

# Watershed-Based Planning Elements A and B



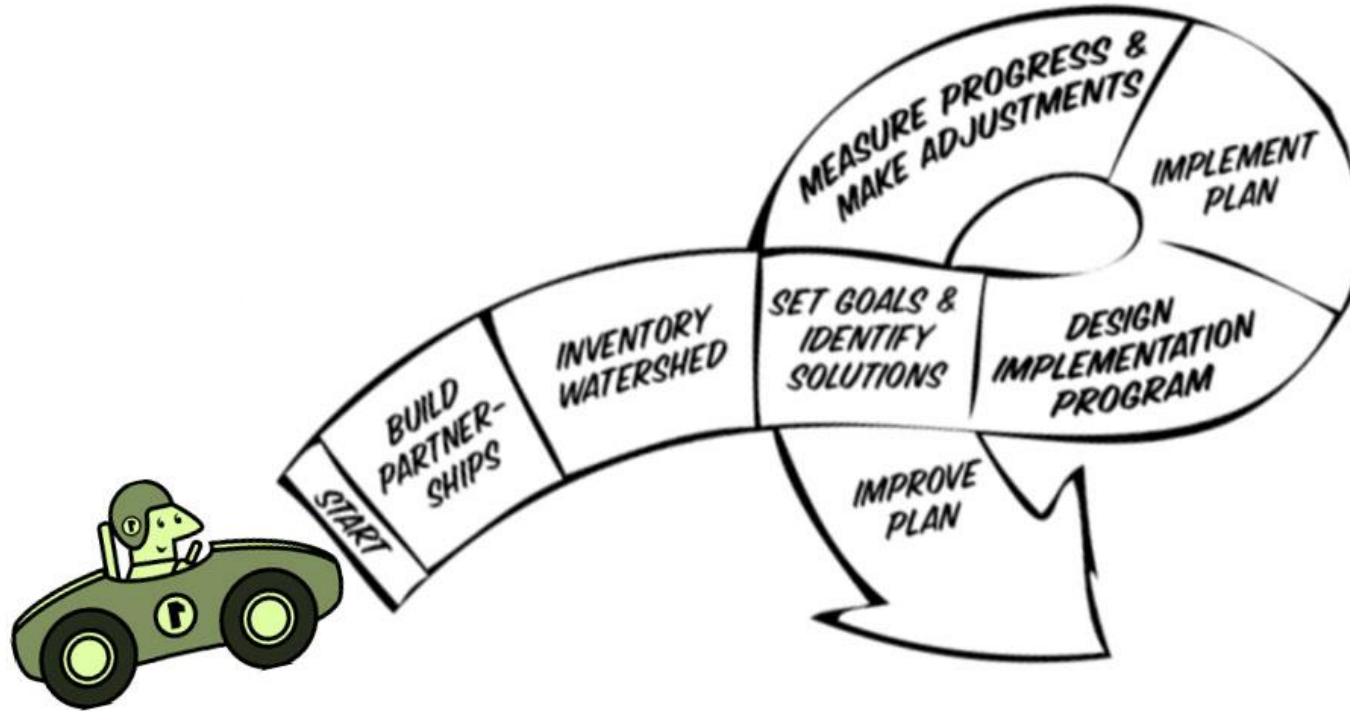
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Nonpoint Source Program  
Texas Commission on Environmental Quality

# Watershed Protection Plans

- A voluntary, comprehensive planning document that is developed with stakeholder input
- Provides management measures to reduce nonpoint source pollution
- Implementation of 9-element WPPs prioritized for funding



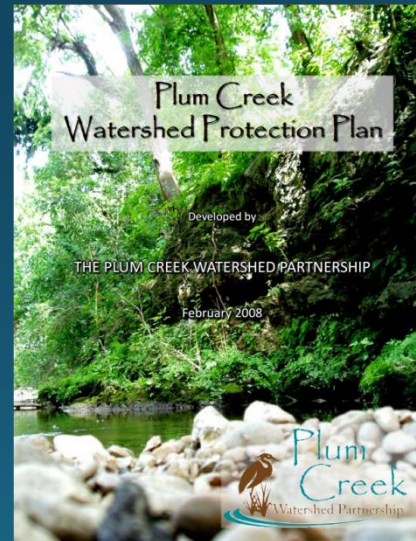
# Watershed Planning Process



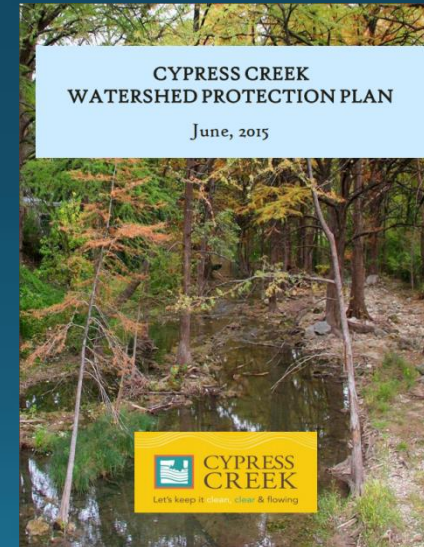
Source: EPA Handbook for Developing Watershed Plans to Restore and Protect Our Waters

# Watershed Protection Plans

- Meets the Nine Elements listed in EPA's *Handbook for Developing Watershed Plans*



Restoration



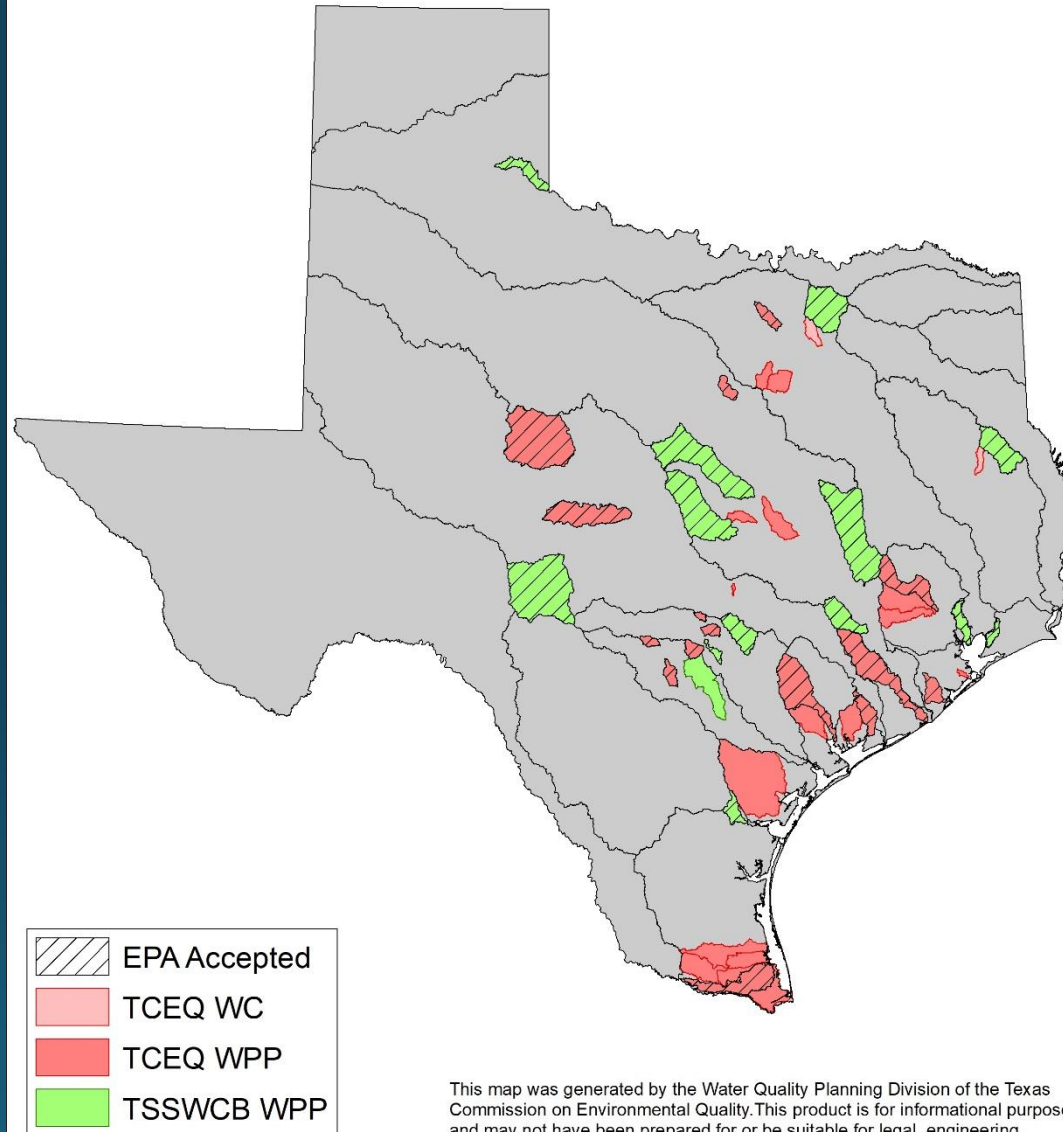
Protection

# EPA's 9-Elements

- A- Identify causes and sources of pollution
- B - Estimate pollutant loading into the watershed and the expected load reductions
- C - Describe management measures that will achieve load reductions and targeted critical areas
- D - Estimate amounts of technical and financial assistance and the relevant authorities needed to implement the plan
- E - Develop an information/education component
- F - Develop a project schedule
- G - Describe the interim, measurable milestones
- H - Identify indicators to measure progress
- I - Develop a monitoring component



Texas Nonpoint Source Program  
Nine-Element Watershed Protection Plans  
March 2019



This map was generated by the Water Quality Planning Division of the Texas Commission on Environmental Quality. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the Water Quality Planning Division at 512-239-0845.

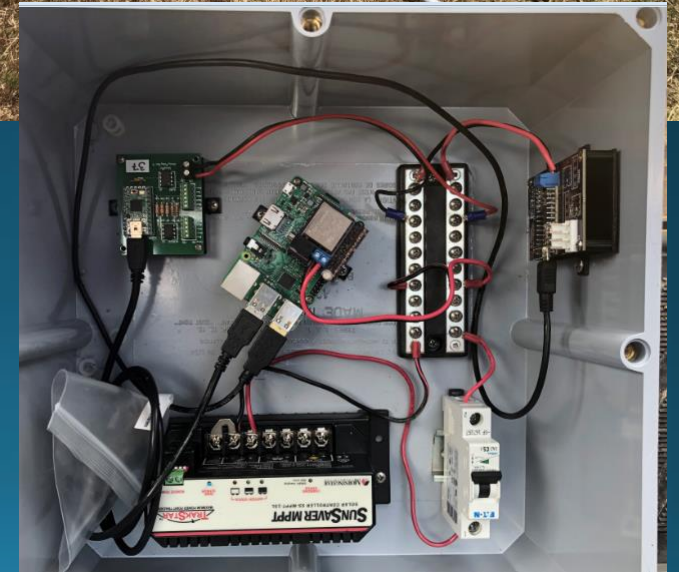
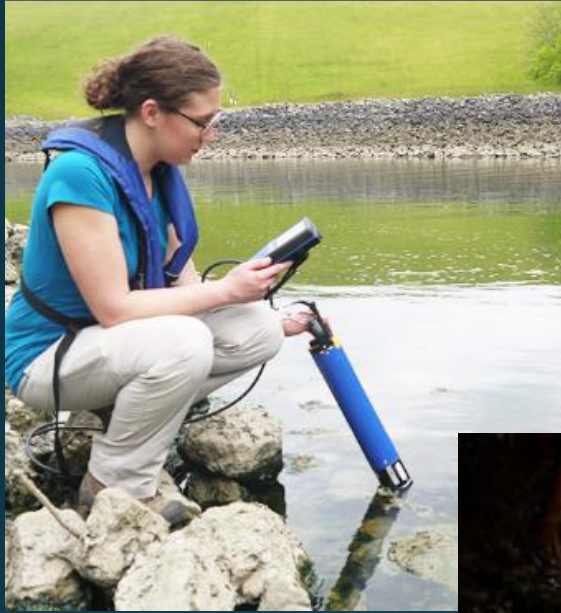
# Arroyo Colorado WPP

- WPP completed in 2007. Update completed in 2017
- Since 2010, over \$4.8 million Clean Water Action Section 319(h) federal funds awarded
- Active 319 projects being funded
  - Watershed Coordinator
  - Los Fresnos low impact development
  - Urban low impact development research
  - OSSF inventory and education
- Lots of BMPs completed and ongoing!
  - Contact the Partnership to learn more  
<http://arroyocolorado.org/>



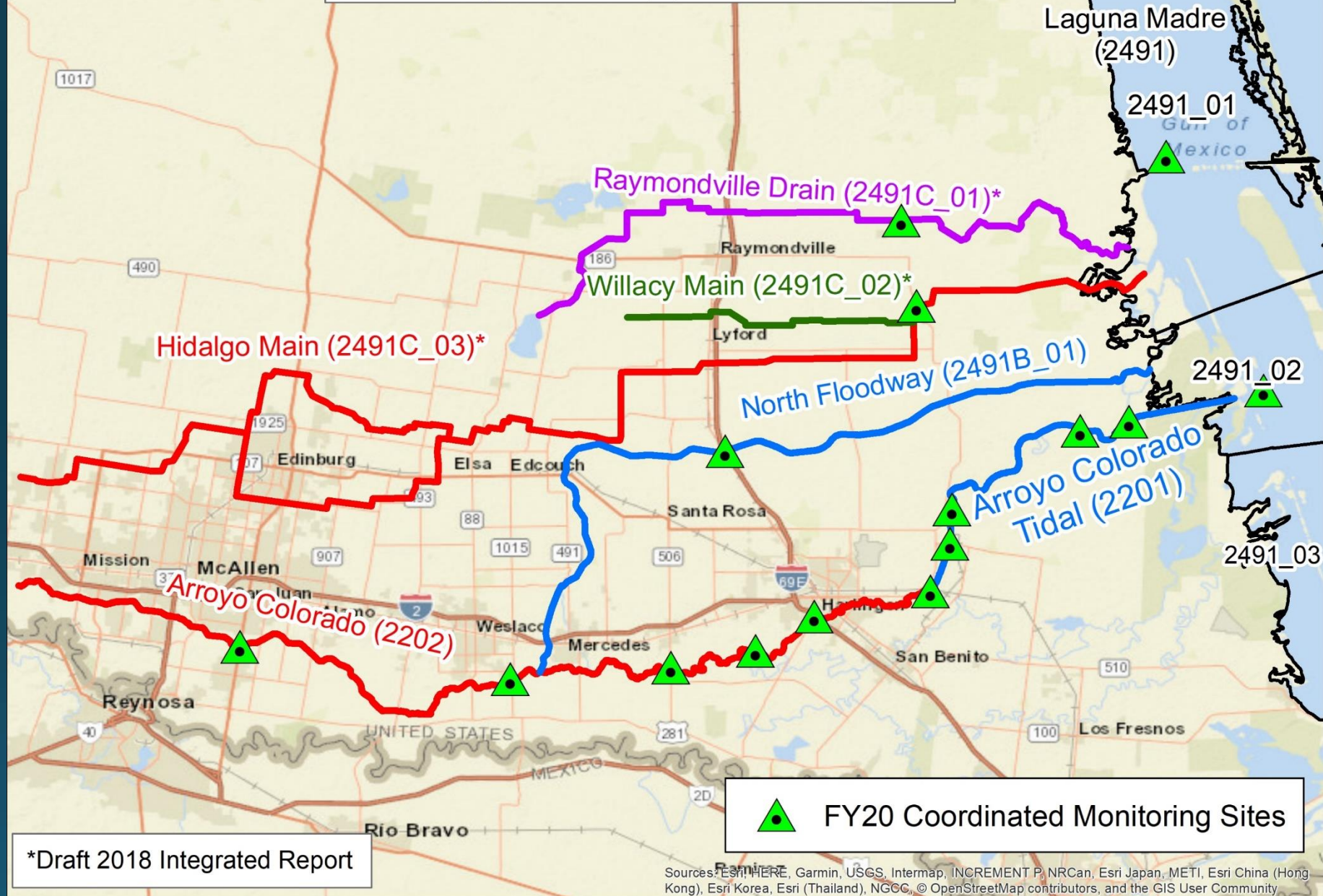
Update to the  
Arroyo Colorado  
Watershed Protection Plan

# Watershed Characterization





# Main TCEQ Segments Draining to 2491\_01 & 2491\_02



# Watershed Characterization

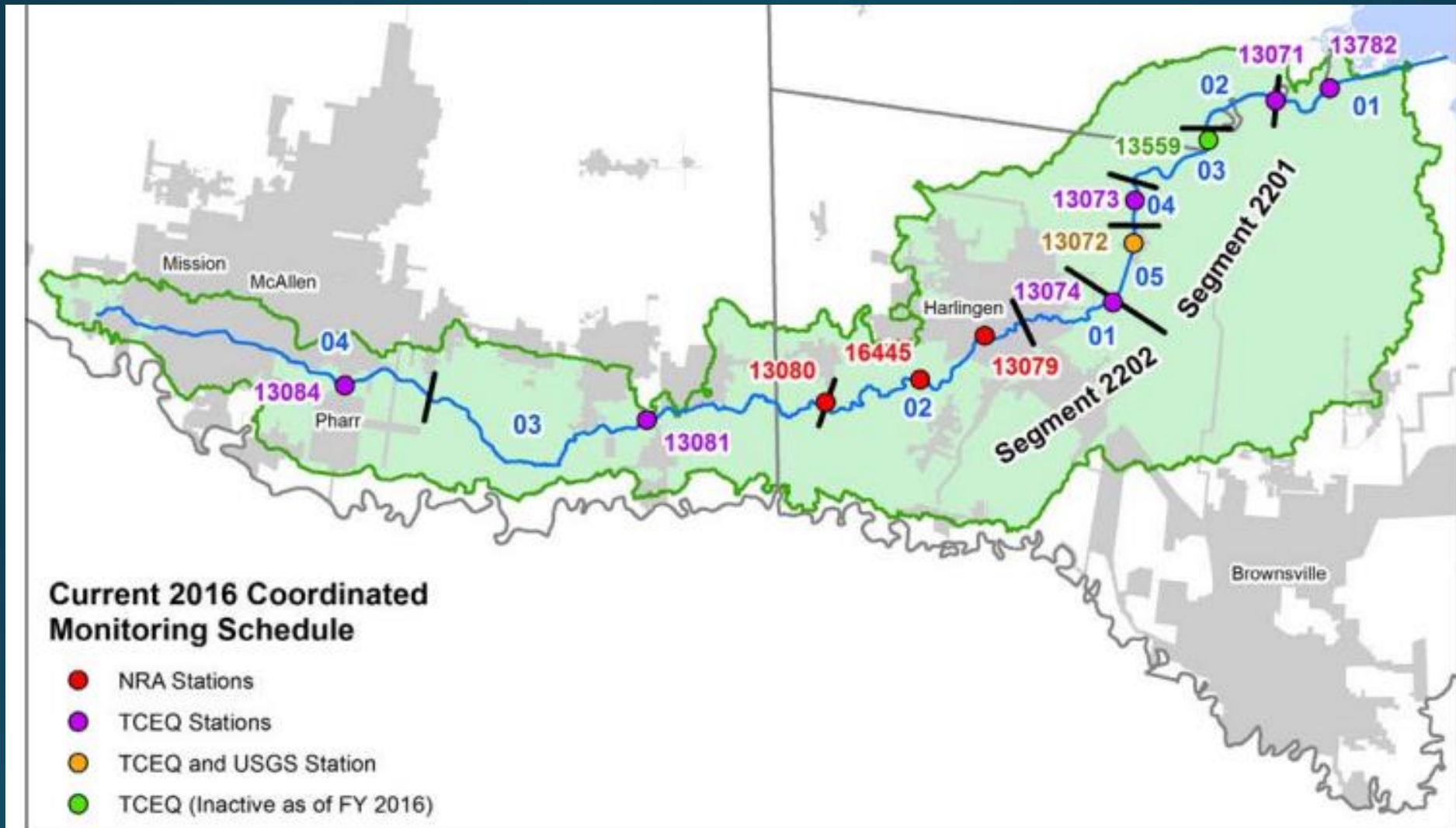


Figure 11.1. Location of water quality monitoring stations on the Arroyo Colorado currently monitored routinely by TCEQ and NRA



# Watershed Characterization

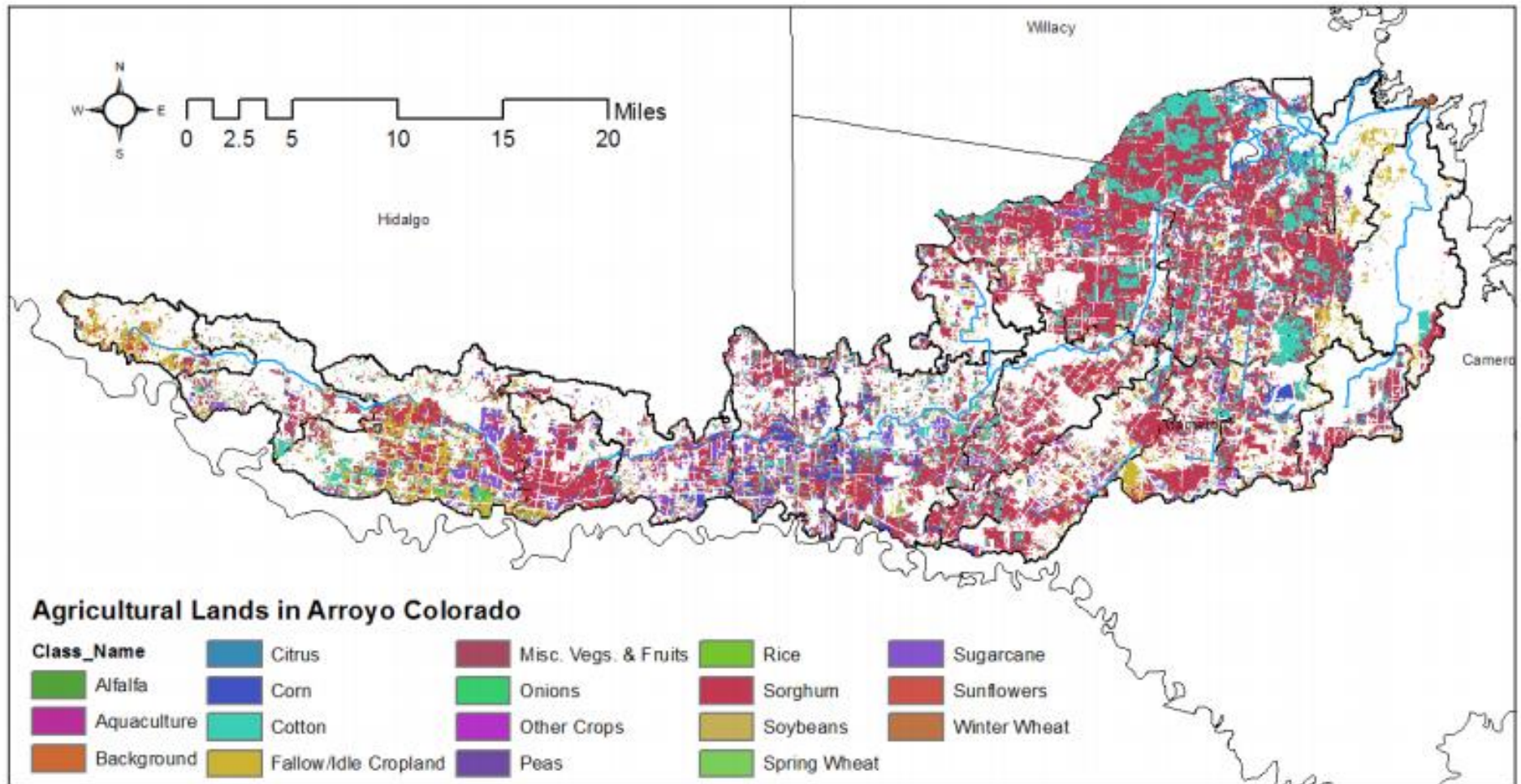


Figure 5.1. Land use map of Arroyo Colorado showing types of cropland

# Watershed Characterization



Figure 5.2. Permitted wastewater outfalls within the Arroyo Colorado watershed



# Watershed Characterization

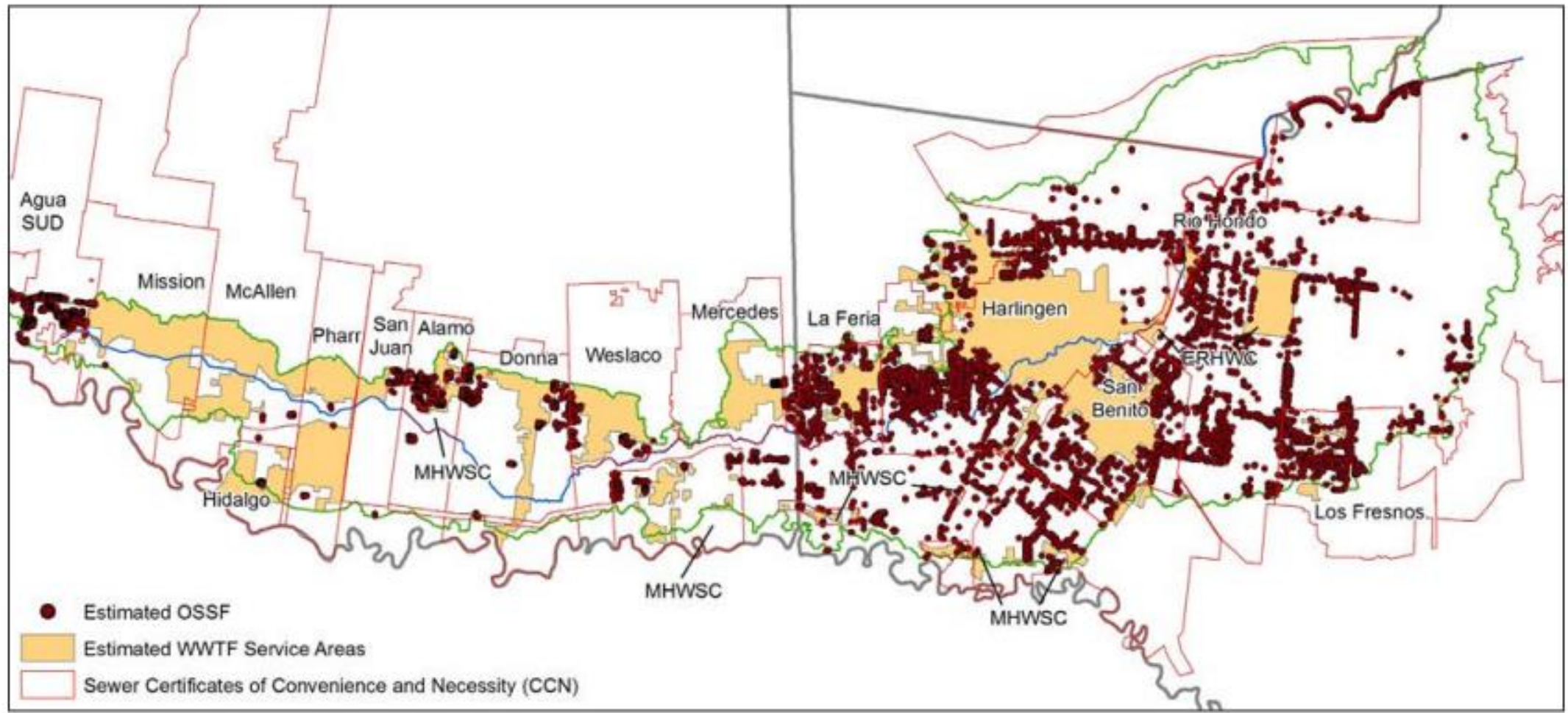


Figure 5.11. Estimated OSSFs

# Watershed Characterization

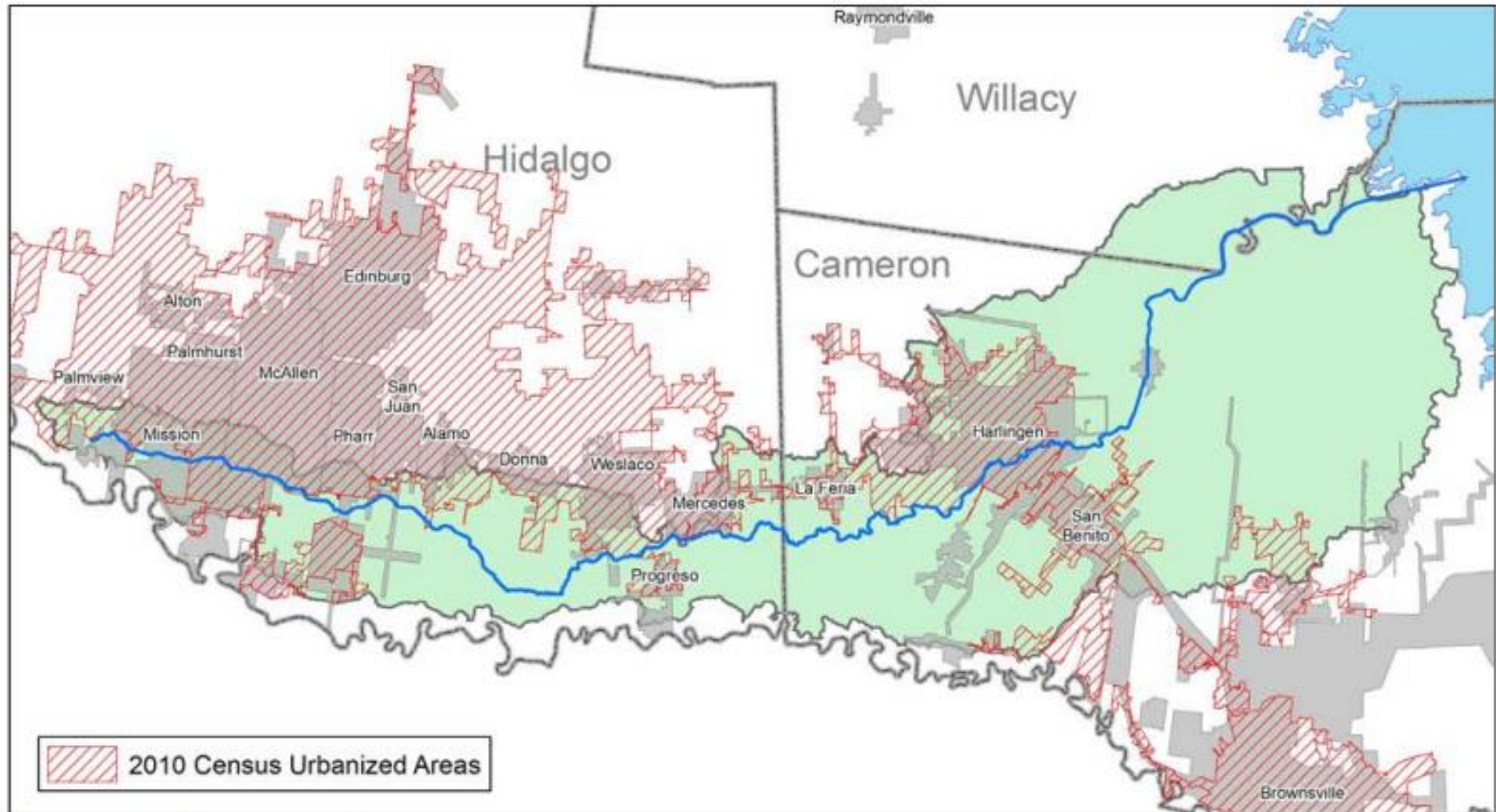
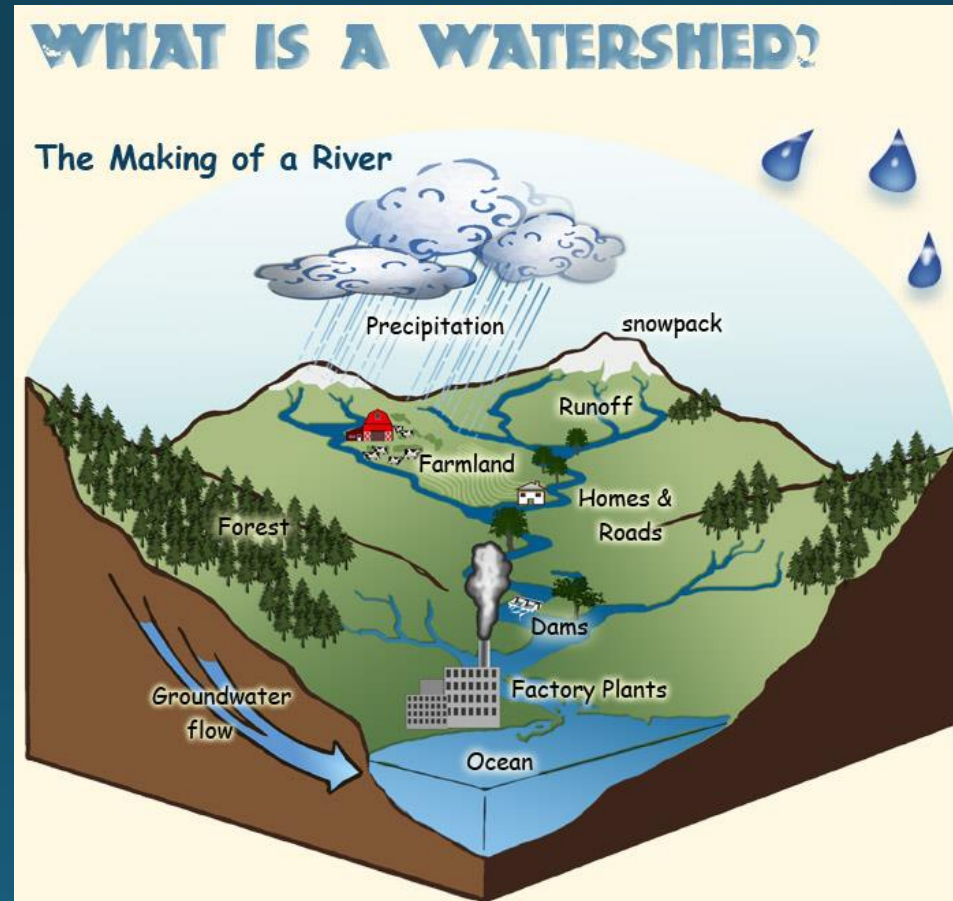


Figure 5.15. Map of 2010 Census urbanized areas



# Source Areas

- Identify source areas contributing water flow and pollution



*Image Credit. A. Vicente, U.S. Forest Service.*

# Watershed Characterization

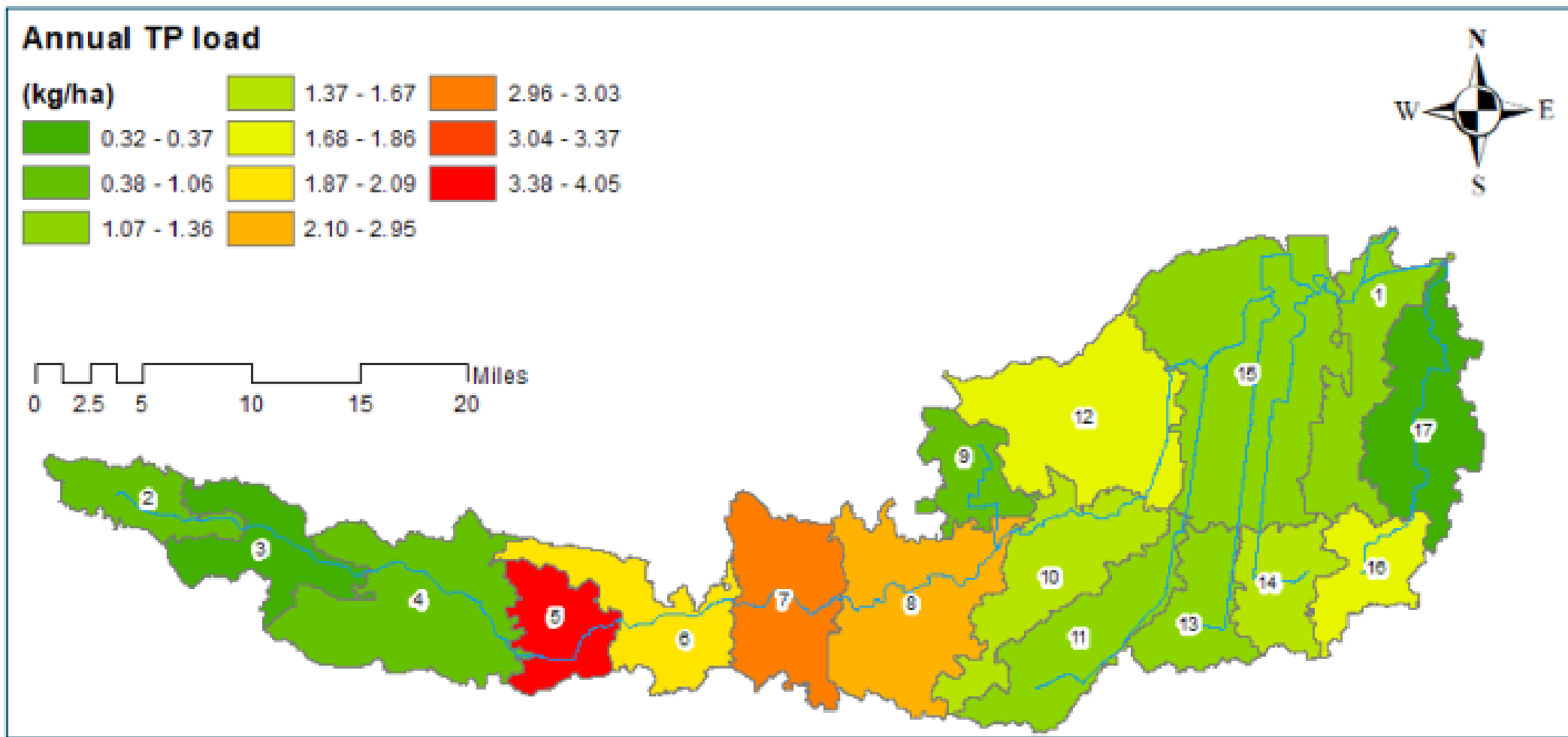


Figure 6.7. Estimated total phosphorus export (kg/ha) from upland nonpoint sources by subbasin



# Watershed Characterization

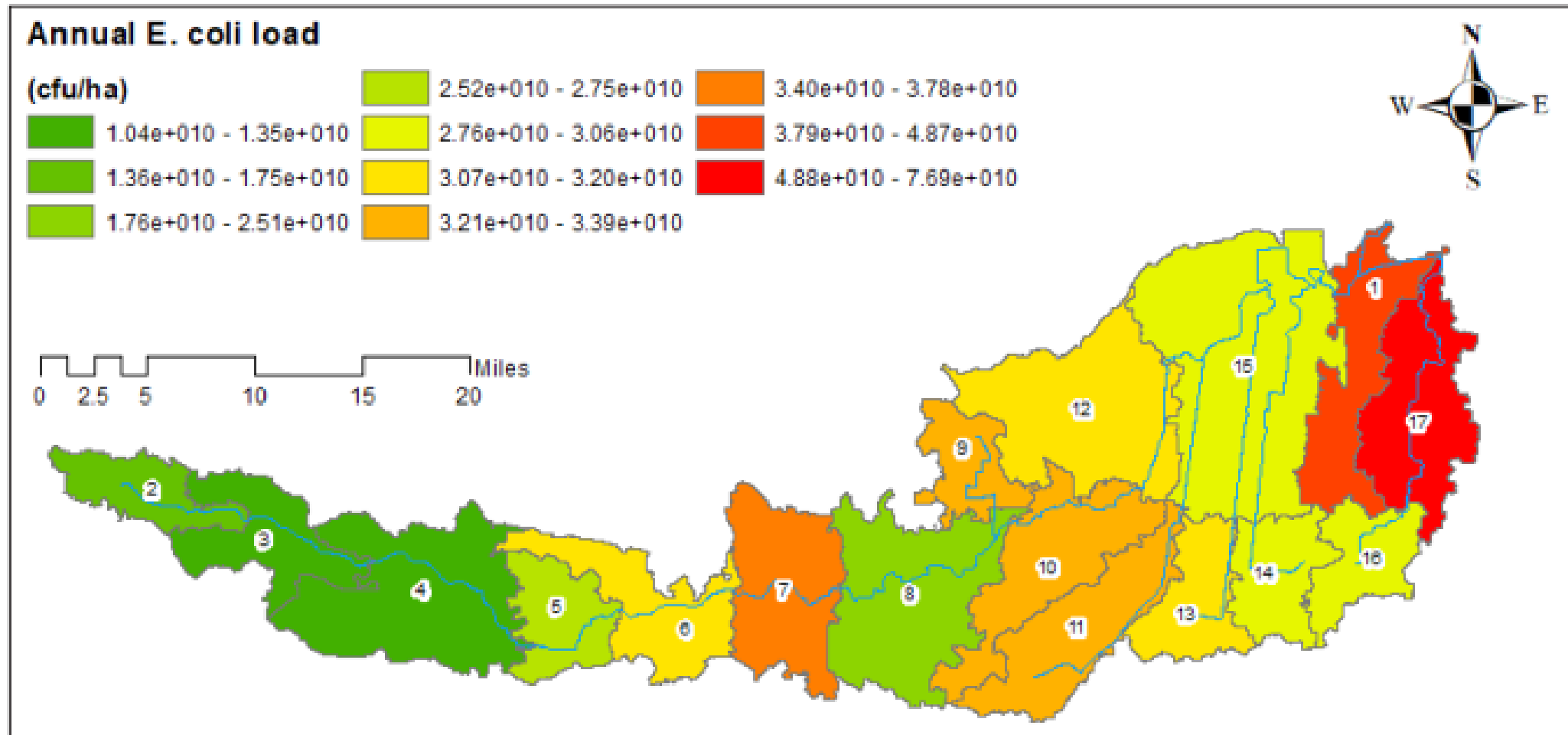
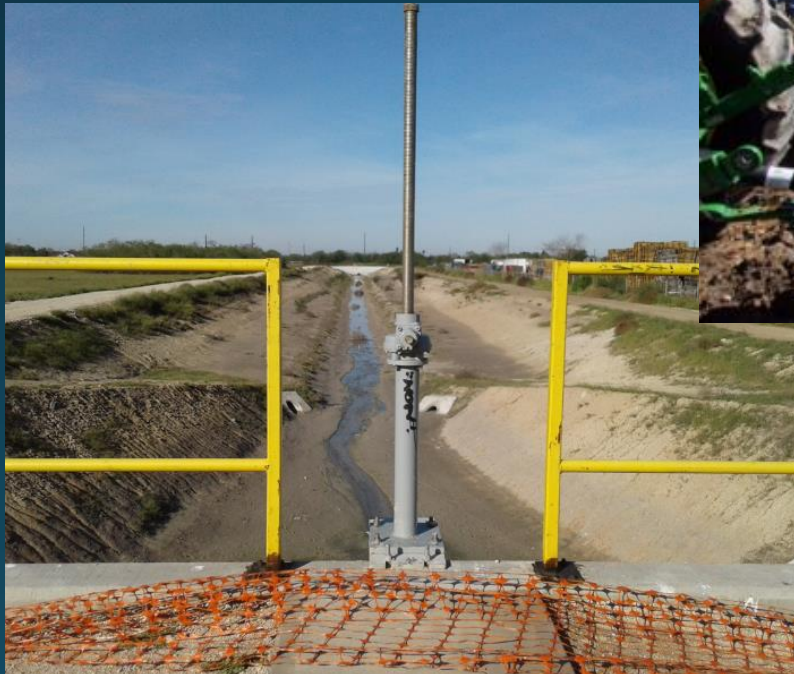
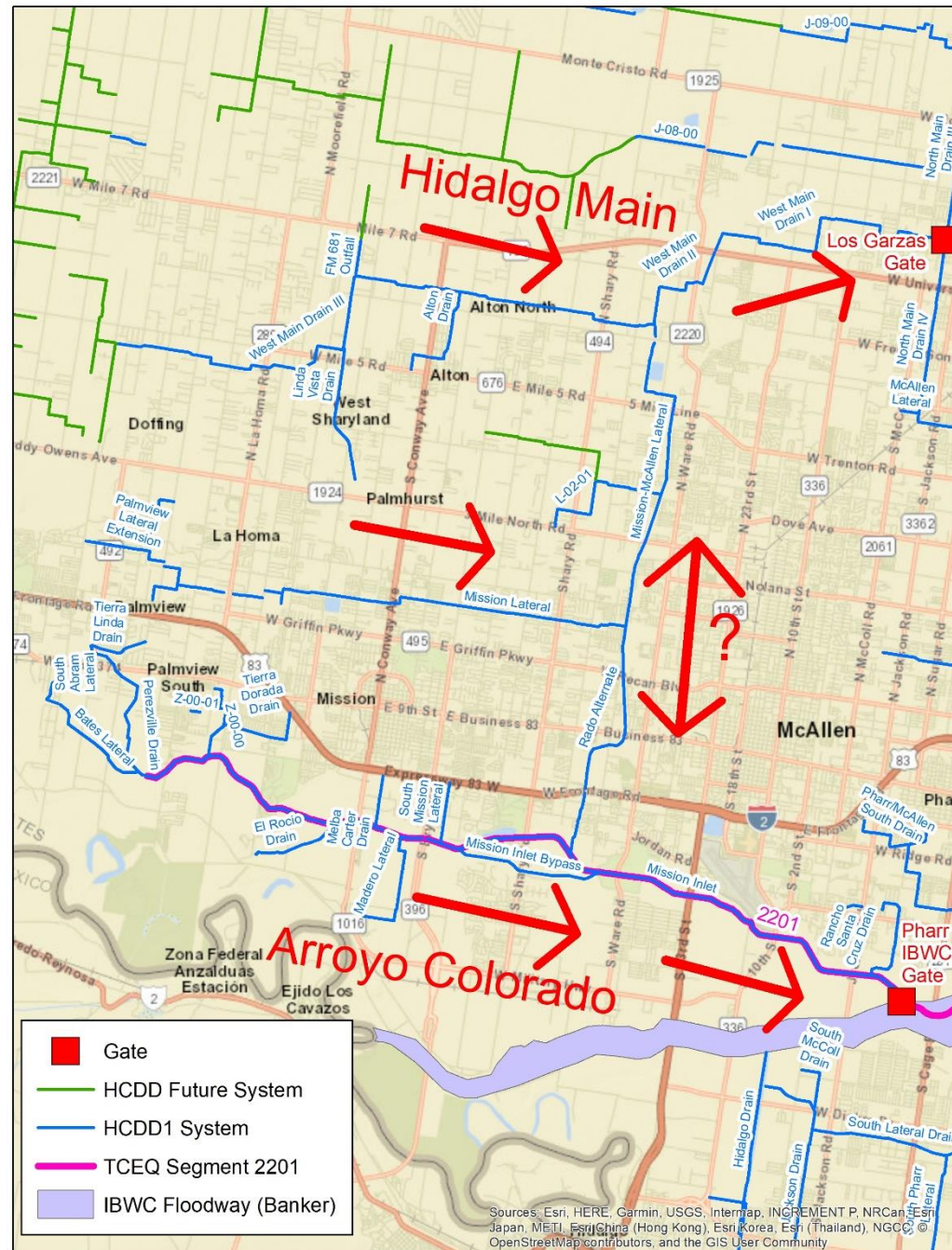


Figure 6.9. Estimated *E. coli* loads (cfu/ha) from upland nonpoint sources by subbasin

# Complicated Drainage

- How do you define source areas/subbasins?







[illegible]



# Local GIS Viewers

- Do an internet search or ask your local GIS experts where to find
- Lower Rio Grande Valley Viewers
  - Arroyo Colorado WPP [Link](#)
  - RATES Viewer [Link](#)
  - Resaca Viewer [Link](#)
  - Hidalgo County Drainage District #1 [Link](#)
  - IBWC Water Viewer [Link](#)
  - Cameron County CAD [Link](#)
  - City of Pharr [Link](#) McAllen [Link](#) Brownsville [Link](#)
  - Probably more...

Questions?

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