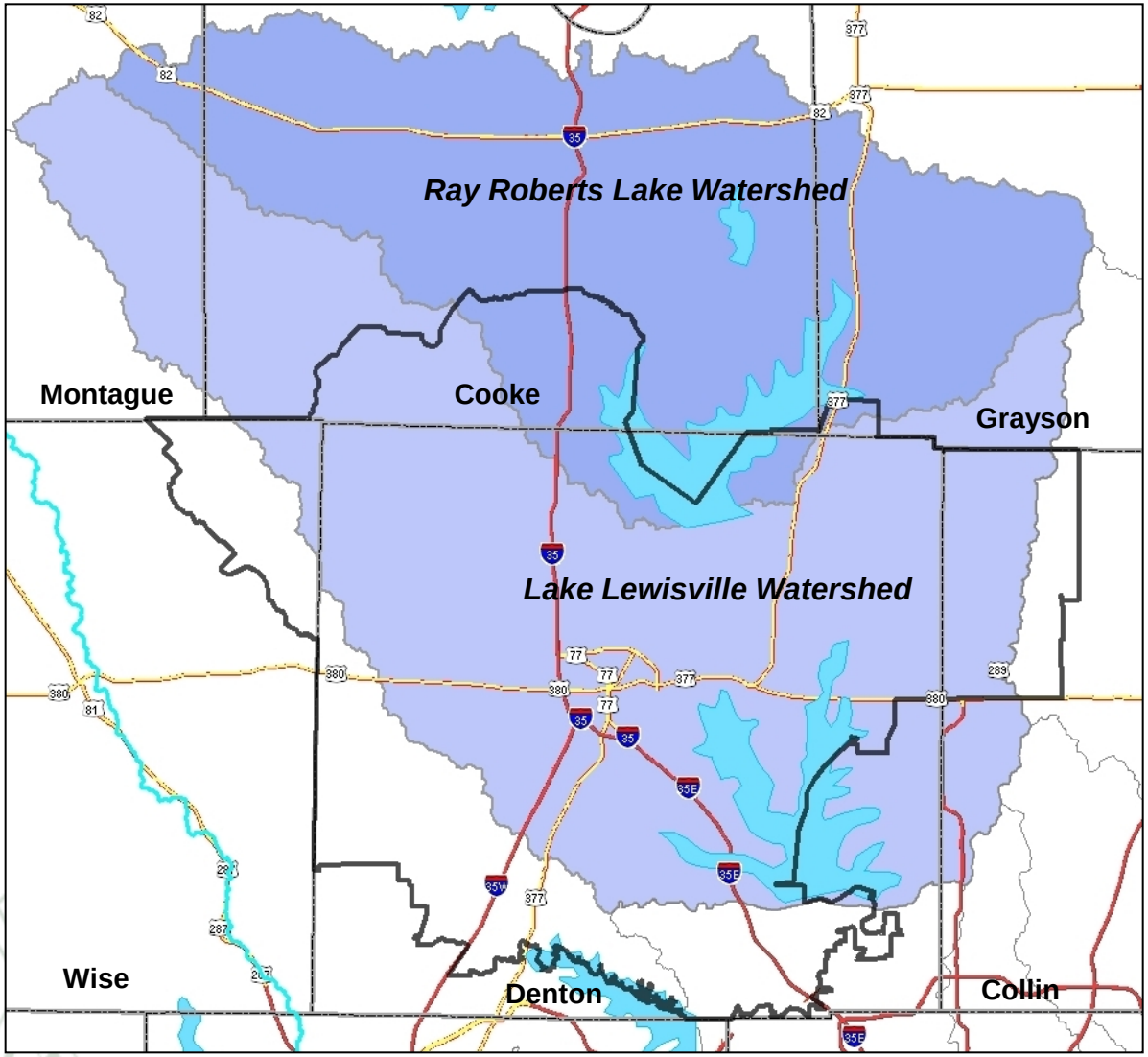
Coordinated Watershed Protection Programs for North Texas Water Supplies

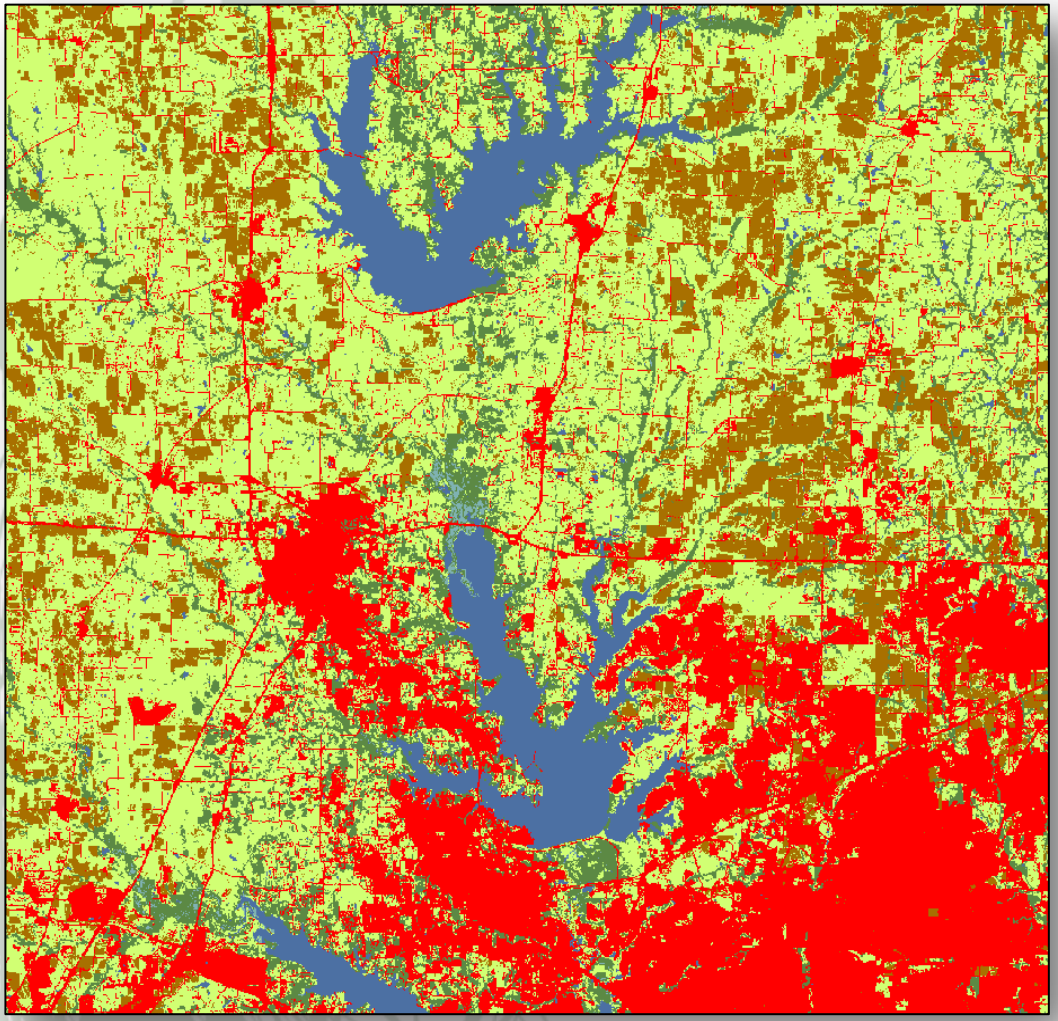
Blake Alldredge
Upper Trinity Regional Water District

Urban Riparian Symposium
February 12, 2015

Local Watersheds



Population Growth



- Expected population of 1.35 million in 2040
- Lewisville watershed urbanization increasing
  - 11% in 2000, 19% in 2030
- Watershed Protection = Water Security

Red = urbanized areas; Brown and Yellow = rural lands

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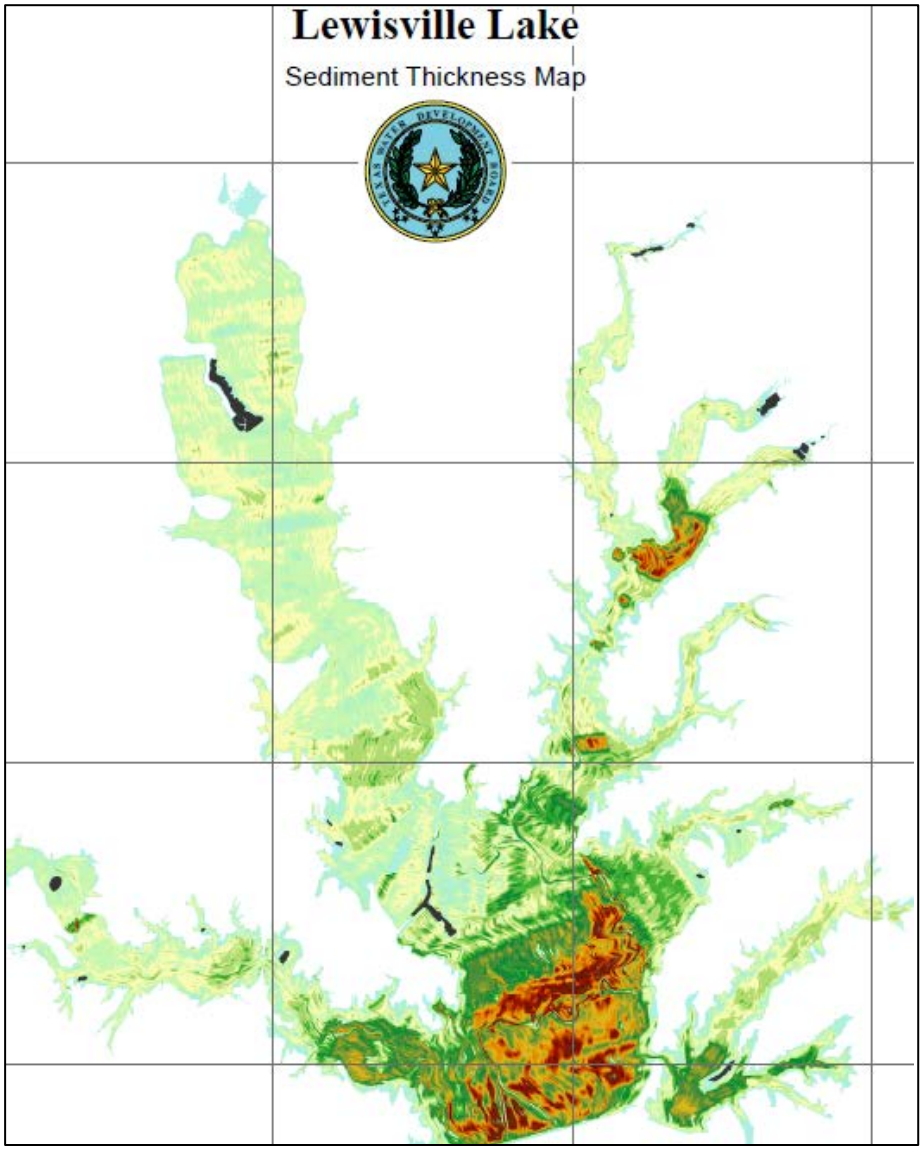
Reservoir Capacity

- 28,600 acre-feet of sediment deposited per year
- 9% from creek banks
- Roots bind soil making it 20,000 times stronger!



Source: TWDB 2007 Sedimentation Survey

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NORTHEAST DENTON COUNTY PILOT WATERSHED STUDY

PRIORITIZATION OF ASSETS

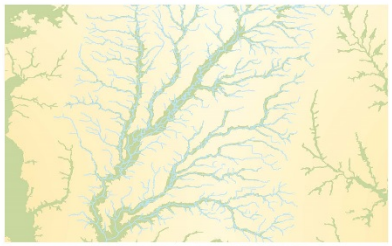
STREAM CORRIDOR PRESERVATION PRIORITY

- Highest
- High
- Moderate
- Low

WATER QUALITY CORRIDOR MODEL (WQCM)

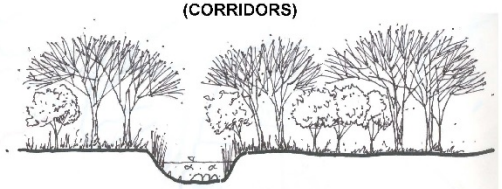
FACTORS: SLOPE
EROSIVITY (SOIL TYPE)
VEGETATION
FLOODPLAIN
CORRIDOR

CONNECTIVITY

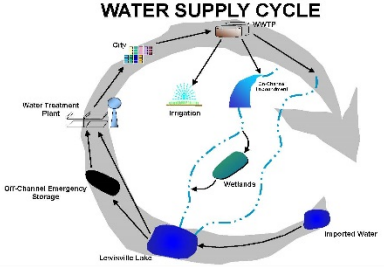


(NETWORK OF STREAMS & FLOODPLAINS)

RIPARIAN BUFFERS (CORRIDORS)

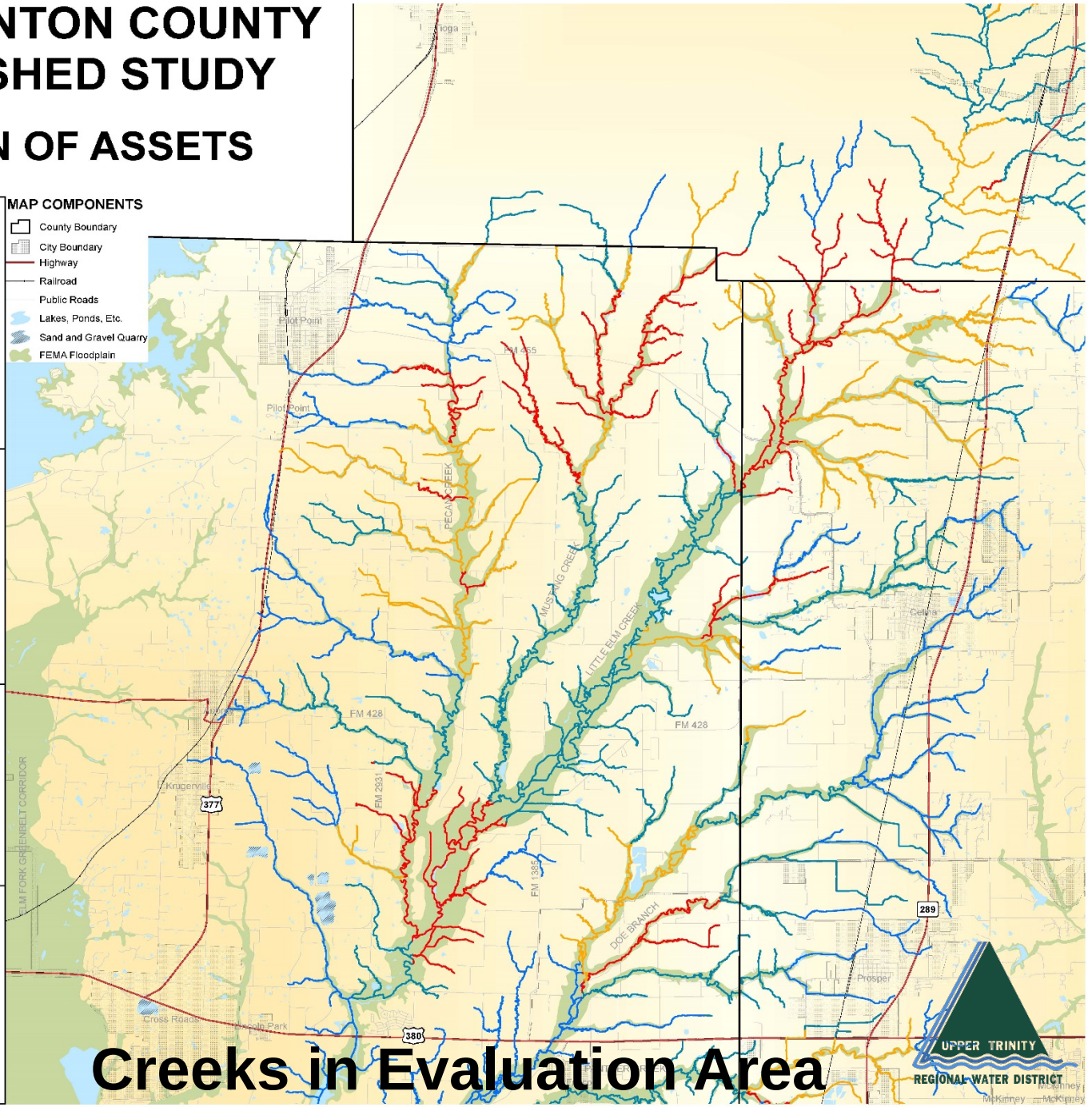


WATER SUPPLY CYCLE



MAP COMPONENTS

- County Boundary
- City Boundary
- Highway
- Railroad
- Public Roads
- Lakes, Ponds, Etc.
- Sand and Gravel Quarry
- FEMA Floodplain



Benefits of Greenbelts

- Important for
  - Water quality and quantity
  - Human health and well-being
  - Property values

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Steps That Cities Can Take

- Protect greenbelts
- Limit development in the flood plain
- Control erosion from construction sites
- MS4 Stormwater permits

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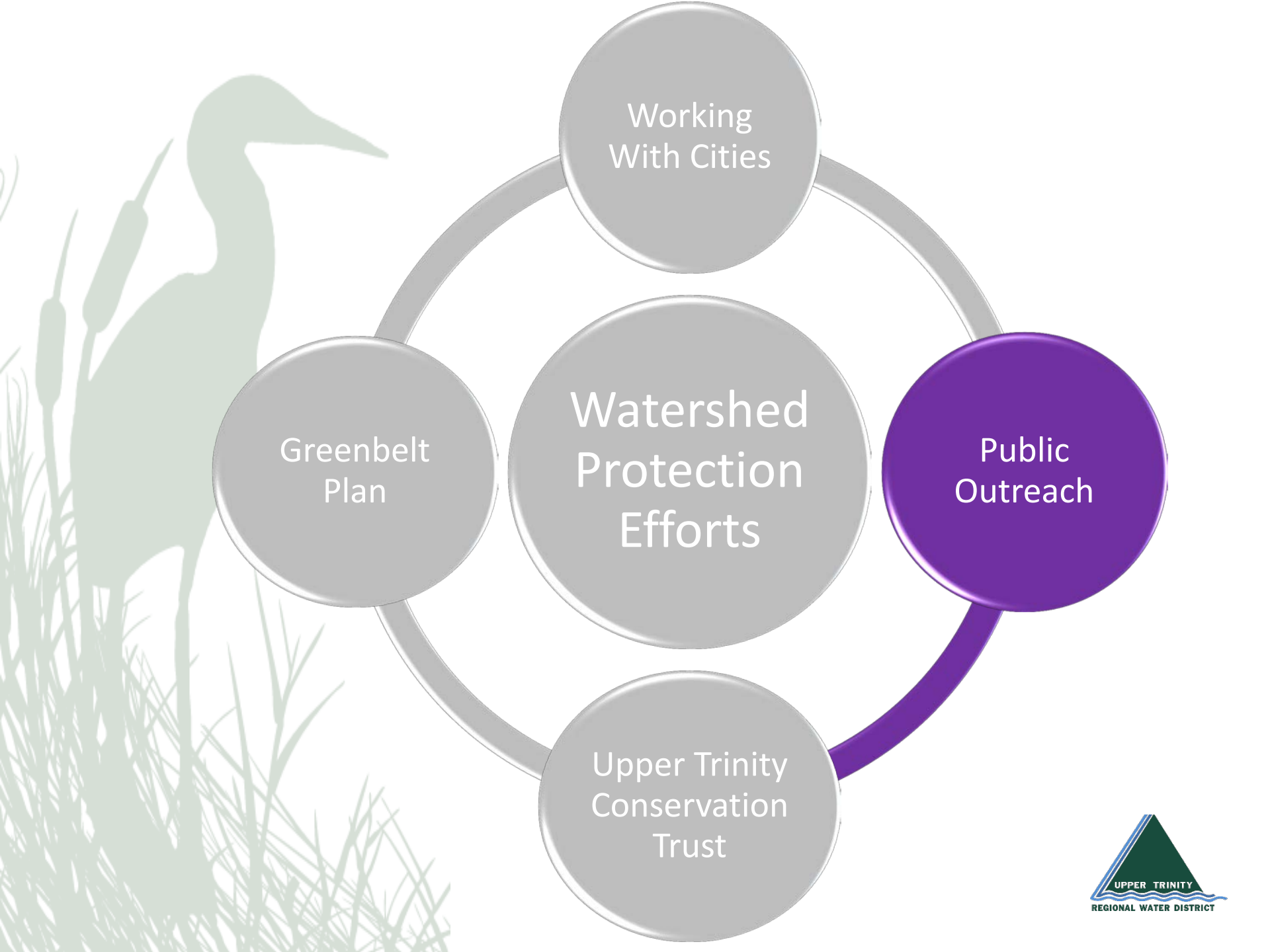

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Public Outreach and Education

- Watershed signs
- Water-Wise Garden and Treatment Plant Tours
- School outreach
- Workshops / Symposiums
- New efforts

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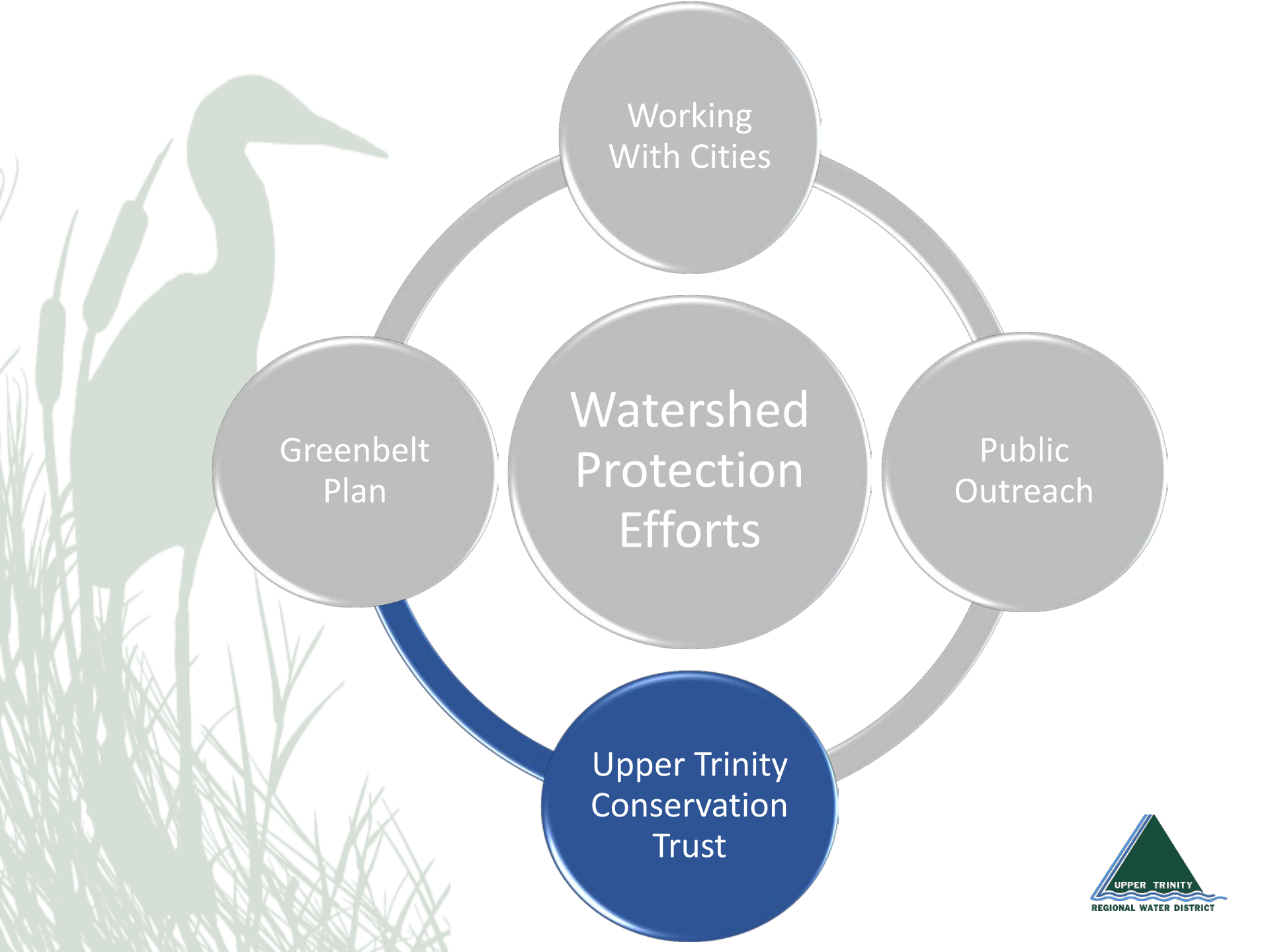

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Upper Trinity Conservation Trust

- 501 (C)(3) non-profit
- Preserving riparian areas
- Focuses on Lakes Lewisville, Ray Roberts and Grapevine watersheds
- Conservation easements

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Conservation Easements

- Protects natural, riparian areas on the land
- Allows a property owner to continue to own & use the land
- Limits development rights to extent specified
- Runs with the land in perpetuity
- Tax benefits

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Denton County Greenbelt Plan

- Greenbelt preservation
- Voluntary planning document
- Coordination among communities
- Recreational amenity
- Quality of life

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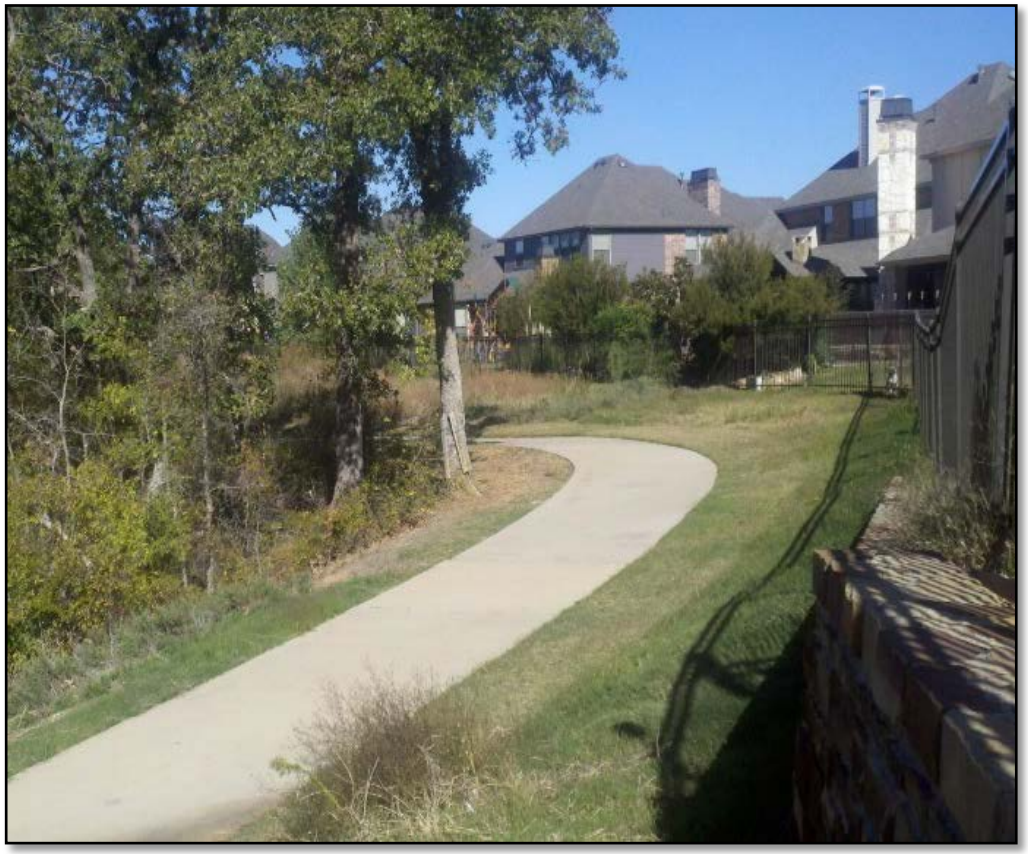
Key Elements

- Identify critical needs
- Stakeholder involvement
- Graphics/ brochures
- Implementation



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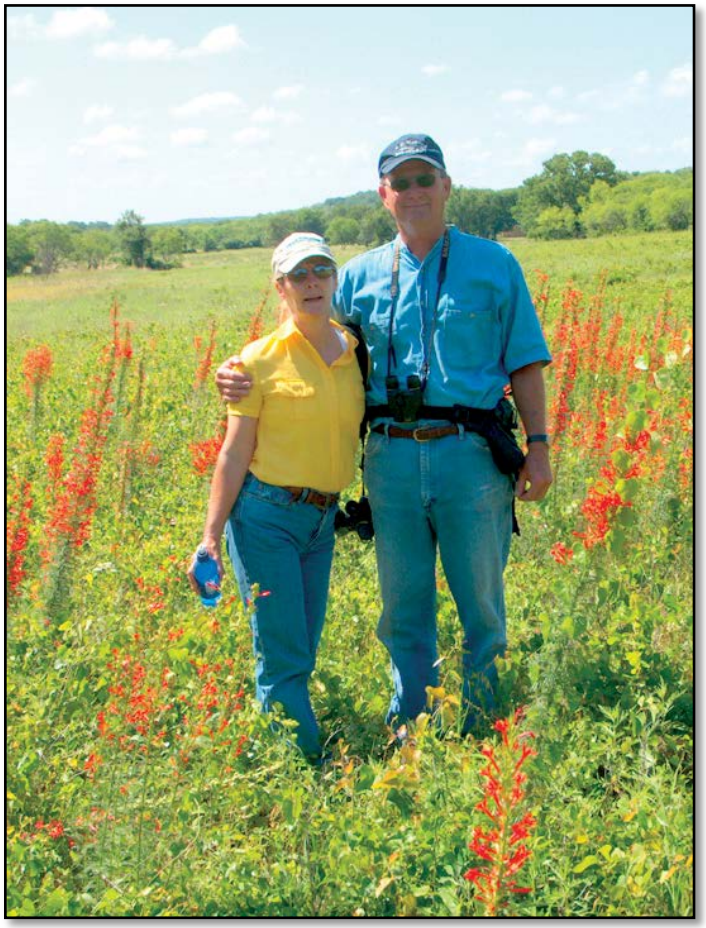
Stakeholder Collaboration

- Cities
- County
- Utilities
- Developers
- Landowners
- Residents



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If we do this job well……

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Questions?