

Blog for day of soil sampling- by Kevin Macdonald

The first day at Zzyzx, I chose to participate in the Soil Sampling transect across the Mojave Desert. Over the course of the day, the team that I was working on, collected surface soil samples along a transect that represented a moisture gradient from the outskirts to the center of the Mojave desert from relatively moist to dry, respectively. There were several highlights of this trip that were not only interesting for me, but also apparently extremely easy to reproduce for a high school classroom. For example, learning proper techniques for how to take sterile soil samples, to reduce the chance of human contamination, are very easy to teach high school students, given access to appropriate materials (although, teaching and learning the appropriate technique does not necessarily require sterile collecting material).

Another highlight was, when packing up the materials at the sites in the drier portions of the transect, there was an opportunity to make observations about the local geology and fauna. Several of the participating teachers and scientists were able to find hypolithic cyanobacteria attached to many of the rocks on the desert floor. It is interesting to note that most of the cyanobacteria that we were able to find were attached to white/translucent rocks. This is probably due to this type of bacteria's ability to photosynthesize and subsequent need to be in environments where they are exposed to light, but not necessarily in the direct light of the desert sun – which would probably hinder their growth.



One of the ways that I intend to bring this to my classroom, hopefully in the fall of this year, is to have a field trip to this biostation. Since my high school is just down the road (Barstow) the techniques and information that I have learned on this trip will be relatively easy to bring to my students, or, more correctly, take my students to. Also, several of the teachers on this trip had the idea of presenting the data we collected today to their students, along with the sampling techniques, and then showing the students on Google Earth (or similar program) where we actually took the samples, prior to taking them out into the field. Knowing that they would be applying these techniques rather than just reading about them would hopefully have the effect of raising their interest and participation level before going into the field to apply what they have learned.