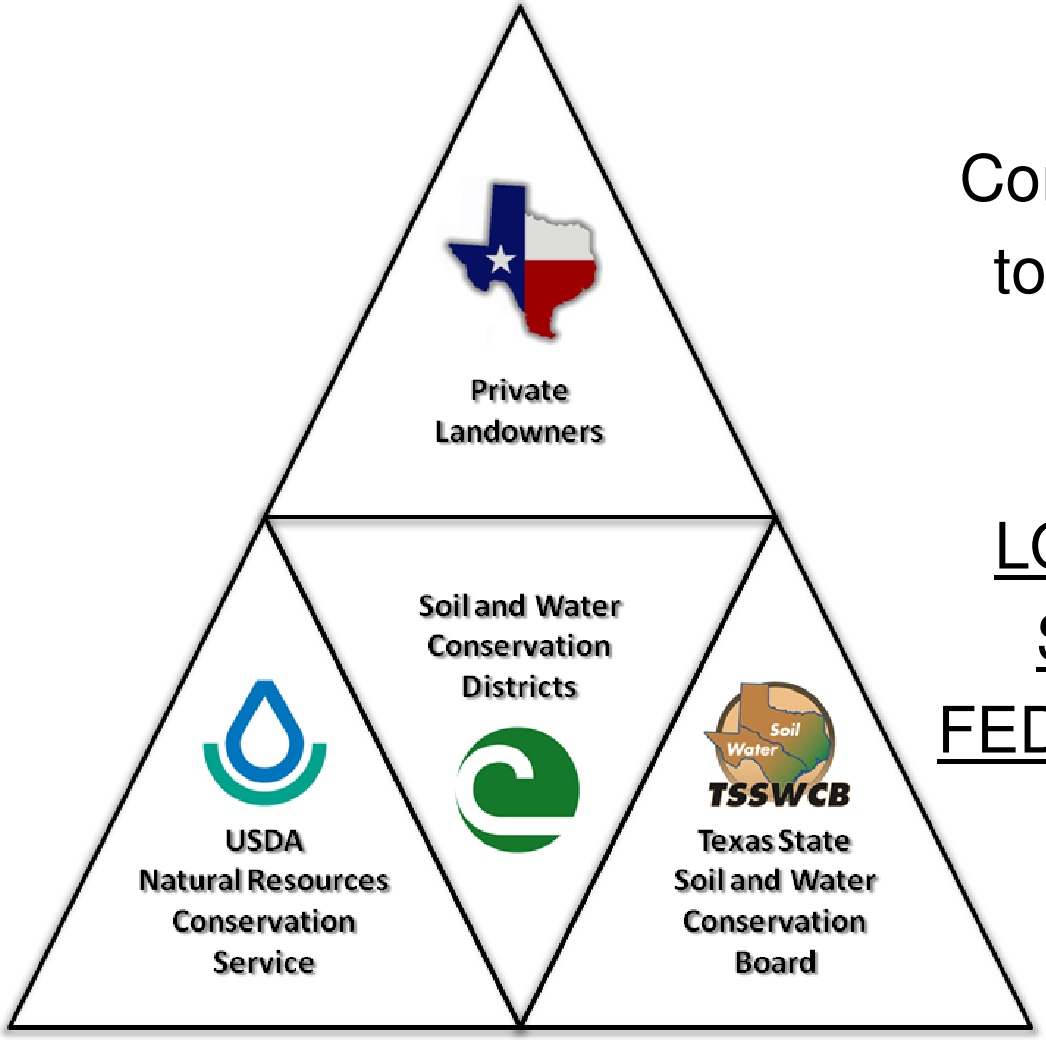
Watershed Planning for the South and North Llano Rivers

Aaron Wendt
Texas State Soil and Water Conservation Board

Oasis Pipeline Fire
Recovery and Reclamation Workshop
November 12, 2011
Junction, TX

Texas Conservation Partnership



Providing
Conservation Assistance
to Private Landowners
for 70+ Years

LOCAL = 216 SWCDs
STATE = TSSWCB
FEDERAL = USDA-NRCS

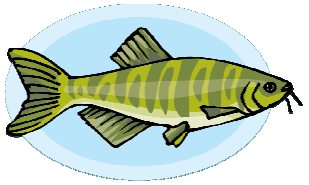
Water Quality in Texas

- Texas State Soil and Water Conservation Board (TSSWCB)
  - Agricultural & Silvicultural Nonpoint Source
- Texas Commission on Environmental Quality (TCEQ)
  - Point Source Permitting (WWTF, CAFO, MS4)
  - All other forms of NPS

Federal Clean Water Act

- "restore & maintain the chemical, physical & biological integrity of the Nation's waters"
  - "water quality which provides for the protection of fish, shellfish, & wildlife & provides for recreation in & on the water"
- also, federal Safe Drinking Water Act





Federal Clean Water Act

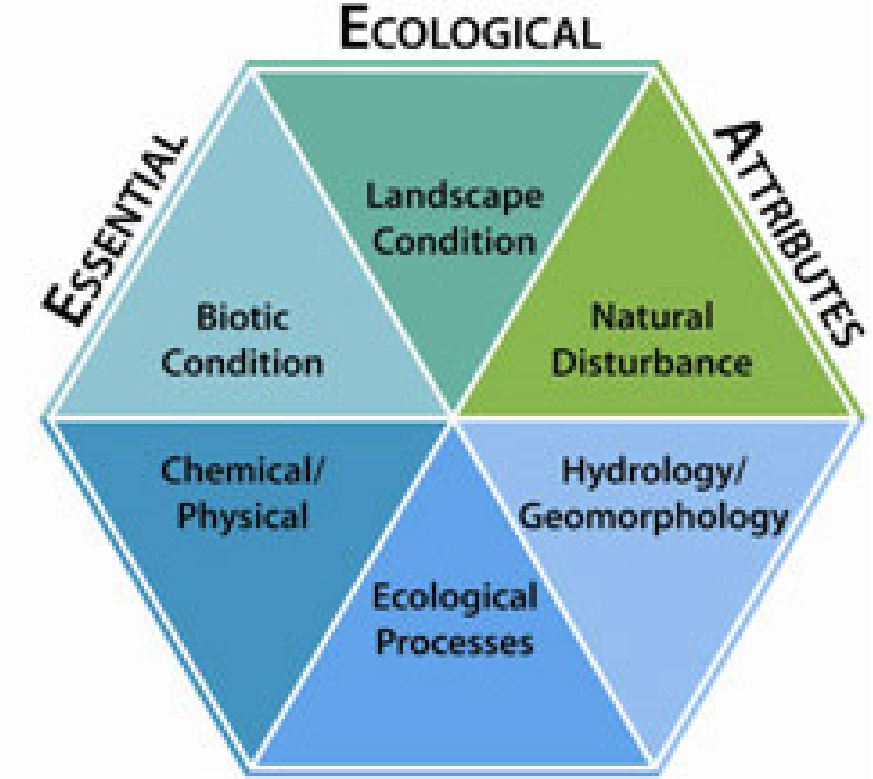
- requires States to establish Water Quality Standards to achieve objective & goals
- requires States to identify waterbodies failing to meet water quality standards & not supporting their designated uses
  - this list of impaired waterbodies is known as the *Texas 303(d) List*
  - must be submitted to USEPA for review & approval every two years

2008 Texas 303(d) List

- Data from Dec 1999 to Nov 2006 was assessed
- 838 waterbody-pollutant combinations (impairments)
  - 48% for bacteria
- 387 individual waterbodies impaired
- Need to deal with magnitude of listings through any & all means

Healthy Watersheds

- reduced vulnerability to invasive species & future land use changes
- provide habitat for fish, amphibians, birds, and insects and stream corridors which provide a key connection across the landscape
- preserve recreation opportunities such as fishing and water-related recreation and contribute to tourism
- Vulnerability to floods, fires, and other natural disasters is minimized
- by protecting aquifer recharge zones and surface water sources, costs of drinking water treatment may be reduced.



Watershed Approach

- Geographic focus based on hydrology rather than political boundaries
- Water quality objectives based on scientific data
- Coordinated priorities and integrated solutions
- Diverse, well-integrated partnerships

Born, S.M. and K.D. Genskow. 2001.
Toward understanding new watershed initiatives:
A report from the Madison Watershed Workshop

- Convergence of opinion that “watershed plans are necessary precedents for successful watershed management, protection, and restoration interventions…”

- In a recent study,…“the use of watershed plans was the only factor with a high correlation with potential positive environmental outcomes.”

What is a WPP?

- Watershed Protection Plan
- WPPs are mechanisms for voluntarily addressing complex water quality problems that cross multiple jurisdictions
- WPPs holistically address all of the sources and causes of impairments and threats to both surface and ground water resources within a watershed
- WPPs are coordinated frameworks for implementing prioritized and integrated protection and restoration strategies driven by environmental objectives

What is a WPP?

- WPPs are tools to better leverage the resources of individual landowners and citizens, local governments, state and federal agencies, and non-governmental organizations

- WPPs are developed and implemented through diverse, well integrated partnerships with decision-making founded at the local level

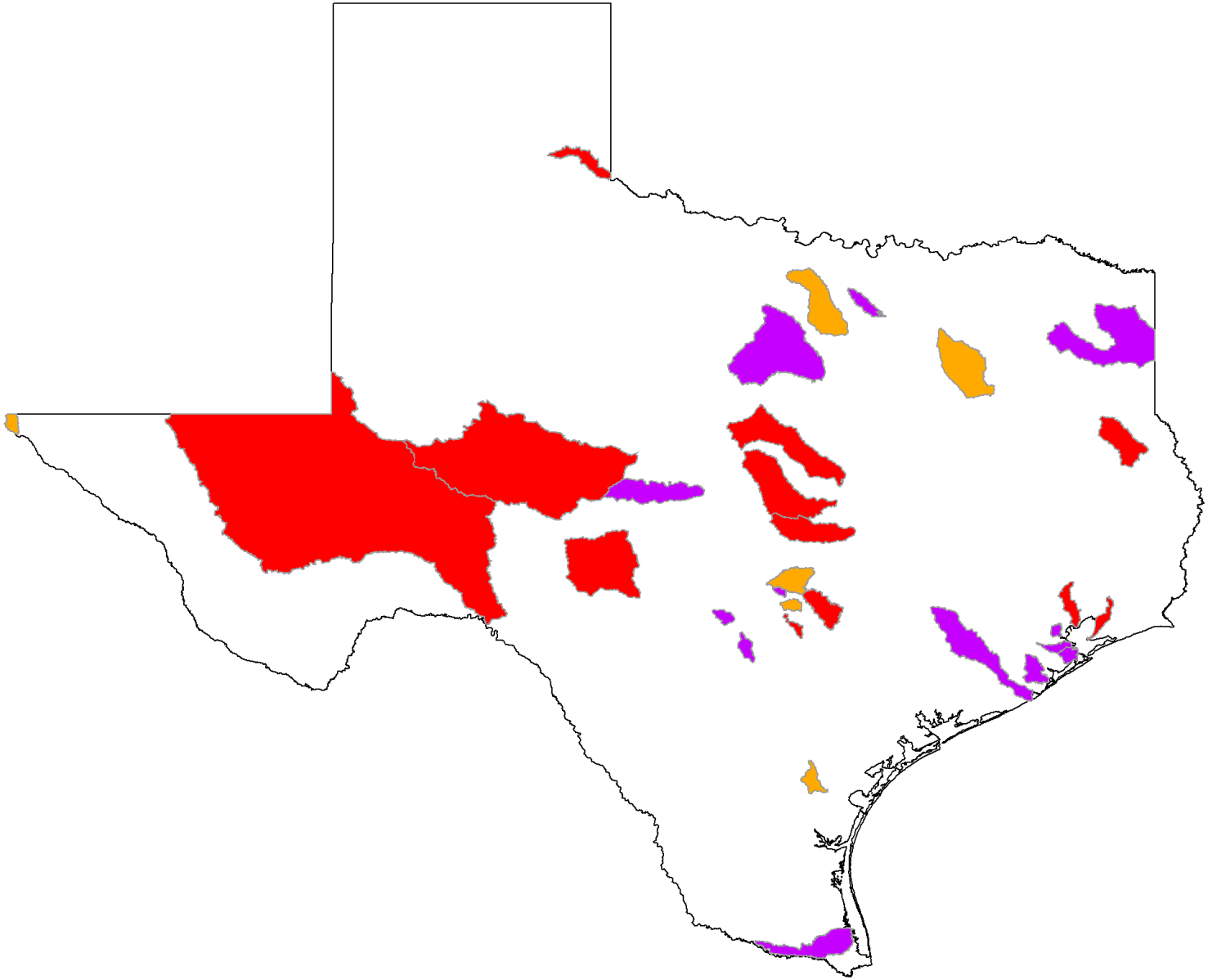
- WPPs use adaptive management to modify the plan based on an ongoing science-based process involving monitoring and evaluating strategies and incorporating new knowledge into decision-making

Why is it important to write a WPP?

- Watersheds serve as logical landscape units for environmental management
- Approaching nonpoint source 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 watershed protection plan increases the probability that the problems will be addressed

9 Elements of a WPP

a) Identification of the causes and sources of water quality problems
b) Estimate of the load reductions expected to be achieved
c) Description of management measures that will need to be implemented
d) Estimate of technical and financial assistance needed to implement the plan
e) Information/education component that will be used to enhance public understanding of the plan
f) Schedule for implementing management measures
g) Interim, measurable milestones for determining whether management measures are being implemented
h) Set of criteria used to determine whether load reductions are being achieved
i) Water quality monitoring component to evaluate effectiveness of implementation

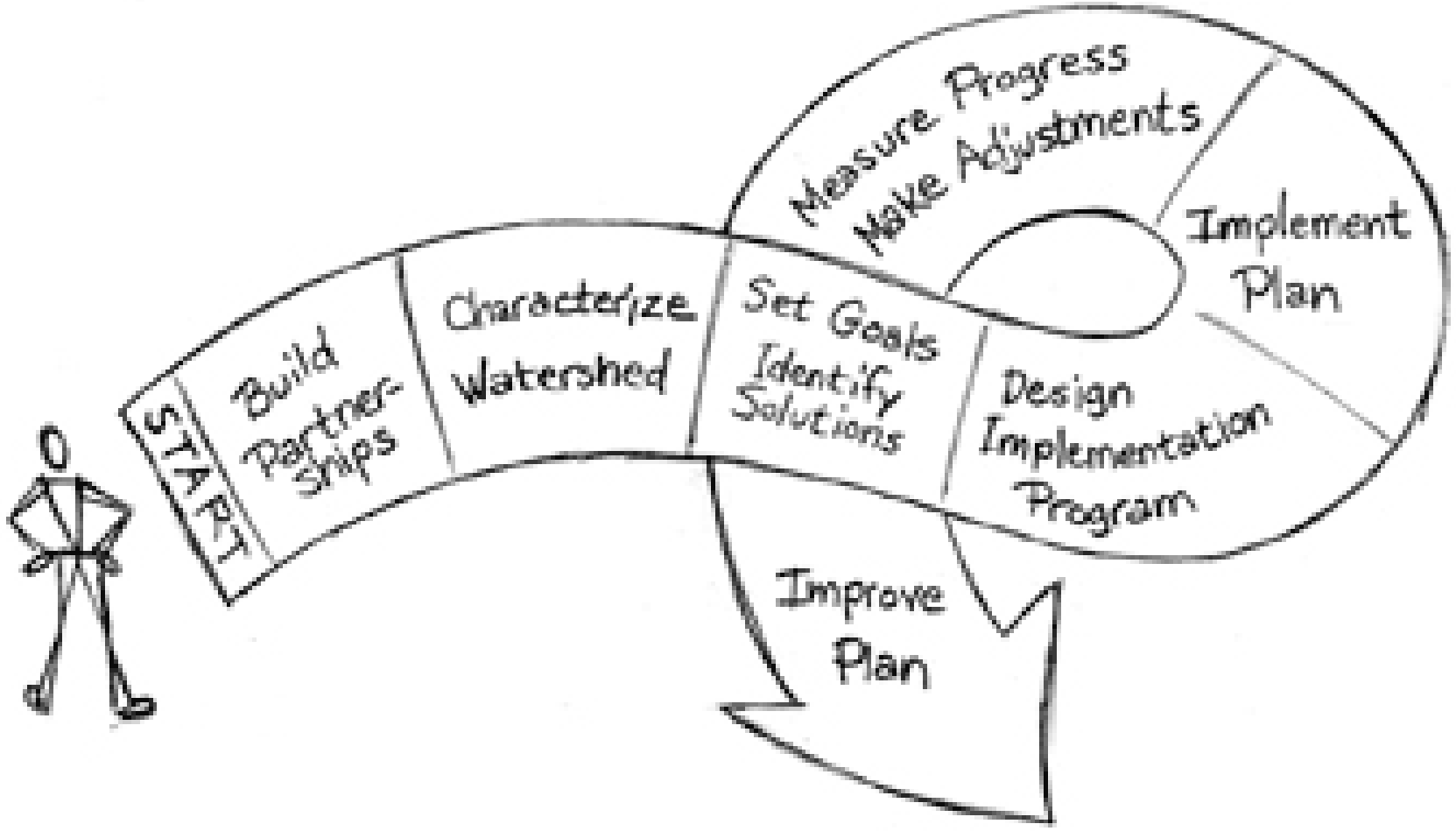



A Watershed Protection Plan for the Arroyo Colorado Phase I
Upper San Antonio River Watershed Protection Plan
San Antonio River Authority
Bexar Regional Watershed Management Partnership
Texas Commission on Environmental Quality
James Miertschin & Associates
Plum Creek Watershed Protection Plan
Developed by
THE PLUM CREEK WATERSHED PARTNERS
February 2008
Concho River Watershed Protection Plan
Developed by the Upper Colorado River Authority
Revised May 2011
A Watershed Protection Plan for the Pecos River in Texas
October 2008

Solutions Identified in WPPs

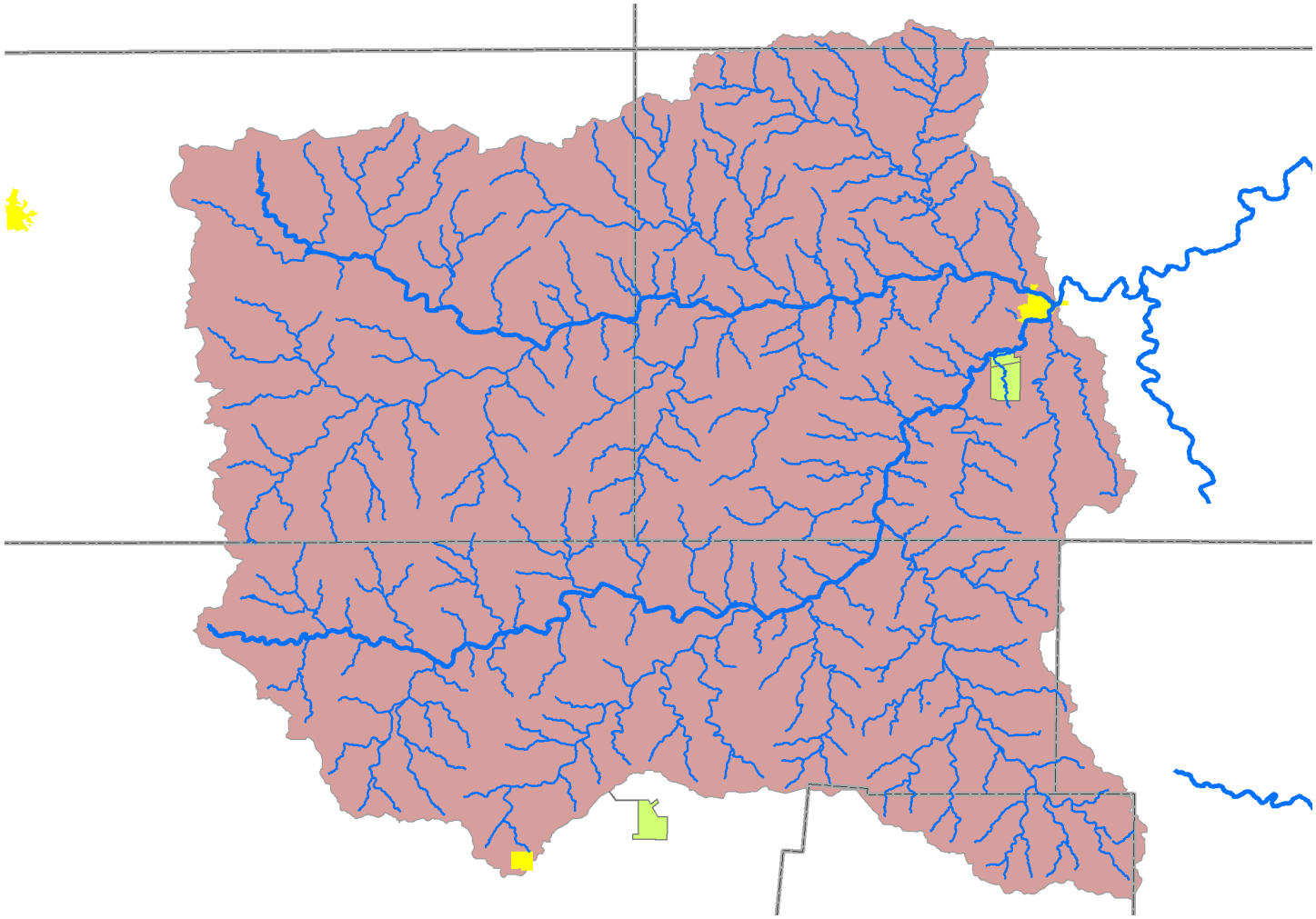
- changes to Wastewater Treatment Facility permits & possible upgrades
- repair & replace failing septic systems
- technical assistance & financial incentives to landowners for voluntary BMPs on agricultural land
- control of invasive species (feral hogs)
- education on & demonstration of BMPs

6 Steps of Watershed Planning




economic
social
environmental
Viable
Bearable
Equitable
Restoration

North and South Llano River Watershed



CWA §319(h) grant

- Texas Water Resources Institute, Texas Tech University, Texas AgriLife Extension Service, & U.S. Geological Survey
- Tasks
  - Facilitate stakeholder group
  - Land use analysis
  - Water quality monitoring
  - Invasive species analysis
  - Watershed modeling
  - Workshops, outreach
  - Write WPP

responsibility for decision-making regarding the management of water resources is founded at the local level

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