The Lake Worth Greenprint

(working title)

Lake Worth Regional Coordinating Committee Meeting

December 19, 2013

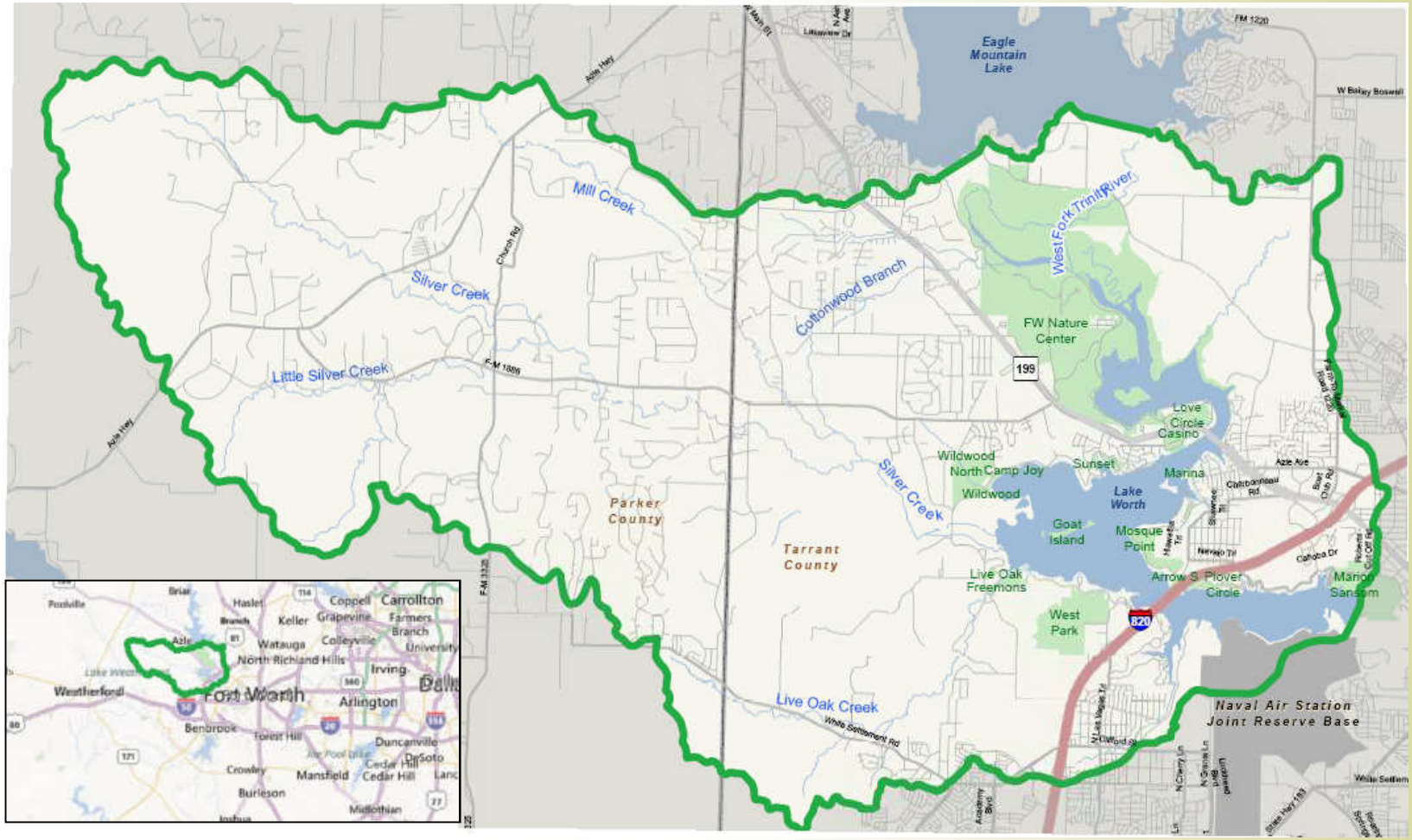
THE TRUST for PUBLIC LAND
CONSERVING LAND FOR PEOPLE

North Central Texas Council of Governments

Presentation Items

- Project background
- GIS mapping/modeling Update
- Economic benefits studies draft results
- Next steps
- Questions/comments?

The Lake Worth Greenprint Study Area



The Lake Worth Greenprint

Objectives

1. **Develop a** long-term vision for a Lake Worth open space network**, and involve stakeholders in the decision-making process.**
2. Build upon plans **already complete or underway, e.g. trail alignment study for Lake Worth, Lake Worth Vision Plan, and the Lake Worth CIIP.**
3. Identify lands most important **for lake water quality, as well as other related community driven open space/conservation goals.**
4. **Help the city and stakeholders** evaluate the relative importance of undeveloped land **in the watershed.**
5. **Evaluate** tools that can be used to protect Lake Worth's water quality**.**
6. **Provide education about** voluntary conservation easements **(CEs) and their tax advantages to potential partners to make CE opportunities more widely understood and employed where appropriate.**

Greenprinting Process

Current Conditions Analysis

Goal Setting & Public Engagement

Economic Benefit Study

GIS Data Collection & Mapping

Conservation Finance Feasibility Assessment

Level of Service Analysis

Action Planning / Recommendations

Greenprint Mapping Analysis

- Provides a systematic approach to identify lands that offer the best opportunities for water quality protection and recreation access.
- Uses Geographic Information Systems (GIS) to inform long-term strategies for land stewardship.
- Translates regional values into objective metrics.
- Reflects community's vision and unique watershed resources.
- Offers a unique blend of science and preference.

Lake Worth Greenprint - Mapping Goals

Derived from Greenprint Interviews, Greenprint Polling, and Lake Worth Vision Plan

- **Improve Water Quality and Quantity**
  - Protect High Priority Ecosystems
  - Identify Impacted Areas for Stewardship

- **Provide Recreation**
  - Provide Recreation Access
  - Provide Recreational Connectivity to Lake Worth Trail

Protect Drinking Water Quality - Example

Resource Analysis - Identify lands with greatest potential for Water Quality protection (would have the greatest negative impact if developed)

1. Identify protection criteria
2. Assemble data
3. Translate data into ranked criterion maps
4. Assign relative weightings that reflect Lake Worth watershed priorities.
5. Combine the building blocks into a composite conservation priority map for Water Quality Protection.

NCTCOG Water Quality Protection Greenprint

Lake Arlington Watershed

Landuse

Forest, Water, Crop, Pasture
Shrub, Brush
Barren
Urban, Residential

Proximity to Streams

0 - 100 feet
100 - 200 feet
200 - 300 feet

Proximity to Ponds and Wetlands

0 - 600 feet
600 - 2000 feet
2000 - 5000 feet

This map displays the Overall Water Quality Protection Priorities for the Lake Arlington Watershed.

Criteria weights are as follows:

Landuse	22%
Proximity to Streams	18%
Proximity to Ponds and Wetlands	13%
Water Erosion Potential	18%
Floodplains	17%
Proximity to the Reservoir	13%

Tarrant County

Johnson County

Water Quality Protection Priorities

- High
- Moderate To High
- Moderate
- Greenprint Study Area
- Sub Watersheds
- Counties
- Protected Lands
- Cities

0 1 2 4 Miles

Water Erosion Potential

High Erosion Potential
Moderate to High Erosion Potential
Moderate Erosion Potential

Floodplains

100 Year Floodplain

Proximity to the Reservoir

0 - 600 feet
600 - 2000 feet
2000 - 5000 feet

TCEQ

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Technical Advisory Team (TAT)

Purpose:

Provide expert review and advice regarding design, data input, rationale, outcomes, and mapping

Responsibilities

- Verify the completeness and appropriateness of model criteria
- Recommend best available data sources
- Help insure that defensible science is used for all models and assumptions
- Review input data and model results for accuracy and currency

Lake Worth Greenprint
Technical Advisory Teams (TAT)

TAT 1: Improve Water Quality and Quantity

Brett McGuire – City of Lake Worth
Clair Davis – Fort Worth, Flood Plains
Eric Fladager – Fort Worth, Planning
Ranjan Muttiah – Fort Worth, Stormwater
Paul Bounds – Fort Worth, Water
Rachel Wiggins – NAS Joint Reserve Base
Tracy Michel – NCTCOG
Kyle Wright – NRCS
George Conley – Parker County
Alice Moore– Tarrant County
Mark Ernst – Tarrant Regional Water District
Tina Hendon – Tarrant Regional Water District
Bill Fox – Texas AgriLife
Ken Klaveness – Trinity Waters
Lou Brewer – Tarrant County Public Health

TAT 2: Provide Recreation

Randy Whiteman – City of Lakeside
Brett McGuire – City of Lake Worth
Clair Davis – Fort Worth, Flood Plains
Nikki Sopchak – Fort Worth, Parks & Community Services
Eric Seebock – Fort Worth, Parks & Community Services
Paul Bounds – Fort Worth, Water
Suzanne Tuttle – Fort Worth Nature Center
Rachel Wiggins – NAS Joint Reserve Base
Kyle Wright – NRCS
Tracy Michel – NCTCOG
Alice Moore– Tarrant County
Lou Brewer – Tarrant County Public Health

Mapping Progress Update

- Improve Water Quality and Quantity:
  - Three Technical Advisory Team meeting conducted thus far:
    10/17/13 Kick off meeting and criteria identification
    11/6/13 Criteria refinement, data identification, and modeling strategies
    12/18/13 Draft results review and refinement

- Provide Recreation:
  - Two Technical Advisory Team meeting conducted thus far:
    10/17/13 Kick off meeting and criteria identification
    11/6/13 Criteria refinement, data identification, and modeling strategies

Mapping Progress Update

Improve Water Quality and Quantity Model Criteria:

- **Protect High Priority Ecosystems**
  - Riparian Vegetation
  - Steep Slopes
  - Stream Banks
  - Critical Water Quality Zones and Floodplains
  - Wetlands
  - Soils with Slow Infiltration
  - Erodible Soils
  - Canopy Cover
  - Native Vegetation
  - Proximal (upstream) Threats to High Value Areas

- **Identify Impacted Areas for Stewardship**
  - Impervious Areas
  - Crop Land
  - Ranch Land
  - Discharge Points
  - Impaired Streams
  - Channelized Streams
  - Steep Slopes
  - Floodzones

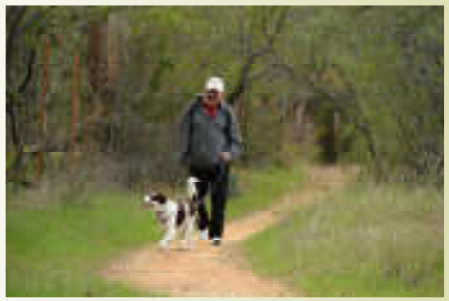
Provide Recreation Model Criteria:

Provide Recreation Access

- Pedestrian-accessible lakeshore access
- Additional Parking areas
- Playground Improvements
- Opportunities for Outdoor Fitness Zones
- Wildlife Viewing
- Shoreline Fishing
- Camping
- Motorized Boating
- Non-motorized Boating
- View Points

Provide Recreational Connectivity to Lake Worth Trail

- Create Connections to Surrounding Communities and Neighborhoods

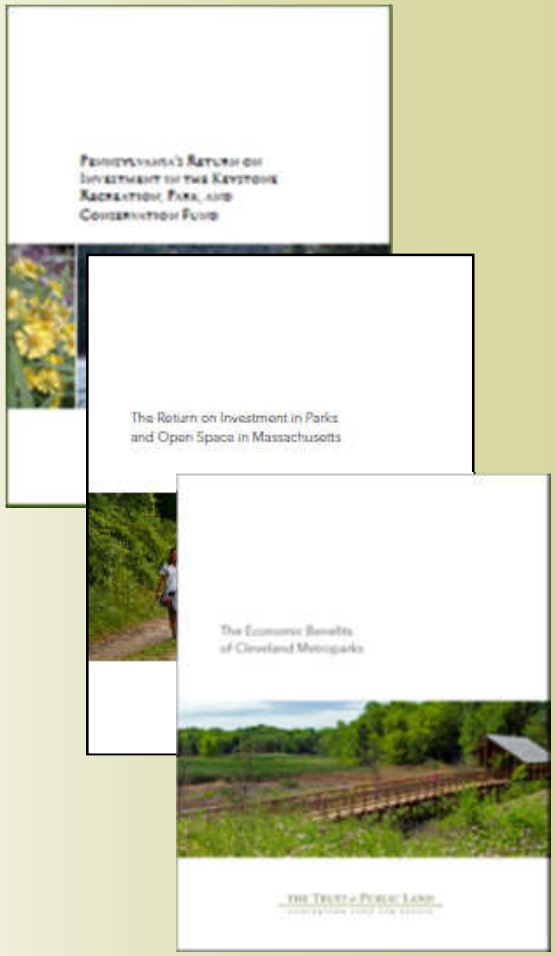


Economic Benefits Studies

We have a wealth of experience measuring the economic impacts of land conservation.

Select recent publications

- **The Economic Benefits of Cleveland Metroparks (2013)**
- **Return on Investment in Parks and Open Space in Massachusetts (2013)**
- **The Economic Benefits of Clean Ohio Fund Conservation (2013)**
- **Pennsylvania's Return on Investment in the Keystone Recreation, Park and Conservation Fund (2013)**
- **Our Lands – Our Future: Larimer County, Colorado (2013)**



Local Economic Benefits

Benefits accrue to

- **Local government(s)**
- **Residents**
- **Local businesses**

Enhanced Property Value

The market values of properties located near a park or trail are frequently higher than those of comparable properties located elsewhere.

An increase in property values generally results in increased property tax revenues.

Enhanced Property Value

Preserving open space generally increases neighboring home values, but the values vary.

The magnitude of the impact has been shown to be up to 20% for parks and 14% for trails.

Enhanced Property Value

Market value premium

- **Parks 5%**

Marginal increase in market value attributable to parks

- **Lake Worth Greenprint Study Area: $6.95 million**
- **City of Fort Worth: $260 million**

Additional property tax revenue attributable to parks annually

- **Lake Worth Greenprint Study Area : $144,000**
- **City of Fort Worth: $5.82 million**

Direct Recreational Use by Residents

Residents gain value from visiting the park or public open space and engaging in an activity.

Estimate value of visits held by residents.

- General activities between $2 and $9
- Specialized activities between $10 and $40

Direct Recreational Use by Residents

Many residents visit parks or public open spaces at least once a year

- 79% children
- 74% adults 18-64
- 47% adults 65+

6.23 million visits annually

$16.1 million in value

Improved Health of Area Residents

When people have access to trails and parks they exercise more. Exercise reduces illness in people of all ages.

Estimate the medical cost savings of persons physically active in parks versus inactive persons based on CDC guidelines.

Health costs savings of $329 to $658 for those who exercise regularly.

Health care cost savings: $13.9 million

Value of Riparian Corridor Protection

Riparian corridor protection can help to improve water quality.

The L-THIA model can be used to estimate water recharge, runoff, and nonpoint source pollution impacts of changes in land use.

Estimate, with local experts, how changes in water quality determined by the model impact the region.

THANK YOU!