

Siskiyou County Office of Education
609 S. Gold Street
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Siskiyou Natural Resource Education Program

Project # 2004-E-06

Agreement # 113334G004

Final Report 2003/2004

1. Abstract

During the past four years the Natural Resources Education Program (NREP) has worked hard to support local schools, teachers, and students in the area of natural resources. Since NREP began the program has served over 50,536 students. The advantage that NREP has over other programs is that it provides a person to work directly with students on natural resource education activities. The staff is well trained in many different areas of natural resource education. This allows schools an opportunity to do variety of programs and projects. NREP also works to bring resource professionals into the classroom and field to share their expertise with the students. NREP continues to put an emphasis on recruiting volunteers. We could not run our programs to the level that we do without the help of volunteers. In four years, this program has recruited over 2600 volunteers. These volunteers have donated over 7100 hours. In keeping with one of the stated goals of the Klamath River Basin Fisheries Task Force, NREP continues to make these dollars go as far as possible.

Each year NREP becomes more engrained into area schools. Schools see the need for natural resource education and know that NREP is the program that will keep them up-to-date and involved. Over the past four years, there has been a push for schools to align their science curriculum to meet the California State Science Standards. The NREP program has been working closely with participating schools to make sure that natural resource education is included within their curriculum. The funding from the Klamath River Basin Fisheries Task Force has allowed NREP to be involved in this process. If NREP weren't involved, natural resource education most likely would not have been included within each schools curriculum. Schools depend upon this program for their natural resource education.

In 2003/2004 the NREP program continued its support of the Aquarium Incubator Project, Cooperative Spawning Ground Surveys, and aquatic insects and water quality studies. We added French Creek Outdoor School to the list of projects areas NREP was involved with. We took the lead on Science Fun Day, held at the Yreka Campus of College of the Siskiyous. NREP worked with many different agencies and organizations on both in-class and field activities. With the success of this year's program, NREP plans on further developing already existing partnerships and serving participating schools with the resources available.

2. Introduction

Before the Natural Resource Education Program began in year four, we were told of a setback in our program. Due to the reduction in supplemental funding to the NREP we had to cut back 1 staff member. This meant that NREP's staff of four would be reduced to three.

With a reduction of staff, NREP was forced to decrease its service area for the second year in a row. Three schools and 1 community organization were cut from the program. In an effort to keep as many schools on board as possible one school was added to each coordinator's assignment. Even with a decrease in staff, NREP made an effort to meet each of the goals stated in the grant proposal including working with French Creek Outdoor School (FCOS). Working with the outdoor school proved to be a highlight of the program year. Each community coordinator attended a session in the fall and spring. They would attend with one or more of their assigned schools. While there the coordinator would teach 2-3 of the field study sessions. The FCOS staff was enthused to have the NREP program as part of the camp. In a relatively short time, the partnership between NREP and FCOS was solidified for the future.

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3. Description of Study Area

Our area of study includes all participating schools in Siskiyou County. For the 2003/2004 year 11 schools participated. In order for a school to participate they must provide a percentage of the funding support for the program. In 2003/2004, we again looked to expand our area of study to include French Creek Outdoor School. Working with FCOS allowed our coordinators to specifically teach 5th and 6th grade students from throughout Siskiyou County.

4. Methods and materials:

For the 2003/2004 year NREP again surveyed teachers and volunteers looking for feedback on its program. One of the hardest things to determine is how to measure what the students have learned about natural resources. NREP has found that feedback from teachers and volunteers is more reliable than surveys from students. Our target for the 2003/2004 school year was to survey 48 teachers and 80 volunteers. The information we received from them gave us useful feedback for NREP.

The teacher survey worked very well. Teachers would receive surveys asking what their students learned and how successful the project was. We were successful in surveying 32 teachers. In an effort to find out how their students felt about the project we asked the following question: "how did you and your students enjoy this project?"

The results from that question is as follows:

- 26 teachers said the project was "Awesome";
- 6 checked "Pretty Darn Good";
- 0 checked "OK";
- 0 checked "Need Improvement"

Here is what some of the teachers said when asked what their students learned about the project –

- "They learned how to dissect a fish and examine the internal organs"
- "They learned the definition of a watershed and how rivers/streams cut through the land"
- "They viewed aquatic insects and learned how they camouflage themselves"
- "They learned that white water provides oxygen for the aquatic life and learned interesting facts about the flora and fauna along the stream"

See attached for example of completed survey.

The volunteer survey was designed to be quick and easy for a volunteer to fill out. Volunteers were to be surveyed asking if the project was beneficial to students and the number's of hours they volunteered on the project. We were successful in surveying 64 volunteers. We had quite a variety of volunteers during this program year. Of the 64 surveyed 28 were parents, 13 were resource professionals, 9 were community members, and 14 were others which included 5 high school students.

Here is what the volunteers said when asked if they thought the project was beneficial –

- "Yes! I this was excellent. I especially like having the students explain their projects to us"
- "Yes! Hands on learning is always beneficial to students"
- "I believe yes, it was applicable to my field of expertise (fish biology) and I felt it did open educational awareness"

See attached for examples of completed surveys.

Based on feedback received on this year's surveys, we will continue to update the surveys to help us better measure our successes.

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5. Results and discussion of accomplishments:

The NREP program goals were to serve 6000 students, 150 teachers, recruit 725 volunteers with the volunteers donating 1400 hours. Student projects included tree planting, water quality, aquatic insects, raising fish in the classroom, fish dissection, and fieldtrips.

During the 2003/2004 year, NREP surpassed its goal of serving 6000 students by working with over 11,500 between kindergarten and twelfth grade. Many of the 11,500 plus students were involved in more than one project. The NREP program served over 200 teachers, of these teachers, most participated in five or more projects during the year. NREP was successful in recruiting 321 volunteers with those volunteers donating 1017 hours. Below are some examples of the nearly 450 projects that the NREP program helped to create, plan, and implement.

French Creek Outdoor School:

During the 2003/2004 year, our goal was to provide a different Community Coordinator (CC) each week to work with students at FCOS. The outdoor school provides fifth and sixth grade students with an opportunity to learn about nature through a number of different activities. Many of these activities are natural resource based which include field studies about riparian habitat, the forest, and geology. Over 400 students attended FCOS during the fall and spring sessions. The CC's became an intricate part of the French Creek program and will continue to be involved into the future.

Water quality, streamflow, and aquatic insect studies:

The NREP program coordinated and implemented successful projects throughout the Klamath River Watershed. Many of the participating schools were involved in a study that included measuring water quality, streamflow, and collecting aquatic insects. Many of these classes would travel to field sites all over Siskiyou County including Trees of Heaven, Cantara Loop, Shasta and Little Shasta rivers, French Creek, and many other sites. A standard field trip/project included schools collecting and identifying aquatic insects, measuring streamflow, and testing water quality.

Aquarium Incubator Project:

The NREP program continued to support the Aquarium Incubator Project this year. The staff supported nearly 45 classrooms in the fall and spring. The NREP staff worked with DFG personnel, at the Irongate Fish Hatchery, to gather, package, and deliver the eggs. Throughout the 6-week program the NREP Coordinators worked with teachers to develop and implement activities based on the Aquarium Incubator curriculum. Projects included fish dissections, fish prints, hatchery tours, and in-class games and activities.

Cooperative Spawning Ground Survey:

Five high schools and one elementary school participated in the spawning ground surveys during the fall of 2003. All involved students were trained on survey procedures and swift water safety. Once these students were trained, they worked with resource professionals counting salmon along the Scott, Shasta, Salmon Rivers, and Bogus Creek. This project is extremely beneficial to the students within the NREP program. They receive on the ground training, work on real hands-on projects, and work with professionals in the field. The data collected by the students and resource agencies is presented each year at the Aquarium Incubator Training. Many of the teachers who attend the training have students who are involved with spawning ground surveys.

Science Fun Day:

Over four hundred students in grades 1st-4th participated in the 6th annual Science Fun Day at the Yreka Campus of College of the Siskiyous. Over 30 volunteers, including resource professionals, and community members showed students that science is fun. Some of the stations included aquatic insects, native plants, trees, birds, fly tying, fish habitat, and our most popular booth cow-eye dissection.

Final Report 2003/2004

6. Summary and conclusions

Each year the feedback we receive from teachers is extremely positive. This year was no different. With three staff members we served 11 schools and just over 11,500 students. Teachers appreciate having an NREP staff member to help them with their natural resource education needs. This year's emphasis was to develop natural resource based activities that met the California State Science Standards. The NREP program and staff worked to develop new activities and projects for their teachers and students. The idea that natural resource education could not fit into the science standards was resolved by the addition of new activities and reworking of old activities. The process of meeting the science standards through natural resource education will be on-going. NREP will play a major role in this process.

This year gave NREP a sense of staying power. With schools scaling back due to budgets we were still able to keep a consistent program going. Keeping the program going was very important. We kept the community involved through volunteer recruitment. We had a number of projects that allowed us to work with and use the expertise of local resource professionals. Finally we were able to solidify a partnership with French Creek Outdoor School. By involving everyone in natural resources education, NREP is able to increase awareness of the Klamath River Watershed and the surrounding areas.

Unfortunately NREP did not receive funding through the Klamath River Basin Fisheries Task Force for the 2004/2005. With no funding the Natural Resources Education Program was shutdown.

7. Summary of expenditures

Our last invoice should have been received by your office for the third quarter (4/1/04-6/30/04). We did not have any expenditures during the fourth quarter.

Volunteer Survey Natural Resources Education Program Siskiyou County Office of Education

Volunteer Name: *Mike Taylor*
Job Title (if applicable): *Fly Tying*
Organization (if applicable):
Date: *5.27.04*

1) Type of volunteer

- Parent
- AmeriCorps
- Resource Professional
- Community member
- Other

2) School you are volunteering for: _____

3) Number of hours you are volunteering: 5

4) Was this project beneficial to the students?

Most of the students were very attentive and interested in the fly tying demonstration. I tied flies which were designed to match the aquatic insects at the previous station.

5) Do you have any suggestions for improvement?

I felt things went quite well.

2003-2004

Teacher Survey
Natural Resources Education Program



Siskiyou County Office of Education

Teacher Name: Mrs York

School: Willow Creek

Grade Level: 3, 4, 5

Date: June 2nd 2004

Project Title: Natural Resource field trip.

1. How did you and your students enjoy this project?

- | | |
|--|--|
| <input checked="" type="checkbox"/> Awesome! | <input type="checkbox"/> Needs Improvement |
| <input type="checkbox"/> Pretty Darn Good | <input type="checkbox"/> Not Too Exciting |
| <input type="checkbox"/> O.K. | |

2. What did your students learn?

They learned that white water provides oxygen for the aquatic life and as they took the nature walk, interesting facts about flora and fauna were pointed out.

3. Does this project align with the California Science Standards for your grade level?

In each grade level, points of life sciences were discussed.

4. Was the project well organized?

The whole day went very smoothly and the kids enjoyed each activity. Thank you!

5. Do you have any suggestions for new activities or programs?

Not at the moment. ☺



Barbara M. Dillmann, Superintendent

Barbara York

Teacher Survey.doc



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Natural Resources Education Program

Third Quarter Report

Jason Singleton, Outdoor Education Specialist

August 25, 2004

Natural Resources Education Program (NREP): The NREP program consists of 3 staff and one supervisor. Participating in this year's are 11 schools throughout Siskiyou County. Below you will find a brief summary of projects NREP was involved with during the reporting period of April 1, 2004 – June 30, 2004

Timeline for Report:

4/1/04 – 6/30/04

Project Numbers (4/1/04 – 6/30/04):

# of Projects:	223
# of Students:	4901
# of Volunteers:	113
# of Vol. Hrs:	450

Summary of Activities:

1) French Creek Outdoor School:

This past spring the NREP program participated at French Creek Outdoor School (FCOS). The NREP staff worked at all four camps. Each staff member taught students about a particular fieldstudy during the week they were there. The fieldstudies included riparian/creek, forest, geology, and Leave No Trace. Each session included 15-20 students. When the fieldstudy sessions were over the NREP staff would then work with the students on other natural resource activities including leaf poetry and watershed animals. The continued partnership with FCOS proved very successful in its second year.

2) Science Fun Day

This year was the 7th annual Science Fun Day. Over 400 students participated. SFD is the culminating event for the NREP program. It brings together many of the classrooms we worked with during the year. It also brings together many of the resource professionals that we work with over the year. It is a chance to thank them and the students and teachers for participating. During SFD, the students got another chance to learn from the resource professionals. Activities included: Aquatic Insects, Native Plants, Fish Habitat, Fish Prints, Cow-eye dissection, and many others. We received many great comments about the day and encouraged feedback from the volunteers.

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Superintendent of Schools

Natural Resources Education Program

Second Quarter Report

Jason Singleton, Outdoor Education Specialist

April 26, 2004

Natural Resources Education Program (NREP): The NREP program consists of 3 staff and one supervisor. Participating in this year's are 11 schools throughout Siskiyou County. Below you will find a brief summary of projects NREP was involved with during the reporting period of January 1, 2004 – March 31, 2004

Timeline for Report:

1/1/04-3/31/04

Project Numbers (1/1/04-3/31/04):

# of Projects:	190
# of Students:	4069
# of Volunteers:	88
# of Vol. Hrs:	205

Summary of Activities:

1) Aquarium Incubator Project (AIP):

The AIP continued with its spring trout egg delivery on February 18, 2004 and concluded in March for most classrooms with a fish release at designated sites throughout Siskiyou County. The AIP spring curriculum is a 6-week program designed around the students learning about the life cycle of the rainbow trout. They first receive about 200 eyed eggs, and then they must determine when the eggs will hatch. The students then care for their eggs just as if the eggs were in the gravel of the river. Once the eggs hatch and lose their yolk sacs, the students begin to feed them. After another couple of weeks the fish are ready for release. Releasing the Fry is a big deal for the students. The students really care for their fish and are always anxious on release day. During the 6-weeks, between receiving and releasing, the students engage in activities designed to help them understand the lifecycle of the rainbow trout. Students learn the differences between the trout and the salmon they raised in the fall. Other activities may include: fish dissections, fish prints, and the Nose Knows game. It is through these activities that students begin to understand what happens to their fish once released. In the spring we had 22 classrooms participating.



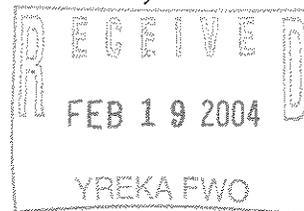
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PROJECT TITLE
Natural Resources Education Program

February 10, 2004

Timeline for Report:
10/1/03-12/31/03

Project Numbers (10/1/03-12/31/03):

of Projects: 181
of Students: 4039
of Volunteers: 102
of Hours Donated: 410

Summary of Activities:

1) Aquarium Incubator Project (AIP):

The AIP started on November 13, 2003, with egg delivery and concluded in December for most classrooms with a fish release at designated sites along the Klamath River. The AIP curriculum is a 6-week program designed around the students learning about the life cycle of the chinook salmon. They first receive eyed eggs, then they must determine when the eggs will hatch. The students then care for their eggs just as if the eggs were in the gravel of the river. Once the eggs hatch and lose their yolk sacs, the students begin to feed them. After another couple of weeks the fish are ready for release. Going to the Klamath River is a big deal for most of the students. The students really care for their fish and are always anxious on release day. During the 6-weeks, between receiving and releasing, the students engage in activities designed to help them understand the lifecycle of the chinook salmon. These activities may include: fish dissections, fish prints, the Nose Knows game, and a visit to Iron Gate Fish Hatchery. It is through these activities that students begin to understand what happens to their fish once released. In the Fall we had 17 classrooms participating. On February 18th students will again receive fish eggs, only this time they will be trout eggs.

2) French Creek Outdoor School (Riparian Station):

Fieldtrips were conducted at French Creek Outdoor School on the Life Cycle and Habitat Requirements of the Salmon~Riparian Ecosystems. In October, the staff continued to work with student at French Creek Outdoor School doing 4 of these trips. Each trip consisted of students touring a riparian corridor on French Creek and learning about the requirements of salmon in those areas. Sixth grade students from seven different schools participated in the project. French Creek Outdoor School will again operate in the spring allowing more students to participate in this project.