

EEB 3898 – Field Methods in Fish Biology – Summer 2014
Field Exercise Report II guidelines
Due Monday, June 16, 2014

Introduction, objectives and methods: See general field report guidelines posted on the course website, and pre-lab notes from Eldredge Brook field trip (June 9, 2014).

Analysis and results

1. Create a **table** that indicates the presence/occurrence of each species in each stream habitat sampled (riffle, pool, backwater area).
2. Calculate total **species richness** and make a **rank abundance plot** (see Lecture 3) for each stream habitat.
 - a. You should have 3 graphs – one for each stream habitat type
3. Create a **species accumulation curve** for these data (see Lecture 3).
 - a. Cumulative electrofishing time (in seconds) will be your x-axis, and cumulative number of species captured will be your y-axis.
 - i. Note: number of species captured is the number of unique species, NOT the number of individuals.
 - ii. Since we did not calculate electrofishing time explicitly, you can assume that we electro-fished for 10 minutes (600 seconds) in each stream habitat.

In your discussion, answer the following questions:

1. According to your data, are there differences in species richness and species evenness between stream habitat types? Explain your answer.
2. Do different species use to different stream habitats? Do you think certain species have adaptations that make them better suited for a particular habitat?
3. Explain the species accumulation curve and how sampling effort can influence the calculation of species richness. Based on your curve, do you suspect we captured all the species present at Eldredge Brook?
4. No sampling method is perfect, as we have seen. Do you suspect there are biases associated with this gear and/or our sampling protocol (i.e., moving upstream slowly and sweeping from side to side)? What are they?