

Biological Data Review

Reviewing Biological Data Submittals

Project Planning

Planning ahead

- All parameter codes in QAPP's A7 table
- Minimum data requirements
- Additional data

When submitting Biological Data...

- Submit separately from your regular routine data submittals

Types of Files Required for Submitting Biological Data

- Validator Report
- ASCII Pipe Delimited EVENT and RESULTS Text Files
- Data Summary
- BLOB Files
- README file
 - Text File, Word Document, or Excel Spreadsheet

Validator Report

-Make note of how many events

-Review parameter codes

-Review what stations are included in dataset

SWQMIS

SWQMIS Data Loading Validator Report

Program Area/Contractor: CRP
 Date Received: 2012-12-09 Date Loaded: 2012-12-09

Submitting Entity (Source Code 1)	Collecting Entity (Source Code 2)	Biological Entity (Source Code 3)
SULPHUR RIVER BASIN AUTHORITY(SU)	TEXARKANA COLLEGE(TC)	Biological Entity (Source Code 3)

Tag Range: W002585 to W002604 Date Range: 2012-05-14 to 2012-08-10

Event File: Event File.txt Number of Events: 20
 Results File: Results File.txt Number of Results: 553

Frequency of Parameter Occurrence:

Parameter Description	Parameter Code	GTLT	Minimum	Mean	Maximum	Number of Occurrences
FLOW STREAM, INSTANTANEOUS (CUBIC FEET PER SEC)	00061		0.2	1.10000	2	4
STREAMBED SLOPE (M/KM)	72051		1	2.07500	3.2	4
AVERAGE PERCENTAGE INSTREAM COVER	84159		46	56.87500	65	4
STREAM ORDER	84161		2	2.66667	3	12
STREAM TYPE: 1=PERENNIAL 2=INTERMITTENT S/PERENNIAL POOLS 3=INTERMITTENT 4=UNKNOWN	89821		1	1.00000	1	4
RIPARIAN VEGETATION %: LEFT BANK - TREES	89822		38.5	41.90000	46.2	4
RIPARIAN VEGETATION %: RIGHT BANK - TREES	89823		41.7	44.90000	46.2	4
RIPARIAN VEGETATION %: LEFT BANK SHRUBS	89824		0	3.70000	7.7	4
RIPARIAN VEGETATION %: RIGHT BANK - SHRUBS	89825		0	1.92500	7.7	4
RIPARIAN VEGETATION %: LEFT BANK - GRASSES OR FORBS	89826		30.8	35.52500	42.3	4
RIPARIAN VEGETATION %: RIGHT BANK - GRASSES OR FORBS	89827		25	34.95000	45.5	4
RIPARIAN VEGETATION %: LEFT BANK - CULTIVATED FIELDS	89828		0	0.00000	0	4
RIPARIAN VEGETATION %: RIGHT BANK - CULTIVATED FIELDS	89829		0	0.00000	0	4
RIPARIAN VEGETATION %: LEFT BANK - OTHER	89830		7.7	17.95000	26.7	4
NUMBER OF LATERAL TRANSECTS MADE	89832		5	5.75000	6	4
FLOW MTH 1=GAGE 2=ELEC 3=MECH 4=WEIR/FLU 5=DOPPLER	89835		2	2.00000	2	4
TOTAL NUMBER OF STREAM BENDS	89839		3	3.75000	4	4
NUMBER OF WELL DEFINED STREAM BENDS	89840		0	1.50000	2	4

Validator Report

Stations included in dataset

* 2 stations with 10 sample sets for each station

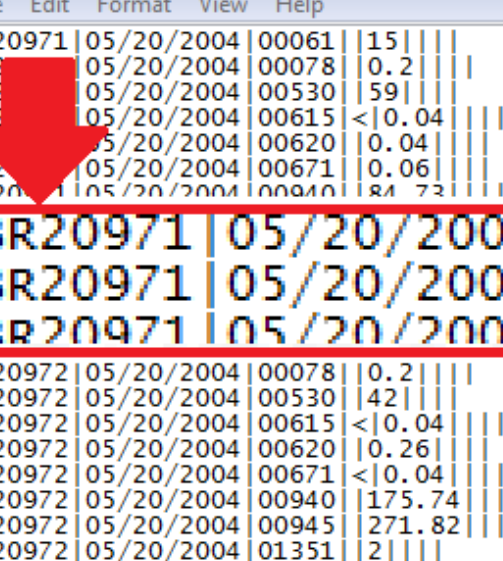
MICROPTERUS SALMOIDES (#/SAMPLE)		99090		1	1.25000	2	4
LEPOMIS CYANELLUS (#/SAMPLE)		99094					
Stations In Dataset:							
Basin ID							
Stations In Dataset:							
Basin ID	Station ID Code	Station Description			Number of Sampling Events		
3-SULPHUR RIVER	20765	ANDERSON CREEK AT SH 98			10		
3-SULPHUR RIVER	18355	WAGNER CREEK AT N BISHOP RD			10		

Pipe Delimited Event File and Results File

Two ASCII pipe-delimited text files

Files are related to each other through the Tag ID

One to many
relationship
1 event, many
results



The screenshot shows a spreadsheet application window titled "BRA-FY04-11-Task4-Bio-Results-8...". The spreadsheet contains a table with the following data:

File	Edit	Format	View	Help
BR20971	05/20/2004	00061	15	
BR20971	05/20/2004	00078	0.2	
BR20971	05/20/2004	00530	59	
BR20971	05/20/2004	00615	<0.04	1
BR20971	05/20/2004	00620	0.04	
BR20971	05/20/2004	00671	0.06	
BR20971	05/20/2004	00940	84	73
BR20971	05/20/2004	00078	0.2	
BR20971	05/20/2004	00530	42	
BR20971	05/20/2004	00615	<0.04	1
BR20971	05/20/2004	00620	0.26	
BR20971	05/20/2004	00671	<0.04	1
BR20971	05/20/2004	00940	175.74	
BR20971	05/20/2004	00945	271.82	
BR20971	05/20/2004	01351	2	
BR20971	05/20/2004	70300	687	

BR20971 | 18750 | 05/20/2004 | 09:45 | 0.3 | | | | BR | BR | BS

BR20972 | 18751 | 05/20/2004 | 10:05 | 0.3 | | | | BR | BR | BS

BR21547 | 17374 | 07/07/2004 | 09:45 | 0.3 | | | | BR | BR | BS

BR21548 | 1573 | 07/13/2004 | 09:15 | 0.3 | | | | BR | BR | BS

BR21549 | 18751 | 08/10/2004 | 09:45 | 0.3 | | | | BR | BR | BS

BR22501 | 11573 | 04/20/2004 | 12:00 | 0.3 | | | | BR | BR | BS

BR24142 | 13230 | 03/31/2005 | 10:13 | 0.3 | | | | BR | BR | BS

BR24430 | 18750 | 06/21/2005 | 08:50 | 0.3 | | | | BR | BR | BS

BR24432 | 11696 | 06/29/2005 | 12:15 | 0.3 | | | | BR | BR | BS

BR24901 | 18751 | 08/16/2005 | 10:30 | 0.3 | | | | BR | BR | BS

BR24985 | 11696 | 08/30/2005 | 09:00 | 0.3 | | | | BR | BR | BS

BR25241 | 15250 | 09/29/2005 | 09:40 | 0.3 | | | | BR | BR | BS

BR26715 | 18333 | 04/05/2006 | 10:35 | 0.3 | | | | BR | BR | BS

BR26849 | 18754 | 04/19/2006 | 09:30 | 0.3 | | | | BR | BR | BS

BR26850 | 18850 | 04/19/2006 | 11:55 | 0.3 | | | | BR | BR | BS

BR28205 | 11971 | 10/09/2006 | 12:05 | 0.3 | | | | BR | BR | BS

Event and Results Files

Combine Event and Results Files

Sort – Arrange - Color code

Does it look reasonable?

Station 18355

2 Site Visits – Non-Critical and Critical

RFA Tag	Station ID	Start Date	End Time	Parameter Code	Value	
W002599	18355	5/14/2012	11:15	89888	1011	Nekton Summary and Metadata
W002599	18355	5/14/2012	11:15	98123	32	
W002600	18355	5/14/2012	10:00	89888	1012	Nekton Electrofishing
W002600	18355	5/14/2012	10:00	99095	1	
W002601	18355	5/14/2012	11:00	89888	1013	Nekton Seining
W002601	18355	5/14/2012	11:00	99090	1	
W002590	18355	5/15/2012	11:30	89888	2011	Benthic Macroinvertebrates Rapid Bioassessment Qualitative
W002590	18355	5/15/2012	11:30	92874	3	
W002585	18355	5/14/2012	10:30	89888	3011	TCEQ Habitat Protocol
W002585	18355	5/14/2012	10:30	89962	3	

2 visits x 5 89888s = **10** sample sets for 18355

Validator Report

Review of the text files confirms 10 sample sets each from 2 stations

MICROPTERUS SALMOIDES (#/SAMPLE)		99090	
LEPOMIS PUNCTATUS (#/SAMPLE)			
Stations In Dataset:			
Basin ID			
LEPOMIS PUNCTATUS (#/SAMPLE)		99101	
Stations In Dataset:			
Basin ID	Station ID Code	Station Description	Number of Sampling Events
3-SULPHUR RIVER	20765	ANDERSON CREEK AT SH 98	10
3-SULPHUR RIVER	18355	WAGNER CREEK AT N BISHOP RD	10

Validator Report

Which brings us back to the 20 sample sets at the top of the Validator Report



SWQMIS Data Loading Validator Report

Program Area/Contractor: CRP

Date Received: 2012-12-09

Date Loaded: 2012-12-09

Submitting Entity (Source Code 1)	Collecting Entity (Source Code 2)	Biased Season period)(BS)
SULPHUR RIVER BASIN AUTHORITY(SU)	TEXARKANA COLLEGE(TC)	

Tag Range: W002585 to W002604

Date Range: 2012-05

Event File: Event File.txt

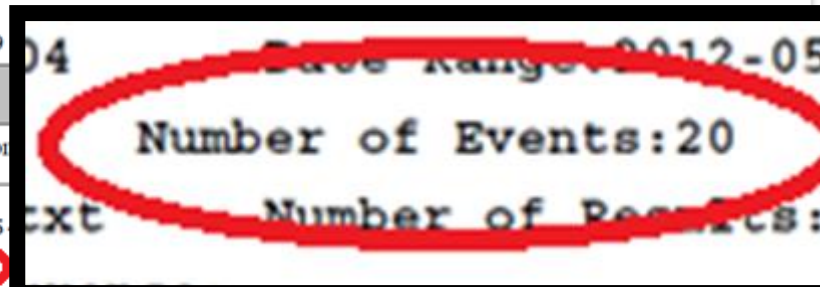
Number of Events: 20

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NUMBER OF WELL DEFINED STREAM BENDS	89840		0	1.50000	2	4



Another way to think about it...

2 stations in the data set

x

2 site visits/events for each station

=

4 site visits/events overall

5 sample sets/types of biology per site visit

x

4 site visits

=

20 sample sets in total

The CRP Data Review Process also includes...

- A review of the parameters relating to the event
- Were the minimum efforts met for:
 - Seine hauls
 - Kicknet sampling
 - Electrofishing

Data Summary

Any data
discrepancies should
be documented here

Data Set Information

Data Source: Sulphur River Basin Authority Event #2 FY 2016

Date Submitted: 02/29/2016

Tag ID Range: W003394-W003485

Date Range: 12/20/2015-01/05/2016

- ☐ I certify that all data in this data set meets the requirements specified in Texas Water Code Chapter 5, Subchapter R (TWC §5.801 et seq) and Title 30 Texas Administrative Code Chapter 25, Subchapters A & B.
- ☐ This data has been reviewed using the criteria in the Data Review Checklist.

Planning Agency Data Manager: Patricia Harman **Date:** 02/29/2015

Comments:

Please explain in the space below any data discrepancies discovered during data review including:

- Inconsistencies with LOQs
- Failures in sampling methods and/or laboratory procedures that resulted in data that could not be reported to the TCEQ (indicate items for which the Corrective Action Process has been initiated and Include in completed Corrective Action Plans with the applicable Progress Report).
-

Parameter	Tag ID's Affected	Type of Problem	Reason for Problem	Percent Loss	Corrective Action (Y/N/SOP)
00078	W003399 W003409 W003410 W003413	">" Used six times because stream to shallow for Secchi measurement	NA	NA	SOP



BLOBs

- Reviewing the components BLOB files
 - Maximum size for each attachment is 15 MB
 - Maximum number of attachments per Event or Sample Set is 5

BLOBs

- Naming files

- StationID_StreamName_FileType_Date.pdf

- 12380_MedinaRiver_Transects_3_18_14.pdf

- This file contains Habitat Transect data from the Medina River at Station 12380 from 3/18/2014

Types of BLOB files

- ALM Checklist
- Site Map(s)
- Voucher photos
- Habitat transect photos
- Habitat transect worksheet
- Other
 - Summary of event
 - Habitat Quality Index
 - Etc.

README file

README file lists each BLOB submitted

Each BLOB file submitted should include:

- 1) Tag No.
- 2) BLOB file name
- 3) Description of the BLOB
- 4) What level the BLOB should be attached (Event or Sample Set)

SARA 2014 Biological Data - 89888 parameter						BLOB Instructions			
Sample Event	Sample Set ID	RFA Tag No.	Parameter Code	Parameter Description	Value	Value Description	BLOB Level	File Name	File Description
	14402032	SA15453	89888	BIOLOGICAL DATA	3011	TCEQ Habitat Protocol	SET	12830_MedinaRiver_Transects_3_18_14.pdf	12830 Medina River at Old English Crossing 3/18/14 Habitat transect data
	14402032	SA15453	89888	BIOLOGICAL DATA	3011	TCEQ Habitat Protocol	SET	12830_MedinaRiver_HabitatPhotos_3_18_14.pdf	12830 Medina River at Old English Crossing 3/18/14 Habitat transect
	14401880	SA15452	89888	BIOLOGICAL DATA	1011	Nekton Summary and Metadata	SET	12830_MedinaRiver_NektonPhotos_3_18_14.pdf	12830 Medina River at Old English Crossing 3/18/14 Seining and shocking voucher photos
1403797							EVENT	12830_MedinaRiver_SiteMap_3_18_14.pdf	12830 Medina River at Old English Crossing 3/18/14 Site Map
1403797							EVENT	12830_MedinaRiver_ALM_3_18_14.pdf	12830 Medina River at Old English Crossing 3/18/14 Aquatic life use information data
	14415538	SA15487	89888	BIOLOGICAL DATA	3011	TCEQ Habitat Protocol	SET	14929_SaladoCreek_Transects_4_3_14.pdf	14929 Salado Creek at Comanche Park 4/3/14 Habitat transect data
	14415538	SA15487	89888	BIOLOGICAL DATA	3011	TCEQ Habitat Protocol	SET	14929_SaladoCreek_HabitatPhotos_4_3_14.pdf	14929 Salado Creek at Comanche Park 4/3/14 Habitat transect photos
	14415536	SA15485	89888	BIOLOGICAL DATA	1011	Nekton Summary and Metadata	SET	14929_SaladoCreek_NektonPhotos_4_3_14.pdf	14929 Salado Creek at Comanche Park 4/3/14 Seining and shocking voucher photos
1406457							EVENT	14929_SaladoCreek_SiteMap_4_3_14.pdf	14929 Salado Creek at Comanche Park 4/3/14 Site Map
1406457							EVENT	14929_SaladoCreek_ALM_4_3_14.pdf	14929 Salado Creek at Comanche Park 4/3/14 Aquatic life use information data
	14401919	SA15503	89888	BIOLOGICAL DATA	3011	TCEQ Habitat Protocol	SET	12861_SaladoCreek_Transects_4_15_14.pdf	12861 Salado Creek at Southton Rd 4/15/14 Habitat transect data
	14401919	SA15503	89888	BIOLOGICAL DATA	3011	TCEQ Habitat Protocol	SET	12861_SaladoCreek_HabitatPhotos_4_15_14.pdf	12861 Salado Creek at Southton Rd 4/15/14 Habitat transect photos
	14401918	SA15502	89888	BIOLOGICAL DATA	1011	Nekton Summary and Metadata	SET	12861_SaladoCreek_NektonPhotos_4_15_14.pdf	12861 Salado Creek at Southton Rd 4/15/14 Seining and shocking voucher photos
1403801							EVENT	12861_SaladoCreek_ALM_4_15_14.pdf	12861 Salado Creek at Southton Rd 4/15/14 Aquatic life use information data
1403801							EVENT	12861_SaladoCreek_SiteMap_4_15_14.pdf	12861 Salado Creek at Southton Rd
	14401937	SA15524	89888	BIOLOGICAL DATA	3011	TCEQ Habitat Protocol	SET	12870_SaladoCreek_Transects_4_22_14.pdf	12870 Salado Creek at Gembler Rd 4/22/14 Habitat transect data
	14401937	SA15524	89888	BIOLOGICAL DATA	3011	TCEQ Habitat Protocol	SET	12870_SaladoCreek_HabitatPhotos_4_22_14.pdf	12870 Salado Creek at Gembler Rd 4/22/14 Habitat transect photos
	14401936	SA15523	89888	BIOLOGICAL DATA	1011	Nekton Summary and Metadata	SET	12870_SaladoCreek_NektonPhotos_4_22_14.pdf	12870 Salado Creek at Gembler Rd 4/22/14 Seining and shocking voucher photos
1403805							EVENT	12870_SaladoCreek_SiteMap_4_22_14.pdf	12870 Salado Creek at Gembler Rd 4/22/14 Site Map
1403805							EVENT	12870_SaladoCreek_ALM_4_22_14.pdf	12870 Salado Creek at Gembler Rd 4/22/14 Aquatic life use information data

SARA 2014 Biological Data - 89888 parameter					BLOB Instructions				
Sample Event	Sample Set ID	RFA Tag No.	Parameter Code	Parameter Description	Value	Value Description	BLOB Level	File Name	File Description
	14402032	SA15453	89888	BIOLOGICAL DATA	3011	TCEQ Habitat Protocol	SET	12830_MedinaRiver_Transects_3_18_14.pdf	12830 Medina River at Old English Crossing 3/18/14 Habitat transect data
	14402032	SA15453	89888	BIOLOGICAL DATA	3011	TCEQ Habitat Protocol	SET	12830_MedinaRiver_HabitatPhotos_3_18_14.pdf	12830 Medina River at Old English Crossing 3/18/14 Habitat transect
	14401880	SA15452	89888	BIOLOGICAL DATA	1011	Nekton Summary and Metadata	SET	12830_MedinaRiver_NektonPhotos_3_18_14.pdf	12830 Medina River at Old English Crossing 3/18/14 Seining and shocking voucher photos
1403797							EVENT	12830_MedinaRiver_SiteMap_3_18_14.pdf	12830 Medina River at Old English Crossing 3/18/14 Site Map
1403797							EVENT	12830_MedinaRiver_ALM_3_18_14.pdf	12830 Medina River at Old English Crossing 3/18/14 Aquatic life use information data
	14415538	SA15487	89888	BIOLOGICAL DATA	3011	TCEQ Habitat Protocol	SET	14929_SaladoCreek_Transects_4_3_14.pdf	14929 Salado Creek at Comanche Park 4/3/14 Habitat transect data
	14415538	SA15487	89888	BIOLOGICAL DATA	3011	TCEQ Habitat Protocol	SET	14929_SaladoCreek_HabitatPhotos_4_3_14.pdf	14929 Salado Creek at Comanche Park 4/3/14 Habitat transect photos
	14415536	SA15485	89888	BIOLOGICAL DATA	1011	Nekton Summary and Metadata	SET	14929_SaladoCreek_NektonPhotos_4_3_14.pdf	14929 Salado Creek at Comanche Park 4/3/14 Seining and shocking voucher photos
1406457							EVENT	14929_SaladoCreek_SiteMap_4_3_14.pdf	14929 Salado Creek at Comanche Park 4/3/14 Site Map
1406457							EVENT	14929_SaladoCreek_ALM_4_3_14.pdf	14929 Salado Creek at Comanche Park 4/3/14 Aquatic life use information data

ALM Checklist

The ALM Checklist and Site Map can be combined into a single BLOB

Nekton sampling event 1:

Minimum 15-minute (900 seconds) electrofishing:

☒ Yes No

Minimum 6 seine hauls (or equivalent effort to sample 60 meters):

☒ Yes No

Fish sampling conducted in all available habitat types:

☒ Yes No

If no, please describe why:

Benthic macroinvertebrate sampling event 1:

Indicate method(s) used:

Rapid bioassessment (5-minute kicknet or snags): X

Quantitative (Surber, snags, or dredge): —

Habitat assessment event 1:

TCEQ habitat protocols:

☒ Yes No

Stream flow measurement event 1

Instantaneous flow measurement:

☒ Yes No

USGS gauge reading:

Yes ☒ No

Nekton sampling event 2:

Minimum 15-minute (900 seconds) electrofishing:

☒ Yes No

Minimum 6 seine hauls (or equivalent effort to sample 60 meters):

☒ Yes No

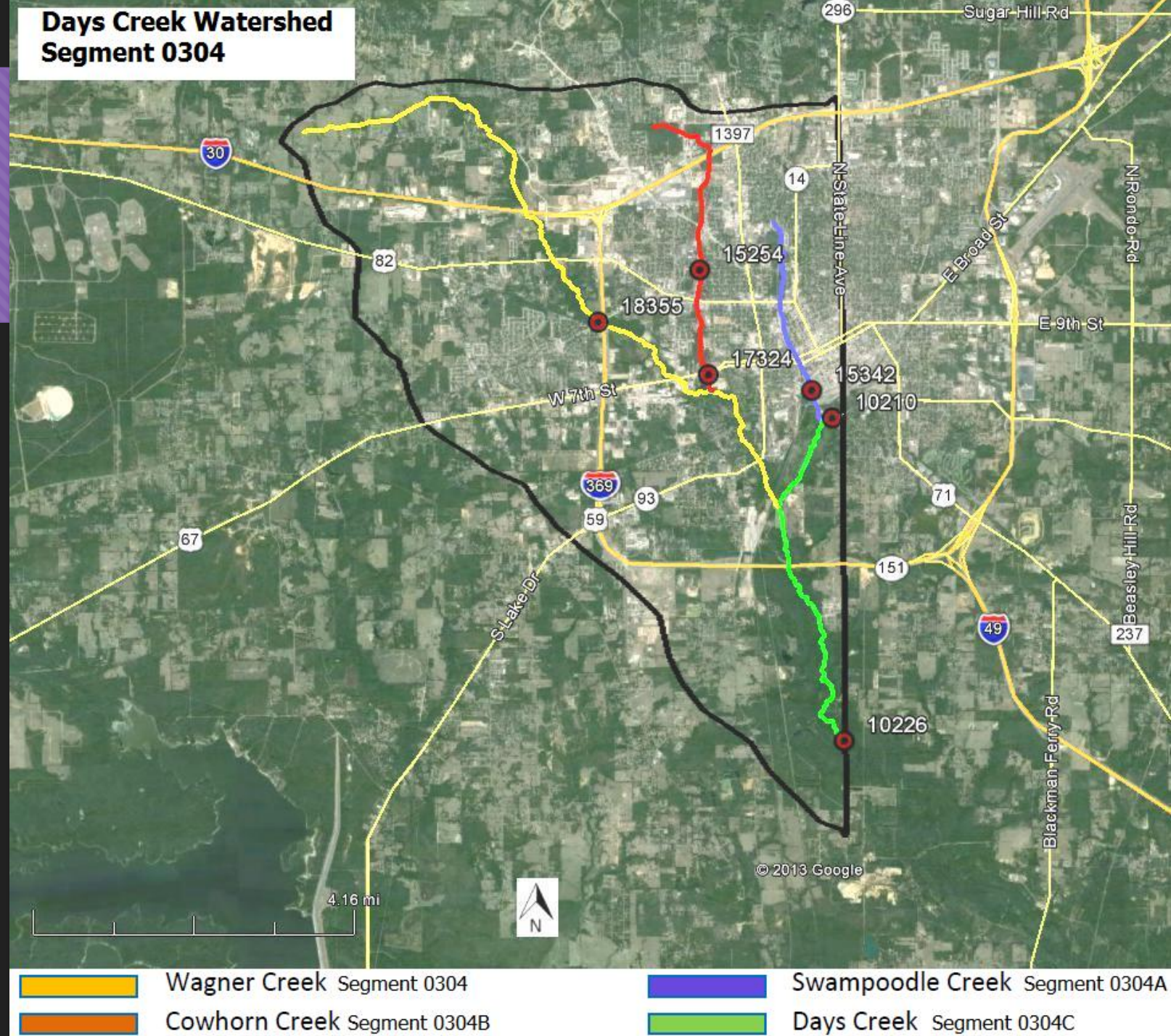
Fish sampling conducted in all available habitat types:

☒ Yes No

If no, please describe why:

Site Map

Area where collection occurred



Voucher Photos

All voucher photos
combined into one PDF

Each photo labeled:

species name

sample date

station information

Colorado River Above Lake Buchanan
TCEQ ID 20641

fish voucher photos
05/15/2013

Pimephales vigilax



Lepomis cyanellus



Habitat Transect Photos

All transect photos combined into one PDF

Each photo labeled:
four views
transect number
sample date
station information

San Saba River at San Saba CR 340
TCEQ ID 20662

Habitat Transect Photos
03/27/2013

Left Bank View



Upstream View



Right Bank View



Transect 1

Downstream View



Habitat Worksheet

Complete worksheet
 Use SWQM Worksheet or
 equivalent
 Label:
 upstream
 downstream
 transects

Stream Physical Characteristics Worksheet								
Observers:		Djurecka, Dcowan, Jwoods, CPetri, FMe			Date:	3/27/2013	Time:	11:00
Weather Conditions:		Partly Cloudy, 45 deg F, N wind at 15 mph						
Stream:		Site ID:			20662	Segment:		
Location of site:		San Saba River at San Saba CR 340				Reach:		500 m
Obs Stream Uses:		Recreation, Agriculture						
Stream Type:		perennial			intermittent with perennial pools			
Stream Bends:		4	Well Defined:	2	Mod Defined:	2	Poor Defined:	0
Aesthetics		wilderness	natural			common		offensive
Channel Obstr/Mods:		0				Number of Riffles:		1
Channel Flow Status:		high	moderate			low		no flow
Riparian Vegetation	Left	Right	Stream Flow:		31 cfs	Max Pool Depth:		3.5 m
% Trees	15	8				Max Pool Width:		57 m
% Shrubs	10	3	Transect placement relative to a fixed point:					
% Grasses&Forbs	27	36						
% Cult. Fields	0	0						
% Other	48	53						
Notes:								
Site Map:								

Other

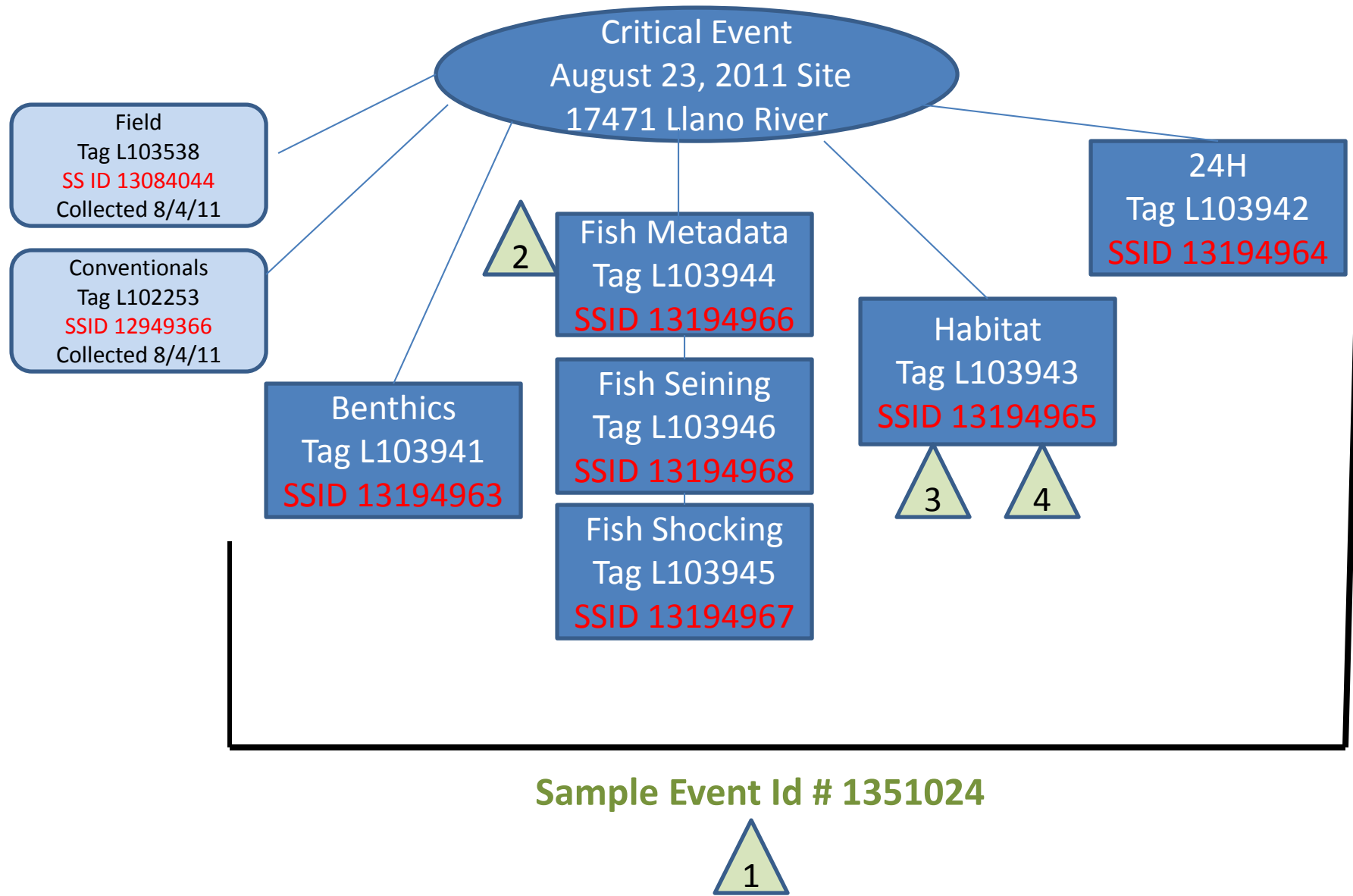
‘Other’ files can be combined into one PDF

(Segment 1209)

Biological assessments were conducted on Carters Creek at SH 30 on August 30, 2004, and October 11, 2004. The creek has a designated intermediate aquatic life use, and 24-hour dissolved oxygen criteria of 4.0 mg/L (average) and 3.0 mg/L (minimum) (Texas Surface Water Quality Standards, Appendix D). The aquatic life use was attained based on fish and physical habitat data, but not attained during either event based on benthic macroinvertebrates. Water quality factors may contribute to reduced benthic macroinvertebrate community integrity, one indication being the fact that the dissolved oxygen minimum criterion was not achieved during the October 11, 2004 event..

Ecoregion 33/35 IBI		
Date	8/30/2004	
Site	Carters Creek at SH 30	
TCEQ ID	11784	
Metric	Value	Score
Total number fish species		
Number native cyprinid species		
Number benthic invertivore species		
Number sunfish species		
Number intolerant species		
Percent individuals as tolerant*		
Percent individuals as omnivores		
Percent individuals as invertivores		
Percent individuals as piscivores		
Number individuals in sample		
Individuals per seine haul		
Individuals per minute electrofishing		
Percent individuals as non natives		
Percent individuals with disease or anomalies		
Regional Score and Aquatic Life Use		
*not including <i>Gambusia affinis</i>		
Regional Scoring Criteria		
Exceptional		> 51
High		42 - 51
Intermediate		34 - 41
Limited		< 34
Statewide IBI		
Metric	Value	Score
Stream Order	4	0
Total number fish species	7	3
Total number darter species	0	1
Total number sunfish species	2	5
Total number sucker species	0	1
Total number intolerant species	0	1
Percent individuals as tolerant	18.0	3
Percent individuals as omnivores	0.0	5
Percent individuals as invertivores	100.0	5
Percent individuals as piscivores	0.0	1
Number individuals in sample	608	5
Percent individuals as hybrids	0.0	5
Percent individuals with disease or anomalies	0.0	5
Statewide Score and Aquatic Life Use	Intermediate	40
Statewide Scoring Criteria		
Exceptional		58 - 60
High		48 - 52
Intermediate		40 - 44
Limited		< 34

Nekton Metadata		
Date	8/30/2004	
Site	Carters Creek at HWY 30	
TCEQ ID	11784	
Description	STORET	Value
Seine Length (m)	89941	4.57
Electrofishing method (1=boat, 2=backpack)	89943	2
Minimum seine mesh diagonal (cm)	89930	0.476
Maximum seine mesh diagonal (cm)	89931	0.476
Ecoregion	89961	33
Stream Order	84161	4
Area upstream of sampling location (km ²)	89859	57.5
Electrofishing effort	89944	720
Seining effort (number of hauls)	89947	7
Combined length of seine hauls (m)	89948	70
Area seined (m ²)	89976	319.9
Number of individuals	98023	608
Total fish species	98003	7
Total darter species	98004	0
Total sunfish species (except basses)	98008	2
Total sucker species	98009	0
Total intolerant species	98010	0
% Tolerant individuals	98016	18.00
% Omnivore individuals	98017	0.00
% Insectivore individuals	98021	100.00
% Piscivore individuals	98022	0.00
% Hybrid Individuals	98024	0.00
% Individuals with disease or anomaly	98030	0.00



Clean Rivers Program

Biological Data Review Process

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