

# Dry Creek Watershed Grant Report –Global Youth Charter School Instructor: Doug Hanson

## Summary of Grant

Our Sacramento Storm Water Grant was to expose students at Global Youth Charter School (GYC) to the Dry Creek watershed. Our plan was broken into three phases: mapping phase, research phase and finally community marketing phase. Our mapping phase was designed to expose students to Dry Creek – how to access the creek and make a rough map of the creek. The research phase was broken into two parts – Water Quality and Flora/Fauna. The final phase was to create marketing tools that we could use to communicate the treasure of Dry Creek to the local community.

Each of these phases had a deadline that we attempted to meet – the mapping phase deadline was Feb 28<sup>th</sup>, the research phase was Mar. 28<sup>th</sup> and the Marketing phase the end of April. Of these three deadlines, we actually met the first deadline easily – students visited the creek on a number of occasions, identifying possible locations for water quality testing stations. These locations were identified with stakes and colorful surveying tape tied to the tree's at each station locale. We identified a total of 9 stations that covered roughly a quarter of a mile of creek shoreline. Our goal was to take reading at each location during the research phase of the project.

One of the greatest challenges we encountered in this project was actually purchasing the equipment to measure water quality. Our original deadline for measuring the water quality was the beginning of March; however we did not receive our grant funds until close to the end of March. Once our monies were available, we ordered our equipment from PASCO scientific in Roseville. Due to District red tape and financial processing, we didn't actually have our equipment until the 3<sup>rd</sup> week of April. Prior to this time, we were only able to take temperature readings for water quality.



## Research Phase – Water Quality

After we received our equipment, we began taking readings for pH, Dissolved Oxygen, Conductivity and turbidity. Chemistry students from GYC visited the creek a total of 4 times with their water quality tools. The data that was collected was inconsequential at this point – mostly due to staff and students learning how to use the equipment. Despite our attempts to identify possible sources of non-point pollution, we were not able to produce reliable data.



One thing students learned was the difference between lab based science and field science. Our

tools in the lab were easy to use and produced reliable data; however, the field aspect of our project was very challenging. Placing the probes into water at a sufficient depth and protecting the equipment from the challenges of the field was difficult. A number of students were baptized into Dry Creek while collecting their data. At the end of each monitoring trip, we assessed what we had learned and attempted to alleviate the problems we had previously encountered.

Even though the data we collected didn't prove anything about the creek, students enthusiastically participated in the water quality activities and our weekly visitations became the highlight of class. One of the most intriguing parts of this project for me personally was how amazed students were at the presence of Dry Creek in their neighborhood. Many of the students in my chemistry class lived in neighborhoods that brushed up against Dry Creek, yet they had not visited the creek and were unaware of its beauty.



One other challenge we encountered was finding our sample stations. When we originally placed the stakes and ribbons to identify each station location, winter was still in full swing and the vegetation had not begun to grow. Between the overlap of spring break and a week in April, plants began to grow thereby covering the stakes for our sample stations. We were able to relocate each station easily, but this proved to be a valuable lesson for students.

### **Research Phase – Flora / Fauna**

The other aspect of the research phase of our project was looking at the flora and fauna of the creek. Biology students from GYC were the primary expressions of this aspect of the grant. The biology classes “officially” visited the creek a total of four times during the last two weeks of April, and the first two weeks of May. Each of the trips had a specific purpose intended for students.

The first trip to the creek was an introductory trip – showing students how to access the creek and the location of Northbrook Park, our primary entry point to the water shed. As previously mentioned, during our first visit to the creek, many students, both from my biology class and other interested students were amazed at how close Dry Creek was to their home, and yet they were unaware of it's presence in their neighborhood. The repeated comment from students, “I didn't know this park/creek was hear!” over and over again, it became apparent that we could use this statement as a tool for the marketing phase of our campaign.



The purpose of our second trip to Dry Creek was to investigate the presence of insects at the creek. As part of the curriculum for my Biology class, I had students making insect collections

from representative bugs in our area. On the day we were to go to Dry Creek on our second visit, students came armed with collecting jars, nets and other tools for an insect collection they were required to make for class. Students raced up and down the creek enthusiastically exploring, searching for insects and enjoying the trails. Students were asked to write down their observations in their lab books regarding 8 unique insects they found or saw evidence of near the creek. Fortunately, on the day we visited the creek, the sun was shining brilliantly and the insects were abundant.



The objective of our third visit to the creek was identifying indications of animals and/or mankind at the creek. Students identified evidence of beavers, ducks, fish, and of course – human beings. We saw piles of garbage around the creek and even suspected that some

homeless people were living on it's shores. On this particular visit to the creek, students became so excited about the water that many of them jumped into the creek and started splashing each other. I was very surprised when I watched students walk back to school, drenched from their head to toe. One of my students told me, "Mr. Hanson, I am not a nature person – but this is really fun hangin' at the creek". These are the kinds of comments that illustrated to me how successful these experiences have been to my students. Students submitted their lab books where they communicated to me how much they enjoyed visiting Dry Creek. From one of my student's lab books, they wrote the following about Dry Creek.



*"The best way Antelope community could protect dry Creek is by making people aware that Dry Creek is there."*

As we considered, the final portion of the grant, quotes and comments like these became the fabric of the marketing phase of our experience.

The focus of our final trip to Dry Creek was to look at the plant life around the creek. Students were asked to look at the ground cover, the understory and the canopy around the creek. Concurrent to this trip, we began studying the biology of plants in the classroom so this was a great opportunity to experience what was being discussed in class. Students identified plants at each area around the creek. As the Dry Creek trips continued, number of students making the trek to Northbrook park continued to grow in number. Many students at GYC told me their favorite class was Biology, even though they weren't in my class. The Dry Creek project had added a whole new level of interest in the outdoors. Our final trip to Dry Creek was three weeks ago, students have continued asking when we are going to the creek again? We have not been able to go as a class, but students tell me regularly that they were at Dry Creek with their family. I am confident that the student body at GYC has been significantly impacted by this project.

## Marketing Phase

The final phase of our project was creating marketing information that we would use to communicate about the treasure of Dry Creek. Because of the time crunch we encountered with our funding, some of the images we hoped to use in our final presentation are unavailable. One of the items we ordered is still back ordered and has not arrived. At this point, the major expression of our marketing campaign is the creation of a brochure which is attached to this email and a poster that we are going to print and distribute to the community. The expression of the brochure is “Antelopes Treasure – Dry Creek”. The brochure communicates where Dry Creek is located, the overall path of the creek, the fact that Global Youth students are studying the creek and how Antelope citizens can help protect the creek. Antelope residents are also encouraged to respect the neighbors who live close to the creek when they visit Northbrook Park.

The last part of our grant is distributing the brochures and poster to the community. Tonight, May 26<sup>th</sup> is graduation for GYC – our plan is to distribute the brochures at graduation as a way to inform people in the Global Youth community about the Dry Creek project. Tomorrow morning, students will be canvassing nearby neighborhoods with staff handing out brochures at homes in the community. We are also hoping to present findings of this project at a board meeting next week – we are still waiting on confirmation of the board agenda for this presentation.

We also hope to use the marketing materials in August when school is back in session. We are planning on distributing our posters to businesses and civic centers around our school. We also know that the hot August months will be a great time for students to visit Dry Creek and continue our studying!

## Future Plans

Our plan at this point is to continue monitoring the creek using next year’s classes and continuing to integrate Dry Creek into the science curriculum at Global Youth Charter School. As a teacher, I have never been this close to such an amazing resource at a school that is so



flexible with their schedule. I anticipate that the final piece of equipment, a digital microscope will arrive this summer and will allow us to further investigate the micro-organisms the live in the water of Dry Creek.

I would like to thank the Sacramento Storm water Project for providing these funds and for encouraging educators with this opportunity. I believe that our students have been significantly impacted by this project and anticipate continuing with educating our community on this precious watershed.