

**Case Study:**  
**Increasing Environmental Literacy Through Professional Development in Alaska**  
**Alaska Natural Resource and Outdoor Education Association**  
**By Cathy Rezabeck and Marilyn Sigman**

**Background:**

The Alaska Natural Resource and Outdoor Education Association (ANROE) is a 501 C (3) nonprofit organization dedicated to promoting and implementing excellence in natural resource, outdoor and environmental education for all Alaskans. It is an affiliate of the North American Association for Environmental Education (NAAEE). In 2014, the Environmental Education Office of the Environmental Protection Agency awarded a grant, *Collective Impact: Advancing Environmental Literacy through Shared Value Creation, Innovation and Collaboration*, to four Pacific Northwest states (Alaska, Idaho, Washington and Oregon – EPAs Region 10). The goal of this *Educator to Educator Initiative* (E2E) was to develop, implement, evaluate, and disseminate a replicable model for implementing state environmental literacy plans in the Pacific Northwest. Among several grant goals, each state chose a “problem of practice” to address. The collaborative group used a common systems-oriented framework for evaluation of their models for the different problems of practice.

Alaska chose to address how to improve the long-term impact and outcomes of professional development in K-12 environmental education. We desired to learn how to improve the existing way in which professional development related to environmental education has typically been provided and evaluated in Alaska. The typical professional development format has been one of a brief session during a teacher in-service, a two-day, one credit workshop, or a 4-5 day two-credit course. These are essentially “one shot” opportunities which may have some follow-up in terms of required application of what had been learned in the classroom and a brief reflection. We chose to implement a new model with the goals of accomplishing and documenting sustained changes in teaching practice on a schoolwide

The problem of practice was relevant to a goal of the Alaska Natural Resource and Environmental Literacy Plan: Goal 4: “Enhance professional development for educators, administrators, and community members in natural resource and environmental literacy.” We selected the *Alaska Seas and Watersheds* (ASW) educational curriculum as the content of the professional development. The program emphasis on field trip instruction was also relevant to Plan Goal 5: “Support the development of Alaska school facilities, grounds and local natural areas that provide accessible learning opportunities and serve as community models for healthy living and sustainability.” Key to the success of the project was collaboration with several partners [particularly Alaska Sea Grant (ASG), sponsor of the ASW curriculum program] and work with an outside evaluator (provided by the grant) to identify our metrics and methods of evaluation. Below is a discussion of seven elements that characterized our process. Some overlapped with others, so these are not necessarily sequential elements in planning and implementing a project.

**Element One – Choose the Professional Development Project Topic and Location**

*What we did:* ANROE partnered with Alaska Sea Grant, sponsor of the ASW program. They had identified the Dillingham School District as their school partner in piloting the new model for providing professional development in the context of additional support to promote environmental literacy. Their overall goal was to re-engage Alaska schools in the Alaska Sea Week program that combined thematic marine and aquatic classroom and field trip instruction with an annual schoolwide and community celebration of the ocean. Dillingham Elementary School, like schools in other Alaska coastal communities, had participated in Sea Week in the past, but had not held a schoolwide Seaweeek celebration that culminated ocean-themed teaching in all subject matters and grades in the last 15 years.

The Alaska Sea Week program of Alaska-relevant marine and aquatic environmental education began in the 1970s and was disseminated through onsite teacher workshops and a series of topic-specific activity books for Grades 1-6. In 2009, the curriculum resources were updated to align with educational standards and incorporate “best practices” in

teaching strategies and reformatted into the online, standards-based K-8 *Alaska Seas and Rivers* K-8 curriculum (recently re-named “Alaska Seas and Watersheds”).

The new program dissemination model that ASG began during the 2014-2015 school year and piloted in the Dillingham School District and two other districts provided individual schools with onsite professional development, \$10,000 in grant funding that could be spent over three years, and on-going support to increase the curriculum focus on place-based marine and aquatic education. The grant funding was made available to support classroom instruction and field trips through purchases of library materials, supplies and equipment; or to pay for field trip transportation.

For the Dillingham pilot project, the EPA grant augmented the ASG funding to pay stipends to teachers to participate in professional development and provided support to ANROE from the outside evaluator for the overall E2E project to design and implement the Dillingham project evaluation. The evaluation focused on the outcome of the support provided to the teacher in terms of change in teacher practice. EPA grants funds were also used to pay bus transportation for a spring field trip for all the students in the elementary school.

Dillingham School District is one of 24 of Alaska’s 53 school districts that are single-community school districts. Piloting a model in this type of school district thus had the potential for a significant impact on the school, the school district, and the community. Dillingham was also selected as a medium-sized rural community where piloting the model would provide more opportunities to replicate the model in the future in other medium-size Alaskan communities compared to a pilot project in a much smaller or a much larger community.

*Our recommendations:*

- Choose topics and K-12 instructional materials that are aligned with state educational standards and place-based, in our case relevant to Alaska and the community’s environment, economy, and culture.
- Choose locations for professional development where educators and administrators are interested in assisting with planning and engaging as many educators and partners in the community as possible. (ASG used the grant proposal and contract negotiation process to assess interest.)
- Consider expenses for travel by the professional development instructor to the place where professional development will be provided and balance the funding available with the potential number of participants at each professional development site.
- If you are disseminating a specific curriculum or collection of instructional activities, provide support funds if possible and encourage their use to develop teaching kits that include all needed equipment and supplies, including books for use in meeting English Language Arts standards.
- If you are encouraging field trip activities, provide support funds if possible and encourage the use of support funds to develop kits with field and sampling equipment.

**Element Two – Develop the Framework for Systems-Oriented Evaluation**

*What we did:* With guidance provided by the E2E evaluators, ANROE articulated the system of interest and the framework for evaluating change. In our application of the systems framework to our project, we began by identifying the specific levels within the system where change would have significant impacts on the entire system. We selected the following levels: the individual teacher level (K-8 teachers, specifically, because the ASW curriculum is elementary and middle school-focused), two school administrator levels – the principals of the elementary and middle schools and the District superintendent; and the community level (specifically, local community partners). At each level, we then articulated the current status of the component of the system we desired to change, the interventions we intended to implement, the tangible or quantifiable “tipping points” we could identify that would indicate significant change, and the desired long-term end-state for the component. Figure 1 summarizes how this framework was applied to our project and also shows our assessment of whether the intervention met the identified tipping points.

*Our recommendations:*

- Use the format and example provided in Figure 1 and apply it to your situation. Columns 3, 4 and 6 are actually outcomes in the immediate, middle and long terms. Column 5 is a discussion of whether interventions were accomplished and whether the tipping point was reached.
- We consider this approach **adaptive** evaluation, which can be modified as progress is made on short-term and medium-term outcomes and also provide the framework for defining the progress toward long-term outcomes.

**Element Three – Plan the Professional Development Opportunity**

*What we did:* Alaska Sea Grant worked with a three-member teacher team during school year 2014-2015 to develop this professional development opportunity and program of on-going support. The district provided ASG a portion of a January in-service to provide the entire teaching staff of 20 with a two-hour introduction to the curriculum. ASG then continued working with 10 of the teachers within the framework of a professional development for-credit course (To encourage participation, the E2E grant paid for the university credits.). The participants had a choice of taking the course for 1 or 2 credits, with the second credit offered for “practicum” time involving organizing a schoolwide Sea Week program of field trips and thematic teaching in the spring.

At each important step in the planning process, the Sea Grant marine education specialist traveled to Dillingham. The purpose of the first trip in the fall of 2014 was to work with the teacher team and meet with the elementary school principal. The second trip in January, 2015, was focused on presenting the in-service session (20 participants) and instructing most of the rest of the one-credit course on a Friday evening and all-day Saturday (10 participants) with the assistance of a second instructor. The third trip by the Sea Grant marine education specialist occurred in early May, 2015, to participate in the Sea Week field trips and to facilitate the wrap-up session and course evaluation for teachers who took either the 1-credit or the 2-credit course. University credits earned counted towards both their required teacher re-certification and eligibility for a higher salary.

*Our Recommendations:*

- It is important to offer professional development for credit since this is a major incentive for teachers. The opportunity to earn additional professional credit can be an effective incentive to promote and support leadership by teachers to organize schoolwide efforts and formalize changes to the school or school district curriculum.
- After establishing a professional development course syllabus, work with a teacher or a multi-grade teacher team and administrators to adapt the course to include local resource people and instructional resources that are most relevant to the current curriculum framework.
- Reimbursement of the tuition paid by teachers is an additional incentive for participation, as is additional off-contract pay for teachers for planning time or stipends, although some school districts may not permit this.
- If you have sufficient funding, invest in administrator and teacher leadership through multiple trips to the school to plan professional development activities, check on progress, encourage and praise leadership, and assess needs for additional resources or support.

**Element Four – Identify and Cultivate Community Partners**

*What we did:* In addition to Alaska Sea Grant, whose local Marine Advisory Agent assisted with the teacher workshops, community partners included the University of Alaska Fairbanks (Bristol Bay Campus) Environmental Sciences Department, Icicle Seafoods (seafood processing company with a cannery in Dillingham and donor of the grant funds passed through by Alaska Sea Grant), the U.S. Fish and Wildlife Service’s Togiak Refuge, and the Bristol Bay Native Corporation Economic Development Council. An Environmental Sciences faculty member and a U.S. Fish and Wildlife

Service staff assisted with field trips for the teachers, and students, respectively. These partners and other local partners participated in a Career Day event during the spring semester to highlight local job and career opportunities in fisheries, seafood, and maritime industries. No stewardship projects were identified for support by local partners in this first year of the three-year time frame of the ASG grant.

*Our recommendations:*

- Involve potential local partners early in the process and invite them to attend or present at the course.
- Although we were unsuccessful in doing this in Dillingham, we recommend engaging administrators (principals and superintendents) in the development of the community partnerships and in thanking partners publically in the community.
- If the engagement of students in stewardship projects is an objective of the educational program, work with teachers to identify a stewardship project early in the process and facilitate connections with local partners in that project.
- If raising awareness about potential careers is an objective of the educational program, encourage a periodic career day event for the school so that students can see the practical and economic application of their learning in terms of jobs in their own community. Also, encourage planning for field trips to visit local businesses (e.g., a seafood processing plant for ocean-related jobs and careers).

**Element Five – Use the Local Environment for Study**

*What we did:* We modeled and de-briefed a field trip as part of the onsite professional development course and encouraged the development of instructional objectives for the field trips. During the course, we also provided planning time for potential field trip locations and local community partners and experts to come into the classroom or assist with the field trip. The elementary teachers identified a number of potential field trip sites during this course planning time and selected Kanakanak Beach as the most suitable early on in their planning process. They were also able to involve a Togiak Refuge biologist and a Yup'ik Elder who was the Refuge's Native Liaison to lead the field trips.

The elementary teachers organized field trips to Kanakanak Beach for all grades during three days in May. The availability of grant funds from Sea Grant and EPA to pay for bus transportation was crucial to making the field trips feasible.

These teachers reported that additional planning time after the onsite professional development course was constrained by time the principal made available. Conflicting events were scheduled in the spring, including testing and a science fair, which unfortunately lacked an emphasis on environmental science topics. The teacher team purchased field trip equipment using Sea Grant funds, but they reported their frustration with being unable to maximize its use on all of the field trips. Nearly 100 people were ultimately involved in the beach field trips, including all of the school staff and parent chaperones, and the teachers blamed their frustration on their failure to communicate the instructional purpose of the field trips to everyone else involved. This led to a "free-for-all" atmosphere on several field trips as soon as everyone departed the busses to take a short walk to the beach. The most abundant marine invertebrate on the beach was a large isopod that could only be found in mud, and it was difficult to focus students and chaperones on any activity but digging through the mud to capture as many as possible. Other field trips were more successful when students from different grades shared a bus, but older students and younger student used different areas of the beach and the teachers, chaperones, and guides maintained the students' attention in planned activities.

The single middle school teacher in the school district participated in the professional development course and planned a field trip for her students the following fall after the course and course evaluation were completed.

*Our recommendations:*

- Build time into the professional development course agenda to discuss how the local environment can be used for instruction, including visiting potential field trip sites for specific instructional objectives.

- As part of the professional development, engage teachers in a field trip to a local outdoor site, if possible, to provide opportunities to try out activities, practice using field trip equipment, and discuss how to manage students outdoors. De-brief the field trip in terms of instructional strategies, organization and content. If weather or transportation time preclude an outdoor field trip, consider using the school gym to do a “mock field trip” or visit to a local science center or research lab.
- Encourage the teachers to begin planning the logistics of outdoor exploration and instruction several months in advance.
- Items that teachers should consider in their planning include:
  - 1) Scheduling spring field trips early in the school year to avoid scheduling conflicts.
  - 2) Selection of the field trip site and a visit to survey the site well in advance of planning instructional activities.
  - 3) Purchasing equipment and supplies needed for field trip activities, with financial support from a community partner, if possible.
  - 4) Arranging for transportation and securing funding, if needed.
  - 5) Communicating the instructional purpose of the field trip and the logistics to accomplish the purpose to everyone who will be involved in leading or chaperoning groups of students.
  - 6) Discussing how to organize students while outdoors in smaller groups with specific activities, each with a chaperone if possible.
  - 7) Including an introduction to the field trip for the entire group onsite before releasing the group to begin field trip activities, particularly if small groups will be rotating through stations. (At an engaging outdoor site like a beach or stream, the best place for this might be in the bus or in the parking lot.).
  - 8) Providing clear, firm rules about collecting any live animals (which requires an Alaska Department of Fish and Game scientific and educational permit) or bringing anything back from the field trip site, dead or alive.

#### **Element Six – Design and Implement the Systems-Oriented Framework Evaluation**

*What we did:* The E2E project evaluator assisted ANROE and Alaska Sea Grant in the design, implementation and analysis of the framework evaluation. The goal of these evaluation surveys was to identify key elements leading to changes in teaching strategies as well as the attitudes of the participants and other elements that were barriers to change. We administered four surveys (See attached): a pre- and a post-in-service survey, a post-workshop survey after the onsite portion (10.5 hours over 2 days), and a post-course survey for those who took either the 1-credit or 2-credit course. These surveys were done in person on hard-copy as a means to ensure timely completion and full participation. Completion of the surveys was a requirement for course credit. In addition, those completing all four surveys were paid a stipend by the E2E grant funds. At the end of the 1-credit course, each teacher was required to submit a reflection on implementation of at least one activity from the curriculum as a course requirement which provided additional insight into what influenced changes in teacher practice. At the end of the 2-credit course, each teacher was required to submit a reflection on all of the Sea Week activities they participated in.

#### *Our recommendations:*

- Use the Systems-Oriented Framework to design pre- and post- evaluation surveys.
- Design survey questions carefully to ensure the answers will allow you to evaluate whether the interventions were implemented as intended and whether or not the desired tipping points were reached.
- Require completion of surveys as an element of course credit.
- Consider an online survey tool and make it shorter rather than longer!
- Use both a quantitative and qualitative approaches to evaluation. Responses to the qualitative questions that we included in the surveys and the reflections on practice that were a course requirement proved more valuable than the quantitative ones in assessing change in practice in some ways.

## **Element Seven – Analyze the Raw Data**

*What we did:* With assistance from the E2E evaluator, ANROE staff entered the raw data from the surveys on an Excel spreadsheet. Although we asked for participants to provide their names so we could match up individual before-and-after responses, we did not include this information in the spreadsheet after we determined our sample size was too small to make meaningful comparisons for individuals. This was a very time-consuming process because the responses included both answers to multiple-choice questions that provided quantitative data and responses to open-ended questions that required analysis as qualitative data. Calculation of averages and rankings were accomplished in Excel. We used the time-intensive method described because we instructed teachers in person and felt we would get better and more complete responses during the time when teachers were focused on group reflection. We also wanted to compare the impact of only providing the 2-hour in-service, whose participants lacked an incentive to fill out the surveys with the impact of the professional development course. Sample sizes, however, proved too small to make this comparison.

*Our recommendations:*

- Use Survey Monkey, or another online survey tool, and its data analysis and reporting functions unless there is an advantage to using hard-copy responses in terms of response rates and/or data quality.
- If completion of the surveys needed for evaluation is part of the course requirements, Survey Monkey would eliminate the time required for data entry.
- Pre-test the survey if possible to refine or eliminate questions that don't provide the information you need to meet your evaluation objectives.
- Compare survey results with the systems-oriented framework and consider adding a column (in Figure 1, this is column 5) to describe conclusions about whether tipping points were reached or not which may involve qualitative reflections that weren't captured in responses to the surveys. For example, we observed mentoring relationships between experienced teachers and teachers new to teaching and the community which we didn't anticipate as a factor to include in our surveys.

## **Our Conclusions**

Preliminary conclusions from the results of the surveys and reflections were that some factors in the professional development in-service and course contributed to a change in teaching strategies and practice and other factors were a barrier to change.

### **Contributing factors leading to change in teaching strategies:**

- 1) The support of school administrators before professional development and a continuation of support during implementation of new strategies,
- 2) Stipends to participate in professional development that included the implementation of instructional change,
- 3) Multiple visits by the workshop instructor (who lived in another community) before, during, and after the onsite workshop, during the school's Sea Week field trips (attempts to schedule conference calls were not successful or communication suffered due to poor connections),
- 4) The practicum portion of the course, which required implementation of teaching activities from the curriculum, and reflection on teaching practice, in order to receive credit,
- 5) An enthusiastic, experienced teacher team willing to take leadership and mentor and help other less-experienced teachers plan their instruction,

- 6) Increased confidence in the use of science notebooks, inquiry-based learning and subject integration, all of which was emphasized during the onsite course,
- 7) The relevancy of the curriculum materials that were both Alaska-specific and aligned with standards, and
- 8) The content focus of the curriculum on “seas and rivers” which was integral to the community’s economic and social activities and dependence on the local environment.

### **Barriers to changing teaching strategies:**

The major barrier that teachers identified to changing their individual practice was insufficient planning time for field trips which required coordination with other teachers and working around scheduling conflicts. The relatively late timing of the in-service and workshop in January (due to conflicts with earlier dates and time required to make grant/contractual arrangements) was also identified as a factor that hindered the full participation of all teachers.

### **Reaching the Tipping Points in the Systems**

We concluded that we were able to reach the tipping point we identified for teachers to accomplish schoolwide change. Although slightly fewer than 50% of the elementary teachers participated in the credit course, a much larger percentage participated in the 2-credit option than we projected as necessary to reach the tipping point, which ultimately provided enough mentoring and leadership to plan and implement a schoolwide change in practice. The single middle school teacher also changed her practice in the ways desired while participating in the 2-credit professional development course. In terms of our longer-term goal of a sustained change in teacher practice, all of the participating teachers responded to our survey that they plan to make Sea Week an annual educational event for the school.

The elementary and middle school principals, as well as the district superintendent, did not participate in the professional development activities in the way we had envisioned as necessary to reach a tipping point, but they were supportive of their teachers’ efforts and in the administrative aspects of the grant. The in-service time that was provided which all elementary teachers were required to attend was also a significant expression of the priority the administrators accorded to the improvement of instruction particularly in science. Teachers would have liked additional paid planning time than the elementary principal provided. We concluded that support for the overall goals of professional development in science and environmental education and for teacher leadership were sufficient to reach the desired tipping point for changes in instruction. We suspect this “bottom-up” process of change is the case for schools in many small and medium-size Alaskan rural communities because the choice of teaching activities to address state standards is at the teacher level. The tipping point for administrators seems to lie in their agreement that professional development in place-based and/or science education is a priority for their teachers and the administration of small grants is worth it.

The tipping point with respect to community partnerships is more difficult to assess. We learned that a number of informal education partnerships already existed in the community which brought experts from the Alaska Department of Fish and Game, the Togiak National Wildlife Refuge, and local seafood processing plants into classroom or as guides on field trips. The community partners that participated in the project appreciated the coordination of the field trips and of the career focus so they could be efficient in their outreach to the elementary school. In this way, the Sea Grant and EPA funds and emphasis on school-community partnerships were a catalyst for bringing community resources to bear in a more coordinated way on environmental education and environmental literacy.

### **Future Use of the Professional Development Model and the Framework for Systems-Oriented Evaluation Model**

ANROE and Alaska Sea Grant agree that using a framework such as that illustrated in Figure 1 can provide the means for professional development providers to evaluate their impacts on individual teachers and at other levels of the K-12 education system, including school districts, and communities. It can be used to increase capability to gauge success in the implementation of effective teaching strategies in environmental education, on the use of specific environmental education resources, and on emphasis placed on environmental education in school and school district curriculum

frameworks.

On the statewide level, this systems-based evaluation could provide the means to analyze and evaluate statewide progress on the goals and objectives of the Alaska Natural Resources and Environmental Literacy Plan. From the standpoint of the goals and objectives of Alaska natural resource and environmental literacy plan, the two components that in this professional development model that implemented the plan were: 1) the facilitation of partnerships between schools, informal education providers of K-12 environmental education, and local community partners, and 2) the incorporation of training in use of the local environment for field study into professional development. In addition, providing even relatively modest financial support to schools and instructional resources that were locally relevant removed two important barriers to increasing instructional time spent on environmental education.

We acknowledge that the evaluation process described can be time-intensive and requires considerable professional expertise and time, but it provides a much more insightful and adaptive approach to professional development and the systemic improvement of environmental literacy instruction than the previous model of stand-alone professional development workshops and courses.

This systems-oriented evaluation approach could also provide the means to evaluate the impacts of other types of environmental education interventions to accomplish systemic change in the K-12 system, an area of environmental education that has not been well developed with evidence-based studies. Finally, because this approach is closely aligned with “logic models” required by a number of federal agencies, it is also useful as an evaluation framework for grant proposals and the documentation of societal impacts from federal investments in environmental education programs.

Figure 1.

**Framework for Systems-Oriented Evaluation – Alaska**

**How can the Alaska E2E grant improve professional development related to implementing the Alaska Seas and Rivers Curriculum within the Dillingham School District which is consistent with implementing the Alaska Natural Resource and Environmental Literacy Plan?**

Points of Systemic Influence    Baseline Understanding    Trying Out Interventions    Tipping Point    Evaluation    Sustainable Adaptive Balancing

Groups that will change system	What’s happening now	Things you’d like to try out which will change the system	When enough has changed to shift the system to the new paradigm	Interventions and/or Tipping Point Reached?	What you want each group to do in the future
<p><b>Teachers K-8</b> 3-tiers: - Teachers who attend 2-hour in-service - educators* who attend 1-credit course - teacher leaders who participate in 2-credit course. *There may be home school parents.</p>	<p>Some teachers know about the curriculum and use it in their classroom, but it is rarely taught school-wide or connected with the local community partners.</p>	<ol style="list-style-type: none"> <li>1. Dillingham teachers help choose activities from the Alaska Seas and Rivers curriculum that align with their district science standards.</li> <li>2. A 2-hour in-service plus university 1 and 2-credit courses on the Alaska Seas and Rivers Curriculum, that begins in January, 2015, are provided.</li> <li>3. Kits are developed that enhance using the curriculum activities.</li> <li>4. Teachers identify a local community partner to enhance implementing the celebration.</li> <li>5. Teachers brainstorm careers and jobs as well as local stewardship projects with community partners.</li> </ol>	<ol style="list-style-type: none"> <li>1. At least ½ teachers in the Dillingham elementary and middle school take the 1-credit course and teach ASW activities in alignment with district science standards.</li> <li>2. Three teacher-leaders take the 2-credit course and work on customizing and localizing activities on Alaska Seas and Rivers.</li> <li>3. Kits are distributed to teachers/schools that have taken the course.</li> <li>4. Teachers that have taken the course use the kits in the spring to celebrate Alaska Seas and Rivers Week.</li> <li>5. Teachers express a desire to celebrate Alaska Seas and Rivers annually.</li> </ol>	<ol style="list-style-type: none"> <li><b>1. 9 elementary teachers (out of 18 classroom teachers total) and 1 middle school science teacher (out of 2) participated in the credit course.</b></li> <li><b>2. Eight took the 2-credit course and were most active in customizing and localizing Alaska Seas and Rivers activities.</b></li> <li><b>3. Kits were assembled and made available for check-out in the Dillingham elementary school. The single middle school teacher organized her own supplies and equipment needed for instruction of ASW units</b></li> <li><b>4. All of the Dillingham elementary teachers celebrated Sea Week and took their students on field trips in the spring. The field equipment kit was used by all grades. The middle school teacher taught a Seas and Rivers unit, but was planning a fall field trip for all of the 7<sup>th</sup> grade students.</b></li> <li><b>5. All teachers responded to a</b></li> </ol>	<ol style="list-style-type: none"> <li>1. Every classroom in Dillingham’s elementary and middle school teaches activities from and celebrates Seas and Rivers as an entire school each spring along with community partners.</li> <li>2. Students are taken on relevant field trips to enhance learning.</li> <li>3. Students understand what marine environment-related jobs and/or careers exist and are given internship opportunities locally.</li> <li>4. New teachers are mentored and trained by teachers trained to implement Alaska Seas and Rivers activities and the spring celebration.</li> <li>5. Teachers and students choose and engage in a community stewardship project annually.</li> </ol>

			<p>6. Teachers choose and engage their students in a community stewardship project as part of the spring celebration.</p> <p>7. Teachers connect students with potential ocean-related careers.</p>	<p><b>question in the post-course survey that they intended to celebrate Sea Week next year.</b></p> <p><b>6. A community stewardship project was not chosen or implemented in 2015.</b></p> <p><b>7. An elementary school Career Day was held featuring ocean-related careers.</b></p>	
School Principals	Some may know about the curriculum, but every teacher in their school does not use it. Principals do not encourage every teacher to use the curriculum and celebrate school-wide	<p>1. The principals at the Dillingham elementary and middle schools are invited to attend and support attendance by their teachers to the university credit course on the curriculum in January 2015.</p> <p>3. They are also asked to welcome the group or introduce the course instructors.</p>	<p>1. Each principal attends the credit course and supports planning of the spring celebration.</p> <p>2. Principals support their teachers to attend the credit courses.</p> <p>3. Principals introduce instructors at the course or do the welcome.</p>	<p><b>1. The school principals were invited but did not attend credit course. The elementary principal supported planning for the spring celebration.</b></p> <p><b>2. The principals supported their teachers' participation in the in-service and the credit course,</b></p> <p><b>3. Principals were not available to welcome the group to the course or introduce the instructors</b></p>	<p>1. Principals enlist and support every teacher in their school to participate (as described above) in learning and celebrating Alaska's Seas and Rivers as a school-wide effort each year.</p> <p>2. Principals support new teachers in training or mentoring to learn about the Alaska Seas and Rivers activities and annual celebration.</p>
Superintendent	May be aware of the Alaska Seas and Rivers Curriculum, but does not encourage its implementation.	<p>1. Superintendent is invited to attend the university credit course on the curriculum.</p> <p>2. Is asked to network with and recognize participating partners by phone, letter or on the web site.</p> <p>3. Discusses with principals how to integrate Alaska Seas and Rivers activities into the district standards.</p>	<p>1. The Superintendent attends the university credit course and/or welcomes the participants or instructors at the course.</p> <p>2. Networks with and recognizes participating partners by phone, letter or on the district web site.</p> <p>3. Works with principals and teachers to integrate Alaska Seas and Rivers celebration and kits into the district standards.</p>	<p><b>1. The Superintendent was invited to attend the course, but did not attend or welcome participants.</b></p> <p><b>2. The elementary principal could not identify any existing community partners. No recognition occurred for local partners.</b></p> <p><b>3. Integration of Seas and Rivers activities and alignment with District standards was accomplished at the individual teacher level. An opportunity to revise the District curriculum framework will be available in two years.</b></p>	<p>1. The Alaska Seas and Rivers activities and celebration are integrated into the district science standards</p> <p>2. Kits are maintained by the district and used routinely by the teachers.</p> <p>3. Supports continued training and mentoring of teachers new to the district on the Alaska Seas and Rivers activities and kits.</p> <p>4. Maintains and enhances partnerships in the community as participants in the Seas and Rivers</p>

					celebration annually.
Community Partners – organizations, businesses, industry, tribes, and government agencies	A few community partners may be invited into the classroom occasionally to enhance teaching about Alaska Seas and Rivers.	<ol style="list-style-type: none"> <li>Two community partners are selected to work with elementary and middle school teachers to help plan the school and community-wide celebration for the spring.</li> <li>Community partners are invited to attend the January 2015 workshop.</li> </ol>	<ol style="list-style-type: none"> <li>Two community partners attend the January 2015 workshops.</li> <li>Community partners assist with the spring celebration and offer experts, field trips or participate in other learning experiences, such as stewardship projects.</li> <li>Partners provide opportunities for students to learn about jobs and careers related to Alaska’s Seas and Rivers.</li> </ol>	<ol style="list-style-type: none"> <li><b>More than 2 community partners worked on the spring celebration, but did not attend the January in-service or course.</b></li> <li><b>One community partner provided a field trip for the professional development course and assisted with field trip planning. One community partner assisted with field trips. One community partner received pass-through grant funds to pay for field trip transportation.</b></li> <li><b>Several community partners participated in a Career Day so students could learn about ocean-related careers and jobs.</b></li> </ol>	<ol style="list-style-type: none"> <li>Community partner participation is central to teaching about Alaska Seas and Rivers and a diverse set of partners participate each year during the celebration. In addition, some partners host field trips and/or stewardship projects for classes annually.</li> <li>Partners offer students information on jobs or careers and internships and/or local hire opportunities.</li> </ol>