



*Tarleton State University*  
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# Buffalo Creek

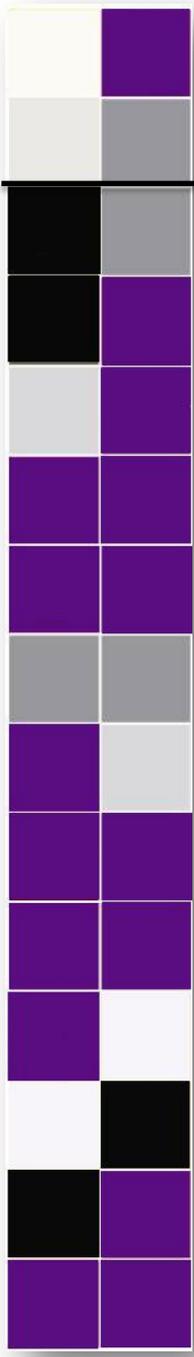
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## Recreational Use Attainability Analysis Summary of Findings (First Survey Event)

Texas Institute for Applied Environmental Research  
Stephenville, Texas

July 10, 2013



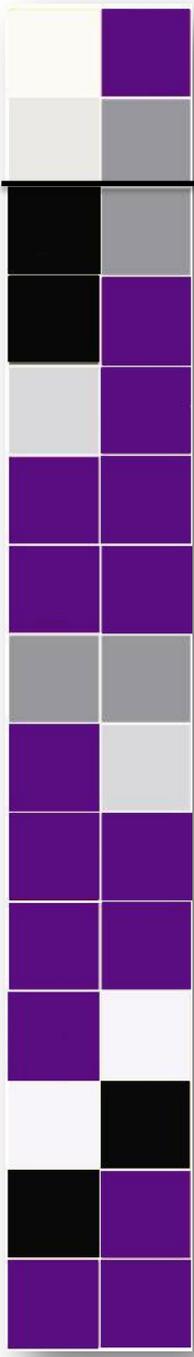


# Why are we here?

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- Buffalo Creek listed as impaired
  - 2010 Texas Water Quality 303(d) List
  - Impaired for primary recreation
  - Based on elevated levels of bacteria



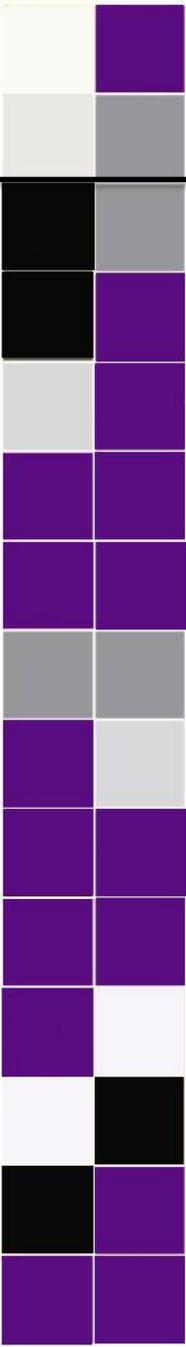


# Why are we here?

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- One potential way to get Buffalo Creek off the impaired list
  - Assess recreational use, via a recreational use attainability analysis (RUAA)
  - Primary contact recreation is assumed



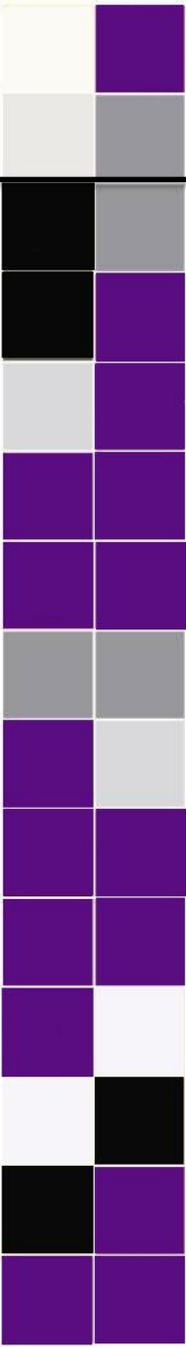


# Purpose of RUAA

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- Collect information that will:
  1. Confirm or deny primary contact recreation
  2. Provide evidence to support a change in recreational use category of Buffalo Creek
- Recreational Use Categories:
  1. Primary Contact Recreation
  2. Secondary Contact Recreation I
  3. Secondary Contact Recreation II
  4. Non-Contact Recreation



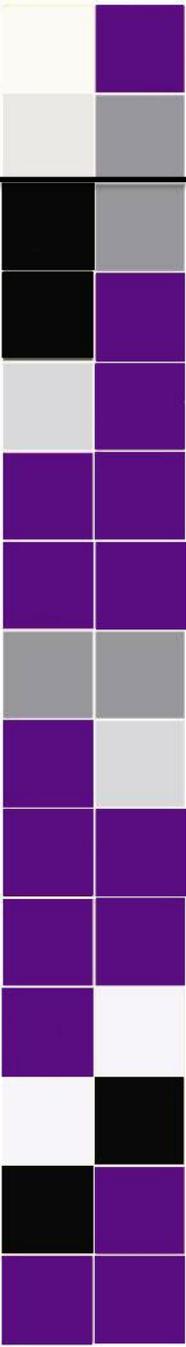


# Components of a RUAA

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- **Field Surveys** – to document current stream conditions and uses
- **Historical Information Review** – to document past recreational uses
- **Interviews** – to obtain feedback from stakeholders on current and past recreational uses of Buffalo Creek



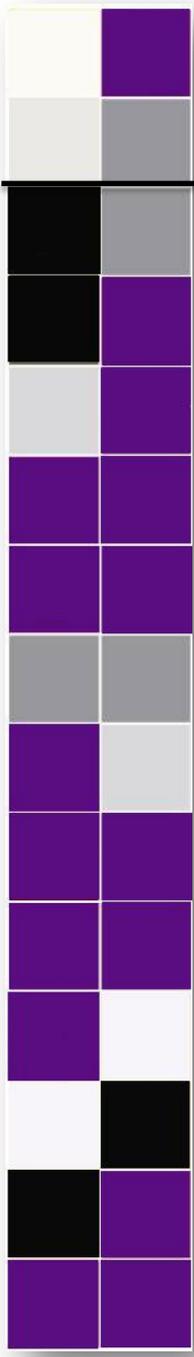


# Field Surveys

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- Components:
  - Goal: 3 sites for every 5 miles
  - At each site:
    - 300 meter reach traversed
  - Document
    - Stream characteristics that may promote or hinder recreational use (Field Data Sheets)
    - Observations of direct use or signs of recreational use (Photographs)
    - Interviews with individuals (Interview Forms)



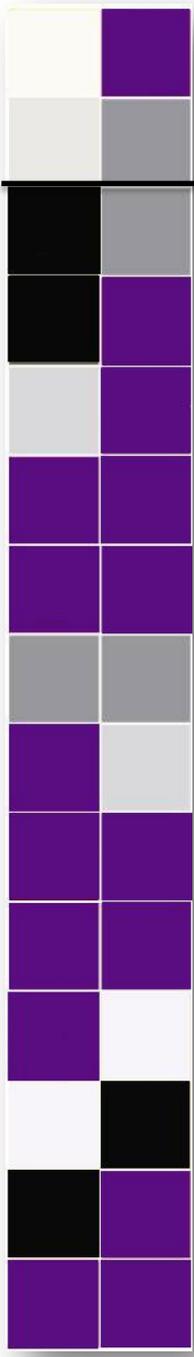


# Field Data Sheet Information

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- Steamflow and stream type
- Riparian zone, ease of bank access, dominant substrate
- Stream channel and pool measurements
- Types of recreation observed or signs of recreation
- Factors that may promote or impede recreation



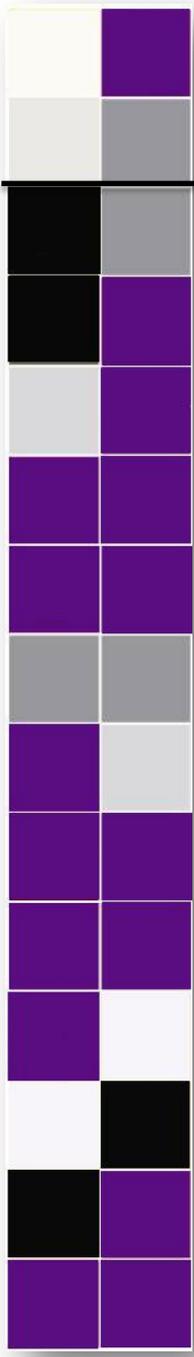


# Field Surveys

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- Complete field data sheet
- Document weather conditions
- Photograph stream conditions
  - Transects - upstream, downstream, left bank, and right bank
  - Evidence of human use
- Interview stakeholders present at time of survey





# Sampling Conditions for Surveys

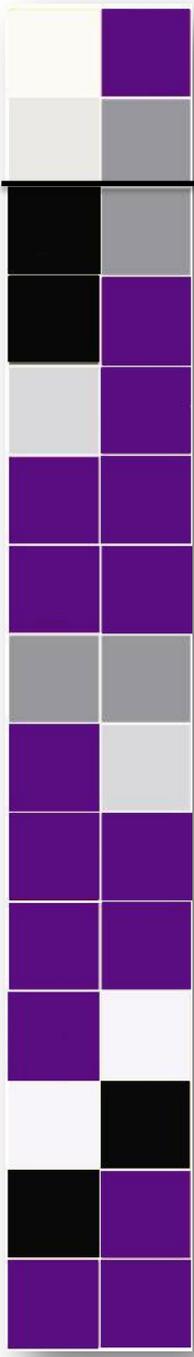
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1. Air temperature over 70° F
2. Sustained or typical dry, warm-weather streamflow
3. Performed when use is likely (Spring Break, Weekends, Holidays & Summer)



Any Questions on RUAA  
Background?



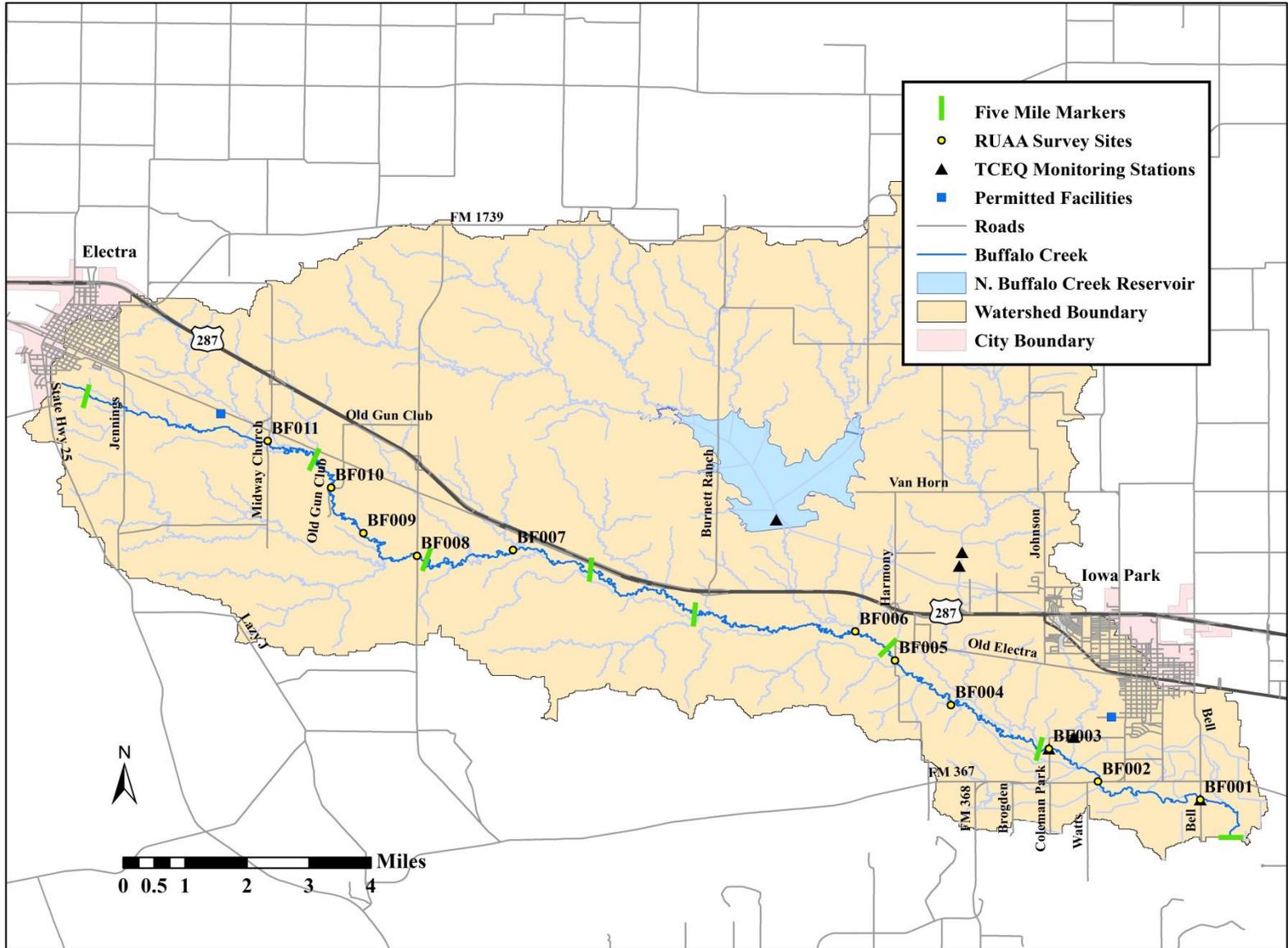


# Survey Dates for Buffalo Creek

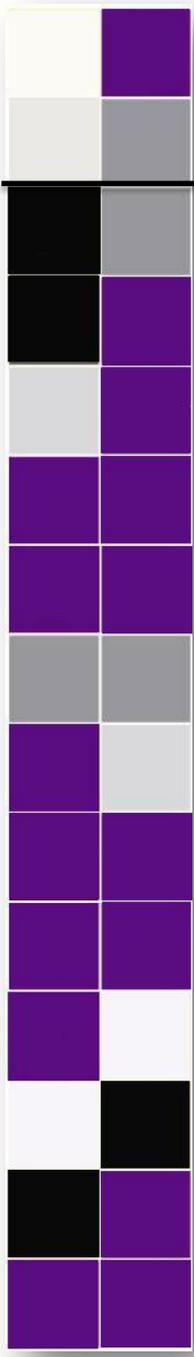
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- 2013 – First RUAA Survey
  - Data Collected June 8<sup>th</sup> - 11<sup>th</sup>
    - (Saturday through Tuesday)
- 2013 – Second RUAA Survey
  - Scheduled for July 18<sup>th</sup> – 21<sup>st</sup>
    - (Thursday through Sunday)





| TCEQ ID | Site ID | Site Description  | Latitude  | Longitude  | Distance from Previous Site (mi) <sup>1</sup> | Distance from Confluence (mi) <sup>1</sup> | Distance from Upper Reach (mi) <sup>1</sup> | Access  |
|---------|---------|---|-----------|------------|---|--|---|---------|
| 10097   | BF001   | Buffalo Creek at Bell Rd south of Iowa Park, east of road                 | 33.921748 | -98.654205 | -   | 1.18                                       | 33.94                                       | Public  |
|         | BF002   | Buffalo Creek at FM 367 south of Iowa Park, south of road                 | 33.926077 | -98.678127 | 2.37  | 3.55                                       | 31.57                                       | Public  |
| 16036   | BF003   | Buffalo Creek at Coleman Park Rd south of Iowa Park, east of road         | 33.933848 | -98.689599 | 1.19  | 4.74                                       | 30.38                                       | Public  |
|         | BF004   | Buffalo Creek 1.83 river miles east of Old Electra Rd                     | 33.944218 | -98.712534 | 2.86  | 7.60                                       | 27.52                                       | Private |
|         | BF005   | Buffalo Creek at Old Electra Rd southwest of Iowa Park, east of road      | 33.954803 | -98.725636 | 1.83  | 9.43                                       | 25.69                                       | Public  |
|         | BF006   | Buffalo Creek 1.06 river miles west of Old Electra Rd, near railroad      | 33.961670 | -98.734895 | 1.06  | 10.49                                      | 24.63                                       | Private |
|         | BF007   | Buffalo Creek 3.47 river miles east of FM 2384                            | 33.980992 | -98.814977 | 10.87   | 21.36                                      | 13.76                                       | Private |
|         | BF008   | Buffalo Creek at FM 2384, west of road                                    | 33.979637 | -98.837430 | 3.47  | 24.83                                      | 10.29                                       | Public  |
|         | BF009   | Buffalo Creek 2.02 river miles west of FM 2384                            | 33.985000 | -98.849970 | 2.02  | 26.85                                      | 8.27  | Private |
|         | BF010   | Buffalo Creek at Old Gun Club Rd southeast of Electra                     | 33.9958   | -98.8575   | 1.61  | 28.46                                      | 6.66  | Private |
|         | BF011   | Buffalo Creek at Midway Church Rd southeast of Electra WWTF, east of road | 34.006860 | -98.872330 | 2.56  | 31.02                                      | 4.10  | Public  |



# Findings First RUAA Survey

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- Conducted June 8<sup>th</sup> – 11<sup>th</sup>
  - (Saturday thru Tuesday)
- Summary
  - Limited & difficult access to water
  - No direct recreation observed
  - Heavy debris & many obstructions



# Buffalo Creek Photographs

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BF011\_300m Down Stream



BF011\_Oil & Gas Pipe



# Buffalo Creek Photographs

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BF010\_150m Upstream



BF010\_Lion Scat



# Buffalo Creek Photographs

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BF009\_ Obstruction



BF008\_ 150m Upstream



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# Buffalo Creek Photographs

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BF008\_Cattle Crossing



BF007\_Beaver Gnaw



# Buffalo Creek Photographs

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BF006 Water Gap



BF006\_300m Down Stream



# Buffalo Creek Photographs

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BF005\_No Trespassing Sign



BF005\_Debris Pile



# Buffalo Creek Photographs

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BF004\_300m Down Stream    BF003 Debris at Coleman Park Rd



# Buffalo Creek Photographs

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BF003\_Dryer



BF002\_300 Upstream



# Buffalo Creek Photographs

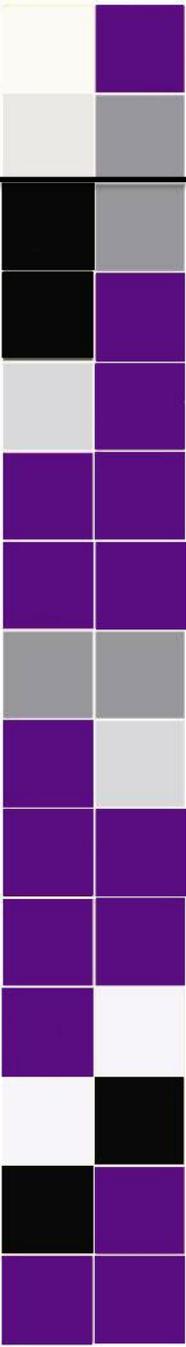
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BF002\_Obstruction



BF001\_30m Down Stream



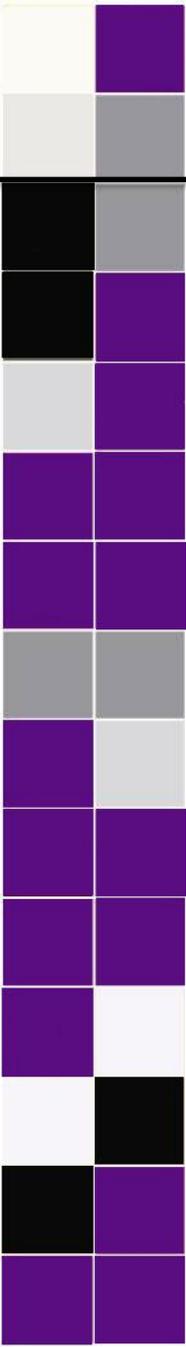


# Next Steps

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- Second Field Survey
  - Scheduled for July 18<sup>th</sup> – 21<sup>st</sup>
    - (Thursday thru Sunday)
- Historical Review – on-going
  - Request information on past recreational use of Buffalo Creek





# Next Steps

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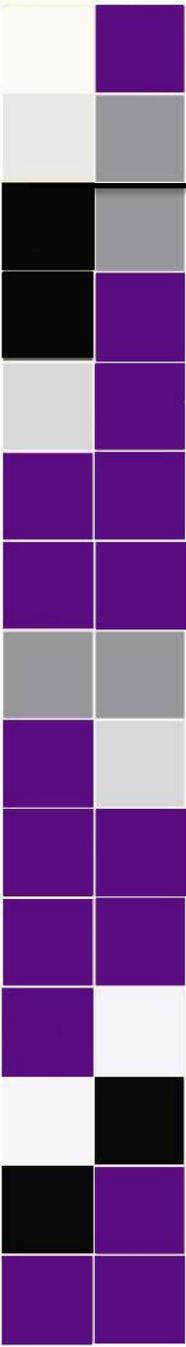
- Interviews – on-going
  - We need feedback on current and past recreational uses of Buffalo Creek

**\*Interview Forms can be requested  
from TIAER**

**[cclary@tiaer.tarlton.edu](mailto:cclary@tiaer.tarlton.edu)**

**254.968.1921**





# Contact Information

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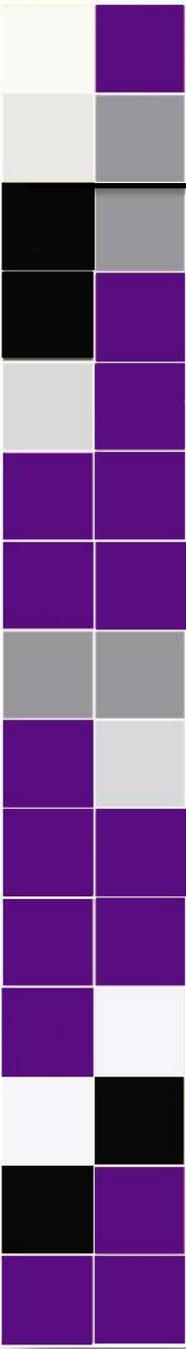
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# Questions?

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## Thank You

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