I. FY07 Invitation: Narrative Forms for Proposals

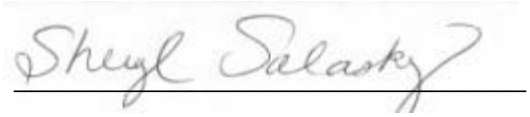
PROPOSAL SIGNATURE FORM

THIS FORM MUST BE SIGNED BY THE PROPOSED PRINCIPAL INVESTIGATOR AND SUBMITTED ALONG WITH THE PROPOSAL. If the proposal has more than one investigator, this form must be signed by at least one of the investigators, and that investigator will ensure that Trustee Council requirements are followed. Proposals will not be reviewed until this signed form is received by the Trustee Council Office.

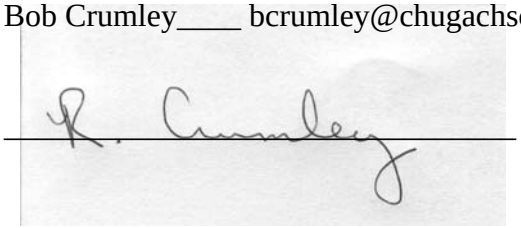
By submission of this proposal, I agree to abide by the Trustee Council's data policy (*Trustee Council Data Policy**, adopted July 9, 2002) and reporting requirements *(Procedures for the Preparation and Distribution of Reports***, adopted July 9, 2002).

PROJECT TITLE: _____Youth Area Watch - PWS_____

Printed Name of co-PI: Sheryl Salasky_____salasky@alaska.net_____

Signature of co-PI:  Date: Aug 3, 2006

Printed Name of co-PI: Bob Crumley____ bcrumley@chugachschools.com_____

Signature of co-PI:  Date: Aug 3, 2006

* **www.evostc.state.ak.us/Policies/data.htm**
** **www.evostc.state.ak.us/Policies/Downloadables/reportguidelines.pdf**

Trustee Council Use Only Project No. 070210 Date Received: _____

FY07 INVITATION
PROPOSAL SUMMARY PAGE
(to be filled in by proposer)

Project Title: Youth Area Watch - PWS

Project Period: FY07, FY08, FY09, FY10, FY11

Proposer(s): Sheryl Salasky, Bob Crumley / Chugach School District

Study Location: Prince William Sound; Resurrection Bay

Abstract: Youth Area Watch (YAW) is designed to involve students in working with scientists while making a meaningful contribution to research &/or restoration in oil spill affected communities. Youth are trained by scientists to design and conduct long term monitoring projects. In addition to learning current scientific sampling and research techniques (as mandated by Alaska State & National Science Standards), they return to their villages and survey community members for input toward designing a local environmental monitoring and/or restoration project.

Youth Area Watch fosters long-term commitment to the goals set out in the Restoration Plan of 1994 and offers a positive community investment in that process. Participating communities in FY 07-09 will be Chenega Bay, Cordova, Tatitlek, Valdez, Whittier, Anchorage and Wasilla.

FUNDING: Budget Reduction of 40% Approved; with Restoration Objectives added.

EVOS Funding Requested: FY07 $ 104.5

(Includes 9%G&A)

TOTAL EVOS: $ 104.5

Non-EVOS Funds to be used: FY07 $ 278.6

TOTAL EVOS & NON-EVOS = $383.1

Date: July 30, 2006

(NOT TO EXCEED ONE PAGE)

PROJECT PLAN – 070210 - Youth Area Watch – Prince William Sound

I. NEED FOR THE PROJECT

A. Statement of Problem

Youth Area Watch (YAW) links students in the oil spill impacted area with research and restoration projects funded through the Trustee Council and other agencies. This program continues the involvement of junior and senior high school students in Prince William Sound (PWS) and other spill affected areas' restoration processes. It also provides local students with the skills to participate in oil spill restoration, now and in the future; it offers the opportunity to connect in a new way to the marine environment, and to interact one-on-one with career scientists. Youth conduct research identified and delegated by principal investigators who have indicated an interest in working with students. Youth Area Watch fosters long-term commitment to the goals set out in the restoration plan and is a positive community investment in that process. Participating Prince William Sound communities include: Cordova, Chenega Bay, Seward, Tatitlek, Valdez, Whittier, Anchorage and Wasilla.

B. Relevance to 1994 Restoration Plan Goals and Scientific Priorities

As YAW continues to partner students with scientists conducting research, it also links students with their communities via student-driven restoration projects. Once students become involved in YAW, they survey their community to determine an area of need that will benefit from student restoration efforts.

Recent projects include mapping and surveying the natural and human-use resources within the recently created Mineral Creek Star Park Recreation Site. This 140-acre estuary at the confluence of Mineral Creek and the Port of Valdez offers the ideal opportunity for students to conduct "real, hands-on" science while making a meaningful contribution to research in oil spill affected communities. YAW students in Valdez just completed their second year and plan to begin their third. Under the guidance of Department Natural Resources (DNR) District Ranger Jack Sinclair and Valdez High School science teacher Jenny Heckathorn, YAW students are gathering information that will aid in the decision making process as park guidelines are drafted. Students learn first-hand how science researchers and government agencies can work together effectively. The Valdez YAW students were nominated and awarded a 2006 "Spirit of Youth" Award for their ongoing participation in this, and another, YAW project. See www.spiritofyouth.org/award_lists/banquet_06.html.

This resource inventory began in August 2004, as a result of YAW teacher training at the Center for Alaskan Coastal Studies (CACS). Attending teachers from PWS communities were excited about the CoastWatch program (presented at the CACS training) but were dismayed to find that the CoastWatch website was only accepting data for Cook Inlet, and not PWS communities. In an effort to conduct their own "coast watch", the Valdez YAW teacher and students sought their own project. Once the CoastWatch program becomes active for PWS communities, several YAW sites have expressed interest in collecting those data.

YAW students in Chenega Bay worked closely with EPA environmental scientist Kate McLaughlin to sample bivalve tissues for the presence of paralytic shellfish poisoning. (See their power point presentation at:
www.chugachschools.com/youth_area_watch/05_06_yaw_student_projects/index.html
Throughout the year they gathered tissue samples, conducted specific tests according to standard procedures, organized and analyzed data. Ultimately, they presented their research and findings to the community at the annual end of school year event. Families provided positive response to their students' participation in scientific studies guided by involved agencies. Often students in our small communities are the glue that brings local residents and government agencies together for the common goal of learning more about the area in which they live.

YAW students in Cordova and Chugach Extension School students in Long Lake (near McCarthy) continue their second year of work in conjunction with the non-profit Copper River Watershed Project. FishWatch is a proactive, community based, monitoring program in the Copper River Watershed, organized by Becky Clausen of Cordova. Community volunteers and students conduct baseline water quality and aquatic invertebrates surveys, to assess the health of local streams. The goal of this project is to gather and organize information useful in maintaining healthy salmon habitat in the Copper River Watershed. Data collection began spring 2003 and is ongoing. This year brought the addition of student monitors from Long Lake (near Copper River headwaters). They are excited to continue these studies for the upcoming school year 2006/07. Students learn the value of knowledge gained over time as they commit to monitoring a site for the long-term.

YAW students in Tatitlek served an integral role in bridging communications between local elders and EVOS scientists seeking local knowledge of pre- and post-oil spill observations. After a 2003 village visit from the scientists, students devised and delivered a survey seeking the information requested by the visiting scientists. YAW students presented those findings at the Science for Resource Dependent Communities – Joint Scientific Symposium in Anchorage, January 13-17, 2004. Since that time, students have surveyed community members for their ideas on what has changed in their village over the last 20 years. In response to that survey, YAW students conducted the Tatitlek Ocean Monitoring Project during 04/05. They conducted population counts of chosen intertidal species based on a community survey and the aforementioned CACS YAW teacher training and student orientation in August 2004. See:
www.chugachschools.com/youth_area_watch/04_05_yaw_student_projects/index.html
This year (05/06) under the guidance of a different teacher, Tatitlek students performed the same water quality sampling regime as conducted in Copper River Watershed because they wanted to compare water quality from their local stream to that of a nearby watershed. Data recently posted on the YAW website will be available for comparison when school reconvenes Fall 06.

YAW students in Whittier have worked the past two school years (04/05, 05/06) with trained weather observers to gather various weather data and present it in a format useful to local mariners and visitors. See website listed above.

Beginning Fall 06, National Oceanographic and Atmospheric Administration (NOAA) scientist Brian Lance will involve Whittier YAW students in his data collection and monitoring project that examines an artificial reef recently installed in Passage Canal near Whittier. The goal is to find ways of restoring lost habitat in Alaska marine waters. This project includes an education outreach component: once the Whittier project is established, plans are to install artificial reefs throughout PWS, involving other YAW students in monitoring those sites nearest them; i.e. Cordova, Chenega Bay, Tatitlek & Valdez. Students will collect data and monitor the site(s) for accuracy. Brian has agreed to train and mentor students in the scientific endeavors necessary for their participation.

Beyond the reach of the traditional YAW region, other schools have shown an interest in this program and have offered to participate of their own volition. Students at Susitna Valley Jr/Sr High School in Talkeetna worked with Cook Inlet Keepers and locally trained community members to conduct water quality measurements and monitoring techniques. As a result of their commitment beyond the classroom and strong work ethic, they were invited to join UAF SALMON (Sea Air Land Modeling Observation Network) Project Science Director, Phil Marshall in 2003 as he designed, built and deployed 'oceanographic observations drifters' in Resurrection Bay. This was an effort toward implementing a statewide Coastal Alaska Observing System (CAOS). Students in Anchorage and Wasilla have expressed similar interest in joining the YAW program, based on these opportunities.

The FY 07 Invitation to Bid describes four "considerations applicable to project proposals", which are as follows: Population Monitoring/Modeling, Integration, Data Management and Synthesis, and Community Participation and Revitalization. The Youth Area Watch project will continue to contribute to population monitoring of injured resources and will train students in the design, development, and execution of monitoring research projects. Youth Area Watch is an integrated program that will likely contribute to the monitoring of more than one injured species and resource – additionally students will integrate the natural and social sciences, and delve into the biological, physical and chemical aspects of marine ecosystems. This Youth Area Watch program will most significantly contribute to community participation and revitalization by engaging youth of the oil spill affected communities through mentorship and directed marine science projects. By involving students in local resource stewardship and restoration activities, immediate benefits are provided to the community (through interaction) and the environment (through restoration).

II. PROJECT DESIGN

A. Objectives

Selected students from the identified communities participate in research and restoration activities set out by Alaska Department of Fish & Game-ADFG (Bob Piorkowski-invasive species, Dan Rosenberg-harlequin ducks), PWS Regional Citizens Advisory Council-RCAC (Dan Gilman-invasive species), North Gulf Coast Oceanic Society-NGCOS (Craig Matkin and Eva Saulitis-whale biologists), National Oceanic & Atmospheric Administration-NOAA (Brian Lance), Environmental Protection Agency-EPA (Kate McLaughlin) and other project principal investigators working with Youth Area Watch. As

part of an area watch project that works with existing research and restoration projects, students collect samples and data that are then provided to the respective projects.

Youth Area Watch program objectives include:
1. Students interact with researchers and ocean/coastal professionals.
2. Identify research and data collection activities performed by students and mentors.
3. Update memoranda of agreement with participating school districts.
4. Improve accountability for participating teachers and students.
5. Conduct site teacher training on project activity protocol.
6. Conduct school recruitment for students interested in Youth Area Watch.
7. Select and notify student participants for Youth Area Watch.
8. Conduct annual student orientation and project training at a science-based facility.
9. Students obtain community input, develop a plan and conduct local research/restoration project.
10. Students participate in monitoring and documentation for specific injured species, resources, services or marine related research topics.
11. Students attend the annual Marine Science Symposium.
12. Students participate in fieldwork under guidance of PI.
13. Facilitate project follow-up training for site teachers.
14. Maintain a Youth Area Watch web site.

B. Procedural and Scientific Methods

The Chugach School District (CSD) currently works with the Chugach Extension School, Cordova School District and Valdez School District through memoranda of agreement so that the communities of Chenega Bay, Tatitlek, Whittier, Anchorage, Wasilla, Cordova and Valdez may participate. School districts will operate under the existing agreements during the project years.

Youth Area Watch project coordinators continue to work with the principal investigators of the cooperating projects to solidify project expectations. Protocol is established for sample/data collection, reporting and analysis. In addition, principal investigators commit to working with the students for a period of time during the training and/or data collection stage.

The Chugach School District developed an application and screening tool to select students for participation in the project. Up to 25 students will be selected from the participating communities to be a part of Youth Area Watch. While the numbers may vary according to the interest and ability of students that apply, it is expected that the distribution will generally be as follows: two students from Chenega Bay, two students from Tatitlek, three students from Whittier, six students from Cordova, two students from Anchorage, two students from Wasilla, six students from Valdez, and two remote site students.

Youth Area Watch relies on the participation of research projects, sites and resources to successfully fulfill the program objectives. Throughout the project year, students travel to research vessels, specific project sites near their community and research labs in the process of project activity completion. In previous years, Youth Area Watch was able to

coordinate with projects conducting research cruises and work cooperatively on task completion while sharing the costs of vessel hiring. During FY03-FY06, Youth Area Watch program coordinators assisted with killer whale identification training. It is expected that this type of cooperative effort will continue in the coming years.

Students will participate in the core research projects as a group. This will consist of coming together as a group to work on collection protocol, as well as conducting activities for these projects in their community. In addition, students will participate in local projects that pertain to their geographic area. It is during the local project work that students maintain a great deal of community contact, surveying community members for input toward student restoration projects. In addition, students receive a high degree of one-on-one interaction and involvement with principal investigators and their research. Youth Area Watch coordinators continue to remain open to working with other projects funded by the Trustee Council if students can have meaningful participation in these projects.

Ongoing & Upcoming Youth Area Watch research and training projects include:

1. Comprehensive killer whale investigation in Prince William Sound, Project Number 07012: Principal Investigator (PI) is Craig Matkin. This project tracks the killer whale population in Prince William Sound and Kenai Fjords. Whales are photographed and cataloged based on identifying markings and family relationships. Students will assist in locating and identifying the whales during day cruises in and around Resurrection Bay. Genetic studies on the whales are also conducted through the use of darting. Once tissue samples are obtained, students will conduct DNA sampling with the assistance of Biotechnology Research Academy Director and Milken Award winning educator Kirk Brown.
2. Artificial Reefs as a Restoration Tool for Alaska's Coastal Waters: Brian Lance, NOAA scientist, heads this project that partners National Marine Fisheries Service (NMFS), NOAA & Prince William Sound Science Center (PWSSC). The project involves Alaska's first pre-planned artificial reef, which was installed May 2006, near Whittier in western Prince William Sound. The purpose of this pilot project is to document the marine community at the artificial reef site and to assess if the artificial reef enhances productivity in the immediate marine environment. The study is designed to assess the efficacy of artificial reefs as a fish habitat enhancement tool with potential for future marine habitat restoration and enhancement projects in nearshore Alaskan waters. Students will be trained to assist scientists and divers in data collection and future reef deployment procedures, as new sites are established. Whittier student participation is slated to begin Fall 06.
3. European Green Crab Research Program: Bob Piorkowski, ADFG biologist and coordinator of the Invasive Species Program manages a network of federal and state agency personnel charged with the green crab trapping & monitoring programs. Dan Gilson, program coordinator with the PWS Regional Citizens Advisory Council (RCAC) and Denny Lassuy, invasive species program manager for US Fish and Wildlife Service (FWS) are actively seeking opportunities to involve students and community members in establishing long-term data sets. Specific tasks include the deployment of fouling plates in the spring and removal for inspection in the fall.

This works well with the school calendar schedule. Baited minnow traps are also set once a month during a 24-hour tidal period from March through June. Student participation is slated to begin in Tatitlek, Chenega and Cordova this fall, and will continue for the third year in Valdez. Whittier students will join later.

In addition to the core projects in which Youth Area Watch students participate, each site selects a restoration project to conduct in their community. This restoration activity is something that the students select and not necessarily a project that is currently funded by the Trustee Council. However, local projects are closely linked to existing restoration activities. Some newer projects have developed from original restoration projects completed by past YAW students.

Coordination between Youth Area Watch and participating research projects remains strong. Where possible, research vessel costs are shared to maximize resources for project activities. In other instances, time and resources are contributed by participating projects to Youth Area Watch.

The federal fiscal year and the school year budget cycle are not aligned in a way that facilitates easy implementation of the YAW program, especially in years when the EVOS Invitation to Bid is delayed. Due to this misalignment, it is difficult to maintain a consistent program each autumn without a funding source whose term is longer than one year. In order to provide consistency to the participating communities' schools, this proposal is for five years, and is reflected in the budget forms. The five-year term could be extended to ten or more, should the Trustee Council wish to provide fiscal stability to the YAW program for a longer period. Long-term stability will be necessary in order to provide continuity and a long-term role for middle and high school students in research and restoration projects.

YAW remains flexible so as to participate in long-term research and monitoring projects associated with Gulf Ecosystem Monitoring (GEM) guidelines as well as projects that contribute to the direct restoration of injured resources and services. We fully expect to continue long-term partnerships with the GEM principal investigators, engage – as able – in direct restoration projects as they are implemented, and generally fulfill the community participation and local stewardship goals of the EVOS Trustee Council.

During this time of federal agency funding reductions, budget cuts and increased competition for research dollars, student contributions to research projects will become more important. The past 11 years have allowed us to demonstrate that students can offer a cost effective and reliable means of scientific data collection for existing projects, as they are trained to become the next generation of Alaska scientists. The many relationships we have built within the research community will serve us well in the next chapter of the Youth Area Watch program.

Objectives and Activities:

Objective 1: Students interact with researchers and ocean/coastal professionals.

Activity 1: Principal investigators commit to working with students directly at least once during the project year.[1]
Activity 2: Students work alongside researchers in the field.
Activity 3: Students independently conduct activities set out by the principal investigators.
Activity 4: Students work with local facilitators and community members to increase awareness of restoration activities and the status of the ecosystem.

Objective 2: Identify research and data collection activities performed by students, mentors.
Activity 1: YAW project coordinator meets with research personnel to set student activity parameters.
Activity 2: Research personnel forward activity protocol, including sample and data forwarding process, to project coordinators.
Activity 3: Project coordinator finalizes project activities for site teachers and students.

Objective 3: Update memoranda of agreement with participating school districts.
Activity 1: Project coordinator contacts each school district to evaluate the current agreement and make any necessary changes.
Activity 2: Site teachers are identified by each school district for the participating communities.

Objective 4: Improve accountability for participating teachers and students.
Activity 1: All players, with guidance from project coordinator and PIs, establish roles and responsibilities for students and staff.
Activity 2: All players, with guidance from project coordinator and PIs, generate expectations and outcomes to be met by students and staff.
Activity 3 Students will pass through content levels as they accomplish set goals.

Objective 5: Conduct site teacher training on project activity protocol.
Activity 1: Project coordinator develops a plan in consultation with research scientists to orient site teachers on YAW expectations.
Activity 2: Project coordinator arranges time at school in-service to conduct teacher training.
Activity 3: Project coordinator facilitates a protocol training session to ensure teachers know correct information and research practices in order to guide students during the project year.

Objective 6: Conduct school recruitment for students interested in Youth Area Watch.
Activity 1: Project coordinator travels to each participating school site prior to beginning the project year.
Activity 2: Project coordinator presents YAW program to community and

[1] It is expected that additional contact occur throughout the project year, though not necessarily in person. Research project PIs receive updates and samples according to the protocol set out for students.

science classes. Students with prior YAW experience will be asked to assist.

Activity 3: Students are informed of the application and selection processes for participation in upcoming YAW programs.

Objective 7: Select and notify student participants for Youth Area Watch.

Activity 1: Project coordinator distributes student applications to project sites. Applications are also available on YAW website.

Activity 2: Project coordinator convenes a committee to review student applications for YAW participation. The committee is comprised of Chugach School District staff and may be assisted by participating school district staff and community facilitators.

Activity 3: The review committee examines applications and selects students Based on science interests, academic achievement, maturity, and motivation towards learning and site teacher recommendations.

Activity 4: Project coordinator notifies all applicants of their program status.

Objective 8: Conduct annual student orientation at a science-based facility.

Activity 1: Project coordinator works with science center staff to determine appropriate location and dates for student orientation.

Activity 2: Project coordinator invites research project PIs to participate in the student orientation.

Activity 3: Project coordinator coordinates travel arrangements for student participation in the orientation.

Activity 4: All participating students from community sites collectively meet at a selected science center for the YAW orientation and training.

Activity 5: Project coordinator conducts student orientation geared to YAW goals, responsibilities and activities.

Activity 6: Students learn about the marine ecosystems, practice scientific sampling techniques and identify ways in which project activities fit into their lives and communities.

Objective 9: Students obtain community input, develop a plan and conduct local research/restoration project.

Activity 1: Students survey communities for ideas on potential project topics.

Activity 2: Students design a project based on community input and science standards. This is completed with the appropriate assistance from site teachers and coordination of community facilitators.

Activity 3: Site teachers work with project PIs where appropriate to develop a procedure for student/community participation.

Activity 4: Students conduct local project activities according to established guidelines.

Activity 5: Students provide data/samples to project PIs according to protocol. Proficient completion of this task leads to student participation in spring field trips with biologists.

Objective 10: Students participate in monitoring and documentation for specific injured species, resources, services or marine related research topics.

- Activity 1: Students collect data/samples on a regular basis at their local site as per PI training and under the supervision of the site teacher.
- Activity 2: Data monitored and collected at each site is transmitted to the other sites, project coordinator and appropriate PIs, periodically.
- Activity 3: Data is posted on the Youth Area Watch website.

Objective 11: Students attend the annual Marine Science Symposium.

- Activity 1: Students prepare for annual marine symposium poster presentation.
- Activity 2: Students draft poster and flier for submission to YAW coordinator.
- Activity 3: YAW coordinator makes travel arrangements for self, students and teacher to attend and present YAW poster at Symposium

Objective 12: Students participate in fieldwork under guidance of PI. (Current projects: killer whale identification, artificial reef monitoring, invasive species project**)**

- Activity 1: Principal investigators train students in field methods specific to PIs' project. Students are informed of project scope and goals.
- Activity 2: Students participate in a day cruise with PIs to track and identify marine organisms in and around study sites including: hydrophonic monitoring of whales or reef inhabitants, photographic recording of individual organisms, collecting and/or identifying samples.
- Activity 3: Students assist in navigation, keeping daily journal notes, mapping the study area and recording data.

Objective 13: Facilitate project follow-up training for site teachers.

- Activity 1: Project coordinator sets a date to conduct a spring follow-up session convenient for site teachers.
- Activity 2: Project coordinator invites principal investigators of participating projects to assist in the follow-up session.
- Activity 3: Project coordinator facilitates a follow-up session for site teachers to share information and identify strategies for improving student activities.

Objective 14: Maintain a Youth Area Watch web site.

- Activity 1: Students become internet proficient and learn to update their web site with current YAW information.[2]
- Activity 2: Students analyze data collected from the research projects, both past and current.
- Activity 3: Using the established reporting format, data is posted on the web site
- Activity 4: Students update data on research activities as necessary.

[2] While many students are familiar with the Internet, some communities recently linked will need training. Additionally, previous Youth Area Watch participants may be proficient at updating the web site, yet new students will need assistance.

C. Data Analysis and Statistical Methods

Data from various research projects will be analyzed by the appropriate, participating PIs. Where applicable, scientists will work with students to guide them through data analysis. As in the case of the killer whale identification project, students confirm individual animal identification based on comparisons of past field notes, photos and tissue samples. In the artificial reef monitoring program, students will take first-hand measurements to verify proper and accurate readings posted on the website by the data loggers and project personnel. Students are trained in the importance of consistency, accuracy and reproducibility as associated with data collection and analysis.

D. Description of Study Area

The study area encompasses the waters of Prince William Sound, Resurrection Bay and local watersheds associated with those areas.

While Youth Area Watch is administered through the Chugach School District's main office in Anchorage by project coordinators, project activities currently take place in the participating communities and in the oil spill impacted area. Local communities include Chenega Bay, Cordova, Tatitlek, Valdez, Whittier, Anchorage and Wasilla.

The science teacher (site teacher) within each of these communities oversees the day-to-day activities pertaining to the project. Project coordinators travel to the local communities to facilitate in-class integration of project activities and offshore research in specific locations of importance to the identified research projects. Local projects and activities identified by each site occur at or near the community.

E. Coordination and Collaboration with Other Efforts

The Chugach School District serves as the administrative agency for Youth Area Watch through their contract with the Alaska Department of Fish and Game. The school district has shown that it is an effective link to the students and communities it serves. As the administrative entity, the CSD will maintain memoranda of agreement with the Valdez School District, Cordova School District as the school districts that serve the identified communities.

The Chugach School District continues to work with the Chugachmiut and Chugach Regional Resources Commission (CRRC) to coordinate and exchange community information with regard to regional restoration activities. As the coordinating agency for community involvement, CRRC works with the youth through the local facilitators so that students may participate in research and restoration activities.

Since the inception of the project, significant contributions have been made and continue. They are identified under cost-share funds in the budget. Contractors have provided discounted services, as in the case of vessel hiring. Expensive equipment used in project activities is offered by coordinating agencies, as is currently the case with NGCOS, ADFG, PWSSC, PWSRCAC, NMFS and NOAA. Cooperating agencies provide technical assistance, student supervision and support for project activities. CSD relies heavily on the

commitment and participation of cooperating school districts involved in the program. Site teachers dedicate their time to the goals of YAW, serving as in-kind contributions.

In keeping with its commitment to secure additional support for Youth Area Watch activities, CSD continues to communicate with various agencies. NOAA scientist Brian Lance, working in conjunction with NMFS and PWSSC, contacted YAW educators requesting student involvement in monitoring Alaska's first pre-planned artificial reef. Recently installed at Shotgun Cove, near Whittier, this pilot project partners students with a multitude of federal agency scientists, managers, research divers and technicians. As this project develops, future reef installations will occur in the waters near Cordova, Valdez, Chenega Bay and Tatitlek. Students from those communities will be trained to participate in the study.

Similarly, Dan Gilson of PWSRCAC, with ADFG assistance, has been working with Valdez YAW students for two years and plans to involve YAW students at the remaining sites, as his program expands to establish a network of sites to detect the arrival and spread of green crabs in Alaskan waters. Students and community members are trained on site to measure the abundance of native crabs and benthic invertebrates, which may be impacted by the arrival of green crabs. Information obtained in this study will be further supplemented by water quality data coalesced from other agencies.

Another emerging project, "Alaska Scientists of the Future" (ASOF), is supported by the Office of Naval Research (ONR). This project partners the Denali Borough School District and Highland Tech High School in Anchorage with Chugach School District to encourage students to pursue careers in science and technology through engaging them in the deployment of innovative, environmental monitoring stations in Alaska. ASOF projects will allow students to work side by side with scientists and other students to actively engage in hands-on projects, likely to occur in PWS, to build new ways to learn, share and research in real time. Using technology, such as wireless video conferencing, real time data gathering, and digital storytelling, students will learn what it means to do real science and tell the "story" of the research data in ways their own team and broader audiences can understand and support. ASOF builds upon the best practices from ONR's existing project in Hawaii, through collaboration and sharing resources. Ultimately this ASOF will help prepare more students for science careers in the Alaska and the U.S.

In addition, the district continues to commit general funds to YAW and constantly seeks out alternative sources of support, such as the above-mentioned ASOF. The success of the YAW program motivates CSD to commit additional funding through diversified means so that youth are equipped to continue their restoration and ecological management activities as an integral component of their education. Toward this end, the school district maintains cooperative relationships with entities engaged in ecological management and restorative projects. Particularly with respect to local restoration projects where other agencies, organizations and private groups are involved, the Youth Area Watch scope is expanding so that a smooth shift of focus can occur. Building and maintaining these cooperative-working relationships can enhance resource exchanges and augment other district resources.

III. SCHEDULE

A. Project Milestones

Objective 1: Students interact with researchers and ocean/coastal professionals.
To be met by October 30 of each year

Objective 2: Identify research and data collection activities performed by students and mentors.
To be met by September 30 of each year

Objective 3: Update memoranda of agreement with participating school districts.
To be met by September 30 of each year

Objective 4: Improve accountability for participating teachers and students.
To be met by November 30 of each year

Objective 5: Conduct site teacher training on project activity protocol.
To be met by October 30 of each year

Objective 6: Conduct school recruitment for students interested in Youth Area Watch.
To be met by October 30 of each year

Objective 7: Select and notify student participates for Youth Area Watch.
To be met by October 30 of each year

Objective 8: Conduct annual student orientation at a science-based facility
To be met by October 30 of each year

Objective 9: Students obtain community input, develop a plan and conduct local research/restoration project.
To be met by May 30 of each year

Objective 10: Students participate in monitoring and documentation for specific injured species, resources, services or marine related research topics.
To be met by May 30 of each year

Objective 11. Students attend the annual Marine Science Symposium.
To be attended in January of each year

Objective 12: Students participate in fieldwork under guidance of PI.
To be met by June 30 of each year

Objective 13: Facilitate project follow-up training for site teachers.
To be met by June 30 of each year

Objective 14: Maintain a Youth Area Watch web site.
Ongoing; updated quarterly as needed

B. Measurable Project Tasks

FY07, 1st quarter (October 1, 2006-December 31, 2006)

October - December: Site teacher orientation, school site orientations, students selected for participation, improve accountability, site teacher training on protocol, student orientation and training, students design and conduct local restoration projects

FY07, 2nd quarter (January 1, 2007-March 31, 2007)

January – March: Students continue with research/restoration activities, prepare for annual marine symposium poster presentation, maintain

	website, PIs interact and exchange information with students, project coordinator sends data to PI
mid-January	Annual Marine Science Symposium

FY07, 3rd quarter (April 1, 2007-June 30, 2007)

April - June:	Second quarter activities continue, sites complete and submit local restoration projects, project coordinator facilitates follow-up training for site teachers and recruitment for next year's student participants, students join PIs in field for spring data collection

FY07, 4th quarter (July 1, 2007-September 30, 2007)

August - September:	Confirm research and data collection activities, post YAW projects to website, update memoranda of agreement with participating school districts

FY08 – FY11, all quarters (October 1, 2008-September 30, 2011)

	All activities in these four years will reflect the same general format as listed in FY07.
April 15, 2011	Submit final report. This will consist of a draft manuscript for publication to the Trustee Council Office.

IV. RESPONSIVENESS TO KEY TRUSTEE COUNCIL STRATEGIES

A. Community Involvement and Traditional Ecological Knowledge (TEK)

One of the main goals of Youth Area Watch is to facilitate community involvement in the restoration process via their student members. It is through community interest and participation that the program has had a positive impact on students. Ultimately, long-term impacts, to include local ongoing restoration and ecosystem sustainability, are anticipated as youth conduct established research and apply this knowledge to community efforts to understand and preserve species affected by the oil spill. As a result, communities continue to request participation in Youth Area Watch.

Local oil spill impacted communities are involved and participate in Youth Area Watch. The local facilitators of Environmental Protection Agency (EPA) and Chugach Regional Resources Commission (CRRC) continue to work with students and their communities to involve youth in YAW activities. Those facilitators, community members and parents of participating youth assist with various aspects of project activities such as serving as chaperones, providing traditional ecological knowledge and coordinating opportunities for youth to work on local projects. Through this cooperative effort, information is exchanged between projects and across generations.

As a component of the program's scope, students at each site are asked to identify a local project they can conduct. Through these local projects, students gain a greater understanding of what the research and restoration process means at the community level, as well as an interest in meaningful project outcomes.

B. Resource Management Applications

While not all Youth Area Watch projects have resource management applications, several recent projects have been conducted with the support of local resource agencies. They include the aforementioned Valdez YAW group's long-term project aimed at mapping and surveying the plant and animal life in Mineral Creek State Park. Prior to student involvement, there had been no baseline data collected for the Mineral Creek State Park area or the Port of Valdez, concerning native species. In the students' words, "Creating a detailed list of native species and noting population fluctuations is crucial to identifying non-native species and predicting their potential impact on the local ecosystem". DNR resource manager Jack Sinclair is using student input to draft management plan options for the newly formed park.

YAW students are monitoring coastal marine waters for the presence of the European Green Crab, a non-indigenous/invasive species that has significant impact as predators on many invertebrates, especially bivalves. The green crabs may also have many additional effects (as predators and competitors) with a variety of native organisms. The cumulative magnitude of these effects may expand as the green crab spreads into Alaskan waters. In addressing the objectives for the green crab research program in Alaska, students contribute to the database, which will aid resource managers in their efforts to mitigate the impact on native organisms. Both YAW projects are slated to continue in the upcoming years. For 05/06 student presentations, see the YAW website.
www.chugachschools.com/youth_area_watch/05_06_yaw_student_projects/index.html

Becky Clausen of FishWatch, the proactive community based monitoring program supported by the Copper River Watershed Project, has been training students and community members within the Copper River watershed to collect water quality data using standard protocols. The goal of FishWatch is to gather and organize information useful in maintaining healthy salmon habitat in the Copper River watershed. Similar programs supervised by Cook Inlet Water Keepers and, subsequently, PWS Water Keepers train monitors to gather credible and consistently obtained information for use as authentic baseline data. Data collected under this program will soon be linked to the invasive species sampling program mentioned above. To this end Scott Pegau, research coordinator for the Kachemak Bay National Estuarine Research Reserve, in conjunction with the research arm of the Smithsonian Institution, is hoping to provide a clearinghouse of baseline data to determine what existed in various environs prior to the possible introduction of invasive species (marine, freshwater, and terrestrial organisms); all for the purpose of managing near coastal marine waters to ensure healthy habitat for native species.

The artificial reef monitoring pilot project has far-reaching management applications. Prince William Sound is an important site for commercial, subsistence and recreational fish harvest. The community of Whittier lies adjacent to the artificial reef location and serves as a port destination for the Alaska Marine Highway ferry system, cargo vessels, cruise ships, and commercial fishing vessels. As a recreational destination for Anchorage residents, cruise ships and seasonal tourists, the coastal habitats adjacent to Whittier are increasingly stressed. Additionally, as economic growth and development continues in Whittier, marine

coastal habitat is altered by a variety of industrial activities such as harbor expansion, dredge and fill operations, dock structures and log transfer facilities. These activities alter the function of pristine marine coastal habitats by the removal, alteration or elimination of existing living habitat including rocky reefs and aquatic vegetation.

Results from this project will provide knowledge and direction for management of future restoration efforts in Alaskan coastal communities experiencing similar developmental and recreational pressures. To date, development project planners in Valdez, False Pass and Kodiak have shown interest in using artificial reefs for habitat restoration and mitigation, however no data have been available. This project will be the first to provide both methods and an analysis to determine the effectiveness of artificial reefs. And YAW students have been invited to participate!

Several agencies are involved, all with an interest in resource management applications: Alaska Region FWS Coastal Program, NMFS Habitat Conservation Division - Anchorage field office, NOAA Restoration Center and PWSSC. Brian Lance, project PI with NOAA, requested YAW participation because he was aware of the high standards to which YAW students are held, and requested they be involved in the educational outreach component of this pilot project.

V. PUBLICATIONS AND REPORTS

In past years, Youth Area Watch was featured in "The Science Teacher," "Living on Earth" and "Alaska Magazine." Copies of these articles were forwarded to the Restoration Office. In addition, the project has been featured on National Public Radio. The project has also been featured during statewide broadcasts on the Alaska Rural Communication System during programs on standards-based education. Each January selected YAW students prepare their poster for presentation at the annual Marine Science Symposium held in Anchorage. Not only has the YAW program gained notoriety through these presentations, students have made valuable contacts with wide ranging professionals.

The YAW Web site http://www.chugachschools.com/youth_area_watch/index.html continues to be an important venue for students to both receive and distribute information. Each project that students work with has a student-generated page of explanation and photographs. There is also space for students' reports on their local restoration projects as well as meteorological and oceanographic data. Students utilize the site during training at the beginning of the year as they attempt to learn about each of the projects in which they will participate during the course of the year. All of the CSD community schools involved in the project have been online since 2000. This connectivity has been a strong benefit in allowing the project coordinator to communicate directly and regularly with students at each school. This increase in communication and coordination enables more flexible and responsive action by project coordinators and school site participants.

Budget Justification, revised 12-20-06

Note:
This justification is an effort to reduce YAW costs to a maintenance level for FY07. As requested, student numbers were reduced by 25% (from 19 to 15) and the current project total of $104.5 reflects a 40% reduction from the original request of $174.3.

The most recent budget changes (as of 12-20-06) are indicated in teal green on the budget spreadsheet. The blue and red highlights are notes from the first and second revisions submitted 11-20-06 and 12-12-06 respectively.
See original budget justification for all explanations not covered here.

Personnel:
Personnel costs for the YAW program remain fixed, however since we have eliminated much of the student training, it was possible to reduce the 1 FTE to .75 FTE.

Travel:
Next to salaries, travel costs still comprise the largest part of this budget, however they were reduced by more than 50%.
In an effort to reduce costs, all Orientation travel costs have been eliminated, since it is well past the time frame in which to conduct a fall Orientation, or implement a spring weeklong "Wave" as follow-up to the Orientation.
Travel for 2 non-agency PIs to the 4 sites for training on whale monitoring was also eliminated.
In an effort to further reduce costs travel for the Valdez teacher and 2 students to attend the annual Marine Symposium in Anchorage next month (January 2007) was eliminated.
The remaining costs include:

- Travel for YAW PI to attend the annual marine Symposium in an effort to network with EVOS TC scientists, hoping to partner scientists with YAW students for future projects.
- Travel to Seward in May to attend whale monitoring excursion. YAW PI drives rental van to Seward for 4 days (to shuttle students from airport to harbor, daily); Whittier drives school car to Seward for 1 day; all other sites fly via air charter to/from Seward in 1 day (2 round trips/ day) to eliminate time away from classes and the need for overnight lodging.

Contractual Costs:
Eliminating one contract day for KFT vessel charter reduced the contractual costs. We will still need this day, however plan to finance it through other means.
Video-conferencing equipment and costs are still necessary for program communication, however these costs will also be absorbed by Chugach School District. Marine Symposium lodging will only require one (not 2 rooms), with the elimination of student travel to the event.

Commodities:
There are no commodities costs.

New Equipment Purchases:
These costs have been eliminated.

Indirect:
School district administrative costs are calculated at 25%, as per EVOS TC requirements. This accounts for the direct oversight of fiscal reporting and associated support at the administrative offices in Anchorage. In addition, these costs offset the expenses incurred at sites, i.e.: telephone, fax, postage and other general support. See budget form comment section for cost share details.

2007 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET

October 1, 2006 - September 30, 2007

Budget Category:	Proposed FY 2007
Personnel	$46.5
Travel	$24.2
Contractual	$6.0
Commodities	$0.0
Equipment	$0.0
Subtotal	$76.7
Indirect*	$19.2
Total w/o 9% G&A	$95.9
TC Agency 9% G&A	$8.6
Project Total w/G&A	$104.5
Full-time Equivalents (FTE)	
Other Resources	$278.6

Comments:

As requested provided a 40% reduction in the FY 07 budget and added restoration project scope objectives.
Cordova students & teacher (6 total) are the only ones not already participating in this year's YAW program
CSD Extension students (McCarthy & Anchorage) withdrawn from program = 15 students, 4 teachers
Personnel costs remain same.
Contractual costs increased increased slightly for Marine Symposium lodging due to delay in booking reservations
Travel (in red) reduced to eliminate fall Orietation costs&/or spring Wave for followup on monitoring projects
Eliminate water test kit & HOBO costs
Cost-share funds = $**278.6** for FY07 (with 5% inflation increase each following year)
Cost-share funds include teacher time @ **24.0** (**4** teachers x $.40/day x 15 days); participating PIs @ $18.0 (2PIs x $.50/day x 18 days); YAW PI (Bob Crumley) @ $33.8, additional administrative & clerical support @ $13.5; video conferencing/e-rate fees beyond the 3 days budgeted @ $2.8 ($.4/day x 7 more days); facility space rentals @ $23.0 (Anchorage House, CSD); fuel costs & insurance for school district vehicles @ $1.8; existing electronic equipment @ $6.9; air travel costs incurred by CSD, not funded by EVOS, @ $50.0; YAW teacher training/inservice costs @ $25.0; artifical reef costs, installation and maintenance @ $60.0;

FY07

Prepared:12-20-06

Project Number: 070210
Project Title: Youth Area Watch - PWS
Name: Sheryl Salasky

2007 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET

October 1, 2006 - September 30, 2007

Personnel Costs:				Months	Monthly		Proposed
	Name	Position Description		Budgeted	Costs	Overtime	FY 2007
	Sheryl Salasky	Project coordinator/co-PI: salary& benefits		6.0	6.2		37.2
	Missy Trautman	Co- coordinator: salary & benefits		3.0	3.1		9.3
		benefits = 37% of salary					0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
		Subtotal		9.0	9.3	0.0	
						Personnel Total	$46.5

Travel Costs:		Ticket	Round	Total	Daily	Proposed
	Description	Price	Trips	Days	Per Diem	FY 2007
	Orientation-air charters: Remote sites to Anch , 8 ppl x $40/day	4.0			0.3	0.0
	Orientation-comm flts: VDZ to Anch, 6 pplx$40/day **(-CDV)**	0.4			0.5	0.0
	Orientation: 3 rental vans@$.02 x 4 days 10 ppl x $40/day	0.8			0.4	0.0
	Orientation: PI travel @ 2ppl x 4 days w/ $250 stipend	0.5			0.5	0.0
	2 Pis (non-agency) travel to 4 sites, 1 x yr w/ $250 stipend	1.0	0	0	0.3	0.0
	Marine Symposium: (1 PI) x $40/day	0.9	1	4	0.1	1.3
	whale trip mileage for Whittier to drive to Seward	0.3	1			0.3
	whale trip air charter TAT/CHB, VDZ, (-CDV) to Seward in May	3.5	6	0	0.0	21.0
	1 rental van-Anch-Seward $.02 x 4 days; per diem:	0.2	4	1	0.8	1.6
	20 ppl (teachers, PI & students)l x $40/day					0.0
	note: perdiem rates differ for students & teachers,					0.0
	vs. non-CSD PI's (stipends)					0.0
					Travel Total	$24.2

FY07

Prepared: 11-20-06

Project Number: 070210
Project Title: Youth Area Watch - PWS
Name: Sheryl Salasky

2007 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET
October 1, 2006 - September 30, 2007

Contractual Costs:	Proposed
Description	FY 2007
Kenai Fiords Tours @ $2.2/day x 2 days	4.4
vessel rental for artificial reef data @ $1.0 x 1 day x 1 site (w/ another site to be added each year)	1.0
video conferencing equipment & operating costs $.36/day x 3 days	0.0
Marine Symposium lodging (3 nights x 1 rooms x $200)	0.6
Contractual Total	$6.0

Commodities Costs:	Proposed
Description	FY 2007
calibration standards for water quality monitoring kits, **5** kits x $450 - R	
replacement parts for kits, field & classroom supplies, **4** sites x $150 - R	0.0
Commodities Total	$0.0

FY07

Prepared: 11-20-06

Project Number: 070210
Project Title: Youth Area Watch - PWS
Name: Sheryl Salasky

2007 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET
October 1, 2006 - September 30, 2007

New Equipment Purchases: Description	Number of Units	Unit Price	Proposed FY 2007
HOBOdata logger, $139/site x **5** sites	5	0.0	0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
Those purchases associated with replacement equipment should be indicated by placement of an R.		**New Equipment Total**	$0.0

Existing Equipment Usage: Description	Number of Units	
water quality kits	5	
computer maintenance and repair	varies/site	
video / digital camera(s)	2	
GPS	1	
minnow traps & supplies for invasive spp study: 16 traps/site x 5 (coastal) sites - R	80	

FY07

Prepared: 12-20-06

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