

# Implementing Your WPP – Arroyo Colorado Case Study

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Arroyo Colorado Watershed Partnership

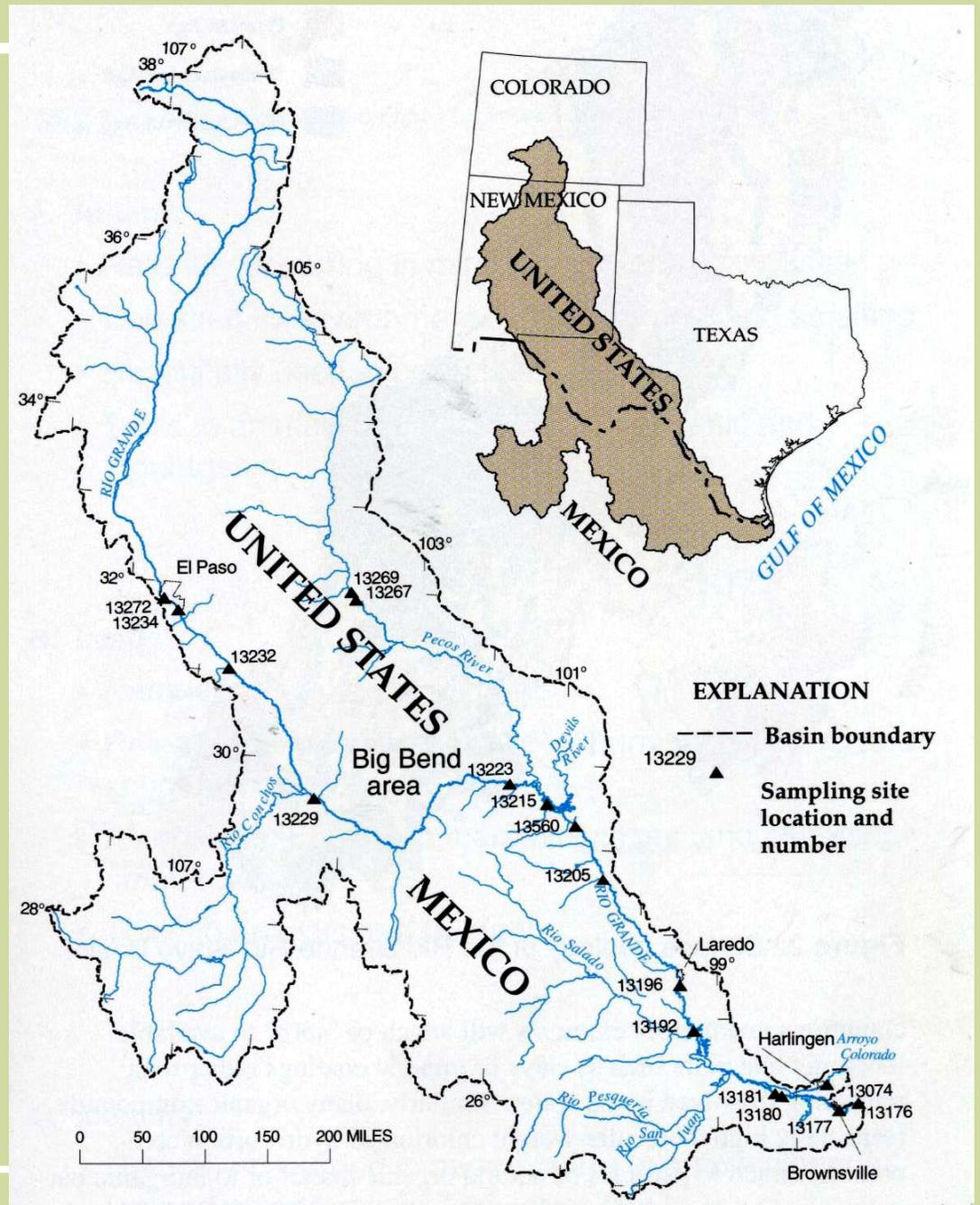
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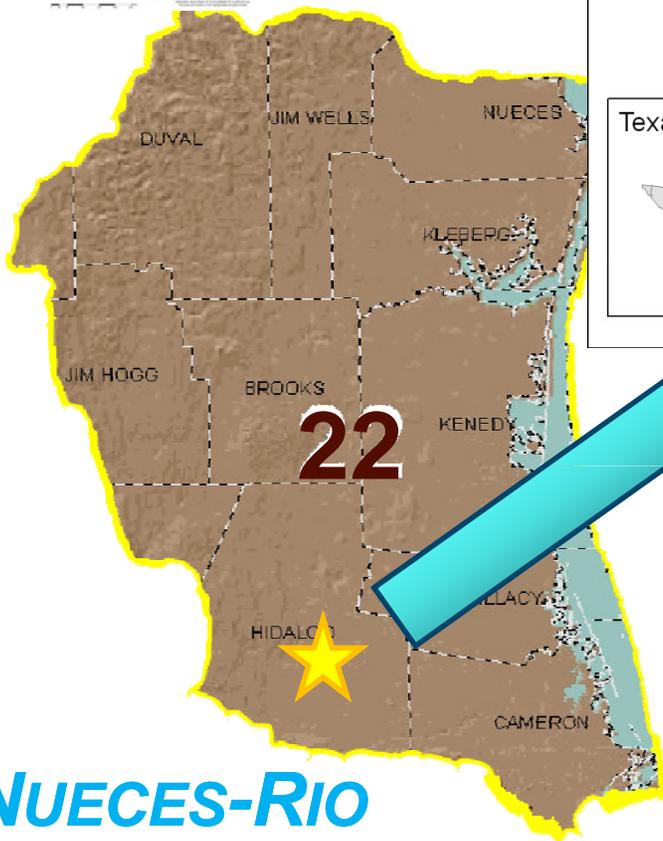
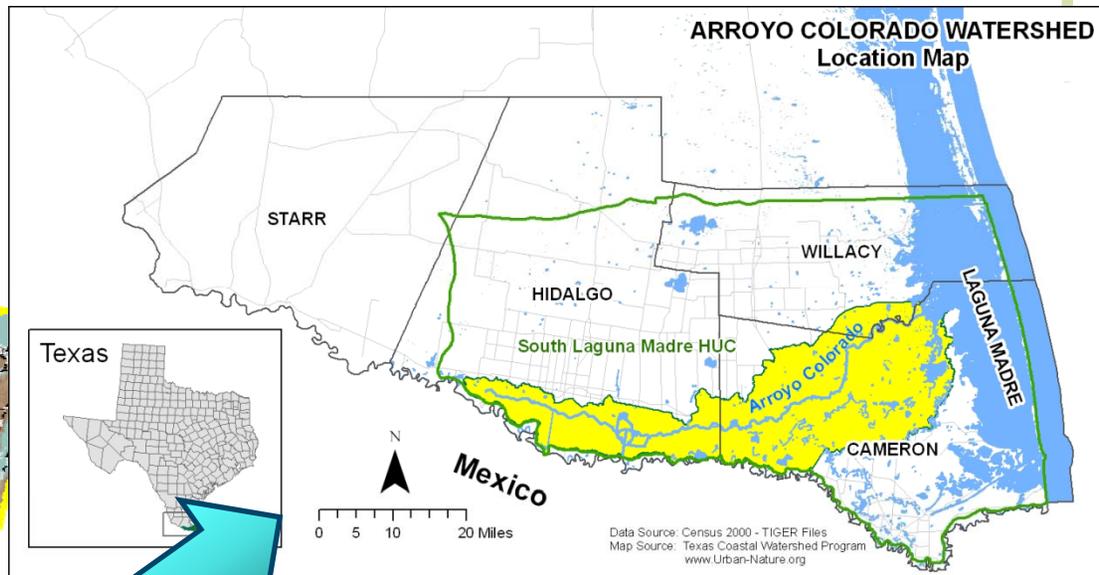
**ARROYO COLORADO**

# Rio Grande Watershed

- The Rio Grande is the major source of water to Valley Residents.
- Inter-basin transfer of water.
- There is a need to work with Mexico on water issues.







**ARROYO  
COLORADO  
WATERSHED**

**NUECES-RIO  
GRANDE  
COASTAL BASIN**



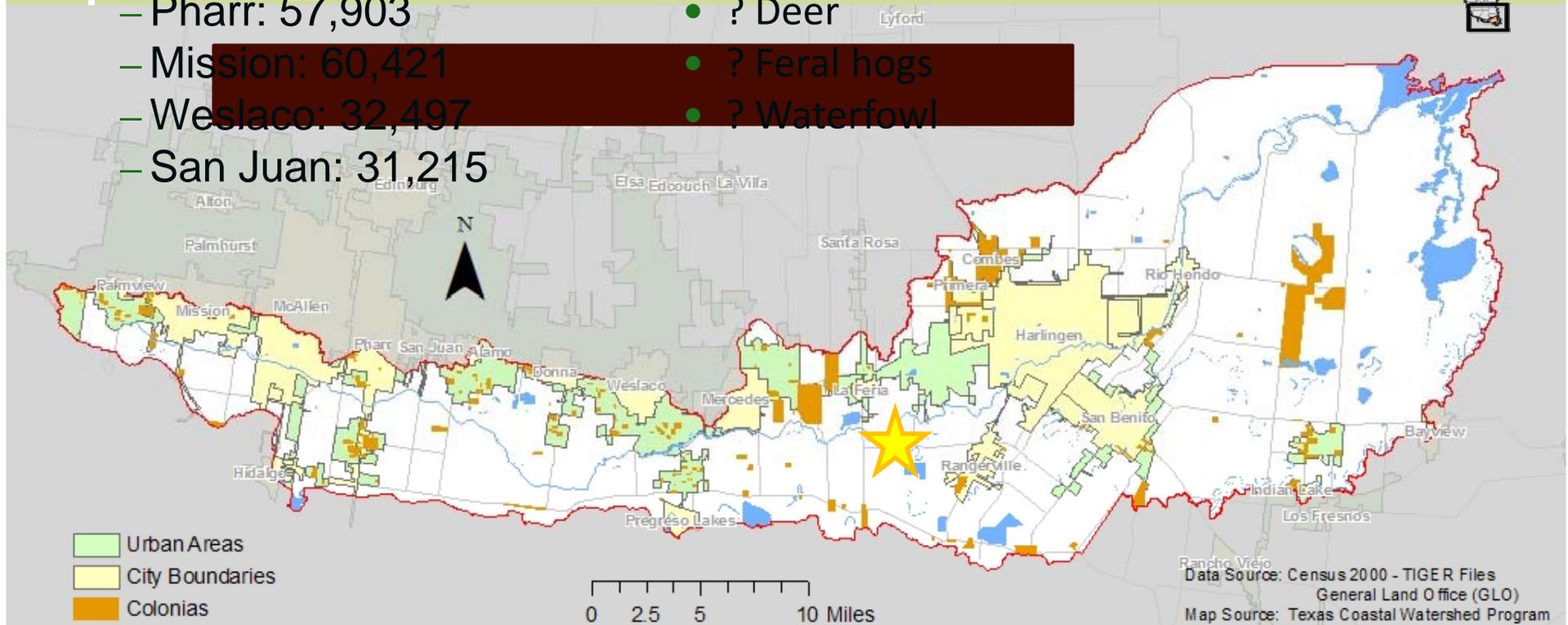
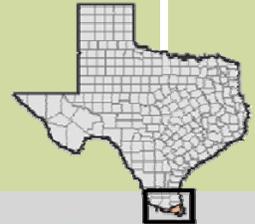
**ARROYO COLORADO**

# The Arroyo Colorado Serves the Lower Rio Grande Valley

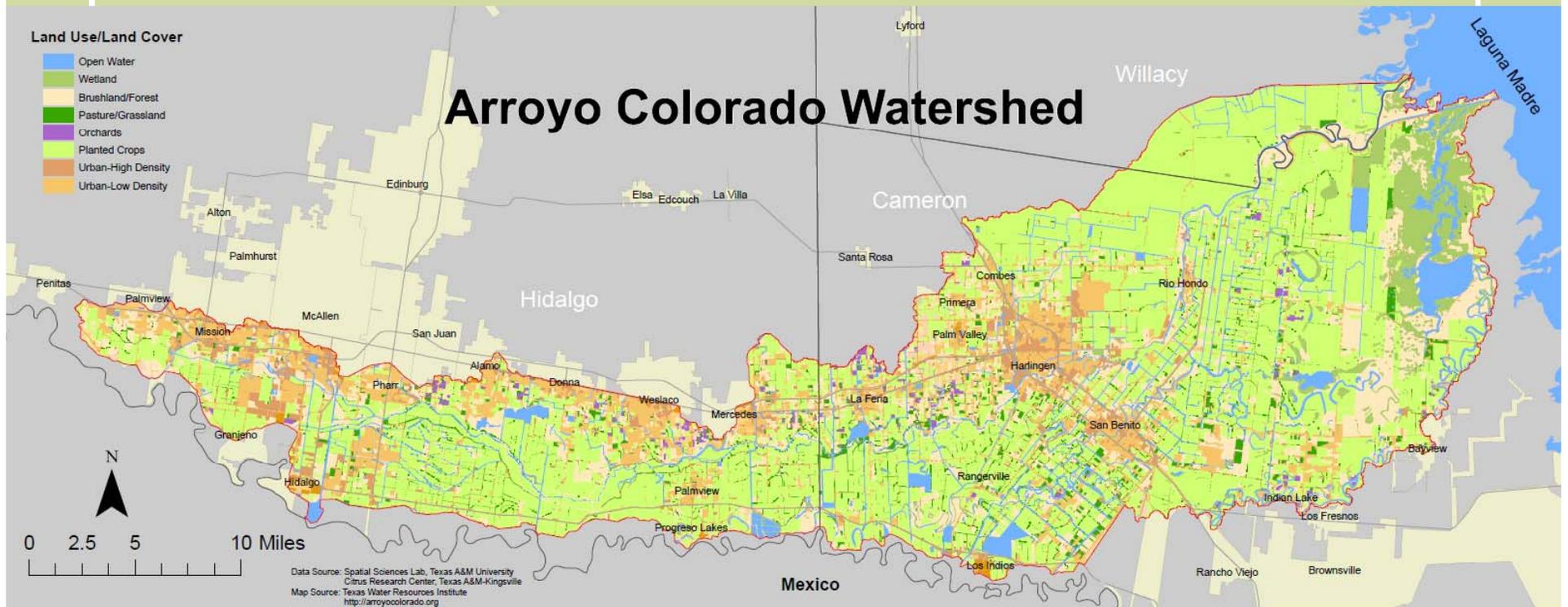


# ARROYO COLORADO WATERSHED

- Drainage area = **706 mi<sup>2</sup>** (500,000 acres; 1,829 km<sup>2</sup>)
- Arroyo Colorado flows **90 miles** (145 km) before its confluence with the Laguna Madre
- **Population centers:**
  - McAllen: 120,865
  - Harlingen: 62,318
  - Pharr: 57,903
  - Mission: 60,421
  - Weslaco: 32,497
  - San Juan: 31,215
- **# Animals:**
  - 66,000 cattle
  - 3,000 goats
  - ? Deer
  - ? Feral hogs
  - ? Waterfowl



# Land Use In the Arroyo Colorado Watershed



**Receives treated wastewater,  
storm water runoff, and  
irrigation return flows**



# Carries commercial barge traffic



# Helps control flooding and drainage

Intersection of FM 510 and FM 1575

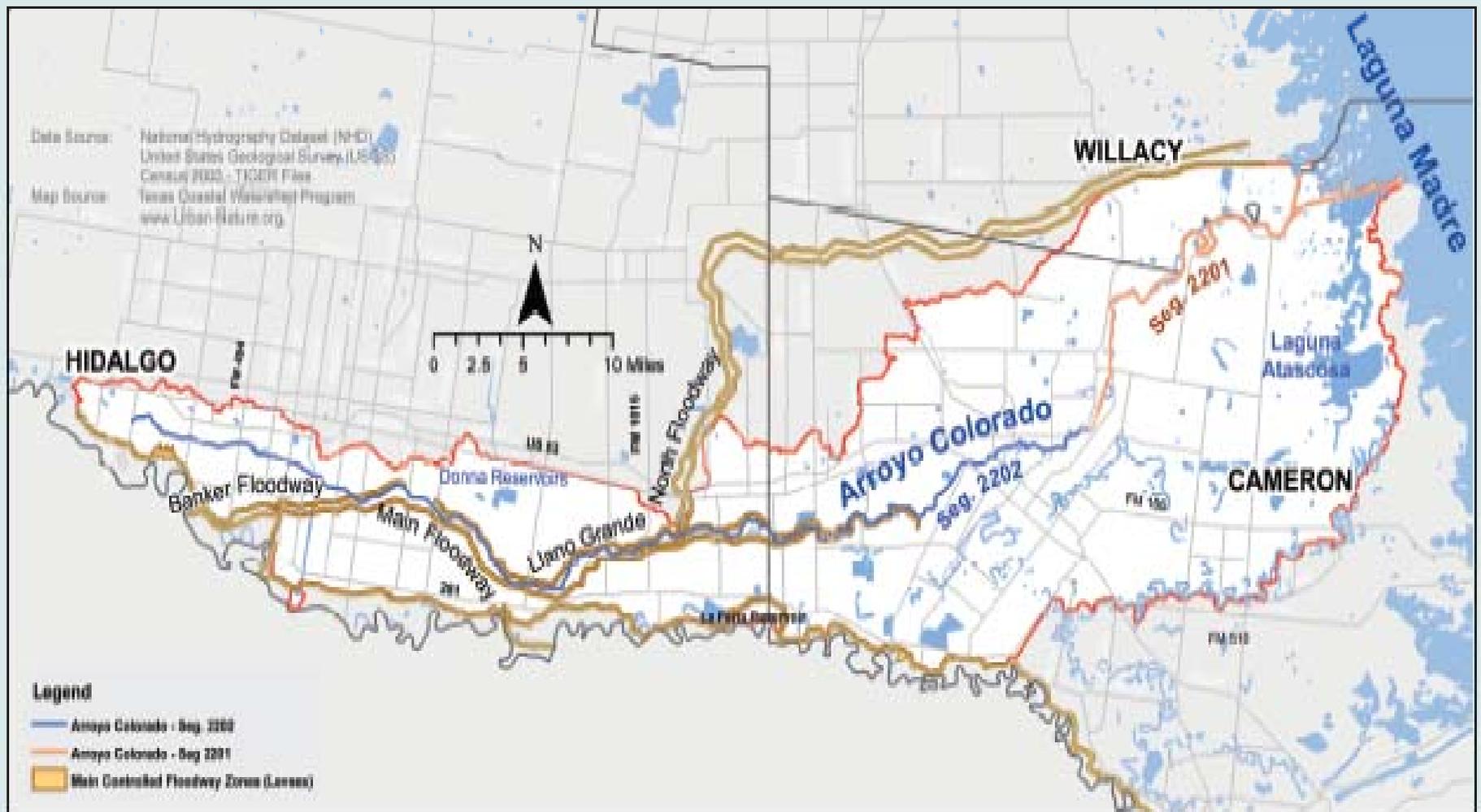


# RGV Flood of 2010

- Hurricane Alex
- Tropical Storm #1
- Tropical Storm Hernine
- Hurricane Karl
- LLM 40 ppm, higher in the summer
- Release=145,000 acre feet=39.4 bil/gal
- 50% of LLM down to 5 ppm



# The Arroyo Colorado Watershed















# Primary Source of Fresh Water for the Lower Laguna Madre



# Provides sanctuary for birds



# A nursery for many fish and shrimp species



# Eco-Tourism=\$300 MILLION



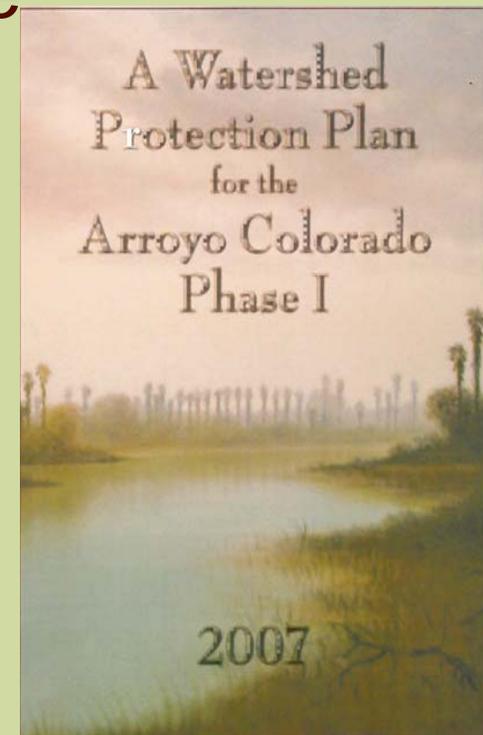
# Planning in the Arroyo Colorado Watershed

- 1998 TCEQ began a TMDL study that resulted in the need for a 90% reduction in nutrients
- TCEQ determined that 90% was not attainable
- Watershed Protection Plan was better approach



# Arroyo Colorado Watershed Protection Plan (ACWPP)

- Began in 2003 with local interest groups identifying goals to reduce nonpoint source pollution
- Adopted in 2007 by the Partnership
- Ultimate Purpose
  - Create a plan for restoring water quality
  - Educate public on water quality issues



# ACWPP Mission

“Reduce the additions of pollutants to the Arroyo Colorado to the maximum extent possible in order to meet state water quality standards and improve the natural terrestrial, riparian, and aquatic habitat associated with the Arroyo Colorado Watershed.”



# Goals of ACWPP

- Reduce pollutant additions 7-19% in 10 yrs
- Improve awareness and understanding of water quality issues
- Minimize fish kills
- Encourage voluntary adoption of BMPs
- Improve quality of treated effluent



# Goals of ACWPP Continued

- Increase wastewater and stormwater infrastructure in low-income communities
- Protect and restore terrestrial habitat
- Coordinate decision making for the ACW
- Encourage urban development strategies



# Implementing the ACWPP Project (2007-2011)

- Provide Monthly Updates
- Update Membership Lists
- Meeting Facilitation
  - Quarterly and Biannual SC and WG meetings
  - Identifying potential projects to meet ACWPP goals
- Writing grants and tracking applications
- Administering Website



# ACWPP Implementation

- ACWP reached 75% of milestones
- 2 new WWTP, 8 upgraded
  - 22 *colonias* connected to centralized system (total residents unknown)
  - 2,629 connections (total residents unknown)
  - 175 residents
  - La Feria, San Juan, San Benito wetlands



# Habitat Restoration

- Hugh Ramsey Wetland Project-Project should begin in April/May
- Port of Harlingen Wetland Phase II- Must move original location of wetland due to POH projected growth.



# Implementing the ACWPP

- Agricultural BMPs
  - 109,000 acres of irrigated land under Water Quality Management Plans (WQMPs) or Resource Management Systems (RMSs)



# Urban Storm Water-MS4

- LRGV-TPDES Task Force Cities are working together to meet permit requirements and interpret new permit
- SW BMP and LID projects need to be monitored and quantified



# **Sustainability and Continued Implementation Project (2011-2014)**

- Accomplishment Tracking and Reporting
- Continued Implementation of ACWPP Goals and Milestones
- Continued SC and WG Facilitation and Evaluation
- Sustaining the Arroyo Colorado Partnership



# Arroyo Colorado Conservancy (ACC) 501(c)3 (nonprofit)

- Formation
- Board Members
  - Also board members of other local organizations
- How the ACC fits into the Partnership
  - Recently formed Financial Workgroup



# Bringing in the ACC to Watershed Planning

- Sustainability Grant
  - Identify public and private entities
  - Solicit financial and technical support
  - Continued financial support
- Provides 50% support for WC in year 3



# Working/Collaborating with Existing Organizations

- LRGV-TPDES Storm Water Task Force
- Texas A & M University Kingsville
- University of Texas at Brownsville
- University of Texas Pan American
- Valley Land Fund
- Valley Environmental Summit
- ACC Board Members
- LRGV Development Council
- Region M Water Planning Group
- IBWC
- Port of Harlingen Authority
- Valley Nature Center
- World Birding Centers



# Update of the Arroyo Colorado WPP (2012-2015)

- Establish Loading Reductions
  - Incorporating SWAT results into a hydrodynamic/ Water Quality Model
- Incorporate Adaptive Management Strategies-Identify Data gaps
- Incorporate new data/BMP's into update
- What is coming next?



# Update of the Arroyo Colorado WPP-Storm Water

- Establish Loading Reductions
  - No data on SWBMP's=Load reductions, where do we get this data, how do we incorporate into update
- LID-Detention/Retention Pond Inventory
  - GIS mapping
  - Flooding is going to increase in intensity-must be the Go To Experts in dealing with issue



# Update of the Arroyo Colorado WPP-Storm Water

- Discussion to form AC Urban Storm Water WG, 10-20-11, Approved at ACSC, 2-19-12
  - MS-4 permit and how it affects AC Stakeholders
- Need a lot of **FEEDBACK** from TF on what we need to include in update!!
- Incorporating Sustainability



# Update of the Arroyo Colorado WPP

- Outreach & Education component is working- # of Earth Day/Trash events
  - Need to keep working with ISD's
- Use our combined resources/expertise to find solutions to complex problems
- Update Milestones Table-track/record
- Incorporating Sustainability



# End Goal



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**ARROYO COLORADO**

**Know it. Respect it. Enjoy it.  
Conócelo. Respétalo. Disfrítalo.**