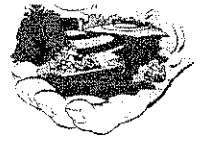


# SQM – Stream Quality Monitoring

Lend a Hand to  
Conservation of the Land



1. From the stream bank, locate an appropriate riffle to monitor.
2. Locate a nearby suitable area on the stream bank to place your supplies.
3. Spread out plastic bag with white side up.
4.  $\frac{3}{4}$  fill plastic cups (or ice cube tray) with clear stream water and place them in tray.
5. **Approaching from downstream, Sane Seiners** position seine net in appropriate spot in riffle to sample 1 square meter. Make sure that the bottom of seine is on the bottom of the stream with no gaps. Without standing in the sample area, place rocks on it wherever necessary to be sure little or no water goes under the net.
6. **Rock Rubbers**, starting 1 meter up stream and moving toward the seine, rub top, sides and bottoms of large rocks (palm size or larger) in the water to dislodge "critters". Place rubbed rocks outside of the sample area.
7. **Riffle Rumlbers**, starting 1 meter up stream and moving toward seine, dig your feet into the substrate for one to two minutes. Upon reaching the seine, assist seiners remove seine from the water taking care not to lose anything trapped in the seine.
8. **Seiners** and **Riffle Rumlbers** carry seine to stream bank and place it on white plastic.
9. The following activities take place on shore:
  - One person is the **Recorder/Reporter** and completes the assessment sheet recording the number of all taxa and the proper letter code.
  - One person is the **Cup Coordinator** and directs placement of the same kind of critters into the same cup/ice cube tray.
  - All other people are **Critter Collectors** who quickly and carefully collect and put critters into proper cups. Look for movement – some critters are very small! ( 0.5 mm X 3-4 mm length)
10. After all live critters are removed from the seine, one person is the **Seine Submerger** and rinses the seine in the stream.
11. All others examine plastic bag for critters to add to your collection.
12. One person is the **Plastic Plunger** and rinses the white plastic bag in the stream.
13. Everyone works together using the ID sheets to count and identify the critters, making sure the information is recorded. To ID – look at pictures, size scale and read descriptions. Better yet, use a dichotomous key.
14. Check to see if critters should be saved for sharing with others. If not or after sharing, critters should be gently placed back in to their habitat.
15. Complete the assessment sheet. Be prepared to share your information: Cumulative Index Value, water quality, and kinds of critters you found in groups 1, 2, and 3.
16. Collect all the supplies and properly stow them.
17. Turn in your assessment sheet.
18. Answer the questions attached.

Thanks for learning more about our streams. YOU can help improve the water quality for these aquatic critters and other important members of our watershed community.

Adopted from Delaware SWCD, 2002

# SQM - Stream Quality Monitoring

Questions to answer about your biological sampling experience:

1. What pollution tolerance index did you get? Based on your knowledge, does it seem accurate?
2. Would you swim in this water? Why or why not?
3. What other tests would you do or data would you collect to determine the water quality?
4. What kinds of diversity do see macroinvertebrate populations?
5. How does this diversity help the macroinvertebrates survive?
6. What life cycles might the macroinvertebrate have? Describe or draw them for a macroinvertebrate taxa.
7. Would you be able to sample the macroinvertebrate populations in the winter? Why or why not?
8. What mechanisms do macroinvertebrates have to enable them to move in flowing water? To keep from being washed away?
9. Draw or describe a stream food web based on what you know about macroinvertebrates and their habitats.
10. What environmental systems are operating in a stream ecosystem?