

Middle Rio Grande (MRG) Municipal Separate Storm Sewer System (MS4) Permit

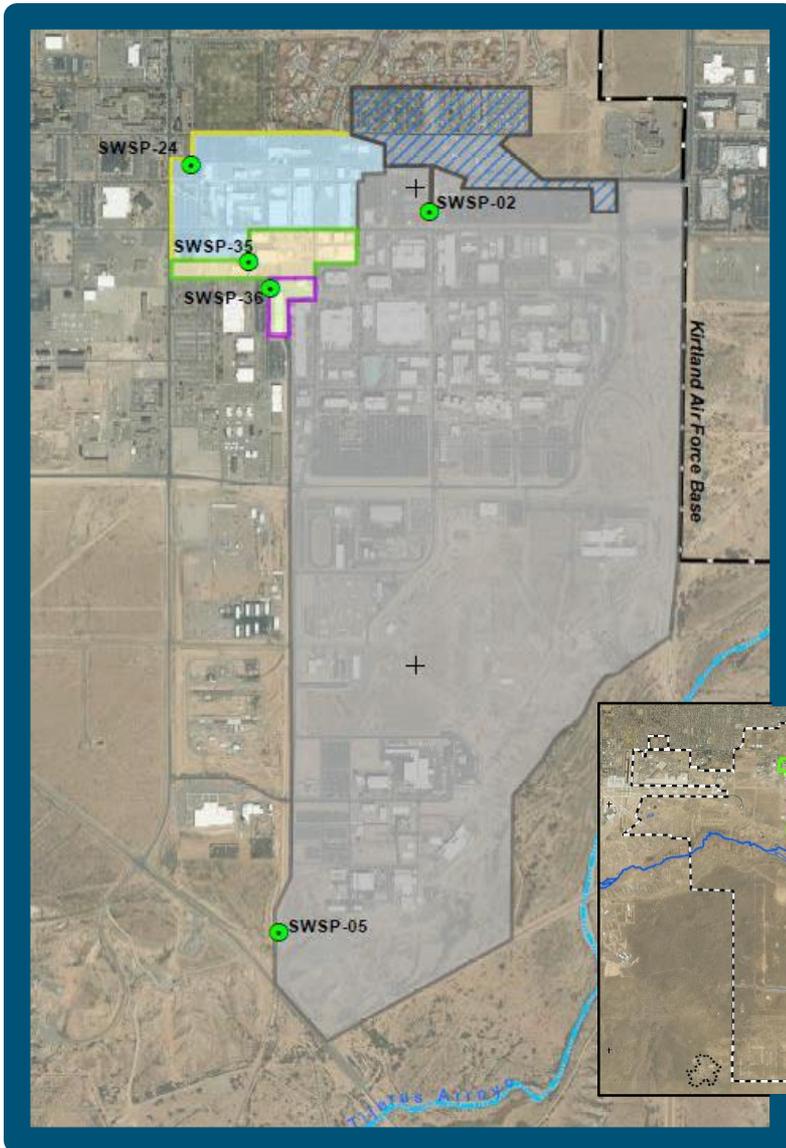


John Kay
Environmental Compliance and Monitoring



- The MRG MS4 Permit applies to all centralized storm drainage systems (including Sandia National Laboratories) within the Albuquerque Urbanized Area
- Approximately 13 Permittees, including:
 - Kirtland Air Force Base
 - City of Albuquerque
 - Bernalillo County
 - Albuquerque Metropolitan Area Flood Control Authority
- Permit requires implementation of 7 control measure programs, water quality monitoring, and annual reporting
- More info: http://digitalrepository.unm.edu/snl_ms4/

MS4 Location and Water Quality Monitoring Stations



- Total area = 742 acres (1.2 square miles)
- 5 water quality monitoring locations
 - 1 inflow location (SWSP-02)
 - 4 outflow locations
- 90% drains south to Tijeras Arroyo
- 10% drains west to KAFB

MS4 Stormwater Quality Monitoring



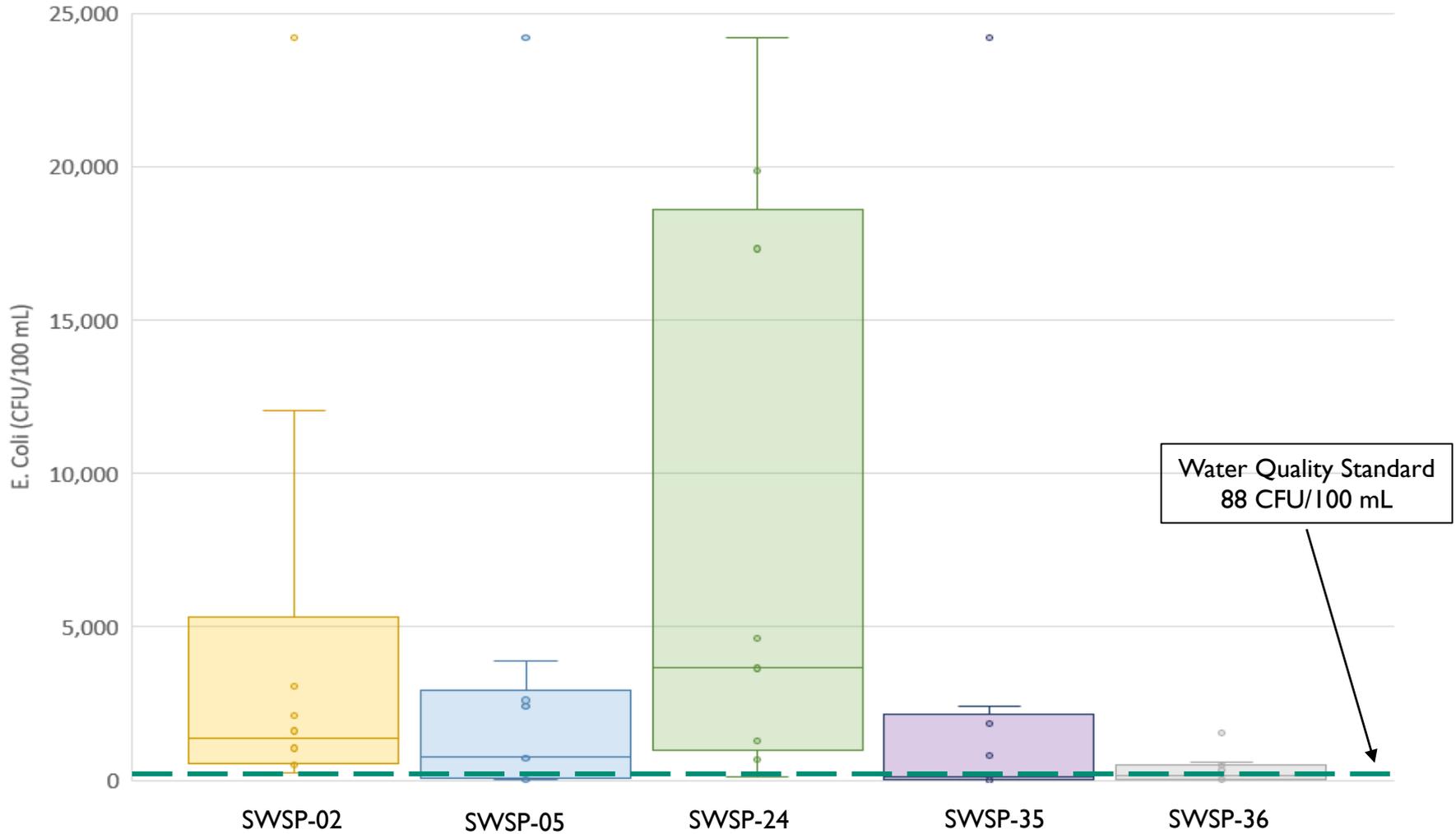
Constituent	# Samples	# Exceedances
pH	47	3
Temperature	47	0
Dissolved Oxygen	47	4
Specific Conductance	47	0
Gross Alpha	42	4
Biological Oxygen Demand	37	--
Chemical Oxygen Demand	39	--
Phosphorous (dissolved)	40	0
Phosphorous (total)	40	0
Oil and Grease	34	0
Total Kjeldahl Nitrogen	40	0
Nitrate plus Nitrite	36	0
Total Dissolved Solids	37	0
Total Suspended Solids	40	--
E. coli	49	29
PCBs	41	41

-- No Water Quality Standard established for this constituent.



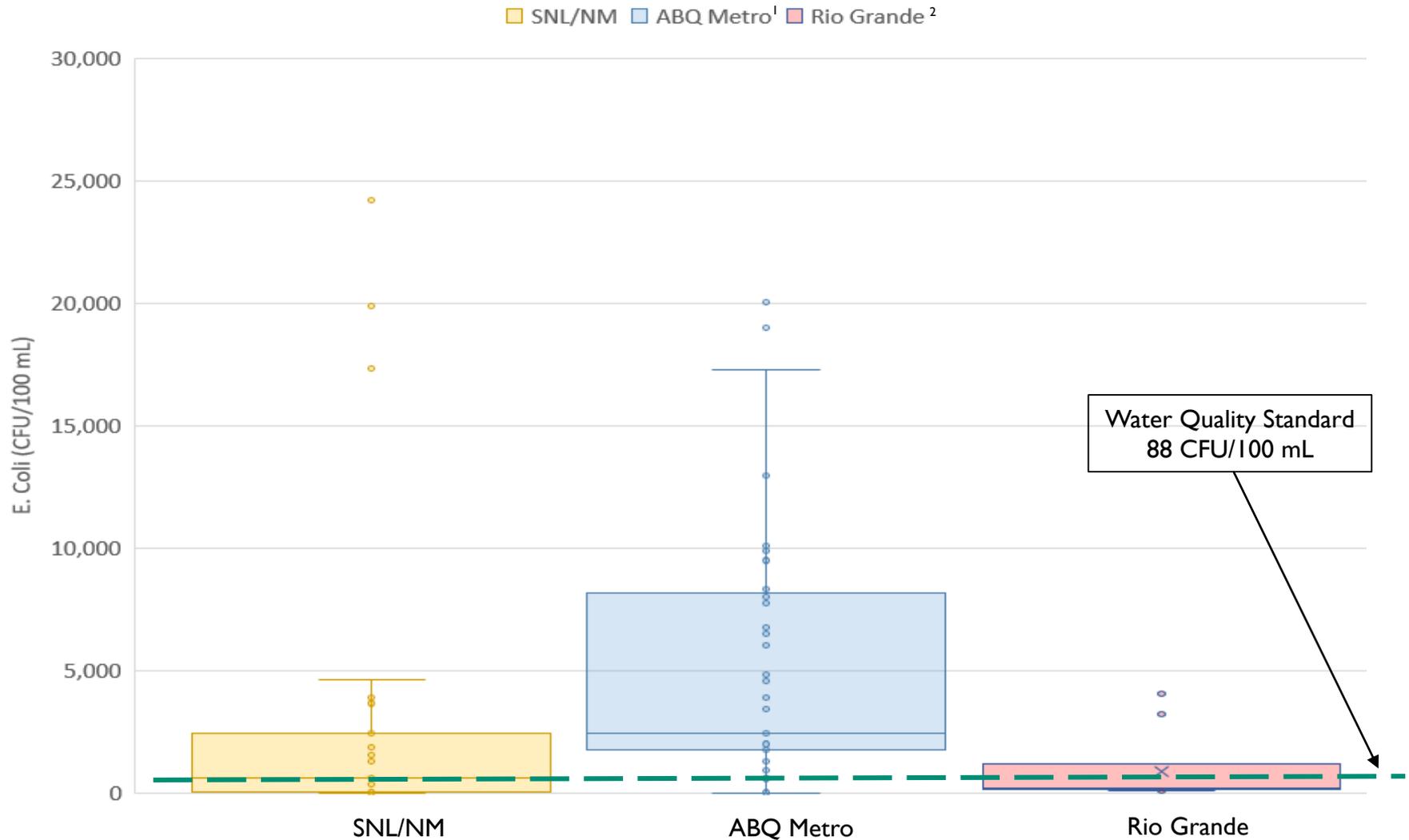
E. Coli in the SNL/NM MS4

SWSP-02 SWSP-05 SWSP-24 SWSP-35 SWSP-36



Water Quality Standard
88 CFU/100 mL

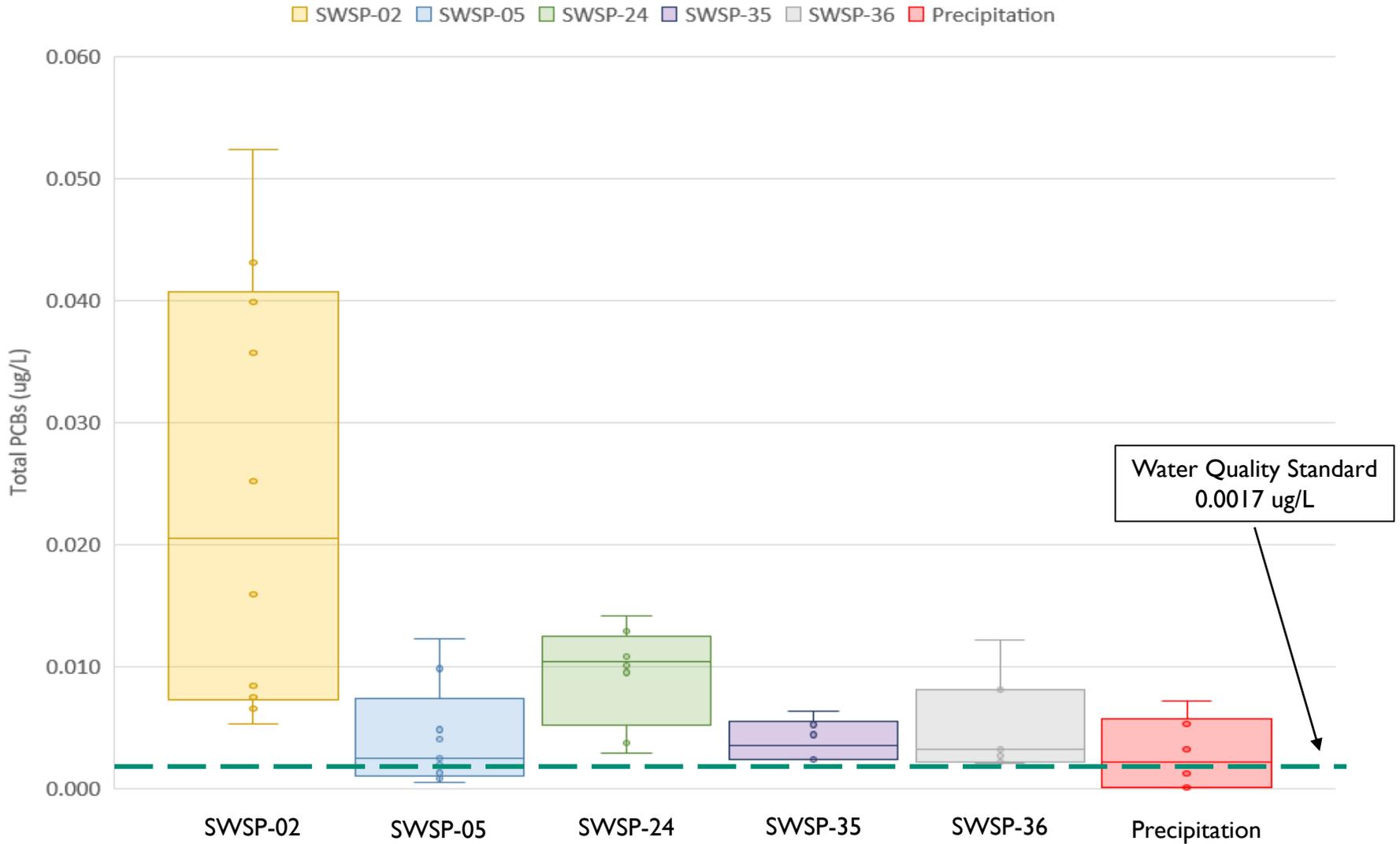
E. Coli in the Albuquerque Metropolitan Area



- 1 U.S. Geological Survey, Scientific Investigations Report 2015-5006. Summary of Urban Stormwater Quality in Albuquerque, NM 2003-2012. 2015.
- 2 https://www.usgs.gov/centers/nm-water/science/microbial-source-tracking-and-escherichia-coli-monitoring-rio-grande-south?qt-science_center_objects=0#qt-science_center_objects.

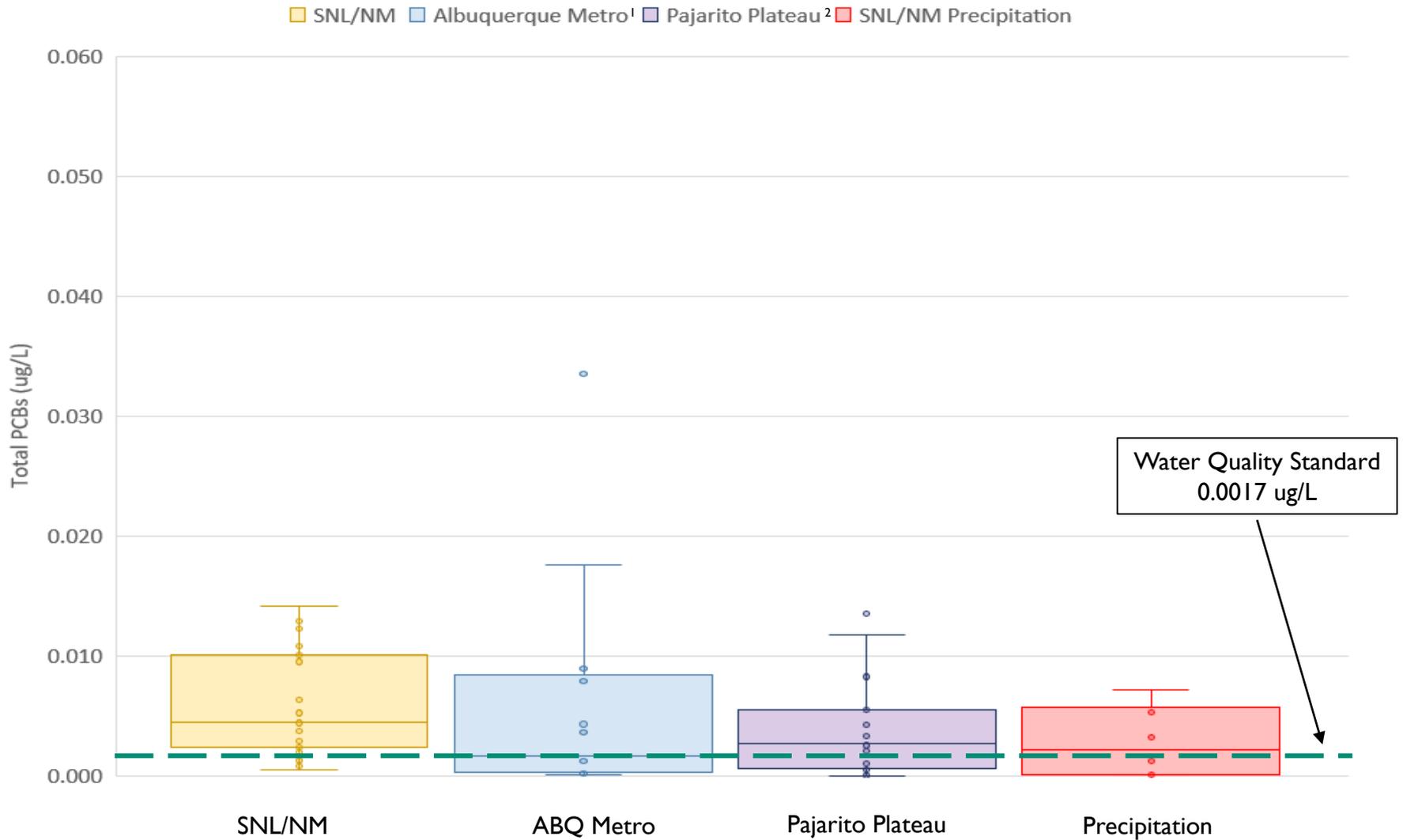


PCBs in the SNL/NM MS4





PCBs at Various NM Locations



1 U.S. Geological Survey, Scientific Investigations Report 2015-5006. Summary of Urban Stormwater Quality in Albuquerque, NM 2003-2012. 2015

2 Los Alamos National Laboratory. LA-UR-12-1081. PCBs in Precipitation and Stormwater Within the Upper Rio Grande Watershed. 2012

Activities to Improve Water Quality



- Microbial Source Tracking Study (2019-2020)
 - No E. coli from human sources
 - No E. coli from canine sources, low avian contribution
 - Suspect primary source is skunks, racoons, rodents known to inhabit stormdrains
 - Ecology Program reducing wildlife attractants and access to stormdrains
- PCB source tracking and characterization (2017-2020, ongoing)
 - Majority of PCBs entering MS4 at SWSP-02
 - Conducting further monitoring to identify potential point source in upgradient sediment
- Sediment Reduction Plan (2015-2020, ongoing)
 - Reduced sediment contribution to stormdrains by 25%
- More Information: http://digitalrepository.unm.edu/snl_ms4/