Appendix G - OSRI Grant Policy Manual

Final Report Form - Oil Spill Recovery Institute

This report may be submitted by mail, fax or e-mail

P.O. Box 705 - Cordova, AK 99574 - Fax: (907) 424-5820 - E-mail: frontdes@pwscc.gen.ak.us

Deadline for this report: Submittal within 90 days of grant/award expiration. Also, note that a summary Financial Statement shall be submitted within 30 days of the grant expiration.

Today's date: July 14, 2004

Name of awardee/grantee: Prince William Sound Science Center, Kate Alexander

Project title: Science of the Sound

Dates project began and ended: January 1, 2004-September 30, 2004

PART I - Outline for Final Program or Technical Report

This report must be submitted by all grantees. However, for those whose project work resulted in a peer reviewed publication (whether in draft or final form), this report may be abbreviated and the publication attached as part of the report.

A. Abstract or summary of project work.

The 2003-2004 school year was very successful for the Prince William Sound Science Center community education programs’, Science of the Sound. Every student in the local Cordova elementary school attended 8 Discovery Room programs that highlighted a variety of systems in the natural world, including weather, astronomy, geology, chemistry, and anatomy, as well as four field trips for students in grades 4-6. A total of 27 Community Programs were held, attracting a total of 476 participants for the year. Two Outreach Discovery trips were held in Chenega Bay and covered the topics of geology, anatomy, astronomy, and chemistry. One trip went to Tatitlek where the students studied anatomy, chemistry, and astronomy. Finally, Science Center educators
significantly increased their involvement with high school students. High school activities included leading field trips, organizing class presentations, coaching a team for the regional National Ocean Science Bowl tournament, and helping to plan and organize a science festival for the whole community.

B. Review objectives as described in original proposal and state whether these objectives were achieved.

- Increase field trip opportunities for students—Science Center educators were able to help organize four field trips for the elementary students and four trips for various high school groups.
- Diversify the topics of Community Presentations in order to increase the scope of participants.—The total number of programs only increased by one from 2003, however the average number of attendants/program increased from 13 (300 total) in 2002-03 to 18 (476 total) in 2003-2004. A wide range of outside presenters were incorporated into the schedule.
- Increase the number of Outreach Discovery trips from one per village to two per village—Science Center educators were able to take 2 trips to Chenega Bay, but only one to Tatitlek because of poor weather conditions.
- Increase participation with high school students—Science Center Educators certainly did this by leading field trips, coaching a National Ocean Science Bowl team, giving presentations, and organizing the science festival.
- Create web-based educational materials—This was not accomplished due to the lack of staff time and web-development resources.

C. Describe problems or roadblocks encountered in project implementation.

There were not many problems or roadblocks encountered in project implementation. We were unable to complete two Outreach Discovery trips to Tatitlek because of inclimate weather that created poor flying conditions. We were also unable to accomplish our objective of creating web-based materials, mainly because we are limited by staff time. However, plans have already been initiated to partner with the Prince William Sound RCAC and two local high school students to convert the Oil Spill Curriculum to a web-based format.

D. Highlight accomplishments, whether or not they were part of the original proposal.

The Discovery Room ended with a fieldtrip to Hartney Bay for shore birding, the last of four fieldtrips for the school year. The end of year program review by Discovery Room staff, teachers and students from Eccles Elementary rewarded us with comments such as “the students loved the Discovery Room this year”, “I think the field trips were the high-light of the year” and “The kids really enjoyed their visits this year”.


At the end of the previous school year, teachers from the elementary school requested that more physical science be taught in the Discovery Room. The staff decided to incorporate this into an overall theme of “systems”, highlighting topics such as weather, chemistry, anatomy, geology and astronomy. Having the students realize that a system only operates efficiently when all of its parts are complete and functioning as a whole helped to tie all of the programs together.

Fieldtrips were the highlight for the students. These included a trip to the Power Creek hydroelectric plant for a program on electricity and a trip to the hospital to learn about anatomy, the musculature system, cardiovascular system, and respiratory system. The last two fieldtrips included a visit to the Coast Guard Cutter Sycamore to learn about modern navigation and an exciting trip to Hartney Bay to watch the shorebirds on their annual migration.

The Community Education program had a great overall turnout for attendance in the fall of 2003 and spring of 2004. A total of 476 people attend 27 programs, including 113 children and 22 high school students. A change in program planning in 2003 included having various researchers and program managers from the U.S. Forest Service, Alaska Dept. of F&G, Copper River Watershed Project, Native Village of Eyak, and Science Center scientists give presentations on their current research or projects. Having a more diversified group of presenters enabled us to attract a wider scope of community participants.

At the beginning of each program, attendees were asked to sign their name and email address if they would like to receive updates and information of upcoming programs as well as general science information. A list of names, email addresses and age breakdown (adults, children and high school students) provided information for understanding which programs attracted children or high school students. This information will help in future program planning. The email address list for Community Programs has increased from 12 names at the beginning of the fall 2003 to 81 names presently.

Outreach Discovery was very successful in reaching both students and community members. Two trips to each village were planned for Chenega Bay and Tatitlek this season but one trip to Tatitlek had to be cancelled due to bad weather. The programs offered by the Science Center to the villages were programs already given to Mt. Eccles students in the Discovery Room. During the March trip to Chenga Bay, Science Center educators visited for most of two days and one night. The first day included lessons on geology, including information on mountain building, plate tectonics, volcanism, geologic time and glaciology. Students also learned how to identify minerals and rocks using such properties as streak, hardness, and crystal shape. In the afternoon students were taught how to mix different chemicals and dissolve them in a super saturated solution to grow crystals of their own. Students started their own crystal growing experiments during the first and the results were discussed on the second visit.

The second day of lessons focused on chemistry. In the evening, a community program was held discussing owls and astronomy. Participants practiced owl calls.
and other special owl adaptations. Everyone also got to view mercury, Venus, Mars, Jupiter and two of its moon and Saturn and its rings. The quarter moon was also observed and some of its craters and landforms were discussed and observed. The second trip to Chenega Bay included programs on anatomy and orienteering. The trip to Tatitlek included programs on anatomy and chemistry with similar activities and experiments described in the first trip to Chenega Bay.

It is difficult to pinpoint a highlight from working with the local Cordova High School students. The National Ocean Science Bowl team that was coached by a Science Center educator finished fourth overall out of a field of 14 teams. The team successfully completed a research paper and presentation on “The Effect of Hydrocarbons on Pacific Herring in Prince William Sound” as well as participated in a quiz-bowl competition. The Science Festival held the first week of February attracted a majority of the community to celebrate science! It included science fair projects, presentations, and demonstrations by all students in grades 7-12 as well as a festival program presented by the Imaginarium. The “best in show” project was done by a senior who extrapolated on Science Center research of the Copper River Delta mudflat invertebrate populations. Numerous other presentations and field trips were organized and led by Science Center educators and reached a wide range of the student population.

E. Conclusions.

The programs and experiences from this year have exposed new ideas and approaches for Science Center educators to look into for next year. In the Discovery Room, the educators will be busy creating and implementing an Outdoor Coastal Curriculum. This curriculum will utilize an outdoor area located next to Odiak Pond in Cordova as an outdoor classroom. Monthly lessons will explore a variety of ecosystems and biological concepts in the students’ own backyard. At the start of the school year, Science Center educators will travel to Tatitlek and Chenega Bay in order to set up an outdoor classroom in the two villages. Each month Discovery Room lessons will be shared via email and regular mail with the teachers in Tatitlek and Chenega Bay. This regional education partnership will provide valuable science educational resources for teachers without a formal science background, and will strengthen the quality of science education for Alaskan Native communities of the Prince William Sound.

Future planning for Community Programs includes getting more feedback from participants on what types of programs they would like to see. Science Center educators will give a survey to the high school and middle school students next fall to see what kind of programs they would like to see. During an end of year meeting with Janet Clark and Adam Low, both middle and high school science teachers, it was agreed that some of their students projects, work-study and homework will be incorporated into some of next years weekend programs.
There are big plans to increase involvement with high school students, mainly through offering an Oceanography course for both college and high school credit. This will serve as the groundwork for National Ocean Science Bowl participants to learn about the ocean sciences as well as offer a course that isn’t currently available to students. Science Center educators will also help to improve the science festival from last year, including coordinating a festival with the Imaginarium and offering prizes for the students that win the project, demonstration, and presentation categories. Finally, there will also be a variety of field trips and class presentations that will be given by the Science Center Educators and researchers.

F. Appendix including copies of all written reports or publications completed or in progress, resulting from the project work. This also includes abstracts of papers presented at conferences. Please note the acknowledgment of OSRI support stated in Section 10.3.4 of the Grant Policy Manual.