



## Who and How Many?

Would knowing which insects were present in a stream and how many, change the way you fish it?

### The Herbst Lab ([herbstlab.msi.ucsb.edu](http://herbstlab.msi.ucsb.edu)) At the Sierra Nevada Aquatic Research Lab

A number of factors influence the composition of stream insect communities such as stream chemistry, food resources, flow, and temperature, to name a few.

So anglers, if you were aware of the number of insects in a stream (DENSITY) or the variety of insects (DIVERSITY) would you fish it differently?

An important consideration when examining DIVERSITY is that each insect species will have a different shape, size, behavior, and emergence period. By contrast, DENSITY of each insect group represents availability of that group to fish and what they are accustomed to seeing.

Consider this, DIVERSITY Figure (a) shows the variety of Mayflies in Convict Creek to be twice that of nearby Hilton Creek. However, DENSITY Figure (b) shows that the number of Mayflies is higher in Hilton than Convict. So even though there are more Mayflies in Hilton Creek, the variety of shapes and behaviors is higher in Convict Creek.

As another example, notice that the DIVERSITY and DENSITY of Caddisflies is lowest in Hilton Creek. Would fish respond differently to a rare hatch event on Hilton compared to more regular hatches at a stream with higher DIVERSITY?