

ASWM WATERSHED PROJECT INVENTORY DATA SHEET

3.29.19

Name and location of watershed:

Lewisville Lake Watershed located in Denton County, Texas

Size of watershed (in acres):

619,522 acres

Title of Project/Initiative:

Upper Trinity Regional Water District Watershed Protection Program – Denton County Greenbelt Plan

Setting: (please check all that apply)

- Urban (towns, cities, and suburbs with 2,500 inhabitants or more)
- Rural (anything outside the urban area)
- Inland
- Coastal

Need/Challenge Addressed (200 word limit):

Preserve and protect natural features/resources and water quality in the Lewisville Lake Watershed, including creeks, floodplains, riparian zones, wetlands, and greenbelts. As a wholesale water and wastewater utility, Upper Trinity has no enforcement authority and relies on customer cities and Denton County to implement strategies appropriate for their area. The greatest challenge is educating the general public on watershed protection and how their daily activities can affect the Lake Lewisville watershed, the main source of drinking water for Denton County communities.

Goals & Objectives (please include ecosystem services/values focused on):

Protecting water quality in water sources by establishing greenbelts, minimizing the use of fertilizers and chemicals, collection of household hazardous waste, education and public awareness. Providing conservation easements for landowners, by establishing a non-profit land trust (Upper Trinity Conservation Trust), as a tool to permanently preserve riparian areas and related natural watershed features, including wetlands. These actions will lead to greater recreational and educational opportunities, and in some cases, increased property values.

Overall Strategy (i.e., what role do wetlands play in your project?)

- Promoting public education and watershed awareness
- Preservation of existing natural areas: including wetlands, floodplains, and riparian lands
- Encouraging cities and developers to utilize low impact development and green infrastructure practices to manage stormwater volumes and pollutant loads
- Encouraging the proper use or minimization of fertilizers and chemicals
- Use of organic and practices in landscaping and gardening activities
- Encouraging native vegetation and reduced mowing in buffer zones between waterways and developed areas
- Use of floodplains for trail systems and open space
- Use of voluntary conservation easements
- Encourage landowners to implement best management practices to reduce pollution and erosion by providing educational and technical resources and connecting them to financial resources

Techniques Used (please check all that apply):

- Restoration (the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to former or degraded wetland.)
- Creation (the manipulation of the physical, chemical, or biological characteristics present to develop a wetland that did not previously exist on an upland or deep-water site, resulting in a gain in wetland acres.)
- Enhancement (the manipulation of the physical, chemical, or biological characteristics of a wetland (undisturbed or degraded) site to heighten, intensify, or improve specific function(s) or for a purpose such as water quality improvement, flood water retention or wildlife habitat.)
- Protection (the removal of a threat to, or preventing decline of, wetland conditions by an action in or near a wetland. Includes purchase of land or easement, repairing water control structures or fences, or structural protection such as repairing a barrier island.)

Team Members:

- **Team leaders (organizations, agencies or individuals that are responsible for overall project direction, outcomes and financing):** Larry N. Patterson, P.E., Executive Director; Jason Pierce, Manager of Customer Contracts and Support Services; Blake Alldredge, Water Education Coordinator
- **Partners (organizations, agencies or individuals that are responsible for implementation of the project by agreement or contract):** Cities and towns in Denton County, developers
- **Collaborators (organizations, agencies or individuals that are involved in an advisory role):** North Central Texas Council of Governments, Texas A&M AgriLife Extension and Research, Natural Resources Conservation Service, Greenbelt Alliance, Texas A&M Forest Service, Texas Parks and Wildlife Department

Stakeholders (organizations, agencies or individuals that are in some way impacted by the project): citizens and communities located within the Lewisville Watershed, with five counties and over twenty towns and citizens that fall within the watershed's total area.

Overview/history (200 word limit):

Upper Trinity Regional Water District is a wholesale water and wastewater provider in Denton County, Texas. Upper Trinity treats water from Lewisville Lake, then distributes that treated water to more than 26 cities and utilities. Denton County is rapidly growing, and development upstream of the reservoir may affect water quality. In response, Upper Trinity began coordinating a regional Watershed Protection Program aimed at educating the public on ways they can protect local water quality in their daily activities, including school education and outreach, water treatment plant tours, watershed signs along roads, and digital advertisements. Upper Trinity also encourages cities to adopt practices that will minimize pollution, such as preserving greenbelts and floodplains, and implementing proactive stormwater management programs. In 2010, Upper Trinity established the Upper Trinity Conservation Trust, a nonprofit land trust, as a separate entity to acquire and hold conservation easements in perpetuity. The focus of the Trust is to protect the watersheds of Lewisville Lake and other water supply reservoirs by accepting easements in floodplains or greenbelt areas, or other natural features in the watershed.

How many individual projects are currently being implemented or are planned to be implemented within this broader watershed initiative? Please describe.

See above for background information. In 2015, Upper Trinity, the Trust and Denton County began jointly developing the Denton County Greenbelt Plan to serve as a guide to the preservation of greenbelts, according to a

common vision. The Greenbelt Plan is voluntary for cities and developers, but the secondary benefits of adopting the Plan are tremendous.

Is there a track record of past, completed projects in this watershed? If yes, please describe and provide available information regarding performance/effectiveness.

Denton County Greenbelt Plan

Start and end dates (dates can overlap – estimates are acceptable):

- Planning: April 2015 – July 2017
- Implementation: August 2017, adopted by Plan Sponsors (Denton County, Upper Trinity Regional Water District and Upper Trinity Conservation Trust)
- Monitoring: No information provided.

Cost – Financing (estimates are acceptable):

- **Planning:** \$135,000
- **Implementation:** ~\$2,000 annually to promote the Plan
- **Monitoring:** No information provided.
- **Continual (are there ongoing maintenance costs that will be required?):** No information provided.

Resulting benefits (please list what was measured and how):

Flood Control	Water Quality	Discharge	Hydrological Conditions	Wetland Restoration	Biodiversity/Productivity	Listed Species	Economically Important Species	Pub. Access, Rec, Awareness	Other Economic Benefits	Other
X	X		X	X				X	reducing water treatment costs	Habitat protection, Reduced pollution, Property values, education, aesthetic value

Environmental benefits (e.g. water quality improvements, habitat protection or improvement, reduced phosphorus and nitrogen loads, etc.):

Water quality, habitat protection, reduced pollutants, but nothing measured.

Financial or Economic Impact Benefits (e.g., avoided damage costs, increase in commercial fish revenue, increase in tourism revenue, etc.):

Flood damage costs reduced, increased property values adjacent to greenbelts, forgoing higher water treatment costs or advanced treatment systems at water treatment plants.

Non-Market Economic Benefits (may be monetized - e.g., increased value of recreation or aesthetics or other improvements using dollar values; or non-monetized descriptions of benefits – e.g., number of people who may benefit from improved recreation or aesthetics or other resulting improvements):

Recreation and aesthetic value, educational opportunities

Other: No information provided.

Are benefits based on actual measures or did you use a model to predict benefits? Neither

Is there a cost-benefit analysis available? Yes or No (If yes, include a copy with your response)

There was a cost-benefit analysis done as part of the Hickory Creek Watershed Protection Plan by the City of Denton that showed maintaining riparian buffers and greenbelts were the most cost effective solution for maintaining water quality in Lake Lewisville. Hickory Creek flows into Lake Lewisville.

If you do not have any data currently available in regard to benefits, how do you plan to measure them?

The do not plan to measure.

Where there any innovative designs/technologies/policy changes created to enable the project or that resulted from the project? (If so, please describe): No information provided.

Lessons Learned:

Partnerships and input from a wide range of stakeholders is vital.

Do you have any images or photos to share?

No images provided.

FMI (please include contact name, organization, website, phone number and/or email address):

Upper Trinity Regional Water District

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Denton County Greenbelt Plan website

http://utct.org/greenbelt_plan.html