Water Resource Intern

Environmental Education

Joana M Ramirez

California State University, Fresno
June 02, 2014 – August 08, 2014
Supervisor: Lily Nieves, Program Director of the Central CA Consortium
Agency: USDA Forest Service
Report Submitted: August 08, 2014
# Table of Contents

Acknowledgements.................................................................................................................................................. 2

Executive Summary............................................................................................................................................ 3

Project Objectives...................................................................................................................................................4

Project Approach ...................................................................................................................................................... 5

Project Outcomes ............................................................................................................................................6-8

Conclusion..................................................................................................................................................................9

Appendices............................................................................................................................................................. 10
Acknowledgements

This project was supported by Agriculture and Food Research Initiative Competitive Grant no. 2011-38422-31204 from the USDA National Institute of Food and Agriculture. I would like to thank California State University, San Bernardino for providing me with this opportunity, especially Julie Lappin, the Water Resource Institute Program Manager, who has helped me through this process of obtaining this internship. Additionally, I want to thank my supervisor Lily Nieves, the Program Director of the Central California Consortium for allowing me to work with her staff and proving me with this amazing experience.
**Executive Summary**

This summer I was the Water Resource Intern for the Central California Consortium (CCC). I focused on environmental education and my projects consisted of water related topics. In the beginning, I was in charge of creating different water related lesson plans for the Generation Green crews. There are four different crews that travel to different forest sites to clean/work on the campgrounds. I provided them with four 30-minute activities that taught them water related topics such as water pollution and water filtration. After completing the lesson plans, I was in charge of leading and planning the Environmental Education Day. After my main projects were completed, I traveled to Sacramento for the state fair in July. I went as a chaperone/mentor for the students that participated in the Camp Smokey section of the fair. In addition, I did a workshop on wetlands and water quality at the Sacramento Aquatic Center. During the last two weeks of my internship and after completing all of my projects, I helped with some design work for the 18th Annual Intern Award Ceremony.
Project Objectives

Since my title for my internship was the Water Resource Institute (WRI) Intern for the Central California Consortium, I was in charge of environmental education projects. The Central California Consortium is an environmental education, minority outreach and recruitment program. Their mission is to, “diversify the Forest Service workforce by encouraging careers in natural resources, higher education, and employment through mentoring, leadership, and community outreach efforts” (Central California Consortium).

Before accepting this internship, I was unaware of the career opportunities with the USDA Forest Service. Since I am a Business major, I never considered working for the USDA Forest Service because I felt that my major was irrelevant to the agency job positions. After accepting this internship position and working with the Central California Consortium as an Environmental Educator, I now feel that being an environmental educator is something I would enjoy doing as a career. My original goals for my projects were to complete them ahead of time and to the best of my abilities, as well as exceed expectations. My major projects were to create lesson plans for the Generation Green Crews that was water related, plan the Environmental Education Day, attend Camp Smokey as a chaperone/mentor, and lead a workshop at the Aquatic Center in Sacramento. In the few two weeks, completed my lesson plans ahead of schedule, which was excellent because instead of having one per week, I had to provide all of them ahead of time due to the crews’ hectic schedules. Luckily, I was able to complete this task ahead of time because plans had changed and I was able to provide the crews with the materials needed. Since I was able to complete the lesson plans early, I was able to start working on planning the Environmental Education Day. With the help of the CCC staff, I was able to plan the Environmental Education Day, gather all of the materials and food and execute the event successfully. Leading the event was one of my favorite projects because I was able to make it my own and watch it unfold. After all of my main projects were completed, I was able to help do some design work for the intern award ceremony that was being held by the Outreach, Recruitment & Workforce Diversity. These tasks were additional projects that were added during the last few weeks of my internship. In the end, my goals never changed and I was able to accomplish my goals and much more.
Project Approach

When it came to planning the lesson plans, I was given two weeks where I was able to research water related topics and come up with activities. Within those two weeks, I was able to complete the lesson plans. Even though I had two weeks to complete the first lesson plan, I went ahead and completed all four. My lesson plans included, soil testing, water filtration, chemical concentrate in water and water pollution. After I picked these topics, I began researching activities to do that would engage the students and show them visually what the topic was. I found excellent activities that were simple, but were great demonstrations of each topic. I was able to find the materials needed around the office as well as had the help of the CCC staff. Once I had the lesson plans printed and materials at hand, I began working on planning the Environmental Education Day. I used the previous years’ agenda to gain a better understanding of how to plan the day accordingly. I was able to reuse two past workshops since they were water related, which saved me time. I came up with two additional workshops, which were, ground water and water conservation. With the help of the CCC staff, I was able to complete the agenda and gather the materials for the workshop and food for the event. Since two of the past workshops were done previous years, the staff still had all of the materials needed, which made it easier. The planning went well and the event was a success. Even though we started late, I was able to get back on track by taking time from the students “free time” and put it towards the workshops. The lesson plans and event were my two major projects that I was in charge of during the duration of my internship. Since I completed my projects ahead of time, I was able to help out around the office, which meant I was able to help design a few items. Graphic Design is one of my favorite hobbies to do, so being able to do design work was one highlight of my internship.
Project Outcomes

During the duration of my internship, I’ve learned that time management; communication and leadership are important skills to have. One the first day of my internship, I was given a weekly schedule and projects that I needed to complete by the end of my summer internship. The first two weeks were for researching and planning the lesson plans and event and the fourth week was when the lesson plans started and when the Environmental Education Day event was to be held. I quickly learned that I needed to manage my time in order to allow myself to research and plan the lesson plans, as well as plan the event. Within the first 2 weeks, I was able to complete all four lessons plans and gather the materials needed for the crews to successfully execute the activities (Figure 1).

Originally, I was supposed to provide the crews with one lesson plan each week starting June 23rd, but since a few of the crews would not be at the Supervisor’s Office (SO), I had to provide all of the lesson plans and materials to the four crews during Environmental Education Day when we were all together. This is a great example of time management, since I was able to use my time wisely and complete all of the lesson plans well ahead of time.

In addition, the Environmental Education Day allowed me to work on my communication skills and demonstrate my leadership skills. Once I completed my lesson plans, I began working on this big event. This even was held for the Generation Green crews. I had to research water related topics and use those topics to create four 45-minute workshops (Figure 2). I needed to communicate with my co-workers in order to gain insight on how to successfully plan this event. I also had to lead the event, which helped me use my leadership skills. Alexis, who is the Central California Consortium Environmental Educator, helped me run my ground water workshop, which was a demonstration of how ground water occurs. The event was a success and was one of the things I was most proud of. This internship has allowed me to improve on my time management, communication and leadership skills.
**Water filtration**

**Time Duration:** 30-45 minutes

<table>
<thead>
<tr>
<th>Activity</th>
<th>Purpose</th>
<th>Materials Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To filter water and see water before and after pollution.</td>
<td>Water Bottles, Cups, Rocks, small gravel, Sand, Dirty water, Rubber Bands, Coffee filter, Pen or pencil</td>
</tr>
<tr>
<td>5 min</td>
<td>Hand out supplies to each group along with their hypothesis sheets and have each group fill their cup with dirty water (mix dirt/mud with water).</td>
<td>Start test of water filtration system.</td>
</tr>
<tr>
<td>5 min</td>
<td>Have the students fill out their hypothesis on if they think the dirty water will filter, and if it will continue to filter after the second pass through.</td>
<td>Complete Journal questions</td>
</tr>
</tbody>
</table>

**Materials Needed:**
- Water Bottles
- Cups
- Rocks, small gravel
- Sand
- Dirty water
- Rubber Bands
- Coffee filter
- Pen or pencil

**Assessment:**
- Journal entries

---

*Figure one shows the first lesson plan that was provided to the crews*

**Environmental Education Day Agenda**
June 20, 2014

- 7:00 am: Meet @ 80
  - Lead up
  - Safety Message (Crew Leaders)/IHA's
- 7:20 am: Depart to Bass Lake
- 8:05 am: Arrive at Bass Lake
  - Unload, clear camping ground, and set up workshops
- 9:05 am-9:20 am: Welcome Message (Shawn)
  - Discussion of Environmental Impact (Shawn)
- 9:25 am-9:40 am: Drive to Way of the Mono Trailhead (AHQ cleaning & Food Preparation)
- 9:45 am-10:15 am: Blue Way of the Mono
  - Drive back to Recreation Point
- 10:15 am-10:35 am: Ice Breaker
- 11:20 am-11:40 am: Workshop I
  - Lunch (Hungerful & Invigoration)
- 12:30 pm-1:00 pm: Workshop II
- 1:05 pm-1:45 pm: Workshop III
- 2:10 pm-2:30 pm: Workshop IV
- 2:35 pm-3:00 pm: Group picture by the lake (Jerry)
- 3:05 pm: Clean Up/Load Up
- 3:00 pm-4:00 pm: Recreation Time (Supervision by all staff)
- 4:00 pm-5:30 pm: *IHA's/Depart to Fresno
- 5:20 pm: Arrive in Fresno

---

*Figure two shows the Agenda that I created for Environmental Education Day as well as the workshops*

---

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dirty Water</td>
<td>2nd Pass through</td>
</tr>
</tbody>
</table>

**Environmental Education Workshops**

1. Water Quality
   - What is Water Quality?
   - What is the Biogeochemical Cycle?
   - Activity
2. Water Conservation
   - General Information about water conservation
   - Activity
3. Ground Water
   - Ice Breaker
   - General Information on ground water
   - Activity
   - Crossword: (If there is enough time)
4. Importance of Aquatic Habitats (Fishing)
   - Why is it important to keep water clean for the aquatic habitat?
   - General Information about Fishing
   - Activity

**Chaperone Assigned staff**
- Oceana students
- Make sure safety measures are being used
- Ensure all students are being attentive and working correctly
- Assist in facilitating workshops as needed
- Direct students in running workshops in an orderly and timely manner
- Time each workshop
* Figure 3 shows my ground water workshop at Bass Lake
Conclusion

In conclusion, this internship has been an amazing experience. When it comes to the research that I did for the lesson plans, it is important to have good time management skills. The first few days at work, I began researching several different water related topics that I could use to create a lesson plan. In addition to the topics, I researched small activities that could be done to help demonstrate the topic. For instance, one of the topics that I turned into a lesson plan was water filtration. I provided the crew leaders with information about water filtration and a small activity where the crewmembers created a water filtration system with half of a water bottle, gravel, sand and soil. This way, it allowed the students to visually see how water filtration works and how it cleans up dirty water. This experience has provided me with knowledge pertaining to the USDA Forest Service. Before accepting this internship, I was unaware of the jobs that the USDA Forest Service offered and that they had different departments. Since I am a Business major, I felt that the USDA Forest Service couldn’t offer me anything in my field. After completing this internship, I now see that there are many opportunities that the USDA Forest Service offers and it is something I would like to have a career in. In the future, I hope to obtain a career with the USDA, especially with the Forest Service.
Appendices