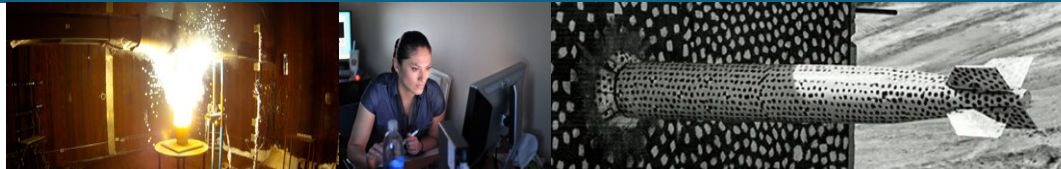




Sandia
National
Laboratories

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



*Stormwater Quality Program
Environmental Compliance and Monitoring
October 29, 2024*



Sandia National Laboratories is a multission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525.
SAND2024-12996PE

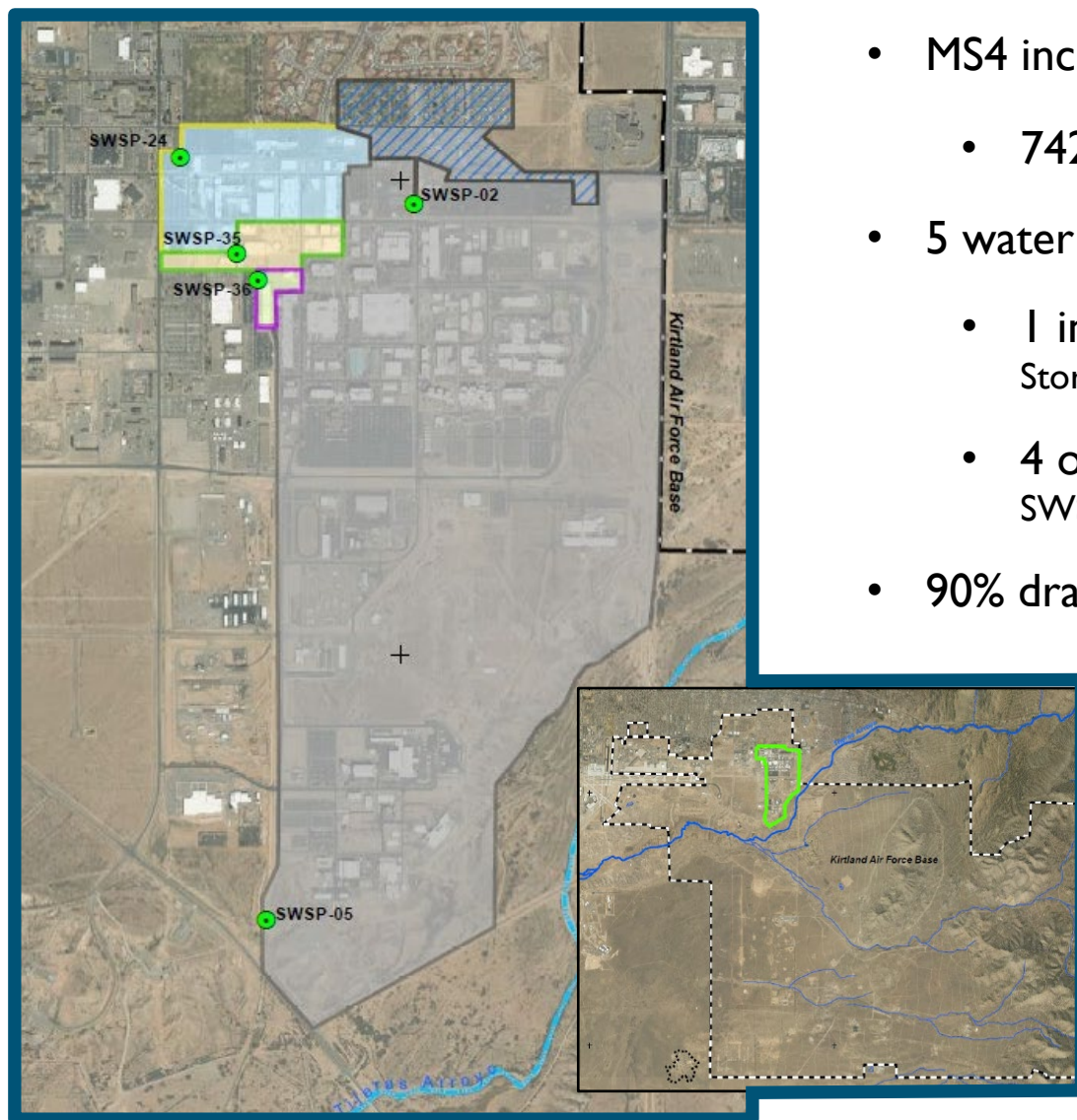


- Issued by the Environmental Protection Agency (EPA) in 2014
- National Pollutant Discharge Elimination System (NPDES) permit
- Applies to all centralized storm drainage systems within the Albuquerque Urbanized Area, for example:
 - City of Albuquerque
 - Bernalillo County
 - Albuquerque Metropolitan Area Flood Control Authority (AMAFCA)
 - Kirtland Air Force Base
 - Sandia National Labs
- Permit requires a Stormwater Management Program (SWMP) consisting of 7 control measure programs, water quality monitoring, and annual reporting
- All SNL submittals to EPA available to the public:
http://digitalrepository.unm.edu/snl_ms4/



- Sacket vs. EPA; Supreme Court ruling September 2023
- Effectively changed the definition of WOTUS
- Most intermittent and ephemeral tributaries in NM, including Tijeras Arroyo no longer meet the definition of WOTUS
- This means Sandia may no longer required to obtain NPDES permits
- Sandia has decided that we will maintain existing NPDES permit coverage until the State of NM Permitting program is established
 - NMED is concerned about losing permit coverage and we want to maintain our relationship with state regulators
 - Sandia sees the NPDES permits as a good way of being transparent with the community

SNL/NM MS4 Location and Water Quality Monitoring Stations



- MS4 includes all of TA-I, TA-II, and TA-IV
 - 742 acres (1.2 square miles)
- 5 water quality monitoring locations:
 - 1 inflow location
Stormwater Sampling Point (SWSP)-02
 - 4 outflow locations
SWSP-05, SWSP-24, SWSP-35, SWSP-36
- 90% drains south to Tijeras Arroyo
 - 10% drains west to KAFB



MS4 Stormwater Quality Monitoring to Date (2016-2024)

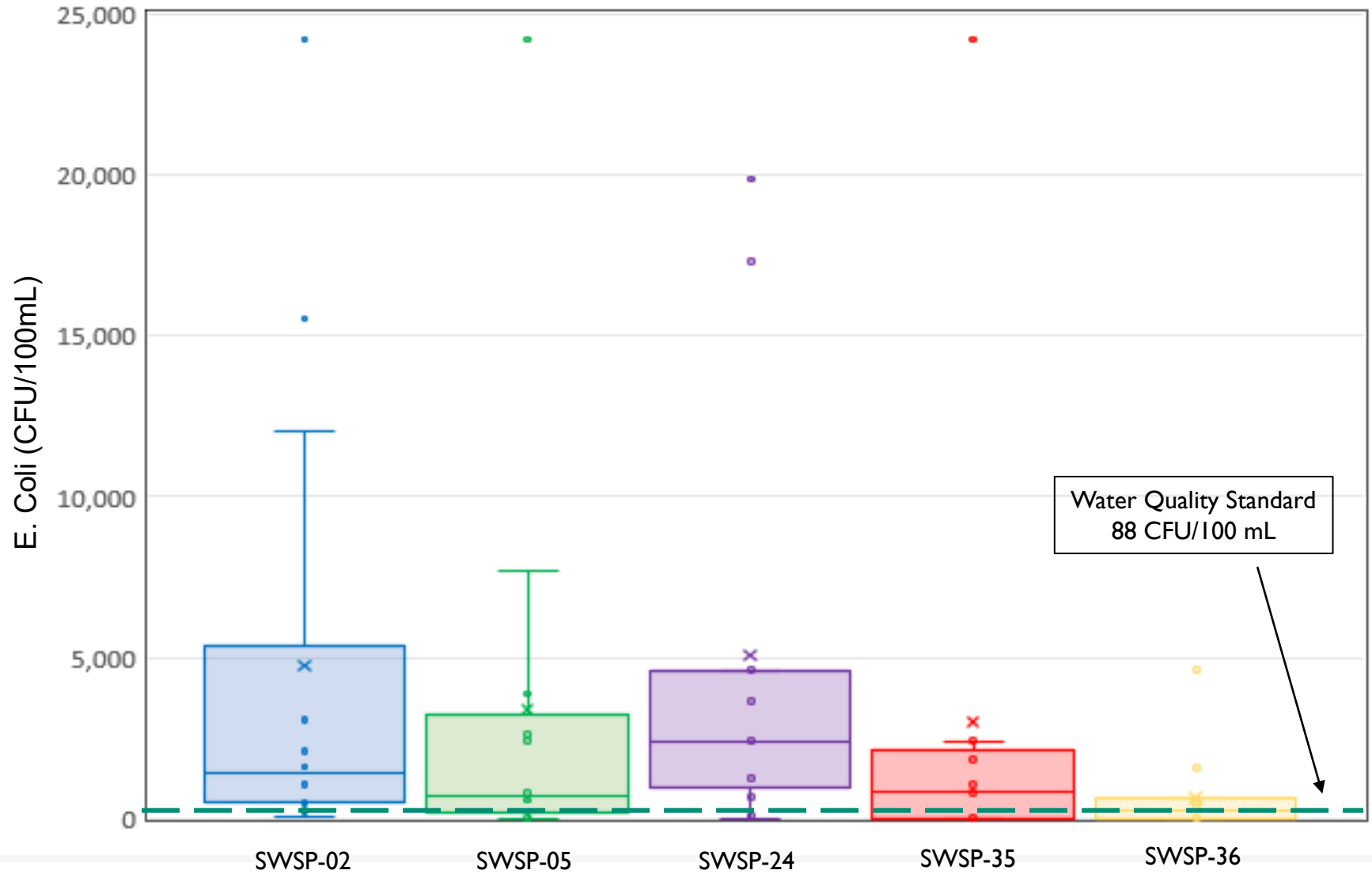


Constituent	# Samples	# Exceedances
pH	71	4
Temperature	71	0
Dissolved Oxygen	71	5
Specific Conductance	71	0
Gross Alpha	66	5
Biological Oxygen Demand	61	--
Chemical Oxygen Demand	63	--
Phosphorous (dissolved)	64	0
Phosphorous (total)	64	0
Oil and Grease	58	0
Total Kjeldahl Nitrogen	64	0
Nitrate plus Nitrite	59	0
Total Dissolved Solids	61	0
Total Suspended Solids	64	--
E. coli	73	51
PCBs	65	65

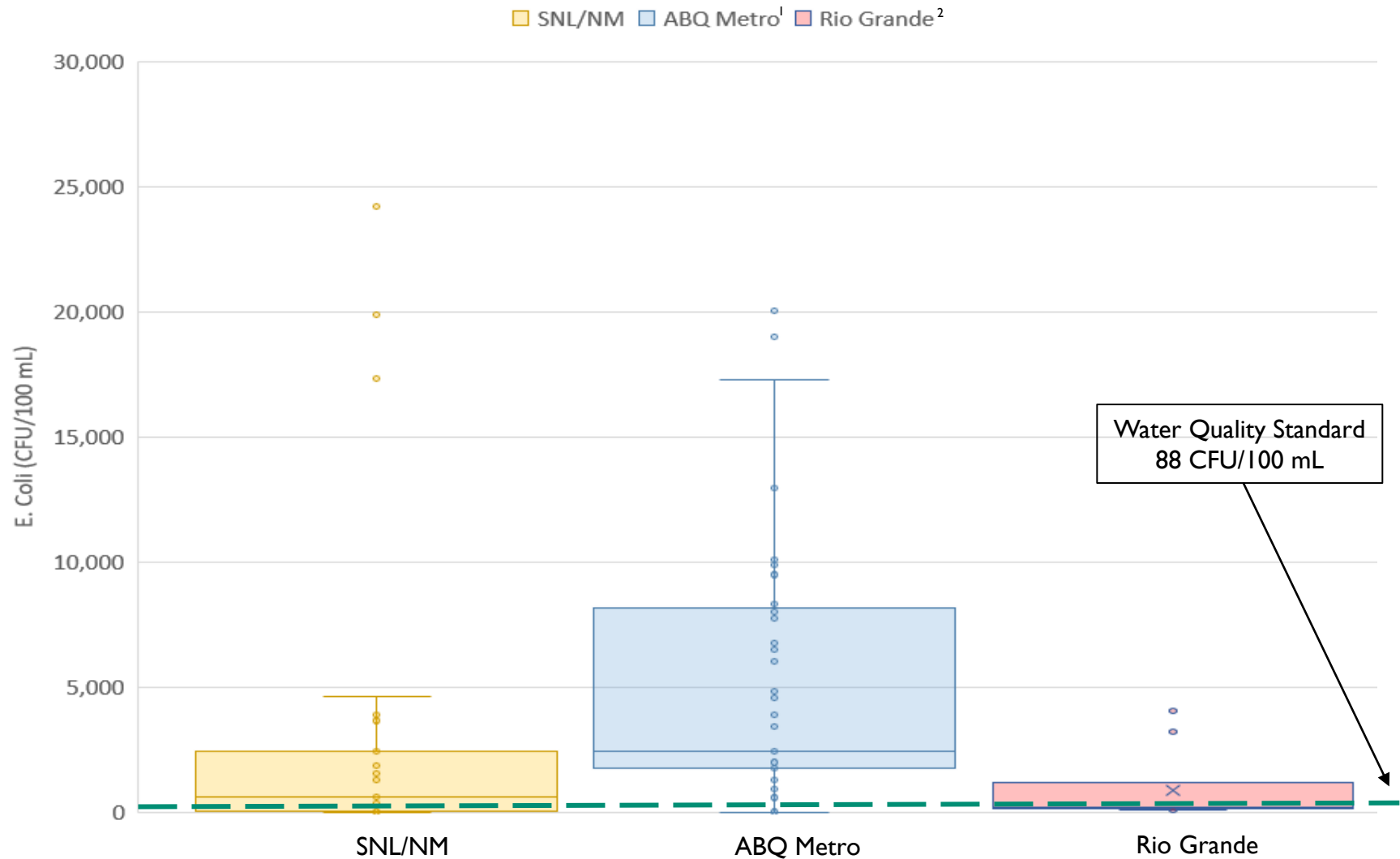
-- No Water Quality Standard established for this constituent.

MS4 E. Coli Samples by Location (2016-2024)

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



E. Coli in the Albuquerque Metropolitan Area

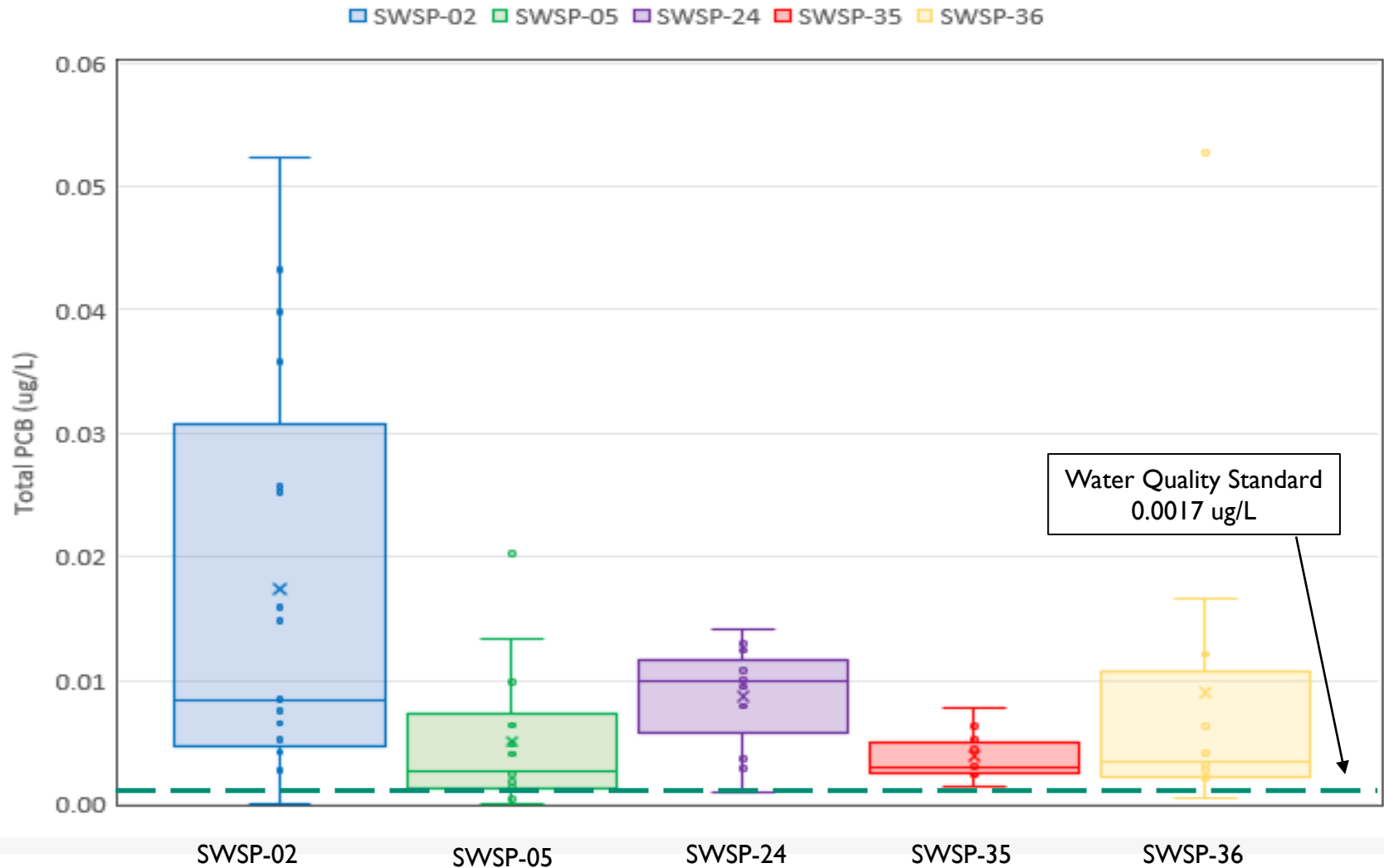


- 1 U.S. Geological Survey, Scientific Investigations Report 2015-5006. Summary of Urban Stormwater Quality in Albuquerque, NM 2003-2012. 2015.
- 2 https://www.usgs.gov/centers/nm-water/science/microbial-source-tracking-and-escherichia-coli-monitoring-rio-grande-south?qt-science_center_objects=0#qt-science_center_objects.

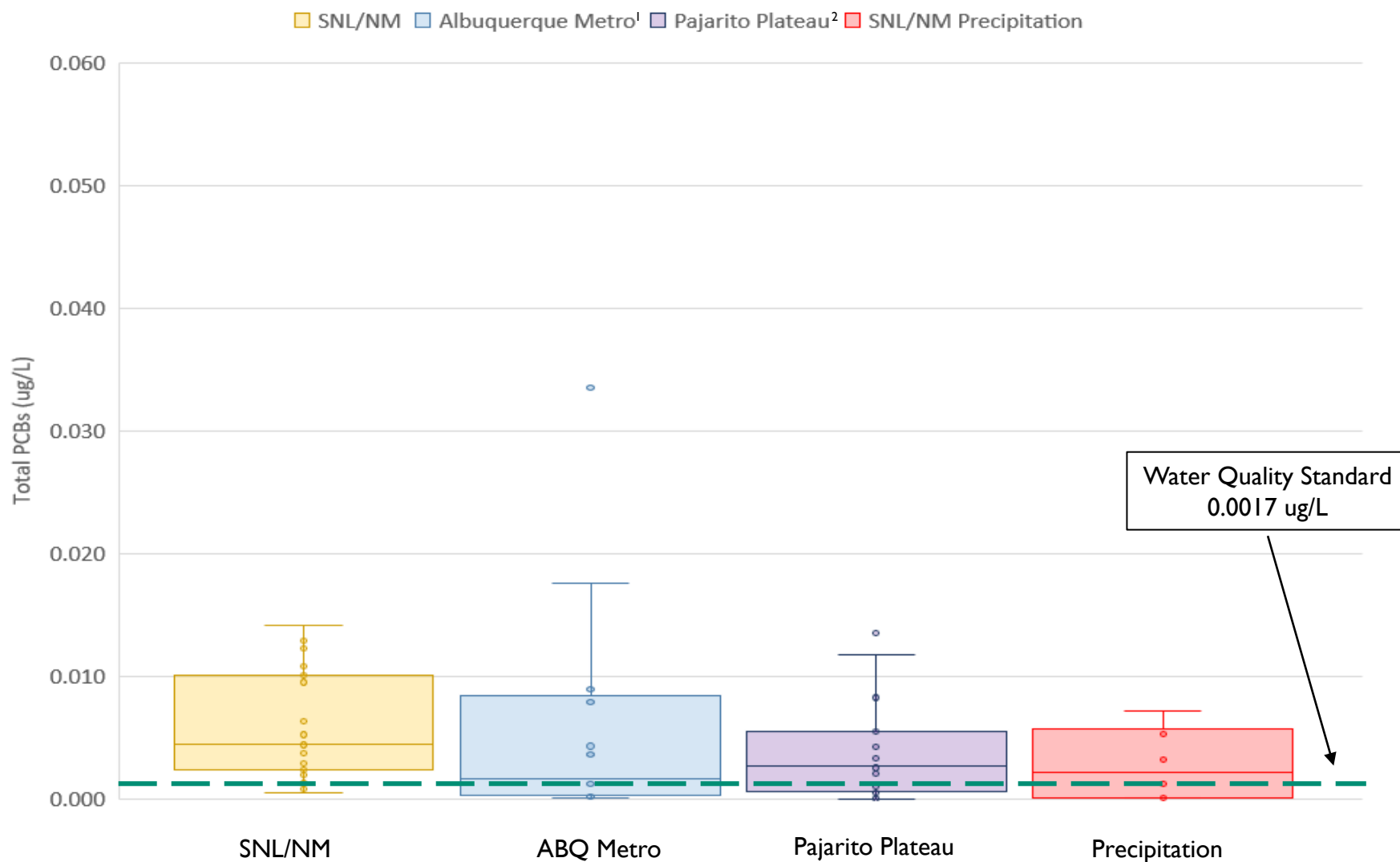


- Microbial Source Tracking Study (2020)
 - No E. coli from human sources
 - No E. coli from canine sources, low avian contribution
 - Suspect primary source is skunks, racoons, rodents
- Coordination with the Ecology Program reducing wildlife attractants and access to stormdrains
 - Wildlife proof trash cans
 - Barriers to stormdrains
- Coordination with Facilities group to reduce sediment load and standing water in stormdrains
 - Have seen significant improvements in the area of SWSP-02 since 2022

PCB Samples by Location (2016-2024)



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

II Activities to Decrease PCBs



- PCB source tracking and characterization (2017-ongoing)
 - Majority of PCBs entering MS4 at SWSP-02
 - PCBs at SWSP-02 strongly correlated to sediment load
 - PCBs at other sites more closely correlated to atmospheric deposition
 - Conducting further monitoring to identify potential source areas
- Sediment Reduction Plan (2015-2020, ongoing)
 - Reduced sediment contribution to stormdrains by ~25%
 - New detention basins and conveyance channel configuration at SWSP-02
- More Information: http://digitalrepository.unm.edu/snl_ms4/

EPA Audit and Site Inspection



- Audit of SWMP and Records, June 2022
 - EPA requested specific information from all 7 control programs + monitoring program
 - SNL provided 550+ pages of records and proof of compliance to EPA
 - No deficiencies identified
- Site Visit and Inspections of MS4 Facilities, May 2023
 - Inspectors from Region 6 Compliance Assurance and Enforcement Division and NMED Surface Water Quality Bureau
 - Inspected all outfalls and numerous facilities
 - No violations identified, several recommendations were made:
 - Cover waste and recycling bins at reapplication yard, fix silt fence around a stormdrain inlet at fleet services, provide better containment of landscaping materials stored on ground surface

EPA Inspection Report issued August 2023: “...EPA inspectors found no deficiencies in staff understanding and application of permit requirements, or in the condition of the facilities. SNL has a comprehensive stormwater program and appears to do an excellent job of implementing their stormwater permit...”

Questions?



More Information at the UNM Digital Repository

http://digitalrepository.unm.edu/snl_ms4/

