

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

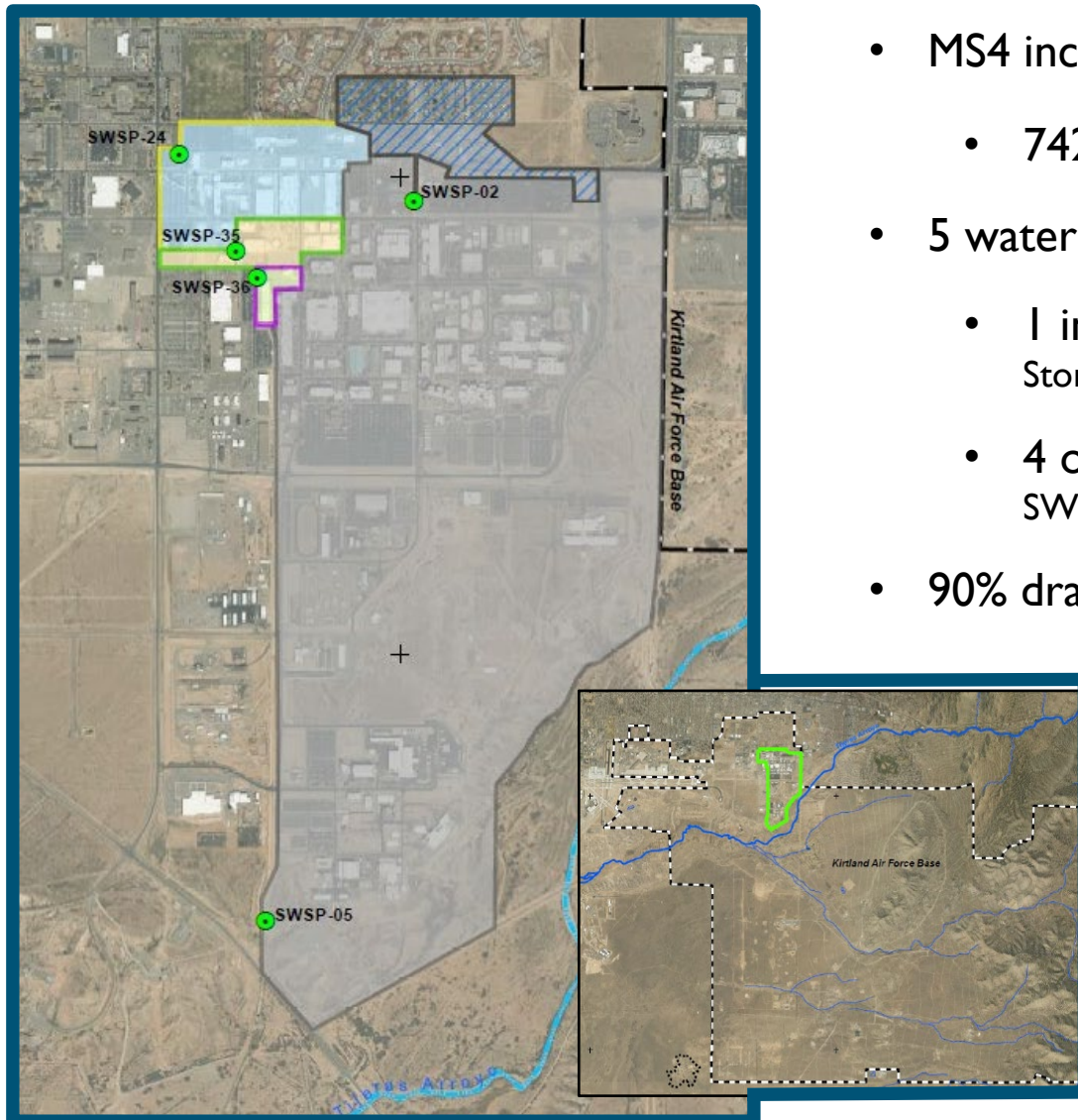


*John Kay*  
*Environmental Compliance and Monitoring*



- The MRG MS4 Permit applies to all centralized storm drainage systems within the Albuquerque Urbanized Area
- Approximately 13 Permittees, including:
  - Sandia National Labs
  - Kirtland Air Force Base
  - City of Albuquerque
  - Bernalillo County
  - Albuquerque Metropolitan Area Flood Control Authority
- Permit effective date December 2014
- Permit requires implementation 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/](http://digitalrepository.unm.edu/snl_ms4/)

# 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 (2016-2022)



| Constituent              | # Samples | # Exceedances |
|--------------------------|-----------|---------------|
| pH                       | 61        | 4             |
| Temperature              | 61        | 0             |
| Dissolved Oxygen         | 61        | 4             |
| Specific Conductance     | 61        | 0             |
| Gross Alpha              | 56        | 4             |
| Biological Oxygen Demand | 51        | --            |
| Chemical Oxygen Demand   | 53        | --            |
| Phosphorous (dissolved)  | 54        | 0             |
| Phosphorous (total)      | 54        | 0             |
| Oil and Grease           | 48        | 0             |
| Total Kjeldahl Nitrogen  | 54        | 0             |
| Nitrate plus Nitrite     | 50        | 0             |
| Total Dissolved Solids   | 51        | 0             |
| Total Suspended Solids   | 54        | --            |
| E. coli                  | 63        | 41            |
| PCBs                     | 55        | 55            |

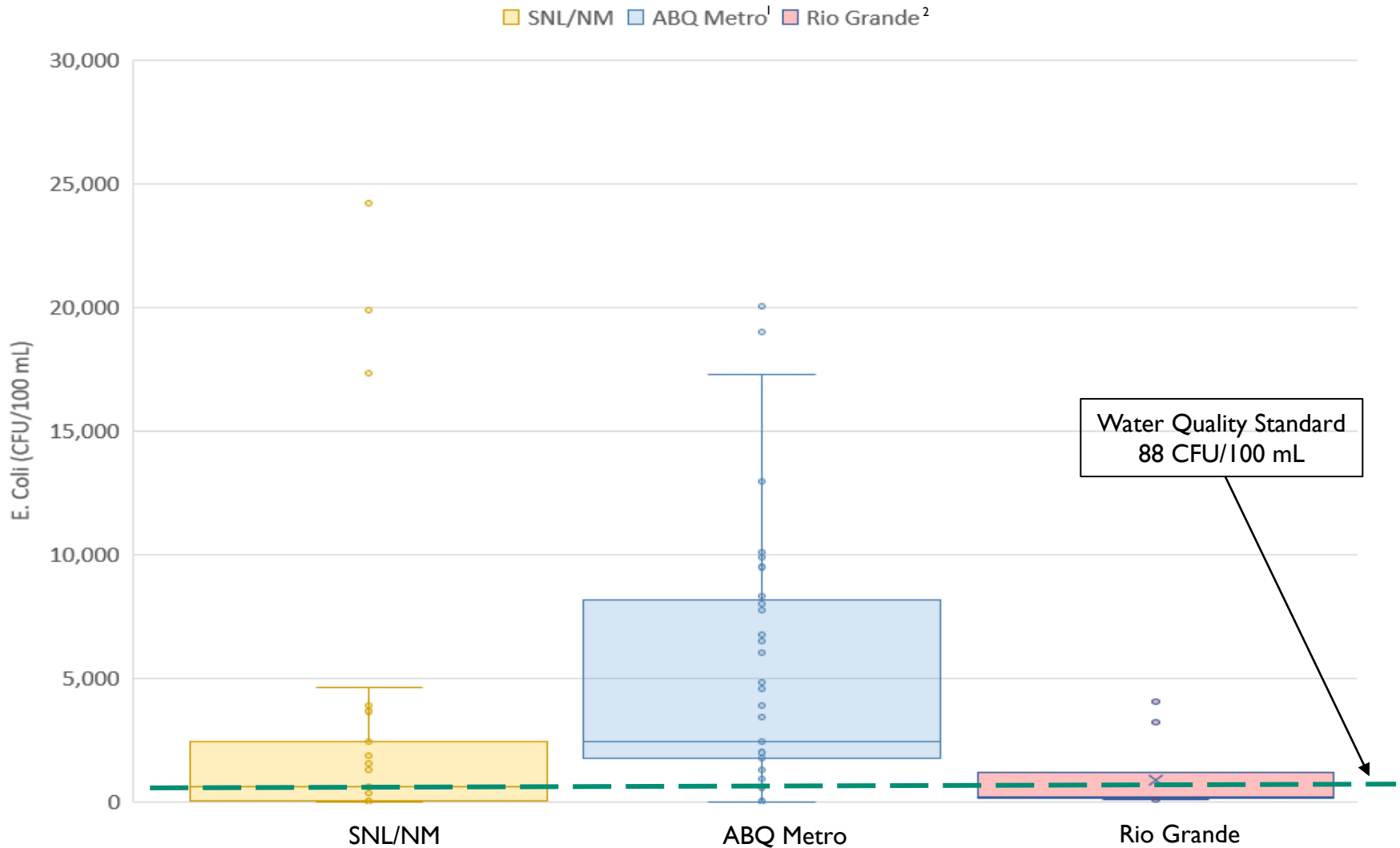
-- No Water Quality Standard established for this constituent.

## Activities to Improve Water Quality



- 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 known to inhabit stormdrains
  - Ecology Program reducing wildlife attractants and access to stormdrains
  - Reductions to sediment load and standing water in stormdrains
- PCB source tracking and characterization (2017-ongoing)
  - Majority of PCBs entering MS4 at SWSP-02
  - Conducting further monitoring to identify potential sources in upgradient sediment
  - Reductions to sediment load and standing water in stormdrains
- 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/](http://digitalrepository.unm.edu/snl_ms4/)

## E. Coli in the Albuquerque Metropolitan Area

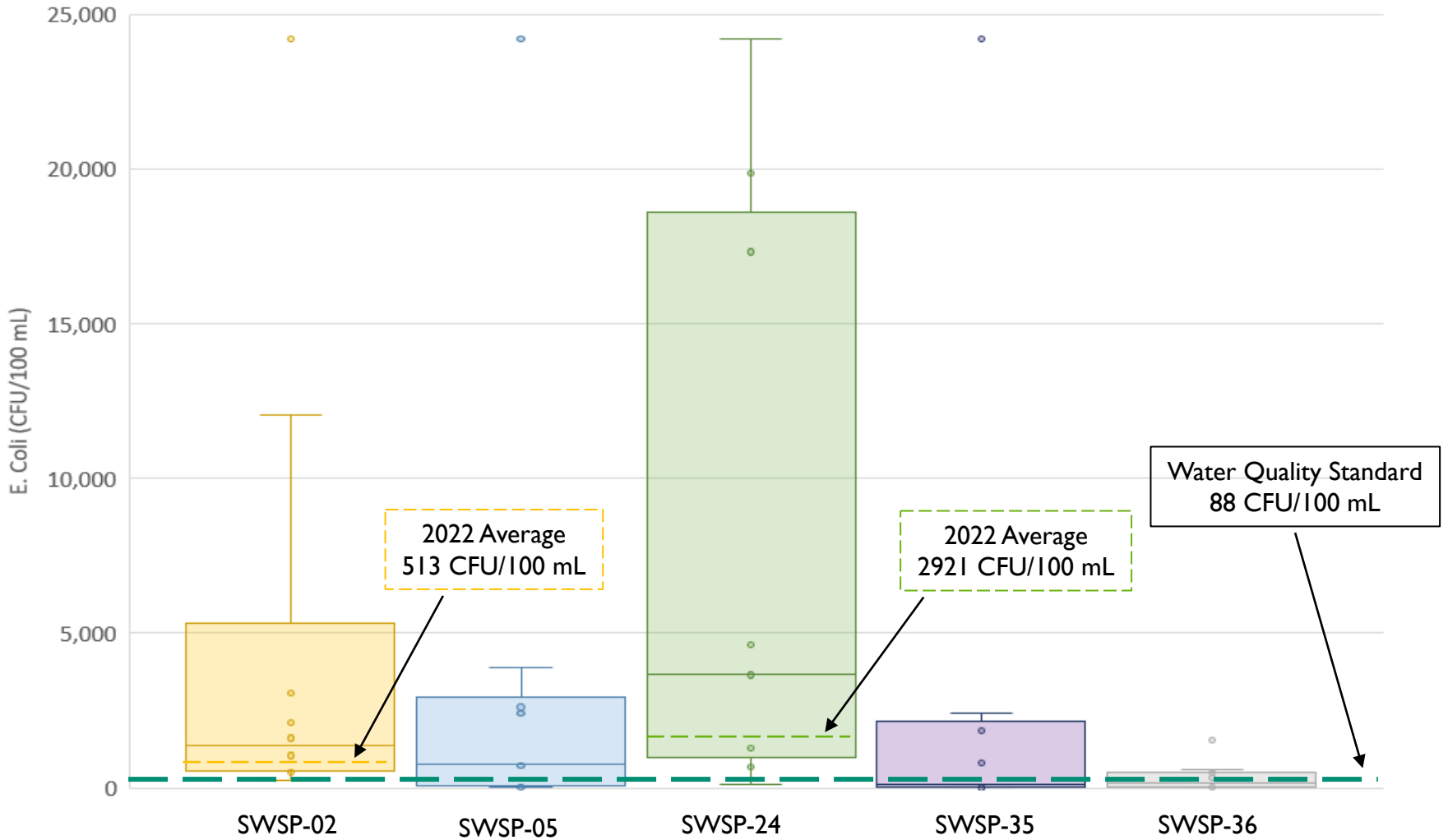


- 1 U.S. Geological Survey, Scientific Investigations Report 2015-5006. Summary of Urban Stormwater Quality in Albuquerque, NM 2003-2012. 2015.
- 2 [https://www.usgs.gov/centers/nm-water/science/microbial-source-tracking-and-escherichia-coli-monitoring-rio-grande-south?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/centers/nm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



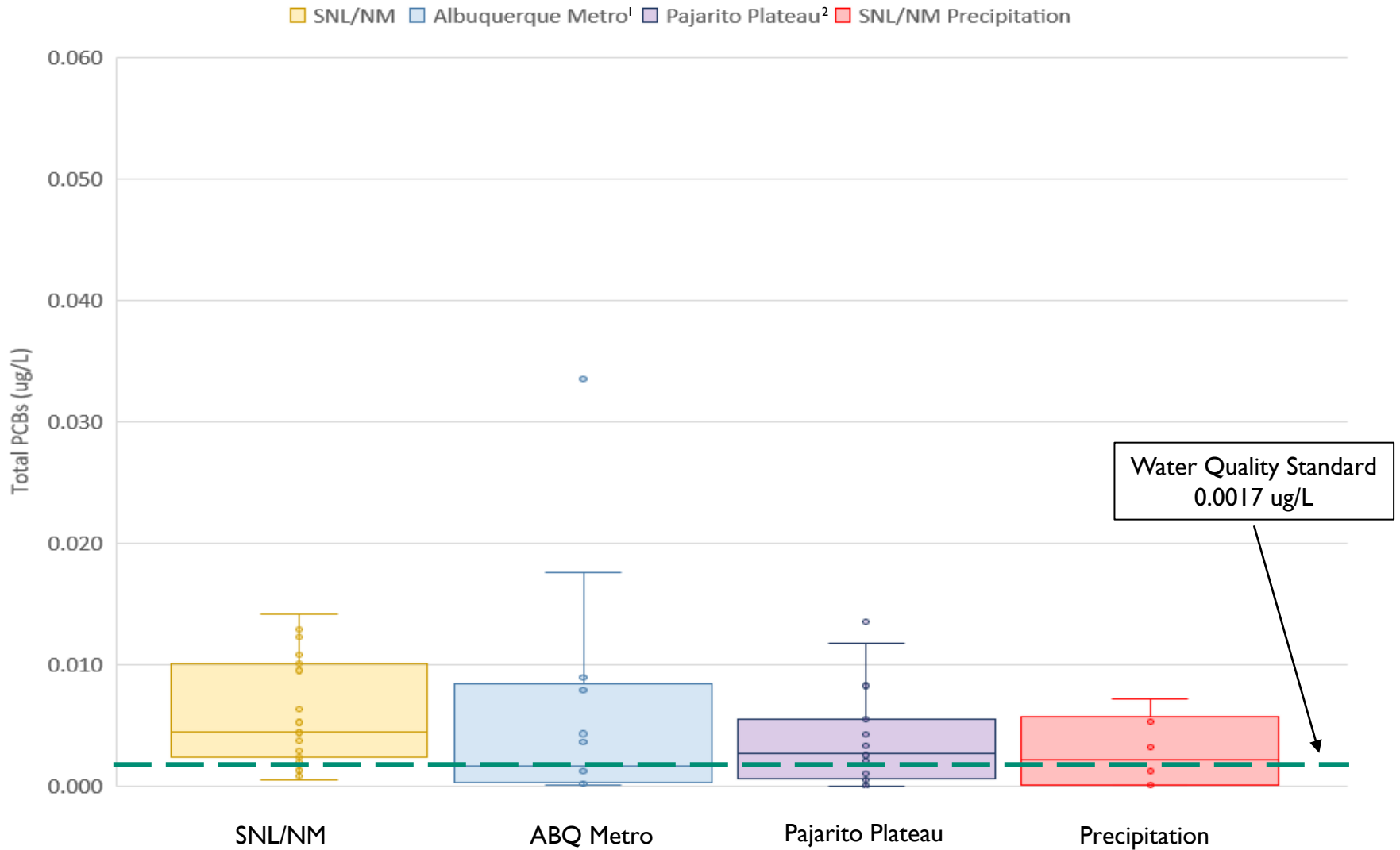
### E. Coli in the SNL/NM MS4

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





## PCBs at Various NM Locations

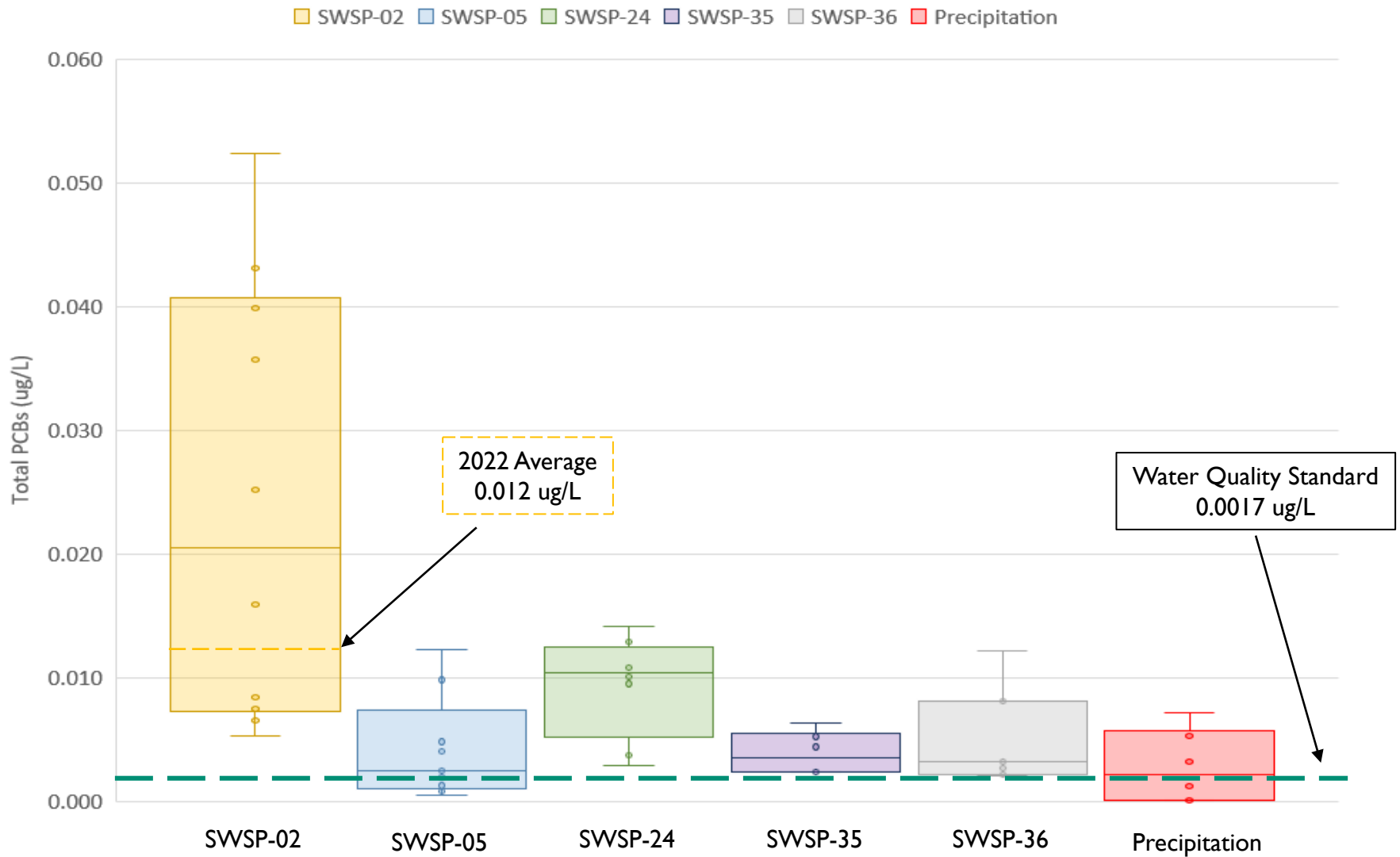


1 U.S. Geological Survey, Scientific Investigations Report 2015-5006. Summary of Urban Stormwater Quality in Albuquerque, NM 2003-2012. 2015

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



## PCBs in the SNL/NM MS4



# Questions?



More Information at the UNM Digital Repository  
[http://digitalrepository.unm.edu/snl\\_ms4/](http://digitalrepository.unm.edu/snl_ms4/)

