



Siskiyou County Office of Education

*Providing a Menu of Powerful Services to Schools and Communities
Supporting the Learning Goals of Each Child and Family*

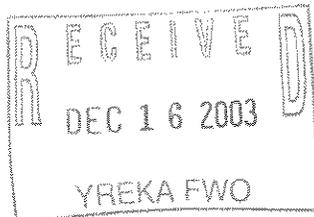
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Final Report 2002/2003

December 11, 2003



Title:

Natural Resources Education Program

Cooperators Name:

Siskiyou County Office of Education
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Contact: Jason Singleton (530-842-8402)

Project Number:

2003-E-03

Agreement Number:

113333G002

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1. Abstract

During the past three 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 38,700 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 three years, this program has recruited over 2300 volunteers. These volunteers have donated over 6100 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 three 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 2002/2003 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 three, we were told of a setback in our program. In early August 2002, the AmeriCorps YouthServe Program informed us that their program had been cut from Siskiyou County. NREP had relied on the YouthServe program for additional staff. During the previous two years the YouthServe program supplied us with 2-3 AmeriCorps members to work as part of our NREP team. This meant that NREP's staff of seven would be reduced to four.

With a reduction of staff, NREP was forced to decrease its service area. In all 5 schools and 3 community organizations 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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After the staff reduction, one of the areas NREP no longer was able to serve was the Salmon River Watershed schools. However in an effort to stay connected with these schools, NREP still provided services where possible. We still work with the schools through the Aquarium Incubator Project and Cooperative Spawning Ground Surveys.

3. Description of Study Area

Our area of study includes all participating schools in Siskiyou County. For the 2002/2003 year, 14 schools and 1 community organizations participated. In order for a school to participate they must provide a percentage of the funding support for the program. In 2002/2003, we 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 2002/2003 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 2002/2003 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 43 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:

- 31 teachers said the project was "Awesome";
 - 10 checked "Pretty Darn Good";
 - 2 checked "OK";
 - 1 checked "Need Improvement"
- No project or activity received the lowest rating.

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 35 volunteers. We had quite a variety of volunteers during this program year. Of the 35 surveyed, 12 were parents, 10 were resource professionals, 3 AmeriCorps members, 1 was a community member, and 9 were volunteers other than the four above mentioned ones. 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.

5. Results and discussion of accomplishments:

The NREP program goals were to serve 7000 students, 225 teachers, recruit 725 volunteers with the volunteers donating 1800 hours. Student projects included tree planting, water quality, aquatic insects, raising fish in the classroom, fish dissection, and fieldtrips.

During the 2002/2003 year, NREP surpassed its goal of serving 7000 students by working with over 11,000 between kindergarten and twelfth grade. Many of the 11,000 plus students were

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involved in more than one project. The NREP program served over 180 teachers, of these teachers, most participated in five or more projects during the year. NREP was successful in recruiting 587 volunteers with those volunteers donating 1009 hours. Below are some examples of the nearly 550 projects that the NREP program helped to create, plan, and implement.

French Creek Outdoor School:

During the 2002/2003 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 600 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.

Sidewalk Stenciling:

The NREP staff working in cooperation with the Watershed Education Specialist from the Siskiyou County Office of Education implemented sidewalk stenciling projects with local area schools. Approximately 20 elementary school classrooms as well as Yreka and Discovery High Schools participated in the project. The goal behind the project was for students to help with community awareness. The result was students learning about how storm drains are connected to the local rivers and streams.

Cooperative Spawning Ground Survey:

Five high schools and one elementary school participated in the spawning ground surveys during the fall of 2002. 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 AmeriCorps, 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.

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6. Summary and conclusions

As year 3 began, NREP was faced with the issue of losing the AmeriCorps YouthServe partnership. This meant a reduction of 3 staff members. The big question was how were we going to continue the same level of service that our schools had become accustomed too? The first and hardest task was to tell some schools that we no longer had the resources to serve them. Each of the schools that was cut from the program was informed that if resources became available they would be added to the program. The Salmon River Watershed was especially hard to let go. These schools have always played an important role in both the NREP and the AmeriCorps Watershed programs. NREP decided to provide the Salmon River Schools with services whenever possible.

Each year the feedback we receive from teachers is extremely positive. This year was no different. With three staff members we served 14 schools and just over 11,000 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 the staff cutback 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. In 2003/2004 NREP will continue to build upon the goals it has set during the last three years.

For additional information see our website at: www.sisnet.ssku.k12.ca.us Click on Natural Resources Education Program.

7. Summary of expenditures

Our last invoice should have been received by your office for the third quarter (4/1/03-6/30/03). We did not have any expenditures during the fourth quarter.

Teacher Survey
Natural Resources Education Program
Siskiyou County Office of Education

Teacher Name: Ellen Noble

School: Willow Creek

Grade Level: 4-C

Date: 9-24-2002

Project Title: Shasta Weir

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

- Awesome!!
- Pretty Darn Good
- OK
- Needs Improvement
- Not Too Exciting

2) What did your students learn?

They learned how tired + determined the salmon are to swim upstream. They learn that salmon serve as hosts to lampreys

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

4th - Life Science 3b

4) Was the project well organized?

Yes. The students were divided into groups for the resource specialists to talk with them and had time to observe the fish with the teacher below the weir

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

Possibly something specific for them to do or observe while they are waiting for presentation by specialist
How about some info about the watershed?

~~Will print of and read about the~~

Teacher Survey

Natural Resources Education Program

Siskiyou County Office of Education

Teacher Name: Bay Roberts

School: Wood

Grade Level: 4th

Date: 5-28-03

Project Title: Aquatic Insects

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

- Awesome!!
 Pretty Darn Good
 OK
 Needs Improvement
 Not Too Exciting

2) What did your students learn?

- Food Chain
- Types of aquatic insects
- Role of each insect in the ecosystem
- Illustration and labeling of aquatic organisms as observed under the microscope
- Aquatic insect habit
- Different types of aquatic insects.

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

Yes, they responded positively and enthusiastically.

4) Was the project well organized? Laurie has been extremely well organized and prepared for each and every classroom presentation.

5) Do you have any suggestions for new activities or programs? Under Laurie's direction this program has been more than helpful and an asset to our curriculum. To assure that our students meet CA Science Standards it is essential that the program be continued.

Teacher Survey
Natural Resources Education Program
Siskiyou County Office of Education

Teacher Name: Andrea Herr
School: Butteville Elem.
Grade Level: 3-4
Date: 4-27-03
Project Title: Rainbow Trout Release

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

- Awesome!!
 Pretty Darn Good
 OK
 Needs Improvement
 Not Too Exciting

2) What did your students learn? They learned that water quality is important to fish survival and success. They helped to test aquarium and creek water for Ph, temperature and nitrates. They saw, through the color of the test, (over)

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

Yes.

4) Was the project well organized? It was well organized and went very smoothly. Lauri did a great job.

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

that the nitrate level of our aquarium was dangerously high, probably due to dead fish not being removed over the spring break. They learned that the water quality of the creek was good. At the creek they looked for insects on rocks, found many, and examined them under microscopes. They studied the vital signs of the creek, including vegetation, animal life, impact of human life and weather, and water quality. Based on these signs they decided the creek was a healthy place to release the fry.

Laurie Caldwell

**Volunteer Survey
Natural Resources Education Program
Siskiyou County Office of Education**

Volunteer Name: *Cindy Stensaas*
Job Title (if applicable): *Parent - Butteville Elementary*
Organization (if applicable):
Date: *4/25/03*

1) Type of volunteer

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

2) School you are volunteering for: *Butteville Elementary*

3) Number of hours you are volunteering: *2 1/2 + per week*

4) Was this project beneficial to the students?

5) Do you have any suggestions for improvement?

see attached

4)

Laurie's presentation of water bugs was excellent. Laurie brought a sample of water bugs she collected from a local river. She helped the children identify and classify the bugs. She provided a chart that illustrated the various water bugs to help the students find the names of the bugs. The students were provided an opportunity to look at the bugs through a "mini microscope". Laurie answered the students questions thoroughly and provided interesting information. Laurie relates well to the students and they were very attentive during her presentation.

5)

I would like to see Laurie given more opportunities like this to educate the students using "hands on" lessons!

Volunteer Survey Natural Resources Education Program Siskiyou County Office of Education

Volunteer Name: *Marian Murphy Shaw*
Job Title (if applicable): *Curriculum Specialist*
Organization (if applicable): *SCOE*
Date: *5-29-03*

1) Type of volunteer

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

2) School you are volunteering for: *all, SCOE*

3) Number of hours you are volunteering: *9-2*

4) Was this project beneficial to the students?

*relates well to science standards
generate enthusiasm for science education*

5) Do you have any suggestions for improvement?

*none I can think of
-perhaps more physical, earth sciences? :?*