Prairie Creek, Mud Creek, West Mud Creek, and the Neches River Above Lake Palestine

Recreational Use Attainability Analysis
Summary of Findings

Texas Institute for Applied Environmental Research
Stephenville, Texas

September 16, 2014
Project Partners

- Texas State Soil and Water Conservation Board (TSSWCB)

- Texas Institute for Applied Environmental Research (TIAER)
TSSWCB

- Provide state oversight
- Management and coordination of project activities
  - Project partners
  - Texas Commission on Environmental Quality (TCEQ)
- Provide project funding
TIAER

• Project administration
• Develop & maintain stakeholder relations
• Perform RUAA survey activities
• GIS inventory
• Facilitate meetings
• Develop final technical reports
How did we get here?

- Prairie Creek, Mud Creek, West Mud Creek, and the Neches River Above Lake Palestine are not meeting the water quality standard for primary contact recreation
  - Due to elevated levels of bacteria, *E. coli*.
  - Requires action to meet the standards that are set by the State of Texas and EPA.
Texas 303 (d) List

– Requirement of the Clean Water Act
– Developed by TCEQ to summarize the condition of the state’s surface waters, including concerns for public health, fitness for use by aquatic species and other wildlife, and specific pollutants.
Why we chose this approach

• Once on the 303(d) List, action is required by the state
• Viable candidate
• Cost Effective
• Non Regulatory approach
• State Led, Not Federal
Impaired Stream Segments

• Prairie Creek (0606A)
  – 2002 Texas Water Quality 303(d) List
    • Bacteria

• Mud Creek (0611C)
  – 2002 Texas Water Quality 303(d) List
    • Bacteria

• West Mud Creek (0611D)
  – 2010 Texas Water Quality 303(d) List
    • Bacteria

• The Neches River Above Lake Palestine (0606)
  – 2008 Texas Water Quality 303(d) List
    • Bacteria
Water Quality Monitoring Locations for Prairie Creek
## RUAA Survey Site Locations – Prairie Creek

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site Description</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Distance from Confluence (mi)</th>
<th>Distance from Previous Site (mi)</th>
<th>Access</th>
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<tbody>
<tr>
<td>10518</td>
<td>Prairie Creek at intersection with SH 64</td>
<td>32.371761</td>
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<td>0.46</td>
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RUAA Survey Site Locations – Mud Creek
# RUAA Survey Site Locations – Mud Creek

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<thead>
<tr>
<th>Site ID</th>
<th>Site Description</th>
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<tr>
<th>Site ID</th>
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<th>Distance from confluence (mi)</th>
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Survey Site Locations – West Mud Creek
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<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site Descriptions</th>
<th>Latitude</th>
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<th>Distance from Previous Site (mi)</th>
<th>Access</th>
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<td>WM12</td>
<td>West Mud Creek on private property approximately 2.1 km north of SH 135 and 2.1 km east of Cherokee CR3052</td>
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<td>21.4</td>
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<td>WM10</td>
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<td>32.28005</td>
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Survey Site Locations - The Neches River Above Lake Palestine

![Map of Neches River Above Lake Palestine Watershed](image)
## Survey Site Locations – The Neches River Above Lake Palestine

<table>
<thead>
<tr>
<th>Site ID</th>
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<tbody>
<tr>
<td>NR18</td>
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<td>NR12</td>
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Survey Site Locations – The Neches River Above Lake Palestine

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<td>NR05</td>
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Findings from First RUAA Survey

- Prairie Creek
- Conducted June 4 – 7, 2014

- Summary
  - Limited water for recreation
  - No direct recreation observed
  - Limited public access, mostly private property
Prairie Creek Photographs

Upstream 0m at PC01

Footpath at PC01
Prairie Creek Photographs

Right Bank at 300m at PC02

No fishing sign at PC02
Prairie Creek Photographs

Fishing Bobber at PC02  Chair with rod holders at PC03
Prairie Creek Photographs

Water Gap at PC04

Upstream at 150m at PC05
Prairie Creek Photographs

Downstream at 300m at PC06
Chair with rod holders at PC03
Findings for First RUAA Survey

- Mud Creek (0611C)
- Conducted **July 25 – 28, 2014**

- Summary
  - Limited water for recreation
  - No direct recreation observed
  - Limited public access, mostly private property
Mud Creek Photographs

150m Upstream at MD01

Fish hook and weight at MD04
Mud Creek Photographs

150m Upstream at MD06

Backpack at MD08
Mud Creek Photographs

Obstruction at MD10

Steep bank and log jam at MD13
Mud Creek Photographs

Right bank at 150m at MD14

Campfire at MD13
Mud Creek Photographs

No Trespassing sign at MD18

Bridge at MD19
Findings for First RUAA Survey

- West Mud Creek (0611D)
- Conducted June 4-7, 2014

Summary
- Limited water for recreation
- No direct recreation observed
- Limited public access, mostly private property
West Mud Creek Photographs

150m Upstream at WM01

Beaver Dam between 150 and 300m at WM01
West Mud Creek Photographs

0m Upstream with Obstruction at WM02

0m Right Bank at WM02
West Mud Creek Photographs

0m Downstream at WM09

Obstruction at WM09
West Mud Creek Photographs

0m Upstream at WM12

0m Downstream at WM12
Findings for First RUAA Survey

• Neches River Above Lake Palestine
• Conducted July 25-28, 2014

• Summary
  – Limited water for recreation
  – No direct recreation observed
  – Limited public access, mostly private property
Neches River Above Lake Palestine - Photographs

Right Bank at 0m at NR16

Fisherman at NR02
Neches River Above Lake Palestine - Photographs

150m Upstream at NR03

Obstruction at NR05
Neches River Above Lake Palestine - Photographs

Upstream at 0m at NR11

Upstream at 300m at NR11
Neches River Above Lake Palestine - Photographs

Upstream at 0m at NR11

Upstream at 300m at NR11
Neches River Above Lake Palestine -
Photographs

Duck Decoy at NR12

Right Bank at 0m at NR12
Neches River Above Lake Palestine - Photographs

0m Upstream at NR10

Obstruction at NR10
Next Steps

• Interviews – on-going
  – Collecting feedback on current and past recreational uses of Prairie Creek, Mud Creek, West Mud Creek, and the Neches River Above Lake Palestine.

Interview Forms can be requested from TIAER or found online at

http://tiaer.tarleton.edu/ruaa/index.html
Contact Information

Leah Taylor
Email: ltaylor@tiaer.tarleton.edu
Phone: 254.968.0513

Jimmy Millican
Email: jstroeb@tiaer.tarleton.edu
Phone: 254.968.9556
Questions?

Project Website:

http://tiaer.tarleton.edu/ruaa/index.html

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Leah Taylor
Texas Institute for Applied Environmental Research
ltaylor@tiaer.tarleton.edu
(254) 968-0513