

Macroinvertebrate Sampling Protocol, conducted 1-2x / month

GK-12

Time / Site = 30 minutes.

Sampling Sites = Bamboo Bridge, Sandy Bottom, Terrell Bridge

Equipment:

1 vial with 0.5-1 inch of ethanol, *LABELED FOR EACH SAMPLING SITE AND DATE*

Kick Net

Stream Net

1 pair straight forceps

1 pair curved forceps

White Bin

Paper for recording weather parameters and critters not sampled but observed (e.g. fish, crayfish, etc.)

Pencil / Marker

Field work

Method: Kick Net (only conducted at Bamboo Bridge and Sandy Bottom) **Time: 8-10 minutes**

- 1.) Place Kick net downstream of riffle.
- 2.) Place rocks on bottom of net to secure to stream bed.
- 3.) One person holds net in place.
- 4.) Other person walks slowly from net toward upstream while kicking rocks to dislodge critters. Walk for about 2 meters upstream, and then back to net. Repeat twice.
- 5.) Carefully lift net from stream and bring to bank.
- 6.) Remove critters, place in vials of ethanol.

Method: Turn over rocks (conducted at all sites) **Time: 10 minutes**

- 1.) Lift some rocks from diverse portions of stream (riffles, pools, etc.)
- 2.) Using forceps, remove any critters on rocks and place into vials of ethanol

Method: Leaf-litter sampling (conducted at all sites) **Time: 10 minutes**

- 1.) Using hands **AND** nets, collect leaves from diverse portions of stream (riffles, pools, etc.) **2-3 minutes**
- 2.) Place leaves in white bin that has 1-3 inches of stream water inside.
- 3.) Gently rub both sides of leaves to dislodge any critters, remove cleaned leaves from bin.
- 4.) Once all leaves are removed from bin, carefully sort through muddy water to pick out any critters. (Look carefully, they will be wiggling, and trying to hide in the mud)
- 5.) During this phase, use forceps/fingers to gently disrupt some of the settled mud. This will kick up some of the critters and allow you to spot them.
- 6.) Using forceps, place critters in vial of ethanol. **7-8 minutes**

Lab work

- 1.) Dump vial for one site into a glass dish.
- 2.) Under dissecting microscope, sort by species
- 3.) Using the GK-12 biological data entry website, identify quantity / species
- 4.) For unknown samples, try identifying using Google Images. Draw unknowns and ask around.
- 5.) Return samples to vial for that site / date.
- 6.) Repeat with samples from other sites.