

Exxon Valdez Oil Spill
Restoration Project Annual Report

Kodiak Archipelago Youth Area Watch

Restoration Project 00610
Annual Report

This annual report has been prepared for peer review as part of the *Exxon Valdez* Oil Spill Trustee Council restoration program for the purpose of assessing project progress. Peer review comments have not been addressed in this annual report.

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Kodiak Archipelago Youth Area Watch

Restoration Project 00610 Annual Report

Study History: This project was modeled after the original Youth Area Watch Program of the Prince William Sound and lower Cook Inlet (Restoration Project 98210), initiated in 1998 as Restoration Project number 98052 under the title Community Involvement Project Internship Program. An Annual Report was issued on April 22, 1999. This report discusses the activities of the Kodiak Archipelago Youth Area Watch during the 1999-2000 school year. This project will be continued in FY01 as Restoration Project number 01610.

Abstract: The Kodiak Archipelago Youth Area Watch selected ten students to participate in the newly formed Kodiak Archipelago Youth Area Watch Project from the communities of Kodiak, Larsen Bay, Old Harbor and Ouzinkie. The students worked on three core research projects: 1) Field-Testing of PSP Test Kits for Subsistence Use (EVOS Project 00482); 2) Harbor Seal Biosampling (EVOS Project 00245); and 3) project with the Kodiak Fisheries Technology Center and the National Marine Fisheries Service to test for the abundance of phytoplankton. In addition the students each selected a local project to conduct.

Key Words: Chugach Regional Resources Commission, community involvement, harbor seal, Kodiak archipelago, Kodiak Island Borough School District, Kodiak Youth Area Watch, monitoring, observations, PSP, students, subsistence, traditional ecological knowledge.

Project Data: (will be addressed in the final report)

Citation:

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Appendices: Kodiak Archipelago Youth Area Watch Orientation Meeting Notes (November 12, 1999); Kodiak Archipelago Youth Area Watch Orientation Meeting Notes (January 26, 2000); KYAW Data Sheet (for marine plankton monitoring); “Student programs blend science and technology” Kodiak Daily Mirror, Wednesday, February 9, 2000; “Students getting a ‘marine’ education...monitoring sea life” Kodiak Daily Mirror, Wednesday, March 1, 2000.

Executive Summary: The Kodiak Archipelago Youth Area Watch selected ten students to participate in the project (four from Ouzinkie, two from Old Harbor, two from Larsen Bay, and two from Kodiak). Four teachers, one from each community, and numerous community members from around Kodiak Island also participated in the project. The students worked on three core research projects: 1) Field-Testing of PSP Test Kits for Subsistence Use (EVOS Project 00482); 2) Harbor Seal Biosampling (EVOS Project 00245); and 3) project with the Kodiak Fisheries Technology Center and the National Marine Fisheries Service to test for the abundance of phytoplankton. Because of these projects, the students were able to collect data on plankton blooms through monitoring temperature, salinity, etc. The students also located clamming beaches and historical sites of PSP occurrences and located a dock site to take PSP samples. The students learned more about the marine mammal populations in their area by talking with elders and fishermen. Students also collected data pertaining to ocean water temperature, presence of algae, general weather conditions, marine mammal sightings, and Seal Biosampling. They also began research regarding PSP and its presence in the Kodiak waters.

In addition to the above projects, the students each selected a local project to conduct. The local project required the students to seek elder and community input into their project and the project also had to incorporate Alutiiq values and be environmentally relevant. The Scientists encouraged the students to speak with people in the community and interview elders to use the local/traditional knowledge in determining the best locations to collect data, gathering historical information, etc. This proved to give the students a sense of pride in their culture and community. The students learned that their community members and family are important to the science world and do hold a vast amount of knowledge. This project also encouraged the students to do well in school, attend college and seek out careers in the science field.

Introduction: The Kodiak Archipelago Youth Area Watch is modeled after the original Youth Area Watch Program which was initiated in Prince William Sound and lower Cook Inlet. The Kodiak Archipelago Youth Area Watch began in 1998 as the Community Involvement Project Internship Program. In January 1999 applications were sent to all Kodiak Island Borough School District sites and village tribes to prompt student, teacher, and community participation. Student Science Interns selected for the remainder of the school year included one student from Larsen Bay, two students from Karluk, two students from Old Harbor, and one student from Akhiok.

Each student researched, locally, the effect of the 1989 oil spill in their village by interviewing Elders and other community members. Students participated in the 10th Year Symposium held in March 1999 and brought those reports to share. During the remainder of the spring of 1999, Teri Schneider, the Internship Coordinator, and Hugh Short, Community Development Director for the Chugach Regional Resources Commission, researched possible future projects for the students to participate in. This was also done to spark the interest of other students within the

school district. The Kodiak communities overwhelmingly supported the Internship Program. Thus, The EVOS Trustee Council approved funding for FY00 to expand the Program into today's Kodiak Archipelago Youth Area Watch.

The Kodiak Archipelago Youth Area Watch selected ten students to participate in the newly formed Kodiak Archipelago Youth Area Watch Project (EVOS Project 00610) from the communities of Kodiak, Larsen Bay, Old Harbor and Ouzinkie. The students worked on three core research projects: 1) Field-Testing of PSP Test Kits for Subsistence Use (EVOS Project 00482); 2) Harbor Seal Biosampling (EVOS Project 00245); 3) project with the Kodiak Fisheries Technology Center and the National Marine Fisheries Service to test for the abundance of phytoplankton. In addition the students each selected a local project to conduct.

Objectives: Selected students from Kodiak, Larsen Bay, Old Harbor and Ouzinkie participated in the project. Students from Karluk, Port Lions and Akhiok were also supposed to participate. Unfortunately, the Karluk School did not open due to a lack of students. Although this did not enable to students to fully participate in the program, Mitch Simeonoff, a community member, continued the work and involvement of the community through Seal Biosampling. This indicates the importance of community involvement. Even though the school was unable to partake, the program partially continued through community support and their commitment to see the program through. Sadly, Port Lions and Akhiok did not have teachers interested in coordinating the effort locally so the students were unable to participate this year.

The participates accomplished the following objectives:

1. Research project personnel interact with students, communities and staff.
2. Identify all research and data collection activities.
3. Orient researchers on working with students.
4. Conduct research with the four projects. (The students only worked on three projects. Originally, they were to work with Dr. Jerry Plumley to test algae for a possible connection to the infection of PSP in Shellfish. Although Dr. Plumley did do one presentation, discussing this project, the actual testing did not occurred in FY00.)
5. Update MOA between CRRC and KIBSD.
6. Complete site teacher training.
7. Conduct school orientations for students in the Kodiak Archipelago Youth Area Watch.
8. Complete Student project training with Tribal Council and site teacher.
9. Facilitate project follow-up training with site teachers.

Methods Results & Discussion: Due to increased funding, more students, teachers and community people were recruited during the 1999-2000 school year to include a total of ten students (four from Ouzinkie, two from Old Harbor, two from Larsen Bay, and two from Kodiak), four teachers (one from each community), and numerous community members from around Kodiak Island participated. During the 1999-2000 school year the students, teachers, and community members participated in orientation, trainings, data collection, and the integration of Traditional Ecological Knowledge with western science and the integration of the Kodiak Archipelago Youth Area Watch into the science curriculum of the schools.

On November 12, 1999 a Kodiak Archipelago Youth Area Watch orientation meeting took place in Kodiak (see attached meeting notes). Connecting the scientists and their projects to the teachers was the main purpose of this meeting. It proved to be quite successful. During the meeting Hugh Short explained the Kodiak Archipelago Youth Area Watch, Ray Roberts of Jellet Bioteck discussed his project to field test PSP testing kits for subsistence use (EVOS Project 00482), and Brad Stevens of the National Marine Fisheries Service did a presentation on his project to test for the abundance of phytoplankton in the ocean water using a Secchi disk. The above presentations helped prepare the teachers for their project involvement, through data collection with their students. On December 15, 1999 another meeting was held to further the development and organization of the Kodiak Archipelago Youth Area Watch.

During the school year, orders were placed to build a "tool box" of equipment for the students to use for their data collection. This was done by the recommendations given by the scientists, and coordinated by Dr. Brian Himelbloom and Bob Pfitzenreuter of the University of Alaska and the Fishery Industrial Technology Center located in Kodiak. By the end of the year the "tool box" consisted of a field microscope, hydrometer, PSP test kit, water sampler, secchi disk, dissolved oxygen kit, ocean plankton net, and a seal Biosampling kit.

Ouzinkie and Old Harbor students participated in Seal Biosampling training in Kodiak. During the Kodiak Island Borough School District Rural School's Science Fair Mitch Simeonoff and Roy Rastopsoff, community members, performed Seal Biosampling. A number of students from throughout the region, as well as their teachers, were exposed to the data collection and purpose of this project. The students were taught how to not only perform Biosampling, but also how to properly harvest a seal. Once they had completed the sampling, the seal was distributed among the community members for a feast. Each student selected a local project to conduct for the Science Fair. The local project required the students to seek elder and community input, incorporate Alutiiq values, and environmentally relevant. Old Harbor students conducted a salmon fry project and Ouzinkie students worked on a salmon ladder. There were also several individual local projects done. These projects were very important for the students not only because they learned the importance of science but also because they learned the value of local/traditional knowledge and how it applies, and can be incorporated into, today's lifestyle. Such projects give the students a sense of pride in their heritage and communities. These projects encouraged the students to attend college and pursue a career in the science field.

On January 26, 2000 a student/teacher orientation meeting took place to train participants in the use of the equipment and process of data collection and reporting (see attached meeting notes). During the meeting Ray Roberts of Jellet Biotek gave an overview of the PSP test kit project (EVOS Project 00482) explaining that a training session would occur later in the year. Julie Mtweyou discussed her and Dr. Plumley's project, testing algae for a possible connection to the infection of PSP in shellfish. The development of a website to post the data collected from the Kodiak Archipelago Youth Area Watch participates was discussed. The group also talked about collecting data on plankton blooms through monitoring temperature, salinity, etc. for the Kodiak Fisheries Technology Center and National Marine Fisheries Service. Throughout the meeting the incorporation of Traditional Ecological Knowledge was evident. The Scientists encouraged the students to speak with people in the community and interview elders to use the local/traditional knowledge in determining the best locations to collect data, gathering historical

information, etc. From this meeting the students were assigned their projects. The students were to locate clamming beaches and historical sites of PSP occurrences and locating a dock site to take samples. The students were also to learn more about the marine mammal populations in their area by talking with elders and fishermen.

In June of 2000 another training session took place that introduced participants in the collection of samples and use of the PSP testing kit, which they would collect throughout the summer. In addition to the above meetings, students, teachers, and scientists met weekly throughout the year to discuss the progress and evaluate the program informally via email and teleconference. In the spring, students began to collect data pertaining to ocean water temperature, presence of algae, general weather conditions, marine mammal sightings, and seal Biosampling. Students also began research regarding PSP and its presence in the Kodiak waters.

Old Harbor School began to design their High School Science studies to integrate Kodiak Archipelago Youth Area Watch into what they offer to all of their students. During the 2000-2001 School year, they hope to focus more of their attention on marine studies school wide and eventually integrate the Kodiak Archipelago Youth Area Watch completely into the classroom, making it a requirement through curriculum development.

Conclusions: This project proved to be quite beneficial to the scientists, communities, and students who participated. It encouraged the scientists to utilize a good source for data collection and integrate their work with the communities it effects. The project helped to convey to the community members what scientific research was occurring in their area and what its significance was. It encouraged community members and elders to pass on their local/traditional ecological knowledge to future generations. And, this project encouraged the students to be proud of their people, their heritage, and their own abilities. The Kodiak Archipelago Youth Area Watch encouraged students to attend college and seek out careers in the science field.

Acknowledgements: The authors would like to acknowledge each of the site coordinators: Charlie Powers, Old Harbor School; Mark Leinberger, Ouzinkie School; Teresa Hedges, Larsen Bay School; Mitch Simeonoff, Alaska Native Harbor Seal Commission/Akhiok. Without the coordination of each site, and participation of the community members, KYAW would not exist. Acknowledgement also goes to the scientists who worked with the students throughout the year to teach the importance of science and working together: Brad Stevens, National Marine Fisheries Service, Kate Wynne, Marine Advisory Program UAF, Dr. Brian Himelbloom Associate Professor, UAF/FITC, Dr. Vikki Vanek, ADF&G and Bob Pfitzenreuter.

**KODIAK ARCHIPELAGO YOUTH AREA WATCH
Orientation Meeting Notes
November 12, 1999**

In Attendance

Brad Stevens, National Marine Fisheries Service	481-1726 bradley.g.stevens@noaa.gov
Phil Mundy, EVOS Trustee Council	278-8012 phil_mundy@oilspill.state.ak.us
Kate Wynne, UAF, Marine Advisory Program	486-1517 ffkmw@uaf.edu
Brian Himelbloom, UAF, FITC	486-1529 ffbhh@uaf.edu
Charlie Powers, Old Harbor School	286-2213 sitkalidak@aol.com
Mark Leinberger, Ouzinkie School	680-2204 mleinberger@kodiak.k12.ak.us
Teri Schneider, Kodiak Is. Borough SD	486-9276 tschneider@kodiak.k12.ak.us
Teresa Hedges, Larsen Bay School	847-2252 thedges@kodiak.k12.ak.us
Scott Smiley, UAF, FITC	486-1500 scott.smiley@uaf.edu
Bob Pfutzenreuter, UAF, FITC	486-1500 fnrep@uaf.edu
Ray Roberts & Joan Jellet	Unknown

Meeting Notes

Hugh Short gave a brief introduction on what the Kodiak Archipelago Youth Area Watch objectives encompass. This program was modeled after the Chugach School District Youth Area Watch, which was originally proposed by the Chugach Regional Resources Commission. This program gives a select number of students who are interested in science an opportunity to get hands-on experience in science fieldwork and data analysis. The students work together with researchers to produce data that is just as verifiable and useful as projects that do not utilize

students. The program in Kodiak will work with all six villages through the school district to begin a similar program.

Ray Roberts, Jellet Biotek, discussed his project funded through the Trustee Council, which is planning on utilizing the Kodiak Archipelago Youth Area Watch students through the field testing of a type of PSP testing kit that would give results within 20 minutes. The students will take over 200 samples of shellfish around Kodiak Island, perform the test, ship the results to the Alaska Department of Environmental Conservation in Palmer, and continue to be involved after the field work is complete.

Brad Stevens, National Marine Fisheries Service, presented information on a program that he runs through March to September using a Secchi disk to test for abundance of phytoplankton in the ocean water. His monitoring requires getting away from near shore influences and testing with the minimal amount of tide variability everyday. Brad felt that kits could be brought fairly inexpensively and YAW participants could be trained adequately to collect good data.

Charlie Powers commented that there would be plenty of motivation in Old Harbor to participate in the previously mentioned programs.

Bob Pfitzenreuter indicated that collaborative efforts would be very beneficial if you collect shellfish, use the Secchi disk, and recorded water temperature.

Dr. Jellet commented that a lot of information is within the minds of the elders and they need to be involved in the effort.

Kate Wynn mentioned that other environmental factors could be added to this program such as the temperature and many monitoring sites.

Theresa Hedges and Mark Leingerger both said that their communities and schools would be very interested in this program.

Charlie Powers said that a website where all the data collected could be viewed and input would be an excellent 3way to accomplish all of this. Additionally, you would facilitate communication between all the participants and provide a forum to troubleshoot.

Dr. Jellet mentioned that looking at phytoplankton would be very beneficial for many different reasons. Kits could be purchased at Hach Chemical in Colorado for under \$100.

Charlie Powers said that this program should start in the spring.

Brad Stevens indicated that mid-February would be a good place to start. Also the kids need short term motivation to stay interested in this project. School credit and personal reasons and goals would be a good start. Finding out when phytoplankton blooms can be a good goal.

Charlie Powers said that the website needs to be part of this. Chat rooms and the sharing of information is important.

Phil Mundy reiterated that the website will need to be part of the program.

It was commented that the summer work could be a paid internship. Students could earn while learning.

High-powered microscopes to look at the different kinds of algae and phytoplankton as a component should be considered.

Scott Smiley said that the processing plant quality control people could assist in the project, especially if the data collected will be useful to their operation. He also said it would be beneficial to have a ready-made grant application to submit to other funding agencies to bring in more resources.

Phil Mundy said that the Alaska Science and Technology Foundation funds these types of projects and probably would be very receptive to the program. Coupled with Trustee Council support, this program could make a large impact for the school district and its students.

The participating villages need to set up a support team that will assist in the implementation of the project. It will take several people to make this work and the summer paid position would greatly assist in the success.

Teri Schneider said that any input the participants at the meeting can submit to the administration and school board would be very helpful in gaining their support and making this program a credit-based project for students.

The group agreed to serve as an ad hoc advisory group to assist in the development of the project and will meet again sometime in December.

*If you have any questions regarding these notes please call Hugh Short at 265-9341 or Teri Schneider at 486-9276 or email to previously mentioned addresses.

KODIAK ARCHIPELAGO'S YOUTH AREA WATCH
Orientation Meeting
10 a.m. – 3 p.m., January 26, 2000
Fishery Industrial Technology Center, Phone # 486-1500

- 10:00 Introductions
- 10:30 Audio conference with Jellet Bioteck in Canada
- 11:00 Overview of Chugach's Model of the Youth Area Watch in their region (Hugh Short)
(Mike Rostad from the Kodiak Daily Mirror will stop by for photos and possible interviews)
- 12:00 Lunch from Subway
Discussion regarding other projects for our KAYAW
Video pieces from ADF&G of the "Harbor Seal Biosampling" (Kate Wynn)
Julie Matweyou will explain the project currently underway with Gerry Plumley
Brian Himmelbloom, and others will discuss other project ideas/plans
- 1:00 Tour of Facilities
- 2:00 Questions & Answers
- 3:00 Old Harbor dismissed

Attendees:

Teri Schneider: from Kodiak...

Mitch Simeonoff: from Akhiok, serving on the Native Harbor Seal Commission doing Seal Boisampling.

Julie Matweyou: from Fairbanks, graduate student working on a PSP sampling using muscle sampling.

Matt: student from Kodiak attending the Area Wide School.

Caleb: student from Kodiak attending the Area Wide School.

Dave Allen: Site coordinator in Kodiak, currently teaching at the Area Wide School. He has taught elsewhere in Alaska, 4 years at our Danger Bay school and 4 years in his current position. He is interested in engaging students through hands on projects...he sees this as an opportunity to do "science in a kayak."

Bob Pfitzenreuter: KITC technician for 8 years.

Brian Himelbloom: faculty/researcher for 13 years. Interested/specializes in bacteria as it pertains to seafood and spoilage. Also interested in PSP/ red tide at a cellular level.

Kate Wynne: Marine mammal biologist. Currently working on population studies. In 1992 she began the boi-sampling effort with Native hunters.

Shelly Johnson: Ouzinkie student.

Marc Leinberger: Ouzinkie site coordinator. Grew up in Barrow, taught in LKSD and is interested in fisheries, biology, and marine mammals.

Ralph Joe: Ouzinkie student.

Roy Rastopsoff: Akhiok resident working with Mitch Simeonoff.

Ray Roberts, Charlie Powers and the Old Harbor students, Marcus Tunohun and Loren Peterson joined us via audio conference.

Hugh Short was unable to attend.

Meeting Notes

1. We connected with Ray Roberts at Jellet Biotech in Canada. He gave an overview of the PSP test kit project:
 - He would like to run a trial for using the test kit this spring. He would like to have 200 tests between April and September. The kit is easy to use utilizing the shellfish extract on a stick that will indicate a + or – for toxins or lack of toxins. A training session will need to occur to:
 - show students how to collect samples, use the test kit, record data, and ship it all to the lab.
 - confirm which beaches samples will be taken from and how often.
 - He will send materials for a “Biotoxins 101” course (this is in the mail now!)
 - He wants the students to do the following, now:
 - using local knowledge, determine the important clamming beaches to the community.
 - using local knowledge, gather historical information regarding the occurrences of “red tide” and PSP in their area.

2. Julie Mtweyou ask some questions regarding compatibility of her project and Ray’s
 - Can we be flexible?
 - Can we combine training for both?
 - Can projects share data?YES, seems to be the answer to the questions, as long as funding is not compromised in doing so.....

3. Julie’s project will utilize the tissue and the “juice” of the critters:

- Local knowledge should help in determining the best sites.
 - Once a week on a specific day with a specific # of samples taken.
 - Water samples, as well, would be helpful.
 - A broad range of shellfish could be used (they must be segregated by species for testing purposes-butter, blue muscle, oyster, other clams).
 - A strong population site is necessary for the selected sites.
4. Charlie Powers would like this project to set up a website to post data collected regarding our findings much like the GLOBE project does for soil, water, and weather. Let's model a website from that project.
 5. Julie asked what the protocols are for beach monitoring. This should be followed up through the Dept. of Environmental Conservation.
 6. Susan Payne (entered after original introductions) would like our group to monitor year round whale sightings....she has been involved with the Journey North project (<http://www.learner.org/jnorth/>). She reminded us of Whale Fest that is taking place this spring, April 14-23.
 7. Brian Himelbloom reminded us that Brad Stevens is working on a project that may help determine plankton blooms which are annual, seasonal events. His project will involve monitoring the water using the Secchi disk. Brad and Charlie have discussed Old Harbor student's interest in this project. Brian has put together an equipment list for general monitoring.
 8. Bob Pfitzenreuter said that it would be good to begin such monitoring in early March to help determine when the algae blooms begin. It is an multidisciplinary approach that can be done at a dock where there is not fresh water in flow. This could be like the GLOBE project-gone marine! Daily monitoring would be ideal, but it could be set up to be flexible. The monitoring should not take long (less than an hour, depending on the site chosen), but should be consistent with time/tide and the site. This should also be done throughout the summer.
 9. Discussion led to an interest for town students to possibly monitor water samples at the fish waste processing plant....interesting water out there!!!
 10. Kate Wynne suggested that we purchase 3-4 water temperature monitoring devices that can monitor over time and can be downloaded to a computer.
 11. Marc remembered using such a device to check temperature, salinity, etc.
 12. Bob Foy joined us and discussed another opportunity....I am sorry, I but I was unable to be present during his whole presentation.

The students and site coordinators went next door for a tour of the new Research Facility!

13. Mike Rostad joined us to interview and take photos for the newspaper (the article was printed in the paper on Feb. 9).
14. Teachers expressed an interest and need in having supplemental materials/curriculum to begin the study of marine biology and the local environment. It was mentioned that the Fish and Game Wildlife Notebook series is now online at:

(<http://www.state.ak.us/local/akpages/FISH.GAME/notebook/nothome.htm>)

Other websites can be noted from Julie Matweyou's notes, as well.

Other sites for immediate reference:

<http://www.akmarine.org>
<http://www.fakr.noaa.gov/>
<http://www.marinemammal.org>
<http://www.globe.gov>
<http://www.micronet.net/user/~yaw/>

There are lots more out there, so stay posted and send your favorites to everyone! Specific suggestions for materials and curriculum should be directed to Teri.

Our Projects

1. PSP Shellfish, PSP Water, and Sea Otter Observations (at the beach)
 - Ray Roberts and Jellet Biotech
 - Gerry Plumley and July Matweyou
2. Physical Ocean – Water sampling/monitoring (at a dock)
 - Brad Stevens
 - Brian Himelbloom
 - Bob Pfitzenreuter
3. Bio Sampling/Marine Mammal Sightings (boat/beach)
 - Kate Wynn
 - Vicki Vanek
 - Susan Payne
 - Native Harbor Seal Commission-Mitch Simeonoff

Next Steps

- Right now, students should be in the process of determining “hot spots” for clamming and historical sites of PSP occurrences. They should be documenting oral histories regarding this topic and determining a possible dock site for conducting the water monitoring research.

- Students can also be learning more about the marine mammal populations in their area by talking with fishermen and Elders. Documentation and mapping can begin right away.
- A training for the Physical Ocean project and perhaps the seal biosampling should be done in February, depending on schedules of Brad Stevens and Vickie Vanek.
- A training for PSP sample taking can take place sometime in March or early April.

Student programs blend science and technology

By MIKE ROSTAD
Special to the Mirror

Island students are on the cutting edge of two programs that blend local, traditional knowledge with academic science and technology.

A team of Kodiak Island students and teachers participating in the Youth Area Watch, mapped out their research strategies recently at the Fisheries Industrial Technology Center on Near Island and winners of the regional village science fair traveled to Anchorage to compete in a statewide fair, sponsored by the American Indian Science and Engineering Society.

Teri Schneider, Alutiq studies coordinator for the Kodiak Island Borough School District, is involved in both programs and sees them as a way of linking local people, who have time-tested practical knowledge, with professionals in the sciences.

The Youth Area Watch is a program that taps into community resources and helps students see the practical applications of science.

It got started by the Chugach Regional Resource Commission in Prince William Sound after the devastating Exxon Valdez oil spill in 1989.

After the disaster "the area was blasted with scientists and others trying to learn about the environment," Schneider says. "People are recognizing the value of local knowledge and information that hasn't been tapped into before."

Hugh Short, who represents the commission, which is funded by the Exxon Village Oil Spill Trustee Council, connected with Schneider who introduced the idea to local school district officials.

"Marine life has been given little attention," Schneider says. "This is a great opportunity to pull in the scientific community and do some sort of monitoring."

Monitoring involves a large number of activities, such as tracking the migration of whales and taking note of their diet, determining water turbidity and collecting tissue samples of subsistence-harvested seals, finding the best place to get shellfish, interpreting the data and putting conclusions on a computer website.

As students go about these projects, oral history, cultural ap-

preciation, geography, and other skills and topics come into play, Schneider says.

At the recent planning session on Near Island, biologists and teachers with the University of Alaska Fairbanks discussed many ways in which students can monitor the marine environment and understand how everything interacts. The group also consulted with Old Harbor teacher Charlie Powers, via teleconference, and learned how students are monitoring marine life in that village.

An in-depth hands-on training session for the Youth Area Watch is scheduled for Feb. 14-19 in Kodiak.

Brian Himelbloom, UAF teacher, recommended that students begin monitoring waters in March.

Himelbloom also said that "it's key to have monitoring in the summer." Currently there are four monitoring sites: Larsen Bay, Kodiak, Ouzinkie and Old Harbor. Akhiok may also become a site for the program.

Schneider says the area watch program "combines scientific expertise with traditional knowledge found locally. It provides another opportunity for kids to learn 'hands-on' and see if this is meaningful to their communities. It's a great way to invite communities to get involved in projects and give direction.

"We're always looking for 'hooks' for kids to stay in school. When learning is meaningful and relative to their lives, that hook tends to be a little sharper."

Kate Wynne, a marine mammals specialist and UAF professor, saw the Area Watch launched in Prince William Sound and she's excited about it.

"Everybody is talking about incorporating traditional knowledge with Western science. This gets the kids involved (with a 'hands-on' application of science."

Traditional knowledge also comes into play in the rural science fairs which is a blending of science, Alutiq history and language, with specific emphasis on local relevance and respect for elders.

The program is sponsored by the American Indian Science and Engineering Society, a professional organization seeking to get Native American students more involved in math, science and technology. Science projects are evaluated according to their alignment with the scientific method and cultural relevancy.

In November a regional science fair was held in Ouzinkie and winners participated in the statewide fair in Anchorage last weekend. Schneider says local students did very well in the competition.

Three of the four top project winners in the regional fair got started at the Academy of Elders on Afognak Island last summer.

Projects included a study of Alaska Native languages, a test to see which burns better — seal or fish oil — construction of deadfall traps, and an examination of different ways of preparing fish.

Students' projects were displayed in the Sheraton Hotel during the Native Educators' conference.



Top strategists

The Area Watch planning team met at the Fishery Industrial Technology Center to map out research strategies. From left, Teri Schneider, Alutiiq studies coordinator; Marc Leinberger, Ouzinkie teacher; Ralph Joe, Ouzinkie student; Shelly Johnson, Ouzinkie student; Kate Wynne, UAF teacher, Brian Himelbloom, UAF teacher; Darian Rastopsoff, Larsen Bay student; Alice Charliaga, Larsen Bay student, Teresa Hedges, Larsen Bay teacher; Kaleb Garza, Area Wide School student; David Allen, Area Wide School instructor; Matt White, Area Wide School student; Mitchell Simeonoff, Native Harbor Seal Commission, Akhiok; Roy Rastopsoff, Akhiok student; and Julie Matweyou, UAF graduate student. (Mike Rostad photos)



A young crop of scientists

Island science fair winners and chaperones gather to depart for Anchorage. From left, Kalen Pedersen, Patrick Schneider, Marc Leinberger, chaperone; Matthew Delgado, Ivan Christiansen, Cadman Peterson, Rocky Christiansen Jr., Jon Panamarioff, Scott Detorres, Teri Schneider, Alutiiq studies coordinator; Juanita Kelly, chaperone; Jeremy Clarion and Bliss Peterson.

Students getting a 'marine' education

... monitoring sea life

BY MIKE ROSTAD
Special to the Mirror

Eyes wide open, a group of Kodiak Island youngsters are watching the ocean for signs of life: from the insect, microscopic plants and animals that float inconspicuously in the water column, to attention-getting macro-organisms, such as whales and porpoises.

The students are participating in the Youth Area Watch program, which originated in Prince William Sound in the wake of the 1989 Exxon Valdez oil spill. Teri Schneider, Kodiak school district Alutian studies coordinator who oversees the project, says it combines local knowledge with scientific expertise in generating a greater understanding of the marine environment.

The project was adopted locally through help from the Chugach Regional Research Commission, which is funded by the Exxon Valdez Oil Spill Trustee Council.

This week at the Fisheries Industrial Technology Center, scientific expert discussed oxicative shellfish poisoning, El Niño, various methods of scallop moni-

toring and other issues important to those who depend on the sea for survival.

Guest speakers included Dr. Brad Stevens with the National Marine Fisheries Service, professor Brian Hambleton, University of Alaska (Fairbanks), Bob Puzanov with EUC Lab technician, Bob Fay, UAF research associate, and Susan Payne, with the National Oceanic and Atmospheric Administration.

Addressing a life-and-death topic that has plagued many islanders who are fond of clams and other shellfish, the scientists noted there is a difference between "red tide," which occurs in warm water, and PSP (paralytic shellfish poisoning), which is caused by an organism known as Alexandrium.

Every summer plankton bloom is bound to occur, and with the aid of a microscope, observers can identify the organism in the plankton.

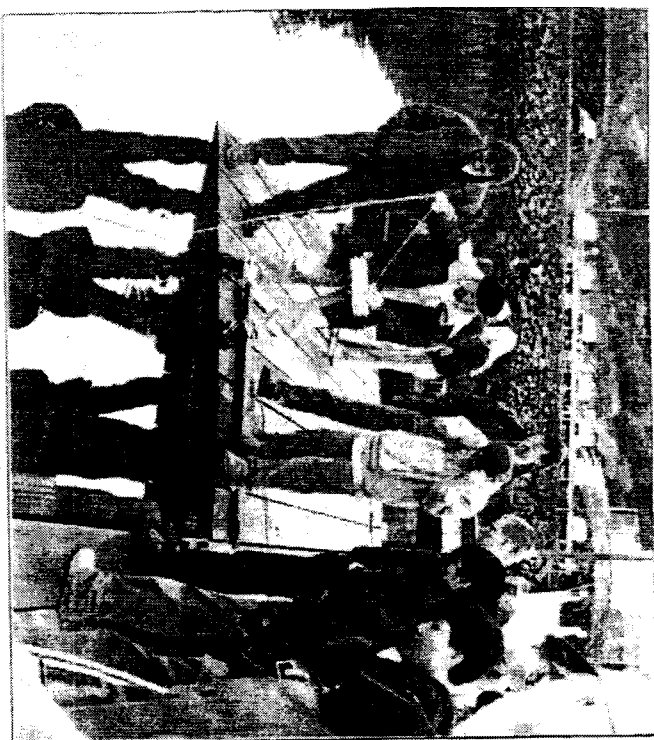
The scientists also discussed the latest in marine monitoring devices. Fay traveled over a little gadget that records ocean temperatures over a long period of time and said it was able to

show a significant two-degree temperature increase in Gulf waters during the summer of 1997.

After several hours of quietly taking in lectures and video presentations, and asking questions and presenting their own observations, they went to the Trakel Basin dock to test some of the monitoring equipment that was demonstrated in the conference room. It was here, surrounded by docks and seaports, and refreshed by a beer carefully brewed where some of the youngsters clearly noticed the connection between textbook science and traditional Alutians learned from their elders.

Although "vocabulary" and "temperature tiggers" have not been part of their vocabulary, many of the students have been directly affected by the things these instruments measure — water turbidity, temperature and plankton blooms, biological clouds of microscopic critters which the bigger fish and marine mammals eat.

In more academic terms, students were told the same thing that ➤ See PAY ATTENTION, Page 12



THE SECOND DISK TAKES A DIP — Dr. Brad Stevens finds a protective spot to drop a ecosystem, black-and-white circle that measures water clarity, as Aeva Wild School teacher Davee Allen (left) and the students look on. (Mike Rostad photo)

... getting drown-proofed

BY NAOMI KIRKWOOD
Mirror Writer

Peterson Elementary School students learned some important "drown-proofing" skills last week.

Kathy Simpson's third grade students were eager to learn how to stay afloat in the water. They learned to float on their backs, hold their breath, and kick their feet. The students were also taught how to get into a survival position and how to get out of the water.

a knowledge base to draw on to prevent accidents and prevent a panic response in an emergency."

"I'm impressed at how well the kids all work together," said Simpson. "It's an opportunity to take learning out of the classroom."

The classes, which focus on water safety, are part of the district elementary school level safety program, which is in preparation for the upcoming school year. The program has been praised as a way to save lives and prevent accidents. It is a program that is being implemented in other schools in the district.

budget, according to Dave Jones, business manager for the Kodiak Island Borough School District.

"This class teaches swimming and survival," said Keith Moon, who has two children participating in the program. "All the kids at Peterson do this every year. The older they get the more they are taught. It really builds confidence."

The elementary program leads into the Kodiak Middle School program, which occurs a cut at the level will be a great loss. Without the program, a larger and larger percentage of students won't have the skills to be safe in the water.



IN THE RAFT — Peterson Elementary School students practice drown-proofing skills at the water. (Mike Rostad photo)

Pay attention

Continued from Page 1
fathers, mothers, uncles and grandparents have drilled into them for years: pay attention to what's going on around you.

When taking water samples, students should take note of precipitation, sky conditions, wind, activity on the water and other things, Himelbloom said.

"Did you see fish feeding? Did you see a whale? Observations might tell us something when we throw it into the pool of information."

On the following day, the group participated in the biopsy of a seal. The operation, done in cooperation with the Native Harbor Seal Commission, may help scientists determine reasons for the decline of seals in the area.



WATER TEMP READING — Student Brandon Steele (left) reads a temperature gauge to Dr. Brian Himelbloom.

(Mike Rostad photo)

