

Appendix D

Instream Survey Field Data Sheets – Walnut
Creek Recreational Use Attainability Analysis

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	<u>John Murnett, TCEQ Region 4</u>
Date & Time:	<u>15-16 June & 21 September</u>
County Name:	<u>Tarrant</u>
Stream Name:	<u>Walnut Creek</u>
Segment No. or nearest downstream Segment No.:	<u>DR3RC</u>
Description of Site:	<u>McKinnitt RUAA site</u>

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

- dry no flow low normal high flooded

2. Check the following stream type that applies on the day of the survey: Based on USGS records

Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites.

0.3 cfs on 16 June 2010
2.4 cfs on 21 September 2010

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp 28-31 °C on 15-16 June Water Temp

20 °C on 21 September

26.0 °C on 15 June
24.5 °C on 21 September

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

- | | | |
|---|--|-----------------------------------|
| <input checked="" type="checkbox"/> Forest | <input checked="" type="checkbox"/> Urban | <input type="checkbox"/> Rip rap |
| <input type="checkbox"/> Shrub dominated corridor | <input type="checkbox"/> Pasture | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Herbaceous marsh | <input type="checkbox"/> Row crops | Other (specify): <u>L - grass</u> |
| <input checked="" type="checkbox"/> Mowed/maintained corridor | <input type="checkbox"/> Denuded/Eroded bank | |
- 95% submergence

6. Ease of bank access to the water body: Easy Moderately easy Moderately difficult Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

Steep banks along most of reach - one reasonable access point

8. Dominant Primary Substrate

- Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Walnut Creek (0838C) Site: McKnight
 Date: 15-16 June and 21 September FDS Page 3 of 8

E. Stream Channel and Substantial Pool

Please check the following which best describes the river or stream: Wadeable Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	18	8.0	0.95
Pool 2	14	6.0	0.80
Pool 3	27	4.5	0.74
Pool 4			
Pool 5			
Pool 6			
Pool 7	10	8	1.70
Pool 8	20	10	1.31
Pool 9	30	10	0.94
Pool 10			

b) Average depth at the thalweg – Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	6/15 Depth (meters)	9/21
30 meters	0.28	0.49
60 meters	0.16	0.62
90 meters	0.57	0.76
120 meters	0.95	0.31
150 meters	0.74	0.26
180 meters	0.70	0.40
210 meters	0.31	0.45
240 meters	0.15	0.75
270 meters	0.08	0.55
300 meters	0.25	0.82
Average	0.42	0.54

Field Data Sheets – Basic RUAA Survey

Stream Name Walnut Creek Site: McKoy Rd
 Date: 15-16 June and 21 September Time: _____

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	6/15	Width (meters)	9/21
Typical Average Width of 300 meter reach	4.0		4.6
Width at narrowest point of the stream within 300 meter reach	1.5		1.8
Width at the widest point of the stream within 300 meter reach	8.6		10.0

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

COMMENTS: Perennial pools of moderate depth
Rope survey at a 100m point of reach

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .

Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

File ----- 11111111 615.wad *JM*
 Start Date and Time ----- 2010/06/16 08:36:56
 Sensor Type ----- FlowTracker Handheld ADV
 SerialNumber ----- P1197
 FlowExporter Version ----- 1.30
 CPU Firmware Version ----- 2.5
 Averaging Time ----- 40 sec
 Units system ----- ENGLISH
 Staff height ----- 0.00 ft
 Gauge height ----- 0.00 ft
 Rated discharge ----- 0.000 cfs
 Starting edge of water ----- REW
 Number of stations ----- 22
 Total width ----- 10.0 ft
 Total area ----- 3.79 ft^2
 Total discharge ----- 0.267 cfs
 Mean velocity ----- 0.070 ft/s
 Mean SNR ----- 35.9 dB
 Mean std. error of vel. --- 0.003 ft/s
 Mean boundary conditions -- 0 (BEST)
 Boundary condition (Bnd) -- 0: BEST
 1: GOOD
 2: FAIR
 3: POOR

Walnut Creek BWA
Walnut Creek in James Mc Knight Park East (north of baseball fields)

max V = 0.24 ft/sec

ST.	Loc. (ft)	Depth (ft)	Iced (ft)	MDep (ft)	Clock (*D)	Npts	Spike	Vel (ft/s)	SNR (dB)	Angle (deg)	Verr (ft/s)	Bnd	Temp (degF)	Corr Fact	MeanV (ft/s)	Area (ft^2)	Flow (cfs)
0	4.0	0.05	0.00	0.00	0	00:00	0	0.000	0.0	0	0.000	0	0.00	1.00	0.000	0.006	0.000
1	4.3	0.20	0.00	0.6	08:36	40	0	0.000	44.2	45	0.000	1	78.78	1.00	0.000	0.075	0.000
2	4.8	0.20	0.00	0.6	08:37	40	1	-0.003	51.1	71	0.003	1	78.78	1.00	-0.003	0.100	-0.000
3	5.3	0.20	0.00	0.6	08:38	40	0	-0.001	72.6	45	0.000	1	78.82	1.00	-0.001	0.100	-0.000
4	5.8	0.25	0.00	0.6	08:39	40	1	-0.002	44.7	81	0.003	1	78.85	1.00	-0.002	0.125	-0.000
5	6.3	0.30	0.00	0.6	08:41	40	0	0.110	35.6	-3	0.007	2	78.87	1.00	0.110	0.150	0.016
6	6.8	0.30	0.00	0.6	08:42	40	0	0.178	35.2	-10	0.007	0	78.85	1.00	0.178	0.150	0.027
7	7.3	0.40	0.00	0.6	08:43	40	0	0.240	32.6	-10	0.010	0	78.84	1.00	0.240	0.200	0.048
8	7.8	0.40	0.00	0.6	08:44	40	0	0.176	32.6	-9	0.007	0	78.84	1.00	0.176	0.200	0.035
9	8.3	0.45	0.00	0.6	08:46	40	0	0.128	30.5	-10	0.007	0	78.84	1.00	0.128	0.225	0.029
10	8.8	0.50	0.00	0.6	08:47	40	0	0.101	30.5	-1	0.003	0	78.84	1.00	0.101	0.250	0.025

File ----- 76.8 wad *JMC*
 Start Date and Time ----- 2010/09/21 12:03:46
 Sensor Type ----- FlowTracker Handheld ADV
 SerialNumber ----- P1197
 FlowExporter Version ----- 1.30
 CPU Firmware Version ----- 2.5
 Averaging Time ----- 40 sec
 Units system ----- ENGLISH
 Staff height ----- 0.00 ft
 Gauge height ----- 0.00 ft
 Rated discharge ----- 0.000 cfs
 Starting edge of water ----- LEW
 Number of stations ----- 32
 Total width ----- 15.0 ft
 Total area ----- 10.71 ft²
 Total discharge ----- 2.366 cfs
 Mean velocity ----- 0.221 ft/s
 Mean SNR ----- 30.6 dB
 Mean std. error of vel. --- 0.005 ft/s
 Mean boundary conditions -- 0 (BEST)
 Boundary condition (Bnd) -- 0: BEST
 1: GOOD
 2: FAIR
 3: POOR

Walnut Creek RWAA

*Walnut Creek in James Mc Knight
Back Bank (north of off road skills)*

max V = 0.26418/see

ST.	Loc. (ft)	Depth (ft)	IceD (ft)	MDep (*D)	Clock	Npts	Spike	Vel (ft/s)	SNR (dB)	Angle (deg)	Verr (ft/s)	End	Temp (degF)	Corr Fact	MeanV (ft/s)	Area (ft ²)	Flow (cfs)
0					0	00:00	0	0.000	0.0	0	0.000	0	0.00	1.00	0.000	0.000	0.000
1	2.8	0.30	0.00	.6	12:03	40	0	0.000	64.9	0	0.000	1	76.64	1.00	0.000	0.112	0.000
2	3.3	0.30	0.00	.6	12:04	40	0	0.099	29.6	-8	0.033	3	76.68	1.00	0.099	0.150	0.015
3	3.8	0.30	0.00	.6	12:05	40	0	0.147	28.8	-5	0.003	0	76.68	1.00	0.147	0.150	0.022
4	4.3	0.40	0.00	.6	12:07	40	1	0.182	28.3	-11	0.007	2	76.69	1.00	0.182	0.200	0.036
5	4.8	0.50	0.00	.6	12:08	40	0	0.221	28.3	-7	0.003	0	76.71	1.00	0.221	0.250	0.055
6	5.3	0.50	0.00	.6	12:09	40	0	0.264	28.8	-3	0.003	0	76.69	1.00	0.264	0.250	0.066
7	5.8	0.80	0.00	.6	12:10	40	0	0.264	27.9	8	0.007	0	76.71	1.00	0.264	0.400	0.106
8	6.3	1.00	0.00	.6	12:11	40	1	0.261	27.9	4	0.007	0	76.73	1.00	0.261	0.500	0.130
9	6.8	1.20	0.00	.6	12:12	40	0	0.241	27.9	-3	0.003	0	76.73	1.00	0.241	0.600	0.144
10	7.3	1.20	0.00	.6	12:13	40	0	0.250	27.9	5	0.003	0	76.73	1.00	0.250	0.600	0.150
11	7.8	1.25	0.00	.6	12:14	40	1	0.243	27.9	0	0.007	0	76.75	1.00	0.243	0.625	0.152

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information: <u>John Murrain, TCEQ Region 4</u>	
Date & Time: <u>17 June 2010</u>	County Name: <u>Tarrant</u>
Stream Name: <u>Walnut Creek</u>	
Segment No. or nearest downstream Segment No.: <u>DR38C</u>	
Description of Site: <u>Katherine Rose Park</u>	

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

dry no flow low normal high flooded

2. Check the following stream type that applies on the day of the survey: Based on USGS records

Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. 0.05 cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp

31 °C

Water Temp

26 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

L/R Forest

R Urban

 Rip rap

 Shrub dominated corridor

 Pasture

 Concrete

 Herbaceous marsh

 Row crops

Other (specify): L - residential

 Mowed/maintained corridor

 Denuded/Eroded bank

6. Ease of bank access to the water body: R Easy Moderately easy Moderately difficult L Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

Easy access at park overlook - steep banks & difficult access in most other places

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Walnut Creek (0838c) Site: Rose

Date: 17 June 2010 FDS Page 3 of 8

E. Stream Channel and Substantial Pool

Please check the following which best describes the river or stream: Wadeable Non-wadeable

See p 2 of 5 meters

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	25	4.5	1.05
Pool 2	10	4.5	0.88
Pool 3	>30	10	>1.5
Pool 4	→ impassable pool at end of wadeable reach		
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b) Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	0.36
60 meters	<i>overlook</i> 1.05
90 meters	0.76
120 meters	0.34
150 meters	0.73
180 meters	0.30
210 meters	> 2.0 2.0
240 meters	
270 meters	
300 meters	
Average	

begin this boat bridge →

width of

too deep at 210 m 10m wide

> 1.5 m d/s at w/s side of Walnut Cr. R.

Field Data Sheets – Basic RUAA Survey

Stream Name Walnut Creek (0838C) Site: Rose
 Date: 17 June 2010 Time: _____

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5
Width at narrowest point of the stream within 300 meter reach	4.5
Width at the widest point of the stream within 300 meter reach	10

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

COMMENTS: Reservoir pools at wadeable depth

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .

Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

File ----- 22222222.617.wad
 Start Date and Time ----- 2010/06/17 10:23:18
 Sensor Type ----- FlowTracker Handheld ADV
 SerialNumber ----- P1197
 FlowExporter Version ----- 1.30
 CPU Firmware Version ----- 2.5
 Averaging Time ----- 40 sec
 Units system ----- ENGLISH
 Staff height ----- 0.00 ft
 Gauge height ----- 0.00 ft
 Rated discharge ----- 0.000 cfs
 Starting edge of water ----- REW
 Number of stations ----- 26
 Total width ----- 12.2 ft
 Total area ----- 6.10 ft^2
 Total discharge ----- 0.052 cfs
 Mean velocity ----- 0.009 ft/s *mean = 0.05 ft/s*
 Mean SNR ----- 43.1 dB
 Mean std. error of vel. --- 0.003 ft/s
 Mean boundary conditions -- 0 (BEST)
 Boundary condition (Bnd) -- 0: BEST
 1: GOOD
 2: FAIR
 3: POOR

Walnut Creek RUNAA

Walnut Creek in Katherine
Rose Park
(at on road)

ST.	Loc. (ft)	Depth (ft)	Iced (ft)	MDep (*D)	Clock	Npts	Spike	Vel (ft/s)	SNR (dB)	Angle (deg)	Verr (ft/s)	Bnd	Temp (degF)	Corr Fact	MeanV (ft/s)	Area (ft^2)	Flow (cfs)
0	3.0	0.10	0.00	.0	00:00	0	0	0.000	0.0	0	0.000	0	0.00	1.00	0.001	0.012	0.000
1	3.3	0.20	0.00	.6	10:23	40	1	0.001	48.5	-84	0.003	0	79.18	1.00	0.001	0.075	0.000
2	3.8	0.30	0.00	.6	10:24	40	0	0.014	49.0	36	0.003	0	78.98	1.00	0.014	0.150	0.002
3	4.3	0.60	0.00	.6	10:25	40	0	-0.016	48.1	46	0.003	1	78.91	1.00	-0.016	0.300	-0.005
4	4.8	0.75	0.00	.6	10:27	40	0	-0.015	41.2	60	0.003	0	78.89	1.00	-0.015	0.375	-0.006
5	5.3	0.80	0.00	.6	10:28	40	0	0.010	35.2	-36	0.003	0	78.89	1.00	0.010	0.400	0.004
6	5.8	0.80	0.00	.6	10:29	40	0	-0.004	47.7	69	0.003	0	78.91	1.00	-0.004	0.400	-0.002
7	6.3	0.80	0.00	.6	10:31	40	0	-0.015	43.4	-11	0.003	0	78.91	1.00	-0.015	0.400	-0.006
8	6.8	0.75	0.00	.6	10:32	40	0	0.007	33.1	-50	0.000	0	78.93	1.00	0.007	0.375	0.002
9	7.3	0.70	0.00	.6	10:33	40	0	0.039	30.0	1	0.003	0	78.98	1.00	0.039	0.350	0.014
10	7.8	0.70	0.00	.6	10:33	40	0	0.026	37.8	40	0.003	0	79.03	1.00	0.026	0.350	0.009

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information: <u>John Murrett, TCEQ Region 4</u>	
Date & Time: <u>17 June 2010</u>	County Name: <u>Tarrant</u>
Stream Name: <u>Walnut Creek</u>	
Segment No. or nearest downstream Segment No.: <u>DR3RC</u>	
Description of Site: <u>Main Street in Town Park</u>	

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

- dry no flow low normal high flooded

2. Check the following stream type that applies on the day of the survey:

Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second. *Based on USGS records*

Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. 0.05 cfs c/s at Rose site

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp

31 °C

Water Temp

26 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

L/R Forest

 Shrub dominated corridor

 Herbaceous marsh

 Mowed/maintained corridor

R Urban

R Pasture

 Row crops

 Denuded/Eroded bank

 Rip rap

 Concrete

Other (specify): L - residential

6. Ease of bank access to the water body: Easy Moderately easy Moderately difficult Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

Accessible under Main St - steep banks otherwise
Trucks/graffis under Main St bridge

8. Dominant Primary Substrate

- Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Walnut Creek (0838C) Site: Main

Date: 17 June 2010 FDS Page 3 of 8

E. Stream Channel and Substantial Pool

Please check the following which best describes the river or stream: Wadeable Non-wadeable
n90m *outside 90m*

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	22	5m	0.9
Pool 2	11	5m	0.8
Pool 3	>10	5m	2.0
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b) Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	0.8
60 meters	>2.0
90 meters	>2.0
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

*impassable pools
 ~90m e/s &
 ~30m w/s of
 Main Street*

Field Data Sheets – Basic RUAA Survey

Stream Name Walnut Creek (08380) Site: Marsh
 Date: 17 June 2010 Time: _____

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6.5
Width at narrowest point of the stream within 300 meter reach	5.5
Width at the widest point of the stream within 300 meter reach	8.0

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

COMMENTS: Deep pools

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
 Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information: <u>John Muhammad, TCEQ Region 4</u>	
Date & Time: <u>16 June 2010</u>	County Name: <u>Tarrant</u>
Stream Name: <u>Walnut Creek</u>	
Segment No. or nearest downstream Segment No.: <u>DR3RC</u>	
Description of Site: <u>North Street</u>	

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

dry no flow low normal high flooded

2. Check the following stream type that applies on the day of the survey:

Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

hem

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. 0-0 cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp 31 °C Water Temp 26 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

<input checked="" type="checkbox"/> Forest	<input type="checkbox"/> Urban	<input type="checkbox"/> Rip rap
<input type="checkbox"/> Shrub dominated corridor	<input checked="" type="checkbox"/> Pasture	<input type="checkbox"/> Concrete
<input type="checkbox"/> Herbaceous marsh	<input type="checkbox"/> Row crops	Other (specify): <u>at North Street</u>
<input type="checkbox"/> Mowed/maintained corridor	<input checked="" type="checkbox"/> Denuded/Eroded bank	

6. Ease of bank access to the water body: Easy Moderately easy Moderately difficult Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

Steep banks in most places; accessible point off North Street
RR bridge is on private property (RR)

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Walnut Creek (ORBC) Site: North
 Date: 16 June 2010 FDS Page 3 of 8

E. Stream Channel and Substantial Pool

Please check the following which best describes the river or stream: Wadeable Non-wadeable

n 270m

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	45	6	2.2
Pool 2	100	6	1.1
Pool 3	100	6	0.76
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Has odor from sediment

Pool-like over most of length

b) Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	2.2
60 meters	0.26
90 meters	0.52
120 meters	1.10
150 meters	0.75
180 meters	1.04
210 meters	1.19
240 meters	0.71
270 meters	2.2
300 meters	
Average	1.06

garbage odor under North St

tree under RR bridge

impossible pool logjam

Field Data Sheets – Basic RUAA Survey

Stream Name Wabun Creek (0838C) Site: AA² North
 Date: 16 June 2010 Time: _____

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	9.5
Width at narrowest point of the stream within 300 meter reach	4
Width at the widest point of the stream within 300 meter reach	6.3

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

COMMENTS: Deep pools

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .

Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

# Measurements	Width (meters)
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