

Macroinvertebrate survey for Assignment 3

As well as the IBI, I would like each team to assess the invertebrate community for Assignment 3. This will entail that you spend 1-person hour “picking bugs”. That is, a team of three should spend 20 minutes with everyone finding all the aquatic insects they can and putting them in a small jar filled with rubbing alcohol (or vodka, if you want to drink the cocktail when you are done). The three people should work different parts of the stream. A couple might use nets, that can be checked out, to “kick the riffles” to dislodge critters. Another might dig under banks and leave litter or hand pick rocks. The point is to get as broad a sample as possible.

The number you want to calculate from this is a species diversity index. This is a crude measure of biodiversity. The simplest index is the one you will calculate and is:

$$\text{number of individuals/number of taxa}$$

OK, now how will you determine taxa? Actually to get a good index you only need to identify what seem to be different species, you don't need to actually know what those species are. So pool all you bugs and sort through them putting them in groups of different “types”. Count the number of “types” and divide by the total number of insects.

$$\text{Example: } 10 \text{ types}/100 \text{ total bugs} = 0.1$$

Obviously your index will be between 0 and 1 with the bigger number the more diverse and, presumably, the healthier community.