



Texas Stream Team

Caring for Our Waters

Core Volunteer Water Quality Monitor Training Packet

This training packet is an official record of Texas Stream Team core volunteer water quality monitor training. If the training is scheduled for more than one day, it is the responsibility of the volunteer to keep this packet and bring it to each training session. Upon completion of phase III, the volunteer should sign the front page of the training packet and leave it with the trainer for submission to Texas Stream Team or partner agency. **Please print legibly!**

The trainee must successfully complete a three-phase training program:

- ★ **Phase I** – Introduction to program, watersheds, nonpoint source pollution, and monitoring procedures
- ★ **Phase II** – Introduction to field observations, water clarity and total depth monitoring procedures, sample collection methodology, and conducting monitoring with the assistance of trainer(s)
- ★ **Phase III** – Conducting monitoring without the assistance of trainer(s).

Name: _____

Street Address: _____

City: _____ **State:** _____ **Zip Code:** _____

Phone -- Primary: _____ **Alternate:** _____

E-mail Address: _____

Affiliation
(if applicable): _____

Texas Stream Team Group
(if applicable): _____

Texas Stream Team Partner
(if applicable): _____

Trainer(s): _____

Date(s):
Phases I-III: _____ **Phase I:** _____ **Phase II:** _____ **Phase III:** _____

If you are a teacher, do you want a 9-hr TEEAC credit sticker for completing all three phases of training?

YES NO

Texas Stream Team, The Meadows Center for Water and the Environment,
Texas State University – San Marcos
Riverside Apartments – Unit C4, 601 University Drive, San Marcos, Texas 78666
Phone: 877-506-1401 E-mail: txstreamteam@txstate.edu
Online: <http://txstreamteam.rivers.txstate.edu/>
<http://www.facebook.com/TexasStreamTeam>

The Volunteer Commitment Statement, Liability Release, and Equipment Loan Agreement should be read and signed following the completion of phase III of the core water quality monitor training. These must be read and signed by all volunteer in order to participate in the Texas Stream Team program.

Volunteer Commitment Statement

As a volunteer monitor working with Texas Stream Team, I commit to the collection of accurate, objective environmental information at one or more approved site(s) at least once a month for at least one year. The environmental information that I collect will be provided to Texas Stream Team as soon as possible after I collect it. I commit to following the procedures demonstrating during the Texas Stream Team volunteer water quality monitor training. I agree that I will conduct my environmental monitoring in a safe way that will protect me and those people working with or near me. I also agree that I will obey all laws and not trespass on private property unless written permission is granted by the owner, and this document is provided to TST before monitoring.

Liability Release

I understand and agree that as a volunteer participating in this program that I am not acting on behalf of Texas State University - San Marcos, the Texas State University System, the Texas Commission on Environmental Quality (TCEQ) or any Texas Stream Team partner in any official capacity. I understand and agree that as a volunteer participating in this program that I am not an employee, agent, servant, or representative of Texas State University - San Marcos, Texas State University System, TCEQ or any partner for any purpose.

I understand and am aware of the risks and hazards connected with the various activities to be performed by volunteers participating in this program. I understand and am aware that the risks and hazards connected with my participation in this program can result in personal injuries, including death, to myself or others as well as damage to real or personal property belonging to myself or others.

I elect to participate voluntarily and engage in the various activities to be performed by volunteers participating in this program knowing that my participation in this program may be hazardous to my person and my property. I voluntarily assume full responsibility for my property loss and personal injury, including death that I may sustain as a result of my participation as a volunteer for this program, whether or not such property loss, personal injury, death or property damage is caused by the negligence of Texas State University - San Marcos, Texas State University, TCEQ and any partner.

I also agree to indemnify and hold harmless Texas State University - San Marcos, Texas State University, TCEQ and any Partner from any loss, liability, damage, or costs, including court costs and attorney's fees, that they may incur due to my participation as a volunteer in this Program whether caused by the negligence of Texas State University - San Marcos, Texas State University, TCEQ and any partner or otherwise. For example, I specifically agree to indemnify and hold harmless Texas State University - San Marcos, Texas State University, TCEQ and any partner from losses they may incur as a result of my injuring another person or damaging another person's property while participating as a volunteer in this program.

Equipment Loan Agreement

I, for myself, by heirs, and executors do hereby assume responsibility for the safety and care of all equipment, materials, and supplies loaned or entrusted to me, and agree to transport, store and use such equipment, materials and/or supplies in a prudent and reasonable manner; to take such action as necessary to reduce the possibility of damage to, of or from such equipment. I agree upon verbal or written demand of Texas State University or their authorized delegate to return said equipment within five days of such demand to Texas Stream Team.

Signature

I, _____, have completed the Texas Stream Team core water quality monitor training, have read the Volunteer Commitment Statement, Liability Release, and Equipment Loan Agreement, and agree to the terms therein.

(Volunteer's Signature)

PHASE I

Prepared in cooperation with the Texas Commission on Environmental Quality and the United States Environmental Protection Agency.

THE MEADOWS CENTER FOR WATER AND THE ENVIRONMENT

Texas Stream Team

ENVIRONMENTAL MONITORING FORM

PLEASE PRINT (Black Ink or #2 Pencil)

Send to:
Texas Stream Team
 Texas State University
 Riverside Apts - Unit C4
 601 University Drive
 San Marcos, TX 78666-4616
 Toll Free: (877) 506-1401
 Email: txstreamteam@txstate.edu

Group ID #

Monitor's Name _____

Station ID #

Site Description _____

Sample Date
 M M D D Y Y

Sample Time (military)
 H H M M

Sample Depth (meters)
 (not total depth)

Meter Calibration: (Within 24 hours of sampling.) **Store and calibrate standard at room temperature.**

Calibration	Date	Time	Standard Value	Standard Temp (°C)	Initial Meter Reading	Meter Adjusted To	Post Test
Conductivity							
pH (7.0)							

Core Tests and Measurements:

- CONDUCTIVITY (µS/cm)
 TDS Tester 3 (Low) TDS Tester 4 (High) Other
- WATER TEMPERATURE (°C)
- AIR TEMPERATURE (°C)
- DISSOLVED OXYGEN (mg/L)
 Average 1st titration _____ 2nd titration _____
- pH (standard units)
- SECCHI DISK TRANSPARENCY (meters)
- TOTAL DEPTH (meters)
- TRANSPARENCY TUBE (meters)

Reagents/Media: Are any reagents (or media) expired? Yes No
 List any expired:

Bacteria Test:

E. COLI (cfu/100 mL)
 Average Sample 1 _____ Sample 2 _____

INCUBATION: Period (hrs) _____ (28-31 hrs) Temp. (°C) _____ (33+/-3°C)

SAMPLE 1: Sample size _____ mL Dilution factor (100/sample size) _____
 Colonies counted _____ x dilution factor _____ = _____ cfu/100 mL

SAMPLE 2: Sample size _____ mL Dilution factor (100/sample size) _____
 Colonies counted _____ x dilution factor _____ = _____ cfu/100 mL

FIELD BLANK: Any colony growth (circle one) YES / NO

DATA QUALITY REVIEW: Checklist completed (circle one) YES / NO

Field Observations:

- FLOW SEVERITY: 1-no flow 2-low 3-normal 4-flood
5-high 6-dry
- ALGAE COVER: 1-absent 2-rare (<25%) 3-common (26-50%)
4-abundant (51-75%) 5-dominant (>75%)
- WATER COLOR: 1-no color 2-light green 3-dark green
4-tan 5-red 6-green/brown 7-black
- WATER CLARITY: 1-clear 2-cloudy 3-turbid
- WATER SURFACE: 1-clear 2-scum 3-foam 4-debris
5-sheen
- WATER CONDITIONS: 1-calm 2-ripples 3-waves
4-white caps
- WATER ODOR: 1-none 2-oil 3-acrid (pungent) 4-sewage
5-rotten egg 6-fishy 7-musky
- PRESENT WEATHER: 1-clear 2-cloudy 3-overcast 4-rain
- DAYS SINCE LAST SIGNIFICANT PRECIPITATION (runoff)
- RAINFALL ACCUMULATION (inches, last 3 days)

Additional Tests Conducted (nutrients, etc.):

TYPE: _____

FECAL COLIFORM (colonies/100 mL)
 Source of readings: Certified Lab Monitor

Coastal Area Salinity Tests and Observations:

SALINITY (ppt) SAMPLE TEMP (°C)

TIDE STAGE: 1-low 2-falling 3-slack 4-rising 5-high

Measurement Comments and Field Observations:

Did you find monofilament at your site? Y N (please circle Y or N and size)
 Location: _____ Size Removed: 0-5 ft 6-15 ft 16 ft+

minutes **TOTAL TIME SPENT SAMPLING AND TRAVELING** miles **TOTAL ROUNDTRIP DISTANCE TRAVELED** **TOTAL NUMBER OF PARTICIPANTS**

I certify that all procedures, including the items listed in the Quality Control Checklist in the Quality Assurance Officer's Manual, have been followed.

 CERTIFIED MONITOR'S SIGNATURE

 DATE

 DATA MANAGER'S SIGNATURE

 DATE

Quality Control Checklist

- Sample depth is either 0.3 m or half of the total depth.
- All fields for conductivity meter calibration are filled out.
- Conductivity meter was calibrated within 24 hours of monitoring.
- Conductivity standard temperature is less than 32°C.
- Conductivity meter is calibrated to the value of 10 closest to the standard value.
- Conductivity values are reported in microSiemens per centimeter ($\mu\text{S}/\text{cm}$), not miliSiemens per centimeter (mS/cm).
- Temperature values are reported in Celsius.
- Secchi depth values equal to total depth include the ">" symbol.
- Secchi depth and total depth values are recorded in meters.
- All relevant fields are filled in.

Data Quality Review Checklist for E. coli

- Monitor is certified.
- Media is not expired.
- Incubation temperature is $33^{\circ}\text{C} \pm 3^{\circ}\text{C}$.
- Incubation time is between 28 – 31 hours.
- Optimal colony number is achieved (>200 colonies on plate).
- Dilution factor calculation is correct.
- No colony growth on Field Blank

PHASE II

THE MEADOWS CENTER FOR WATER AND THE ENVIRONMENT

Texas Stream Team

ENVIRONMENTAL MONITORING FORM

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Texas State University
Riverside Apts - Unit C4
601 University Drive
San Marcos, TX 78666-4616
Toll Free: (877) 506-1401
Email: txstreamteam@txstate.edu

Group ID #

Monitor's Name _____

Station ID #

Site Description _____

Sample Date
M M D D Y Y

Sample Time (military)
H H M M

Sample Depth (meters)
(not total depth)

Meter Calibration: (Within 24 hours of sampling.) Store and calibrate standard at room temperature.

Calibration	Date	Time	Standard Value	Standard Temp (°C)	Initial Meter Reading	Meter Adjusted To	Post Test
Conductivity							
pH (7.0)							

Core Tests and Measurements:

- CONDUCTIVITY (µS/cm)
 TDS Tester 3 (Low) TDS Tester 4 (High) Other
- WATER TEMPERATURE (°C)
- AIR TEMPERATURE (°C)
- DISSOLVED OXYGEN (mg/L)
Average 1st titration _____ 2nd titration _____
- pH (standard units)
- SECCHI DISK TRANSPARENCY (meters)
- TOTAL DEPTH (meters)
- TRANSPARENCY TUBE (meters)

Reagents/Media: Are any reagents (or media) expired? Yes No
List any expired:

Bacteria Test:

E. COLI (cfu/100 mL)
Average Sample 1 _____ Sample 2 _____

INCUBATION: Period (hrs) _____ (28-31 hrs) Temp. (°C) _____ (33+/-3°C)

SAMPLE 1: Sample size _____ mL Dilution factor (100/sample size) _____

Colonies counted _____ x dilution factor _____ = _____ cfu/100 mL

SAMPLE 2: Sample size _____ mL Dilution factor (100/sample size) _____

Colonies counted _____ x dilution factor _____ = _____ cfu/100 mL

FIELD BLANK: Any colony growth (circle one) YES / NO

DATA QUALITY REVIEW: Checklist completed (circle one) YES / NO

Field Observations:

- FLOW SEVERITY: 1-no flow 2-low 3-normal 4-flood 5-high 6-dry
- ALGAE COVER: 1-absent 2-rare (<25%) 3-common (26-50%) 4-abundant (51-75%) 5-dominant (>75%)
- WATER COLOR: 1-no color 2-light green 3-dark green 4-tan 5-red 6-green/brown 7-black
- WATER CLARITY: 1-clear 2-cloudy 3-turbid
- WATER SURFACE: 1-clear 2-scum 3-foam 4-debris 5-sheen
- WATER CONDITIONS: 1-calm 2-ripples 3-waves 4-white caps
- WATER ODOR: 1-none 2-oil 3-acrid (pungent) 4-sewage 5-rotten egg 6-fishy 7-musky
- PRESENT WEATHER: 1-clear 2-cloudy 3-overcast 4-rain
- DAYS SINCE LAST SIGNIFICANT PRECIPITATION (runoff)
- RAINFALL ACCUMULATION (inches, last 3 days)

Additional Tests Conducted (nutrients, etc.):

- TYPE: _____
- FECAL COLIFORM (colonies/100 mL)
Source of readings: Certified Lab Monitor

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- SALINITY (ppt) SAMPLE TEMP (°C)
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Measurement Comments and Field Observations:

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Location: _____ Size Removed: 0-5 ft 6-15 ft 16 ft+

minutes TOTAL TIME SPENT SAMPLING AND TRAVELING

miles TOTAL ROUNDTRIP DISTANCE TRAVELED

TOTAL NUMBER OF PARTICIPANTS

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DATE

DATA MANAGER'S SIGNATURE

DATE

PHASE III

THE MEADOWS CENTER FOR WATER AND THE ENVIRONMENT

Texas Stream Team

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Toll Free: (877) 506-1401
Email: txstreamteam@txstate.edu

Group ID #

Monitor's Name

Station ID #

Site Description

Sample Date
M M D D Y Y

Sample Time (military)
H H M M

Sample Depth (meters)
(not total depth)

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Reagents/Media: Are any reagents (or media) expired? Yes No
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Bacteria Test:

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- SALINITY (ppt) SAMPLE TEMP (°C)
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DATE

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DATE

