

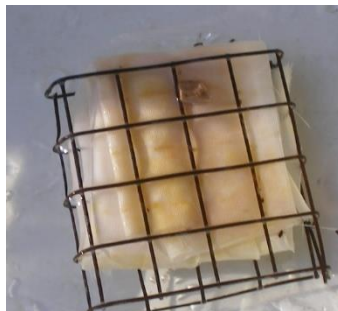
## Comal Springs Riffle Beetle Cotton Lure SOP

### Background

Various researchers are collecting Comal Springs riffle beetles (CSRB) and data using cotton lure methodologies. Although the researchers each have their own CSRB sampling and data needs, to establish a consistent database for the CSRB there is the need for a common CSRB Cotton Lure (CL) Standard Operating Procedure (SOP) that utilizes a consistent CL methodology and provides consistent basic data to help create CSRB long-term database. In addition to the SOP, a two-sided CL field data sheet is attached to provide consistent data collection.

### Construction of the CL

- The cotton cloth used in the lure is white, 60% cotton, 40% polyester – 200 thread count.
- The cloth must be folded in such a manner that organisms have the most available surfaces to occupy and move between without restriction.
- The cloth is cut into a 15 cm x 15 cm square.
- The square is folded in “S” fashion left to right, then top to bottom. The end result is the folded cloth is now about 4 cm x 4 cm, 1 cm thick.
- The folded cloth is placed inside a 4 cm x 4 cm, 1 cm tall wire cage made from galvanized screen. The purpose of the screen is to hold the cotton cloth folds in place and to protect it while it is in use.
- One folded cloth in one wire cage makes up one CL.
- Example of a CL that has been removed from system:



### Placing the CL in the System

- Start the attached CL Field Data sheet (one per CL) as completely as possible (it will be completed when the CL is collected).
- Missing data on the CL Field Data sheet will cause the data not to be included in a CSRB long-term database.
- Only one CL is placed at each site.
- A new CL is used for each collection if the data is to be entered into the CSRB long-term database.
- Each CL is to be conditioned *in situ* where it is placed for CSRB collection.
- Be sure to measure distances between at least two fixed points and the lure (record on the CL Field Data sheet) so that the Latitude/Longitude can be determined back at your office.
- The CL must be submerged when placed.
  - Set the CL with the upstream edge of the lure about 10 cm from the downstream side of the spring, in the spring's source flow.
  - Disturb the substrate as little as possible to set the lure.

- Set rocks on top of the lure to shade, camouflage, and hold the lure in place.

#### Collecting the CL

- CL will remain in system 4 weeks to condition and collect organisms. The 4-week time frame may be shortened or lengthened based on weather, timing, or other unavoidable situation.
- Record the number of days in the system and any condition that caused the CL to be collected +/- 4 weeks.
- Complete the CL Field Data sheet for each CL.
- Unless otherwise specified in an entities endangered species permits, all organisms collected on the CLs are placed in a container of water and poured back on their spring of origin after identification.
- Make certain that the conditions of disturbed CL's are recorded; however, disturbed CL's will not be entered into the CSRFB long-term database.
- Make certain that lost or missing CL's are recorded.
- Record "zero" collection data when a CL did not collect any organisms. It is very important that the entire CL Field Data sheet be filled out to possibly determine why there was a "zero" collection.

#### *Note:*

*It is understood that each person or entity collecting CSRFB will be collecting and utilizing that data to satisfy their own needs.*

*The EAHCP has specific areas within intensive study reaches where their CLs will be placed for EAHCP CSRFB collections. These locations are found in the EAHCP and the EAHCP SOP is located on the EAHCP website.*

*Incomplete CL Field Data sheets will not be entered into a CSRFB long-term database.*

**Lure ID:** \_\_\_\_\_

**Location: Lat/long** \_\_\_\_\_

Measurements to compare to map to determine Lat/Long:

**Date and time:**

Set: \_\_\_\_\_

Collected: \_\_\_\_\_

**Depth (cm) Set:** \_\_\_\_\_ **Collected:** \_\_\_\_\_

**Describe type of spring (circle)**

orifice                      upwelling                      cluster                      terrestrial margin

**Substrate composition by modified Wentworth Method:**

**Organic debris present (circle)**

woody debris                      leaves                      roots                      macrophytes

**Estimated velocity (flow) Set** \_\_\_\_\_ **Collected** \_\_\_\_\_

**Metadata**

**Pre-calibration (circle) Yes.....No                      Yes.....No**

**Post-calibration (circle) Yes.....No                      Yes.....No**

<b>Parameter</b>	<b>Set</b>	<b>Collected</b>
dissolved oxygen (mg/l)		
Temperature (°C)		
Specific conductance (µs/cm)		
Total dissolved solids (ppm)		
pH		

**Duration of lure in system (days):** \_\_\_\_\_

**Disturbed lure (circle):**

Lost ..... Yes ..... No

Moved ..... Yes ..... No

Exposed ..... Yes ..... No

**Anoxic Lure (circle)** ..... Yes ..... No

**Biofilms Present (circle)** ..... Yes ..... No

Color (general)	% Cover

Specie	# Larvae	# Pupae	# Adult
<i>H. comalensis</i>			
<i>M. pusillus</i>			
<i>Stygobromus</i> sp.			
<i>Stygoparnus</i> sp.			
<i>Psephenus</i> sp.			
<i>Lirceolus</i> sp.			
<i>Stenelmis</i> sp.			
<i>Phenocerus</i> sp.			
<i>Eurycea</i> sp.			