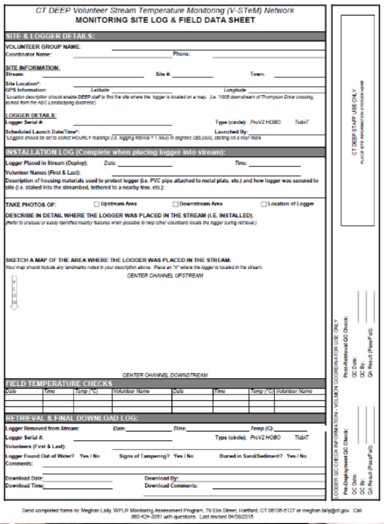
VOLUNTEER STREAM TEMPERATURE MONITORING (V-STEM) NETWORK

Quick Reference Field Guide – Sheet 1



CT DEEP Volunteer Stream Temperature Monitoring (V-STeM) Network

MONITORING SITE LOG & FIELD DATA SHEET

SITE & LOGGER DETAILS:

VOLUNTEER GROUP NAME: ____

Coordinator Name: ____ Phone: ____

SITE INFORMATION:

Stream: ____ Site #: ____ Town: ____

Site Location*: ____

GPS Information: Latitude: ____ Longitude: ____

*Location description should enable DEEP staff to find the site where the logger is located on a map. (i.e. "100ft downstream of Thompson Drive crossing, across from the ABC Landscaping Business)

LOGGER DETAILS:

Logger Serial #: ____ Type (circle): ProV2 HOBO TidbiT

Scheduled Launch Date/Time*: ____ Launched By: ____

*Loggers should be set to collect HOURLY readings (i.e. logging interval = 1 hour) in degrees CELSIUS, starting on a hour mark

INSTALLATION LOG (Complete when placing logger into stream):

Logger Placed in Stream (Deploy): Date: ____ Time: ____

Volunteer Names (First & Last): ____

Description of housing materials used to protect logger (i.e. PVC pipe attached to metal plate, etc.) and how logger was secured to site (i.e. staked into the streambed, tethered to a nearby tree, etc.):

TAKE PHOTOS OF: ☐ Upstream Area ☐ Downstream Area ☐ Location of Logger

DESCRIBE IN DETAIL WHERE THE LOGGER WAS PLACED IN THE STREAM (I.E. INSTALLED).

(Refer to unusual or easily identified nearby features when possible to help other volunteers locate the logger during retrieval.)

SKETCH A MAP OF THE AREA WHERE THE LOGGER WAS PLACED IN THE STREAM.

Your map should include any landmarks noted in your description above. Place an "X" where the logger is located in the stream.

CENTER CHANNEL UPSTREAM

FLOW

CENTER CHANNEL DOWNSTREAM

FIELD TEMPERATURE CHECKS

Date	Time	Temp (°C)	Volunteer Name	Date	Time	Temp (°C)	Volunteer Name

RETRIEVAL & FINAL DOWNLOAD LOG:

Logger Removed from Stream: Date: ____ Time: ____ Temp (C): ____

Logger Serial #: ____ Type (circle): ProV2 HOBO TidbiT

Volunteers (First & Last): ____

Logger Found Out of Water? Yes / No Signs of Tampering? Yes / No Buried in Sand/Sediment? Yes / No

Comments: ____

Download Date: ____ Download By: ____

Download Time: ____ Download Comments: ____

CT DEEP STAFF USE ONLY

LOGGER QC CHECK INFORMATION - VOLMON COORDINATOR USE ONLY

Pre-Deployment QC Check: QC Date: QC By: QA Result (Pass/Fail):

Post-Retrieval QC Check: QC Date: QC By: QA Result (Pass/Fail):

Send completed forms to: Meghan Lally, WPLR Monitoring Assessment Program, 79 Elm Street, Hartford, CT 06106-5127 or meghan.lally@ct.gov. Call 860-424-3061 with questions. Last revised 04/08/2015

LOGGER FIELD DEPLOYMENT & INITIAL DOCUMENTATION

Step 1: Complete top section of field datasheet (Site & Logger Details). Record volunteer group information, site information and logger details. Remember to record the logger serial number! You may need to ask your coordinator for launch information.

Step 2: Secure logger inside the logger housing. First secure the logger inside the PVC pipe with zip ties, then secure the PVC pipe to a heavy weight (metal plate, rail road plate, window weight, etc.) with additional zip ties. Record the materials used in the "Installation Log" section of datasheet (e.g. "Black PVC tubing attached to metal plate").

Step 3: Place the logger setup on the stream bottom. Pick a location that is unlikely to go dry during low flow periods but will not be too deep during normal flow. Avoid highly visible areas when possible.

Step 4: Build a rock pile on top of the logger. Using rocks approximately the size of basketballs, cover the logger to protect it from sunlight, hold it on the stream bottom, and conceal the PVC **tube. Note volunteer names, the date and time the logger was put on the stream bottom in the Installation Log section of datasheet.**

Step 5: Mark the site with flagging. Use surveyors flagging to mark one or both sides of the stream to help locate the logger in the future. In remote areas you can mark directly next to the rock pile. Use discretion in highly trafficked areas so curious individuals can't easily find the logger – mark on the opposite bank slightly upstream or downstream and note this in the map you draw (step 6).

Step 6. Describe location in detail and sketch a map in the Installation Log section of the datasheet. Describe where the logger is located in the stream relative to easily identified landscape features – this is to help someone who is not out with you find it in the future. It is helpful to include any large rocks, fallen trees or any other unique features (e.g. roads, sheds/houses, rock walls).

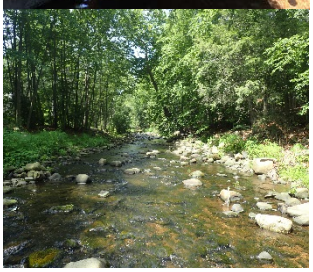
Step 7: Take 3 photos – upstream, downstream, logger location. Upstream and downstream photos are taken by standing in the stream next to the logger. Face upstream and capture as much of the stream channel and banks as you can. Turn and face downstream and take a second photo. For the third photo, have someone stand on the bank from which you would enter the stream when first approach. Have them take a photo of you pointing to the logger and, if used, flagging at the site. To remind you, check off each photo taken on the datasheet.

Step 8: Take a field temperature QC reading. Place a waterproof thermometer next to the rock pile, underwater. Count to '10 Mississippi' to allow the values to stabilize. Record the temperature on the datasheet in the "Field Temperature Check" section.

Step 9: Submit your datasheet and photos to your coordinator as soon as possible!

VOLUNTEER STREAM TEMPERATURE MONITORING (V-STEM) NETWORK

Quick Reference Field Guide – Sheet 2



FIELD CHECKS

Step 1: Locate the logger setup. Use the deployment photos and the partially completed Field Datasheet as a guide; a viewing tube can help in tricky sites.

Step 2: Record any issues on the datasheet. In the "Field Checks & Field Download" section of the field datasheet, record the date, time, volunteer name(s) and if the logger is out of water or appears as though it has been tampered with. Take photos and then correct any issues (i.e. return an out of water logger to the stream) as needed.

Step 3: Take a QC temperature reading. Do not remove the logger from the stream. Place a waterproof thermometer directly next to the rock pile, underwater. Wait for the temperature to stabilize (at least 30 sec); record the temperature (C) on the datasheet.

Step 4: Take upstream and downstream photos. Stand in the water, next to the logger rock pile. Face upstream and take a photo. Turn and face downstream; take a second photo. In each photo capture as much of the stream channel and banks as possible.

Step 5: Submit photos, QC readings, and revised datasheet to your coordinator.

FIELD DOWNLOAD OF LOGGER DATA

Step 1: Locate the logger. Use the field map, deployment photos and site flagging.

Step 2: Take a QC temperature (C) reading; record on the datasheet in the "Field Checks & Field Download" section along with the date, time, and volunteer name(s).

Step 3: Remove the logger setup from the stream. Note if the logger was out of water or appeared tampered with.

Step 4: Using wire cutters, remove the logger from its protective housing. Compare the logger serial number with that recorded at the top of the datasheet. If different make a note in the comment field.

Step 5: Connect the logger to the shuttle. Remove the rubber protective cap. Wipe off the communication window if dirty. Insert this end into the coupler attached to the waterproof shuttle, making sure to line up the connection arrows.

Step 6: Transfer the logger data to the shuttle. Press down on the coupler lever; the yellow transfer light will flash. Wait until the green OK light flashes. Remove the logger from the coupler. (Press the lever again to stop the green flashing light if needed.

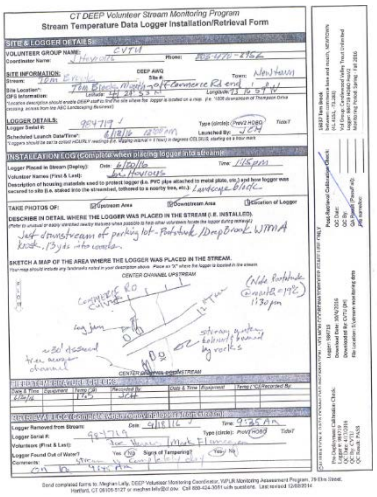
Step 7: Re-deploy the logger. Replace the cap, secure the logger back into the PVC tube; reattached the tube to the metal weigh t. Place the logger back into the stream where is was previously located. Reconstruct the rock pile on top of the logger setup.

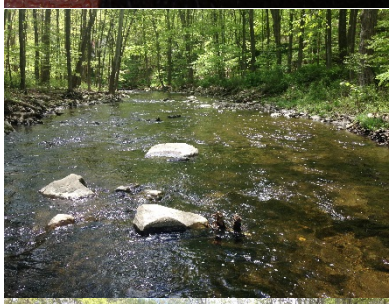
Step 8: Take upstream, downstream, and logger location photographs.

Step 9: Submit photos, QC readings, data (or shuttle itself) and revised datasheet to your coordinator <u>as soon as possible!</u>

VOLUNTEER STREAM TEMPERATURE MONITORING (V-STEM) NETWORK

Quick Reference Field Guide – Sheet 3


CT DEEP Volunteer Stream Monitoring Program
Stream Temperature Data Logger Installation/Retrieval Form



LOGGER RETRIEVAL & FINAL DOCUMENTATION

Step 1: Record the visit date, time, and crew (volunteer names) on the datasheet in the "Retrieval and Final Download"

Step 2: Locate the logger. Use the field map, deployment photos and site flagging. Before removing the logger from the stream, take a QC temperature reading. Record the value on the datasheet next to the removal date and time.

Step 3: Take upstream and downstream photos. Stand in the stream next to the logger. Face upstream and capture as much of the stream channel and banks as you can. Turn and face downstream and take a second photo.

Step 4: Remove the logger setup from the stream. Note if the logger was out of water, appeared tampered with, or was buried in the sand/sediment. Provide any additional comments regarding conditions that might have effected data quality.

Step 5: Using wire cutters, remove the logger from its protective housing. Record the logger serial number and type on the bottom of the datasheet. Compare the logger serial number with that recorded at the top of the datasheet. If different make a note in the comment field.

Step 6: Label the logger and place on ice. Attach a manila tag to the logger and record everyone's names, stream name, monitoring location, serial number, type of logger, date and time removed on the tag. If available, place the labelled logger in a plastic bag. Place the bag in a cooler filled with ice.

Step 7: Review the datasheet for completeness. Make sure the datasheet has been completely filled out and upstream and downstream pictures have been taken before leaving the site.

Step 8: If redeploying a new logger at the site, refer to the "Logger Field Deployment & Initial Documentation" quick reference guide (Sheet 1). <u>Start a new datasheet for the new logger, even if the site information is the same; the datasheet corresponds with the logger not the site.</u>

Step 9: If NOT redeploying a new logger at the site, make sure to remove any flagging before leaving the site.

Step 10: Step 9: Submit labelled loggers, photos, and completed datasheet to your coordinator <u>as soon as possible!</u>

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