

Cypress Creek Watershed Protection Plan Committee Meeting

Sandra S. Arismendez, PhD

March 31, 2021



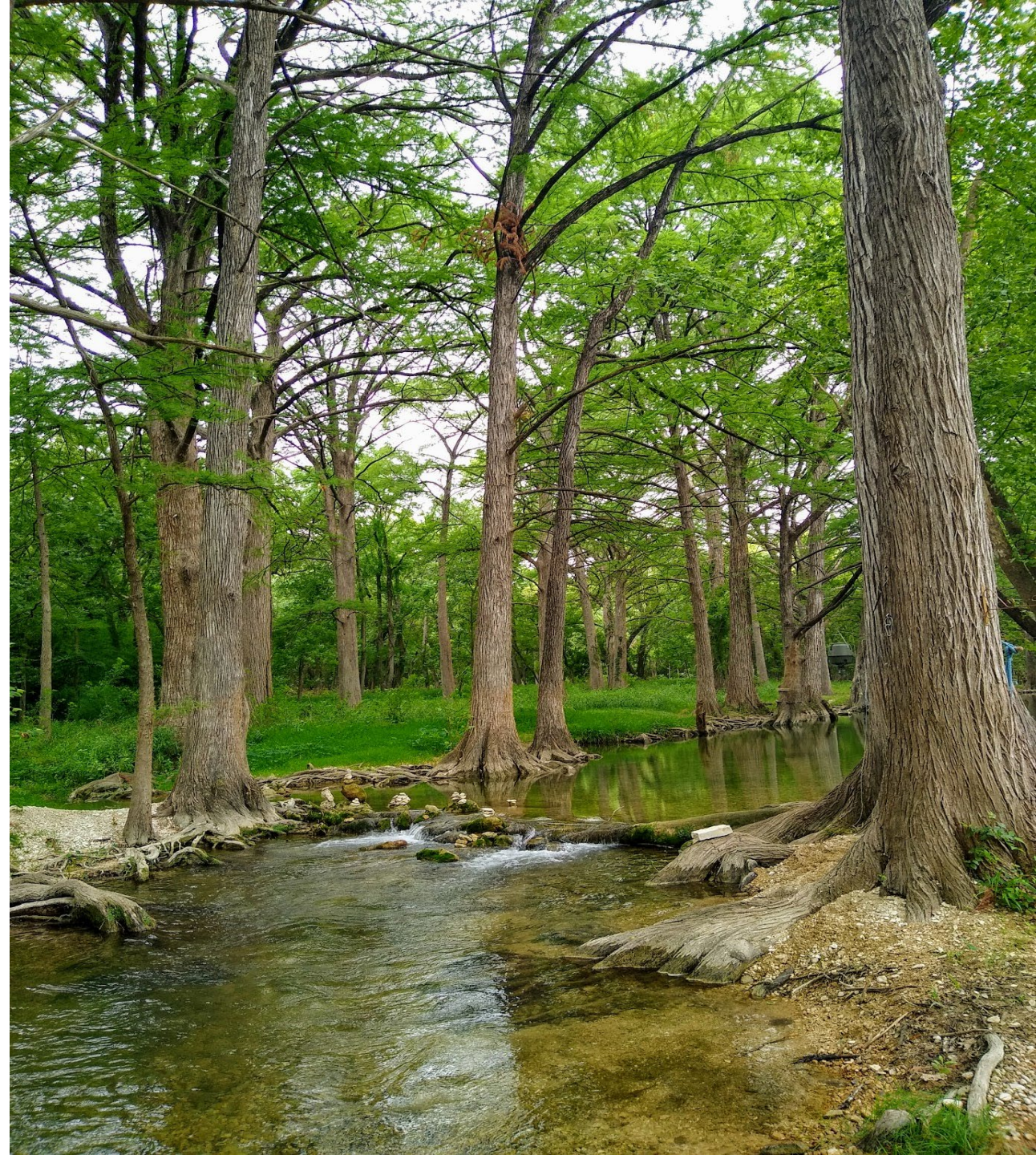
THE MEADOWS CENTER
FOR WATER AND THE ENVIRONMENT

TEXAS STATE UNIVERSITY

PURPOSE

To present an update on water quality monitoring results from Cypress Creek.

- Clean Rivers Program Quarterly Monitoring
- Texas Stream Team Monthly Monitoring



Cypress Creek

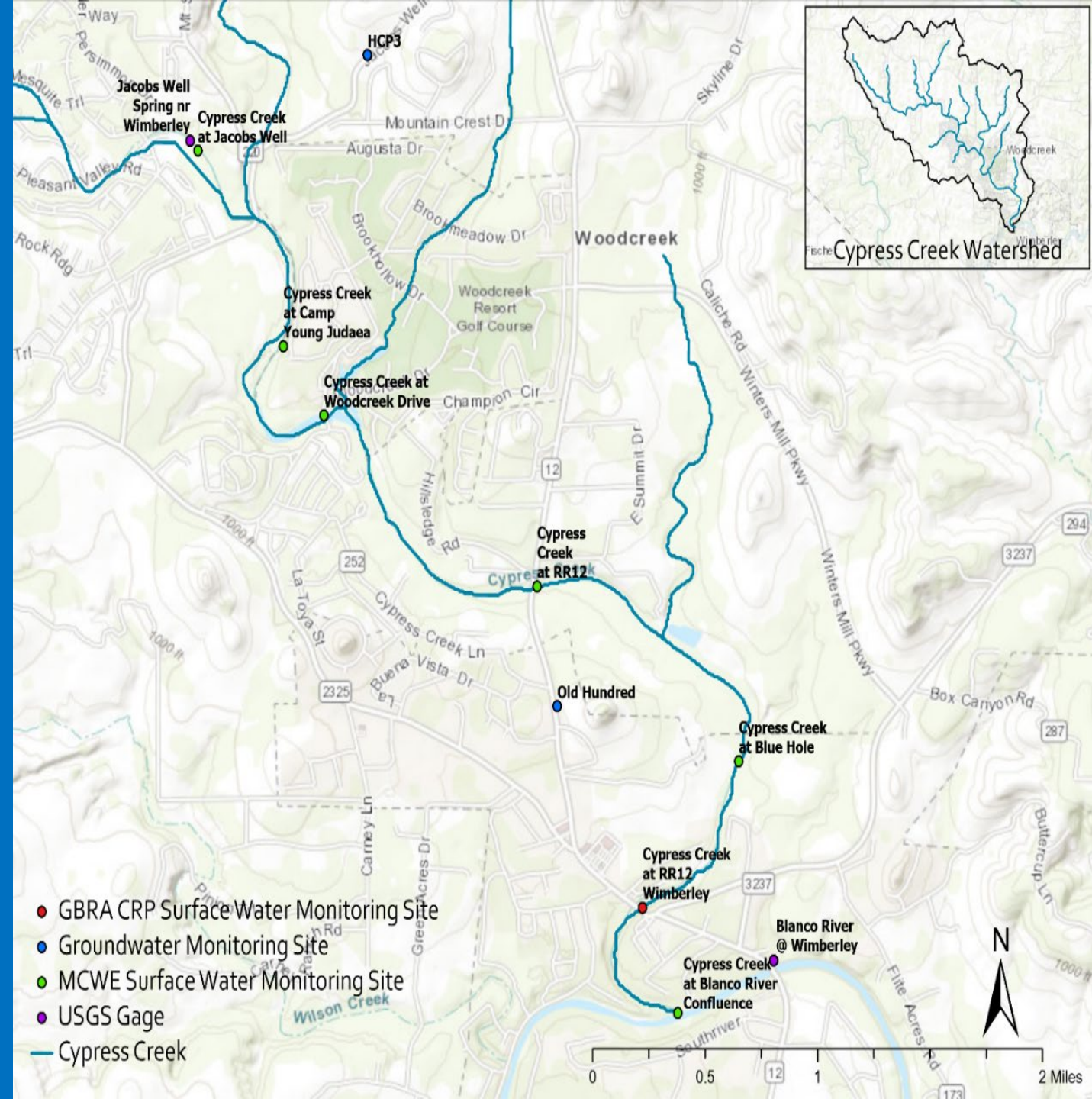
Purpose: To collect water quality data in support of the WPP.

Six surface water sites:

- 12677 – CC @ Jacob's Well**
- 22109 – CC @ Camp Young Judea**
- 22110 – CC @ Woodcreek Dr.**
- 12676 – CC @ RR12 Cottages**
- 12675 – CC @ Blue Hole***
- 12674 – CC @ RR12 in Wimberley**
- 12673 – CC @ Blanco Riv. Confluence***

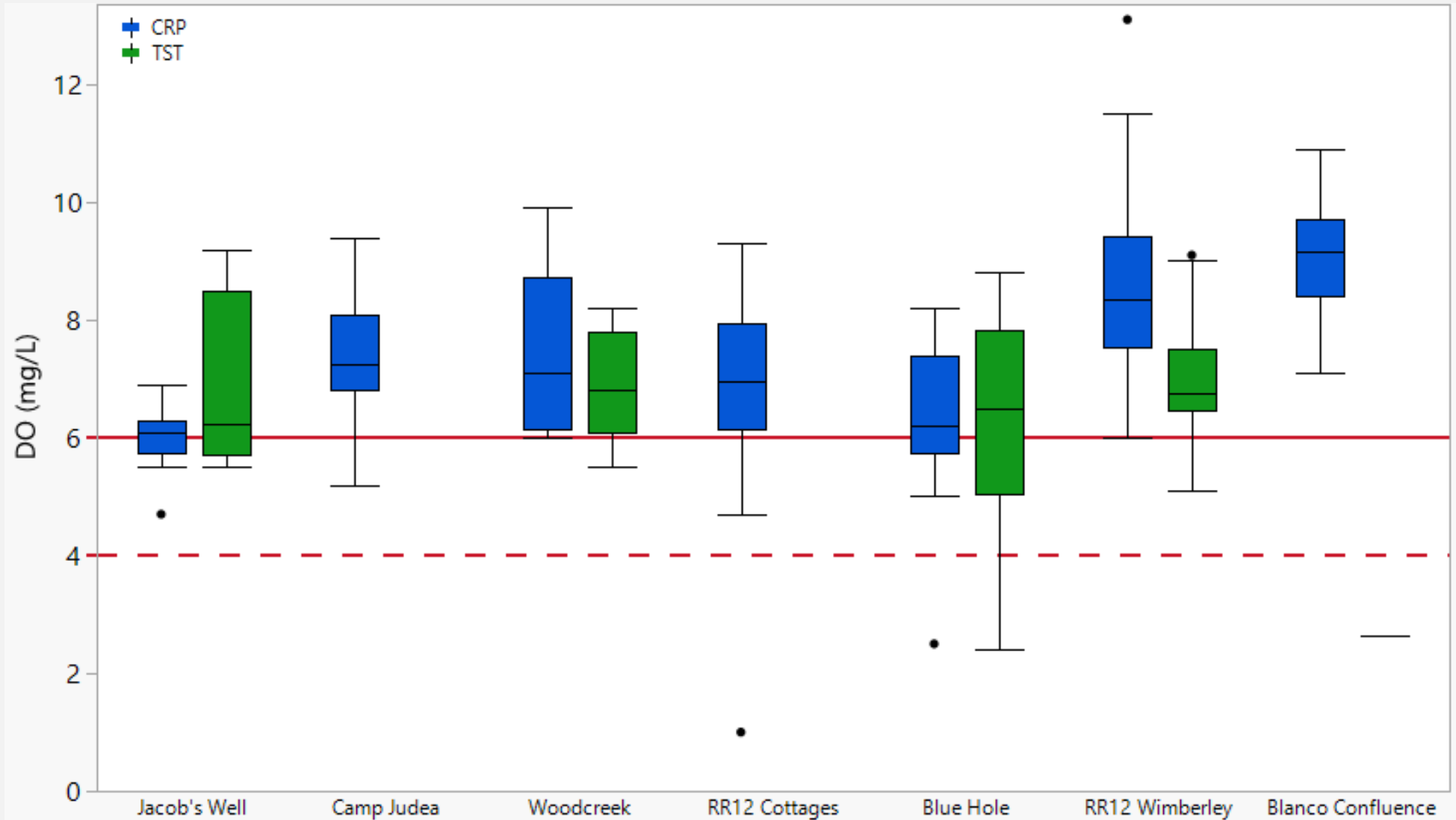
Two groundwater well sites:

- HCP3**
- Old Hundred**



Cypress Creek

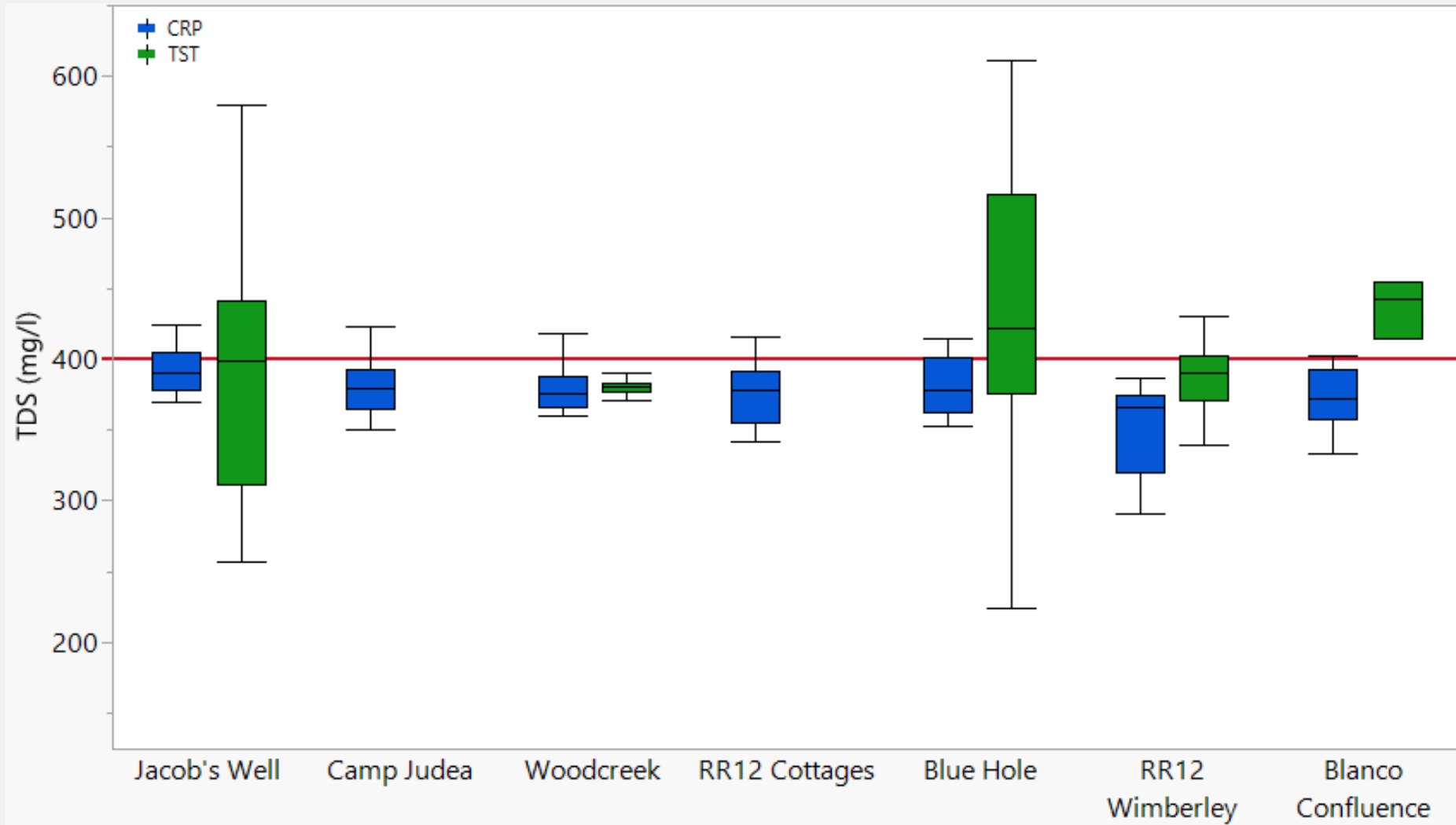
Clean Rivers Program and Texas Stream Team Monitoring
Aug 2016 – Feb 2021



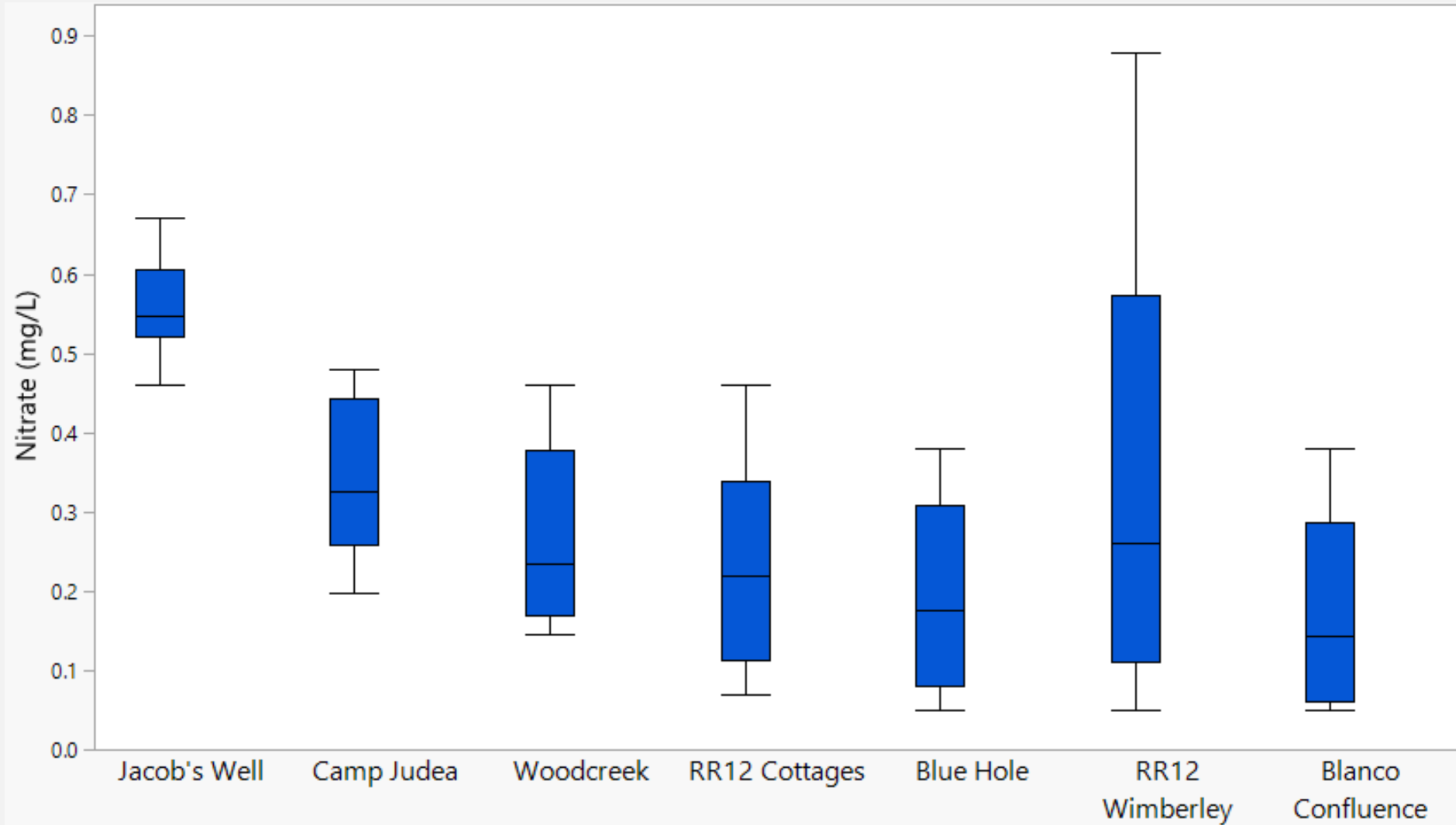
Cypress Creek

Clean Rivers Program and Texas Stream Team Monitoring

Aug 2016 – Feb 2021



Cypress Creek Clean Rivers Program Monitoring Aug 2016 – Feb 2021

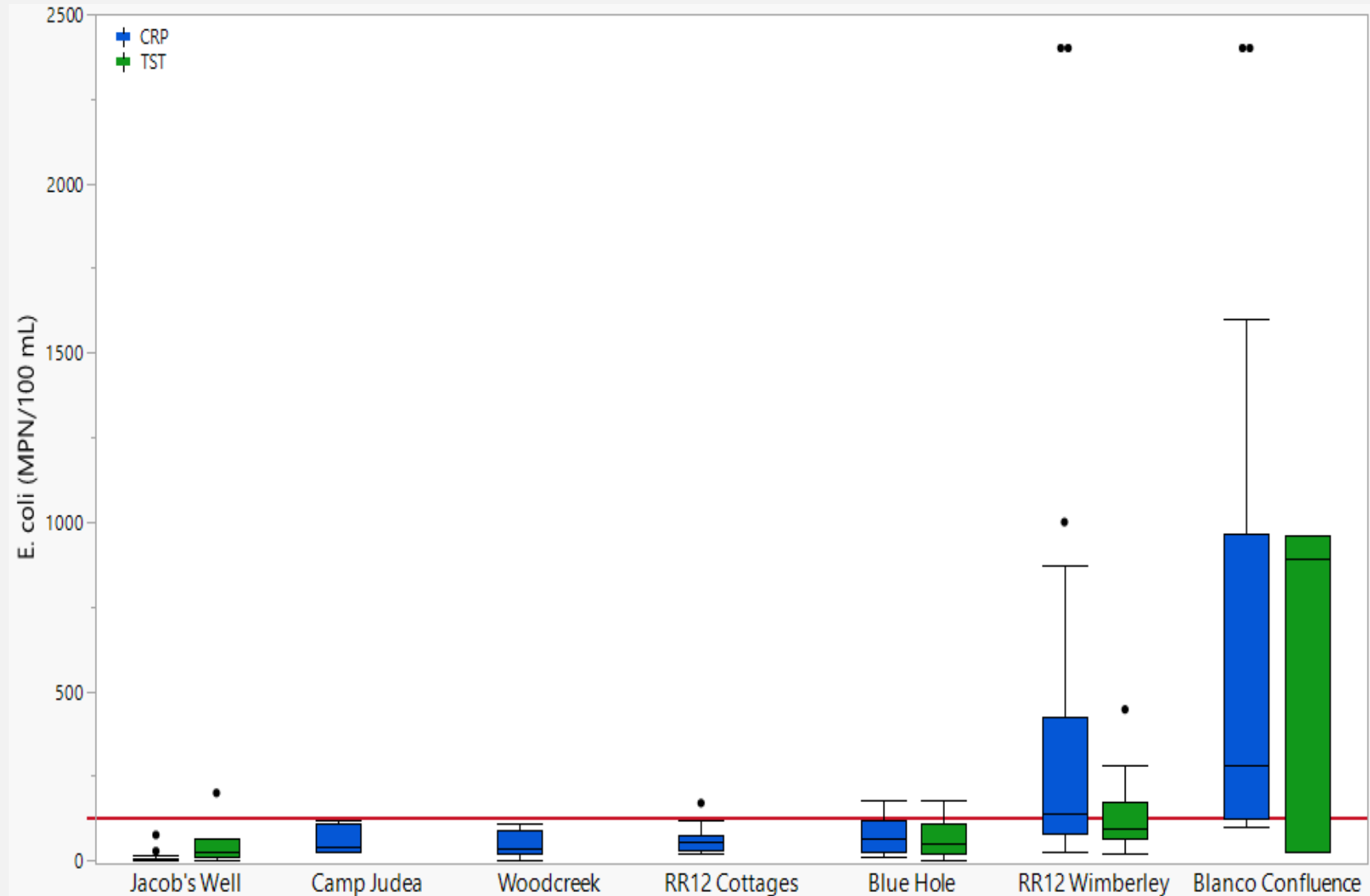


Cypress Creek

Clean Rivers Program and Texas Stream Team Monitoring

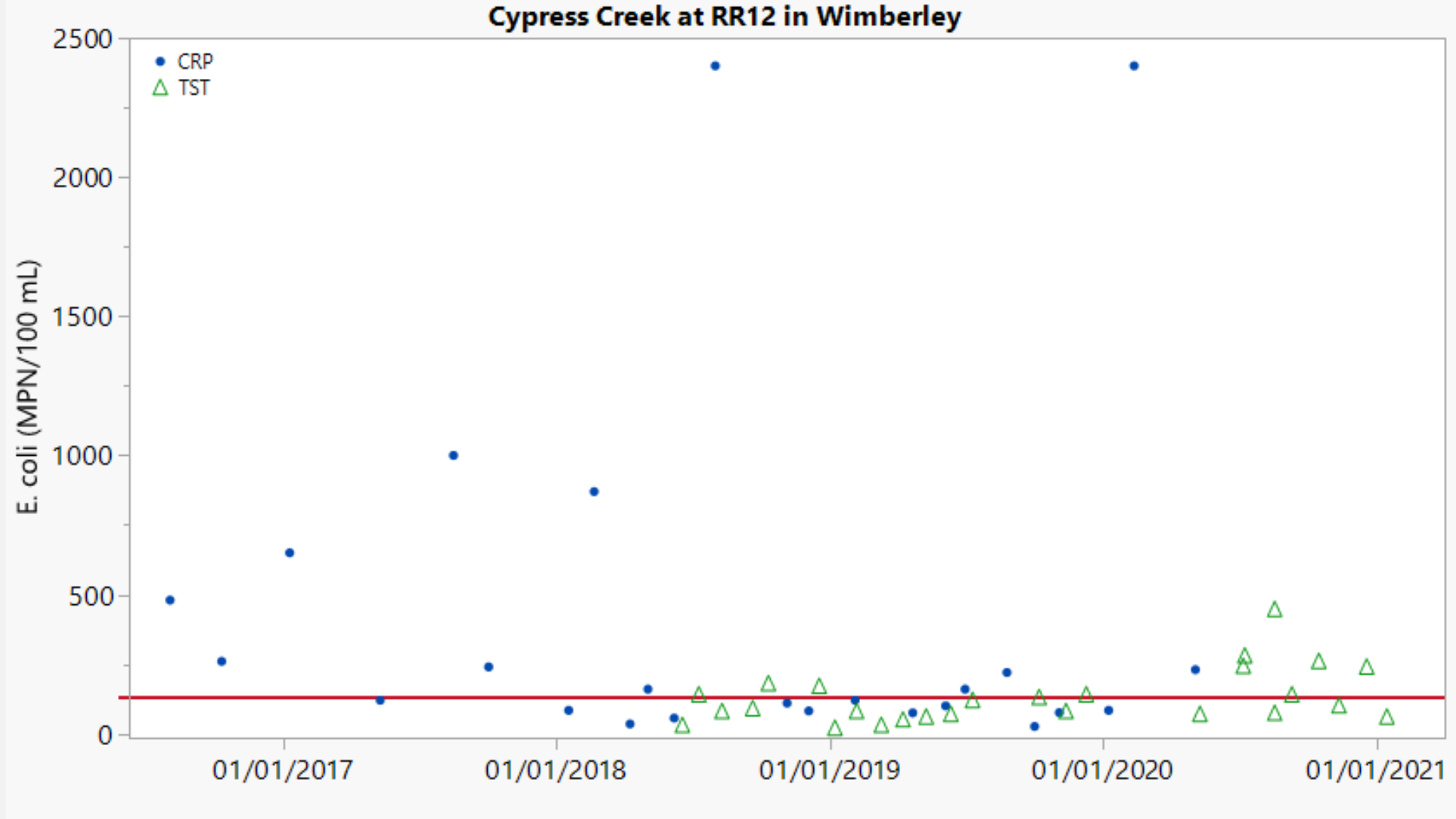
Aug 2016 – Feb 2021

| Site | No. Samples | Geometric Mean |
|-------------------|-------------|----------------|
| Jacob's Well | 27 | 7.3 |
| Camp Judea | 8 | 48.2 |
| Woodcreek | 21 | 27.8 |
| RR12 Cottages | 16 | 51.8 |
| Blue Hole | 32 | 57.5 |
| RR12 Wimberley | 57 | 135.8 |
| Blanco Confluence | 20 | 347.1 |

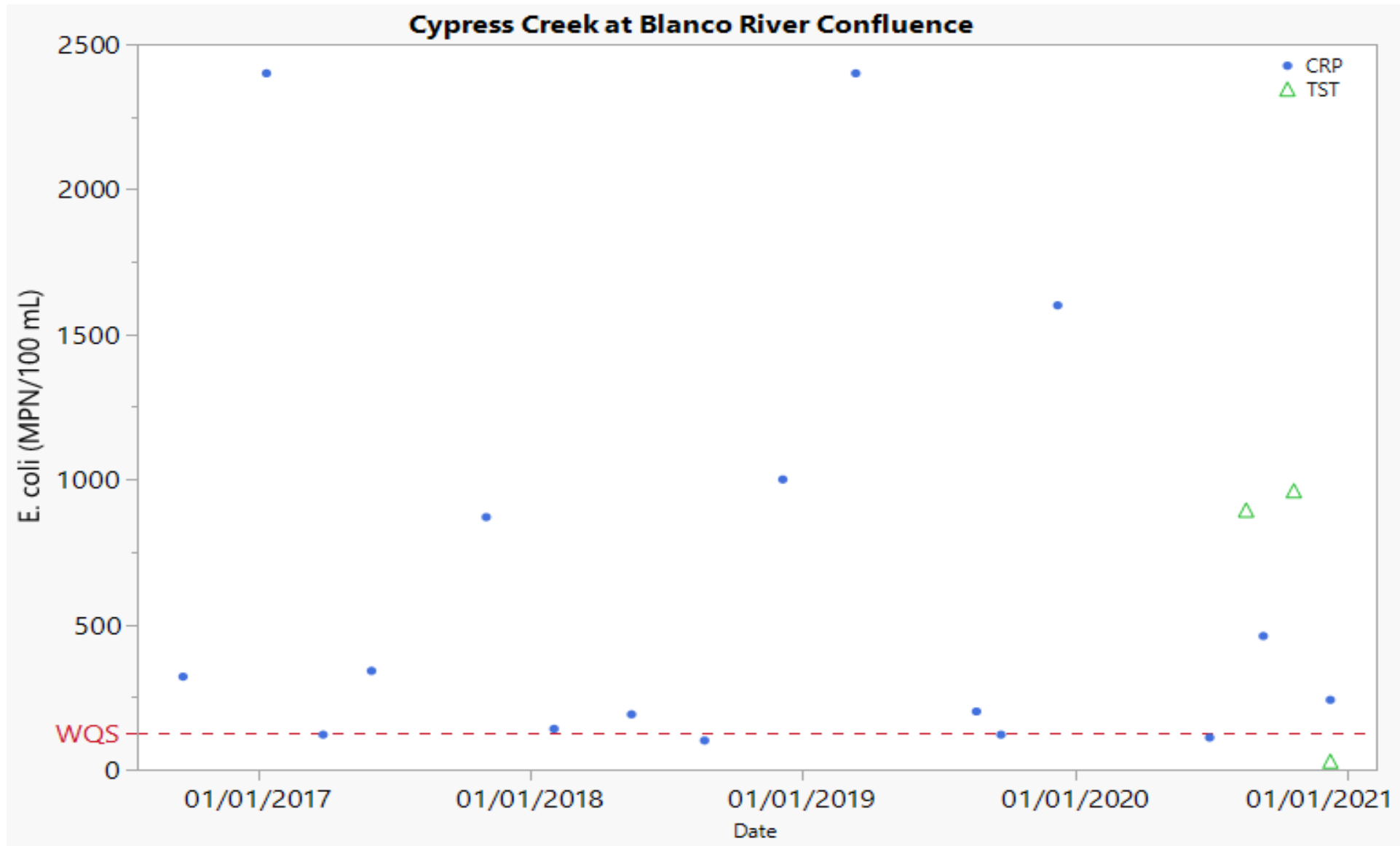


Cypress Creek Clean Rivers Program and Texas Stream Team Monitoring

April 2016 - Feb 2021



Cypress Creek Clean Rivers Program and Texas Stream Team Monitoring



Cypress Creek

24 HR Monitoring

(September 9-11, 2020)

| Parameter | Units | Blue Hole | Blanco River Confluence |
|--|-------|---------------------|-------------------------|
| Temperature, Water - 24HR Avg (range) | °C | 24.7 (23.4-25.4) | 22.1 (21.8-22.6) |
| Specific Conductance - 24HR Avg (range) | µS/cm | 544 (536-561) | 541 (54-548) |
| pH - 24HR Minimum – Maximum Values | s.u. | 7.4 – 7.7 | 7.9 – 7.9 |
| Dissolved Oxygen - 24-Hour Avg. (range) n=98 | mg/L | 5.9 (4.9 – 6.2) | 8.1 (8 – 8.6) |

Cypress Creek

24 HR Monitoring
(October 7-9, 2020)

| Parameter | Units | Blue Hole | Blanco River Confluence |
|--|-------|---------------------|-------------------------|
| Temperature, Water - 24HR Avg (range) | °C | 21.6 (21.2-21.9) | 21.2 (20.9-21.8) |
| Specific Conductance - 24HR Avg (range) | µS/cm | 586 (582-590) | 570 (568-572) |
| pH - 24HR Minimum - Maximum Value | s.u. | 7.4 – 7.5 | 7.8 – 7.9 |
| Dissolved Oxygen - 24-Hour Avg. (range) n=98 | mg/L | 5.6 (5.1-5.9) | 8.2 (8-9) |

Cypress Creek

Biannual Groundwater Monitoring
(August 2019 - January 2021)

| Well | Date | Temp. (°C) | DO (mg/L) | Cond. (µS/cm) | pH (s.u.) | TSS (mg/L) |
|-------------|-----------|---------------|--------------|------------------|--------------|---------------|
| HCP3 | 8/22/2019 | 22.4 | 3.7 | 690 | 7 | 4.1 |
| HCP3 | 11/5/2019 | 22.4 | 3.9 | 666 | 7 | <0.5 |
| HCP3 | 1/23/2020 | 12.4 | 9.5 | 588 | 8 | <0.5 |
| HCP3 | 7/21/2020 | 31.6 | 6.7 | 609 | 7.7 | <1 |
| HCP3 | 1/27/2021 | 16.9 | 7.5 | 598 | 7.4 | <1 |
| Old Hundred | 11/5/2019 | 24.4 | 2.6 | 677 | 7.2 | <0.5 |
| Old Hundred | 1/23/2020 | 24.0 | 3.4 | 673 | 7.4 | <0.5 |
| Old Hundred | 7/21/2020 | 24.7 | 2.9 | 719 | 7.2 | <1 |
| Old Hundred | 1/27/2021 | 24.3 | 1.6 | 720 | 7.2 | <1 |

Cypress Creek

Biannual Groundwater Monitoring
(August 2019 - January 2021)

| Well | Date | E. Coli (MPN/100 mL) | Ammonia (mg/L) | Total P (mg/L) | Nitrate (mg/L) |
|-------------|-----------|-------------------------|-------------------|-------------------|-------------------|
| HCP3 | 8/22/2019 | <1 | <0.1 | <0.02 | 1.08 |
| HCP3 | 11/5/2019 | <2 | <0.1 | <0.02 | 1.09 |
| HCP3 | 1/23/2020 | <1 | <0.1 | <0.02 | 0.98 |
| HCP3 | 7/21/2020 | <1 | <0.2 | <0.02 | 1.34 |
| HCP3 | 1/27/2021 | <1 | <0.02 | <0.02 | 0.762 |
| Old Hundred | 11/5/2019 | <1 | <0.1 | <0.02 | <0.05 |
| Old Hundred | 1/23/2020 | <2 | <0.1 | <0.02 | <0.05 |
| Old Hundred | 7/21/2020 | <1 | <0.2 | <0.02 | <0.02 |
| Old Hundred | 1/27/2021 | <1 | <0.02 | <0.02 | <0.01 |

Contact

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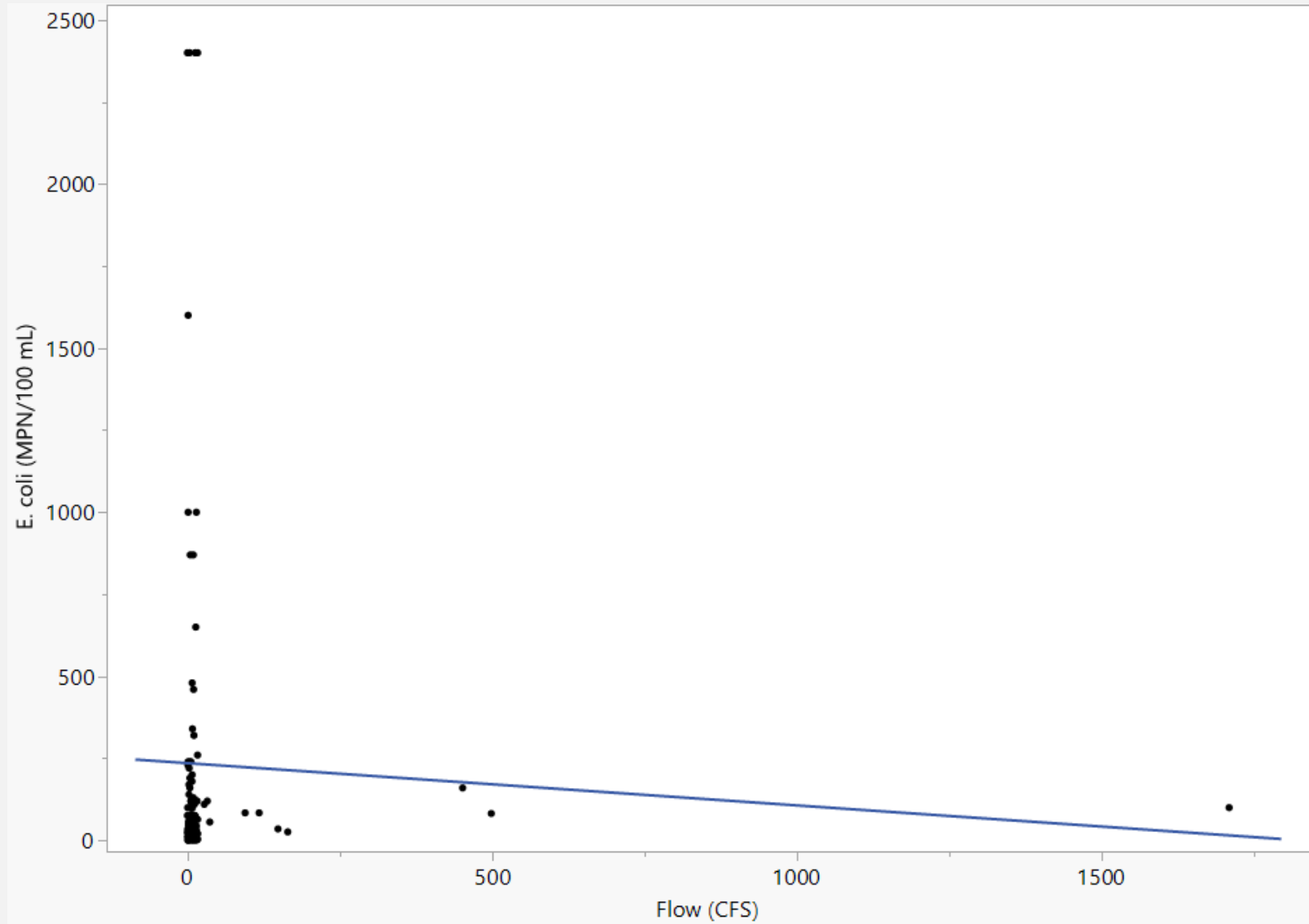
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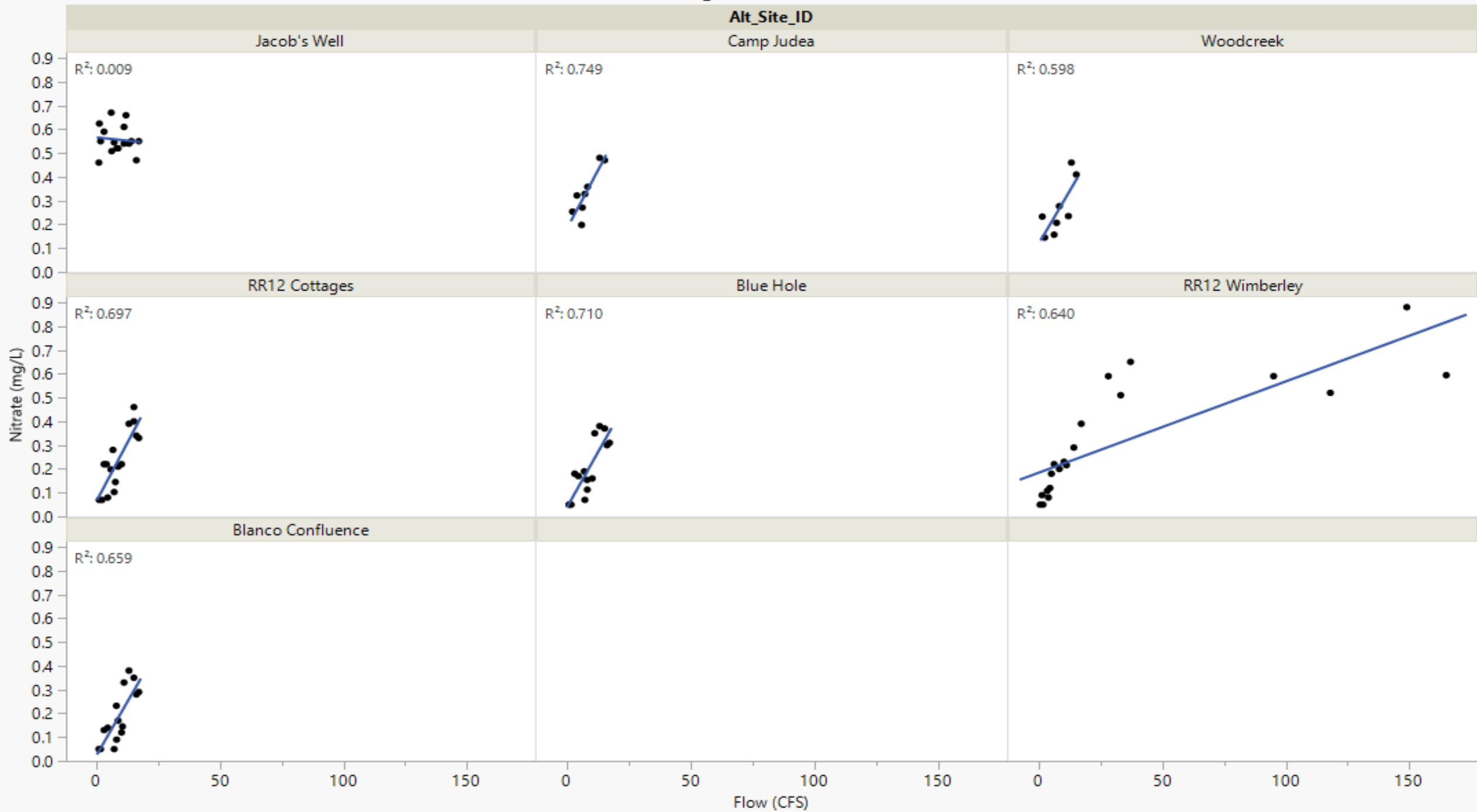
Cypress Creek

Clean Rivers Program and Texas Stream Team Monitoring

Aug 2016 – Feb 2021



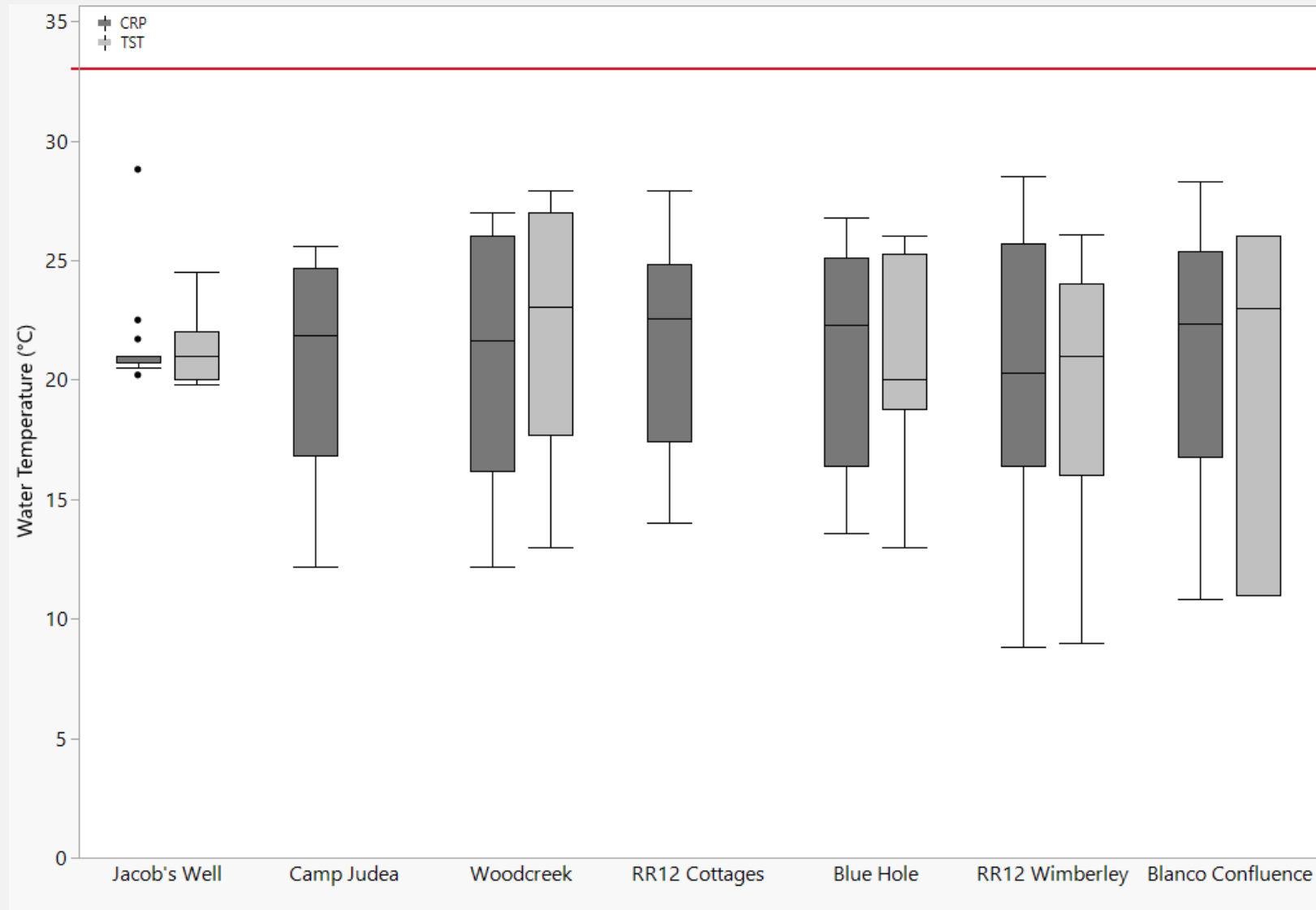
Nitrate (mg/L) vs. Flow (CFS)



Cypress Creek

Clean Rivers Program and Texas Stream Team Monitoring

Aug 2016 – Feb 2021



Cypress Creek

Clean Rivers Program and Texas Stream Team Monitoring Aug 2016 – Feb 2021

