

Watershed Planning & Watershed Based Plans

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Texas Water Resources Institute

- Est. in 1952 and designated by TX Legislature & Governor in 1964 as the state's official water resources institute
 - Authorized by Water Resources Research Act of 1964
 - Represents Texas as part of the National Institutes for Water Resources Research

Texas Water Resources Institute

■ Mission

- We work to foster and communicate research and educational outreach programs focused on water resources science and management issues in Texas and beyond.

■ What We Do

- **Restore & Protect:** use science and stakeholder involvement to restore and protect water quality
- **Sustain & Enhance:** increase the value and smarter use of municipal, industrial and ag water supplies to meet growing demand
- **Engage & Educate:** provide training to citizens, students, and professionals regarding critical water issues and management strategies

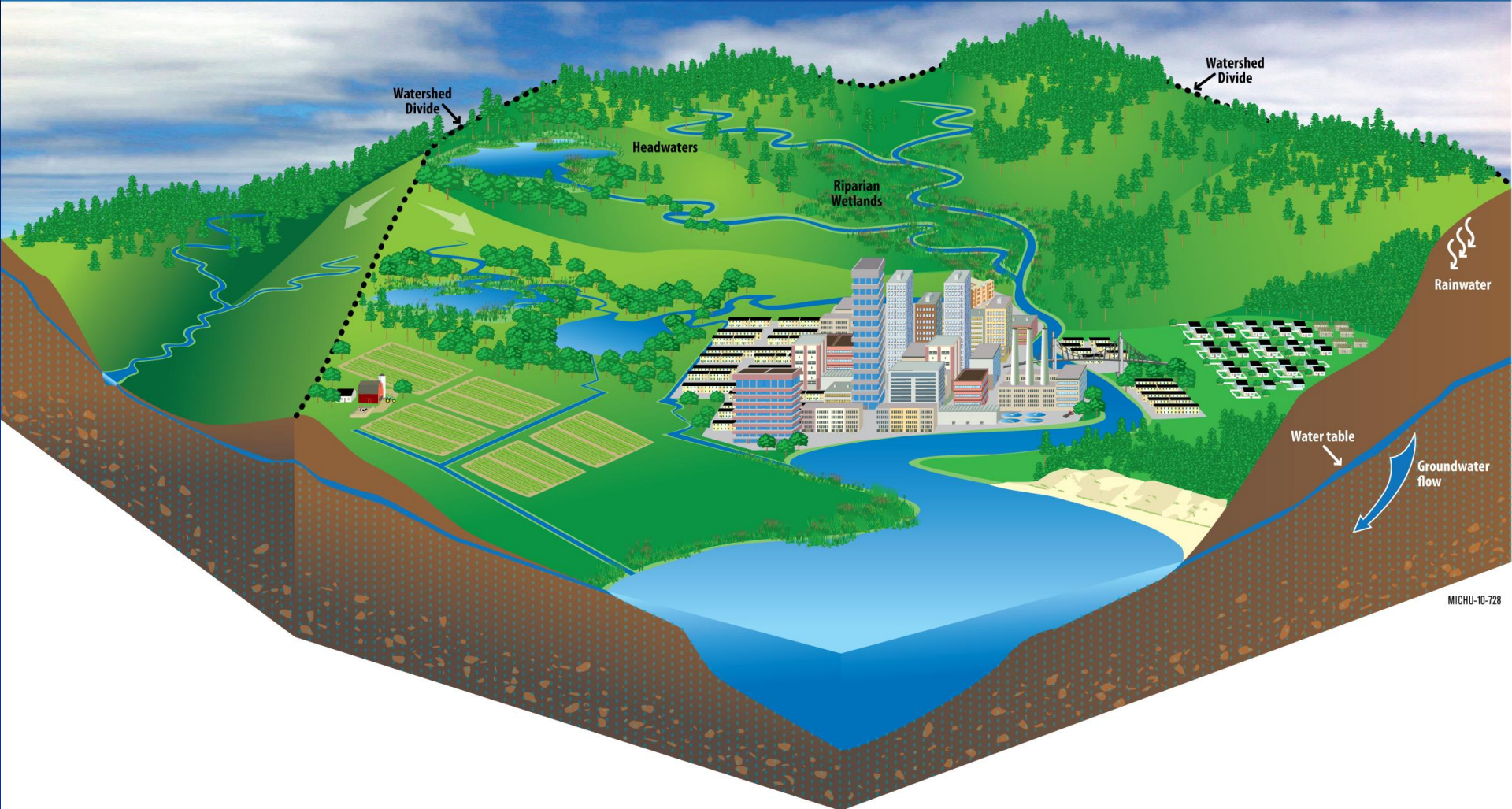
TWRI Services

- Grant Writing & Program Management
- Communications
 - tx H2O – semi-annual print/E-magazine
 - Conservation Matters – monthly E-newsletter
 - Texas+Water – E-newsletter in partnership with Meadows Center for Water and Environment
- Professional Training
- Watershed Planning & Assessment
- Student Training & Support

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HOW WATERSHEDS WORK



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THE WATERSHED PLANNING APPROACH

The Watershed Approach

- Flexible framework for managing water resource quality and quantity within a specific drainage area or watershed
 - Doesn't stick to traditional political boundaries
- Includes stakeholder involvement and management actions supported by sound science and appropriate technology

Watershed Planning

- A comprehensive approach that combines:
 - Science
 - Community Input
 - Strategic Planning

To get the water quality improvements or resource protection desired

A Watershed Plan

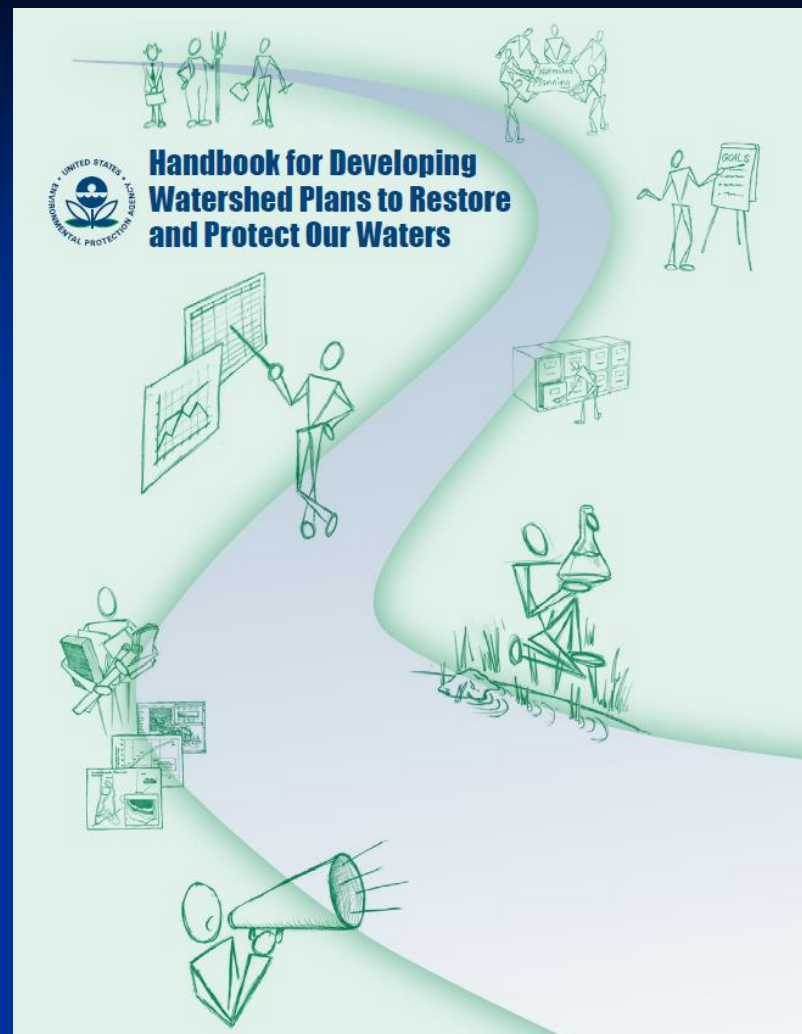
- Provides assessment and management information for a geographically defined watershed
 - Includes:
 - Analysis
 - Actions
 - Participants
 - Resources

Why is it important to write a WPP?

- Watersheds serve as logical landscape units for environmental management
- Approaching NPS pollution problems in a watershed framework helps communities evaluate and prioritize problems affecting ground and surface waters
- Watershed planning connects the community's decision-making to sensible data collection and defensible analysis
- Recording those decisions in a WPP increases the probability that the problems will be addressed



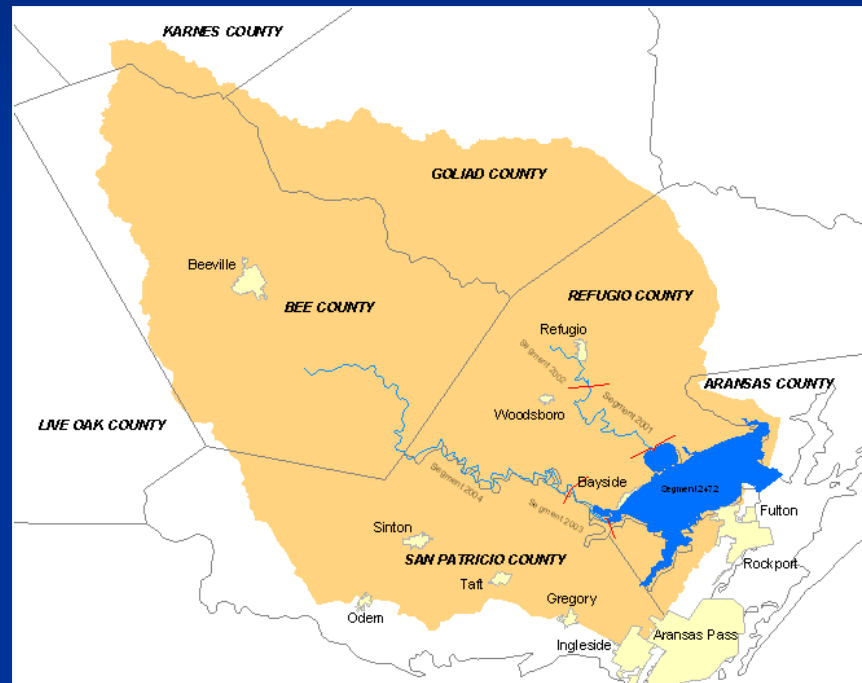
EPA Guidance for Developing Watershed Plans



<https://www.epa.gov/nps/handbook-developing-watershed-plans-restore-and-protect-our-waters>

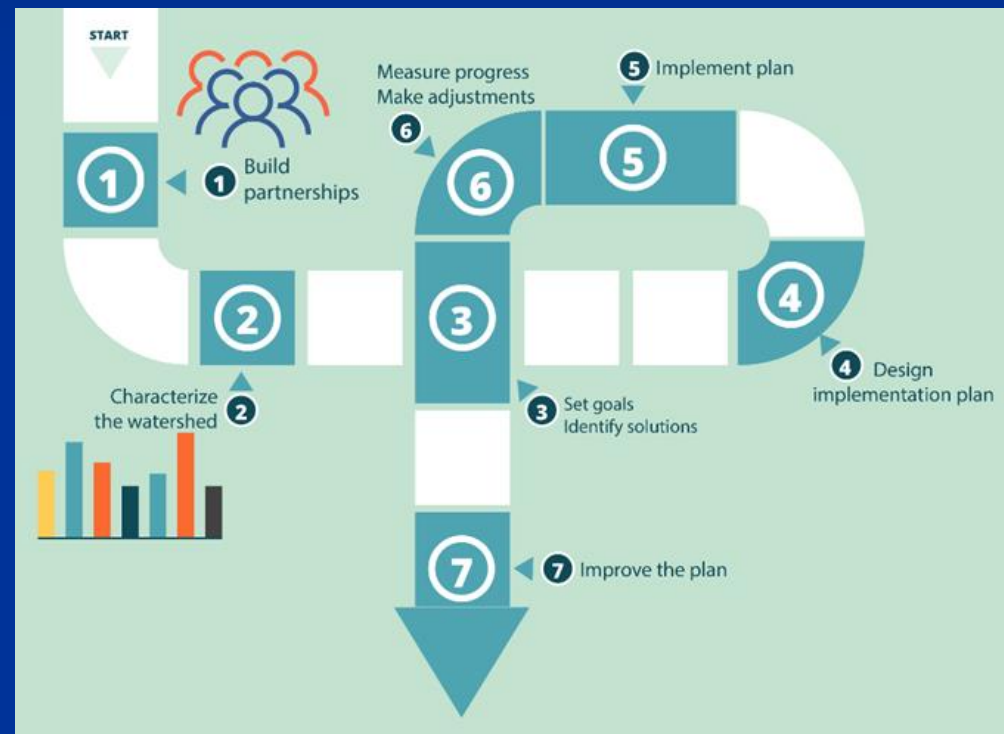
What Makes Watershed Planning Different From Other Planning?

- Geographically defined
- Iterative
- Holistic
- Integrated
- Collaborative



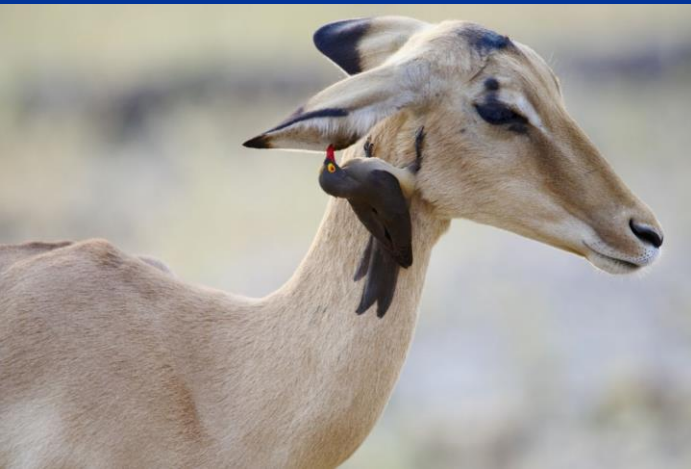
How do you develop a WPP?

1. Build Partnerships
2. Characterize the Watershed
3. Finalize Goals and Identify Solutions
4. Design an Implementation Program
5. Implement Watershed Plan
6. Measure Progress & Make Adjustments



1. Build partnerships

- Identify key stakeholders
- Identify issues of concern
- Set preliminary goals
- Develop indicators
- Conduct public outreach



2. Characterize the watershed

- Gather existing data & create a watershed inventory
- Identify data gaps & collect additional data if needed
- Analyze data
- Identify causes & sources of pollution that need to be controlled
- Estimate pollutant loads

3. Finalize goals & identify solutions

- Set overall goals & management objectives
- Develop indicators/targets
- Determine load reductions needed
- Identify critical areas
- Develop management measures to achieve goals

4. Design implementation program

- Develop implementation schedule
- Interim milestones to track implementation of management measures
- Develop criteria to measure progress toward meeting watershed goals
- Develop monitoring component

4. Design implementation program, continued...

- Develop information/education component
- Develop evaluation process
- Identify technical & financial assistance needed to implement plan
- Assign responsibility for reviewing & revising plan

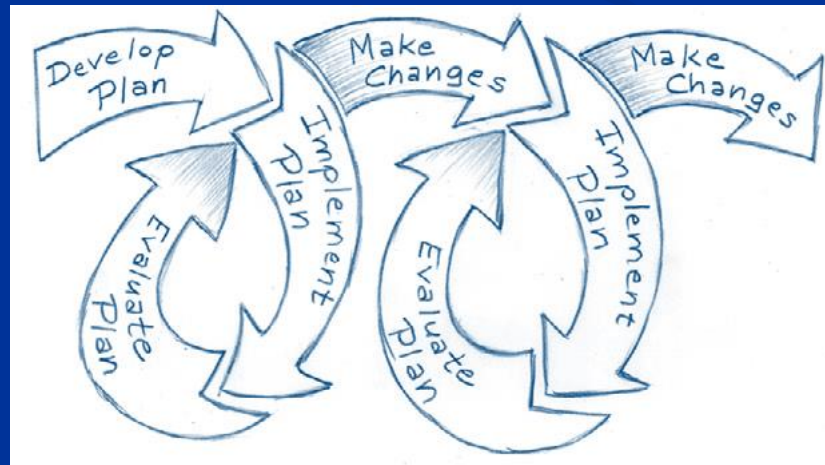
5. Implement the watershed plan

- Implement management strategies
- Conduct monitoring
- Conduct information/education activities



6. Measure progress & make adjustments

- Review & evaluate information
- Share results
- Prepare annual work plans
- Report back to stakeholders & others
- Make adjustments to program



9 Key Elements of a WPP

- A** Identification of causes & sources
- B** Estimate of needed load reductions
- C** Description of management measures
- D** Estimate of technical & financial assistance
- E** Information/education component
- F** Schedule for implementation
- G** Description of measurable milestones
- H** Criteria developed to determine if load reductions are achieved
- I** Monitoring component to evaluate effectiveness

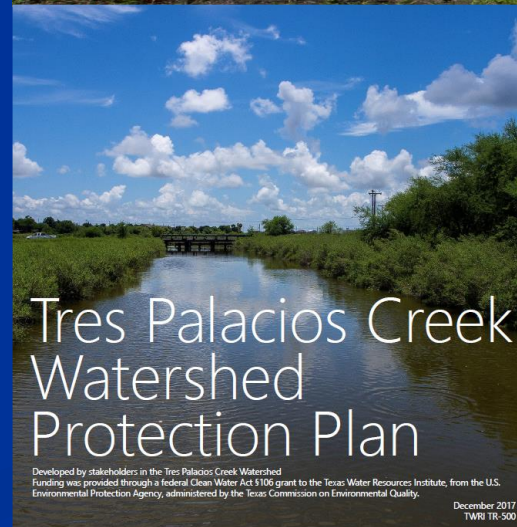
WPP Example – Tres Palacios

Plan Implementation

- Assist local groups implement completed plans
 - Identify sources of funding
 - Develop project proposals
 - Document implementation success
 - Track water quality trends
 - Volunteer monitoring
- Administer grants

■ Management Milestones

- Repair or replace 25 failing septic systems
- Develop conservation plans or water quality management plans for 45 agricultural operators
- Decrease feral hog populations by 20%
- Reduce illicit dumping at bridges



Top 10 Watershed Lessons:

1. The best plans have clear visions, goals & action items.
2. Good leaders are committed & empower others.
3. Having a coordinator at the watershed level is desirable.
4. Environmental, economic & social values are compatible.

Top 10 Watershed Lessons:

5. Plans only succeed if implemented.
6. Partnerships equal power.
7. Good tools are available.
8. Measure, communicate & account for progress.

Top 10 Watershed Lessons:

9. Education & involvement drive action.
10. Build on small successes.



Questions?

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