Douglas A. Ducey
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Misael Cabrera
Director

December 14, 2016

Tomás Torres
Water Division
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105-3901

Re: 2016 303(d) Impaired Water's List

Dear Mr. ~~Torres~~, Tomás

ADEQ is pleased to submit Arizona's final 2016 303(d) List of Impaired Waters for your approval as required by 40 CFR §130.7(d)(1). We have also attached a copy of the Notice of Public Information, which was published in the Arizona Administrative Register on September 30, 2016. The Notice of Public Information contains Arizona's draft 303(d) List of Impaired Waters and provides notice of ADEQ's intent to submit the draft list to EPA Region 9 for review and approval. The Notice of Public Information also includes ADEQ's responses to comments that were received on the draft 303(d) List of Impaired Waters.

If your staff have any questions or require additional data or information to complete their review of the draft 303(d) List, please contact Jason Jones at (602) 771-2235.

Sincerely,

Trevor Baggiore, Director
Water Quality Division

NOTICES OF PUBLIC INFORMATION

Notices of Public Information contain corrections that agencies wish to make to their notices of rulemaking; miscellaneous rulemaking information that does not fit into any other category of notice; and other types of information required by statute to be published in the Register.

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

NOTICE OF PUBLIC INFORMATION

DEPARTMENT OF ENVIRONMENTAL QUALITY

[M16-214]

1. **Title and its heading:**	Title 49. The Environment
Chapter and its heading:	Chapter 2. Water Quality Control
Article and its heading:	Article 2.1. Total Maximum Daily Loads
Section:	A.R.S. § 49-232. Lists of Impaired Waters; data requirements; rules

2. The public information relating to the listed statute

Arizona Revised Statute (A.R.S.) 49-232(A) requires the Arizona Department of Environmental Quality (ADEQ) to prepare a list of impaired waters at least once every five years to comply with Section 303(d) of the Clean Water Act [33 U.S.C. 1313(d)]. ADEQ provides public notice and allows for comment on the draft 303(d) List of impaired waters prior to its submission to the United States Environmental Protection Agency (EPA). ADEQ published a draft 303(d) List in a document entitled *Draft 2016 Clean Water Act Assessment – Arizona's Integrated 305(b) Assessment and 303(d) Listing Report* (hereafter referred to as the "Integrated Report") and provided an opportunity for public comment on the Integrated Report from June 13, 2016 to July 28, 2016. ADEQ prepares written responses to public comments received on the draft 303(d) List of impaired waters and publishes a summary of ADEQ's responses to comments in the *Arizona Administrative Register* at least 45 days before submitting the list to EPA for their approval.

3. Procedures for challenging an impaired water listing

The publication of the 303(d) List of impaired waters in the *Arizona Administrative Register* is an appealable agency action. Any party that submitted written comments on ADEQ's draft 2016 303(d) List may challenge a listing of an impaired water by submitting a notice of appeal to the Department in accordance with A.R.S. 41-1092.03. A notice of appeal challenging a listing must be submitted within 45 days of the date of publication of this notice of public information in the *Arizona Administrative Register*. The submission of a timely notice of appeal "stays" ADEQ's initial submission of a challenged listing to EPA. ADEQ may subsequently submit a challenged listing to EPA if the challenged listing is upheld in a final administrative decision by the Director under A.R.S. 41-1092.08 or if the person who challenges a listing withdraws the appeal prior to a final administrative decision by the Director.

4. 305(b) and 303(d) of the Clean Water Act

Section 305(b) of the Clean Water Act requires each state to prepare and submit to EPA a biennial report describing the water quality of all surface waters in the state. Each state must monitor water quality and review available data and information from various sources to determine if surface water quality standards are being met. From this 305(b) water quality assessment report and other sources of information, ADEQ creates the 303(d) List. The 303(d) List identifies Arizona surface waters that do not meet water quality standards. These waters are known as "water quality limited segments" or "impaired waters." Identifying a surface water as impaired may be based on an evaluation of physical, chemical, or biological data demonstrating evidence of a numeric standard exceedance, a narrative standard exceedance, designated use impairment, or a declining trend in water quality, such that the surface water would exceed a water quality standard before the next listing period.

Section 303(d) of the Clean Water Act requires each state to prepare several lists of surface water segments not meeting sur-

face water quality standards, including those not expected to meet state surface water quality standards after implementation of technology-based controls. The draft 303(d) List is revised based on public input and finalized for submission to EPA. Arizona, like most states, prepares one list containing all of the waters meeting the criteria in section 303(d). At a minimum, ADEQ must consider the following sources of data:

- Surface waters identified in the Section 305(b) Report, including Section 314 lakes assessment that do not meet water quality standards;
- Surface waters for which dilution calculations or predictive models indicate nonattainment of water quality standards;
- Surface waters for which problems have been reported by other agencies, institutions, and the public;
- Surface waters identified as impaired or threatened in the state's non-point assessments submitted to EPA under Section 319 of the Clean Water Act;
- Fish consumption advisories and restrictions on water sports and recreational contact;
- Reports of fish kills or abnormalities (cancers, lesions, tumors);
- Water quality management plans;
- The Safe Drinking Water Act 1453 source water assessments; and
- Superfund and Resource Conservation and Recovery Act (RCRA) reports and the Toxic Release Inventory.

ADEQ's 303(d) List and supporting documentation are submitted to EPA for review. The ADEQ submission to EPA will contain the 303(d) List, including the pollutants or suspected pollutants impairing water quality; the surface waters targeted for Total Maximum Daily Load (TMDL) development; a priority ranking and schedule for TMDL development; a description of the process used to develop the 303(d) List; the basis for listing decisions, including reasons for not including a surface water or segment on the list; and a summary of ADEQ responses to public comments received on the draft list. 40 CFR 130.7(b)(6)(iv) requires a state to demonstrate "good cause" for not listing a surface water where there are exceedances of water quality standards and places the burden of proof on the state to justify excluding a surface water from the list. "Good cause" factors include more recent or accurate data, flaws in the original analysis, more sophisticated water quality modeling, or changes in the conditions that demonstrate that the surface water is no longer impaired.

The 303(d) List was due to be submitted to the U.S. Environmental Protection Agency on or before April 1, 2016. State law requires that the initial 303(d) List be published in the *Arizona Administrative Register* at least 45 days before the list is submitted to the Regional Administrator. The list of impaired waters that ADEQ plans to submit to EPA is contained in the table titled "Arizona's 2016 303(d) List of Impaired Waters" published in Section 7 of this notice.

EPA has added impaired waters to Arizona's 303(d) List in previous assessment cycles. These EPA listings do not meet the requirements of A.R.S. 49-232 or impaired water identification criteria established in ADEQ's Impaired Water Identification Rules (A.A.C. R18-11-601 through R18-11-606) but do meet federal requirements.

5. Arizona laws governing ADEQ identification of impaired waters and preparation of the 303(d) List

The Arizona Legislature enacted laws governing ADEQ's development of the 303(d) List in 2000. A.R.S. 49-232(B) requires that ADEQ consider only "reasonably current, credible and scientifically defensible" data that the ADEQ has collected or received from another source in determining whether a water body is an impaired water. The results of water sampling or other assessments of water quality are considered credible and scientifically defensible data only if ADEQ has determined:

1. Appropriate quality assurance and quality control procedures were followed and documented in collecting and analyzing the data;
2. The samples or analyses are representative of water quality conditions at the time the data was collected;
3. The data consists of an adequate number of samples based on the water body in question and the parameters being analyzed; and
4. The method of sampling and analysis, including analytical, statistical and modeling methods, is generally accepted and validated in the scientific community as appropriate for use in assessing the condition of the water.

ADEQ considered reasonable current, credible and scientifically defensible data in preparing 2016 draft 303(d) List (the Impaired Water Identification Rule (IWIR)). The water quality data and information that ADEQ considered are summarized in the 2016 Integrated Report.

In 2002 ADEQ adopted, by rule, the methodology used in identifying waters as impaired. These rules specify the following:

1. Minimum data requirements and quality assurance and quality control requirements consistent with the requirements of A.R.S. 49-232(B)(1-4).
2. Appropriate sampling, analytical and scientific techniques that may be used in assessing whether a water is impaired.
3. Any statistical or modeling techniques that ADEQ uses to assess or interpret data.
4. Criteria for including and removing waters from the list of impaired waters, including any implementation procedures used for identifying impaired waters on the basis of exceedances of narrative water quality standards.

ADEQ prepared the 2016 Integrated Report in accordance with its IWIR that ADEQ adopted in 2002 [*See* A.A.C. R18-11-601 through R18-11-606]. This document contains the methods and technical support for the 2016 Assessment.

Under A.R.S. 49-232(D), ADEQ must consider available data in light of the nature of each water body being assessed (including whether a water body is an ephemeral water) when determining whether to include a water body on the 303(d) List of impaired waters.

ADEQ is prohibited by A.R.S. 49-232(F) from listing a water body as impaired based on a violation of a narrative or biological water quality standard prior to adopting implementation procedures identifying the objective bases for determining that a violation of the standard exists. None of the waters identified by ADEQ on the 2016 303(d) List are listed because of violations of narrative or biological water quality standards.

6. ADEQ response to comments on draft 303(d) List

Arizona's *Draft* 2016 Clean Water Act Assessment - *Status of Ambient Water Quality in Arizona 305(b) Assessment and 303(d) Listing Report* was made available for public review and comment from June 13, 2016 to July 28, 2016. Comments received by ADEQ are grouped by the commenter below. ADEQ responses to public comments relating to impaired waters on the 303(d) List are provided in this notice of public information.

City of Prescott

Comment #1- Streams are Misclassified

Ackers East, Ackers West, Government Canyon, North Fork Miller, North Granite Creek and Slaughterhouse Gulch are not recognized as streams by the USGS Geographic Names Information System. All of these features are identified as ephemeral by the National Hydrography Database. Additionally, all of these streams have channels above the water table and flow only in direct response to precipitation, meeting the definition of ephemeral in A.A.C. R18-11-101(18). The City requests that these waters be classified as ephemeral and reassessed.

For these ephemeral waters, A.A.C. R18-11-105(1) requires, that the partial body contact standard be used in assessing impairment. The City of Prescott requests that the partial-body contact standard for *E. coli* impairment (575 cfu/100 mL) be applied to these features.

Bannon and Aspen Creeks should be classified as intermittent and not perennial. Perennial requires continuous flow throughout the year. A.A.C. R18-11-101(30). Intermittent is the proper classification for these waters as they only flow continuously during certain times of the year and not year round. A.A.C. R-11-101(25).

Response #1

Based on data collected as part of the Granite Creek Total Maximum Daily Load, Ackers East, Ackers West, Government Canyon, North Fork Miller, North Granite Creek and Slaughterhouse Gulch are intermittent in accordance with Arizona Administrative Code (A.A.C.) R18-11-101(25). Intermittent water is defined by rule as "a stream or reach that flows continuously only at certain times of the year, as when it receives water from a spring or from another surface source, such as melting snow." Each of these streams has been observed to flow continuously for more than a week due to snowmelt or from other sources. Ephemeral streams are defined in A.A.C. R18-11-101(18) as "a surface water that has a channel that is at all times above the water table and flows only in direct response to precipitation". Ackers East, Ackers West, Government Canyon, North Fork Miller, North Granite Creek and Slaughterhouse Gulch do not meet the definition of ephemeral because

they were observed flowing one or more week(s) after a precipitation event.

Aspen Creek has been assigned the Aquatic and Wildlife Warm, Full Body Contact, and Fish Consumption designated uses in Appendix B of the Arizona Administrative Code (A.A.C.) Title 18, Chapter 11, Article 1. Any changes to Appendix B must be completed via a formal rulemaking process. Bannon Creek is classified as intermittent/perennial based on the tributary rule A.A.C. R18-11-105. The designated uses in Appendix B and the tributary rule only distinguish between intermittent and perennial versus ephemeral designated uses. All the standards that were assessed for Aspen and Bannon Creeks are based on intermittent/perennial uses.

Comment #2 Impairment using FBC is not Appropriate

North Fork Miller, Slaughterhouse Gulch, Government Canyon, Ackers East, Ackers West, Bannon Creek, Manzanita Creek, Aspen Creek, Butte Creek, and Miller Creek are all listed as impaired using the Full Body Contact standard. That standard is not appropriate for any of these waters. Full Body Contact requires uses of the water for swimming or other activity that results in direct contact to the point of complete submergence. A.A.C. R18-11-101(21). None of the waters listed have sufficient water at any time for complete submergence to be a regular or primary activity. Partial Body Contact is a more appropriate standard and the City requests that the use for these waters be reclassified as Partial Body Contact. The City understands that the default for these creeks is Full Body Contact, pursuant to A.A.C. R-11-1-105; however, when a decision to list a particular water for impairment must be made, more evaluation of the individual creeks is required to determine what is appropriate for those creeks. A one size fits all approach is never appropriate. For the creeks listed above, a partial body contact standard is appropriate based on the nature and primary uses of those creeks.

Bannon Creek is listed as impaired for *E. coli*. Because complete submergence is not possible on this water for the vast majority of the year and because complete submergence is never a primary use on that water, it should properly be reviewed using the Partial Body Contact standard of 575 cfu/100 ml. Using that standard, there are no instances of more than one exceedance within any consecutive three year period. The first two samples that exceed the 575 cfu/ 100 ml are more than three years apart and the third does not exceed that level. As a result, the City requests that Bannon Creek be reclassified from impaired to inconclusive.

Response #2

A.A.C. R18-11-101(21) defines "Full Body Contact (FBC)" as "the use of a surface water for swimming or other recreational activity that 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 and sensitive body organs, such as the eyes, ears, or nose, may be exposed to direct contact with the water." Full body contact is a designated use, which dictates which water quality standards apply. ADEQ disagrees that complete submergence means that the entire body submerged. The second sentence of the definition gives clarity as to what is meant by complete submergence. It states that the "ingestion of water and exposure to eyes, ears, or nose is likely". It is likely that people will come into contact with intermittent or perennial water that flows through an urban area such as the City of Prescott. The Full Body Contact designated use is applicable to North Fork Miller, Slaughterhouse Gulch, Government Canyon, Ackers East, Ackers West, Bannon Creek, Manzanita Creek, Aspen Creek, Butte Creek, and Miller Creek.

Comment #3 Natural background

Additionally, Bannon Creek is predominantly outside and away from human populations such that any exceedances for *E. coli* are most likely due to the natural background and not due to human activity. As such any exceedance on Bannon Creek should not be considered violations of the water quality standards. A.A.C. R-18-11-119.

Response #3

A.A.C. R18-11-119 states "Where the concentration of a pollutant exceeds a water quality standard and the exceedance is not caused by human activity but is due solely to naturally-occurring conditions, the exceedance shall not be considered a violation of the water quality standard." Portions of Bannon Creek are either in the city or directly next to Cougar Trail Road. ADEQ has taken into account natural conditions for Bannon Creek and does not agree that the exceedances of *E. coli* are due solely to natural conditions. The Total Maximum Daily Load for the Granite Creek Watershed, which includes Ban-

non Creek, identified numerous human influences such as urban stormwater, sanitary sewer overflows, septic seepage, cross connections and pets.

Comment #4 Name Changes
Finally, the USGS' Board on Geographic Names Decisions officially designated Bannon Creek (Pg.11) as Banning Creek in 2005 (USGS GNIS ID# 25954). We would suggest that Banning Creek is the correct name for the purpose of this listing. Similarly, Acker's West is known as Virginia Street Wash to the City of Prescott and is shown as such on the recently revised FEMA floodplain maps.

Response #4
ADEQ changed Bannon Creek to Banning Creek in the 2016 Integrated Report. Acker's West has been changed to Unnamed Tributary to Granite Creek (UGC), and Ackers East to Unnamed Tributary to UGC (UUG).

Bureau of Land Management

Comment – #1 Agua Fria River (15070102-023)
A segment of the Agua Fria River has been deemed "impaired" by the ADEQ due to selenium level AWW exceedance (2 exceedances in 4 samples) and *E. coli* FBC exceedance. The draft 2016 ADEQ report also lists arsenic DWS and bottom deposits AWW as inconclusive. These findings are not credible due to the lack of recent and/or current data. ADEQ results for arsenic, dissolved oxygen, selenium and bottom deposits are based on data collected between 2011 and 2012. Data for the *E. coli* impairment determination appear to be based on data collected in 2008 which led to the impairment listing in 2010 (ADEQ 2010).

Results are also not credible because they do not reflect current management conditions. In 2010, the Agua Fria National Monument implemented a winter season of use for livestock which has improved riparian conditions throughout the monument. Vegetation abundance, cover, and bank stability have increased which has likely influenced water quality positively.

Response #1
ADEQ supports management actions that improve riparian conditions and appreciates BLM's efforts to improve water quality. The 2016 draft Clean Water Act Assessment uses the last 5 years of data from July 1, 2010 to June 30, 2015. ADEQ makes a further distinction for how the acute and chronic criteria for the aquatic and wildlife designated use is assessed. For acute criteria ADEQ does look at the last 3 years of data, but for chronic we look at the entire assessment window. Impaired streams do not automatically drop off the 303(d) impaired waters list after a certain amount of time. ADEQ requires data to justify delisting of a waterbody as described in A.A.C. R18-11-605(E)(2).

The 2010 *E. coli* impairment will stay on the 303(d) impaired waters list until there are no exceedances under critical conditions during the last three years of monitoring (single sample maximum). The 2016 selenium impairment was added to the 303(d) impaired waters list because there were 2 exceedances in 4 samples. The chronic impairment criteria for aquatic and wildlife is two or more exceedances during the assessment period.

Roughly half of the data used in the 2016 assessment is from external agencies. ADEQ supports BLM in collecting additional data for the next assessment. ADEQ will use external data to make impairment or delisting decisions as long as the data meets the 'Credible Data Rule' in A.A.C. R18-11-602. ADEQ is willing to provide assistance to help BLM collect data that can be used in the 2018 Integrated Report.

Redhawk Copper

Comment #1 Copper Creek (15050203-022A) - Did not consider all data
The ADEQ data to support listing Copper Creek were derived from two sampling events in 2011. This limited dataset indicated that cadmium, copper, zinc, and selenium should be added to the 303(d) list. The 2011 to 2014 data collected on behalf of Redhawk indicated that out of the six metals evaluated (i.e., aluminum, cadmium, copper, iron, selenium, and zinc), sele-

nium was inconclusive and only copper exceeded the applicable standards:

- Dissolved copper, aquatic and wildlife warm water, acute and chronic
- Total copper, agricultural livestock watering

Response #1

ADEQ reviewed the March 5, 2015 technical memorandum to Joey Pace of ADEQ's Voluntary Remediation Program regarding the 'Revised Surface Water Quality Evaluation - Redhawk Voluntary Remediation Program Copper Creek, Arizona'. According to the memorandum 'Redhawk installed a surface water drainage run-on berm along an existing dirt road on the hillslope uphill from the workings' in November 2011. Data was collected from multiple sites in Copper Creek from 2011 to 2014. There were no exceedances of cadmium and zinc at the 8 sties during the 9 sampling events (from December 16, 2011 to September 5, 2014). The remedial efforts by Redhawk appear to have addressed the cadmium and zinc impairments in Copper Creek. ADEQ will update the assessment to remove cadmium and zinc impairments for Copper Creek.

Copper and selenium will both remain on the impaired waters list. According to the March 5, 2015 memorandum (Table 4), copper was exceeded in 12 of the 72 samples over three different dates. The impairment criteria for aquatic and wildlife is 'two or more exceedances' over the last 3 years (acute) or over the assessment period (chronic). After aggregating by site and time there will still be 3 exceedances of dissolved copper after the remedial run-on berm was constructed, therefore Copper Creek is impaired based on the methodology described in Chapter 2 of the 2016 Integrated Report. The detection limit for selenium was not low enough to determine if there was an exceedance of the water quality standard since the 2011 ADEQ sampling events. A detection limit of 40 ug/L was used but the applicable standard for selenium is 2 ug/L. Future sampling events should use a detection limit that is lower than the applicable standard.

Comment #2 Copper Creek (15050203-022A) - Natural background

Natural exposures of mineralized bedrock are pervasive throughout the Copper Creek area and play a role in surface water quality. Upstream of the historical town site of Copper City, natural background may be the only source. Downstream of Copper City, both anthropogenic and background sources are present; historical effects from the anthropogenic sources may even constitute "irreversible human caused conditions". Redhawk believes that the role of natural background, whether the sole or a combined contributor, should be understood before making an impairment decision. Based on experience at other creeks in Arizona, assigning impairment when both natural and anthropogenic sources are involved has led to a prolonged process of setting Total Maximum Daily Loads. This in turn has contributed to regulatory uncertainty in actual business and technical decisions for new or expanding mines. Natural background does matter in regulatory and business decisions even when it is not the only contributor to water quality.

Response #2

ADEQ disagrees that natural background contributions need to be understood before an impairment decision can be made. ADEQ does take into account situations where natural background conditions are 'solely caused by naturally-occurring conditions' (A.A.C. R18-11-119) and does not make impairment determinations when natural background is the only source of pollutants. Pollutants in Copper Creek are not solely due to natural conditions. The impaired reach of Copper Creek is within a historic mining area with manmade adit(s) and tailing piles adjacent to the stream.

Comment #3 Copper Creek (15050203-022A) - Wrong Designated Uses

The uses designated for Copper Creek in Appendix B of the Arizona Revised Statutes Title 18 Article 1 are: aquatic and wildlife warm water (A&Ww), full body contact (FBC), fish consumption (FC), and agricultural livestock watering (AgL). FC and FBC may be inappropriate designated uses for Copper Creek. It is unclear whether harvestable aquatic organisms exist, and if so, whether actual harvesting occurs. It is also unclear whether complete submergence can physically occur (as required for FBC) or whether partial submergence, such as wading under Partial Body Contact (PBC), is more realistic.

Response #3

The Integrated Report does not address changing designated uses for streams or lakes. Proposing a designated use that requires less stringent water quality criteria requires a 'use attainability analysis as described in A.A.C. R18-11-104(G) and (H). Proposing to change the designated use of a waterbody listed in Appendix B would be done when the standards rules

(A.A.C. Title 18, Chapter 11, Article 1) are reopened.

A.A.C. R18-11-101(8) defines "Aquatic and wildlife (warm water) (A&Ww)" as "the use of a surface water by animals, plants, or other warm-water organisms, generally occurring at an elevation less than 5,000 feet, for habitation, growth, or propagation." This designated use is not dependent on whether "harvestable aquatic organisms" exist. The designated use for aquatic life is dependent on the elevation and on the flow status. Streams above 5,000 feet that are intermittent or perennial are assigned the Aquatic and wildlife (warm water) designated use.

A.A.C. R18-11-101(21) defines "Full Body Contact (FBC)" as "the use of a surface water for swimming or other recreational activity that 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 and sensitive body organs, such as the eyes, ears, or nose, may be exposed to direct contact with the water." ADEQ disagrees that complete submergence means that the entire body submerged. The second sentence of the definition gives clarity as to what is meant by complete submergence. It states that the ingestion of water and exposure to eyes, ears, or nose is likely. ADEQ has assigned FBC to all intermittent and perennial streams because ingestion of water or exposure to eyes, ears, or nose is likely for people who use the stream for recreational purposes.

Comment #4 – Name Change

Please be aware that one of the historical workings along Copper Creek is commonly known as the Childs-Aldwinkle Mine (rather than the Childs and Altwinkle Mine shown in the listing summary).

Response #4

ADEQ has changed Childs and Altwinkle Mine to Childs-Aldwinkle Mine in the 2016 Integrated Report.

Pima County

Comment #1 Santa Cruz River (15050301-001) - Credible Data

For the ADEQ sampling data collected on 9/8/2010 and 8/27/2014, the results are questionable. RWRD requested the Ambient Stream Monitoring Field Forms for this data from ADEQ. Our review of those forms indicates that they have the following irregularities:

1) ADEQ's field form for their sample taken on 9/8/2010 shows the Colilert results are >2419.6 cfu/100 ml. This value is different from the one used in the Assessment Report of 3629.4 cfu/100 ml. In fact, the assessment report value is out of bounds of the detection limit range for the method used.
2) ADEQ's field form for their sample on 8/27/2014 has "48" written in the Most Probable Number portion of the Colilert Results section of the field form. This value is different from the one used in the Assessment Report of 2419 cfu/100 mL. The incubation time and enumeration time are not entered on the form, so it is unknown whether these important criteria followed the test protocol. It is also curious to see the sampler's notes on ADEQ's form which say, "*E coli* count high. Big storm few days before sampling and big one expected. Treatment Plant may have released in anticipation of the upcoming event." (emphasis added). From this odd note surmising that Pima County RWRD had discharged in excess because of the storm, a practice that we cannot realistically engage in, it is evident that the ADEQ sampler was unprofessional and less than objective about the expected result. Pima County is offended by this remark, and it indicates the sampler's naivete regarding AZPDES permitting and regulatory constraints that apply to our facilities. This data point should also be rejected based upon sampling bias.

Eliminating these two samples would render the *E. coli* exceedance rate for this stream segment less than 10%. This low rate of exceedance should make it possible for ADEQ to describe the PBC status for *E. coli* as inconclusive.

Response #1

ADEQ has removed the 8/27/2014 *E. coli* exceedance from the assessment because several fields were missing on the field form. For 'Greater Than' results ADEQ uses 0.5 times maximum number so that calculations can be made for statistical tests such as the geometric mean. The 9/8/10 exceedance was greater than 2419.6 cfu/100 mL, which is reported in the assessment as 2419.6 * 1.5 = 3629.4 cfu/100 mL. Chapter 2 of the 2016 Integrated Report has been updated to clarify how 'Greater

Than' values are handled for assessment purposes. A result of greater than 2419.6 cfu/100 mL is an exceedance.

The Santa Cruz River (15050301-001) will remain impaired for *E. coli* with three exceedances in 26 samples (12% Exceedance Rate). ADEQ impairment criteria listed in Chapter 2 of the Integrated Report for *E. coli* is 'Two or more exceedances during the last 3 years of monitoring. If any exceedances are storm-related, a minimum of 10 samples is required and the exceedance rate over the entire assessment period must be greater than 10%.'

Comment #2 Santa Cruz River (15050301-001) - E coli and Stormwater

ADEQ frequently excludes storm-related *E. coli* samples from use in impairment determination in their Assessment Reports. In the 2012/2014 Assessment Report there were at least 14 instances where stream segments were identified as "inconclusive" for PBC or FBC because *E. coli* exceedances were storm-related. In the 2016 draft report there are three segments in the Middle Gila Watershed (HUC's 15060106B-003C; 15060106B-1588; and 15060105-373) where PBC or FBC for *E. coli* was judged inconclusive because all, or all but one, of the exceedances were storm-related. ADEQ should likewise exclude storm-related *E. coli* data in HUC 15050301-001 for the 2016 Assessment Report and identify its status as "inconclusive."

Response #2

ADEQ impairment criteria for *E. coli* listed in Chapter 2 of the Integrated Report is 'Two or more exceedances during the last 3 years of monitoring". If any exceedances are storm-related, a minimum of 10 samples is required and the exceedance rate over the entire assessment period must be greater than 10%.' This criteria does not exclude *E. coli* data but does take into account storm samples and is based on the criteria prescribed by rule A.A.C. R18-11-605(D)(2)(a)(iii). ADEQ has applied the same impairment criteria for *E. coli* for all data used in the 2016 Integrated Report.

Comment #3 Natural Background

High *E. coli* during storm events is attributable to wild animals and possibly domestic pets. The area of the Santa Cruz River in question is an attraction for wildlife and is frequented by coyotes, raccoon, javelina, deer, bobcats, small rodents, and a multitude of bird species including waterfowl. ADEQ could probably document that the predominant source of the *E. coli* is naturally occurring by conducting DNA testing or other microbial source tracking (see below.)

ADEQ should not seek to add a surface water segment to the 303(d) list if that segment would currently meet the criteria for removal from the list. A.A.C. R18-11-605(E)(2) states that "The Department shall: (a) Remove a pollutant from a surface water or segment from the 303(d) list based on one or more of the following criteria: (vi) Pollutant loadings from naturally occurring conditions alone are sufficient to cause a violation of applicable water quality standards."

ADEQ should not seek to add a surface water segment to the 303(d) list if the reason for the standard exceedance is due to naturally occurring conditions. A.R.S. §49-232(D) states that "A water in which pollutant loadings from naturally occurring conditions alone are sufficient to cause a violation of applicable surface water quality standards shall not be listed as impaired." "Naturally occurring condition" is defined in A.A. C. R18-11-601 (10) as "the condition of a surface water or segment that would have occurred in the absence of pollutant loadings as a result of human activity."

Development of a TMDL based on *E. coli* is not practical or workable. We understand that ADEQ has developed three TMDL's for this pollutant in this state (two segments of the Upper Gila River and a portion of the Verde River) and has several others in preparation. These studies have generally identified stormflow as a significant source, with excessive loading of *E. coli* only occurring at high-flow events. ADEQ's TMDL studies have recognized that stream reaches affected by *E. coli* input during high-flow events generally meet the multiple data point, long-term mean standard, despite the episodic excursions above the single sample maximum. Furthermore, ADEQ's TMDL reports have only been able to focus on regulatory approaches for anthropogenic sources as remedies to the loading, and they cannot address getting reduction in naturally sourced *E. coli*. Thus, a TMDL for *E. coli* on the Santa Cruz River would not be able to resolve the naturally occurring bacteria mobilized by stormflow. For this reason, if ADEQ elects to keep Water Body ID 15050301-001 listed, it should simply be identified as "not attaining" because the impairment is not one for which a TMDL load allocation can reasonably be developed.

It is now common practice to apply advanced scientific DNA fingerprinting techniques for microbial source tracking to learn about the sources and relative contributions of *E. coli* in watersheds (see, for example, EPA's Wastewater Technology Fact Sheet- Bacterial Source Tracking.) Locally, Nick Paretti1 of the USGS is conducting such a study on the Upper Santa Cruz River near Tubac. This study is finding that natural sources are significant components of the *E. coli* loading of this stream and that stormflow mobilizes the non-effluent-derived *E. coli*. Since the natural sources are generally not addressable by a TMDL, it makes sense to identify and quantify this contribution before committing significant resources to the full-blown investigation and evaluation that a TMDL entails. Such a microbial source tracking study would give the Department "additional information that determines whether a water quality standard is exceeded due to a pollutant, suspected pollutant, or naturally occurring condition," in accordance with A.A.C. R18-11-605(B)(2)(c). Such data could better inform ADEQ's decision about listing the stream segment of concern.

Response #3

ADEQ's assessment of the Santa Cruz River (Canada Del Oro to HUC 15050303) is consistent with the methodology described in Chapter 2 of the 2016 Integrated Report and the Impaired Waters Identification Rule (IWIR) (Arizona Administrative Code Title 18, Chapter 11, Section 605 [R18-11-605]). The IWIR (R18-11-605(D)(2)(a.)(iii)) allows ADEQ to list waters as impaired with as few as two exceedances of the *E. coli* single sample maximum water quality standard in a three-year period regardless of the flow conditions under which the samples were collected. However, ADEQ has recognized that high *E. coli* densities in stormwater are common and listing waters based solely on two stormwater exceedances may lead to unnecessary listings. As described in the waterbody summary, *E. coli* exceedances were measured in 12% of the samples collected from this reach of the Santa Cruz with three being collected under storm conditions.

There is no indication that the data reflect only natural conditions. The Santa Cruz flows through the metropolitan Tucson area and likely includes both natural and anthropogenic sources of *E. coli* washed off the watershed during precipitation events. Microbial source tracking (MST) is a useful tool to determine sources of fecal contamination but is still an emerging science. ADEQ has employed MST in several areas across the state and found that the results are most useful when used in conjunction with local stakeholder input and on the ground examination of the watershed. Additionally, data indicate that storm flow *E. coli* levels are not solely attributable to natural conditions in urban environments. A Total Maximum Daily Load study will determine the sources and reductions needed to attain water quality. If additional data or contextual information point to natural sources as the sole source ADEQ would follow the applicable rules and statutes regarding natural conditions.

Comment #4 TMDL Priority

In addition, if ADEQ chooses not to remove the reach from listing, we believe the priority for TMDL in this segment should not be listed as "High." The naturally-occurring nature of *E. coli* along with Arizona's proclivity for monsoonal storm events that mobilize this pollutant make the "likelihood of success in restoring" *E. coli* impairments rather low. Thus, a low ranking would be justified based on EPA's Integrated Reporting Guidance.

Response #4

ADEQ will change the TMDL priority from 'High' to 'Medium' based on A.A.C. R18-11-606(B)(2)(a) 'The surface water or segment fails to meet more than one designated use'.

Freeport – Pinal Creek

Comment #1 Pinal Creek (15060103-280D) – Total versus Dissolved Metals

The assessment considered the Aquatic and Wildlife effluent dependent water (A&Wedw) designated use as "inconclusive" based on a single sample collected on April 5, 2011 that contained a dissolved copper concentration of 50 micrograms per liter (ug/L). The Pinal Creek Project submitted the water quality data for the April 5, 2011 sample to ADEQ as part of our ongoing data sharing partnership. The data submittal described qualifiers for the data based on ADEQ's Surface Water Assessment Methods and Technical Support document. The data transmittal letter, including a data quality assessment, is provided as Attachment A.

There are two problems with ADEQ's use of the April 5, 2011 sample result. One problem is that the dissolved copper result of 50 ug/L was more than 10% higher than the total copper result of less than 10 ug/L (i.e., nondetect) as described in Section 2.1 and Table 1 of Attachment A. Thus, the dissolved copper result is unreliable and unusable for assessment based on ADEQ's data quality assessment methods. The Pinal Creek Project respectfully requests that the unreliable data be removed from the assessment and the aquatic and wildlife designated use be listed as "attaining".

Response added a note to the assessment indicating "AWW is inconclusive with 1 exceedance. Note: This dissolved fraction was greater than the total copper result – the exceedance will not be used for impairment determination.".

Comment #2 Pinal Creek (15060103-280D) - Designated Use

The reach of Pinal Creek evaluated for the Clean Water Act Assessment contains three segments with different designated uses, as identified by Arizona Administrative Code Title 18, Chapter 11. The three segments and their designated uses are listed in the table below along with the water quality sampling locations reported by the Pinal Creek Project. Figure 1 shows the designated use segments and sample sites.

A complete assessment of the designated uses should consider all the designated uses of the stream reach being assessed. The Pinal Creek discussion in the April2016 draft Clean Water Act Assessment does not mention the Aquatic and Wildlife warm water, Full Body Contact, and Fish Consumption designated uses, all of which should be listed as attained based on data previously submitted by the Pinal Creek Project. In addition, there is no explanation for why the Partial Body Contact designated use was judged to be "inconclusive".

Response #2

ADEQ corrected the designated uses for the Pinal Creek sites. SRPNL006.87 (15060130-280D) will have the designated uses A&Wedw and PCB while SRPNL003.17 to 5.12 (15060130-280E) will have the A&Ww and FBC designated uses. The assessment decision will still be inconclusive for both reaches due to missing core parameters.

Comment #3 Pinal Creek (15060103-280D) - Data Gaps and Monitoring Needs

The assessment of Pinal Creek identifies data gaps and monitoring needs. The laboratory detection limits for dissolved beryllium, dissolved copper, selenium, and dissolved mercury are described as "not low enough". The table below summarizes the analytical detection limit used over the last several years and the lowest standard applicable to either of the three reaches.

The current detection limits used for dissolved beryllium, dissolved copper, and selenium are low enough to provide meaningful results with respect to the most stringent surface water standard. However, there are occasions when laboratory detection limits are higher due to analytical difficulties such as matrix interference, but that is an uncommon occurrence. The detection limit for dissolved mercury is less than the standard because commercial laboratories do not possess the analytical capabilities to attain lower detection limits. The 0.2 ug/L detection limit for dissolved mercury is the lowest detection level currently achievable with commercially available technology. Based on the information above, we request that dissolved beryllium, dissolved copper, and selenium be removed from the data gaps and monitoring needs section.

Response #3

The data gaps and monitoring needs are recommendations for how to turn an 'inconclusive' assessment decision to either an 'attainment' or 'impairment' decision. The recommendation to use lower detection limits was added to indicate that some of the samples collected had detection limits that were above the applicable standard which lead to the inconclusive designation. ADEQ will retain the monitoring recommendation to use lower detection limits in the assessment to inform future sampling. ADEQ understands that certain samples will have matrix interferances or other issues that prevent the lowest possible detection limit from being reported.

Freeport-McMoRan

Comment #1 Narrative Standards

On pages 12 and 40 of Chapter 2 of the draft 2016 Integrated Report, ADEQ suggests that narrative standards cannot be used as the basis of an impairment determination until implementation procedures for such standards are formally adopted. However, in April 2015 ADEQ published on its website revised versions of its narrative bottom deposits and narrative biocriteria implementation procedures. In these implementation documents, ADEQ did not include procedures for making impairment determinations. Rather, ADEQ stated that "guidance for 303(d) listings of impaired waters is not provided here because the 'Impaired Waters Identification Rule' language must be updated first." ADEQ further stated that "determinations of 'impairment' using [a narrative] standard cannot be made until the Impaired Waters Identification Rule has been updated in rule."

To maintain consistency, ADEQ should revise Chapter 2 of its report to state that impairment determinations based on narrative standards cannot be made until appropriate revisions have been made to ADEQ's impaired water identification rule (see A.A.C. Title 18, Chapter 11, Article 6).

Response #1
ADEQ updated Chapter 2 to make it clear that impairment determinations based on narrative standards cannot be made until appropriate revisions have been made to ADEQ's impaired water identification rule (see A.A.C. Title 18, Chapter 11, Article 6).

Comment #2 Biocriteria Exceedances
Further, in several locations throughout the individual watershed sections of the report ADEQ describes a single biocriteria sample result as an "exceedance" even though the result falls within the IBI score ranges (i.e., greater than the 10th percentile of reference condition and less than the 25th percentile of reference condition) that would be considered as "inconclusive" under the applicable standards (see A.A.C. R18-11-108.01) and ADEQ's implementation procedures for the narrative biocriteria standard. These locations include: (1) Little Colorado Watershed, p. 14 (Colter Creek (Headwaters – Nutrioso Creek)); (2) Salt Watershed, p. 10 (Boggy Creek (Headwaters – Centerfire Creek)); (3) Salt Watershed, p. 67 (West Fork Pinto Creek (Headwaters – Pinto Creek)); (4) San Pedro Watershed, p. 20 (San Pedro River (Aravaipa Creek – Gila River)); (5) San Pedro Watershed, p. 28 (San Pedro River (Peppersauce Wash – Aravaipa)); (6) Santa Cruz Watershed, p. 7 (Cienega Creek (Empire Gulch – USGS Gage station (Pantano Wash))); (7) Upper Gila Watershed, p. 8 (Bonita Creek (Park Creek – Gila River)); (8) Verde Watershed, p. 49 (Oak Creek (Slide Rock boundary – Dry Creek)); (9) Verde Watershed, p. 59 (Pine Creek (Headwaters – Unnamed Trib)); (10) Verde Watershed, p. 97 (West Beaver Creek (Rarick – Dry Beaver Creek)). ADEQ should revise its draft watershed reports to remove any reference to a single biocriteria sample result falling within the "inconclusive" IBI score ranges as an "exceedance."

Response #2
ADEQ revised the watershed reports to remove references to a single biocriteria sample result falling within the "inconclusive" IBI score ranges as an "exceedance."

Comment #3 Bottom Deposit TMDL Language
Finally, in several locations through the individual watershed sections ADEQ states that it will initiate "a bottom deposit TMDL once the Impaired Waters Identification Rule is updated." These locations include: (1) Middle Gila Watershed, p. 3 (Aqua Fria River (Sycamore Creek – Bishop Creek)); (2) Middle Gila Watershed, p. 26 (Hassayampa River (Cottonwood Creek – Martinez Wash)); (3) Middle Gila Watershed, p. 29 (Hassayampa River (Sols Wash – 8 miles below Wickenburg)); (4) San Pedro Watershed, p. 29 (San Pedro River (Peppersauce Wash – Aravaipa)); and (5) Santa Cruz Watershed, p. 35 (Sonoita Creek (1600 Feet Below Patagonia WWTP – Patagonia Lake)). The statements that ADEQ will pursue a Total Maximum Daily Load (TMDL) presumes that the identified water bodies have or will be placed on the 303(d) impaired waters list for impairment of the bottom deposits narrative criteria. Such statements should be removed because ADEQ does not currently have regulatory authority to place such waters on the 303(d) impaired waters list and conditions or implementation procedures could change in the interim such that such waters either will not qualify for placement on the 303(d) impaired waters list or necessitate a TMDL.
Response #3
ADEQ changed "Initiate a bottom deposit TMDL once the Impaired Waters Identification Rule is updated" to "Impairments due to bottom deposits cannot be made until the Impaired Waters Identification Rule is revised".

Comment #4 Boulder Creek (15030202-005B) 'Not attaining' vs. 'Impaired'.
This segment of Boulder Creek has been covered by an EPA-approved TMDL document since 2004. However, in the summary report for this segment, there is the statement that the "[r]each remains impaired for arsenic (1998)." On the prior page (p. 9), the impairment discussion for the upper reach of Boulder Creek (Wilder Creek – Butte Creek) (which is covered by the same EPA-approved TMDL document) provides that this upper "[r]each remains not-attaining . . ." (emphasis added).

Please revise the impairment discussion for Boulder Creek from Butte Creek to Copper Creek to clarify that notwithstanding the lack of monitoring data, the reach remains "not-attaining" for arsenic. In light of the fact that this reach is addressed by an EPA-approved TMDL, please remove the statement that the reach remains "impaired."

Response #4
ADEQ changed 'impaired' to 'non-attaining' in the impairment discussion for reach -005B.

Comment #5 Coors Lake/Water's of the US
Only jurisdictional "waters of the United States" can be identified as impaired waters under federal and state laws. 33 U.S.C. § 1313(d); A.R.S. § 49-231(1). Coors Lake has been determined by the Army Corps of Engineers (the "Corps") not to be a jurisdictional water of the United States (see Corps Approved Jurisdictional Determination for Coors Lake dated July 6, 2016 (copy enclosed)). In addition, consistent with information previously submitted to ADEQ on the jurisdictional status of Coors Lake, ADEQ itself has concluded that Coors Lake is not a jurisdictional water of the United States as part of its pending triennial review of Arizona's surface water quality standards (see ADEQ Memorandum titled "Proposal to Remove Coors Lake from Appendix B" (January 20, 2016) (copy enclosed)). Consistent with these agency determinations, Coors Lake should be completely removed from ADEQ's draft 2016 Integrated Report, including from the Bill Williams Watershed section and from Category 5 of the 303(d) list.

Response #5
Based on the Army Corps of Engineers jurisdictional determination, ADEQ has removed Coors Lake from the 2016 Integrated Report and 303(d) list.

Comments #6 Pinal Creek
As explained in more detail in comments submitted by the Pinal Creek Project on ADEQ's draft 2016 Integrated Report, the summary report for this 6.446 mile segment of Pinal Creek lists the designated uses as partial body contact (PBC) and aquatic and wildlife (effluent-dependent water) (A&Wedw). This description of the designated uses for Pinal Creek from the Lower Pinal Creek WTP discharge to the Salt River is not accurate. According to Appendix B of Arizona's surface water quality standards only the segment of Pinal Creek from the Lower Pinal Creek WTP discharge to See Ranch Crossing has the designated uses of PBC and A&Wedw. Below See Ranch Crossing to north of Inspiration Dam, Pinal Creek has the designated uses of full body contact (FBC) and aquatic and wildlife (warm water) (A&Ww).

Further, as again noted in the comments submitted by the Pinal Creek Project, the summary report for Pinal Creek from Lower Pinal Creek WTP discharge to Salt River identifies an alleged single chronic exceedance (50 µg/L) for dissolved copper and recommends collection of additional copper samples. The sample containing this alleged single chronic exceedance was collected on 4/5/2011. Based on this alleged exceedance, the summary report concludes that "AWEDW is inconclusive with 1 exceedance." However, the sample relating to the alleged exceedance was collected at Inspiration Dam, which is not within the segment that has the A&Wedw use.

In addition, the Pinal Creek Project submitted the results from the 4/5/2011 sampling event and other sampling information to ADEQ by letter dated November 21, 2014. In that submittal, the Pinal Creek Project specifically discussed the 4/5/2011 dissolved copper result. The Pinal Creek Project explained that because the corresponding total result for the 4/5/2011 sample was non-detect the reported dissolved copper result was unreliable for use in water quality assessments because the dissolved fraction was more than 10% higher than the total fraction. This explanation is consistent with language found in Chapter 2 (p. 8) of ADEQ's draft 2016 Integrated Report under the heading "Reviewing Dissolved and Total Standards" which states that "[i]n those cases where both total and dissolved fractions are provided, but the dissolved fraction is above

the total value, the data is flagged as unreliable for listing decisions if the dissolved fraction is more than 10 percent higher than the total fraction."

Consistent with the explanation contained in the Pinal Creek Project's submittal from late 2014 and with ADEQ's own language from its 2016 draft report, the 4/5/2011 dissolved copper sample result is unreliable for assessment purposes and any reference to the 4/5/2011 sampling result should be removed from the assessment report. Further, ADEQ needs to ensure that it appropriately identifies the designated uses for the segments of Pinal Creek below the Pinal Creek WTP discharge.

Finally, FMC supports all of comments on ADEQ's draft 2016 Integrated Report submitted by the Pinal Creek Project including the comment that beryllium (dissolved), copper (dissolved), selenium, and mercury (dissolved) be removed from the "Data Gaps and Monitoring Needs" section.

Response #6
See Response Freeport McMoRan – Pinal Creek #1 to #3.

Comments #7 Brewery Gulch / Mule Gulch
Given the recognized improvements in the watershed implemented by FMC and the fact that ADEQ previously recognized the need for a site-specific standard to account for natural background contributions of copper, these four water segments should be removed from Category 5 and placed in Category 3 consistent with the statutory language in A.R.S. 49-232(D)(see also A.A.C. R18-11-604(C)(1) and R18-11-605(E)(2)(a)(vi)). FMC also questions the continued impaired listing of these waters in light of their ephemeral status and in light of their highly questionable jurisdictional status as "waters of the United States."

Response #7
The most recent data, collected in 2007, continue to indicate that applicable dissolved copper water quality standards are not being attained. ADEQ previously recognized the water quality improvements resulting from FMC's implementation work in the 2012/14 305(b) Assessment when dissolved cadmium and zinc along with pH were removed from the 303(d) list. The 2014 Delist Report for Mule Gulch (ADEQ, 2014) notes that dissolved copper concentrations have been reduced by approximately 50-100%, however, exceedances sufficient to keep the reaches listed as impaired remain. ADEQ is continuing to collect water quality from the watershed to determine current conditions and the effectiveness of best management practices implemented by FMC since 2007. An updated analysis will be undertaken as more recent data are collected. Future actions may include delisting, development of a site specific standard and/or a Total Maximum Daily Load.

ADEQ assesses credible data from waterbodies that have applicable designated uses and associated water quality standards. Ephemeral standards are expressed in Arizona Administrative Code Title 18, Chapter 11 (R18-11) and, therefore, making 305(b) and 303(d) determinations based upon those standards are justified and required in accordance with state and federal regulations. The three reaches of Mule Gulch are assigned designated uses in A.A.C. R18-11, Appendix B and are used to determine the applicable water quality standards. Brewery Gulch was assigned designated uses as prescribed by A.A.C. R18-11-105.

ADEQ is not aware of any jurisdictional determinations in regards to Mule or Brewery Gulch.

City of Yuma

Comment #1 Selenium Delistings
The Watershed Assessments for the Colorado – Lower Gila, as well as Appendix E – Delisting Impairments, indicate that ADEQ is recommending delisting selenium for several reaches: Colorado River – Imperial Dam to Gila River, Gila River – Coyote Wash to Castle Dome Wash, and Gila River – Castle Dome Wash to Fortuna Wash. These three segments are tributary to the Colorado River reach between Main Canal and Mexico Border (assessment unit 15030107-001) which is proposed to remain on the 303(d) list for selenium.

Given that the Colorado River segment between the Gila River and the Main Canal is not listed as impaired for selenium and the upstream contributing segments of the Colorado and Gila Rivers are proposed for delisting of selenium, why would the segment between the Main Canal and Mexico Border not be considered for delisting as well?

It appears that the last exceedance sample of selenium for the Colorado River segment between the Main Canal and Mexico Border occurred in January, 2013. If the Colorado River segment between the Main Canal and Mexico Border is going to remain on the 303(d) list for selenium what is ADEQ's plan and schedule for additional sampling to determine if selenium levels are still exceeding?

Response #1

The delisting requirements for selenium are listed in Chapter 2 (Technical Methods and Support) of the 2016 Clean Water Act Assessment document. Selenium cannot be exceeded during the 5-year assessment period for chronic criteria. The segment between the Main Canal and the Mexico Border cannot be considered for delisting because there were six chronic exceedances of selenium out of 47 samples collected within the assessment period. ADEQ will continue to monitor for selenium within this reach of the Colorado River in cooperation with the United States Geologic Survey.

Prescott Creeks

Comment #1 Name Changes

Prescott Creeks recommends the correction and/or clarification of names chosen and utilized to identify several geographic features used as reference points in the draft assessment. In the proposed draft assessment, Prescott Creeks encountered several referenced geographic features names that do not correspond with widely accepted geographic names databases such as the national USGS Geographic Names Information System (GNIS). For sake of clarity, ease of data communication, and transparency, Prescott Creeks advocates alignment of names and identification system(s) used by ADEQ with widely accepted databases.

Prescott Creeks recognizes that throughout the draft assessment all streams and channels are clearly referenced with their hydrological unit code (HUC) system. That said, Prescott Creeks advocates renaming and referencing the following listed sites in the proposed draft assessment:

a. Ackers East and Ackers West- as described in the draft assessment (pp. 2-5 of Verde River Watershed Assessment) is presumably referring to small ephemeral channels of an unnamed tributary, which drains Acker Park sub-watershed to Granite Creek. Prescott Creeks concurs that the water quality standards exceedances data as presented by ADEQ requires further investigation and mitigation of the source pollutant *E. coli* at the Acker Park subwatershed. Prescott Creeks suggests revising all references to Ackers East and Ackers West to Unnamed Wash (Acker Park East) and Unnamed Wash (Acker Park West), or using a similar approach where the use of Unnamed Wash avoids confusion.

b. Bannon Creek- as described in the draft assessment (pp.11-12 of Verde River Watershed Assessment) is presumably referring to a small intermittent stream that is officially recognized by local authorities and the USGS GNIS as BANNING CREEK (since 2005), a tributary to Granite Creek. Prescott Creeks suggests changing all instances of Bannon to Banning.

c. Washington Park- as described in the draft assessment (p.35 of Verde River Watershed Assessment) in the monitoring summary for Granite Creek lies between Watson Lake Reservoir and Willow Creek downstream of Willow Creek Reservoir. It is unclear where the monitoring location is located. Prescott Creeks was also unable to find a park matching that name in Yavapai County. Some thought and attention is needed to arrive at a name for this site that best references the location for the target audience(s) of this document. Prescott Creeks suggests revising all references to this location with a correct geographic name and/or a geographically descriptive name.

Response #1

See City of Prescott comment #4 – Name Changes. For the Granite Creek reach between Watson Lake to Willow Creek (15060202-059C) the site name 'Upstream from Washington Park' was changed to 'USGS gage 09503300'.

Comment #2 Current Prescott Creek Projects

Prescott Creeks recommends corrections and/or clarifications of the water quality improvements projects implemented by Prescott Creeks through 319(h) grant funding in the Granite Creek Watershed referred to in the current draft assessment.

Prescott Creeks and ADEQ have worked closely in the planning, coordination, and implementation of specific water quality improvements projects funded through 319(h) grants that include surface water quality monitoring, watershed BMP planning, development of educational materials and tools, and implementation of physical BMP projects on the ground. In the proposed draft assessment, in 13 out of 14 assessed stream reaches within the Granite Creek Watershed it is noted: "Ongoing water quality improvements being implemented through a 319(h) grant to Prescott Creeks Preservation Association." Prescott Creeks appreciates and welcomes ADEQ recognition for the past and ongoing commitment of Prescott Creeks for improving water quality in the watershed. However, Prescott Creeks finds the above statement to be accurate for only some of the assessed streams in this draft assessment and otherwise misleading as on many of the reaches Prescott Creeks has not directly worked in the past, or is not currently working on projects funded through a 319(h) grants.

Below is an inclusive list of the 13 assessed streams listed in the draft assessment that indicates "Ongoing water quality improvements being implemented through a 319(h) grant to Prescott Creeks Preservation Association" and recommended corrections to accurately reflect Prescott Creeks efforts with 319(h) funding support.

1. Ackers East (Headwaters-Ackers West) – No past and/or present project was implemented by Prescott Creeks through 319(h) funding
2. Ackers West (Headwaters-Granite Creek) - No past and/or present project was implemented by Prescott Creeks through 319(h) funding
3. Aspen Creek (Headwaters-Granite Creek) - Prescott Creeks completed a 319(h) funded monitoring project in the past as part of the Watershed Improvement Plan (grant contract # EV09-0035). No ongoing 319(h) funded work is currently being done by Prescott Creeks on this stream reach.
4. Bannon Creek (Headwaters-Granite Creek) - Prescott Creeks completed a 319(h) funded monitoring project in the past as part of the Watershed Improvement Plan (grant contract # EV09-0035). No ongoing 319(h) funded work is currently being done by Prescott Creeks on this stream reach.
5. Butte Creek (Headwaters- Miller Creek) - Prescott Creeks completed a 319(h) funded monitoring project in the past as part of the Watershed Improvement Plan (grant contract # EV09-0035). No ongoing 319(h) funded work is currently being done on this stream.
6. Government Canyon (Headwaters-Granite Creek) - Prescott Creeks completed a 319(h) funded monitoring project in the past as part of the Watershed Improvement Plan (grant contract # EV09-0035). No ongoing 319(h) funded work is currently being done by Prescott Creeks on this stream reach.
7. Granite Creek (Headwaters-Yavapai Reservation) - Prescott Creeks has previously completed a number of 319(h) funded projects focusing on developing and distributing educational materials and undertaking monitoring efforts (under grant contract # EV05-0128), and monitoring work on this stream as part of the Watershed Improvement Plan (grant contract # EV09-0035). No ongoing 319(h) funded work is currently being done by Prescott Creeks on this stream reach.
8. Granite Creek (Yavapai Reservation-Watson Lake) - Prescott Creeks has previously completed a number of 319(h) funded projects implementing: Educational materials, Stormwater basin, and monitoring as part of grant contract # EV05-0128; Watson Woods Riparian Preserve restoration as part of grant contract # EV07-0034; Monitoring as part of the Watershed Improvement Plan grant contract # EV09-0035; Implementation of Green Infrastructure as part of grant contract # EV13-001. No ongoing 319(h) funded work is currently being done by Prescott Creeks on this stream reach.
9. Manzanita Creek (Headwaters-Granite Creek) - Prescott Creeks completed a 319(h) funded monitoring project in the past as part of the Watershed Improvement Plan (grant contract # EV09-0035). No ongoing 319(h) funded work is currently being done by Prescott Creeks on this stream reach.
10. Miller Creek (Headwaters- Granite Creek) - Prescott Creeks completed few 319(h) funded projects in the past only implementing educational materials, and monitoring as part of (grant contract # EV05-0128), and monitor this stream as part of the Watershed Improvement Plan (grant contract # EV09-0035). No ongoing 319(h) funded work is currently being done by Prescott Creeks on this stream reach.
11. North Fork Miller (Headwaters-Miller Creek) -Prescott Creeks completed a 319(h) funded monitoring project in the past as part of the Watershed Improvement Plan (grant contract # EV09-0035). No ongoing 319(h) funded work is currently being done by Prescott Creeks on this stream reach.
12. North Granite Creek (Headwaters-Granite Creek) - Prescott Creeks completed a 319(h) funded monitoring project in the past as part of the Watershed Improvement Plan (grant contract # EV09-0035). No ongoing 319(h) funded work is currently being done by Prescott Creeks on this stream reach.

13. Slaughterhouse Gulch (Headwaters-Granite Creek) - Slaughterhouse Gulch, a tributary of Granite Creek, channel restoration and wetland protection is currently funded by a 319(h) grant (grant contract # EV16-0002) to implement.

Response #1

ADEQ appreciates Prescott Creeks' efforts and has changed the 2016 Integrated Report to reflect Prescott Creek's current work.

7. Arizona's 2016 303(d) List of Impaired Waters

This list contains assessment units that were assessed as impaired (Category 5) by ADEQ or EPA during the current and previous assessment listing cycles. The year each parameter was listed is located in parentheses after each parameter (2016 listings are in **bold**).

ASSESSMENT UNIT	SIZE (ACRES/MILES)	CAUSE(S) OF IMPAIRMENT (YEAR FIRST LISTED)
Bill Williams Watershed		
Alamo Lake 15030204-0040	1414 a	Ammonia (2004), mercury in fish tissue (2002- EPA), high pH (1996)
Bill Williams River Alamo Lake to Castaneda Wash 15030204-003	35.9 mi	Ammonia (2006)
Boulder Creek Tributary at 344114/1131800 to Wilder Creek 15030202-006B	14.4 mi	Beryllium (dissolved)(2010)
Colorado-Grand Canyon Watershed		
Colorado River Parashant Canyon to Diamond Creek 15010002-003	27.6 mi	Selenium (total) and suspended sediment concentration (2004)
Kanab Creek Jump-up Canyon to Colorado River 15010003-001	12.8 m	**Selenium (total) (2016)**
Lake Powell 14070006-1130	9770 a	Mercury in fish tissue (2010- EPA)
Paria River Utah border to Colorado River 14070007-123	29.4 mi	Suspended sediment concentration (2004), *E. coli* (2006), **selenium (total) (2016)**
Virgin River Sullivan's Canyon to Beaver Dam Wash 15010010-004	9.7 mi	Selenium (total) (2012)

Virgin River Beaver Dam Wash to Big Bend Wash 15010010-003	10.1 mi	Selenium (total) and suspended sediment concentration (2004), *E. coli* (2010)
Colorado-Lower Gila Watershed		
Colorado River Hoover Dam to Lake Mohave 15030101-015	40.4 mi	Selenium (total) (2004)
Colorado River Main Canal to Mexico border 15030107-001	32.2 mi	Selenium (total) (2006)
Lake Mohave 15030101-0960	27044 a	Selenium (total) (2010)
Painted Rock Borrow Pit Lake 15070201-1010	186 a	Low dissolved oxygen (1992)
Little Colorado Watershed		
Black Canyon Lake 15020010-0180	37.4 a	Ammonia (2010)
Lyman Lake 15020001-0850	1308 a	Mercury in fish tissue (2004- EPA)
Pintail Lake 15020005-5000	25.7 a	Ammonia (2010)
Puerco River Dead Wash to Ninemile Wash 15020007-007	0.2 mi	Copper (dissolved) (2010), *E. coli* (2012/14)
Telephone Lake 15020005-1500	22.3 a	Ammonia (2010)
Middle Gila Watershed		
Agua Fria River Sycamore Creek to Big Bug Creek 15070102-023	9.1 mi	*E. coli* (2010), **selenium (total) (2016)**
Alvord Lake 15060106B-0050	27 a	Ammonia (2004)
Arnett Creek Headwaters to Queen Creek 15050100-1818	11.1 mi	Copper (dissolved) (2010)

Chaparral Park Lake 15060106B-0300	12 a	Low dissolved oxygen and *E. coli* (2004)
Cortez Park Lake 15060106B-0410	2 a	Low dissolved oxygen and high pH (2004)
Gila River San Pedro River to Mineral Creek 15050100-008	19.8 mi	Suspended sediment concentration (2006)
Hassayampa River Buckeye Canal to Gila River 15070103-001B	2.3 m	***E. coli* (2016)**
Lake Pleasant 15070102-1100	8000 a	Mercury in fish tissue (2006- EPA)
Mineral Creek Devil's Canyon to Gila River 15050100-012B	19.6 mi	Copper (dissolved) (1992), selenium (total) (2004), low dissolved oxygen (2006)
Money Metals Trib Headwaters to Unnamed Tributary (UB1) 15070102-123	0.5 m	**Copper and zinc (2016)**
Queen Creek Headwaters to Superior WWTP discharge 15050100-014A	8.8 mi	Copper (dissolved) (2002), lead (total) (2010), selenium (total) (2012)
Queen Creek Superior WWTP discharge to Potts Canyon 15050100-014B	5.9 mi	Copper (dissolved) (2004)
Queen Creek Potts Canyon to Whitlow Canyon 15050100-014C	8.0 mi	Copper (dissolved) (2010)
Unnamed Trib to Eugene Gulch Headwaters to Eugene Gulch 15070102-1994	0.7 m	**Copper (dissolved) (2016)**
Salt Watershed		
Apache Lake 15060106A-0070	2,190 a	Low dissolved oxygen(2006)
Canyon Lake 15060106A-0250	450 a	Low dissolved oxygen(2004)

Christopher Creek Headwaters to Tonto Creek 15060105-353 *Also on Not Attaining (4A) List	8 mi	**Low dissolved oxygen (2016)**
Crescent Lake 15060101-0420	157 a	High pH (2002- EPA)
Five Point Tributary Headwaters to Pinto Creek 15060103-885	2.9 mi	Copper (dissolved) (2006)
Pinto Creek West Fork Pinto Creek to Roosevelt Lake 15060103-018C *Also on Not Attaining (4A) List	17.8 mi	Selenium (total) (2004)
Roosevelt Lake 15060103-1240	18345 a	Mercury in fish tissue (2006- EPA)
Salt River Canyon Creek to Cherry Creek 15060103-007	19.6 mi	Selenium (total) (2012/14)
Salt River Pinal Creek to Roosevelt Lake 15060103-004	7.5 mi	*E. coli* (2010)
Tonto Creek Tributary @ 341810/1110414 to Haigler Creek 15060105-013B	8.5 mi	Mercury in fish tissue (2010- EPA)
Tonto Creek Haigler Creek to Spring Creek 15060105-011	7.8 mi	Mercury in fish tissue (2010-EPA)
Tonto Creek Spring Creek to Rye Creek 15060105-009	19.5 mi	Mercury in fish tissue (2010-EPA)
Tonto Creek Rye Creek to Gun Creek 15060105-008	4.7 mi	Mercury in fish tissue (2010-EPA)
Tonto Creek Gun Creek to Greenback Creek 15060105-006	18.6 mi	Mercury in fish tissue (2010-EPA)

Tonto Creek (TON) Greenback Creek to Roosevelt Lake 15060105-004	2.6 m	Mercury in fish tissue (2010-EPA)
San Pedro Watershed		
Aravaipa Creek Aravaipa Cyn Wilderness - San Pedro River 15050203-004C	12.6 m	***E. coli* (2016)**
Brewery Gulch Headwaters to Mule Gulch 15080301-337	1 mi	Copper (dissolved) (2004-EPA and ADEQ 2006/08)
Copper Creek Headwaters - Prospect Canyon 15050203-022A	6.6 m	**Copper and selenium (2016)**
Mule Gulch Headwaters to above Lavender Pit 15080301-090A	3 mi	Copper (dissolved) (1990)
Mule Gulch Above Lavender Pit to Bisbee WWTP discharge 15080301-090B	0.8 miles	Copper (dissolved) (1990)
Mule Gulch Bisbee WWTP discharge to Highway 80 bridge 15080301-090C	3.8 mi	Copper (total and dissolved) (1990)
San Pedro River Mexico border to Charleston 15050202-008	28.3 mi	*E. coli* and copper (dissolved) (2010), **dissolved oxygen (2016)**
San Pedro River Babocomari Creek to Dragoon Wash 15050202-003	17 mi	*E. coli* (2004)
Santa Cruz Watershed		
Nogales Wash Mexico border to Potrero Creek 15050301-011	6.2 mi	Ammonia and copper (dissolved) (2004), total residual chlorine (1996), *E. coli* (1998)
Parker Canyon Lake 15050301-1040	130 a	Mercury in fish tissue (2004- EPA)
Potrero Creek Interstate 19 to Santa Cruz River 15050301-500B	4.9 mi	*E. coli*, low dissolved oxygen and total residual chlorine (2010)

Rose Canyon Lake 15050302-1260	7 a	Low pH (2004- EPA)
Santa Cruz River Canada Del Oro to HUC 15050303 15050301-001	8.6 m	***E. coli* (2016)**
Santa Cruz River Josephine Canyon to Tubac Bridge 15050301-008A	4.8 mi	Ammonia and *E. coli* (2010)
Santa Cruz River Tubac Bridge - Sopori Wash 15050301-008B	8.9 mi	***E. coli* (2016)**
Santa Cruz River Nogales WWTP - Josephine Can 15050301-009	9.1 mi	*E. coli* (2012/14)
Sonoita Creek 1600 feet below Patagonia WWTP discharge to Patagonia Lake 15050301-013C	8.9 mi	Zinc (total) (2004), low dissolved oxygen (1998)
Upper Gila River		
Blue River Strayhorse Creek to San Francisco River 15040004-025B	25.4 mi	*E. coli* (2006)
Cave Creek Headwaters to South Fork Cave Creek 15040006-852A	7.5 mi	Selenium (total) (2004)
Gila River Bonita Creek to Yuma Wash 15040005-022	5.8 mi	Lead (total) (2010)
San Francisco River Blue River to Limestone Gulch 15040004-003	18.7 mi	*E. coli* (2006)
San Francisco River Limestone Gulch to Gila River 15040004-001	12.8 mi	*E. coli* (2010)
Verde Watershed		

Oak Creek Spring Creek to Verde River 15060202-016	12.7 m	***E. coli* (2016)**
Verde River Bartlett Dam to Camp Creek 15060203-004	6.6 mi	Arsenic (total) (2010)
Verde River Sycamore Creek to Oak Creek 15060202-025	25.2 m	**Dissolved oxygen and *E. coli* (2016)**
Willow Creek Reservoir 15060202-1660	294 a	Ammonia (2012)

NOTICE OF PUBLIC INFORMATION

DEPARTMENT OF REAL ESTATE

[M16-215]

1. **Title of the substantive policy statement and the substantive policy statement number by which the document is referenced:**
   No. 2005.03 Short Title: Disclosure of Licensee's Home Address

2. **The public information relating to the substantive policy statement:**
   The Arizona Department of Real Estate (Department) is repealing the substantive policy statement specified in paragraph 1, effective August 29, 2016. The information provided in No. 2005.03 was repealed because it is no longer accurate.

3. **The name and address of agency personnel with whom persons may communicate regarding this notice of public information:**

Name:	Louis Dettorre
Address:	Department of Real Estate 2910 N. 44th St., Suite 100 Phoenix, AZ 85018
Telephone:	(602) 771-7760
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