]\ +\ 3.688)}$
A&Ww chronic standard: $e^{(0.8190\ [\ln(Hardness)]\ +\ 1.561)}$
A&Wedw acute standard: $e^{(0.8190\ [\ln(Hardness)]\ +\ 4.9361)}$
A&Wedw chronic standard: $e^{(0.8190\ [\ln(Hardness)]\ +\ 1.561)}$
A&We acute standard: $e^{(0.8190\ [\ln(Hardness)]\ +\ 3.688)}$
A&We chronic standard: $e^{(0.8190\ [\ln(Hardness)]\ +\ 1.561)}$
(See Footnote 5)

e - Copper

A&Wc acute standard: $e^{(0.9422\ [\ln(Hardness)]\ -\ 1.464)}$
A&Wc chronic standard: $e^{(0.8545\ [\ln(Hardness)]\ -\ 1.465)}$
A&Ww acute standard: $e^{(0.9422\ [\ln(Hardness)]\ -\ 1.464)}$
A&Ww chronic standard: $e^{(0.8545\ [\ln(Hardness)]\ -\ 1.465)}$
A&Wedw acute standard: $e^{(0.9422\ [\ln(Hardness)]\ -\ 1.464)}$
A&Wedw chronic standard: $e^{(0.8545\ [\ln(Hardness)]\ -\ 1.465)}$
A&We acute standard: $e^{(0.9422\ [\ln(Hardness)]\ -\ 1.1514)}$
A&We chronic standard: $e^{(0.8545\ [\ln(Hardness)]\ -\ 1.1448)}$
(See Footnote 5)

f - Lead

A&Wc acute standard: $e^{(1.2730\ [\ln(Hardness)]\ -\ 1.460)}$
A&Wc chronic standard: $e^{(1.2730\ [\ln(Hardness)]\ -\ 4.705)}$
A&Ww acute standard: $e^{(1.2730\ [\ln(Hardness)]\ -\ 1.460)}$
A&Ww chronic standard: $e^{(1.2730\ [\ln(Hardness)]\ -\ 4.705)}$
A&Wedw acute standard: $e^{(1.2730\ [\ln(Hardness)]\ -\ 1.460)}$
A&Wedw chronic standard: $e^{(1.2730\ [\ln(Hardness)]\ -\ 4.705)}$
A&We acute standard: $e^{(1.2730\ [\ln(Hardness)]\ -\ 0.7131)}$
A&We chronic standard: $e^{(1.2730\ [\ln(Hardness)]\ -\ 3.9518)}$
(See Footnote 5)

g - Nickel

A&Wc acute standard: $e^{(0.8460\ [\ln(Hardness)]\ +\ 3.3611)}$
A&Wc chronic standard: $e^{(0.8460\ [\ln(Hardness)]\ +\ 1.1644)}$
A&Ww acute standard: $e^{(0.8460\ [\ln(Hardness)]\ +\ 3.3611)}$
A&Ww chronic standard: $e^{(0.8460\ [\ln(Hardness)]\ +\ 1.1644)}$
A&Wedw acute standard: $e^{(0.8460\ [\ln(Hardness)]\ +\ 3.3611)}$
A&Wedw chronic standard: $e^{(0.8460\ [\ln(Hardness)]\ +\ 1.1644)}$
A&We acute standard: $e^{(0.8460\ [\ln(Hardness)]\ +\ 4.4389)}$

A&We chronic standard: $e^{(0.8460\ [\ln(Hardness)]\ +\ 2.2417)}$
(See Footnote 5)

h - Pentachlorophenol

A&Wc acute standard: $e^{(1.005\ (pH)\ -\ 4.830)}$
A&Wc chronic standard: $e^{(1.005\ (pH)\ -\ 5.290)}$
A&Ww acute standard: $e^{(1.005\ (pH)\ -\ 4.830)}$
A&Ww chronic standard: $e^{(1.005\ (pH)\ -\ 5.290)}$
A&Wedw acute standard: $e^{(1.005\ (pH)\ -\ 4.830)}$
A&Wedw chronic standard: $e^{(1.005\ (pH)\ -\ 5.290)}$
A&We acute standard: $e^{(1.005\ (pH)\ -\ 3.4306)}$
A&We chronic standard: $e^{(1.005\ (pH)\ -\ 3.9006)}$
(See Footnote 6)

i - Silver

A&Wc acute standard: $e^{(1.72\ [\ln(Hardness)]\ -\ 6.52)}$
A&Ww acute standard: $e^{(1.72\ [\ln(Hardness)]\ -\ 6.52)}$
A&Wedw acute standard: $e^{(1.72\ [\ln(Hardness)]\ -\ 6.52)}$
A&We acute standard: $e^{(1.72\ [\ln(Hardness)]\ -\ 6.52)}$
(See Footnote 5)

j - Zinc

A&Wc acute standard: $e^{(0.8473\ [\ln(Hardness)]\ +\ 0.860)}$
A&Wc chronic standard: $e^{(0.8473\ [\ln(Hardness)]\ +\ 0.761)}$
A&Ww acute standard: $e^{(0.8473\ [\ln(Hardness)]\ +\ 0.860)}$
A&Ww chronic standard: $e^{(0.8473\ [\ln(Hardness)]\ +\ 0.761)}$
A&Wedw acute standard: $e^{(0.8473\ [\ln(Hardness)]\ +\ 0.860)}$
A&Wedw chronic standard: $e^{(0.8473\ [\ln(Hardness)]\ +\ 0.761)}$
A&We acute standard: $e^{(0.8473\ [\ln(Hardness)]\ +\ 3.1342)}$
A&We chronic standard: $e^{(0.8473\ [\ln(Hardness)]\ +\ 3.0484)}$
(See Footnote 5)

k - The standard to protect this use is 0.003 ug/l aldrin/dieldrin.

1 - Chemical Abstract System (CAS) number is a unique identification number given to each chemical.

2 - The numeric standards to protect this use shall not be exceeded.

3 - Determination of compliance with acute standards shall be as prescribed in R18-11-120.C.

4 - Determination of compliance with chronic standards shall be as prescribed in R18-11-120.C.

5 - Hardness, expressed as mg/L $CaCO_3$, is inserted into the equation where it says "Hardness". Hardness is determined according to the following criteria:

a. 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.

b. If the receiving water body 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 $CaCO_3$.

6 - The pH is inserted into the equation where it says "pH". pH is determined according to the following criteria:

a. If the receiving water body 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 is taken.

b. 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 is taken.

μg/L -	micrograms per liter
NNS -	No numeric standard.
D -	Dissolved
T -	Total recoverable
TTHM -	Indicates that the chemical is a trihalomethane. See Trihalomethanes, Total for DWS standard.

A&Wc - ACUTE

Total Ammonia mg-N/l (or mg NH3-N/liter)

pH	Temperature in Degrees Celsius 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	25	30 and above	pH
6.5	29	28	28	27	27	27	27	26	26	26	25	25	25	25	25	24	24	24	24	24	24	16.6	11.8	6.5
6.6	28	27	27	27	26	26	26	25	25	25	25	24	24	24	24	24	24	23	23	23	23	16.2	11.4	6.6
6.7	27	27	26	26	26	25	25	25	24	24	24	24	23	23	23	23	23	23	23	22	22	15.6	11.1	6.7
6.8	26	25	25	25	24	24	24	24	23	23	23	23	23	22	22	22	22	22	22	22	21	15.0	10.6	6.8
6.9	25	24	24	24	23	23	23	22	22	22	22	22	21	21	21	21	21	21	21	21	20	14.3	10.1	6.9
7.0	23	23	22	22	22	22	21	21	21	21	20	20	20	20.0	19.9	19.7	19.6	19.5	19.4	19.3	19.2	13.4	9.5	7.0
7.1	22	21	21	21	20	20	19.9	19.6	19.5	19.3	19.1	18.9	18.8	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	12.5	8.9	7.1
7.2	19.8	19.6	19.2	19.0	18.8	18.5	18.4	18.1	17.9	17.8	17.6	17.5	17.3	17.2	17.0	16.9	16.8	16.7	16.7	16.6	16.5	11.6	8.2	7.2
7.3	18.0	17.8	17.5	17.3	17.1	16.9	16.7	16.5	16.3	16.2	16.0	15.9	15.8	15.6	15.5	15.4	15.3	15.2	15.2	15.1	15.0	10.6	7.5	7.3
7.4	16.2	16.0	15.7	15.5	15.3	15.1	15.0	14.8	14.6	14.5	14.4	14.3	14.1	14.0	13.9	13.8	13.8	13.7	13.6	13.6	13.5	9.5	6.7	7.4
7.5	14.3	14.1	13.9	13.7	13.6	13.4	13.3	13.1	13.0	12.8	12.7	12.6	12.5	12.4	12.4	12.3	12.2	12.1	12.1	12.1	12.0	8.4	6.0	7.5
7.6	12.5	12.3	12.2	12.0	11.9	11.7	11.6	11.5	11.4	11.2	11.2	11.1	11.0	10.9	10.8	10.8	10.7	10.6	10.6	10.5	10.5	7.4	5.3	7.6
7.7	10.8	10.7	10.5	10.4	10.3	10.1	10.0	9.9	9.8	9.7	9.6	9.6	9.5	9.5	9.3	9.3	9.2	9.2	9.2	9.1	9.1	6.4	4.6	7.7
7.8	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.2	8.1	8.1	8.0	8.0	7.9	7.9	7.9	7.8	7.8	5.5	4.0	7.8
7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.2	7.1	7.0	7.0	6.9	6.9	6.8	6.8	6.7	6.7	6.7	6.7	6.6	6.6	4.7	3.4	7.9
8.0	6.5	6.4	6.4	6.3	6.2	6.1	6.1	6.0	5.9	5.9	5.8	5.8	5.8	5.7	5.7	5.7	5.6	5.6	5.6	5.6	5.6	4.0	2.9	8.0
8.1	5.2	5.1	5.1	5.0	4.9	4.9	4.8	4.8	4.8	4.7	4.7	4.6	4.6	4.6	4.6	4.5	4.5	4.9	4.5	4.5	4.5	3.2	2.3	8.1
8.2	4.2	4.1	4.0	4.0	4.0	3.9	3.9	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	2.6	1.89	8.2
8.3	3.3	3.3	3.2	3.2	3.1	3.1	3.1	3.1	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.1	1.55	8.3
8.4	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.4	2.4	1.71	1.27	8.4
8.5	2.1	2.1	2.1	2.0	2.0	2.0	1.98	1.96	1.95	1.94	1.93	1.92	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.92	1.41	1.05	8.5
8.6	1.68	1.66	1.65	1.63	1.61	1.60	1.59	1.58	1.57	1.56	1.55	1.55	1.54	1.54	1.54	1.54	1.54	1.55	1.55	1.56	1.57	1.16	0.88	8.6
8.7	1.35	1.33	1.32	1.31	1.30	1.29	1.28	1.27	1.26	1.26	1.25	1.25	1.25	1.25	1.25	1.25	1.26	1.26	1.27	1.28	1.29	0.96	0.74	8.7
8.8	1.08	1.07	1.06	1.05	1.04	1.04	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.03	1.03	1.04	1.05	1.06	1.07	0.81	0.63	8.8
8.9	0.87	0.86	0.86	0.85	0.84	0.84	0.84	0.83	0.83	0.83	0.83	0.83	0.84	0.84	0.84	0.85	0.85	0.86	0.87	0.88	0.89	0.69	0.55	8.9
9.0	0.70	0.70	0.69	0.69	0.69	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.69	0.69	0.70	0.70	0.71	0.72	0.73	0.74	0.75	0.59	0.48	9.0

NOTES:

1. pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.
2. If field measured pH and/or temperature values fall between the A&Wc Acute Total Ammonia tabular values, round field measured values according to standard rounding procedures to nearest tabular value to determine ammonia standard.

A&Ww - ACUTE

Total Ammonia mg-N/liter (or mg NH_3-N/liter)

pH	Temperature in Degrees Celsius 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	pH
6.5	29	28	28	27	27	27	27	26	26	26	25	25	25	25	25	6.5
6.6	28	27	27	27	26	26	26	25	25	25	25	25	24	24	24	6.6
6.7	27	27	26	26	26	25	25	25	24	24	24	24	23	23	23	6.7
6.8	26	25	25	25	24	24	24	24	23	23	23	23	23	22	22	6.8
6.9	25	24	24	24	23	23	23	22	22	22	22	22	21	21	21	6.9
7.0	23	23	22	22	22	22	21	21	21	21	20	20	20	20	20	7.0
7.1	22	21	21	21	20	20	20	20	19.5	19.3	19.1	18.9	18.8	18.6	18.5	7.1
7.2	20	20	19.2	19.0	18.8	18.5	18.4	18.1	17.9	17.8	17.6	17.5	17.3	17.2	17.0	7.2
7.3	18.0	17.8	17.5	17.3	17.1	16.9	16.7	16.5	16.3	16.2	16.0	15.9	15.8	15.6	15.5	7.3
7.4	16.2	16.0	15.7	15.5	15.3	15.1	15.0	14.8	14.7	14.5	14.4	14.3	14.1	14.0	13.9	7.4
7.5	14.3	14.1	13.9	13.7	13.6	13.4	13.3	13.1	13.0	12.8	12.7	12.6	12.5	12.4	12.4	7.5
7.6	12.5	12.3	12.2	12.0	11.9	11.7	11.6	11.5	11.4	11.3	11.2	11.1	11.0	10.9	10.8	7.6
7.7	10.8	10.7	10.5	10.4	10.3	10.1	10.0	9.9	9.8	9.7	9.6	9.6	9.5	9.5	9.3	7.7
7.8	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.2	8.1	8.1	8.0	7.8
7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.2	7.1	7.0	7.0	6.9	6.9	6.8	6.8	7.9
8.0	6.5	6.4	6.4	6.3	6.2	6.1	6.1	6.0	5.9	5.9	5.8	5.8	5.8	5.7	5.7	8.0
8.1	5.2	5.1	5.1	5.0	4.9	4.9	4.8	4.8	4.8	4.7	4.7	4.6	4.6	4.6	4.6	8.1
8.2	4.2	4.1	4.0	4.0	4.0	3.9	3.9	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.6	8.2
8.3	3.3	3.3	3.2	3.2	3.1	3.1	3.1	3.1	3.0	3.0	3.0	3.0	3.0	2.9	2.9	8.3
8.4	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	8.4
8.5	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.95	1.94	1.93	1.92	1.91	1.90	1.90	8.5
8.6	1.68	1.66	1.65	1.63	1.61	1.60	1.59	1.58	1.57	1.56	1.55	1.55	1.54	1.54	1.54	8.6
8.7	1.35	1.33	1.32	1.31	1.30	1.29	1.28	1.27	1.26	1.26	1.25	1.25	1.25	1.25	1.25	8.7
8.8	1.08	1.07	1.06	1.05	1.04	1.04	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.02	1.02	8.8
8.9	0.87	0.86	0.86	0.85	0.84	0.84	0.84	0.83	0.83	0.83	0.83	0.83	0.84	0.84	0.84	8.9
9.0	0.70	0.70	0.69	0.69	0.69	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.69	0.69	0.70	9.0

NOTES:

1. pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.
2. If field measured pH and/or temperature values fall between the A&Ww Acute Total Ammonia tabular values, round field measured values according to standard scientific rounding procedures to nearest tabular value to determine the ammonia standard.

A&Ww - ACUTE

Total Ammonia mg-N/liter (or mg NH3-N/liter) (cont.)

pH	Temperature in Degrees Celsius 15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 and above	pH
6.5	24	24	24	24	24	24	24	24	24	24	23	22	20	19.1	17.8	16.6	6.5
6.6	24	24	23	23	23	23	23	23	23	23	23	21	20	18.5	17.3	16.1	6.6
6.7	23	23	23	23	22	22	22	22	22	22	22	21	19.2	17.9	16.7	15.6	6.7
6.8	22	22	22	22	22	21	21	21	21	21	21	20	18.4	17.2	16.1	15.0	6.8
6.9	21	21	21	21	21	20	20	20	20	20	20	18.8	17.5	16.4	15.3	14.3	6.9
7.0	20	20	20	19.4	19.3	19.2	19.2	19.1	19.1	19.0	19.0	17.7	16.5	15.4	14.4	13.4	7.0
7.1	18.4	18.3	18.2	18.1	18.0	17.9	17.9	17.8	17.8	17.7	17.7	16.5	15.4	14.4	13.4	12.6	7.1
7.2	16.9	16.8	16.7	16.7	16.6	16.5	16.5	16.4	16.4	16.4	16.3	15.2	14.2	13.3	12.4	11.6	7.2
7.3	15.4	15.3	15.2	15.2	15.1	15.0	15.0	15.0	14.9	14.9	14.9	13.9	12.9	12.0	11.3	10.6	7.3
7.4	13.8	13.8	13.7	13.6	13.6	13.5	13.5	13.5	13.4	13.4	13.4	12.5	11.6	10.9	10.2	9.5	7.4
7.5	12.3	12.2	12.2	12.1	12.1	12.0	12.0	12.0	11.9	11.9	11.9	11.1	10.4	9.7	9.1	8.5	7.5
7.6	10.8	10.7	10.6	10.6	10.5	10.5	10.5	10.4	10.4	10.4	10.5	9.8	9.1	8.5	8.0	7.4	7.6
7.7	9.3	9.2	9.2	9.2	9.1	9.1	9.1	9.1	9.1	9.1	9.1	8.5	7.9	7.4	6.9	6.5	7.7
7.8	8.0	7.9	7.9	7.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.3	6.8	6.4	6.0	5.6	7.8
7.9	6.7	6.7	6.7	6.7	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.2	5.8	5.4	5.1	4.8	7.9
8.0	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.2	4.9	4.6	4.3	4.0	8.0
8.1	4.5	4.5	4.9	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.0	3.7	3.5	3.3	8.1
8.2	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.4	3.2	3.0	2.8	2.7	8.2
8.3	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0	2.8	2.6	2.5	2.3	2.2	8.3
8.4	2.4	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1	2.0	1.90	1.80	8.4
8.5	1.90	1.90	1.90	1.90	1.91	1.92	1.92	1.93	1.95	1.96	1.99	1.86	1.77	1.66	1.57	1.49	8.5
8.6	1.54	1.54	1.55	1.55	1.56	1.57	1.58	1.58	1.60	1.62	1.63	1.55	1.46	1.38	1.31	1.24	8.6
8.7	1.25	1.26	1.26	1.27	1.28	1.29	1.30	1.31	1.33	1.34	1.36	1.29	1.22	1.16	1.10	1.05	8.7
8.8	1.03	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.11	1.12	1.14	1.09	1.03	0.98	0.94	0.90	8.8
8.9	0.85	0.85	0.86	0.87	0.88	0.89	0.91	0.92	0.93	0.95	0.97	0.93	0.88	0.84	0.81	0.77	8.9
9.0	0.70	0.71	0.72	0.73	0.74	0.75	0.77	0.78	0.80	0.81	0.83	0.80	0.76	0.73	0.70	0.68	9.0

NOTES:

1. pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.
2. If field measured pH and/or temperature values fall between the A&Ww Acute Total Ammonia tabular values, round field measured values according to standard scientific rounding procedures to nearest tabular value to determine the ammonia standard.

Appendix B Abbreviations

River Basins (Correspond to State Water Quality Assessment Report)

BW =	Bill Williams
CM =	Colorado Mainstem (includes Red Lake)
LC =	Little Colorado
MG =	Middle Gila (includes Gila River below San Carlos Indian Reservation, Salt River below Granite Reef Dam and Phoenix area waterbodies)
RM =	Rios de Mexico (includes Rio Magdalena, Rio Sonoita, and Rio Yaqui Basins)
SC =	Santa Cruz
SP =	San Pedro
SR =	Salt River (includes Salt River and tributaries above Granite Reef Dam)
UG =	Upper Gila (includes Gila River and tributaries above San Carlos Indian Reservation)
VR =	Verde River
WP =	Wilcox Playa

Designated Uses

A&Wc =	Aquatic & Wildlife coldwater
A&Ww =	Aquatic & Wildlife warmwater
A&We =	Aquatic & Wildlife ephemeral
A&Wedw =	Aquatic & Wildlife effluent dependent water
FBC =	Full Body Contact
PBC =	Partial Body Contact
DWS =	Domestic Water Source
FC =	Fish Consumption
AgI =	Agricultural Irrigation
AgL =	Agricultural Livestock Watering

Other

U =	Waterbody designated as Unique Water
EDW =	Effluent Dependent Water
WWTP =	Wastewater Treatment Plant
km =	Kilometers

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
BW	Alamo Lake	34°14'45"/113°35'00"		A&Ww			FBC			FC		AgL
BW	Big Sandy River	Aquarius & Hualapai Mountains		A&Ww			FBC			FC		AgL
BW	Bill Williams River	Buckskin & Rawhide Mountains		A&Ww			FBC			FC		AgL
BW	Blue Tank	34°40'14"/112°58'16"		A&Ww			FBC			FC		AgL
BW	Boulder Creek	Tributary to Burro Creek		A&Ww			FBC			FC	AgI	AgL
BW	Burro Creek (U)	Above confluence with Boulder Creek		A&Ww			FBC			FC		AgL
BW	Burro Creek	Below confluence with Boulder Creek		A&Ww			FBC			FC		AgL
BW	Conger Creek	Tributary to Burro Creek		A&Ww			FBC			FC		AgL
BW	Coors Lake	34°36'20"/113°11'25"		A&Ww			FBC			FC		
BW	Copper Basin Wash	Headwaters to bottom of perennial reach		A&Ww			FBC			FC		AgL
BW	Copper Basin Wash	Bottom of perennial reach/Skull Valley Wash			A&We			PBC				AgL
BW	Cottonwood Canyon	Tributary to the Santa Maria River		A&Ww			FBC			FC		AgL
BW	Date Creek	Tributary to the Santa Maria River		A&Ww			FBC			FC		AgL
BW	Francis Creek (U)	Tributary to Burro Creek		A&Ww			FBC		DWS	FC	AgI	AgL
BW	Kirkland Creek	Tributary to Santa Maria River		A&Ww			FBC			FC	AgI	AgL
BW	Knight Creek	East of Hualapai Mountains		A&Ww			FBC			FC		AgL
BW	Peeple's Canyon Creek (U)	Tributary to Santa Maria River		A&Ww			FBC			FC		AgL
BW	Santa Maria River	Tributary to Alamo Lake		A&Ww			FBC			FC	AgI	AgL
BW	Trout Creek	Tributary to Big Sandy River		A&Ww			FBC			FC		AgL
CM	A-10 Backwater	33°31'38"/114°33'19"		A&Ww			FBC			FC		
CM	A-7 Backwater	33°34'39"/114°39'42"		A&Ww			FBC			FC		
CM	Adobe Lake	33°02'39"/114°39'19"		A&Ww			FBC			FC		

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
CM	Agate Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Big Springs Tank	36°36'10"/112°20'58"	A&Wc				FBC			FC		AgL
CM	Boucher Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Bright Angel Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Bright Angel Wash (EDW)	South Rim WWTP outfall to Coconino Wash				A&Wedw		PBC				AgL
CM	Bull Rush Canyon Wash	Tributary to Kanab Creek			A&We			PBC				
CM	Cataract Creek	Headwaters to Santa Fe Reservoir	A&Wc				FBC		DWS	FC	AgI	AgL
CM	Cataract Creek	Santa Fe Reservoir to Williams WWTP outfall		A&Ww			FBC			FC	AgI	AgL
CM	Cataract Creek (EDW)	Williams WWTP outfall to 1 km downstream				A&Wedw		PBC				
CM	Cataract Creek	Below 1 km downstream of Williams WWTP outfall to confluence of Red Lake Wash		A&Ww			FBC			FC		AgL
CM	Cataract Creek	Red Lake Wash to Havasupai Reservation			A&We			PBC				AgL
CM	Cataract Lake	35°15'05"/112°12'58"	A&Wc				FBC		DWS	FC		AgL
CM	Chuar Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Cibola Lake	33°14'20"/114°40'16"		A&Ww			FBC			FC		
CM	City Reservoir	35°13'57"/112°11'23"	A&Wc				FBC		DWS	FC		
CM	Clear Creek	North rim, Grand Canyon	A&Wc				FBC			FC		
CM	Clear Lake	33°01'57"/114°31'26"		A&Ww			FBC			FC		
CM	Colorado River	Lake Powell to Topock	A&Wc				FBC		DWS	FC	AgI	AgL
CM	Colorado River	Topock to Imperial Dam		A&Ww			FBC		DWS	FC	AgI	AgL
CM	Colorado River	Imperial Dam to Mexico		A&Ww			FBC			FC	AgI	AgL
CM	Cottonwood Creek	Tributary to Tuxton Wash		A&Ww			FBC			FC		AgL
CM	Crystal Creek	North rim, Grand Canyon	A&Wc				FBC			FC		

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
CM	Deer Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Detrital Wash	Tributary to Lake Mead			A&We			PBC				
CM	Dogtown Reservoir	35°12'40"/112°07'46"	A&Wc				FBC		DWS	FC	AgI	AgL
CM	Dragon Creek	North rim, Grand Canyon		A&Ww			FBC			FC		
CM	Garden Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Gonzalez Lake	35°15'26"/112°12'07"	A&Wc				FBC			FC	AgI	AgL
CM	Grand Wash	Tributary to Lake Mead			A&We			PBC				
CM	Grapevine Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Grapevine Wash	Tributary to Lake Mead			A&We			PBC				
CM	Hakatai Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Hance Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Hermit Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Holy Moses Wash (EDW)	Kingman WWTP outfall to 3 km downstream				A&Wedw		PBC				
CM	Horn Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Hualapai Wash	Tributary to the Colorado River			A&We			PBC				
CM	Hunter's Hole Backwater	32°31'15"/114°48'03"		A&Ww			FBC			FC		AgL
CM	Imperial Reservoir	32°53'04"/114°27'40"		A&Ww			FBC		DWS	FC	AgI	AgL
CM	Island Lake	33°01'52"/114°35'07"		A&Ww			FBC			FC		
CM	Jacob Lake	36°42'26"/112°13'48"		A&Ww			FBC			FC		
CM	Kaibab Lake	35°17'04"/112°09'17"	A&Wc				FBC		DWS	FC	AgI	AgL
CM	Kanab Creek	Kanab Plateau; northwestern Arizona		A&Ww			FBC		DWS	FC		AgL
CM	Kwagunt Creek	Grand Canyon	A&Wc				FBC			FC		

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
CM	Laguna Reservoir	32°51'15"/114°28'38"		A&Ww			FBC		DWS	FC	AgI	AgL
CM	Lake Havasu	34°18'15"/114°08'15"		A&Ww			FBC		DWS	FC	AgI	AgL
CM	Lake Mead	36°01'00"/114°44'15"	A&Wc				FBC		DWS	FC	AgI	AgL
CM	Lake Mohave	35°11'45"/114°34'00"	A&Wc				FBC		DWS	FC	AgI	AgL
CM	Lake Powell	36°57'00"/111°29'15"	A&Wc				FBC		DWS	FC	AgI	AgL
CM	Lonetree Canyon Creek	Grand Canyon		A&Ww			FBC			FC		
CM	Martinez Lake	32°58'52"/114°28'23"		A&Ww			FBC			FC	AgI	AgL
CM	Matkatamiba Creek	Grand Canyon, South Rim	A&Wc				FBC			FC		
CM	Mittry Lake	32°49'11"/114°27'41"		A&Ww			FBC			FC		
CM	Mohave Wash	Tributary to Lake Havasu			A&We			PBC				
CM	Monument Creek	Grand Canyon		A&Ww			FBC			FC		
CM	Nankoweap Creek	Grand Canyon	A&Wc				FBC			FC		
CM	National Canyon Creek	South rim, Grand Canyon	A&Wc				FBC			FC		
CM	North Canyon Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Nortons Lake	33°02'35"/114°37'58"		A&Ww			FBC			FC		
CM	Olo Creek	South rim, Grand Canyon		A&Ww			FBC			FC		
CM	Paria River	Paria Plateau, Northern AZ Border	A&Wc				FBC			FC		
CM	Phantom Creek	North rim, Grand Canyon	A&Wc				FBC			FC		
CM	Pipe Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Pretty Water Lake	33°19'45"/114°42'15"		A&Ww			FBC			FC		
CM	Quigley Ponds	32°43'00"/113°58'00"		A&Ww			FBC			FC		
CM	Red Canyon Creek	Grand Canyon		A&Ww			FBC			FC		

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
CM	Red Lake	35°40'00"/114°03'45"		A&Ww			FBC			FC		AgL
CM	Redondo Lake	32°44'32"/114°29'02"		A&Ww			FBC			FC		
CM	Roaring Springs	Headwaters of Roaring Springs Creek	A&Wc				FBC		DWS	FC		
CM	Roaring Springs Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Rock Canyon	Tributary to Truxton Wash			A&We			PBC				
CM	Royal Arch Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Ruby Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Russell Tank	34°52'22"/111°52'44"	A&Wc				FBC			FC		AgL
CM	Sacramento Wash	Tributary to Topock Marsh			A&We			PBC				
CM	Saddle Canyon Creek	West rim, Marble Canyon	A&Wc				FBC			FC		
CM	Santa Fe Reservoir	35°14'26"/112°11'04"	A&Wc				FBC		DWS	FC		
CM	Sapphire Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Sawmill Canyon	Headwaters to abandoned gaging station		A&Ww			FBC			FC		AgL
CM	Sawmill Canyon	Below abandoned gaging station			A&We			PBC				AgL
CM	Serpentine Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Shinumo Creek	North rim, Grand Canyon	A&Wc				FBC			FC		
CM	Short Creek	Tributary to the Virgin River			A&We			PBC				
CM	Slate Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Spring Canyon Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Stone Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Tapeats Creek	North rim, Grand Canyon	A&Wc				FBC			FC		
CM	Thunder River	Tributary to Tapeats Creek	A&Wc				FBC			FC		

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
CM	Topock Marsh	34°47'30"/114°31'00"		A&Ww			FBC		DWS	FC	AgI	AgL
CM	Trail Canyon Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Transept Canyon (EDW)	North Rim WWTP outfall to 1 km downstream				A&Wedw		PBC				
CM	Travertine-Falls Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Truxton Wash	Tributary to Red Lake			A&We			PBC				
CM	Turquoise Creek	Grand Canyon	A&Wc				FBC			FC		
CM	Unkar Creek	North rim, Grand Canyon	A&Wc				FBC			FC		
CM	Vasey's Paradise	Grand Canyon	A&Wc				FBC			FC		
CM	Virgin River	NW of Virgin Mtns; NW Arizona Border		A&Ww			FBC			FC	AgI	AgL
CM	Vishnu Creek	North rim, Grand Canyon	A&Wc				FBC			FC		
CM	Warm Springs Creek	Grand Canyon		A&Ww			FBC			FC		
CM	Wellton Canal	Yuma Canal System							DWS		AgI	AgL
CM	Wellton Ponds			A&Ww			FBC			FC		
CM	West Cataract Creek	Tributary to Cataract Lake	A&Wc				FBC			FC		AgL
CM	White Creek	Grand Canyon		A&Ww			FBC			FC		
CM	Wia Manua Park Lake	In Kingman		A&Ww			FBC			FC		
CM	Wright Canyon Creek	Tributary to Truxton Wash		A&Ww			FBC			FC		AgL
CM	YPG Pond	32°50'22"/114°26'25"		A&Ww			FBC			FC		
CM	Yuma Area Canals	Above municipal water treatment plant intakes							DWS		AgI	AgL
CM	Yuma Area Canals	Below municipal water treatment plant intakes and all drains									AgI	AgL
LC	Als Lake	35°02'17"/111°25'13"		A&Ww			FBC			FC		AgL
LC	Ashurst Lake	35°01'10"/111°24'09"	A&Wc				FBC			FC	AgI	AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
LC	Atcheson Reservoir	34°00'00"/109°20'41"		A&Ww			FBC			FC	AgI	AgL
LC	Auger Creek	Tributary to Nutrioso Creek	A&Wc				FBC			FC		AgL
LC	Barbershop Canyon Creek	Tributary to East Clear Creek	A&Wc				FBC			FC		AgL
LC	Bear Canyon Creek	Tributary to Blue Ridge Reservoir	A&Wc				FBC			FC		AgL
LC	Bear Canyon Creek	Tributary to Willow Creek	A&Wc				FBC			FC		AgL
LC	Bear Canyon Lake	34°24'10"/111°00'09"	A&Wc				FBC			FC	AgI	AgL
LC	Becker Lake	34°09'16"/109°18'18"	A&Wc				FBC			FC		AgL
LC	Billy Creek	Tributary to Show Low Creek	A&Wc				FBC			FC		AgL
LC	Black Canyon Creek	Tributary to Chevelon Creek	A&Wc				FBC			FC	AgI	AgL
LC	Black Canyon Lake	34°19'50"/110°41'59"	A&Wc				FBC		DWS	FC	AgI	AgL
LC	Blue Ridge Reservoir	34°33'15"/111°11'01"	A&Wc				FBC			FC	AgI	AgL
LC	Boot Lake	34°58'53"/111°20'00"		A&Ww			FBC			FC		AgL
LC	Buck Springs Canyon Creek	Tributary to Leonard Canyon Creek	A&Wc				FBC			FC		AgL
LC	Bunch Reservoir	34°02'12"/109°26'45"	A&Wc				FBC			FC	AgI	AgL
LC	Camillo Tank	34°55'03"/111°22'41"		A&Ww			FBC			FC		AgL
LC	Carnero Lake	34°06'57"/109°31'39"	A&Wc				FBC			FC		AgL
LC	Chevelon Canyon Lake	34°30'39"/110°49'28"	A&Wc				FBC			FC	AgI	AgL
LC	Chevelon Creek	Mogollon Plateau	A&Wc				FBC			FC	AgI	AgL
LC	Chevelon Creek, West Fork	Tributary to Chevelon Creek	A&Wc				FBC			FC		AgL
LC	Chilson Tank	34°51'46"/111°22'52"		A&Ww			FBC			FC		AgL
LC	Cholla Lake	34°56'00"/110°17'12"		A&Ww			FBC			FC		AgL
LC	Clear Creek	Mogollon Plateau; east of Winslow	A&Wc				FBC		DWS	FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
LC	Clear Creek Reservoir	34°58'10"/110°38'33"	A&Wc				FBC		DWS	FC	AgI	AgL
LC	Coconino Reservoir	35°00'16"/111°23'52"	A&Wc				FBC			FC	AgI	AgL
LC	Colter Creek	Tributary to Nutrioso Creek	A&Wc				FBC			FC		AgL
LC	Colter Reservoir	33°56'40"/109°28'50"	A&Wc				FBC			FC		AgL
LC	Concho Creek	Tributary to Carrizo Wash		A&Ww			FBC			FC		AgL
LC	Concho Lake	34°26'36"/109°37'40"	A&Wc				FBC			FC	AgI	AgL
LC	Cow Lake	34°53'19"/111°18'49"		A&Ww			FBC			FC		AgL
LC	Coyote Creek	Tributary tó Upper Little Colorado	A&Wc				FBC			FC	AgI	AgL
LC	Crisis Lake (Snake Tank #2)	34°47'51"/111°17'01"		A&Ww			FBC			FC		AgL
LC	Dane Canyon Creek	Tributary to Barbershop Canyon Creek	A&Wc				FBC			FC		AgL
LC	Daves Tank	34°44'23"/111°17'08"		A&Ww			FBC			FC		AgL
LC	Deep Lake	35°03'30"/111°24'55"		A&Ww			FBC			FC		AgL
LC	Dry Lake (EDW)	34°37'52"/110°23'40"				A&Wedw						
LC	Ducksnest Lake	34°59'15"/111°23'53"		A&Ww			FBC			FC		AgL
LC	East Clear Creek	Tributary to Clear Creek Reservoir	A&Wc				FBC			FC	AgI	AgL
LC	Ellis Wiltbank Reservoir	34°05'25"/109°28'24"		A&Ww			FBC			FC	AgI	AgL
LC	Fish Creek	Tributary to Little Colorado	A&Wc				FBC			FC		
LC	Fool's Hollow Lake	34°16'14"/110°04'15"	A&Wc				FBC			FC		AgL
LC	General Springs Creek	Tributary to Blue Ridge Reservoir	A&Wc				FBC			FC		AgL
LC	Geneva Reservoir	34°01'44"/109°31'44"		A&Ww			FBC			FC		AgL
LC	Hall Creek	Tributary to White Mountain Reservoir	A&Wc				FBC			FC	AgI	AgL
LC	Hart Canyon Creek	Tributary to Willow Creek	A&Wc				FBC			FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
LC	Hay Lake	34°00'11"/109°25'55"		A&Ww			FBC			FC		AgL
LC	Hog Wallow Lake	33°58'57"/109°25'38"		A&Ww			FBC			FC	AgI	AgL
LC	Horse Lake	35°03'53"/111°27'51"		A&Ww			FBC			FC		AgL
LC	Huffer Tank	34°27'45"/111°23'09"		A&Ww			FBC			FC		AgL
LC	Hulsey Creek	Tributary to Nutrioso Creek	A&Wc				FBC			FC		
LC	Hulsey Lake	33°55'57"/109°09'33"	A&Wc				FBC			FC		
LC	Indian Lake	35°00'38"/111°22'37"		A&Ww			FBC			FC		AgL
LC	Jack's Canyon Creek	Tributary to the Little Colorado		A&Ww			FBC			FC	AgI	AgL
LC	Jarvis Lake	33°58'59"/109°12'33"		A&Ww			FBC			FC		AgL
LC	Kinnikinick Lake	34°53'52"/111°18'20"	A&Wc				FBC			FC		AgL
LC	Knoll Lake	34°25'38"/111°05'10"	A&Wc				FBC			FC		AgL
LC	Lake Humphreys (EDW)	35°11'51"/111°35'16"				A&Wedw		PBC				
LC	Lake Mary, Lower	35°06'22"/111°34'20"	A&Wc				FBC			FC		AgL
LC	Lake Mary, Upper	35°04'45"/111°31'56"	A&Wc				FBC		DWS	FC		AgL
LC	Lake of the Woods	34°09'39"/109°58'45"	A&Wc				FBC			FC	AgI	AgL
LC	Lee Valley Creek	Tributary to Colter Reservoir	A&Wc				FBC			FC		AgL
LC	Lee Valley Reservoir	33°56'30"/109°30'00"	A&Wc				FBC			FC	AgI	AgL
LC	Leonard Canyon Creek	Tributary to East Clear Creek	A&Wc				FBC			FC		AgL
LC	Leonard Canyon Creek, East Fork	Tributary to Leonard Canyon Creek	A&Wc				FBC			FC		AgL
LC	Leonard Canyon Creek, Middle Fork	Tributary to Leonard Canyon, West Fork	A&Wc				FBC			FC		AgL
LC	Leonard Canyon Creek, West Fork	Tributary to Leonard Canyon, East Fork	A&Wc				FBC			FC		AgL
LC	Lily Creek	Escudilla Mountain	A&Wc				FBC			FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
LC	Little Colorado River	Above Lyman Reservoir	A&Wc				FBC			FC	AgI	AgL
LC	Little Colorado River	Below Lyman Reservoir		A&Ww			FBC		DWS	FC	AgI	AgL
LC	Little Colorado River, East Fork	White Mountains	A&Wc				FBC			FC	AgI	AgL
LC	Little Colorado River, South Fork	White Mountains	A&Wc				FBC			FC	AgI	AgL
LC	Little Colorado River, West Fork	Below Government Springs; White Mountains	A&Wc				FBC			FC	AgI	AgL
LC	Little Colorado Rv, West Fork (U)	Above Government Springs; White Mountains	A&Wc				FBC			FC		
LC	Little George Reservoir	34°00'37"/109°19'15"		A&Ww			FBC			FC	AgI	
LC	Little Mormon Lake	34°17'00"/109°58'03"		A&Ww			FBC			FC	AgI	AgL
LC	Little Ortega Lake	34°22'45"/109°40'00"	A&Ww				FBC			FC		
LC	Long Lake, Lower	34°46'45"/111°12'00"	A&Wc				FBC			FC	AgI	AgL
LC	Long Lake, Upper	35°00'00"/111°21'00"		A&Ww			FBC			FC		AgL
LC	Long Tom Tank	34°20'37"/110°49'20"	A&Wc				FBC			FC		AgL
LC	Lower Walnut Canyon Lake (EDW)	35°12'04"/111°34'07"				A&Wedw		PBC				
LC	Lyman Reservoir	34°21'30"/109°21'30"	A&Wc				FBC			FC	AgI	AgL
LC	Mamie Creek	Escudilla Mountain	A&Wc				FBC			FC	AgI	AgL
LC	Marshall Lake	35°07'10"/111°32'01"	A&Wc				FBC			FC		AgL
LC	McKay Reservoir	Apache-Sitgreaves National Forest	A&Wc				FBC			FC	AgI	AgL
LC	Merritt Draw Creek	Tributary to Barbershop Canyon Creek	A&Wc				FBC			FC		AgL
LC	Mexican Hay Lake	34°01'57"/109°21'25"	A&Wc				FBC			FC	AgI	AgL
LC	Milk Creek	Tributary to Hulsey Creek	A&Wc				FBC			FC		
LC	Miller Canyon Creek	Tributary to East Clear Creek	A&Wc				FBC			FC		AgL
LC	Miller Canyon Creek, East Fork	Tributary to Miller Canyon Creek	A&Wc				FBC			FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
LC	Mineral Creek	Near Vernon, Sitgreaves National Forest	A&Wc				FBC			FC	AgI	AgL
LC	Mormon Lake	34°56'40"/111°27'10"	A&Wc				FBC		DWS	FC	AgI	AgL
LC	Morton Lake	34°53'36"/111°17'39"	A&Wc				FBC			FC		AgL
LC	Mud Lake	34°55'24"/111°21'18"		A&Ww			FBC			FC		AgL
LC	Ned Lake (EDW)	32°17'18"/110°03'20"				A&Wedw		PBC				
LC	Nelson Reservoir	34°03'12"/109°11'18"	A&Wc				FBC			FC	AgI	AgL
LC	Norton Reservoir	34°03'57"/109°31'21"		A&Ww			FBC			FC		AgL
LC	Nutrioso Creek	Tributary to the Little Colorado	A&Wc				FBC			FC	AgI	AgL
LC	Paddy Creek	Tributary to Nutrioso Creek	A&Wc				FBC			FC		
LC	Phoenix Park Wash	Tributary to Dry Lake			A&We			PBC				
LC	Pine Tank	34°46'49"/111°17'17"		A&Ww			FBC			FC		AgL
LC	Pintail Lake (EDW)	34°18'06"/110°01'17"				A&Wedw		PBC				
LC	Pool Corral Lake	33°58'16"/109°24'53"		A&Ww			FBC			FC	AgI	AgL
LC	Porter Creek	Tributary to Show Low Creek	A&Wc				FBC			FC		
LC	Potato Lake	34°27'44"/111°20'42"	A&Wc				FBC			FC		AgL
LC	Pratt Lake	34°01'31"/109°04'16"	A&Wc				FBC			FC		
LC	Puerco River	Tributary to the Little Colorado		A&Ww			FBC		DWS	FC	AgI	AgL
LC	Rainbow Lake	34°09'03"/109°59'01"	A&Wc				FBC			FC	AgI	AgL
LC	Reagan Reservoir	Apache-Sitgreaves National Forest		A&Ww			FBC			FC		AgL
LC	Rio de Flag (EDW)	Flagstaff WWTP outfall to the confluence with San Francisco Wash				A&Wedw		PBC				
LC	River Reservoir	34°02'01"/109°26'07"	A&Wc				FBC			FC	AgI	AgL
LC	Rogers Reservoir	33°58'30"/109°16'18"		A&Ww			FBC			FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
LC	Rudd Creek	Tributary to Nutrioso Creek	A&Wc				FBC			FC		AgL
LC	Russel Reservoir	33°59'29"/109°20'00"		A&Ww			FBC			FC	AgI	AgL
LC	San Salvador Reservoir	33°58'51"/109°19'51"		A&Ww			FBC			FC	AgI	AgL
LC	Salt House Lake	33°57'06"/109°20'12"		A&Ww			FBC			FC		AgL
LC	Scott Reservoir	34°10'27"/109°57'27"	A&Wc				FBC			FC	AgI	AgL
LC	Show Low Creek	Tributary to Silver Creek	A&Wc				FBC			FC	AgI	AgL
LC	Show Low Lake	34°11'25"/109°59'55"	A&Wc				FBC			FC	AgI	AgL
LC	Silver Creek	Tributary to Little Colorado; near Holbrook	A&Wc				FBC			FC	AgI	AgL
LC	Slade Reservoir	33°59'50"/109°20'00"		A&Ww			FBC			FC	AgI	AgL
LC	Soldiers Annex Lake	34°47'13"/111°13'48"	A&Wc				FBC			FC	AgI	AgL
LC	Soldiers Lake	34°47'49"/110°13'59"	A&Wc				FBC			FC	AgI	AgL
LC	Spaulding Tank	34°30'17"/111°02'03"		A&Ww			FBC			FC		AgL
LC	Sponseller Lake	34°14'10"/109°50'42"	A&Wc				FBC			FC		AgL
LC	St Johns Reservoir (Little Reservoir)	34°29'14"/109°21'57"		A&Ww			FBC			FC	AgI	AgL
LC	Telephone Lake (EDW)	34°17'35"/110°02'39"				A&Wedw		PBC				
LC	Tremaine Lake	34°46'00"/111°14'10"	A&Wc				FBC			FC		AgL
LC	Tunnel Reservoir	34°01'51"/109°26'32"	A&Wc				FBC			FC	AgI	AgL
LC	Vail Lake	35°05'24"/111°30'42"	A&Wc				FBC			FC		AgL
LC	Walnut Creek	Tributary to Billy Creek	A&Wc				FBC			FC		AgL
LC	Water Canyon Creek	Tributary to the Little Colorado	A&Wc				FBC			FC		AgL
LC	Water Canyon Reservoir	34°00'15"/109°20'05"		A&Ww			FBC			FC	AgI	AgL
LC	Whale Lake	35°12'32"/111°34'42"				A&Wedw		PBC				

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
LC	Whipple Lake	34°16'47"/109°58'28"		A&Ww			FBC			FC		AgL
LC	White Mountain Lake	34°21'54"/109°59'38"	A&Wc				FBC			FC	AgI	AgL
LC	White Mountain Reservoir	34°00'15"/109°30'48"	A&Wc				FBC			FC	AgI	AgL
LC	Willow Creek	Tributary to East Clear Creek	A&Wc				FBC			FC		AgL
LC	Willow Springs Canyon Creek	Tributary to Chevelon Creek	A&Wc				FBC			FC		AgL
LC	Willow Springs Lake	34°18'45"/110°52'34"	A&Wc				FBC			FC	AgI	AgL
LC	Woodland Reservoir	34°07'36"/109°57'06"	A&Wc				FBC			FC	AgI	AgL
LC	Woods Canyon Creek	Tributary to Chevelon Creek	A&Wc				FBC			FC		AgL
LC	Woods Canyon Lake	34°20'05"/110°56'35"	A&Wc				FBC		DWS	FC	AgI	AgL
LC	Zuni River	Tributary to the Little Colorado		A&Ww			FBC			FC	AgI	AgL
LG	Columbus Wash	Tributary to the Gila River			A&We			PBC				
LG	Gila River	Painted Rock Dam to the Colorado River		A&Ww			FBC			FC	AgI	AgL
LG	Painted Rock (Borrow Pit) Lake	33°05'00"/113°01'20"		A&Ww			FBC			FC	AgI	AgL
MG	Agua Fria River	Above confluence with unnamed EDW wash receiving treated wastewater from the Prescott Valley WWTP outfall			A&We			PBC				AgL
MG	Agua Fria River (EDW)	Below confluence with unnamed wash receiving treated wastewater from the Prescott Valley WWTP outfall to State Route 169				A&Wedw		PBC				AgL
MG	Agua Fria River	State Route 169 to Lake Pleasant		A&Ww			FBC		DWS	FC	AgI	AgL
MG	Agua Fria River	Below Lake Pleasant to the El Mirage WWTP outfall			A&We			PBC				AgL
MG	Agua Fria River (EDW)	El Mirage WWTP outfall to 2 km downstream				A&Wedw		PBC				
MG	Agua Fria River	Below 2 km downstream of the El Mirage WWTP outfall to State Highway 85			A&We			PBC				

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
MG	Agua Fria River	Below State Highway 85		A&Ww			FBC			FC		
MG	Alvord Park Lake	35th Avenue & Baseline Road; Phoenix		A&Ww				PBC		FC		
MG	Antelope Creek	Tributary to Martinez Creek		A&Ww			FBC			FC	AgI	AgL
MG	Arlington Canal	Above Wilson Avenue										AgL
MG	Ash Creek	Tributary to the Agua Fria River		A&Ww			FBC			FC	AgI	AgL
MG	Beehive Tank	32°52'36"/111°02'19"		A&Ww			FBC			FC		AgL
MG	Big Bug Creek	Tributary to the Agua Fria River		A&Ww			FBC			FC	AgI	AgL
MG	Black Canyon Creek	Tributary to the Agua Fria River		A&Ww			FBC			FC	AgI	AgL
MG	Blind Indian Creek	Tributary to the Hassayampa River		A&Ww			FBC			FC	AgI	AgL
MG	Bonsall Park Lake	59th Avenue & Bethany Home Road; Phoenix		A&Ww				PBC		FC		
MG	Canal Park Lake	College Avenue & Curry Road; Tempe		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			A&We			PBC				
MG	Centennial Wash	Tributary to the Gila River; west of Hassayampa			A&We			PBC				
MG	Centennial Wash Ponds	33°55'10"/113°23'05"		A&Ww			FBC			FC		AgL
MG	Chaparral Park Lake	Scottsdale		A&Ww				PBC		FC	AgI	
MG	Cortez Park Lake	35th Avenue & Dunlap; Glendale		A&Ww				PBC		FC	AgI	
MG	Desert Breeze Lake	West Chandler		A&Ww				PBC		FC		
MG	Dobson Lake	Dobson Park; Mesa		A&Ww				PBC		FC		
MG	Eldorado Park Lake	Miller Road & Oak Street; Tempe		A&Ww				PBC		FC		
MG	Encanto Park Lake	15th Avenue & Encanto; Phoenix		A&Ww				PBC		FC	AgI	
MG	Galena Gulch	Tributary to the Agua Fria River			A&We			PBC				AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
MG	Gila River	San Carlos Indian Reservation to the Ashurst-Hayden Dam		A&Ww			FBC			FC	AgI	AgL
MG	Gila River	Ashurst-Hayden Dam to the Florence WWTP outfall			A&We			PBC				AgL
MG	Gila River (EDW)	Florence WWTP outfall to Felix Road				A&Wedw		PBC				
MG	Gila River	Felix Road to Gila River Indian Reservation			A&We			PBC				AgL
MG	Gila River (EDW)	Salt River to the Gillespie Dam				A&Wedw		PBC		FC	AgI	AgL
MG	Gila River	Gillespie Dam to Painted Rock Dam		A&Ww			FBC			FC	AgI	AgL
MG	Granada Park Lake	6505 North 20th Street; Phoenix		A&Ww				PBC		FC		
MG	Groom Creek	Tributary to the Hassayampa River	A&Wc				FBC		DWS	FC		
MG	Hank Raymond Lake	33°50'18"/112°16'07"		A&Ww			FBC			FC	AgI	AgL
MG	Hassayampa Lake	34°25'45"/112°25'29"	A&Wc				FBC		DWS	FC		
MG	Hassayampa River	Headwaters to 8 miles south of Wickenburg		A&Ww			FBC			FC	AgI	AgL
MG	Hassayampa River	8 miles south of Wickenburg to the Buckeye Irrigation Company Canal			A&We			PBC				AgL
MG	Hassayampa River	Buckeye Irrigation Company canal to the Gila River		A&Ww			FBC			FC		AgL
MG	Horsethief Lake	34°09'42"/112°17'56"	A&Wc				FBC		DWS	FC		AgL
MG	Indian Bend Wash	Scottsdale		A&Ww				PBC		FC		
MG	Indian Bend Wash Lakes	Scottsdale		A&Ww				PBC		FC		
MG	Indian School Park Lake	Scottsdale		A&Ww				PBC		FC		
MG	Kiwanis Park Lake	6000 South Mill Avenue; Tempe		A&Ww				PBC		FC	AgI	
MG	Lake Pleasant	33°51'15"/112°16'15"		A&Ww			FBC			FC	AgI	AgL
MG	Lion Canyon	Tributary to Weaver Creek		A&Ww			FBC			FC		

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
MG	Little Ash Creek	Tributary to Ash Creek; Prescott National Forest		A&Ww			FBC			FC		AgL
MG	Lynx Creek	Tributary to Lynx Lake		A&Ww			FBC			FC		AgL
MG	Lynx Lake	34°31'08"/112°23'05"	A&Wc				FBC		DWS	FC	AgI	AgL
MG	Martinez Creek	Tributary to the Hassayampa River		A&Ww			FBC			FC	AgI	AgL
MG	McKellips Park Lake	Scottsdale		A&Ww				PBC		FC	AgI	
MG	Mineral Creek	Tributary to the Gila River		A&Ww			FBC			FC		AgL
MG	Minnehaha Creek	Tributary to the Hassayampa River		A&Ww			FBC			FC		AgL
MG	New River	Headwaters to I-17		A&Ww			FBC			FC	AgI	AgL
MG	New River	Below I-17			A&We			PBC				AgL
MG	Painted Rock Reservoir	33°04'15"/113°00'30"		A&Ww			FBC			FC	AgI	AgL
MG	Papago Park Ponds	Galvin Parkway; Phoenix		A&Ww				PBC		FC		
MG	Perry Mesa Tank	34°11'03"/112°01'59"		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"		A&Ww			FBC			FC	AgI	AgL
MG	Poland Creek	Tributary to the Agua Fria; Bradshaw Mtns		A&Ww			FBC			FC		AgL
MG	Queen Creek	Headwaters to the Superior Mining Division discharge outfall		A&Ww				PBC	DWS	FC		AgL
MG	Queen Creek (EDW)	Superior Mining Division discharge outfall to confluence with Potts Canyon				A&Wedw		PBC				
MG	Queen Creek	Potts Canyon to El Camino Viejo Road		A&Ww			FBC			FC		AgL
MG	Queen Creek	Below El Camino Viejo Road			A&We			PBC				AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
MG	Riverview Park Lake	Dobson Road & 8th Street; Mesa		A&Ww				PBC		FC		
MG	Roadrunner Park Lake	36th Street & Cactus; Phoenix		A&Ww				PBC		FC		
MG	Salt River	Granite Reef Dam to 2 km downstream		A&Ww			FBC		DWS	FC	AgI	AgL
MG	Sycamore Creek	Tributary to the Agua Fria River	A&Wc				FBC			FC		AgL
MG	Turkey Creek	Tributary to Black Canyon Creek		A&Ww			FBC			FC	AgI	AgL
MG	Unnamed Wash (EDW)	Gila Bend WWTP outfall to the Gila River				A&Wedw		PBC				
MG	Unnamed Wash (EDW)	Luke Air Force Base WWTP outfall to the Agua Fria River				A&Wedw		PBC				
MG	Unnamed Wash (EDW)	Prescott Valley WWTP outfall to the Agua Fria River				A&Wedw		PBC				
MG	Unnamed Wash (EDW)	Queen Valley Sanitary District WWTP outfall to the confluence with Queen Creek				A&Wedw		PBC				
MG	Vista Del Camino Park North	Scottsdale		A&Ww				PBC		FC		
MG	Vista Del Camino Park South	Scottsdale		A&Ww				PBC		FC		
MG	Weaver Creek	Tributary to Martinez Creek		A&Ww			FBC			FC		
RM	Abbot Canyon	Mule Mountains		A&Ww			FBC		DWS	FC	AgI	AgL
RM	Ash Creek	Chiricahua Mountains	A&Wc				FBC			FC	AgI	AgL
RM	Blackwater Draw	San Bernardino Valley		A&Ww			FBC		DWS	FC	AgI	AgL
RM	Buck Canyon	Chiricahua Mountains		A&Ww			FBC		DWS	FC	AgI	AgL
RM	California Gulch	South of Ruby		A&Ww			FBC			FC		AgL
RM	Dixie Canyon	Mule Mountains		A&Ww			FBC		DWS	FC	AgI	AgL
RM	Dry Canyon	Mule Mountains		A&Ww			FBC		DWS	FC	AgI	AgL
RM	Gadwell Canyon	Mule Mountains		A&Ww			FBC		DWS	FC	AgI	AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
RM	Glance Creek	Mule Mountains		A&Ww			FBC			FC	AgI	AgL
RM	Gold Gulch	Mule Mountains		A&Ww			FBC			FC	AgI	AgL
RM	Holden Canyon Creek	Coronado National Forest		A&Ww			FBC			FC		
RM	Johnson Canyon	Chiricahua Mountains		A&Ww			FBC		DWS	FC	AgI	AgL
RM	Leslie Canyon Creek	Chiricahua Mountains		A&Ww			FBC		DWS	FC		AgL
RM	Mexican Canyon	Mule Mountains		A&Ww			FBC		DWS	FC	AgI	AgL
RM	Mule Gulch	Headwaters to the Bisbee WWTP outfall		A&Ww				PBC		FC	AgI	AgL
RM	Mule Gulch (EDW)	Below the Bisbee WWTP outfall				A&Wedw		PBC				AgL
RM	Ruby Lakes	Near the town of Ruby		A&Ww			FBC			FC		AgL
RM	Rucker Canyon Creek	Chiricahua Mountains	A&Wc				FBC		DWS	FC		AgL
RM	Rucker Canyon Lake	31°46'46"/109°18'30"	A&Wc				FBC			FC		AgL
RM	Soto Canyon	Mule Mountains		A&Ww			FBC		DWS	FC	AgI	AgL
RM	Sycamore Canyon Creek	Coronado National Forest		A&Ww			FBC			FC		AgL
RM	Unnamed Wash (EDW)	Bisbee-Douglas International Airport WWTP outfall to Whitewater Draw				A&Wedw		PBC				
RM	Whitewater Draw	Sulpher Springs Valley		A&Ww			FBC			FC	AgI	AgL
SC	Agua Caliente Lake	Urban Lake; Tucson		A&Ww				PBC		FC		
SC	Agua Caliente Wash	Tributary to Tanque Verde Creek		A&Ww			FBC			FC		AgL
SC	Aguirre Wash	Aguirre Valley			A&We			PBC				
SC	Alambre Wash	Tributary to Brawley Wash			A&We			PBC				
SC	Alamo Wash	Tributary to Rillito Creek			A&We			PBC				
SC	Altar Wash	Altar Valley			A&We			PBC				
SC	Alum Gulch	Headwaters to T22S R16E Sec 19 CBB SW1/4		A&Ww			FBC			FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
SC	Alum Gulch	Below T22S R16E Sec 19 CBA SW1/4			A&We			PBC				AgL
SC	Arivaca Creek	Tributary to Arivaca Lake		A&Ww			FBC			FC		AgL
SC	Arivaca Lake	31°31'50"/111°15'05"		A&Ww			FBC			FC	AgI	AgL
SC	Atterbury Wash	Tributary to Pantano Wash			A&We			PBC				
SC	Bear Grass Tank	31°33'01"/111°11'32"		A&Ww			FBC			FC		AgL
SC	Big Wash	Tributary to Cañada del Oro			A&We			PBC				
SC	Bog Hole Tank	31°28'34"/110°37'07"		A&Ww			FBC			FC		AgL
SC	Brawley Wash	Avra Valley			A&We			PBC				
SC	Cañada del Oro	Headwaters to Highway 89		A&Ww			FBC		DWS	FC	AgI	AgL
SC	Cañada del Oro	Below Highway 89			A&We			PBC				AgL
SC	Cienega Creek	Headwaters to Interstate 10		A&Ww			FBC			FC		AgL
SC	Cienega Creek (U)	Interstate 10 to Del Lago Dam		A&Ww			FBC			FC		AgL
SC	Cienega Creek	Below Del Lago Dam		A&Ww			FBC			FC		AgL
SC	Davidson Canyon	Tributary to Cienega Creek			A&We			PBC				AgL
SC	Empire Gulch	Headwaters to Empire Ranch Spring			A&We			PBC				
SC	Empire Gulch	Below Empire Ranch Spring		A&Ww			FBC			FC		AgL
SC	Flux Canyon	Tributary to Alum Canyon			A&We			PBC				AgL
SC	Fort Lowell Lake	Urban Lake; Tucson		A&Ww				PBC		FC		
SC	Gardner Canyon Creek	Tributary to Cienega Creek		A&Ww			FBC			FC		
SC	Greene Wash	Tributary to the Santa Cruz River			A&We			PBC				
SC	Harshaw Wash	Headwaters to Corral Canyon confluence		A&Ww			FBC			FC		AgL
SC	Harshaw Wash	Below Corral Canyon confluence			A&We			PBC				AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
SC	Hit Tank	32°43'57"/111°03'18"		A&Ww			FBC			FC		AgL
SC	Huachuca Tank	31°21'11"/110°30'12"		A&Ww			FBC			FC		AgL
SC	Julian Wash	Tributary to the Santa Cruz River			A&We			PBC				
SC	Kennedy Lake	Urban Lake; Tucson		A&Ww				PBC		FC		
SC	Lakeside Lake	Urban Lake; Tucson		A&Ww				PBC		FC		
SC	Lemmon Canyon Creek	Tributary to Sabino Canyon Creek	A&Wc				FBC			FC		
SC	Los Robles Wash	Tributary to the Santa Cruz River			A&We			PBC				
SC	Madera Canyon Creek	Tributary to the Santa Cruz River		A&Ww			FBC			FC		AgL
SC	Nogales Wash	Tributary to the Santa Cruz River		A&Ww				PBC			AgI	AgL
SC	Oak Tree Canyon	Tributary to Cienega Creek			A&We			PBC				
SC	Palisade Canyon Creek	Tributary to Sabino Canyon Creek	A&Wc				FBC			FC		
SC	Paradise Lake	Near Arizona City		A&Ww			FBC				AgI	
SC	Pantano Wash	Tributary to Tanque Verde Creek			A&We			PBC				
SC	Parker Canyon Creek	Tributary to Parker Canyon Lake		A&Ww			FBC			FC		
SC	Parker Canyon Lake	31°25'35"/110°27'15"	A&Wc				FBC			FC	AgI	AgL
SC	Patagonia Lake	31°29'30"/110°52'00"	A&Wc				FBC		DWS	FC	AgI	AgL
SC	Peña Blanca Lake	31°24'12"/111°05'04"	A&Wc				FBC			FC	AgI	AgL
SC	Puertocito Wash	Tributary to Altar Wash			A&We			PBC				
SC	Redrock Canyon Creek	Tributary to Sonoita Creek		A&Ww			FBC			FC		
SC	Reid Park Lake	Urban Lake; Tucson		A&Ww				PBC		FC		
SC	Rillito Creek	Tributary to the Santa Cruz River			A&We			PBC				AgL
SC	Romero Canyon Creek	Tributary to Cañada del Oro	A&Wc				FBC			FC		

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
SC	Rose Canyon Creek	Tributary to Rose Canyon Lake		A&Ww			FBC			FC		
SC	Rose Canyon Lake	32°23'13"/110°42'38"	A&Wc				FBC			FC	AgI	AgL
SC	Sabino Canyon Creek	Tributary to Tanque Verde Creek	A&Wc				FBC		DWS	FC	AgI	
SC	Salero Ranch Tank	31°35'42"/110°53'22"		A&Ww			FBC			FC		AgL
SC	Santa Cruz River	Headwaters to the International Boundary		A&Ww			FBC			FC	AgI	AgL
SC	Santa Cruz River	International Boundary to the Nogales International WWTP outfall		A&Ww			FBC		DWS	FC	AgI	AgL
SC	Santa Cruz River (EDW)	Nogales International WWTP outfall to the Tubac Bridge				A&Wedw		PBC				AgL
SC	Santa Cruz River	The Tubac Bridge to Roger Rd WWTP outfall			A&We			PBC				AgL
SC	Santa Cruz River (EDW)	Roger Road WWTP outfall to Baumgartner Road				A&Wedw		PBC				AgL
SC	Santa Cruz River (Wash)	Baumgartner Road to the Gila River Indian Reservation			A&We			PBC				AgL
SC	Santa Cruz River, West Branch	Tributary to the Santa Cruz River			A&We			PBC				AgL
SC	Santa Cruz River, N. Fork	Tributary to the Santa Cruz River			A&We			PBC				
SC	Santa Rosa Wash	Below Papago Indian Reservation			A&We			PBC				
SC	Silver Bell Lake	Urban Lake; Tucson		A&Ww				PBC		FC		
SC	Soldier Lake	32°25'34"/110°44'41"	A&Wc				FBC			FC		AgL
SC	Sonoita Creek	Headwaters to the Patagonia WWTP outfall		A&Ww				PBC		FC	AgI	AgL
SC	Sonoita Creek	Below the Patagonia WWTP outfall		A&Ww			FBC			FC	AgI	AgL
SC	Split Tank	31°28'15"/111°05'15"		A&Ww			FBC			FC		AgL
SC	Sutherland Wash	Tributary to Cañada del Oro			A&We			PBC				
SC	Sycamore Reservoir	32°20'57"/110°44'52"	A&Wc				FBC			FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
SR	Ch											
SC	Tanque Verde Creek	Tributary to Rillito Creek		A&Ww			FBC			FC		AgL
SC	The Lake Tank	32°54'14"/111°04'14"		A&Ww			FBC			FC		AgL
SC	Three R Canyon	Headwaters to bottom of perennial reach		A&Ww			FBC			FC		
SC	Three R Canyon	Bottom of perennial reach to Sonoita Creek			A&We			PBC				
SC	Tinaja Wash	Eastern foothills, Sierrita Mountains			A&We			PBC				AgL
SC	Unnamed Wash (EDW)	Oracle Sanitary District WWTP outfall to 5 km downstream				A&Wedw		PBC				
SC	Vekol Wash	Tributary to Santa Cruz Wash			A&We			PBC				
SC	Williams Ranch Tanks	31°55'15"/110°25'30"		A&Ww			FBC			FC		AgL
SP	Aravaipa Creek	Tributary to the San Pedro River		A&Ww			FBC		DWS	FC		AgL
SP	Babocomari Creek	Tributary to the San Pedro River		A&Ww			FBC			FC		AgL
SP	Bass Canyon Creek	Muleshoe Preserve		A&Ww			FBC			FC		
SP	Bass Canyon Tank	32°24'00"/110°13'00"		A&Ww			FBC			FC		AgL
SP	Blacktail Pond	Fort Huachuca Military Reservation		A&Ww			FBC			FC		
SP	Booger Creek	Tributary to Aravaipa Creek		A&Ww			FBC			FC		AgL
SP	Buehman Canyon Creek	Southeast slope, Santa Catalina Mountains		A&Ww			FBC			FC		AgL
SP	Bull Tank	32°31'15"/110°12'45"		A&Ww			FBC			FC		AgL
SP	Carr Canyon Creek	Tributary to the San Pedro River	A&Wc				FBC			FC		AgL
SP	Copper Creek	Headwaters to Prospect Canyon		A&Ww			FBC			FC		AgL
SP	Copper Creek	Below Prospect Canyon			A&We			PBC				AgL
SP	Deer Creek	Tributary to Aravaipa Creek		A&Ww			FBC			FC		AgL
SP	East Gravel Pit Pond	Fort Huachuca Military Reservation		A&Ww			FBC			FC		
SP	Fly Pond	Fort Huachuca Military Reservation		A&Ww			FBC			FC		

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
SP	Fourmile Creek	Tributary to Aravaipa Creek		A&Ww			FBC			FC		AgL
SP	Garden Canyon Creek	Eastern Slope, Huachuca Mountains		A&Ww			FBC		DWS	FC	AgI	
SP	Golf Course Pond	Fort Huachuca Military Reservation		A&Ww			FBC			FC		
SP	Gravel Pit Pond	Fort Huachuca Military Reservation		A&Ww			FBC			FC		
SP	Hidden Pond	Fort Huachuca Military Reservation		A&Ww			FBC			FC		
SP	Horse Camp Creek	Tributary to Aravaipa Creek		A&Ww			FBC			FC		AgL
SP	Hot Springs Canyon Creek	Muleshoe Preserve		A&Ww			FBC			FC		AgL
SP	Lower Garden Canyon Pond	Fort Huachuca Military Reservation		A&Ww			FBC			FC		
SP	Miller Canyon Creek	Eastern Slope, Huachuca Mountains	A&Wc				FBC		DWS	FC		AgL
SP	Oak Grove Creek	Tributary to Turkey Creek; Aravaipa Basin		A&Ww			FBC			FC		AgL
SP	Officers Club Pond	Fort Huachuca Military Reservation		A&Ww			FBC			FC		
SP	Parsons Creek	Tributary to Aravaipa Creek		A&Ww			FBC			FC		AgL
SP	Ramsey Canyon Creek	Huachuca Mountains	A&Wc				FBC		DWS	FC	AgI	AgL
SP	Rattlesnake Canyon	Tributary to Aravaipa Creek		A&Ww			FBC			FC		AgL
SP	Redfield Canyon Creek	Southwest slope, Galiuro Mountains		A&Ww			FBC			FC		AgL
SP	San Pedro River	U.S./Mexico Border to Redington		A&Ww			FBC			FC	AgI	AgL
SP	San Pedro River	Redington to the Gila River		A&Ww			FBC			FC		AgL
SP	Swamp Springs Canyon Creek	Muleshoe Preserve		A&Ww			FBC			FC		
SP	Sycamore Pond I	Fort Huachuca Military Reservation		A&Ww			FBC			FC		
SP	Sycamore Pond II	Fort Huachuca Military Reservation		A&Ww			FBC			FC		
SP	Turkey Creek	Tributary to Aravaipa Creek		A&Ww			FBC			FC	AgI	AgL
SP	Virgus Creek	Tributary to Aravaipa Creek		A&Ww			FBC			FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
SP	Walnut Gulch (EDW)	Tombstone WWTP outfall to the confluence of Tombstone Gulch				A&Wedw		PBC				
SP	Woodcutters Pond	Fort Huachuca Military Reservation		A&Ww			FBC			FC		
SR	Ackre (Judge) Lake	33°37'00"/109°20'37"	A&Wc				FBC			FC	AgI	AgL
SR	Apache Lake	33°35'30"/111°20'30"	A&Wc				FBC		DWS	FC	AgI	AgL
SR	Barnhardt Creek	Tributary to Rye Creek; Mazatzal Wilderness		A&Ww			FBC			FC		AgL
SR	Basin Lake	33°55'00"/109°26'05"		A&Ww			FBC			FC		AgL
SR	Bear Creek	Tributary to the Black River	A&Wc				FBC			FC	AgI	AgL
SR	Bear Wallow Creek	Tributary to the Black River	A&Wc				FBC			FC	AgI	AgL
SR	Bear Wallow Creek, North Fork	Tributary to Bear Wallow Creek	A&Wc				FBC			FC		AgL
SR	Bear Wallow Creek, South Fork	Tributary to Bear Wallow Creek	A&Wc				FBC			FC		AgL
SR	Beaver Creek	Tributary to the Black River	A&Wc				FBC			FC	AgI	AgL
SR	Big Lake	33°52'45"/109°25'00"	A&Wc				FBC		DWS	FC	AgI	AgL
SR	Black River	Tributary to the Salt River	A&Wc				FBC		DWS	FC	AgI	AgL
SR	Black River, East Fork	Tributary to the Black River	A&Wc				FBC		DWS	FC	AgI	AgL
SR	Black River, N Fork of E Fork	Tributary to Black River, East Fork	A&Wc				FBC		DWS	FC	AgI	AgL
SR	Black River, West Fork	Tributary to the Black River	A&Wc				FBC		DWS	FC	AgI	AgL
SR	Bloody Tanks Wash	Headwaters to Schultze Ranch			A&We			PBC				AgL
SR	Bloody Tanks Wash	Schultze Ranch to Miami Wash			A&We			PBC				
SR	Boggy Creek	Tributary to the Black River	A&Wc				FBC			FC	AgI	AgL
SR	Boneyard Creek	Tributary to Black River, East Fork	A&Wc				FBC			FC	AgI	AgL
SR	Boulder Creek	Tributary to LaBarge Creek		A&Ww			FBC			FC		
SR	Campaign Creek	Tributary to Roosevelt Lake		A&Ww			FBC			FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
SR	Canyon Creek	Tributary to the Salt River	A&Wc				FBC		DWS	FC	AgI	AgL
SR	Canyon Lake	33°33'15"/111°26'30"	A&Wc				FBC			FC	AgI	AgL
SR	Centerfire Creek	Tributary to the Black River	A&Wc				FBC			FC	AgI	AgL
SR	Chambers Draw Creek	Tributary to Black River, N Fork of E Fork	A&Wc				FBC			FC		AgL
SR	Cherry Creek	Tributary to the Salt River	A&Wc				FBC			FC	AgI	AgL
SR	Christopher Creek	Tributary to Tonto Creek	A&Wc				FBC			FC	AgI	AgL
SR	Cold Spring Canyon Creek	Tributary to Cherry Creek	A&Wc				FBC			FC		
SR	Conklin Creek	Tributary to the Black River	A&Wc				FBC			FC	AgI	AgL
SR	Coon Creek	Salt River Canyon Wilderness Area	A&Wc				FBC			FC		AgL
SR	Corduroy Creek	Tributary to Fish Creek, Apache National Forest	A&Wc				FBC			FC	AgI	AgL
SR	Coyote Creek	Tributary to the Black River, East Fork	A&Wc				FBC			FC	AgI	AgL
SR	Crescent Lake	33°54'36"/109°25'08"	A&Wc				FBC			FC	AgI	AgL
SR	Deer Creek	Tributary to the Black River, East Fork	A&Wc				FBC			FC		AgL
SR	Del Shay Creek	Tributary to Gun Creek, Del Shay Basin		A&Ww			FBC			FC		AgL
SR	Devils Chasm Creek	Tributary to Cherry Creek	A&Wc				FBC			FC		
SR	Dipping Vat Reservoir	33°55'54"/109°25'15"		A&Ww			FBC			FC		AgL
SR	Double Cienega Creek	Tributary to Fish Creek	A&Wc				FBC			FC		AgL
SR	Fish Creek	Tributary to the Black River	A&Wc				FBC			FC	AgI	AgL
SR	Fish Creek	Superstition Wilderness Area		A&Ww			FBC			FC		
SR	Gold Creek	Tributary to Tonto Creek		A&Ww			FBC			FC		AgL
SR	Gordon Canyon Creek	Tributary to Haigler Creek		A&Ww			FBC			FC		AgL
SR	Haigler Creek	Tributary to Tonto Creek; Hellsgate Wilderness	A&Wc				FBC			FC	AgI	AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
SR	Hannagan Creek	Tributary to Beaver Creek	A&Wc				FBC			FC		AgL
SR	Hay Creek	Tributary to the Black River, West Fork	A&Wc				FBC			FC		AgL
SR	Home Creek	Tributary to the Black River, West Fork	A&Wc				FBC			FC		AgL
SR	Horse Creek	Tributary to the Black River, West Fork	A&Wc				FBC			FC		AgL
SR	Horse Camp Creek	Tributary to Cherry Creek	A&Wc				FBC			FC		AgL
SR	Horton Creek	Tributary to Tonto Creek	A&Wc				FBC			FC	AgI	AgL
SR	Houston Creek	Tributary to Tonto Creek		A&Ww			FBC			FC		AgL
SR	Hunter Creek	Tributary to Christopher Creek	A&Wc				FBC			FC		AgL
SR	LaBarge Creek	Superstition Wilderness Area		A&Ww			FBC			FC		
SR	Lake Sierra Blanca	33°52'25"/109°16'05"	A&Wc				FBC			FC	AgI	AgL
SR	Miami Wash	Tributary to Pinal Creek			A&We			PBC				
SR	Mule Creek	Tributary to Canyon Creek	A&Wc				FBC		DWS	FC	AgI	AgL
SR	Open Draw Creek	Tributary to the Black River, East Fork	A&Wc				FBC			FC		AgL
SR	P B Creek	Tributary to Cherry Creek	A&Wc				FBC			FC		AgL
SR	Pinal Creek	Headwaters to confluence with unnamed EDW wash (Globe WWTP)			A&We			PBC				AgL
SR	Pinal Creek (EDW)	Below unnamed EDW wash to Radium				A&Wedw		PBC				
SR	Pinal Creek	Radium to Setka Ranch			A&We			PBC				AgL
SR	Pinal Creek	Setka Ranch to Salt River		A&Ww			FBC			FC	AgI	AgL
SR	Pine Creek	Superstition Wilderness Area		A&Ww			FBC			FC		
SR	Pinto Creek	Tributary to the Salt River		A&Ww			FBC			FC	AgI	AgL
SR	Pueblo Canyon Creek	Tributary to Cherry Creek	A&Wc				FBC			FC		AgL
SR	Reavis Creek	Tributary to Pine Creek		A&Ww			FBC			FC		

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
SR	Reservation Creek	Tributary to the Black River	A&Wc				FBC			FC	AgI	AgL
SR	Reynolds Creek	Tributary to Workman Creek	A&Wc				FBC			FC		AgL
SR	Riverview Park Lake	Dobson Road & 8th Street; Mesa		A&Ww				PBC		FC		
SR	Roadrunner Park Lake	36th Street & Cactus; Phoenix		A&Ww				PBC		FC		
SR	Roosevelt Lake	33°40'45"/111°09'15"		A&Ww			FBC		DWS	FC	AgI	AgL
SR	Rye Creek	Tributary to Tonto Creek		A&Ww			FBC			FC		AgL
SR	Saguaro Lake	33°34'00"/111°32'06"	A&Wc				FBC		DWS	FC	AgI	AgL
SR	Salome Creek	Tributary to the Salt River	A&Wc				FBC			FC	AgI	AgL
SR	Salt River	Above Roosevelt Lake		A&Ww			FBC			FC	AgI	AgL
SR	Salt River	Theodore Roosevelt Dam to the Verde River	A&Wc				FBC		DWS	FC	AgI	AgL
SR	Salt River	Confluence of Verde River to Granite Reef Dam		A&Ww			FBC		DWS	FC	AgI	AgL
SR	Salt River	2 km below Granite Reef Dam to I-10 bridge			A&We			PBC				
SR	Salt River	I-10 bridge to the 23rd Ave WWTP outfall		A&Ww				PBC		FC		
SR	Salt River (EDW)	23rd Ave WWTP outfall to confluence with Gila River				A&Wedw		PBC		FC	AgI	AgL
SR	Slate Creek	Tributary to Tonto Creek		A&Ww			FBC			FC		AgL
SR	Spring Creek	Tributary to Tonto Creek	A&Wc				FBC			FC		AgL
SR	Stinky Creek	Tributary to the Black River, West Fork	A&Wc				FBC			FC		AgL
SR	Thomas Creek	Tributary to Beaver Creek	A&Wc				FBC			FC		AgL
SR	Thompson Creek	Tributary to the Black River, West Fork	A&Wc				FBC			FC		AgL
SR	Tonto Creek	Tributary to Roosevelt Lake	A&Wc				FBC			FC	AgI	AgL
SR	Turkey Creek	Tributary to Rock Creek; Sierra Ancha Mtns		A&Ww			FBC			FC		
SR	Unnamed Wash (EDW)	Globe WWTP outfall discharge to Pinal Creek				A&Wedw		PBC				

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
SR	Wildcat Creek	Tributary to Centerfire Creek	A&Wc				FBC			FC		AgL
SR	Willow Creek	Tributary to Beaver Creek	A&Wc				FBC			FC		AgL
SR	Workman Creek	Tributary to Salome Creek	A&Wc				FBC		DWS	FC	AgI	AgL
UG	Apache Creek	Tributary to the Gila River		A&Ww			FBC			FC		AgL
UG	Ash Creek	Tributary to the Gila River	A&Wc				FBC			FC		AgL
UG	Bennett Wash (EDW)	ADOC-Safford WWTP outfall to the Gila River				A&Wedw		PBC				
UG	Bitter Creek	Tributary to the Gila River		A&Ww				PBC		FC		
UG	Blue River	Tributary to the San Francisco River	A&Wc				FBC			FC	AgI	AgL
UG	Bonita Creek (U)	San Carlos Indian Reservation to the Gila River		A&Ww			FBC		DWS	FC		AgL
UG	Buckalou Creek	Tributary to Castle Creek	A&Wc				FBC			FC		AgL
UG	Campbell Blue Creek	Tributary to the upper Blue River	A&Wc				FBC			FC		AgL
UG	Castle Creek	Tributary to Campbell Blue Creek	A&Wc				FBC			FC		AgL
UG	Cave Creek	Eastern slope, Chiricahua Mountains	A&Wc				FBC			FC	AgI	AgL
UG	Cave Creek, South Fork	Tributary to Cave Creek; Chiricahua Mtns	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 Phelps-Dodge Morenci Mine			A&We			PBC				
UG	Chitty Canyon Creek	Tributary to Salt House Creek	A&Wc				FBC			FC		AgL
UG	Cima Creek	Tributary to Cave Creek; Chiricahua Mtns	A&Wc				FBC			FC		AgL
UG	Cluff Ranch Pond #1	32°48'55"/109°49'15"		A&Ww			FBC			FC	AgI	AgL
UG	Cluff Ranch Pond #2	32°49'15"/109°50'33"		A&Ww			FBC			FC	AgI	AgL
UG	Cluff Ranch Pond #3	32°48'20"/109°51'43"		A&Ww			FBC			FC	AgI	AgL
UG	Coleman Creek	Tributary to Campbell Blue Creek	A&Wc				FBC			FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
UG	Dankworth Ponds	32°43'15"/109°42'15"	A&Wc				FBC			FC		
UG	Deadman Canyon Creek	Tributary to the Gila River	A&Wc				FBC		DWS	FC		AgL
UG	Devils Canyon	Tributary to Mineral Creek		A&Ww			FBC			FC		
UG	Eagle Creek	Tributary to the Gila River; below Clifton	A&Wc				FBC		DWS	FC	AgI	AgL
UG	East Eagle Creek	Tributary to Eagle Creek	A&Wc				FBC			FC		AgL
UG	East Turkey Creek	Eastern slope, Chiricahua Mountains	A&Wc				FBC			FC		AgL
UG	Evans Pond	32°49'15"/109°51'15"		A&Ww			FBC			FC		
UG	Fishhook Creek	Tributary to the upper Blue River	A&Wc				FBC			FC		AgL
UG	Foote Creek	Tributary to the upper Blue River		A&Ww			FBC			FC		AgL
UG	Frye Creek	Eastern slope, Pinaleno Mountains	A&Wc				FBC			FC		AgL
UG	Frye Mesa Reservoir	32°45'13"/109°50'00"	A&Wc				FBC		DWS	FC		
UG	Gibson Creek	Tributary to Marijilda Creek	A&Wc				FBC			FC		AgL
UG	Gila River	New Mexico border to the San Carlos Indian Reservation		A&Ww			FBC			FC	AgI	AgL
UG	Grant Creek	Tributary to the upper Blue River	A&Wc				FBC			FC		AgL
UG	Judd Lake	33°51'15"/109°09'15"	A&Wc				FBC			FC		
UG	K P Creek	Tributary to the upper Blue River	A&Wc				FBC		DWS	FC		AgL
UG	Lanphier Canyon Creek	Tributary to the upper Blue River	A&Wc				FBC			FC		AgL
UG	Little Blue Creek	Tributary to the upper Blue River		A&Ww			FBC			FC		AgL
UG	Little Creek	Tributary to the San Francisco River	A&Wc				FBC			FC		
UG	Lower George's Reservoir	Near Alpine	A&Wc				FBC			FC		AgL
UG	Luna Lake	33°49'45"/109°05'15"	A&Wc				FBC			FC		AgL
UG	Marijilda Creek	Tributary to the Gila River	A&Wc				FBC			FC	AgI	AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
UG	Markham Creek	Tributary to the Gila River		A&Ww			FBC			FC		AgL
UG	Pigeon Creek	Tributary to the lower Blue River		A&Ww			FBC			FC		AgL
UG	Raspberry Creek	Tributary to the upper Blue River		A&Ww			FBC			FC		
UG	Roper Lake	32°45'20"/109°42'11"		A&Ww			FBC			FC		
UG	San Francisco River	Headwaters to the New Mexico border	A&Wc				FBC			FC	AgI	AgL
UG	San Francisco River	New Mexico border to the Gila River		A&Ww			FBC			FC	AgI	AgL
UG	San Simon River	Tributary to the upper Gila River			A&We			PBC				AgL
UG	Sheep Tank	32°46'15"/109°48'08"		A&Ww			FBC			FC		AgL
UG	Smith Pond	32°49'09"/109°50'26"		A&Ww			FBC			FC		
UG	Squaw Creek	Tributary to Thomas Creek		A&Ww			FBC			FC		AgL
UG	Stone Creek	Tributary to the San Francisco River	A&Wc				FBC			FC	AgI	AgL
UG	Strayhorse Creek	Tributary to the Blue River	A&Wc				FBC			FC		
UG	Thomas Creek	Tributary to the upper Blue River		A&Ww			FBC			FC		AgL
UG	Tinny Pond	33°47'49"/109°04'23"		A&Ww			FBC			FC		AgL
UG	Turkey Creek	Tributary to Campbell Blue Creek	A&Wc				FBC			FC		AgL
UG	Unnamed Wash (EDW)	ADOC-Globe WWTP outfall to the San Carlos Reservation				A&Wedw		PBC				
UG	Walnut Canyon Creek	Tributary to the upper Gila River		A&Ww			FBC			FC		
UG	White Canyon Creek	Tributary to Walnut Canyon Creek		A&Ww			FBC			FC		
VR	American Gulch	Headwaters to the Northern Gila County Sanitary District WWTP outfall (Payson)		A&Ww			FBC			FC	AgI	AgL
VR	American Gulch (EDW)	Northern Gila County Sanitary District WWTP outfall (Payson) to the East Verde River				A&Wedw		PBC				

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
VR	Apache Creek	Tributary to Walnut Creek		A&Ww			FBC			FC		AgL
VR	Ashbrook Wash	Headwaters to the Ft McDowell Reservation			A&We			PBC				
VR	Aspen Creek	Near Prescott		A&Ww			FBC			FC		
VR	Bar Cross Tank	35°00'40"/112°05'34"		A&Ww			FBC			FC		AgL
VR	Barrata Tank	35°02'43"/112°24'17"		A&Ww			FBC			FC		AgL
VR	Bartlett Lake	33°49'00"/111°37'45"		A&Ww			FBC		DWS	FC	AgI	AgL
VR	Beaver Creek	Tributary to the Verde River	A&Wc				FBC			FC		AgL
VR	Big Chino Wash	Tributary to Sullivan Lake			A&We			PBC				AgL
VR	Bitter Creek	Headwaters to the Jerome WWTP outfall discharge		A&Ww				PBC		FC		AgL
VR	Bitter Creek (EDW)	Jerome WWTP outfall discharge to 2.5 km downstream				A&Wedw		PBC				
VR	Bitter Creek	Below 2.5 km downstream of the Jerome WWTP outfall discharge		A&Ww			FBC			FC	AgI	AgL
VR	Black Canyon Creek	Mingus Mountains		A&Ww			FBC			FC		AgL
VR	Bonita Creek	Tributary to Perley Creek; Tonto National Forest	A&Wc				FBC		DWS	FC		
VR	Bray Creek	Tributary to Webber Creek		A&Ww			FBC			FC		AgL
VR	Carter Tank	34°52'27"/112°57'28"		A&Ww			FBC			FC		AgL
VR	Chase Creek	Tributary to the East Verde River	A&Wc				FBC		DWS	FC		
VR	Clover Creek	Tributary to headwaters of West Clear Creek	A&Wc				FBC			FC		AgL
VR	Dead Horse Lake	34°45'00"/112°00'30"	A&Wc				FBC			FC		
VR	Deadman Creek	Tributary to Horseshoe Reservoir		A&Ww			FBC			FC		AgL
VR	Del Rio Dam Lake	34°48'55"/112°28'00"		A&Ww			FBC			FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
VR	Dry Beaver Creek	Tributary to Beaver Creek		A&Ww			FBC			FC	AgI	AgL
VR	Dude Creek	Tributary to the East Verde River	A&Wc				FBC			FC	AgI	AgL
VR	East Verde River	Tributary to the Verde River	A&Wc				FBC		DWS	FC	AgI	AgL
VR	Ellison Creek	Tributary to the East Verde River	A&Wc				FBC			FC		AgL
VR	Fossil Creek	Tributary to the Verde River		A&Ww			FBC			FC		AgL
VR	Fossil Springs	34°25'24"/111°34'25"		A&Ww			FBC		DWS	FC		
VR	Foxboro Lake	34°53'48"/111°40'00"		A&Ww			FBC			FC		AgL
VR	Fry Lake	35°03'45"/111°48'02"		A&Ww			FBC			FC		AgL
VR	Gap Creek	Tributary to the Verde River; Prescott National Forest	A&Wc				FBC			FC		AgL
VR	Garrett Tank	35°18'57"/112°42'16"		A&Ww			FBC			FC		AgL
VR	Goldwater Lake, Lower	34°29'55"/112°27'18"	A&Wc				FBC		DWS	FC		
VR	Goldwater Lake, Upper	34°29'51"/112°26'55"	A&Wc				FBC		DWS	FC		
VR	Granite Basin Lake	34°37'01"/112°42'16"		A&Ww			FBC			FC	AgI	AgL
VR	Granite Creek	Tributary to the Verde River		A&Ww			FBC			FC	AgI	AgL
VR	Heifer Tank	35°20'28"/112°32'56"		A&Ww			FBC			FC		AgL
VR	Hell Canyon Tank	35°05'00"/112°24'06"		A&Ww			FBC			FC		AgL
VR	Homestead Tank	35°21'23"/112°41'32"		A&Ww			FBC			FC		AgL
VR	Horse Park Tank	34°58'15"/111°36'29"		A&Ww			FBC			FC		AgL
VR	Horseshoe Reservoir	33°59'00"/111°42'30"		A&Ww			FBC			FC	AgI	AgL
VR	J.D. Dam Lake	35°04'01"/112°01'40"	A&Wc				FBC			FC	AgI	AgL
VR	Jacks Canyon Wash (EDW)	Big Park WWTP outfall to Dry Beaver Creek				A&Wedw		PBC				
VR	Lime Creek	Tributary to Horseshoe Reservoir		A&Ww			FBC			FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
VR	McLellan Reservoir	35°13'15"/112°17'05"		A&Ww			FBC			FC	AgI	AgL
VR	Meath Dam Tank	35°07'46"/112°27'35"		A&Ww			FBC			FC		AgL
VR	Mullican Place Tank	34°44'16"/111°36'08"		A&Ww			FBC			FC		AgL
VR	Oak Creek (U)	Tributary to the Verde River	A&Wc				FBC		DWS	FC	AgI	AgL
VR	Oak Creek, West Fork (U)	Tributary to Oak Creek	A&Wc				FBC			FC		AgL
VR	Odell Lake	34°56'02"/111°37'52"	A&Wc				FBC			FC		
VR	Peck's Lake	34°47'07"/112°02'30"	A&Wc				FBC			FC	AgI	AgL
VR	Perkins Tank	35°06'42"/112°04'08"	A&Wc				FBC			FC		AgL
VR	Pine Creek	Tributary to the East Verde River	A&Wc				FBC		DWS	FC	AgI	AgL
VR	Red Lake	35°12'19"/113°03'55"		A&Ww			FBC			FC		AgL
VR	Reservoir #1	35°13'05"/111°50'07"		A&Ww			FBC			FC		
VR	Reservoir #2	35°13'16"/111°50'36"		A&Ww			FBC			FC		
VR	Roundtree Canyon Creek	Tributary to Tangle Creek		A&Ww			FBC			FC		AgL
VR	Scholze Lake	35°11'53"/112°00'31"		A&Ww			FBC			FC		AgL
VR	Spring Creek	Tributary to Oak Creek		A&Ww			FBC			FC	AgI	AgL
VR	Steel Dam Lake	35°13'36"/112°24'51"	A&Wc				FBC			FC		AgL
VR	Stehr Lake	34°21'59"/111°40'00"		A&Ww			FBC			FC		AgL
VR	Stone Dam Lake	35°13'36"/112°24'16"	A&Wc				FBC			FC	AgI	AgL
VR	Stoneman Lake	34°46'44"/111°31'05"	A&Wc				FBC			FC	AgI	AgL
VR	Sullivan Lake	34°51'46"/112°27'41"		A&Ww			FBC			FC	AgI	AgL
VR	Sycamore Creek	Tributary to Verde River; Coconino National Forest	A&Wc				FBC			FC	AgI	AgL
VR	Sycamore Creek	Tributary to Verde River; Tonto National Forest		A&Ww			FBC			FC	AgI	AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
VR	Tangle Creek	Tributary to the Verde River		A&Ww			FBC			FC	AgI	AgL
VR	Trinity Tank	35°27'44"/112°47'56"		A&Ww			FBC			FC		AgL
VR	Verde River	Above Bartlett Dam		A&Ww			FBC			FC	AgI	AgL
VR	Verde River	Below Bartlett Dam		A&Ww			FBC		DWS	FC	AgI	AgL
VR	Watson Lake	34°35'15"/112°25'05"		A&Ww			FBC			FC	AgI	AgL
VR	Webber Creek	Tributary to the East Verde River	A&Wc				FBC			FC		AgL
VR	West Clear Creek	Tributary to the Verde River	A&Wc				FBC			FC		AgL
VR	Wet Beaver Creek	Tributary to Beaver Creek	A&Wc				FBC			FC	AgI	AgL
VR	Whitehorse Lake	35°07'00"/112°00'47"	A&Wc				FBC		DWS	FC	AgI	AgL
VR	Williamson Valley Wash	Headwaters to confluence with Mint Wash			A&We			PBC				AgL
VR	Williamson Valley Wash	Confluence of Mint Wash to 10.5 km dwnstm		A&Ww			FBC			FC		AgL
VR	Williamson Valley Wash	Below 10.5 km downstream of the Mint Wash confluence			A&We			PBC				AgL
VR	Williscraft Tank	35°11'23"/112°35'38"		A&Ww			FBC			FC		AgL
VR	Willow Creek	Tributary to Willow Creek Reservoir	A&Wc				FBC			FC		AgL
VR	Willow Creek Reservoir	34°36'17"/112°26'19"		A&Ww			FBC			FC	AgI	AgL
VR	Willow Valley Lake	34°41'08"/111°19'57"		A&Ww			FBC			FC		AgL
WP	Big Creek	Pinaleno Mountains	A&Wc				FBC			FC		AgL
WP	Goudy Canyon Creek	Pinaleno Mountains	A&Wc				FBC			FC		AgL
WP	Grant Creek	Pinaleno Mountains	A&Wc				FBC		DWS	FC		AgL
WP	High Creek	Galiuro Mountains		A&Ww			FBC			FC		AgL
WP	Moonshine Creek	Tributary to Post Creek	A&Wc				FBC			FC		AgL
WP	Pinery Creek	Chiricahua Mountains		A&Ww			FBC		DWS	FC		AgL

Appendix B: Designated Uses of Arizona Water Bodies

BASIN	SEGMENT	LOCATION	A&Wc	A&Ww	A&We	A&Wedw	FBC	PBC	DWS	FC	AgI	AgL
WP	Post Creek	Tributary to Grant Creek	A&Wc				FBC			FC	AgI	AgL
WP	Riggs Flat Lake	32°42'27"/109°57'51"	A&Wc				FBC			FC	AgI	AgL
WP	Rock Creek	Tributary to Turkey Creek		A&Ww			FBC			FC		AgL
WP	Snow Flat Lake	32°39'09"/109°51'52"	A&Wc				FBC			FC	AgI	AgL
WP	Soldier Creek	Tributary to Post Creek; Coronado National Forest	A&Wc				FBC			FC		AgL
WP	Turkey Creek (formerly in UG)	Western slope, Chiricahua Mountains	A&Wc				FBC			FC	AgI	AgL
WP	Ward Canyon Creek	Tributary to Turkey Creek	A&Wc				FBC			FC		AgL
WP	Wilcox Playa	Sulphur Springs Valley		A&Ww			FBC			FC		AgL

PARAMETERS		DWS[1] (µg/L)	FC[1] (µg/L)	FDC[1] (µg/L)	PDC[1] (µg/L)	A&Wc Acute[2] (µg/L)	A&Wc Chronic[3] (µg/L)	A&Ww Acute[2] (µg/L)	A&Ww Chronic[3] (µg/L)	A&Wedw Acute[2] (µg/L)	A&Wedw Chronic[3] (µg/L)	A&Wo Acute[2] (µg/L)	A&Wo Chronic[3] (µg/L)	AgI[1] (µg/L)	AgL[1] (µg/L)
Acenaphthene		420	2600	8400	8400	850	550	850	550	850	550	NNS	NNS	NNS	NNS
Acenaphthylene		0.003	0.002	0.12	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Acrolein		110	750	1300	1300	34	30	34	30	34	30	NNS	NNS	NNS	NNS
Acrylonitrile	c	0.06	0.64	2.6	1400	3800	250	3800	250	3800	250	NNS	NNS	NNS	NNS
Alachlor	c1	2	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Aldrin	c	0.002	0.0003	0.08	4.2	2.0	NNS	2.0	NNS	2.0	NNS	4.5	NNS	1	1
Ammonia		NNS	NNS	NNS	NNS	b	b	b	b	NNS	NNS	NNS	NNS	NNS	NNS
Anthracene		2100	6300	420000	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Antimony (as Sb)		2.8 T	140 T	56 T	56 T	88 D	30 D	88 D	30 D	1000 D	600 D	NNS	NNS	NNS	NNS
Arsenic (as As)	c2	50 T	3.1 T	50 T	2800 T	360 D	190 D	360 D	190 D	360 D	190 D	440 D	230 D	2000 T	200 T
Asbestos	c	a	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Atrazine		3	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Barium (as Ba)		1000 D	NNS	1000 D	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Benzene	c1	5	120	48	470	2700	180	2700	180	11000	700	NNS	NNS	NNS	NNS
Benzidine	c	0.0002	0.0007	0.006	420	1300	89	1300	89	1300	89	10000	640	0.01	0.01
Benzo (a) anthracene	c	0.003	0.00008	0.12	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Benzo (a) pyrene	c	0.003	0.002	0.12	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Benzo (ghi) perylene		0.003	0.00001	0.12	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Benzo (k) fluoranthene	c	0.003	0.00001	0.12	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
3,4-Benzofluoranthene	c	0.003	0.00004	0.12	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Beryllium (as Be)	c	0.008 T	0.21 T	0.33 T	700 T	65 D	5.3 D	65 D	5.3 D	65 D	5.3 D	NNS	NNS	NNS	NNS
BHC-alpha	c	0.006	0.01	0.22	NNS	1600	130	1600	130	1600	130	1600	130	NNS	NNS
BHC-beta	c	0.02	0.02	0.78	NNS	1600	130	1600	130	1600	130	1600	130	NNS	NNS
BHC-delta	c	NNS	NNS	NNS	NNS	1600	130	1600	130	1600	130	1600	130	NNS	NNS
BHC-gamma (lindane)	c	0.20	0.02	1	2500	2.0	0.08	3.4	0.28	7.6	0.61	11	0.9	NNS	NNS
Bis(2-chloroethoxy) methane		NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Bis(2-chloroethyl) ether	c	0.03	1.4	1.3	NNS	120000	6700	120000	6700	120000	6700	NNS	NNS	NNS	NNS
Bis(2-chloroisopropyl) ether		280	15000	5600	5600	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Bis-(2-ethylhexyl) phthalate	c	2.5	7.4	100	280000	400	360	400	360	400	360	3100	360	NNS	NNS
Boron (as B)		NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	1000 T	NNS
Bromoform		TTHM	80	180	2800	15000	10000	15000	10000	15000	10000	NNS	NNS	NNS	NNS
4-Bromophenyl phenyl ether		NNS	NNS	NNS	NNS	180	14	180	14	180	14	NNS	NNS	NNS	NNS
Butyl benzyl phthalate		1400	5000	28000	28000	1700	130	1700	130	1700	130	NNS	NNS	NNS	NNS
Cadmium (as Cd)		5 T	83 T	70 T	70 T	d D	d D	d D	d D	d D	d D	d D	d D	50 T	50 T
Carbofuran		40	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Carbon tetrachloride	c2	5	5.5	11	8000	18000	1100	18000	1100	18000	1100	NNS	NNS	NNS	NNS
Chlordane[3]		2	0.001	2	110	2.4	0.004	2.4	0.21	2.4	0.21	3.2	0.45	NNS	NNS
Chlorine (Total residual)		NNS	NNS	NNS	NNS	11	5.0	11	5.0	11	5.0	NNS	NNS	NNS	NNS
Chlorobenzene		100	500	2800	2800	9800	620	9800	620	NNS	NNS	NNS	NNS	NNS	NNS
Chlorodibromomethane		TTHM	12	17	2800	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Chloroethane		NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
2-Chloroethyl vinyl ether		NNS	NNS	NNS	NNS	180000	9800	180000	9800	180000	9800	NNS	NNS	NNS	NNS
Chloroform		TTHM	590	230	1400	14000	900	14000	900	14000	900	NNS	NNS	NNS	NNS
2-Chloronaphthalene		560	13000	11000	11000	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
2-Chlorophenol		35	2100	700	700	2200	150	2200	150	2200	150	NNS	NNS	NNS	NNS

PARAMETERS		DWS[1] (µg/L)	FC[1] (µg/L)	FBC[1] (µg/L)	PBC[1] (µg/L)	A&Wc Acute[2] (µg/L)	A&Wc Chronic[3] (µg/L)	A&Ww Acute[2] (µg/L)	A&Ww Chronic[3] (µg/L)	A&Wedw Acute[2] (µg/L)	A&Wedw Chronic[3] (µg/L)	A&We Acute[2] (µg/L)	A&We Chronic[3] (µg/L)	AgI[1] (µg/L)	AgL[1] (µg/L)
3-methyl-4-Chlorophenol		NNS	NNS	NNS	NNS	15	4.7	15	4.7	15	4.7	48000	15000	NNS	NNS
4-Chlorophenyl phenyl ether		NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Chromium (as Cr)		100 T	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	1000 T	1000 T
Chromium (as Cr III)		NNS	67000 T	140000 T	140000 T	e D	e D	e D	e D	e D	e D	e D	e D	NNS	NNS
Chromium (as Cr VI)		NNS	3400 T	700 T	700 T	16 D	11 D	16 D	11 D	16 D	11 D	34 D	23 D	NNS	NNS
Chrysene	c	0.003	0.0001	0.12	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Copper (as Cu)		1000 D	NNS	5200 D	5200 D	f D	f D	f D	f D	f D	f D	f D	f D	5000 T	500 T
Cyanide		140 T	210000 T	3100 T	3100 T	22 T	5.2 T	41 T	9.7 T	41 T	9.7 T	84 T	19 T	NNS	200 T
DDD	c	0.15	0.0009	5.8	NNS	1.1	0.001	1.1	0.02	1.1	0.02	1.1	0.02	0.001	0.001
DDE	c	0.1	0.0006	4.1	NNS	1.1	0.001	1.1	0.02	1.1	0.02	1.1	0.03	0.001	0.001
DDT	c	0.1	0.0005	4.1	700	1.1	0.001	1.1	0.001	1.1	0.001	1.1	0.006	0.001	0.001
Dibenzo (ah) anthracene	c	0.003	0.00003	0.12	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
1,2-Dichlorobenzene		600	2800	13000	13000	790	300	1200	470	1200	470	5900	2300	NNS	NNS
1,3-Dichlorobenzene		94	1200	13000	13000	2500	970	2500	970	2500	970	NNS	NNS	NNS	NNS
1,4-Dichlorobenzene		75	1200	13000	13000	560	210	2000	780	2000	780	6500	2500	NNS	NNS
3,3-Dichlorobenzidine	c	0.08	0.09	3.1	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Dichlorobromomethane		TTHM	10	11	2800	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Dichlorobromopropane	c3	0.2	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
1,1-Dichloroethane		NNS	NNS	14000	14000	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
1,2-Dichloroethane	c4	5	120	15	10000	59000	41000	59000	41000	59000	41000	NNS	NNS	NNS	NNS
1,1-Dichloroethylene	c5	7	4.5	7	1300	15000	950	15000	950	15000	950	NNS	NNS	NNS	NNS
1,2-cis-Dichloroethylene		70	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
1,2-trans-Dichloroethylene		100	13000	2800	2800	68000	3900	68000	3900	68000	3900	NNS	NNS	NNS	NNS
2,4-Dichlorophenol		21	810	420	420	1000	88	1000	88	1000	88	NNS	NNS	NNS	NNS
Dichlorophenoxyacetic acid		70	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
1,2-Dichloropropane	c6	5	NNS	200	200	26000	9200	26000	9200	26000	9200	NNS	NNS	NNS	NNS
1,3-Dichloropropene		2.1	360	60	60	3000	1100	3000	1100	3000	1100	NNS	NNS	NNS	NNS
Dieldrin	c	0.002	0.0002	0.09	7	2.5	0.002	2.5	0.002	2.5	0.005	4.0	0.9	1	1
Diethyl phthalate		5600	110000	110000	110000	26000	1600	26000	1600	26000	1600	NNS	NNS	NNS	NNS
Dimethyl phthalate		70000	2800000	14000000	NNS	17000	1000	17000	1000	17000	1000	NNS	NNS	NNS	NNS
2,4-Dimethylphenol		140	2200	28000	NNS	1000	310	1000	310	1100	310	150000	43000	NNS	NNS
2,4-Dinitrophenol		14	5400	280	280	110	9.2	110	9.2	110	9.2	NNS	NNS	NNS	NNS
2-methyl-4,6-Dinitrophenol		2.7	120	550	NNS	310	24	310	24	310	24	NNS	NNS	NNS	NNS
2,4-Dinitrotoluene	c	0.009	0.02	0.38	NNS	15000	970	15000	970	15000	970	NNS	NNS	NNS	NNS
2,6-Dinitrotoluene		NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
2,3,7,8-TCDD (Dioxin)	c	0.0000002	0.000000004	0.000009	NNS	0.01	0.003	0.01	0.005	0.12	0.01	0.1	0.01	NNS	NNS
1,2-Diphenylhydrazine	c	0.04	0.25	1.8	NNS	130	11	130	11	130	11	NNS	NNS	NNS	NNS
Di-n-butyl phthalate		700	2300	14000	14000	470	35	470	35	470	35	1100	84	NNS	NNS
Di-n-octyl phthalate		NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Endosulfan sulfate		0.35	0.78	70	NNS	0.22	0.06	0.22	0.06	0.22	0.06	3.0	1.5	NNS	NNS
Endosulfan-alpha		0.35	0.92	70	NNS	0.22	0.06	0.22	0.06	0.22	0.06	3.0	1.5	NNS	NNS
Endosulfan-beta		0.35	0.92	70	NNS	0.22	0.06	0.22	0.06	0.22	0.06	3.0	1.5	NNS	NNS
Endrin		0.2	1.1	40	40	0.18	0.002	0.2	0.08	0.2	0.08	0.7	0.3	0.004	0.004
Endrin aldehyde		2.1	0.81	420	NNS	0.18	0.002	0.2	0.08	0.2	0.08	0.7	0.3	NNS	NNS
Ethylbenzene		700	110000	64000	64000	23000	1400	23000	1400	23000	1400	NNS	NNS	NNS	NNS
Ethylene dibromide	c7	0.05	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Fluoranthene		280	130	5600	5600	2000	1600	2000	1600	2000	1600	NNS	NNS	NNS	NNS

PARAMETERS		DWS[1] (µg/L)	FC[1] (µg/L)	FDC[1] (µg/L)	PDC[1] (µg/L)	A&Wo Acute[2] (µg/L)	A&Wc Chronic[3] (µg/L)	A&Ww Acute[2] (µg/L)	A&Ww Chronic[3] (µg/L)	A&Wedw Acute[2] (µg/L)	A&Wedw Chronic[3] (µg/L)	A&Wo Acute[2] (µg/L)	A&Wo Chronic[3] (µg/L)	AgI[1] (µg/L)	AgL[1] (µg/L)
Fluorene		280	580	5600	5600	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Fluoride		4000	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Heptachlor	c8	0.400	0.0002	0.31	20	0.52	0.004	0.52	0.004	0.58	0.013	0.9	0.1	NNS	NNS
Heptachlor epoxide	c8	0.200	0.0001	0.15	2	0.52	0.004	0.52	0.004	0.58	0.013	0.9	0.1	NNS	NNS
Hexachlorobenzene	c	0.02	0.002	0.83	100	6.0	3.7	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Hexachlorobutadiene	c	0.45	0.32	18	280	45	8.2	45	8.2	45	8.2	NNS	NNS	NNS	NNS
Hexachlorocyclopentadiene		49	530	1000	1000	3.5	0.3	3.5	0.3	3.5	0.3	NNS	NNS	NNS	NNS
Hexachloroethane	c	2.5	4.8	100	140	490	330	490	350	490	350	850	610	NNS	NNS
Indeno (1,2,3-cd) pyrene	c	0.003	0.000003	0.12	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Isophorone		8.5	520	340	28000	59000	43000	59000	43000	59000	43000	NNS	NNS	NNS	NNS
Lead (as Pb)		50 T	NNS	NNS	NNS	g D	g D	g D	g D	g D	g D	g D	g D	10000 T	100 T
Manganese (as Mn)		NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	10000	NNS
Mercury (as Hg)		2.1 T	0.6 T	42 T	42 T	2.4 D	0.01 D	2.4 D	0.01 D	2.6 D	0.2 D	5.0 D	2.7 D	NNS	10 T
Methoxychlor		40	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Methyl bromide		9.8	7500	200	200	5500	360	5500	360	5500	360	NNS	NNS	NNS	NNS
Methyl chloride	c	5.7	1800	230	2800	270000	15000	270000	15000	270000	15000	NNS	NNS	NNS	NNS
Methylene chloride	c	4.7	480	190	27000	97000	5500	97000	5500	97000	5500	NNS	NNS	NNS	NNS
Naphthalene		NNS	NNS	560	560	1100	210	3300	600	3300	600	NNS	NNS	NNS	NNS
Nickel (as Ni)		140 T	400 T	2800 T	2800 T	h D	h D	h D	h D	h D	h D	h D	h D	NNS	NNS
Nitrate (as N)		10000	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Nitrate/nitrite (Total as N)		10000	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Nitrite (as N)		1000	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Nitrobenzene		3.5	600	70	70	13000	850	13000	850	13000	850	NNS	NNS	NNS	NNS
2-Nitrophenol		NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
4-Nitrophenol		NNS	NNS	NNS	NNS	4100	3000	4100	3000	4100	3000	NNS	NNS	NNS	NNS
N-nitrosodimethylamine	c	0.0007	2.1	0.03	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
N-nitrosodiphenylamine	c	7.1	12	290	NNS	2900	200	2900	200	2900	200	NNS	NNS	NNS	NNS
N-nitrosodi-n-propylamine	c	0.005	0.51	0.2	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
PCBs	c9	0.5	0.00009	0.18	NNS	2.0	0.01	2.0	0.02	2.0	0.02	11	2.5	0.001	0.001
Pentachlorophenol		210	29000	2000	2000	1	1	1	1	1	1	1	1	NNS	NNS
Phenanthrene		0.003	0.0005	0.12	NNS	30	6.3	30	6.3	54	6.3	NNS	NNS	NNS	NNS
Phenol		4200	6500000	84000	84000	5100	730	7000	1000	7000	1000	180000	26000	NNS	NNS
Pyrene		210	1100	4200	4200	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Selenium (as Se)		50 T	9000	420	420 T	20 T	2.0 T	20 T	2.0 T	50 T	2 T	33 T	2.0 T	20 T	50 T
Silver (as Ag)		NNS	NNS	NNS	NNS	j D	NNS	j D	NNS	j D	NNS D	j D	NNS D	NNS	NNS
Styrene	c9	100	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Sulfides		NNS	NNS	NNS	NNS	100	NNS	100	NNS	100	NNS	100	NNS	NNS	NNS
1,1,2,2-Tetrachloroethane	c	0.17	11	7	450	4700	3200	4700	3200	4700	3200	NNS	NNS	NNS	NNS
Tetrachloroethylene	c10	5.00	11	35	4000	2600	280	6500	680	6500	680	15000	1600	NNS	NNS
Thallium (as Tl)		0.63 T	44 T	3700 T	3700 T	700 D	150 D	700 D	150 D	700 D	150 D	NNS	NNS	NNS	NNS
Toluene		1000	90000	42000	42000	8700	180	8700	180	8700	180	NNS	NNS	NNS	NNS
Toxaphene	c9	3.0	0.0008	3.0	1000	0.73	0.0002	0.73	0.02	0.73	0.02	11	1.5	0.005	0.005
2,4,5-TP (m)		50	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
1,2,4-Trichlorobenzene		NNS	NNS	2800	2800	750	130	1700	300	NNS	NNS	NNS	NNS	NNS	NNS
1,1,1-Trichloroethane		200	160000	13000	13000	2600	1600	2600	1600	2600	1600	NNS	NNS	NNS	NNS
1,1,2-Trichloroethane	c11	0.61	31	25	560	18000	12000	18000	12000	18000	12000	NNS	NNS	NNS	NNS
Trichloroethylene	c12	5.0	78	110	NNS	20000	1300	20000	1300	20000	1300	NNS	NNS	NNS	NNS

PARAMETERS		DWS[1] (µg/L)	FC[1] (µg/L)	FBC[1] (µg/L)	PBC[1] (µg/L)	A&Wc Acute[2] (µg/L)	A&Wc Chronic[3] (µg/L)	A&Ww Acute[2] (µg/L)	A&Ww Chronic[3] (µg/L)	A&Wedw Acute[2] (µg/L)	A&Wedw Chronic[3] (µg/L)	A&We Acute[2] (µg/L)	A&We Chronic[3] (µg/L)	AgI[1] (µg/L)	AgL[1] (µg/L)
2,4,6-Trichlorophenol	c	3.2	4.9	130	NNS	160	25	160	25	160	25	3000	460	NNS	NNS
Trihalomethanes, Total	c	100	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Uranium (as Ur)		35 D	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Vinyl chloride	c13	2.0	620	80	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Xylenes (Total)		10000	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS	NNS
Zinc (as Zn)		5000 T	NNS	28000	28000	k D	k D	k D	k D	k D	k D	k D	k D	10000 T	25000 T

µg/L - micrograms per liter

a - The standard to protect this use is 7 million fibers (longer than 10 micrometers) per liter.

b - Values for ammonia are contained in separate tables located at the end of Appendix A.

c - Indicates that the parameter is a known, probable or possible human carcinogen and that the standards to protect DWS, FC and FBC are based on carcinogenicity. A "c" by itself indicates that the excess cancer risk level for the DWS designated use is 1×10^{-6}. A "c" followed by a number indicates that the excess cancer risk level for the DWS designated use only is greater than 1×10^{-6}. These excess cancer risk levels, multiplied by 10^{-6} are: c1=5; c2=17; c3=67; c4=13; c5=117; c6=10; c7=125; c8=50; c9=100; c10=7; c11=8; c12=2; and c13=133. The excess cancer risk level for the FC and FBC designated uses is 1×10^{-6}.

d - Cadmium -
A&Wc acute standard: $e^{(1.128 [\ln(\text{Hardness})] - 3.828)}$
A&Wc chronic standard: $e^{(0.7852 [\ln(\text{Hardness})] - 3.490)}$
A&Ww acute standard: $e^{(1.128 [\ln(\text{Hardness})] - 2.0149)}$
A&Ww chronic standard: $e^{(0.7852 [\ln(\text{Hardness})] - 3.490)}$
A&Wedw acute standard: $e^{(1.128 [\ln(\text{Hardness})] - 2.0149)}$
A&Wedw chronic standard: $e^{(0.7852 [\ln(\text{Hardness})] - 3.490)}$
A&We acute standard: $e^{(1.128 [\ln(\text{Hardness})] - 0.9691)}$
A&We chronic standard: $e^{(0.7852 [\ln(\text{Hardness})] - 3.490)}$
(See Footnote 4)

e - Chromium III -
A&Wc acute standard: $e^{(0.8190 [\ln(\text{Hardness})] + 3.688)}$
A&Wc chronic standard: $e^{(0.8190 [\ln(\text{Hardness})] + 1.561)}$
A&Ww acute standard: $e^{(0.8190 [\ln(\text{Hardness})] + 3.688)}$
A&Ww chronic standard: $e^{(0.8190 [\ln(\text{Hardness})] + 1.561)}$
A&Wedw acute standard: $e^{(0.8190 [\ln(\text{Hardness})] + 4.9361)}$
A&Wedw chronic standard: $e^{(0.8190 [\ln(\text{Hardness})] + 1.561)}$
A&We acute standard: $e^{(0.8190 [\ln(\text{Hardness})] + 3.688)}$
A&We chronic standard: $e^{(0.8190 [\ln(\text{Hardness})] + 1.561)}$
(See Footnote 4)

f - Copper -
A&Wc acute standard: $e^{(0.9422 [\ln(\text{Hardness})] - 1.464)}$
A&Wc chronic standard: $e^{(0.8545 [\ln(\text{Hardness})] - 1.465)}$
A&Ww acute standard: $e^{(0.9422 [\ln(\text{Hardness})] - 1.464)}$
A&Ww chronic standard: $e^{(0.8545 [\ln(\text{Hardness})] - 1.465)}$
A&Wedw acute standard: $e^{(0.9422 [\ln(\text{Hardness})] - 1.464)}$
A&Wedw chronic standard: $e^{(0.8545 [\ln(\text{Hardness})] - 1.465)}$
A&We acute standard: $e^{(0.9422 [\ln(\text{Hardness})] - 1.1514)}$
A&We chronic standard: $e^{(0.8545 [\ln(\text{Hardness})] - 1.1448)}$
(See Footnote 4)

g - Lead - A&Wc acute standard: $e^{(1.2730\ [\ln(Hardness)] - 1.460)}$
A&Wc chronic standard: $e^{(1.2730\ [\ln(Hardness)] - 4.705)}$
A&Ww acute standard: $e^{(1.2730\ [\ln(Hardness)] - 1.460)}$
A&Ww chronic standard: $e^{(1.2730\ [\ln(Hardness)] - 4.705)}$
A&Wedw acute standard: $e^{(1.2730\ [\ln(Hardness)] - 1.460)}$
A&Wedw chronic standard: $e^{(1.2730\ [\ln(Hardness)] - 4.705)}$
A&We acute standard: $e^{(1.2730\ [\ln(Hardness)] - 0.7131)}$
A&We chronic standard: $e^{(1.2730\ [\ln(Hardness)] - 3.9518)}$
(See Footnote 4)

h - Nickel - A&Wc acute standard: $e^{(0.8460\ [\ln(Hardness)] + 3.3611)}$
A&Wc chronic standard: $e^{(0.8460\ [\ln(Hardness)] + 1.1644)}$
A&Ww acute standard: $e^{(0.8460\ [\ln(Hardness)] + 3.3611)}$
A&Ww chronic standard: $e^{(0.8460\ [\ln(Hardness)] + 1.1644)}$
A&Wedw acute standard: $e^{(0.8460\ [\ln(Hardness)] + 3.3611)}$
A&Wedw chronic standard: $e^{(0.8460\ [\ln(Hardness)] + 1.1644)}$
A&We acute standard: $e^{(0.8460\ [\ln(Hardness)] + 4.4389)}$
A&We chronic standard: $e^{(0.8460\ [\ln(Hardness)] + 2.2417)}$
(See Footnote 4)

i - Pentachlorophenol - A&Wc acute standard: $e^{(1.005\ (pH) - 4.830)}$
A&Wc chronic standard: $e^{(1.005\ (pH) - 5.290)}$
A&Ww acute standard: $e^{(1.005\ (pH) - 4.830)}$
A&Ww chronic standard: $e^{(1.005\ (pH) - 5.290)}$
A&Wedw acute standard: $e^{(1.005\ (pH) - 4.830)}$
A&Wedw chronic standard: $e^{(1.005\ (pH) - 5.290)}$
A&We acute standard: $e^{(1.005\ (pH) - 3.4306)}$
A&We chronic standard: $e^{(1.005\ (pH) - 3.9006)}$
(See Footnote 5)

j - Silver - A&Wc acute standard: $e^{(1.72\ (\ln) - 6.52)}$
A&Ww acute standard: $e^{(1.72\ (\ln) - 6.52)}$
A&Wedw acute standard: $e^{(1.72\ (\ln) - 6.52)}$
A&Ww acute standard: $e^{(1.72\ (\ln) - 6.52)}$
(See Footnote 4)

k - Zinc - A&Wc acute standard: $e^{(0.8473\ (\ln) + 0.860)}$
A&Wc chronic standard: $e^{(0.8473\ (\ln) + 0.761)}$
A&Ww acute standard: $e^{(0.8473\ (\ln) + 0.860)}$
A&Ww chronic standard: $e^{(0.8473\ (\ln) + 0.761)}$
A&Wedw acute standard: $e^{(0.8473\ (\ln) + 0.860)}$
A&Wedw chronic standard: $e^{(0.8473\ (\ln) + 0.761)}$
A&We acute standard: $e^{(0.8473\ (\ln) + 3.1342)}$
A&We chronic standard: $e^{(0.8473\ (\ln) + 3.0484)}$

l - The standard to protect this use is 0.003 µg/1 aldrin/dieldrin.
m - 2,4,5-Trichlorophenoxyacetic acid

1 - The numeric standards to protect this use shall not be exceeded.
2 - Determination of compliance with acute standards shall be as prescribed in R18-11-120(C).
3 - Determination of compliance with chronic standards shall be as prescribed in R18-11-120(C).
4 - Hardness is determined pursuant to the methods specified for the definition of hardness Section 101. Hardness is determined from a sample taken at the same time and place that the sample for the metal is taken. Hardness, expressed as mg/1 $CaCO_3$, is then inserted into the equation where it says "Hardness".
5 - The pH at the time and location that the sample for pentachlorophenol was taken is inserted into the equation where it says "pH".

NNS - No numeric standard.
D - Dissolved
T - Total recoverable
TTHM - Indicates that the chemical is a trihalomethane. See trihalomethanes for DWS standard.

A&Wc - ACUTE

Total Ammonia mg-N/l (or mg NH3-N/liter)

pH	Temperature in Degrees Celsius 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	25	30 and above	pH
6.5	29	28	28	27	27	27	27	26	26	26	25	25	25	25	25	24	24	24	24	24	24	16.6	11.8	6.5
6.6	28	27	27	27	26	26	26	25	25	25	25	24	24	24	24	24	24	23	23	23	23	16.2	11.4	6.6
6.7	27	27	26	26	26	25	25	25	24	24	24	24	23	23	23	23	23	23	23	22	22	15.6	11.1	6.7
6.8	26	25	25	25	24	24	24	24	23	23	23	23	23	22	22	22	22	22	22	22	21	15.0	10.6	6.8
6.9	25	24	24	24	23	23	23	22	22	22	22	22	21	21	21	21	21	21	21	21	20	14.3	10.1	6.9
7.0	23	23	22	22	22	22	21	21	21	21	20	20	20	20.0	19.9	19.7	19.6	19.5	19.4	19.3	19.2	13.4	9.5	7.0
7.1	22	21	21	21	20	20	19.9	19.6	19.5	19.3	19.1	18.9	18.8	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	12.5	8.9	7.1
7.2	19.8	19.6	19.2	19.0	18.8	18.5	18.4	18.1	17.9	17.8	17.6	17.5	17.3	17.2	17.0	16.9	16.8	16.7	16.7	16.6	16.5	11.6	8.2	7.2
7.3	18.0	17.8	17.5	17.3	17.1	16.9	16.7	16.5	16.3	16.2	16.0	15.9	15.8	15.6	15.5	15.4	15.3	15.2	15.2	15.1	15.0	10.6	7.5	7.3
7.4	16.2	16.0	15.7	15.5	15.3	15.1	15.0	14.8	14.6	14.5	14.4	14.3	14.1	14.0	13.9	13.8	13.8	13.7	13.6	13.6	13.5	9.5	6.7	7.4
7.5	14.3	14.1	13.9	13.7	13.6	13.4	13.3	13.1	13.0	12.8	12.7	12.6	12.5	12.4	12.4	12.3	12.2	12.1	12.1	12.1	12.0	8.4	6.0	7.5
7.6	12.5	12.3	12.2	12.0	11.9	11.7	11.6	11.5	11.4	11.2	11.2	11.1	11.0	10.9	10.8	10.8	10.7	10.6	10.6	10.5	10.5	7.4	5.3	7.6
7.7	10.8	10.7	10.5	10.4	10.3	10.1	10.0	9.9	9.8	9.7	9.6	9.6	9.5	9.5	9.3	9.3	9.2	9.2	9.2	9.1	9.1	6.4	4.6	7.7
7.8	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.2	8.1	8.1	8.0	8.0	7.9	7.9	7.9	7.8	7.8	5.5	4.0	7.8
7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.2	7.1	7.0	7.0	6.9	6.9	6.8	6.8	6.7	6.7	6.7	6.7	6.6	6.6	4.7	3.4	7.9
8.0	6.5	6.4	6.4	6.3	6.2	6.1	6.1	6.0	5.9	5.9	5.8	5.8	5.8	5.7	5.7	5.7	5.6	5.6	5.6	5.6	5.6	4.0	2.9	8.0
8.1	5.2	5.1	5.1	5.0	4.9	4.9	4.8	4.8	4.8	4.7	4.7	4.6	4.6	4.6	4.6	4.5	4.5	4.9	4.5	4.5	4.5	3.2	2.3	8.1
8.2	4.2	4.1	4.0	4.0	4.0	3.9	3.9	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	2.6	1.89	8.2
8.3	3.3	3.3	3.2	3.2	3.1	3.1	3.1	3.1	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.1	1.55	8.3
8.4	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.4	2.4	1.71	1.27	8.4
8.5	2.1	2.1	2.1	2.0	2.0	2.0	1.98	1.96	1.95	1.94	1.93	1.92	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.92	1.41	1.05	8.5
8.6	1.68	1.66	1.65	1.63	1.61	1.60	1.59	1.58	1.57	1.56	1.55	1.55	1.54	1.54	1.54	1.54	1.54	1.55	1.55	1.56	1.57	1.16	0.88	8.6
8.7	1.35	1.33	1.32	1.31	1.30	1.29	1.28	1.27	1.26	1.26	1.25	1.25	1.25	1.25	1.25	1.25	1.26	1.26	1.27	1.28	1.29	0.96	0.74	8.7
8.8	1.08	1.07	1.06	1.05	1.04	1.04	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.03	1.03	1.04	1.05	1.06	1.07	0.81	0.63	8.8
8.9	0.87	0.86	0.86	0.85	0.84	0.84	0.84	0.83	0.83	0.83	0.83	0.83	0.84	0.84	0.84	0.85	0.85	0.86	0.87	0.88	0.89	0.69	0.55	8.9
9.0	0.70	0.70	0.69	0.69	0.69	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.69	0.69	0.70	0.70	0.71	0.72	0.73	0.74	0.75	0.59	0.48	9.0

NOTES:

1. pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.
2. If field measured pH and/or temperature values fall between the A&Wc Acute Total Ammonia tabular values, round field measured values according to standard rounding procedures to nearest tabular value to determine ammonia standard.

A&Ww - ACUTE

Total Ammonia mg-N/liter (or mg NH3-N/liter)

Temperature in Degrees Celsius

pH	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	pH
6.5	29	28	28	27	27	27	27	26	26	26	25	25	25	25	25	6.5
6.6	28	27	27	27	26	26	26	25	25	25	25	25	24	24	24	6.6
6.7	27	27	26	26	26	25	25	25	24	24	24	24	23	23	23	6.7
6.8	26	25	25	25	24	24	24	24	23	23	23	23	23	22	22	6.8
6.9	25	24	24	24	23	23	23	22	22	22	22	22	21	21	21	6.9
7.0	23	23	22	22	22	22	21	21	21	21	20	20	20	20	20	7.0
7.1	22	21	21	21	20	20	20	20	19.5	19.3	19.1	18.9	18.8	18.6	18.5	7.1
7.2	20	20	19.2	19.0	18.8	18.5	18.4	18.1	17.9	17.8	17.6	17.5	17.3	17.2	17.0	7.2
7.3	18.0	17.8	17.5	17.3	17.1	16.9	16.7	16.5	16.3	16.2	16.0	15.9	15.8	15.6	15.5	7.3
7.4	16.2	16.0	15.7	15.5	15.3	15.1	15.0	14.8	14.7	14.5	14.4	14.3	14.1	14.0	13.9	7.4
7.5	14.3	14.1	13.9	13.7	13.6	13.4	13.3	13.1	13.0	12.8	12.7	12.6	12.5	12.4	12.4	7.5
7.6	12.5	12.3	12.2	12.0	11.9	11.7	11.6	11.5	11.4	11.3	11.2	11.1	11.0	10.9	10.8	7.6
7.7	10.8	10.7	10.5	10.4	10.3	10.1	10.0	9.9	9.8	9.7	9.6	9.6	9.5	9.5	9.3	7.7
7.8	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.2	8.1	8.1	8.0	7.8
7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.2	7.1	7.0	7.0	6.9	6.9	6.8	6.8	7.9
8.0	6.5	6.4	6.4	6.3	6.2	6.1	6.1	6.0	5.9	5.9	5.8	5.8	5.8	5.7	5.7	8.0
8.1	5.2	5.1	5.1	5.0	4.9	4.9	4.8	4.8	4.8	4.7	4.7	4.6	4.6	4.6	4.6	8.1
8.2	4.2	4.1	4.0	4.0	4.0	3.9	3.9	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.6	8.2
8.3	3.3	3.3	3.2	3.2	3.1	3.1	3.1	3.1	3.0	3.0	3.0	3.0	3.0	2.9	2.9	8.3
8.4	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	8.4
8.5	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.95	1.94	1.93	1.92	1.91	1.90	1.90	8.5
8.6	1.68	1.66	1.65	1.63	1.61	1.60	1.59	1.58	1.57	1.56	1.55	1.55	1.54	1.54	1.54	8.6
8.7	1.35	1.33	1.32	1.31	1.30	1.29	1.28	1.27	1.26	1.26	1.25	1.25	1.25	1.25	1.25	8.7
8.8	1.08	1.07	1.06	1.05	1.04	1.04	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.02	1.02	8.8
8.9	0.87	0.86	0.86	0.85	0.84	0.84	0.84	0.83	0.83	0.83	0.83	0.83	0.84	0.84	0.84	8.9
9.0	0.70	0.70	0.69	0.69	0.69	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.69	0.69	0.70	9.0

NOTES:

1. pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.
2. If field measured pH and/or temperature values fall between the A&Ww Acute Total Ammonia tabular values, round field measured values according to standard scientific rounding procedures to nearest tabular value to determine the ammonia standard.

A&Ww - ACUTE

Total Ammonia mg-N/liter (or mg NH3-N/liter) (cont.)

pH	Temperature in Degrees Celsius 15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 and above	pH
6.5	24	24	24	24	24	24	24	24	24	24	23	22	20	19.1	17.8	16.6	6.5
6.6	24	24	23	23	23	23	23	23	23	23	23	21	20	18.5	17.3	16.1	6.6
6.7	23	23	23	23	22	22	22	22	22	22	22	21	19.2	17.9	16.7	15.6	6.7
6.8	22	22	22	22	22	21	21	21	21	21	21	20	18.4	17.2	16.1	15.0	6.8
6.9	21	21	21	21	21	20	20	20	20	20	20	18.8	17.5	16.4	15.3	14.3	6.9
7.0	20	20	20	19.4	19.3	19.2	19.2	19.1	19.1	19.0	19.0	17.7	16.5	15.4	14.4	13.4	7.0
7.1	18.4	18.3	18.2	18.1	18.0	17.9	17.9	17.8	17.8	17.7	17.7	16.5	15.4	14.4	13.4	12.6	7.1
7.2	16.9	16.8	16.7	16.7	16.6	16.5	16.5	16.4	16.4	16.4	16.3	15.2	14.2	13.3	12.4	11.6	7.2
7.3	15.4	15.3	15.2	15.2	15.1	15.0	15.0	15.0	14.9	14.9	14.9	13.9	12.9	12.0	11.3	10.6	7.3
7.4	13.8	13.8	13.7	13.6	13.6	13.5	13.5	13.5	13.4	13.4	13.4	12.5	11.6	10.9	10.2	9.5	7.4
7.5	12.3	12.2	12.2	12.1	12.1	12.0	12.0	12.0	11.9	11.9	11.9	11.1	10.4	9.7	9.1	8.5	7.5
7.6	10.8	10.7	10.6	10.6	10.5	10.5	10.5	10.4	10.4	10.4	10.5	9.8	9.1	8.5	8.0	7.4	7.6
7.7	9.3	9.2	9.2	9.2	9.1	9.1	9.1	9.1	9.1	9.1	9.1	8.5	7.9	7.4	6.9	6.5	7.7
7.8	8.0	7.9	7.9	7.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.3	6.8	6.4	6.0	5.6	7.8
7.9	6.7	6.7	6.7	6.7	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.2	5.8	5.4	5.1	4.8	7.9
8.0	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.2	4.9	4.6	4.3	4.0	8.0
8.1	4.5	4.5	4.9	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.0	3.7	3.5	3.3	8.1
8.2	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.4	3.2	3.0	2.8	2.7	8.2
8.3	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0	2.8	2.6	2.5	2.3	2.2	8.3
8.4	2.4	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1	2.0	1.90	1.80	8.4
8.5	1.90	1.90	1.90	1.90	1.91	1.92	1.92	1.93	1.95	1.96	1.99	1.86	1.77	1.66	1.57	1.49	8.5
8.6	1.54	1.54	1.55	1.55	1.56	1.57	1.58	1.58	1.60	1.62	1.63	1.55	1.46	1.38	1.31	1.24	8.6
8.7	1.25	1.26	1.26	1.27	1.28	1.29	1.30	1.31	1.33	1.34	1.36	1.29	1.22	1.16	1.10	1.05	8.7
8.8	1.03	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.11	1.12	1.14	1.09	1.03	0.98	0.94	0.90	8.8
8.9	0.85	0.85	0.86	0.87	0.88	0.89	0.91	0.92	0.93	0.95	0.97	0.93	0.88	0.84	0.81	0.77	8.9
9.0	0.70	0.71	0.72	0.73	0.74	0.75	0.77	0.78	0.80	0.81	0.83	0.80	0.76	0.73	0.70	0.68	9.0

NOTES:

1. pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.
2. If field measured pH and/or temperature values fall between the A&Ww Acute Total Ammonia tabular values, round field measured values according to standard scientific rounding procedures to nearest tabular value to determine the ammonia standard.

Appendix B. List of Navigable Waters and Designated Uses

Navigable water	Designated Use
COLORADO MAIN STEM RIVER BASIN	
A-10 Backwater	A&Ww, FBC, FC
A-7 Backwater	A&Ww, FBC, FC
Agate Creek	A&Wc, FBC, DWS, FC
Alamo Lake	A&Ww, FBC, FC
Big Sandy River	A&Ww, FBC, FC, AgL
Big Springs Tank	A&Wc, FBC, FC, AgL
Bill Williams River	A&Ww, FBC, FC, AgL
Blue Tank	A&Ww, FBC, FC, AgL
Boucher Creek	A&Wc, FBC, DWS, FC
Boulder Creek	A&Ww, FBC, FC, AgI, AgL
Bright Angel Creek	A&Wc, FBC, DWS, FC
Bright Angel Wash[1] (Grand Canyon WWTP to Cataract Creek)	A&Wedw, PBC
Bull Rush Canyon Wash	A&We, PBC
Burro Creek[2] (above confluence with Boulder Creek)	A&Ww, FBC, FC, AgL
Cataract Creek (Headwaters to Williams WWTP)	A&Wc, FBC, DWS, FC, AgI, AgL
Cataract Creek[1] (Williams WWTP to 3 km downstream)	A&Wedw, PBC
Cataract Creek (Below 3 km downstream of Williams WWTP)	A&Wc, FBC, FC, AgI, AgL
Cataract Lake	A&Wc, FBC, DWS, FC, AgL
Chuar Creek	A&Wc, FBC, DWS, FC
Cibola Lake	A&Ww, FBC, FC
City Reservoir	A&Ww, FBC, DWS, FC
Clear Creek	A&Wc, FBC, DWS, FC
Colorado River (Lake Powell to Topock)	A&Wc, FBC, DWS, FC, AgI, AgL
Colorado River (Topock to Mexico)	A&Ww, FBC, DWS, FC, AgI, AgL
Coors Lake	A&Ww, FBC, FC
Cottonwood Creek	A&Ww, FBC, DWS
Crystal Creek	A&Wc, FBC, DWS, FC
Deer Creek	A&Wc, FBC, DWS, FC
Detrital Wash	A&We, PBC
Diamond Creek	A&Wc, FBC, FC, AgL
Dogtown Reservoir	A&Wc, FBC, DWS, FC, AgI, AgL
Dragon Creek	A&Ww, FBC, DWS, FC
Francis Creek[2]	A&Ww, FBC, DWS, FC, AgL
Garden Creek	A&Wc, FBC, DWS, FC
Gila River (See listing in Middle Gila River Basin)	
Grand Wash	A&We, PBC
Granite Park Canyon Creek	A&Wc, FBC, FC
Grapevine Creek	A&Wc, FBC, DWS, FC
Grapevine Wash	A&We, PBC
Hakatai Creek	A&Wc, FBC, DWS, FC
Hance Creek	A&Wc, FBC, DWS, FC
Havasu Creek	A&Wc, FBC, DWS, FC, AgI, AgL
Hermit Creek	A&Wc, FBC, DWS, FC
Holy Moses Wash[1] (Kingman WWTP to 5 km downstream)	A&Wedw, PBC
Horn Creek	A&Wc, FBC, DWS, FC
Hualapai Wash	A&Ww, PBC
Hunter's Hole Backwater	A&Ww, FBC, FC
Imperial Reservoir	A&Ww, FBC, DWS, FC, AgI, AgL
Jacob Lake	A&Ww, FBC
Kaibab Lake	A&Wc, FBC, DWS, FC, AgI, AgL
Kaibito Creek	A&Ww, FBC, FC, AgL
Kanab Creek	A&Ww, FBC, DWS, FC, AgL
Kirkland Creek	A&Ww, FBC, FC, AgI, AgL
Kwagunt Creek	A&Wc, FBC, DWS, FC
Laguna Reservoir	A&Ww, FBC, DWS, FC, AgI, AgL
Lake Havasu	A&Ww, FBC, DWS, FC, AgI, AgL
Lake Mead	A&Wc, FBC, DWS, FC, AgI, AgL
Lake Mohave	A&Wc, FBC, DWS, FC, AgI, AgL
Lake Powell	A&Wc, FBC, DWS, FC, AgI, AgL
Lonetree Canyon Creek	A&Ww, PBC, DWS
Martinez Lake	A&Ww, FBC, FC, AgI, AgL
Matkatamiba Creek	A&Wc, FBC, DWS, FC
Mittry Lake	A&Ww, FBC, FC
Mohave Wash	A&We, PBC

Navigable water	Designated Use
COLORADO MAIN STEM RIVER BASIN (cont.)	
Monument Creek	A&Ww, FBC, DWS, FC
Nankoweap Creek	A&Wc, FBC, DWS, FC
National Canyon Creek	A&Wc, FBC, DWS, FC
Navajo Creek	A&Ww, FBC, FC, AgL
North Canyon Creek	A&Wc, FBC, DWS, FC
Olo Creek	A&Ww, FBC, DWS, FC
Paria River	A&Wc, FBC, DWS, FC
Peeple's Canyon Creek[2]	A&Ww, FBC, AgL
Phantom Creek	A&Wc, FBC, DWS, FC
Pipe Creek	A&Wc, FBC, DWS, FC
Pretty Water Lake	A&Ww, FBC, FC
Quigley Ponds	A&Ww, FBC, FC
Red Canyon Creek	A&Ww, FBC, DWS
Redondo Lake	A&Ww, FBC, FC
Roaring Springs Creek	A&Wc, FBC, DWS, FC
Royal Arch Creek	A&Wc, FBC, DWS, FC
Ruby Creek	A&Wc, FBC, DWS, FC
Sacramento Wash	A&We, PBC
Saddle Canyon Creek	A&Wc, FBC, FC
Santa Fe Reservoir	A&Wc, FBC, DWS, FC
Santa Maria River	A&Ww, FBC, FC, AgI, AgL
Sapphire Creek	A&Wc, FBC, DWS, FC
Sawmill Wash	A&Ww, PBC, AgL
Serpentine Creek	A&Wc, PBC, DWS, FC
Shinumo Creek	A&Wc, FBC, DWS, FC
Short Creek	A&We, PBC
Slate Creek	A&Wc, FBC, DWS, FC
Spencer Canyon Creek	A&Wc, FBC, FC
Spring Canyon Creek	A&Wc, FBC, DWS, FC
Stone Creek	A&Wc, FBC, DWS, FC
Tapeats Creek	A&Wc, FBC, DWS, FC
Three Springs Creek	A&Wc, FBC, DWS, FC
Thunder River	A&Wc, FBC, DWS, FC, AgL
Topock Marsh	A&Ww, FBC, DWS, FC, AgI, AgL
Trail Canyon Creek	A&Wc, FBC, DWS, FC
Travertine Falls Creek	A&Wc, FBC, DWS, FC
Trout Creek	A&Ww, FBC, FC, AgL
Turquoise Creek	A&Wc, FBC, DWS, FC
Unkar Creek	A&Wc, FBC, DWS, FC
Unnamed Wash[1] (Grand Canyon, North Rim WWTP to 1 km downstream)	A&Wedw, PBC
Upper City Reservoir	A&Ww, FBC, FC
Vasey's Paradise	A&Wc, FBC, DWS, FC
Virgin River	A&Ww, FBC, FC, AgI, AgL
Vishnu Creek	A&Wc, FBC, DWS, FC
Warm Springs Creek	A&Ww, FBC, DWS
Wellton Canal	DWS, AgI, AgL
Wellton Ponds	A&Ww, FBC, FC
White Creek	A&Ww, FBC, DWS, FC
Wia Manua Park Lake	A&Ww, FBC, FC
YPG Pond	A&Ww, FBC, FC
Yuma Area Canals above municipal water treatment plant intakes	DWS, AgI, AgL
Yuma Area Canals below water treatment plant intakes and all drains	AgI, AgL
LITTLE COLORADO RIVER BASIN	
Antelope Lake	A&Ww, FBC, FC, AgI, AgL
Ashurst Lake	A&Wc, FBC, FC, AgI, AgL
Barbershop Canyon Creek	A&Wc, FBC, FC, AgL
Bear Canyon Creek (Tributary to Blue Ridge Reservoir)	A&Wc, FBC, FC, AgL
Bear Canyon Creek (Tributary to Willow Creek)	A&Wc, FBC, FC, AgL
Bear Canyon Lake	A&Wc, FBC, FC, AgI, AgL
Becker Lake	A&Wc, FBC, FC, AgL
Billy Creek	A&Wc, FBC, FC, AgL
Black Canyon Creek	A&Wc, FBC, FC, AgI, AgL
Black Canyon Lake	A&Wc, FBC, DWS, FC, AgI, AgL
Black Creek (New Mexico Border to Fort Defiance WWTP)	[illegible]

Navigable water	Designated Use
LITTLE COLORADO RIVER BASIN (cont.)	
Black Creek[1] (Fort Defiance WWTP to the Puerco River)	A&Wedw, PBC
Blue Ridge Reservoir	A&Wc, FBC, FC, AgI, AgL
Boot Lake	A&Ww, FBC, AgL
Buck Springs Canyon Creek	A&Wc, FBC, FC, AgL
Bunch Reservoir	A&Wc, FBC, FC, AgI, AgL
Camillo Tank	A&Ww, FBC, AgL
Carnero Lake	A&Wc, FBC, FC, AgL
Chevelon Canyon Lake	A&Wc, FBC, FC, AgI, AgL
Chevelon Creek	A&Wc, FBC, FC, AgI, AgL
Chevelon Creek, West Fork	A&Wc, FBC, FC, AgL
Chilson Tank	A&Ww, FBC, AgL
Cholla Lake	A&Ww, FBC, FC, AgL
Clear Creek	A&Wc, FBC, DWS, FC, AgL
Clear Creek Reservoir	A&Wc, FBC, FC, AgI, AgL
Coconino Reservoir	A&Wc, FBC, FC, AgI, AgL
Colter Creek	A&Wc, FBC, FC, AgL
Colter Reservoir	A&Wc, FBC, FC, AgL
Concho Creek	A&Ww, FBC, FC, AgL
Concho Lake	A&Wc, FBC, FC, AgI, AgL
Cow Lake	A&Ww, FBC, AgL
Coyote Creek	A&Wc, FBC, FC, AgI, AgL
Crisis Lake (Snake Tank #2)	A&Ww, FBC, AgL
Dane Canyon Creek	A&Wc, FBC, FC, AgL
Daves Tank	A&Ww, FBC, AgL
Deep Lake	A&Ww, FBC, AgL
Dry Lake[1]	A&Wedw
East Clear Creek	A&Wc, FBC, FC, AgI, AgL
Fish Creek	A&Wc, FBC, FC
Fool's Hollow Lake	A&Wc, FBC, FC, AgL
Ganado Lake	A&Ww, FBC, FC, AgI
General Springs Creek	A&Wc, FBC, FC, AgL
Hall Creek	A&Wc, FBC, FC, AgI, AgL
Hart Canyon Creek	A&Wc, FBC, FC, AgL
Hidden Lake	A&Ww, FBC, FC, AgI, AgL
Horse Lake	A&Ww, FBC, AgL
Huffer Tank	A&Ww, FBC, FC, AgL
Hulsey Creek	A&Wc, FBC, FC
Hulsey Lake	A&Wc, FBC, FC
Jack's Canyon Creek	A&Ww, FBC, FC, AgI, AgL
Kinnikinick Lake	A&Wc, FBC, FC, AgL
Knoll Lake	A&Wc, FBC, FC, AgL
Lake Humphreys[1]	A&Wedw, PBC
Lake Mary, lower	A&Wc, FBC, FC, AgL
Lake Mary, upper	A&Wc, FBC, DWS, FC, AgL
Lake of the Woods	A&Wc, FBC, FC, AgI, AgL
Lee Valley Creek	A&Wc, FBC, FC, AgL
Lee Valley Reservoir	A&Wc, FBC, FC, AgI, AgL
Leonard Canyon Creek	A&Wc, FBC, FC, AgL
Leonard Canyon Creek, East Fork	A&Wc, FBC, FC, AgL
Leonard Canyon Creek, Middle Fork	A&Wc, FBC, FC, AgL
Leonard Canyon Creek, West Fork	A&Wc, FBC, FC, AgL
Little Colorado River (Below Lyman Reservoir)	A&Ww, FBC, DWS, FC, AgI, AgL
Little Colorado River (West Fork below Government Springs)	A&Wc, FBC, FC, AgI, AgL
Little Colorado River[2] (West Fork above Government Springs)	A&Wc, FBC, FC
Little Colorado River, East Fork	A&Wc, FBC, FC, AgI, AgL
Little Colorado River, South Fork	A&Wc, FBC, FC, AgI, AgL
Little George Reservoir	A&Ww, FBC, FC, AgI
Little Mormon Lake	A&Ww, FBC, FC, AgI, AgL
Little Ortega Lake	A&Ww, FBC, FC
Long Lake, lower	A&Wc, FBC, FC, AgI, AgL
Long Lake, upper	A&Ww, FBC, AgL
Long Tom Tank	A&Wc, FBC, FC, AgL
Lower Walnut Canyon Lake[1]	A&Wedw, PBC
Lyman Reservoir	A&Wc, FBC, FC, AgI, AgL
Marnie Creek	A&Wc, FBC, FC, AgI, AgL

Navigable water	Designated Use
LITTLE COLORADO RIVER BASIN (cont.)	
Marshall Lake	A&Wc, FBC, FC, AgL
Merritt Draw Creek	A&Wc, FBC, FC, AgL
Mexican Hay Lake	A&Wc, FBC, FC, AgI, AgL
Milk Creek	A&Wc, FBC, FC
Miller Canyon Creek	A&Wc, FBC, FC, AgL
Miller Canyon Creek, East Fork	A&Wc, FBC, FC, AgL
Mineral Creek	A&Wc, FBC, FC, AgI, AgL
Mormon Lake	A&Wc, FBC, DWS, FC, AgI, AgL
Morton Lake	A&Wc, FBC, FC, AgL
Mud Lake	A&Ww, FBC, AgL
Ned Lake[1]	A&Wedw, PBC,
Nelson Reservoir	A&Wc, FBC, FC, AgI, AgL
Nutrioso Creek	A&Wc, FBC, FC, AgI, AgL
Paddy Creek	A&Wc, FBC, FC
Pasture Canyon Lake	A&Ww, FBC, FC, AgI
Phoenix Park Wash	A&We, PBC
Pine Tank	A&Ww, FBC, AgL
Pintail Lake[1]	A&Wedw, PBC
Porter Creek	A&Wc, FBC, FC
Potato Lake	A&Wc, FBC, AgL
Pratt Lake	A&Wc, FBC, FC
Puerco River	A&Ww, FBC, AgI, AgL
Quarter Circle Bar Tank	A&Ww, FBC, AgL
Rainbow Lake	A&Wc, FBC, FC, AgI, AgL
Red Lake	A&Ww, FBC, FC, AgI
Rio de Flag[1]	A&Wedw, PBC
River Reservoir	A&Wc, FBC, FC, AgI, AgL
Rogers Reservoir	A&Ww, FBC, AgL
Russell Tank	A&Wc, FBC, FC, AgL
Sawmill Lakes	A&Ww, FBC, FC, AgI, AgL
Scott's Reservoir	A&Wc, FBC, FC, AgI, AgL
Show Low Creek	A&Wc, FBC, FC, AgI, AgL
Show Low Lake	A&Wc, FBC, FC, AgI, AgL
Silver Creek	A&Wc, FBC, FC, AgI, AgL
Soldiers Annex Lake	A&Wc, FBC, FC, AgI, AgL
Soldiers Lake	A&Wc, FBC, FC, AgI, AgL
Spaulding Tank	A&Ww, FBC, FC, AgL
Sponseller Lake	A&Ww, FBC
St. Johns Reservoir (Little Reservoir)	A&Ww, FBC, FC, AgI, AgL
Telephone Lake[1]	A&Wedw, PBC,
Trout Lake	A&Ww, FBC, FC, AgL
Tunnel Lake	A&Wc, FBC, FC, AgI, AgL
Turkey Creek	A&Wc, FBC, FC, AgL
Vail Lake	A&Wc, FBC, AgL
Walnut Creek	A&Wc, FBC, FC
Water Canyon Creek	A&Ww, FBC, FC, AgL
Whipple Lake	A&Ww, FBC, FC, AgL
White Mountain Lake	A&Wc, FBC, FC, AgI, AgL
White Mountain Reservoir	A&Wc, FBC, FC, AgI, AgL
Willow Creek	A&Wc, FBC, FC, AgL
Willow Springs Creek	A&Wc, FBC, FC, AgL
Willow Springs Lake	A&Wc, FBC, FC, AgI, AgL
Woodland Reservoir	A&Wc, FBC, FC, AgI, AgL
Woods Canyon Creek	A&Wc, FBC, FC
Woods Canyon Lake	A&Wc, FBC, DWS, FC, AgI, AgL
Zuni River	A&Ww, FBC, AgI, AgL
MIDDLE GILA RIVER BASIN	
Agua Fria River (Above confluence with unnamed wash receiving treated wastewater from Prescott Valley WWTP)	A&We, PBC, AgI, AgL
Unnamed wash (From Prescott Valley WWTP to confluence with Agua Fria River)	A&Wedw, PBC
Agua Fria River (Below confluence with unnamed wash receiving treated wastewater from Prescott Valley WWTP to State Route 169)	A&Wedw, PBC, AgI, AgL
Agua Fria River (State Route 169 to Lake Pleasant)	A&Ww, FBC, DWS, FC, AgI, AgL

Navigable Water	Designated Use
MIDDLE GILA RIVER BASIN (cont.)	
Agua Fria River (Lake Pleasant to the Surprise WWTP)	A&Ww, FBC, FC, AgI, AgL
Agua Fria River[1] (Surprise WWTP to Camelback Road)	A&Wedw, PBC
Agua Fria River (Camelback Road to Avondale WWTP)	A&Ww, PBC, AgI, AgL
Agua Fria River[1] (Avondale WWTP to Gila River confluence)	A&Wedw, PBC
Antelope Creek	A&Ww, PBC, AgI, AgL
Ash Creek	A&Ww, FBC, FC, AgI, AgL
Beehive Tank	A&Ww, FBC, AgL
Big Bug Creek	A&Ww, FBC, FC, AgI, AgL
Black Canyon Creek	A&Ww, FBC, AgI, AgL
Blind Indian Creek	A&Ww, FBC, FC, AgI, AgL
Cave Creek (Headwaters to Cave Creek Dam)	A&Ww, FBC, FC, AgL
Cave Creek (Cave Creek Dam to the Arizona Canal)	A&We, PBC
Centennial Wash	A&We, PBC
Centennial Wash Ponds	A&Ww, FBC, AgL
Galena Gulch	A&Ww, PBC, AgL
Gila River (Ashurst-Hayden Dam to the Florence WWTP)	A&Ww, FBC, FC, AgL
Gila River[1] (Florence WWTP to Felix Road)	A&Wedw, PBC
Gila River (Felix Road to the Salt River)	A&Ww, PBC, AgL
Gila River[1] (Salt River to the Gillespie Dam)	A&Wedw, PBC, FC, AgI, AgL
Gila River (Gillespie Dam to the Painted Rock Dam)	A&Ww, FBC, FC, AgI, AgL
Gila River (Painted Rock Dam to the Colorado River)	A&Ww, PBC, AgI, AgL
Groom Creek	A&Wc, FBC, DWS, FC.
Hank Raymond Lake	A&Ww, FBC, FC, AgI, AgL
Hassayampa Lake	A&Wc, FBC, DWS,
Hassayampa River (Headwaters to 8 miles south of Wickenburg)	A&Ww, FBC, FC, AgI, AgL
Hassayampa River (from 8 miles south of Wickenburg to the Buckeye Irrigation Company canal)	A&We, PBC
Hit Tank	A&Ww, FBC, AgL
Horsethief Basin Lake	A&Wc, FBC, DWS, FC, AgL
Lake Pleasant	A&Ww, FBC, FC, AgI, AgL
Little Ash Creek	A&Ww, FBC, FC, AgL
Lynx Creek	A&Ww, PBC, AgL
Lynx Lake	A&Wc, FBC, DWS, FC, AgI, AgL
Martinez Creek	A&Ww, FBC, FC, AgI, AgL
New River	A&Ww, FBC, FC, AgI, AgL
Painted Rock Lake	A&Ww, FBC, AgI, AgL
Painted Rock Reservoir	A&Ww, FBC, FC, AgI, AgL
Perry Mesa Tank	A&Ww, FBC, AgL
Picacho Reservoir	A&Ww, FBC, FC, AgI, AgL
Queen Creek (Headwaters to the Superior WWTP)	A&Ww, PBC, DWS, AgL
Queen Creek[1] (Superior WWTP to Potts Canyon)	A&Wedw, PBC
Queen Creek (Below Potts Canyon)	A&Ww, PBC, AgL
Sycamore Creek	A&Wc, FBC, FC, AgL
Turkey Creek	A&Ww, FBC, AgI, AgL
Unnamed Wash[1] (Gila Bend WWTP to the Gila River)	A&Wedw, PBC
Unnamed Wash[1] (Luke Air Force Base WWTP to the Agua Fria River)	A&Wedw, PBC
Unnamed Wash[1] (Queen Valley WWTP to Queen Creek)	A&Wedw, PBC
RED LAKE BASIN	
Red Lake	A&Ww, FBC
Rock Canyon Creek	A&We, PBC
Truxton Wash	A&We, PBC
Wright Canyon Creek	A&We, PBC
RIO MAGDALENA BASIN	
Holden Canyon Creek	A&Ww, PBC
Sycamore Canyon Creek	A&Ww, FBC, AgL
RIO SONOITA BASIN	
San Simon Wash	A&We, PBC
Vamori Wash	A&We, PBC
RIO YAQUI BASIN	
Abbot Canyon	A&Ww, FBC, DWS, AgI, AgL
Blackwater Draw	A&Ww, FBC, DWS, AgI, AgL

Navigable water	Designated Use
RIO YAQUI BASIN (cont.)	
Buck Canyon	A&Ww, FBC, DWS, AgI, AgL
Dixie Canyon	A&Ww, FBC, DWS, AgI, AgL
Dry Canyon	A&Ww, FBC, DWS, AgI, AgL
Gadwell Canyon	A&Ww, FBC, DWS, AgI, AgL
Glance Creek	A&Ww, FBC, AgI, AgL
Gold Gulch	A&Ww, FBC, AgI, AgL
Johnson Canyon	A&Ww, FBC, DWS, AgI, AgL
Leslie Creek	A&Ww, FBC, DWS, FC, AgL
Mexican Canyon	A&Ww, FBC, DWS, AgI, AgL
Mule Gulch (Headwaters to Bisbee WWTP)	A&Ww, PBC, AgI, AgL
Mule Gulch[1] (Below Bisbee WWTP)	A&Wedw, PBC, AgL
Rucker Canyon Creek	A&Wc, FBC, DWS, FC, AgL
Rucker Canyon Lake	A&Wc, FBC, FC, AgL
Soto Canyon	A&Ww, FBC, DWS, AgI, AgL
Unnamed Wash[1] (Bisbee-Douglas International Airport WWTP to Whitewater Draw)	A&Wedw, PBC
Whitewater Draw	A&Ww, FBC, FC, AgI, AgL
SALT RIVER BASIN	
A-1 Lake	A&Wc, FBC, FC, AgI, AgL
Ackre (Judge) Lake	A&Wc, FBC, FC, AgI, AgL
Alvord Park Lake[3]	A&Ww, PBC, FC
Apache Lake	A&Wc, FBC, DWS, FC, AgI, AgL
Arlington Canal (above Wilson Avenue)	AgL
B.S. Gap Tank	A&Ww, FBC, FC, AgL
Ball Tank	A&Ww, FBC, FC, AgL
Basin Creek	A&Wc, FBC, FC
Baskin Tank	A&Ww, FBC, FC, AgL
Bear Cienega Creek	A&Wc, FBC, FC
Bear Creek	A&Wc, FBC, FC, AgI, AgL
Bear Wallow Creek	A&Wc, FBC, FC, AgI, AgL
Bear Wallow Creek, North Fork	A&Wc, FBC, FC
Bear Wallow Creek, South Fork	A&Wc, FBC, FC
Beaver Creek	A&Wc, FBC, FC, AgI, AgL
Becker Creek	A&Wc, FBC, FC, AgI, AgL
Big Bonito Creek	A&Wc, FBC, FC, AgI, AgL
Big Lake	A&Wc, FBC, DWS, FC, AgI, AgL
Black River	A&Wc, FBC, DWS, FC, AgI, AgL
Black River, East Fork	A&Wc, FBC, DWS, FC, AgI, AgL
Black River, North Fork of East Fork	A&Wc, FBC, DWS, FC, AgI, AgL
Black River, West Fork	A&Wc, FBC, DWS, FC, AgI, AgL
Bloody Tanks Wash (Headwaters to Schultze Ranch)	A&We, PBC, AgL
Bloody Tanks Wash (Schultze Ranch to Miami Wash)	A&We, PBC
Blue Lake	A&Wc, FBC, FC, AgL
Bobcat Tank	A&Ww, FBC, FC, AgL
Bog Creek	A&Wc, FBC, FC
Bog Tank	A&Wc, FBC, FC, AgI, AgL
Boggy Creek	A&Wc, FBC, FC, AgI, AgL
Boneyard Creek	A&Wc, FBC, FC, AgI, AgL
Bonsall Park Lake[3]	A&Ww, PBC, FC
Bootleg Lake	A&Wc, FBC, FC, AgI, AgL
Canal Park Lake[3]	A&Ww, PBC, FC
Canyon Creek	A&Wc, FBC, DWS, FC, AgI, AgL
Canyon Lake	A&Wc, FBC, FC, AgI, AgL
Carrizo Creek	A&Wc, FBC, FC, AgI, AgL
Cedar Creek	A&Ww, FBC, AgI, AgL
Centerfire Creek	A&Wc, FBC, FC, AgI, AgL
Chambers Draw Creek	A&Wc, FBC, FC
Chaparral Park Lake[3]	A&Ww, PBC, FC, AgI
Cherry Creek	A&Wc, FBC, FC, AgI, AgL
Chino Tank	A&Ww, FBC, FC, AgI, AgL
Christmas Tree Lake	A&Wc, FBC, FC, AgI, AgL
Christopher Creek	A&Wc, FBC, FC, AgI, AgL
Cibecue Creek	A&Wc, FBC, FC, AgI, AgL
Clover Tank	

Navigable water	Designated Use
SALT RIVER BASIN (cont.)	
Cold Springs Canyon Creek	A&Ww, FBC, FC
Conklin Creek	A&Wc, FBC, FC, AgI, AgL
Cooley Lake	A&Wc, FBC, FC, AgI, AgL
Coon Creek	A&Ww, FBC
Corduroy Creek	A&Wc, FBC, FC, AgI, AgL
Corn Tank	A&Ww, FBC, FC, AgI, AgL
Cortez Park Lake[3]	A&Ww, PBC, FC, AgI
Coyote Creek	A&Wc, FBC, FC, AgI, AgL
Crescent Lake	A&Wc, FBC, FC, AgI, AgL
Crooked Creek	A&Wc, FBC, FC, AgI, AgL
Cyclone Lake	A&Wc, FBC, FC, AgI, AgL
Deep Creek	A&Wc, FBC, FC, AgI, AgL
Deer Creek	A&Wc, FBC, FC
Deer Tank	A&Ww, FBC, FC, AgL
Desert Breeze Lake[3]	A&Ww, PBC, FC
Devil's Chasm Creek	A&Wc, FBC, FC
Diamond Creek	A&Wc, FBC, FC, AgI, AgL
Dobson Lake[3]	A&Ww, PBC, FC
Double Cienega Creek	A&Wc, FBC, FC
Drift Fence Lake	A&Wc, FBC, FC, AgI, AgL
Earl Creek	A&Wc, FBC, FC, AgI, AgL
Earl Park Lake	A&Wc, FBC, FC, AgI, AgL
East Bonito Praire Tank	A&Ww, FBC, FC, AgL
East Deer Tank	A&Ww, FBC, FC, AgL
Eldorado Park Lake[3]	A&Ww, PBC, FC
Elwood Tank	A&Ww, FBC, FC, AgL
Encanto Park Lake[3]	A&Ww, PBC, FC, AgI
Fish Creek	A&Wc, FBC, FC, AgI, AgL
Flash Creek	A&Wc, FBC, FC, AgI, AgL
George's Basin Lake	A&Ww, FBC, FC, AgI, AgL
Glade Tank	A&Ww, FBC, FC, AgL
Gold Creek	A&Ww, FBC
Gomez Creek	A&Wc, FBC, DWS, FC, AgI, AgL
Gooseberry Creek	A&Wc, FBC, DWS, FC, AgI, AgL
Gordon Canyon Creek	A&Ww, FBC, FC
Granada Park Lake[3]	A&Ww, PBC, FC
Haigler Creek	A&Wc, FBC, FC, AgI, AgL
Halfway Tank	A&Ww, FBC, FC, AgL
Hannagan Creek	A&Wc, FBC, FC, AgL
Hawley Lake	A&Wc, FBC, FC, AgI, AgL
Hay Creek	A&Wc, FBC, FC
Herrington Tank	A&Ww, FBC, FC, AgL
Highway Tank	A&Ww, FBC, FC, AgL
Home Creek	A&Wc, FBC, FC
Horse Creek	A&Wc, FBC, FC
Horseshoe Cienega Lake	A&Wc, FBC, FC, AgI, AgL
Horseshoe Creek	A&Wc, FBC, FC
Horton Creek	A&Wc, FBC, FC, AgI, AgL
Houston Creek	A&Ww, FBC, FC, AgL
Hunter Creek	A&Wc, FBC, FC, AgL
Hurricane Creek	A&Wc, FBC, FC
Hurricane Lake	A&Wc, FBC, FC, AgI, AgL
Indian Bend Wash	A&Ww, PBC, FC
Indian Bend Wash Lakes[3]	A&Ww, PBC, FC
Indian School Park Lake[3]	A&Ww, PBC, FC
Kiwanis Park Lake[3]	A&Ww, PBC, FC, AgI
Lake Sierra Blanca	A&Wc, FBC, FC, AgI, AgL
Little Bonito Creek	A&Wc, FBC, FC, AgI, AgL
Little Diamond Creek	A&Wc, FBC, FC, AgI, AgL
Lofer Cienega Creek	A&Wc, FBC, FC, AgI, AgL
Lost Basin Tank	A&Ww, FBC, FC, AgL
Lost Mule Tank	A&Ww, FBC, FC, AgL
Martin Luther Tank	A&Ww, FBC, FC, AgL
McDonald Tank	A&Ww, FBC, FC, AgL
McKellins Park Lake[3]	

Navigable water	Designated Use
SALT RIVER BASIN (cont.)	
McNary Mill Pond	A&Wc, FBC, DWS, FC, AgI, AgL
Miami Wash	A&We, PBC
Moon Creek	A&Wc, FBC, FC, AgI, AgL
Morman Tank	A&Ww, FBC, FC, AgL
Mule Creek	A&Wc, FBC, DWS, FC, AgI, AgL
Nash Creek Reservoir	A&Wc, FBC, FC, AgI, AgL
Navajo Pit Tank	A&Ww, FBC, FC, AgI, AgL
North Bonito Praire Tank	A&Ww, FBC, FC, AgL
Open Draw Creek	A&Wc, FBC, FC
Ord Creek	A&Wc, FBC, FC, AgI, AgL
Pacheta Creek	A&Wc, FBC, FC, AgI, AgL
Pacheta Lake	A&Wc, FBC, FC, AgI, AgL
Paddy Creek	A&Wc, FBC, FC, AgL
Papago Park Ponds[3]	A&Ww, PBC, FC
Paradise Creek	A&Wc, FBC, FC, AgI, AgL
Perry Creek	A&Wc, FBC, FC, AgL
Phillips Park Tank	A&Ww, FBC, FC, AgL
Phoenix Area Canals (Granite Reef Dam to municipal WTP)	DWS, AgI, AgL
Phoenix Area Canals (Below WTP intakes and all other locations)	AgI, AgL
Pickett Corral Tank	A&Ww, FBC, FC, AgL
Pinal Creek (Headwaters to Globe WWTP)	A&We, PBC, AgI, AgL
Pinal Creek[1] (Globe WWTP to Radium)	A&Wedw, PBC
Pinal Creek (Radium to Setka Ranch)	A&We, PBC, AgI, AgL
Pinal Creek (Setka Ranch to the Salt River)	A&Ww, FBC, FC, AgI, AgL
Pinto Creek	A&Ww, FBC, FC, AgI, AgL
Pole Corral Tank	A&Ww, FBC, FC, AgL
Powerline Tank	A&Ww, FBC, AgL
Pueblo Canyon Creek	A&Wc, FBC, FC, AgL
Reservation Creek	A&Wc, FBC, FC, AgI, AgL
Reservation Lake	A&Wc, FBC, FC, AgI, AgL
Reynolds Creek	A&Wc, FBC, FC, AgL
Riverview Lake[3]	A&Ww, PBC, FC
Roadrunner Park Lake[3]	A&Ww, PBC, FC
Roosevelt Lake	A&Ww, FBC, DWS, FC, AgI, AgL
Rye Creek	A&Ww, FBC, FC, AgL
Saguaro Lake	A&Wc, FBC, DWS, FC, AgI, AgL
Salome Creek	A&Wc, FBC, FC, AgI, AgL
Salt River (Above Roosevelt Lake)	A&Ww, FBC, FC, AgI, AgL
Salt River (Stewart Mountain Dam to the Verde River)	A&Wc, FBC, DWS, FC, AgI, AgL
Salt River (Verde River to 2 km below Granite Reef Dam)	A&Ww, FBC, DWS, FC, AgI, AgL
Salt River (2 km below Granite Reef Dam to the I-10 bridge)	A&We, PBC
Salt River (I-10 bridge to the 23rd Avenue WWTP)	A&Ww, PBC
Salt River[1] (23rd Avenue WWTP to the Gila River confluence)	A&Wedw, PBC, FC, AgI, AgL
Sand Creek	A&Wc, FBC, FC, AgI, AgL
Sawmill Creek	A&Ww, FBC, AgI, AgL
Sawmill Tank	A&Ww, FBC, FC, AgL
Seneca Lake	A&Ww, FBC, FC
Shush Be Tou Lake	A&Wc, FBC, FC, AgI, AgL
Shush Bezahze Lake	A&Wc, FBC, FC, AgI, AgL
Slate Creek	A&Ww, PBC, FC, AgL
Snake Creek	A&Wc, FBC, FC, AgI, AgL
Soldier Creek	A&Wc, FBC, FC
Spring Creek	A&Wc, FBC, FC, AgL
Spur Tank	A&Ww, FBC, FC, AgL
Squaw Creek	A&Wc, FBC, FC, AgI, AgL
Steele Tank	A&Ww, FBC, FC, AgL
Stinky Creek	A&Wc, FBC, FC
Stove Tank	A&Ww, FBC, FC, AgL
Sun Creek	A&Wc, FBC, FC, AgI, AgL
Sunrise Lake	A&Wc, FBC, FC, AgI, AgL
Sycamore Tank	A&Ww, FBC, FC, AgL
Tanks Canyon Tank	A&Ww, FBC, FC, AgL
Thomas Creek	A&Wc, FBC, FC, AgL
Thompson Creek	A&Wc, FBC, FC
Tonto Creek	A&Wc, FBC, FC, AgI, AgL

	Designated Use
SALT RIVER BASIN (cont.)	
Tonto Lake	A&Wc, FBC, FC, AgI, AgL
Trout Creek	A&Wc, FBC, DWS, FC, AgI, AgL
Turkey Creek	A&Ww, FBC, FC
Tuttle Tank	A&Ww, FBC, FC, AgL
Upper Corn Creek Tank	A&Ww, FBC, FC, AgL
Upper Highway Tank	A&Ww, FBC, FC, AgL
Vista Del Camino Park North[3]	A&Ww, PBC, FC
Vista Del Camino Park South[3]	A&Ww, PBC, FC
Weaning Pen Tank	A&Ww, FBC, FC, AgI, AgL
White River	A&Wc, FBC, FC, AgI, AgL
White River, East Fork	A&Wc, FBC, FC, AgI, AgL
White River, North Fork	A&Wc, FBC, DWS, FC, AgI, AgL
Wild Steer Tank	A&Ww, FBC, FC, AgL
Wildcat Creek	A&Wc, FBC, FC
Williams Creek	A&Wc, FBC, FC, AgI, AgL
Willow Creek	A&Wc, FBC, FC
Workman Creek	A&Wc, FBC, DWS, FC, AgI, AgL
SAN JUAN RIVER BASIN	
Chinle Wash	A&Ww, FBC, AgL
Laguna Creek	A&Ww, FBC, FC, AgI, AgL
Many Farms Reservoir	A&Ww, FBC, FC, AgI
Round Rock Lake	A&Ww, FBC, FC, AgI
Tsaile Creek	A&Ww, FBC, FC, AgL
Tsaile Lake	A&Wc, FBC, FC, AgI
Walker Creek	A&Ww, FBC, AgI, AgL
Wheatfields Creek	A&Ww, FBC, FC, AgL
Wheatfields Lake	A&Wc, FBC, FC, AgI
Whiskey Creek	A&Ww, FBC, FC, AgL
SAN PEDRO RIVER BASIN	
Aravaipa Creek	A&Ww, FBC, DWS, FC, AgL
Babocomari Creek	A&Ww, FBC, FC, AgL
Bass Canyon Tank	A&Ww, FBC, FC, AgL
Blacktail Pond	A&Ww, FBC, FC
Buehman Canyon Creek	A&Ww, FBC, AgL
Bull Tank	A&Ww, FBC, FC, AgL
Carr Canyon Creek	A&Wc, FBC, FC, AgL
Copper Creek	A&Ww, PBC, AgI, AgL
East Gravel Pit Pond	A&Ww, FBC, FC
Fly Pond	A&Ww, FBC, FC
Garden Canyon Creek	A&Ww, FBC, DWS, AgI
Golf Course Pond	A&Ww, FBC, FC
Gravel Pit Pond	A&Ww, FBC, FC
Hidden Pond	A&Ww, FBC, FC
Hotsprings Canyon Creek	A&Ww, FBC, FC, AgL
Lower Garden Canyon Pond	A&Ww, FBC, FC
Miller Canyon Creek	A&Wc, FBC, FC, AgL
Officers Club Pond	A&Ww, FBC, FC
Ramsey Canyon Creek	A&Wc, FBC, DWS, FC, AgI, AgL
Redfield Canyon Creek	A&Ww, FBC, FC, AgL
San Pedro River (Mexico border to Redington)	A&Ww, FBC, FC, AgI, AgL
San Pedro River (Redington to the Gila River)	A&Ww, FBC, AgL
Sycamore Pond I	A&Ww, FBC, FC
Sycamore Pond II	A&Ww, FBC, FC
Turkey Creek	A&Ww, FBC, AgI, AgL
Unnamed Wash[1] (Oracle WWTP to Big Wash)	A&Wedw, PBC
Walnut Gulch[1] (Tombstone WWTP to the San Pedro River)	A&Wedw, PBC
Woodcutters Pond	A&Ww, FBC, FC
SANTA CRUZ RIVER BASIN	
Agua Caliente Wash	A&Ww, FBC, AgL
Aguirre Wash	A&We, PBC
Alambre Wash	A&We, PBC
Alamo Wash	A&We, PBC

Navigable water	Designated Use
SANTA CRUZ RIVER BASIN (cont.)	
Altar Wash	A&We, PBC
Alum Gulch	A&We, PBC
Arivaca Creek	A&Ww, FBC, AgL
Arivaca Lake	A&Ww, FBC, FC, AgI, AgL
Atterbury Wash	A&We, PBC
Bear Grass Tank	A&Ww, FBC, FC, AgL
Big Wash	A&We, PBC
Bog Hole Tank	A&Ww, FBC, AgL
Brawley Wash	A&We, PBC
Cañada del Oro (Headwaters to Highway 89)	A&Ww, FBC, DWS, FC, AgI, AgL
Cañada del Oro (Below Highway 89)	A&We, PBC, AgI, AgL
Cienega Creek (Headwaters to I-10)	A&Ww, FBC, AgL
Cienega Creek[2] (I-10 to Del Lago dam)	A&Ww, FBC, AgL
Cienega Creek (Below Del Lago dam)	A&Ww, FBC, AgL
Davidson Canyon (Headwaters to I-10)	A&We, PBC
Davidson Canyon (I-10 to Cienega Creek)	A&Ww, FBC, AgL
Empire Gulch (Headwaters to Empire Ranch Spring)	A&We, PBC
Empire Gulch (Below Empire Ranch Spring)	A&Ww, FBC, AgL
Fagen Tank	A&Ww, FBC, FC, AgL
Flux Canyon	A&We, PBC
Gardner Canyon Creek	A&Ww, FBC
Greene Wash	A&We, PBC
Harshaw Wash	A&Ww, PBC, AgL
Huachuca Tank	A&Ww, FBC, AgL
Julian Wash	A&We, PBC
Lemmon Canyon Creek	A&Wc, FBC, FC
Los Robles Wash	A&We, PBC
Madera Canyon Creek	A&Ww, FBC, FC
Nogales Wash	A&Ww, PBC, AgI, AgL
Oak Tree Canyon	A&We, PBC
Palisade Canyon Creek	A&Wc, FBC, FC
Pantano Wash	A&We, PBC
Parker Canyon Creek	A&Ww, PBC, FC
Parker Canyon Lake	A&Wc, FBC, FC, AgI, AgL
Patagonia Lake	A&Wc, FBC, DWS, FC, AgI, AgL
Pena Blanca Lake	A&Wc, FBC, FC, AgI, AgL
Puertocito Wash	A&We, PBC
Redrock Canyon Creek	A&Ww, FBC, FC
Rillito Creek	A&We, PBC, AgL
Romero Canyon Creek	A&Wc, FBC, FC
Rose Canyon Creek	A&Ww, FBC, FC
Rose Canyon Lake	A&Wc, FBC, FC, AgI, AgL
Sabino Canyon Creek	A&Wc, FBC, DWS, FC, AgI, AgL
Salero Ranch Tank	A&Ww, FBC, FC, AgL
Santa Cruz River (Headwaters to the International Boundary)	A&Ww, FBC, FC, AgI, AgL
Santa Cruz River (International Boundary to Nogales WWTP)	A&Ww, DWS, FBC, AgI, AgL
Santa Cruz River[1] (Nogales WWTP to Tubac)	A&Wedw, PBC
Santa Cruz River (Tubac to the Roger Rd WWTP)	A&We, PBC, AgL
Santa Cruz River[1] (Roger Rd WWTP to Baumgartner Rd)	A&Wedw, PBC
Santa Cruz River (Wash) (Baumgartner Rd to the Gila River Reservation)	A&We, PBC, AgL
Santa Cruz River (Wash) (Gila River Reservation to the Gila River)	A&Ww, FBC, AgI, AgL
Santa Cruz River, West Branch	A&We, PBC
Santa Cruz Wash, N Branch[1] (Casa Grande WWTP to the Santa Cruz River)	A&Wedw, PBC
Santa Rosa Wash	A&We, PBC
Soldier Lake	A&Wc, FBC, AgI, AgL
Sonoita Creek (Above the town of Patagonia)	A&Ww, PBC, AgI, AgL
Sonoita Creek (Below the town of Patagonia)	A&Ww, FBC, FC, AgI, AgL
Split Tank	A&Ww, FBC, FC, AgL
Stock Tank	A&Ww, FBC, AgL
Sutherland Wash	A&We, PBC
Sycamore Spring Reservoir	A&Wc, FBC, FC
Tanque Verde Creek	A&Ww, FBC, AgL
The Lake Tank	A&Ww, FBC, FC, AgL
Tinaja Wash	A&Ww, PBC, AgL

Navigable water	Designated Use
SANTA CRUZ RIVER BASIN (cont.)	
Vekol Wash	A&We, PBC
Williams Ranch Tanks	A&Ww, FBC, AgL
UPPER GILA RIVER BASIN	
Apache Creek	A&Ww, FBC, AgL
Armstrong Tank	A&Ww, FBC, FC, AgL
Arrowhead Tank	A&Ww, FBC, FC, AgL
Arsenic Tub	A&Ww, FBC, FC
Ash Creek	A&Ww, FBC, FC, AgL
Barlow Pass Tank	A&Ww, FBC, FC, AgL
Bennet Wash[1] (Arizona Department of Corrections-Safford WWTP to the Gila River)	A&Wedw, PBC
Big Bonita Tank	A&Ww, FBC, FC, AgL
Big Brushy Tank	A&Ww, FBC, FC, AgL
Bitter Creek	A&Ww, PBC
Bloody Basin Tank	A&Ww, FBC, FC, AgL
Blue River	A&Wc, FBC, FC, AgI, AgL
Boni Tank	A&Ww, FBC, FC, AgL
Bonita Creek[2]	A&Ww, FBC, DWS, FC, AgL
Brushy Basin Tank	A&Ww, FBC, FC, AgL
Buckalou Creek	A&Wc, FBC, FC
Burdette Tank	A&Ww, FBC, FC, AgL
Cammerman Wash[1] (Arizona Department of Corrections-Globe WWTP to 3 km downstream)	A&Wedw, PBC
Campbell Blue Creek	A&Wc, FBC, FC
Castle Creek	A&Wc, FBC, FC
Cave Creek and Ponds	A&Wc, FBC, FC, AgI, AgL
Chapman Tank	A&Ww, FBC, FC, AgL
Chase Creek	A&Ww, PBC, AgL
Chitty Canyon Creek	A&Wc, FBC, FC
Cluff Ranch Pond #1	A&Ww, FBC, FC, AgI, AgL
Cluff Ranch Pond #2	A&Ww, FBC, FC, AgI, AgL
Cluff Ranch Pond #3	A&Ww, FBC, FC, AgI, AgL
Coleman Creek	A&Wc, FBC, FC
Cox Corral Tank	A&Ww, FBC, FC, AgL
Dankworth Lake	A&Wc, FBC, FC
Deadman Canyon Creek	A&Wc, FBC, DWS, FC, AgL
Deadman Tank	A&Ww, FBC, FC, AgL
Dry Lake	A&Ww, FBC, FC, AgL
Dry Prong Tank	A&Ww, FBC, FC, AgL
Eagle Creek	A&Wc, FBC, DWS, FC, AgI, AgL
East Eagle Creek	A&Wc, FBC, FC, AgL
East Salt Shed Tank	A&Ww, FBC, FC, AgL
East Shortline Tank	A&Ww, FBC, FC, AgL
Evans Pond	A&Ww, FBC
Foote Creek	A&Ww, FBC, FC
Four Mile Tank	A&Ww, FBC, FC, AgL
Frye Creek	A&Wc, FBC, FC, AgL
Frye Mesa Reservoir	A&Wc, FBC, DWS, FC
Geronimo Tank (Concrete)	A&Ww, FBC, FC, AgL
Geronimo Tank (Earth Dam)	A&Ww, FBC, FC, AgL
Gibson Creek	A&Wc, FBC, FC, AgI, AgL
Gila River (New Mexico border to San Carlos Lake)	A&Ww, FBC, FC, AgI, AgL
Gila River (San Carlos Lake to San Pedro River)	A&Ww, FBC, FC, AgL
Gila River (San Pedro River to Mineral Creek)	A&Ww, FBC, FC, AgI, AgL
Gila River (Mineral Creek to Ashurst-Hayden Dam)	A&Ww, FBC, FC, AgI, AgL
Gimme Tank	A&Ww, FBC, FC, AgL
Grant Creek	A&Wc, FBC, FC
Green Mountain Tank	A&Ww, FBC, FC, AgL
Headquarters Tank	A&Ww, FBC, FC, AgL
Homer J Tank	A&Ww, FBC, FC, AgL
IDT Tank	A&Ww, FBC, FC, AgL
Juniper Tank	A&Ww, FBC, FC, AgL
K P Creek	A&Wc, FBC, DWS, FC, AgL
Kidde Tank	A&Ww, FBC, FC, AgL

Navigable water	Designated Use
UPPER GILA RIVER BASIN (cont.)	
Lasley Tank	A&Ww, FBC, FC, AgL
Little Creek	A&Wc, FBC, FC
Loafer Tank	A&Ww, FBC, FC, AgL
Lower Georges Reservoir	A&Wc, FBC, FC, AgL
Luna Lake	A&Wc, FBC, FC, AgL
Maggie Jones Tank	A&Ww, FBC, FC, AgL
Marijilda Creek	A&Wc, FBC, FC, AgI, AgL
Markham Creek	A&Ww, FBC, AgL
Mineral Creek	A&Ww, FBC, FC, AgL
Nine Mile Tank	A&Ww, FBC, FC, AgL
Pigeon Creek	A&Ww, FBC, AgL
Pima Gap Tank	A&Ww, FBC, FC, AgL
Pine Flat Tank	A&Ww, FBC, FC, AgL
Point of Pines Lake	A&Ww, FBC, FC
Point-O-Pines Charco Tank	A&Ww, FBC, FC, AgL
Prairie Tank	A&Ww, FBC, FC, AgL
Raspberry Creek	A&Ww, FBC, FC
Riggs Reservoir	A&Ww, FBC, FC
Rodeo Tank	A&Ww, FBC, FC, AgL
Roper Lake	A&Ww, FBC, FC
Salt Creek Tank	A&Ww, FBC, FC, AgL
Salt Shed Tank	A&Ww, FBC, FC, AgL
San Carlos Lake	A&Ww, FBC, FC, AgI, AgL
San Carlos River	A&Ww, FBC, FC
San Francisco River (Headwaters to New Mexico border)	A&Wc, FBC, FC, AgI, AgL
San Francisco River (New Mexico border to the Gila River)	A&Ww, FBC, FC, AgI, AgL
San Simon River	A&Ww, PBC, AgI, AgL
Seven Mile Tank	A&Ww, FBC, FC, AgL
Sheep Tank	A&Ww, FBC, FC, AgL
Shortline Tank	A&Ww, FBC, FC, AgL
Slaughter Camp Tank	A&Ww, FBC, FC, AgL
Smith Pond	A&Ww, FBC, FC
Soldier Hole Tank	A&Ww, FBC, FC, AgL
South Headquarters Tank	A&Ww, FBC, FC, AgL
South Summit Tank	A&Ww, FBC, FC, AgL
Stone Creek	A&Wc, FBC, FC, AgI, AgL
Strayhorse Creek	A&Wc, FBC, FC
Summit Tank	A&Ww, FBC, FC, AgL
Sweetmeat Tank	A&Ww, FBC, FC, AgL
Talkali Lake	A&Ww, FBC, FC, AgI
Tarantula Tank	A&Ww, FBC, FC, AgL
Tinny Pond	A&Ww, FBC, FC, AgL
Turkey Creek	A&Wc, FBC, FC, AgI, AgL
Turkey Roost Tank	A&Ww, FBC, FC, AgL
Turtle Tank	A&Ww, FBC, FC, AgL
University Charco Tank	A&Ww, FBC, FC, AgL
Upper Cienega Tank	A&Ww, FBC, FC, AgL
Walnut Canyon Creek	A&Ww, FBC, FC
White Canyon Creek	A&Ww, FBC, FC
VERDE RIVER BASIN	
American Gulch (Headwaters to the Payson WWTP)	A&Ww, FBC, FC, AgI, AgL
American Gulch[1] (Payson WWTP to the East Verde River)	A&Wedw, PBC
Aspen Creek	A&Ww, PBC
Bar Cross Tank	A&Ww, FBC, FC, AgL
Barrata Tank	A&Ww, FBC, AgL
Bartlett Lake	A&Ww, FBC, DWS, FC, AgI, AgL
Beaver Creek	A&Wc, FBC, FC, AgL
Bitter Creek (Headwaters to the Jerome WWTP)	A&Ww, PBC, AgL
Bitter Creek[1] (Jerome WWTP to 2.5 km downstream)	A&Wedw, PBC
Bitter Creek (Below 2.5 km downstream of the Jerome WWTP)	A&Ww, FBC, AgI, AgL
Bonita Creek	A&Wc, FBC, DWS, FC
Bray Creek	A&Ww, FBC, FC, AgL
Carter Tank	A&Ww, FBC, FC, AgL
Cement Dam Lake	A&Wc, FBC, FC, AgI, AgL

Navigable water	Designated Use
VERDE RIVER BASIN (cont.)	
Chase Creek	A&Wc, FBC, DWS, FC
Dead Horse Lake	A&Wc, FBC, FC
Deadman Creek	A&Ww, FBC, FC, AgL
Del Rio Dam Lake	A&Ww, FBC, FC, AgL
Dry Beaver Creek	A&Ww, FBC, FC, AgI, AgL
Dude Creek	A&Wc, FBC, FC, AgI, AgL
East Verde River	A&Wc, FBC, DWS, FC, AgI, AgL
El Paso Tank	A&Ww, FBC, FC, AgL
Ellison Creek	A&Wc, FBC, FC, AgL
Fossil Creek	A&Ww, FBC, FC, AgI, AgL
Fossil Springs	A&Ww, FBC, DWS
Foxboro Lake	A&Ww, FBC, AgL
Fry Lake	A&Ww, FBC, FC, AgL
Gap Creek	A&Wc, FBC, FC, AgL
Garrett Tank	A&Ww, FBC, FC, AgL
Goldwater Lake	A&Wc, FBC, DWS, FC
Granite Basin Lake	A&Ww, FBC, FC, AgI, AgL
Granite Creek	A&Ww, FBC, AgI, AgL
Heifer Tank	A&Ww, FBC, FC, AgL
Hell Canyon Tank	A&Ww, PBC, FC, AgL
Homestead Tank	A&Ww, FBC, FC, AgL
Horse Park Tank	A&Ww, FBC, AgL
Horseshoe Lake	A&Ww, FBC, FC, AgI, AgL
Jacks Canyon Wash[1] (Big Park WWTP to Dry Beaver Creek)	A&Wc&Ww, PBC
J.D. Dam Lake	A&Wc, FBC, FC, AgI, AgL
McLellan Reservoir	A&Ww, FBC, FC, AgI, AgL
Meath Dam Tank	A&Ww, FBC, AgL
Mullican Tank	A&Ww, FBC, FC, AgL
Oak Creek[2]	A&Wc, FBC, DWS, FC, AgI, AgL
Oak Creek, West Fork[2]	A&Wc, FBC, FC, AgL
Peck's Lake	A&Wc, FBC, FC, AgI, AgL
Perkins Lake	A&Wc, FBC, FC, AgL
Pine Creek	A&Wc, FBC, DWS, FC, AgI, AgL
Red Lake	A&Ww, FBC, FC, AgL
Reservoir #1	A&Ww, FBC, FC
Reservoir #2	A&Ww, FBC, FC
Scholze Lake	A&Ww, FBC, FC, AgL
Spring Creek	A&Ww, FBC, FC, AgI, AgL
Steel Dam Lake	A&Ww, FBC, FC, AgL
Stehr Lake	A&Ww, FBC, FC, AgL
Stoneman Lake	A&Wc, FBC, FC, AgI, AgL
Sullivan Lake	A&Ww, FBC, FC, AgI, AgL
Sycamore Creek (Coconino Forest)	A&Wc, FBC, FC, AgI, AgL
Sycamore Creek (Tonto Forest)	A&Ww, FBC, FC, AgI, AgL
Tangle Creek	A&Ww, FBC, FC, AgI, AgL
Trinity Tank	A&Ww, FBC, FC, AgL
Verde River (Above Bartlett Dam)	A&Ww, FBC, FC, AgI, AgL
Verde River (Below Bartlett Dam)	A&Ww, FBC, DWS, FC, AgI, AgL
Watson Lake	A&Ww, FBC, FC, AgI, AgL
Webber Creek	A&Wc, FBC, FC, AgL
West Clear Creek	A&Wc, FBC, FC, AgL
Wet Beaver Creek	A&Wc, FBC, FC, AgI, AgL
Whitehorse Lake	A&Wc, FBC, DWS, FC, AgI, AgL
Williscraft Lake	A&Ww, FBC, FC, AgL
Willow Creek	A&Wc, FBC, FC, AgL
Willow Lake	A&Ww, FBC, FC, AgI, AgL
Willow Valley Lake	A&Ww, FBC, AgL
WILLCOX PLAYA	
Ash Creek	A&Wc, FBC, FC, AgI, AgL
Big Canyon Creek	A&Ww, FBC, FC, AgL
Grant Creek	A&Wc, FBC, DWS, FC, AgL
High Creek	A&Ww, FBC
Moonshine Creek	A&Wc, FBC, FC, AgL
Pinery Creek	[illegible]

Navigable water	Designated Use
WILLCOX PLAYA (cont.)	
Post Creek	A&Wc, FBC, FC, AgI, AgL
Riggs Flat Lake	A&Wc, FBC, FC, AgI, AgL
Rock Creek	A&Ww, FBC, FC, AgL
Snow Flat Lake	A&Wc, FBC, FC, AgI, AgL
Soldier Creek	A&Wc, FBC, FC, AgL
Willcox Playa	A&Ww, FBC, AgL

ABBREVIATIONS:

A&Wc	=	Aquatic and Wildlife (cold water fishery).
A&We	=	Aquatic and Wildlife (ephemeral).
A&Wedw	=	Aquatic and Wildlife (effluent dominated water).
A&Ww	=	Aquatic and Wildlife (warm water fishery).
AgL	=	Agricultural Livestock Watering.
AgI	=	Agricultural Irrigation.
DWS	=	Domestic Water Source.
FBC	=	Full Body Contact.
PBC	=	Partial Body Contact.
FC	=	Fish Consumption.
WTP	=	Water Treatment Plant.
WWTP	=	Wastewater Treatment Plant.

NOTES:

1 = An effluent dominated water.

2 = A unique water. Limits developed on a site-specific basis for each stream segment or lake. See R18-11-112 for applicable criteria.

3 = Municipal Park Lake.

Appendix C. Practical Quantitation Limits (PQLs)

PARAMETER	PQLs (µg/L)
Acenaphthylene	10
Acrylonitrile	5
Aldrin	0.05
Anthracene	10
Antimony	5
Arsenic	10
Benzidine	20
Benzo (a) anthracene	10
Benzo (a) pyrene	6
Benzo (ghi) perylene	10
Benzo (k) fluoranthene	10
3,4-Benzofluoranthene	10
Beryllium	0.5
BHC-alpha	0.05
BHC-beta	0.05
BHC-gamma (lindane)	0.05
Bis(2-chloroethyl) ether	10
Bis-(2-ethylhexyl) phthalate	10
Chlordane	0.1
Chlorodibromomethane	1
3-methyl-4-chlorophenol	5
Chrysene	10
Cyanide	20
DDD	0.1
DDE	0.1
DDT	0.1
Dibenzo (ah) anthracene	10
3,3-Dichlorobenzidine	20
Dichlorobromomethane	0.5
1,3-Dichloropropene	0.5
Dieldrin	0.1
2,4-Dinitrophenol	50
2-methyl-4,6-Dinitrophenol	50
2,4-Dinitrotoluene	10
2,3,7,8-TCDD (Dioxin)	0.005
Endosulfan sulfate	0.2
Endosulfan-alpha	0.1
Endosulfan-beta	0.05
Endrin	0.1
Endrin aldehyde	0.2
Fluorene	10
Heptachlor	0.05
Heptachlor epoxide	0.1
Hexachlorobenzene	0.5
Hexachlorobutadiene	5
Hexachlorocyclopentadiene	5
Indene (1,2,3-cd) pyrene	10
Mercury	0.5
N-nitrosodimethylamine	10
N-nitrosodi-n-propylamine	10
PCBs	0.5
Phenanthrene	10
Pyrene	10
Selenium	5
Silver	1
Sulfides	10000
1,1,2,2-Tetrachloroethane	5
Toxaphene	2
2,4,6-Trichlorophenol	5

µg/L - micrograms per liter

~~ARTICLE 2. DISCHARGE LIMITATIONS.~~

~~R18-11-201. Reserved.~~

~~R18-11-202. Discharge limitations for phosphates~~

~~A. Any discharge of wastewater to Show Low Creek and tributaries upstream of and including Fools Hollow Lake shall not exceed 0.16 mg/l total phosphates as P.~~

~~B. Any discharge of wastewater to the following navigable waters shall not exceed 1.0 mg/l total phosphates as P.~~

~~1. San Francisco River and tributaries upstream of Luna Lake Dam.~~

~~2. White River and tributaries.~~

~~R18-11-203. Prohibitions on discharge.~~

~~The discharge of treated wastewater to Sabino Creek is prohibited.~~

~~R18-11-204. Reserved.~~

~~R18-11-205. Discharges to ephemeral waters~~

~~The water quality standards that apply to effluent dominated waters shall be used to derive discharge limitations for a point source discharge to an ephemeral water. This provision does not apply to point source discharges of storm water.~~