Summary of AMAFCA's MS4 Discharges to Water Quality Impaired Water Bodies without an Approved TMDL Program FY 2021 (July 1, 2020 – June 30, 2021)

NPDES Permit No. NMR04A000

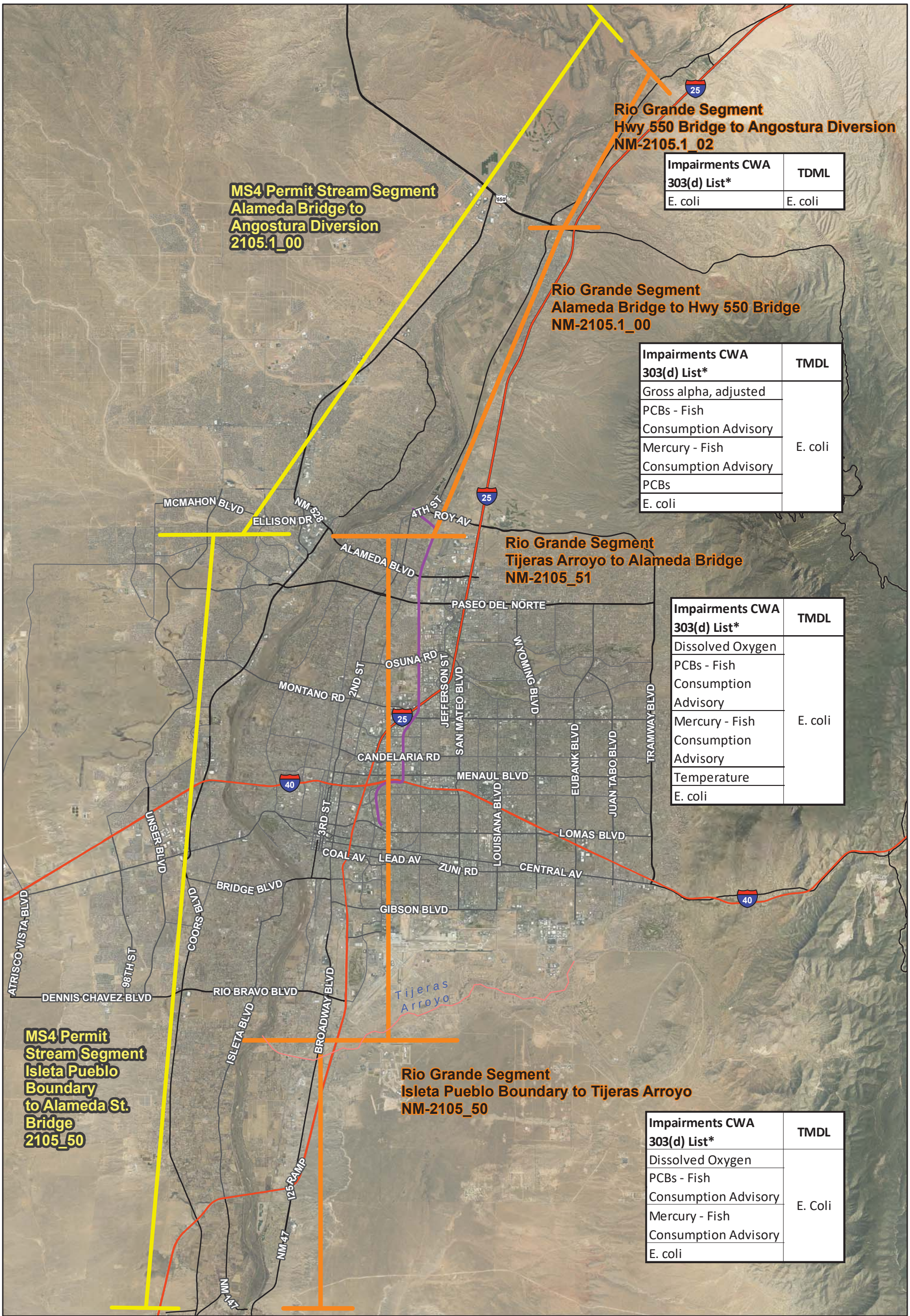
Part I.C.2.b.(ii) - Special Conditions, Compliance with Water Quality Standards

Impairments without Approved TMDLs

Impairments for the Rio Grande are documented in the Clean Water Act (CWA) 303(d)/305(b) Integrated Report (IR). The IR is updated every three years by a review process that is conducted by the New Mexico Environment Department (NMED). For AMAFCA and other Municipal Separate Storm Sewer System (MS4) permittees in the watershed, compliance sampling is done in the Rio Grande at upstream and downstream locations of the urbanized area for impairment parameters, as well as other parameters identified in the MS4 Permit.

AMAFCA and other MS4s covered under the MS4 Permit are required to comply with water quality standards that are comprised of designated uses for surface waters of the state, associated water quality criteria necessary to protect these uses, and an antidegradation policy. Designated uses in the Middle Rio Grande include aquatic life, fish culture, primary and secondary contact (including cultural, religious, or ceremonial purposes), public water supply, industrial water supply, domestic water supply, irrigation, livestock watering, and wildlife habitat. Impairments are identified when sampling results show that the water quality is not meeting the designated uses requirements. Once an impairment is identified; a Total Maximum Daily Load (TMDL) may be considered in the future if continued monitoring does not show improvement. AMAFCA's stormwater discharges protect these uses and fulfill the requirements set forth in the MS4 Permit. Coordinated water quality sample collection programs through AMAFCA, the Stormwater Quality Team, Compliance Monitoring Cooperative (CMC), and Bosque Ecosystem Monitoring Program (BEMP) have been developed and are annually funded to monitor, assess, protect, and restore surface water quality to the Middle Rio Grande watershed.

The current impairments for the Rio Grande stream segments are shown in the figure below.



AMAFCA

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Legend

- MS4 Permit Stream Segments
- NMED Stream Segments
- North Diversion Channel
- Rio Grande
- Interstate Highway
- U.S. Highway
- State Highway

* Final 2020-2022 State of NM Clean Water Act Section 303(d)/Section 305(b) Integrated Report

N W E S

0 1 2 4 Miles

CMC Monitoring

Figure 6
Rio Grande Impairments & TMDL Information

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Author: SThompson

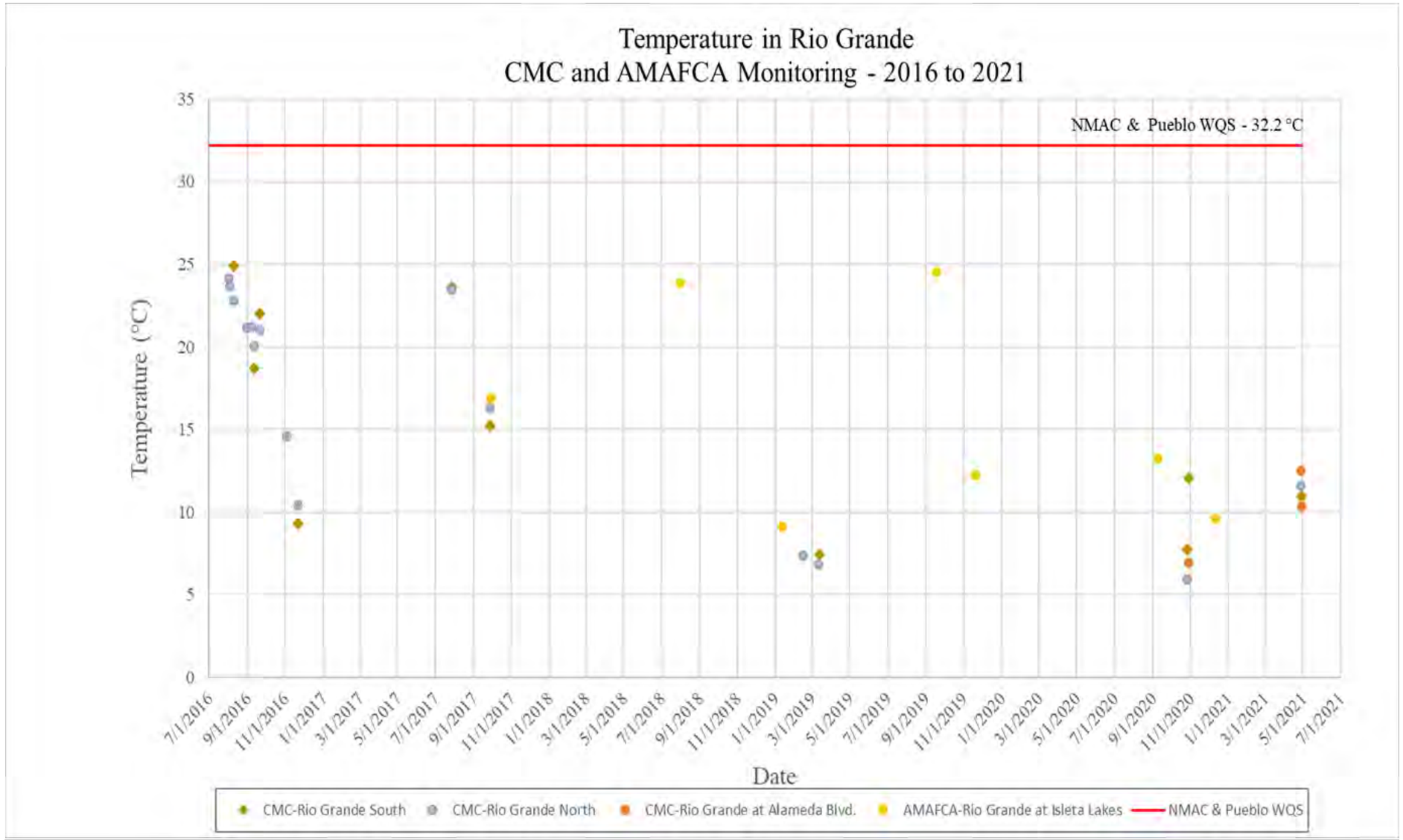
August 2021

CMC and AMAFCA Water Quality Monitoring Program for Temperature, Gross Alpha, Mercury, and PCBs

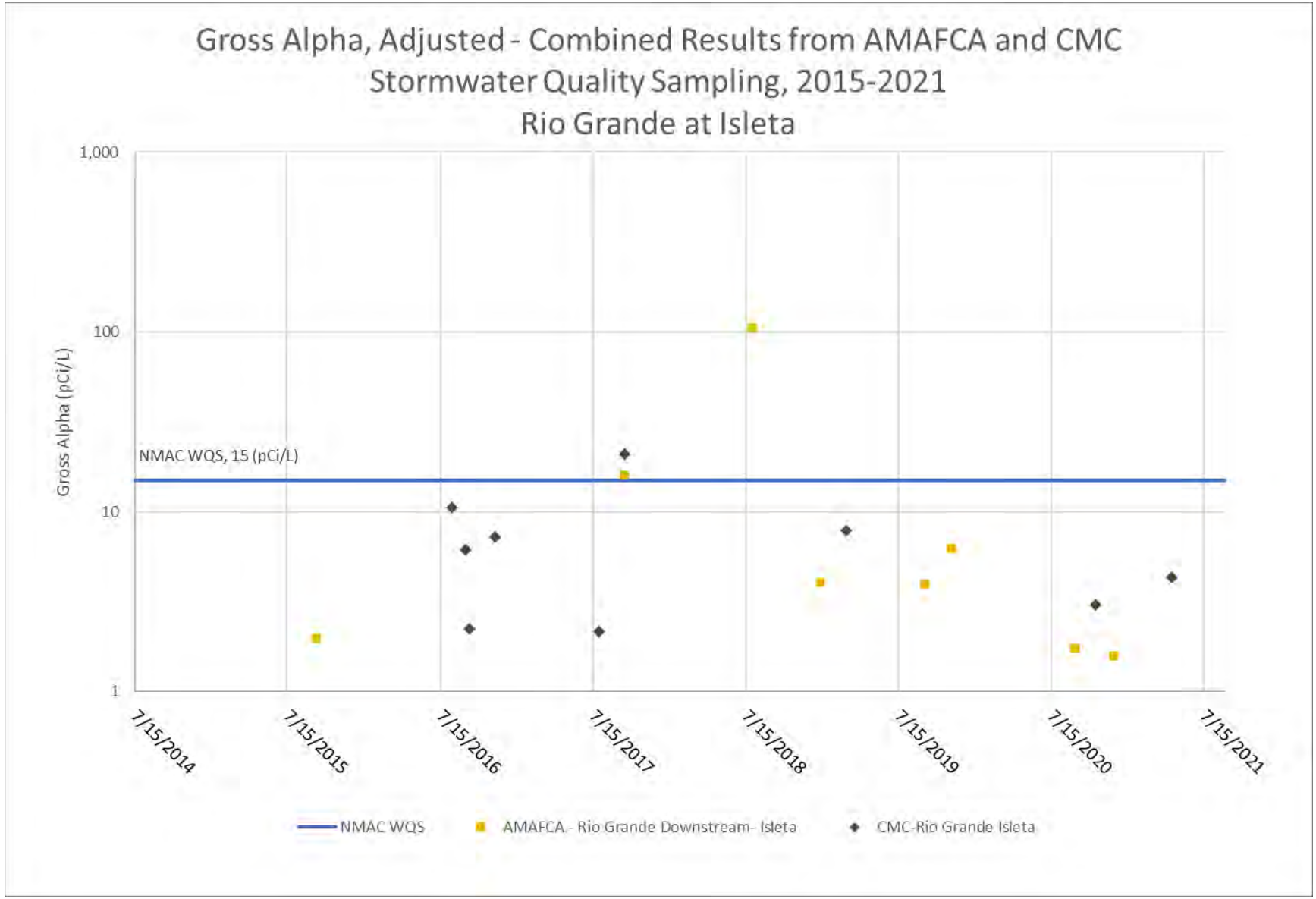
Both AMAFCA and the Middle Rio Grande Compliance Monitoring Cooperative (CMC) collect grab samples within the Rio Grande during storm events. Parameters, including the identified impaired parameters, are tested for these in-stream samples. For MS4 Permit compliance, the Middle Rio Grande CMC has monitoring points north and south of the urbanized portion of the river. The AMAFCA monitoring program collects samples in the Rio Grande at the downstream (south) end of the watershed (Rio Grande at Isleta Lakes). The graphs below show the Temperature and Gross Alpha from AMAFCA and CMC samples collected from 2016 – 2021.

AMAFCA monitors and evaluates the potential effect of stormwater discharges related to temperature in the Rio Grande. AMAFCA and the original MS4 co-permittees (the City of Albuquerque, New Mexico Department of Transportation, and the University of New Mexico) assembled and analyzed temperature data from 1982 to 2012. This data analysis proved the assertion that the receiving waters of the Rio Grande are not adversely affected by the temperature of stormwater from the Albuquerque MS4. This data was presented in an initial report that was submitted to EPA on May 1, 2012.

Since 2012, the MS4 permittees have continued to collect and submit temperature data, with each Annual Report showing that the Rio Grande (receiving water for the Middle Rio Grande watershed) is not adversely affected by the temperature of stormwater from the Albuquerque MS4. AMAFCA has collected data from 2012 to 2021 using tidbit probes and sondes. The temperature monitoring results have not shown temperature exceedances related to stormwater discharges at any of the monitoring locations in the watershed or in the river. In accordance with AMAFCA's Stormwater Management Program (SWMP), AMAFCA has assessed and will continue to assess the potential effect of stormwater discharges into the Rio Grande by collecting and evaluating additional temperature data. Additional information is available in the Dissolved Oxygen and Temperature Program summary documents.



Plot of Temperature Data Collected From Grab Samples in the Rio Grande Through the AMAFCA and CMC Monitoring Programs

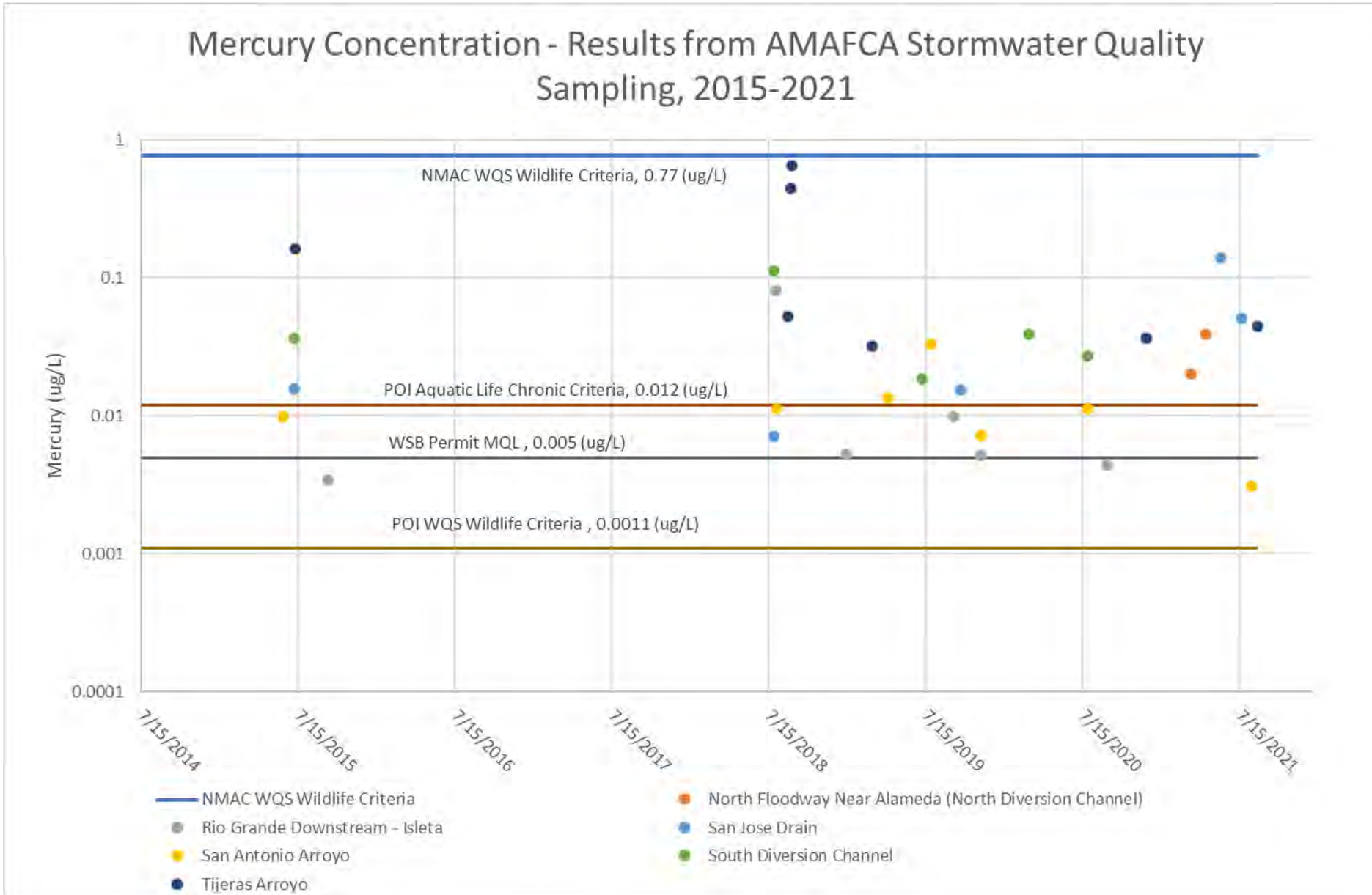


Gross Alpha Results From Grab Samples in the Rio Grande Through the AMAFCA and CMC Monitoring Programs

AMAFCA has been monitoring for mercury in stormwater samples and the graph on page 7 shows results obtained throughout the watershed. The CMC has not been monitoring for mercury, as it is not a required parameter in the MS4 Permit. Mercury levels reported as exceeding applicable in-stream water quality standard (WQS) values relate to 'Wildlife Usage' WQS for the Pueblo of Isleta; this WQS value is an order of magnitude lower than other mercury WQSs – refer to the table below. AMAFCA has discussed the concern about the magnitude difference and potential error of this WQS with the Pueblo of Isleta related to their Triennial Review.

Water Quality Standards for Mercury for the Middle Rio Grande

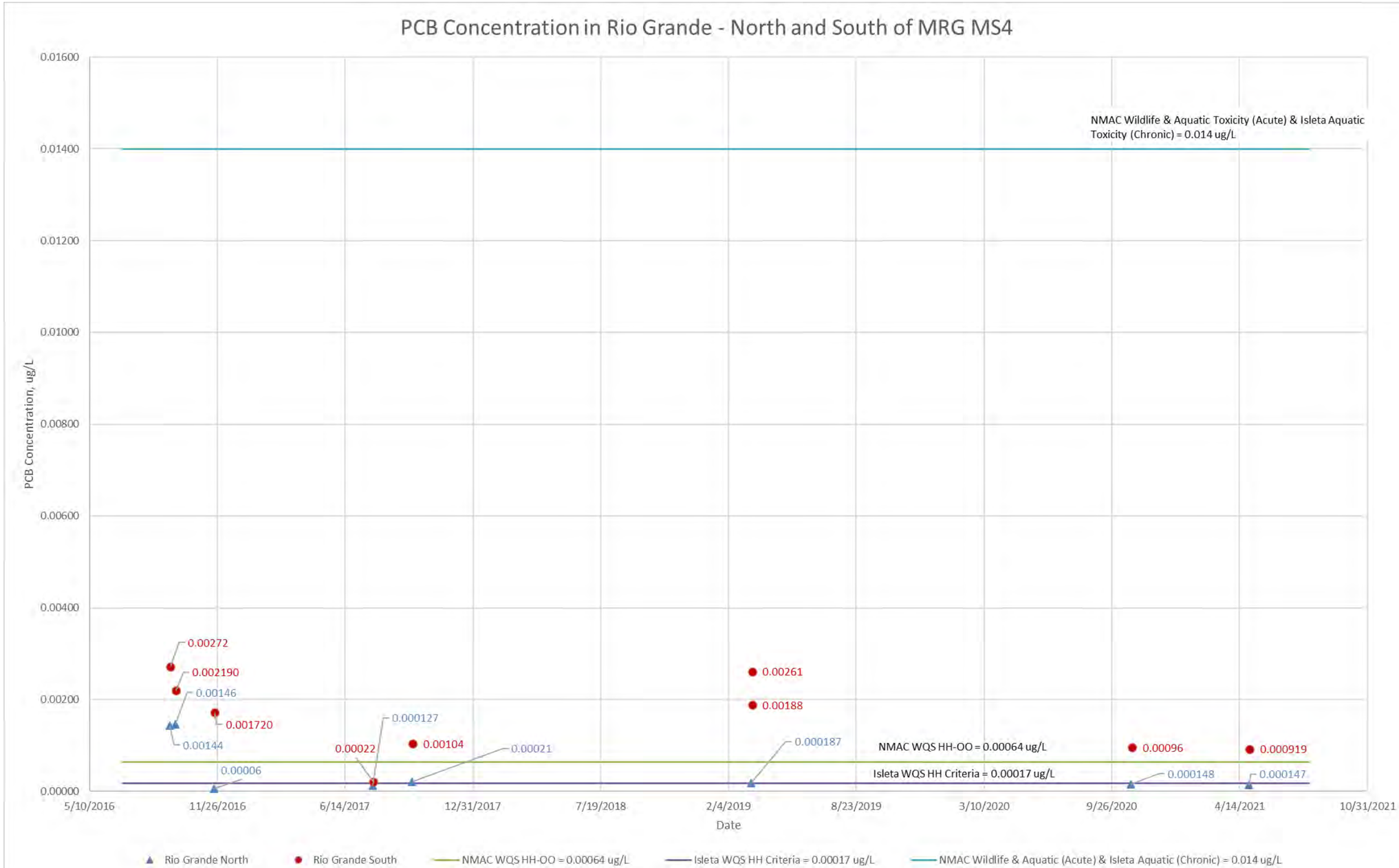
Mercury **Pueblo of Isleta** ***Wildlife Usage Criteria***	**Mercury** ***Pueblo of Isleta & Sandia, Fresh Water Aquatic Life Chronic Toxicity***	**Mercury** **State of NM NMAC 20.6.4** ***Wildlife Habitat***	**Mercury** **State of NM NMAC 20.6.4** ***Drinking Water Supply***	**Mercury** ***Pueblo of Isleta & Sandia, Fresh Water Aquatic Life Acute Toxicity***
WQS: 0.0011 ug/L	WQS: 0.012 ug/L	WQS: 0.77 ug/L	WQS: 2 ug/L	WQS: 2.4 ug/L



Mercury Results From Stormwater Samples Collected in the Watershed Through the AMAFCA Monitoring Program

AMAFCA and the CMC have been monitoring for PCBs in stormwater samples. The current AMAFCA watershed screening (also referred to as non-compliance sampling) is using Method 608 to test for PCBs. If results are detected with the screening method, AMAFCA would then sample and test with Method 1668. Method 608 tests for both PCBs and pesticides. All AMAFCA screening tests for PCBs have been non detect.

The CMC tests all samples for PCBs using Method 1668. This is the required PCB testing methodology for stormwater compliance permit requirements, as is stated in the MS4 Permit, p. 6 of Part III. There are multiple surface WQS values listed for PCBs in both the Pueblo of Isleta and the State of New Mexico standards for the various designated uses. The PCBs measured in samples collected from the Rio Grande during the FY 2021 storm events were all below the minimum quantification level (MQL) established in EPA standards for the MS4 NPDES Permit (Appendix F, 0.2 ug/L for PCBs). The PCB results were also well below the New Mexico Surface WQSs and Pueblo of Isleta Surface WQSs for designated uses, including drinking water (0.5 ug/L) and wildlife habitat, acute aquatic life, and chronic aquatic life (0.014 ug/L). However, the CMC samples from the Rio Grande South location were above the Pueblo of Isleta human health criteria (based on fish consumption only) WQS for surface waters. The human health-organism only criterion is based upon human consumption of fish and other aquatic life that bioaccumulate contaminants over time. The PCB results from 2016 through 2021 are shown below relative to several of the WQSs for PCBs.



PCB Results From Stormwater Samples Collected in the Rio Grande Through the CMC