

An aerial photograph showing a suburban neighborhood with numerous houses and a winding road. A large, dense greenbelt of trees runs through the center of the image, separating the residential areas. The text is overlaid on the left side of the image.

Protecting Watersheds: A Coordinated Approach County-wide Plan Preserves Greenbelts, Protects Water Quality

By Blake Alldredge and Jason Pierce

Upper Trinity Regional Water District, based in Lewisville, Texas (Denton County), was established in 1989 by the Texas Legislature to provide regional water and wastewater service for growing communities in Denton and Collin counties. Currently, Upper Trinity operates two water treatment plants and four water reclamation plants, with total treatment capacities of up to 90 million gallons per day and 12 million gallons per day, respectively. Upper Trinity's sources of raw water include: Lewisville Lake and Ray Roberts Lake (Denton County) and Chapman Lake (Hunt County).

Denton County is rapidly urbanizing -- with growth and development expected to continue.

The County is transforming from a rural setting to urbanized communities, with the population expected to reach over 1 million by 2030. A safe and dependable source of drinking water is mandatory in sustaining the growing population and providing for a healthy economy. It's urgent that we consider the effect of this urban growth on water quality, on water supply, and on quality of life "right where we live."

Greenbelts, floodplains, streams, riparian areas and wetlands perform a vital function in filtering out pollutants (such as sediments, pesticides, fertilizers, and other harmful chemicals) from entering the streams, thereby safeguarding the quality of water entering



Drone photo over Lantana master planned community.

our water supply lakes. Hundreds of miles of streams in Denton County extend into and through each community, creating shared environmental resources - - and the need for communities to work together for mutual benefit. On behalf of the cities and utilities it serves, Upper Trinity coordinates a Regional Watershed Protection Program to encourage the preservation and protection of natural features in local watersheds, including greenbelts, floodplains, and wetlands. Upper Trinity's public awareness programs promote ways residents can help protect water quality in their everyday activities at home and at work. Upper Trinity also operates a Household Hazardous

Waste program, in coordination with local communities, to collect and properly dispose of common household chemicals that can be harmful to the watershed, to prevent these chemicals from entering local water sources.

In order to preserve crucial watershed assets and protect water quality, Upper Trinity encourages communities to use their regulatory ordinance powers and development standards to limit encroachment of floodplain areas. Limiting development in the floodplain helps to galvanize the functions of these natural assets, such as reduced flooding risk, recreational and educational opportunities, aesthetic value, wildlife and aquatic habitat, and other benefits

that enhance quality of life for residents. It's important to remember that preserving and protecting important watershed assets now, and the benefits they provide, costs far less than having to restore their functions in the future.

Upper Trinity, seeing the importance of permanently preserving greenbelts and floodplains in the watersheds of the local water supply lakes, established the Upper Trinity Conservation Trust in 2010 as an additional mechanism for watershed protection. As a 501(c)(3) land trust, the Conservation Trust promotes the conservation and stewardship of land and water resources through educational activities, coordination with local governments, and the acquisition of land and conservation easements to protect water quality in the local watersheds for future generations. A conservation easement is a voluntary legal agreement between a landowner and a land trust that permanently limits certain uses of the property to protect its conservation values. Landowners retain ownership of their property and can continue doing certain activities, such as ranching, and can even sell the property, although the easement transfers to the new landowner. Conservation easements offer flexibility, and depending on certain circumstances, can qualify as a tax-deductible charitable donation for landowners.

Continuing its coordinated focus on watershed protection and the need to address the foreseeable land use changes and potential impacts to water quality, Upper Trinity, Denton County, and the Conservation Trust jointly sponsored the development of the Denton County Greenbelt Plan in 2015. The Greenbelt Plan, recently finalized, identifies existing greenbelts, opportunities for developing and expanding greenbelt corridors, and to prioritize area streams and watersheds for greenbelt preservation. The overarching goal of the Greenbelt Plan is to protect the water quality flowing into Denton County's three drinking water supply reservoirs – Lewisville Lake, Ray Roberts Lake, and Grapevine Lake.

Denton County encompasses over 900 square miles and has hundreds of miles of creeks and streams, therefore, it was necessary to prioritize the streams and watersheds to allow

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for interested parties to concentrate on the highest priority areas – identified as Primary and Secondary Greenbelt Opportunities for preservation. The prioritization process used factors such as hydrology, ecology, land use, and cultural/historical features. Not surprisingly, the five highest priority watersheds were located directly adjacent to one of the reservoirs and have the greatest immediate pressure from development activities.

The Denton County Greenbelt Plan is not intended to be a regulatory document; rather, the goal for the Greenbelt Plan is to be a convenient guide to encourage and enable closer coordination among stakeholders for the preservation of multiuse greenbelts according to a common vision. Preserved greenbelts provide an excellent opportunity to increase connections between communities and to enhance the quality of life for residents by establishing hike and bike trails for recreation, and in some cases, can increase property values for nearby homes.

Successful implementation of the Greenbelt Plan, on a voluntary basis, will require strong leadership and support from County officials, local municipalities and dedicated citizens. To foster and encourage successful implementation, the Greenbelt Plan outlines various strategies



Greenbelts – vegetated areas along creeks, rivers and lakes – protect water quality and enhance quality of life for residents.

that can be considered to preserve greenbelts with examples of each. These strategies fall under three general categories: Education and Outreach, Protection Measures, and Funding and Acquisition Tools.

Education and outreach is paramount for future greenbelt preservation efforts in Denton County. As the awareness of the numerous benefits of greenbelts are more widely known among stakeholders, the higher the likelihood that these areas will be preserved and valued for the services that they provide for the area. Social media and billboard campaigns, brochures, and a developer recognition program are just a few examples of the education and outreach activities that are needed to raise awareness of the benefits of greenbelts.

Protection measures discussed in the Greenbelt Plan, once implemented, can preserve and expand greenbelt corridors before they are forever lost to urbanization. Examples of protection measures for municipalities include ordinances or setback requirements for development in floodplains and greenbelt areas. As a side benefit, municipalities can benefit from the protection and preservation of greenbelts in order to comply with their Municipal Separate Storm Sewer System (MS4) requirements. Additional measures include

conservation easements, the purchase of development rights, mitigation banking and in-lieu fee mitigation programs, which are all excellent opportunities for landowners and nonprofit organizations to protect greenbelts and other natural assets.

Finally, funding and acquisition mechanisms are identified to enable local municipalities, Denton County, and nonprofit organizations to preserve and protect greenbelts. Funding options include general obligation bonds, development dedications, state and federal grants, and public/private partnerships. Interestingly enough, the City of Fort Worth conducted a Greenprinting study in 2013 and found that four-in-five residents said they would support funding to acquire lands to protect water sources. This shows that residents in fact are concerned with where their water comes from and will support activities that benefit water sources.

Finding a balance between growth and conservation in Denton County will be a challenge. The Denton County Greenbelt Plan is a step in the direction toward finding that balance. With the existing and priority Greenbelt Corridors identified, local leaders have the tools needed to know what assets are available for protection. Developers can also

incorporate the priority Greenbelts into their development plans. Finally, landowners having priority Greenbelt corridors located on their property have tools and mechanisms available to improve water quality and stream function within their property.

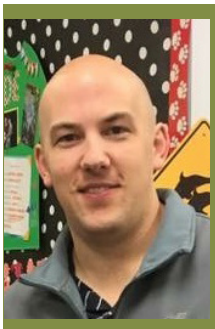
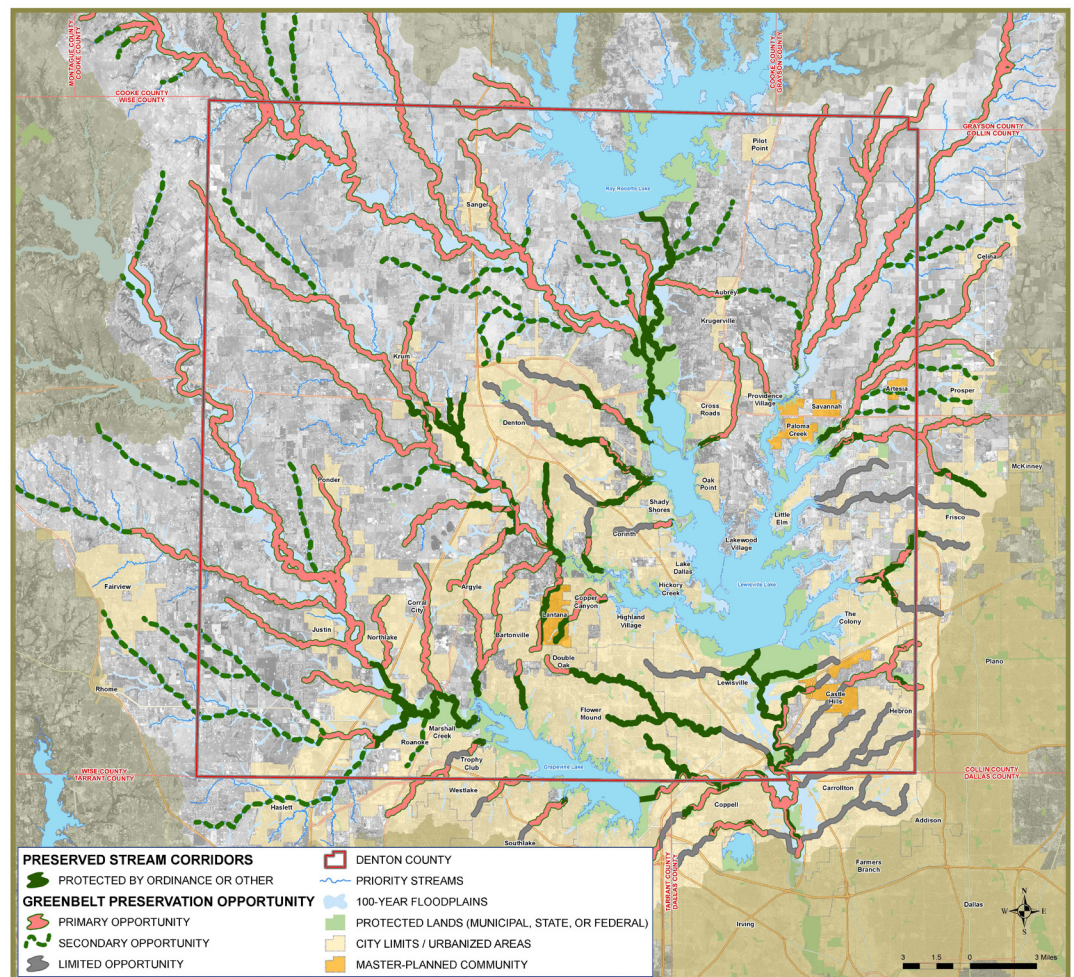
Denton County is at a point of great opportunity. Now is the time to preserve its natural assets while sustaining economic growth for future generations! Visit DentonCountyGreenbeltPlan.com to learn more and to view the full version of the Greenbelt Plan.



Denton County Greenbelt Plan

For the Future

Green shaded stream corridors are currently protected either by municipal ordinance or by state or federal management. Red shaded stream corridors do not have protection currently and are identified as Primary Opportunities for preservation.



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