

*For Instructions for each section below, see Reporting Policy, II (B); the Reporting Policy can be found on the website, <u>https://evostc.state.ak.us/policies-procedures/reporting-procedures/</u>

Project Number: 23240400

Project Title: Community Organized Restoration and Learning [CORaL] Network

Principal Investigator(s): Wei Ying Wong, Alaska SeaLife Center

Reporting Period: Feb 1, 2024 – January 31, 2025

Submission Date (Due March 31 immediately following the reporting period):

Project Website: Alaska Sea Grant (ASG) is refining the development plan of the CORaL Network website through a sub-committee (CACS, CRRC, ASLC, PWSSC, ASG, AMAR).

Please check <u>all</u> the boxes that apply to the current reporting period.

□ Project progress is on schedule.

⊠ Project progress delayed

The CORaL Network website is still under development. We have a website plan in place and our expected launch will be in the third quarter of FY25. <u>https://docs.google.com/document/d/1bBfocNuhgva6KkercCRunXoX5T1iv805mc3L1uQNe_A/edit?tab=t.0</u>

□ Budget reallocation request.

⊠ Personnel changes.

ASLC

- Hired Gail Cheney and 'LáaganaayTsiits Git'anee with the Gínga & Igniñ Collective on October 2024 January 2025.
- Hired Headwater People to develop and implement a process evaluation plan for FY25 FY27.
- Hired Aan Ortiz, Community Engagement Director in November 2024.
- Hired Samantha Case, Media, and Communications Coordinator in October 2024.



PWSSC

• Hired Nachi Yellapragada, AmeriCorps Members contracted for one year (September 2024 September 2025) to join the PWSSC Education Department and help implement CORaL Network programs.

CACS

- Hired Misha Klassen, Community Coastal Experience (CCE) Coordinator, who left the program in June 2024.
- Hired Danny Khor as Community Coastal Experience (CCE) Co-Lead for May August 2024. Danny signed a 1-year contract as CCE Coordinator for September 2024-September 2025.
- Hired Sarahlily Stein as Community Coastal Experience (CCE) Co-Lead for May -August 2024. Sarahlily remained on part-time to support CORaL/CCE from September 2024 - January 2025.
- Hired Lauren Gemery, Leslie Jacoby, and Isabel Scott as CCE Co-Leads in January 2025, all on contracts for February August 2025.
- Hired Shania Tanape, CORaL Intern, starting August 2023 October 2024.
- Hired Warren Baxter, CORaL Intern, starting September 2024-May 2025.

1. Summary of Work Performed:

The CORaL Network partners: The Alutiiq Museum and Archaeological Repository (AMAR), Chugach Regional Resource Center (CRRC), Prince William Sound Science Center (PWSSC), Center for Alaska Coastal Studies (CACS), and Alaska Sea Grant (ASG) co-created the mission of the CORaL Network as follows:

The CORaL Network empowers our region by collaborating, learning from one another, and sharing scientific, cultural, and traditional knowledge. We foster community co-creation and responsiveness to meet the needs of our partners and their service communities.

This year, partners focused on education and outreach related to the *Exxon Valdez* Oil Spill (EVOS) and continued to build a framework to engage local communities, foster traditional and western ecological science awareness, and co-created sustainable practices within the Network. Partners co-created educational programs initiatives, training, conferences, internships, workshops, and gatherings to cater to diverse audiences. Through these collaborative efforts, the CORaL Network aims to engage youth in community-based science, coordinate science outreach between organizations, and sustain capacity-building activities such as learning opportunities and internships.

The PI acknowledges the significant research outreach and education efforts of the PWSSC, ASG, and CACS in sharing the work of EVOSTC-funded long-term research and monitoring



programs. These organizations have played a crucial role in enhancing the community's understanding of ecological restoration and the health of marine ecosystems.

The partners also seek to deepen their understanding of Alaska Native knowledge, foster cultural competency, and build collaborative community relationships. The PI acknowledges the ongoing leadership and guidance of CRRC and AMAR in this effort. Through these initiatives, the CORaL Network supports ongoing regional restoration efforts while addressing the unique needs of impacted communities. CRRC has been a leading partner in developing culturally relevant curricula which can easily be incorporated into western science curricula. They spearhead the inclusion of local elders, mentors, and traditional knowledge holders who are crucial in establishing relationships with EVOS-affected communities. This training has expanded the understanding of Alaska Native cultures and the importance of co-developing educational materials with Alaska Native communities to ensure proper cultural protocol is highly respected. Because of CANP (Collective Alaskan Native Perspectives) training, future workforce development, outreach and research efforts will include Traditional Ecological Knowledge (TEK).

The CORaL Network partners held two annual meetings: one in Cordova, AK on 10/8/24 and the other at Anchorage, AK on 1/20/25. In preparation for the January meeting, Gail Cheney and 'LáaganaayTsiits Git'anee with the Gínga & Igniñ undertook a focused interim role dedicating hours to facilitate productive conversations across all teams. Clear expectations and objectives established to ensure partners entered the meeting with a unified understanding. Program evaluation began in FY23/24 and due to program errors, did not reflected in the FY23 annual report. As suggested by the EVOSTC Science Panel, we have secured consulting services from Headwater People, with highly recommended credentials and a skillset of management, strategic planning, and program evaluation using TEK.

Despite the inherent challenges stemming from the holiday season, the absence of key partners, and personal family tragedies that few team members faced, we achieved considerable progress. Data contributions successfully gathered from all partners and this collective sharing of information allowed the team to advance cohesively toward project goals. A key factor in relationship challenges was staffing changes within ASLC (primary awardee) that resulted in overdue payment processes to partners. To address this, ASLC established a systematic process for monitoring sub-grantee payments which enhanced the trust and relationship-building between the PI and partners. Additionally, other systematic processes established within the CORaL framework such as conflict resolution, communications, collective decision-making, capacity building in the event of job vacancies, and tracking/measuring outcomes and deliverables. These measures will cultivate a collaborative environment conducive to long-term, sustainable partnerships.



At the conclusion of the January 2025 meeting, it reveals that all participants felt the objectives had been met. The meeting concluded with a summary of the next actionable steps and a series of 'gut-check' questions designed to align future efforts. This process not only underscored the importance of collaboration but also highlighted the resilience of the partners in overcoming adversity to achieve shared values and goals.

2. Products:

<u>Peer-reviewed publications:</u> Seabirds and humpback whales give early warnings to marine heatwaves. https://doi.org/10.56367/OAG-042-10703

<u>Reports:</u>

PWSSC Accomplishments Year 3, February 2024-January 2025 https://drive.google.com/file/d/1Q-Tyz5c_Vm2OWfzxsLvRrE09ie2uwRK3/view?usp=drive_link

FY24 Annual Report - Alutiiq Museum

https://docs.google.com/document/d/1SLMYIgaIKkmbGPN-bncoixq6IHJHv73F/edit

FY 2024 COMPASS Project Report

https://docs.google.com/document/d/1FuIV8y-DFv74obnH1 kqJQkJQECatdN7/edit

CORaL Y3 CRRC Summary

https://docs.google.com/document/d/1aBvITP_XyV-f6MUejxBh30qyz3CUJVd2/edit

CACS Annual Report

https://docs.google.com/document/d/1HIwcwY1kiLMb5uY3bNl2zaMRNK2xHWMe61JqfzaX RKw/edit?tab=t.0

ASG CORaL Annual Report https://docs.google.com/document/d/1USgHcLiFtbm__qnLl7IbhAU1SY7opI9s/edit

Ginga and Ignin Report

https://docs.google.com/document/d/1ciWRPBoSkVHxKy3ng2poLH7fZgzMtjlX6FPm7QLb8J E/edit?tab=t.0



ASLC Learning Department Summary https://docs.google.com/document/d/1ukMrQXRVCef3K5J4WMqNWBzkSe_btwdk/edit

Popular articles:

CORaL Newsletter

Partners have been authoring updated articles regarding their work in a monthly newsletter. Up to date, the ASLC CORaL Media and Communications Coordinator has published six newsletters in coordination with all partners. For this reporting period, here are the links to the newsletters: February 2025, January 2025, December 2024, November 2024 and March 2024.

In order to engage with communities through social media and website platforms, we have provided a subscription link: [Subscribe to email newsletter link].

The PWSSC published the following EVOS-related articles in the following publications: Breakwater, CORaL Newsletter, and Delta Sound Connections: February Breakwater (Feb 2024): Mar ReCon PI Meeting and Education Month in Review; March Breakwater (March 2024): Education Month in Review; April Breakwater (April 2024): MarReCon Updates and Education Month in Review; Delta Sounds Connections published (April 2024): CORaL Network article; Seabirds and humpback whales give early warning to marine heatwaves (April 2024): Open Access Government, pg. 388, Summer Breakwater (July 2024): Whittier/Cordova Connections; August Breakwater (August 2024): CCE Article, CORaL Interns Article and Education Summer Highlights; September Breakwater (September 2024): Aleutian Tern Survey; October Breakwater (October 2024): Chugach School District Science Week Article and Education Month in Review; Ocean Sciences Festival and Whittier Science Week; November Breakwater (November 2024): GWA IPP Survey, Annual Meetings in Cordova (GWA and CORaL), Ocean Sciences Festival and October Education Updates; December Breakwater (December 2024): November Education Updates and Zooplankton Workshop; PWSSC Perspective; January Breakwater (January 2025): December Education Updates Feature on Ecosystems unit and CORaL Semi-annual meeting.

Conferences and workshops:

Conferences:

Mariculture Research and Restoration Consortium Annual PI and Farmer Meeting - Kodiak, Alaska - January 7-9, 2025.

• PWSSC and ASG attended three days of meetings.



- AMAR attended PI research updates.
- PWSSC presented about the CORaL Network
- ASG helped organize and co-host this event.

Alaska Marine Science Symposium – Anchorage, Alaska – January 27-31, 2025.

- January 27 CORaL Partners attended the Communicating Ocean Sciences Workshop
- January 27 CORaL Network Booth at the Conference poster Session
- January 27-28 ASG provided academic evaluation of student presentations and posters
- January 28 CORaL Network Booth at the conference poster session
- January 29 Participated in the Community Education Night with our Sea Grant partners.

Collective Alaska Native Perspectives (CANP) Training – Kodiak, Alaska – April 8-10, 2024. The second in-person CANP training was held at the Afognak Center in Kodiak, Alaska. The planning committee focused on CANP topics: *Alaska Native Introductions; Alaska Native Land Claims & Tribal Sovereignty; Applied Traditional Ecological Knowledge; Chugach Native Societies, History, and Spirituality; Collaboration & Co-management; Cross-cultural Communication; Native Organizations, Corporations, Tribes, Consortiums, & Tribal Councils; Procedures in the Village; Respect for Alaska Native Elders; Subsistence: Alaska Native Ways of Life; and U.S. Laws & Alaska Natives.* Hosting Elders, Guest Speakers, and Mentors:

It is important to note that during this reporting period, CRRC staff along with Alaska Native mentors, planned for the third in-person CANP training in Cordova, Alaska. Planning meetings took place from late October to beyond the reporting period (Cordova event took place on February 11-13, 2025, at the Cordova Center). The planning process included coordination and agenda planning with CRRC staff and Alaska Native mentors. Content planning included meetings with Elders and Guest Speakers and included CORaL Network Partners as part of the CORaL Collective Alaska Native Perspectives Subcommittee.

CRRC and the PI would like to acknowledge the following individuals as key contributors of their CANP personnel: They are Elders and traditional Alaska Native knowledge-bearers or educators: Sally Carlough (Kodiak), Suzy Malutin (Kodiak), Pete Kompkoff (Kodiak), Mary Keever (Ekwok/Anchorage), and Sally Ash (Nanwalek). CANP guest speakers: Naomi Palasaari (Attorney), Orville Lind (Alaska Native Perspectives), Molly Odell (Alutiiq Museum & Archaeological Repository), and Sperry Ash (Traditional knowledge-bearer & educator). CANP mentors: Michael Opheim (Tribal Fish & Wildlife Liaison with CRRC & Native Village of Ouzinkie Tribal member), Jen Kiokun (Native Village of Mekoryuk Tribal member), Dehrich Schmidt-Chya (Alutiiq Museum & Archaeological Repository, Sun'aq Tribal member), and Dustin Carl (Tribal Wildlife Biologist, CRRC, Native Village of Kipnuk Tribal member).

Kodiak Area Marine Science Symposium - Kodiak, Alaska - April 23-26, 2024.



Molly Odell (AMAR) served on the organizing committee.

- AMAR advised the hosting organization (Alaska Sea Grant) on a land acknowledgement.
- Archaeology presentations by AMAR staff Molly Odell & Patrick Saltonstall
- *Who Are We* video played, and introduced by Dehrich Chya (AMAR)
- *Family Science Night* AMAR provided Alutiiq culture and subsistence themed coloring activities.

Prince William Sound Natural History Symposium - Whittier, Alaska - May 16-17, 2024.

- CRRC land acknowledgement
- CRRC presentation and mention of the CORaL Network
- PWSSC hosted a *Watch Party* in Cordova, making this symposium more accessible.
- ASG education specialist was an active member on the planning committee, helped facilitate the event, and co-hosted a CORaL table with CRRC.

ASG hosted and organized this event with resources and staff that are not funded by CORaL but still contribute to the Network's success.

The Annual Seward Science Symposium, ASLC, CRRC, NPS OASLC, UAF SMC, - Seward, Alaska - September 7, 2024.

This annual community event highlights local science, research, and cultural work. The *Seward Science Symposium* focuses on the intersection between culture and science, emphasizing the sharing of projects that support wellbeing on a community level. This event engages all community members, from Seward students to the public. The *Symposium Presentation Day* was open to the public. CRRC staff provided four presentations during the day, including the keynote named '*Sharing Traditional Ecological Knowledge*' by CRRC Education & Outreach Director, Carol Conant. Link to the event landing page & presentation schedule: https://alaskasealife.ejoinme.org/MyEvents/SewardScienceSymposium/tabid/1495541/Default.aspx

Seward Science Symposium Student Day, CRRC, ASLC, NPO, OASLC, - Seward, Alaska - September 6, 2024.

Our partners welcomed students from the Seward High School to visit Alutiiq Pride Marine Institute (CRRC) and the ASLC. They received programming from the National Park Service's Ocean Alaska Science and Learning Center, and work with local artist, Marissa Beck, to learn how to communicate science through art. The poster and evening sessions of the Symposium, both open to the public, were dedicated to researchers to display their scientific project posters and discuss their work. The student day coincided with a local community event, the *First Friday Art Walk*.



Gulf Watch Alaska Long Term Research and Monitoring Annual PI Meeting, - Cordova, Alaska - October 15 -16, 2025.

- PWSSC attended two days of meetings.
- PWSSC presented about the CORaL Network
- PWSSC held CORaL Network office hours for PIs.

Workshops:

Together at the Table: Bringing Indigenous Knowledge, Science, and Stewardship of Our Food Web into the Classroom, Seward, Alaska, October 25 – 27, 2024.

Alaska SeaLife Center, Education Department facilitated an annual workshop for Alaska educators of grades 1-5. Lessons focused on culturally relevant teaching, our food web, and human connection to the land, conservation, and stewardship. The workshop provides an opportunity for teachers to obtain UAA continuing education credits. Thirty educators from throughout Alaska participated. We partnered with CRRC and other Alaska Native organizations, offering insight into Values and Indigenous knowledge Systems, Belonging, and Mattering in Education, Subsistence Calendars, and a demonstration from the Seward Native Youth Olympics team. We previewed "Playing with Data," a curriculum in development by Sea Grant, and provided feedback from the teachers.

Plankton Taxonomy, PWSSC, Cordova, Alaska, November 3-6, 2024. PWSSC hosted a community education night for presenters to share their research on *Plankton Taxonomy* and discuss the importance of the workshop for collaboration.

Cultural Competency, CRRC, Seward, Alaska, March 25 - November 19, 2024. Short courses related to cultural competency, community visits, and cross-cultural communication are in high demand in the region. The short courses hosted for a variety of

organizations and audiences, either online or in person, allowing for flexibility with structure and content. This iterative process allows CRRC Education & Outreach staff to address audiences' questions directly and integrate place-based knowledge into the courses. From March 25 to November 19, 2024, CRRC provided workshops for teachers, CCE participants, school districts, CORaL Network partner board members, employees, mentors, leaders, local tourist businesses, fishing communities, and science/conservation representatives.

Public presentations:

Stewards of the Bay: Community Connections Series, ASLC, CRRC Alutiiq Pride Marine Institute, NPS Ocean Alaska and Learning Center, and UAF Seward Marine Center, Seward, Alaska, May 16, 2024 - January 23, 2025.



The Community Connection Series is a lecture series designed to bring research, science, and culture to spark conversation in the Seward Community. In this series, the local partners collaborated to produce the following connection series on social media.

May 16, 2024, Ocean Monitoring and Community Well-Being June 20, 2024, The World of Plankton July 17, 2024, Invasive Species Monitoring August 29, 2024, Harmful Algal Bloom Monitoring October 16, 2024, Puffin Research on the Kenai Fjords Coast November 20, 2024, National Ocean Science Bowl Quiz Demonstration January 23, 2025, City of Seward's Comprehensive Plan Updates

Fall Lecture Series, AMAR, Kodiak History Museum, Kodiak, Alaska, October 2024. AMAR hosted a fall lecture series in 2024 to help researchers connect with AMAR's audience and to share our collaborative work. As the facility closed in fall 2024, AMAR hosted the lecture series in partnership with the Kodiak History Museum. Two of the lectures were inperson at the Kodiak History Museum and the other two were virtual. Each lecture is listed in Table 1.

Title	Presenter(s) &	Type of	# of
	Affiliation(s)	Presentation	attendees
Indigenous Science in Fisheries	Dehrich Chya (AMAR) &	Virtual	12
	Courtney Carothers (UAF)		
Story of a Remote Bear Camp	Molly Odell (AMAR in	In-person	23
	collaboration with the		
	Kodiak National Wildlife		
	Refuge)		
Mariculture in Alaska	Melissa Good (Alaska Sea	In-person	7
	Grant)		
What Fire Preserves: Studying	Trevor Lamb (Boston	Virtual	20
Burned Plant Remains to Understand	University in collaboration		
Ancestral Alutiiq/Sugpiaq Plant Use	with AMAR)		

Table 1. AMAR's Lecture Series

Tuesday Night Talks and Tuesday Night Lights, PWSSC, CACS, Cordova, Alaska, February 2024 – January 2025.

PWSSC is proud to have such strong partnerships within the CORaL Network and across the state of Alaska. PWSSC hosted 26 *Tuesday Night Talks* between February 2024 and January 2025, was attended by 499 people in total. Of the twenty-six talks, two of the speakers were Gulf Watch Alaska Long Term Research and Monitoring researchers, four of the presenters



were CORaL Network educators, and two of the presenters were Mariculture Research and Restoration Consortium researchers.

In February 2024, EVOSTC scientist Dr. Sarah Traiger (USGS, GWA) spoke about her work at these lecture series. Excited by the opportunity to work with Dr. Sarah Traiger, the PWSSC collaborated with CACS to live-stream the lecture to the communities of Homer and Cordova. To view Dr. Sarah Traiger's talk on Nearshore Ecosystems, click the link below: https://www.youtube.com/watch?v=a30BBbHW_IU

In addition, PWSSC provided the following to educate the public regarding EVOSTC-funded science:

- *Nature Yoga* (95 attendees) April 2024 January 2025
- *Watch Parties* (15 attendees) May 2024 December 2024
- *Nature Journaling* (11 attendees) June 2024 August 2024
- Coastal Clean-up (2 events) June 2024 December 2024

Data and/or information products developed during the reporting period:

CRRC continues to work on a publication titled "Beyond Speculation: An Indigenous Alaskan People's Adaptation in the Face of an Ecological Catastrophe" for potential peer-reviewed publication.

Research Support

AMAR assisted researchers studying ancestral Alutiiq artifacts and subsistence traditions. This included helping connect researchers with archival documents, and with Elders and other culture bearers in the community.

Exhibits

AMAR has been creating new exhibits for our renovated museum over the past year. Exhibits about ancestors (including a timeline), subsistence traditions, kayaks, and wamwik. A wamwik is a place to play which is a traditional house reconstruction with activities for children. This was in part funded by the CORaL grant. These exhibits written and designed for over a year and a half by our team had input from Elders and a committee of community advisors. In the second half of 2024, our exhibits team began building object mounts and other physical pieces of the exhibits. Once the museum's renovation is complete in December 2024, the team will continue building the exhibits in the new gallery.

ASLC, in collaboration with CRRC, Chugachmiut Corporation including our local Qutekcak Native Tribe, and other Alaska Native Organizations, began the process of integrating Sugt'stun words into the exhibits. Collaboration between CORaL Partners AMAR and CACS brought about the development of a new Alutiiq word for zooplankton, a word which Chugachmiut



Elders confirmed would also be the Sugt'stun term, and which ASLC included in a new exhibit focused on zooplankton, food webs, and current science being done through other partners including CACS. The exhibit includes information about the development of the new Sugt'stun word, facilitated by AMAR and CACS. All signage was reviewed by each of the stakeholders in this project prior to final installation.

PWSSC put out an RFP for exhibit design in October 2024. PWSSC picked an RFP for exhibit design in January 2025. The exhibit design will take place in the fiscal year FY25. Until then, PWSSC installed temporary exhibits using the <u>Raspberry Pi</u> kiosks in June 2024.

Websites

Most CORaL Network partners have CORaL landing pages to provide education on EVOS-related information and activities.

- ASLC CORaL Landing page: <u>https://www.alaskasealife.org/coralnetwork</u>
 - News Archive Blog Post: 198 views
 - <u>CORaL Landing page</u> Launch date 12/16/24, 36 views
- CRRC <u>https://crrcalaska.org/coral-network/</u>
- PWSSC <u>https://pwssc.org/education/coral-network/</u>
- CACS <u>https://akcoastalstudies.org/internships</u>

ASG continues to lead the efforts with partners and the website developer to refine the complex functions and scope of the website for the revised 5-year grant period. ASLC completed the CORaL map for the website homepage that displays all the partners and communities served. The map includes place names in English and all applicable Alaska Native languages. ASLC will be taking the lead role on website development moving forward with support from ASG. ASG education specialist time is being redirected to development and facilitation of the newly forming Alaska Knowledge, Science, and Education Alliance (AKSEA) in collaboration with ASLC, PWSSC and support and guidance from other partners. AKSEA aims to rejuvenate connections across the region and share knowledge from, and with, all our community members. It will bring together experts, scientists, and school educators to co-create lessons focused on marine-related anchoring phenomenon in the EVOS region. Teams will work together with the support of CORaL educators to create and pilot lessons.

Kiosk:

Raspberry PI Units

The Raspberry PI units are a series of small, affordable, miniature computers on a single circuit board that includes a Central Processing Unit (CPU), memory, graphics processing unit, and various ports and connectors.



PWSSC ordered four Raspberry Pi units in April 2024. PWSSC has one temporary kiosk installed in the atrium space as of June 2024. PWSSC has a travel kiosk up and running as of August 2024, which easily transports them to conferences like the Alaska Marine Science Symposium (AMSS). PWSSC is also in discussion with the Cordova Museum to install a kiosk onsite (May through December 2024). Conversations have been delayed due to staffing challenges by the Cordova Museum. PWSSC is also leading the discussion about funding and installing kiosks in the Seldovia Museum (Seldovia, AK) and Pratt Museum (Homer, AK). These kiosks will feature CORaL Network-funded video content on seabird research and best practices when subsisting, working, or living near seabirds with the help of CACS and CRRC and in collaboration with USGS.

CRRC has opted to purchase a large standing kiosk and small tablet-sized kiosk that best fits and supports outreach at CRRC. Both kiosks have been successfully utilized. The large, standing kiosk was set up in Summer 2024 at CRRC's Alutiiq Pride Marine Institute and used for tour group orientation to the Chugach regions, Chugach Tribes, and relevant regional partners (including our CORaL Partners). Notably, this kiosk was utilized on September 6, 2024, for the Student Day of the Seward Science Symposium. The tablet-sized kiosk was utilized for exhibit booths at the 2024 Seward Science Symposium and included in planning for CRRC information booths at the 2025 CANP in Cordova. CRRC looks forward to working with CORaL media specialists and partners to design relevant CORaL media content to include on the landing page of both kiosks.

Mobile Device App

ASG has effectively utilized Survey 123 (<u>https://survey123.arcgis.com/</u>) to gather critical data from kelp and oyster farmers, addressing the specific needs of mariculture. By leveraging this versatile tool, ASG ensures the collection of pertinent information that informs sustainable practices and enhances the resilience of marine farming in the face of environmental challenges. The adaptation of Survey 123 not only meets the immediate project requirements, but its cost-effectiveness allows ASG to reallocate contractor funds towards more impactful initiatives such as bringing together knowledge bearers, scientists, and educators to create lessons on co-created environmental stewardship.

Videos

Who Are We, AMAR, Kodiak, Alaska

During the first two years of the grant, AMAR produced the video, *Who Are We*, which is an introduction to modern Alutiiq identity. This video is available on the AMAR website and is shown at various events as requested. AMAR's Language and Living Culture Manager introduced the film, which played at the Kodiak Area Marine Science Symposium (25 participants), and the Board of Fish meeting in Kodiak in 2024 (20 participants).

Mele the Melanistic Common Murre, PWSSC, USGS, Kachemak Bay, Alaska



This is an educational video on Common Murre and melanism, a condition when pragmatism abnormalities are observed. USGS has observed only seven birds with this condition. One Common Murre observed is "Mele" who was leading a semi-normal life despite her discoloration. Watch this on YouTube: <u>Melanistic Murre Research</u>. CORaL Network partner, Cristina Reo, PWSSC, co-created and narrated this video.

Audio Tour for Accessibility and Sugt'stun Language Learning

ASLC, in partnership with Chugachmiut and with the support of the Qutekcak Native Tribe, cocreated and launched an immersive, multilingual audio journey that transforms aquarium exploration into a rich sensory narrative. Specifically designed to support blind and low-vision visitors, the experience connects guests to the marine species of the Seward/Qutekcak region through engaging storytelling. Unlike other audio tours, this tour is also the first wave of a longterm partnership called Acknowledge Sugt'stun, a project that invests in Sugpiaq cultural history preservation and presentation. With the permission of Chugachmiut and their Elders working to preserve language and cultural history, the audio tour introduces the first wave of traditional Sugt'stun species names and shares three profound stories that are part of the Traditional Ecological Knowledge work that is part of the living Sugpiaq culture today.

Distance Learning

The ALSC Learning Department's distance learning programming reaches students across Alaska and beyond with programs designed for students K- 12. In 2024, ASLC delivered 107 programs reaching four-thousand-sixty-nine 4069 students, covering topics on adaptations, life cycles, tidepools, habitats, scientific process and how science informs conservation change, and more.

Social Media

Through the Alaska Mariculture Research and Training Center's social media platforms, ASG shared mariculture updates on research events, funding, education, and outreach opportunities. The posts reached 8,300 people on *Facebook* and 14,600 on *Instagram*, expanding awareness and engagement within the mariculture community. Produced mariculture related video, including EVOSTC Mar ReCon project expert farmer: <u>Meet Your Alaskan Farmer: Shucking Barriers — Developing the Alaska Oyster Cooperative</u>

PWSSC shared over fifty-five posts on *Facebook* and *Instagram* that advertised or highlighted the work of the CORaL Network reaching tens of thousands of people. Eight of these posts highlighted the work of Mariculture Research and Restoration Consortium research projects and fourteen highlighted the work of the Gulf Watch Alaska Long-Term Research and Monitoring Program. Some of these posts have been included below. To see a full list of posts, visit the *PWSSC Accomplishments Year 3, February 2024-January 2025* report listed above.

• CCE applications

February 2024



CORaL Network Workshop at AMSS	February 2024
• NVE	April 2024
• NVE 2	April 2024
Mele the Melanistic Murre	April 2024
CCE Post	June 2024
• CCE Post 2	June 2024
• CCE Post 1	July 2024
• CCE Post	July 2024 (2x)
• Tern Post	August 2024
• Whittier Science Week Post 1	September 2024
• Whittier Science Week Post 2	September 2024
Ocean Sciences Festival Post	October 2024
CORaL Network Annual Meeting Post	October 2024
• Zooplankton taxonomy workshop outreach event	November 2024
CORaL Newsletter post	November 2024
• CCE advertisement	December 2024
• CORaL semi-annual meeting/AMSS booth	January 2025
AMSS poster session	January 2025

CRRC's Education & Outreach Specialist manages their social media platforms on *Facebook* and *Instagram*. During the reporting period, CRRC Facebook had 94,400 views with a reach of 43,100. CRRC *Instagram* had 29,300 views with a reach of 14,000. The total number of posts related to CORaL activities was 80 (a sum of posts from both *Instagram* and *Facebook*). The total number of posts related to mariculture activities was 42 (a sum of posts from both *Instagram* and *Facebook*). Though these mariculture posts are indirectly related to CRRC's CORaL deliverables, these posts support other regional partners' mariculture outreach efforts including those by ASG and PWSSC.

Curriculum

Whole Being Teaching, ASG, Valdez, Alaska.

ASG developed a *Whole Being Teaching* framework along with a curriculum outline and resource list for the Coastal Connections Camp (CCC). This year, the curriculum expanded from a general one-week Coastal Connections curriculum to two separate curriculums. On week focused on '*Rivers and Forests*' and another full week of curriculum for '*Oceans and Coasts*.' Curriculum includes educational resources from all six partners.

Data sets and associated metadata: <u>NA?</u>

Additional Products not listed above:



<u>Online Collective Alaska Native Perspectives Learning Series</u>, CRRC, Seward, Alaska. Filmmaker, Bjorn Olson, was contracted to film and produce educational CANP films and videos based on the ten CANP topics (listed in 'Conferences and Workshops' section above). Bjorn recorded content during April 2024 Kodiak in-person CANP workshop.

The draft trailer and promotional video for the CANP training was highlighted at the 2024 CORaL Network Annual Meeting in Cordova, held from October 8-10, 2024, to solicit feedback from network partners. This initiative led to the development of an online learning portal, Thinkific, which will facilitate the hosting of online CANP courses by CRRC. To create relevant and enriching content for these courses, previous resources related to Alaska Native relations were systematically organized and assessed.

Additionally, CRRC is in the process of securing copyright and trademark for the "Collective Alaska Native Perspectives" title and CANP logo with the assistance of legal counsel. Furthermore, CRRC's stories of Subsistence project, funded by the mini grant from the Alaska Humanities Forum, aims to contribute authentic narratives and content to the online CANP platform. Together, these efforts signify a commitment to advancing cultural education and preserving Alaska Native perspectives through accessible and comprehensive online learning experiences.

Hosting Internships

CRRC offers a variety of internship opportunities for different ages and education levels. The Education & Outreach Director supervised five interns on location at AMPI. Topics covered during internships included education and outreach, natural resource policy, social science, marine and terrestrial biology, and ocean chemistry. All topics maintain CRRC's mission of a strong focus on Tribal natural resource advocacy.

AMAR provided paid opportunities for two summer internship positions to Kariona Harford, Kodiak College and Suella Wendell, University of Alaska Southeast. The interns learned about many aspects of the Alutiiq Museum, participating in archaeological fieldwork, collections care, public outreach, and cultural art activities. Both interns are pursuing careers related to Alaska Native heritage and languages.

PWSSC hosted two science and education interns this summer. Astrid Olsen from Dartmouth College and Cortez Catalano from Penn State University completed summer-long research projects with Dr. Alysha Cypher. When they were not collecting or analyzing data, they were collaborating with campers to communicate science topics through a wide range of lessons, activities, games, and more.



CACS provided paid opportunities for two year-round interns (one of whom was a 2023 CCE alumni) as well as a Summer Intern. The internship for Shania Tanape, CCE Alumni (2023), was built around Sugpiaq cultural revitalization in the region, and included participating in the Kachemak Bay Science Conference, Elders & Youth Conference, and CRRC Annual Gathering (as well as potentially other experiences with CRRC). Through these experiences, Shania built her confidence and skills and continued to network with various partners at CRRC, leading at this point to a full-time position with CRRC. CRRC Interns had opportunities to gain experience about and be involved with various aspects of CACS's place-based environmental education. In addition, interns focused on exploring different potential education pathways while the other focused on how to integrate more local and Indigenous Knowledge and perspectives into ocean and coastal learning experiences for visitors and young kids, based out of our local harbor. CACS also provided logistic support for a short-term internship with AMAR for a 2024 CCE alumni; this intern participated in archaeological field work at Karluk Lake and is planning to return to Kodiak for more field work and the AMAR grand reopening this May 2025.

3. Coordination and Collaboration:

The Alaska SeaLife Center or Prince William Sound Science Center

These products, events, and presentations aligned with multiple CORaL project pathways and include the collaboration between CORaL partners.

PWSSC and CRRC are working on a project with David Paez (USGS), Paul Hersberger (USGS), and Malina Loeher (APU) on herring disease outreach and community sharing. In October 2024 David and Paul attended the Ocean Sciences Festival and led a table on herring disease, interacting with students in grades 4-12. David worked with PWSSC to set up a communications and outreach committee for a project they are working on that involves understanding herring health across environmental gradients.

PWSSC, CRRC, and CACS are working on a project with Yumi Arimitsu (USGS) and Caitlin Marsteller (USGS) about outreach on current USGS seabird research projects. Planned products for FY25 include an infographic on the heatwave's effects on seabird populations; kiosk video development for a series of videos regarding topics of the Pacific marine heatwave, cultural connections with seabirds, informational videos to not feed the eagles, and more; and potential kiosk installment in the Pratt Museum and Seldovia Museum.

EVOSTC Long-Term Research and Monitoring Projects

Gulf Watch Alaska Long-Term Research and Monitoring (GWA LTRM)

PWSSC has been working closely with the Gulf Watch Alaska Long-Term Research and Monitoring Program to ensure that their work is being shared with the communities that they



conduct their research in a way that is accessible to all community members, culturally-relevant, and up to date with current research being conducted. To keep up to date on all research, PWSSC staff regularly check-in with Donna Aderhold (PWSSC) - GWA Program Coordinator and Hayley Hoover (PWSSC) - GWA Outreach Specialist. PWSSC also attended the in-person PI Meeting in Cordova, Alaska (October 2024). PWSSC presented CORaL Network updates during this meeting and hosted CORaL Network office hours. The purpose of CORaL Network Office Hours was to allow time and space for collaboration between the CORaL Network and GWA LTRM PIs. PWSSC worked throughout the year to keep GWA LTRM PIs up to date on CORaL Network education and outreach opportunities. One way we did this was by coordinating and sending out an outreach opportunities email containing CORaL Network education and outreach opportunities email containing FY24: August 2024 and January 2025.

PWSSC published the following articles relevant to GWA LTRM: <u>Seabirds and humpback</u> whales give early warning to marine heatwaves (April 2024) - Open Access Government, pg. 388; <u>August Breakwater</u> (August 2024), CCE Article; <u>October Breakwater</u> (October 2024), Chugach School District Science Week Article; <u>CORaL Newsletter</u> (November 2024), Ocean Sciences Festival; <u>November Breakwater</u> (November 2024), GWA IPP Survey Article, Annual Meetings in Cordova (GWA and CORaL) article, Ocean Sciences Festival; <u>December</u> <u>Breakwater</u> (December 2024), Zooplankton Workshop.

PWSSC published the following social media posts on *Facebook* and *Instagram* containing research updates for GWA LTRM: <u>Dr. Pete Rand's paper about Salmon</u> (March 2024), <u>Climate</u> Change (April 2024), <u>CCE Post</u> (June 2024), <u>Girls in Marine Science Post 1</u> (August 2024), <u>Girls in Marine Science Post 2</u> (August 2024), <u>Whittier Science Week Post 2</u> (September 2024), <u>Plankton Month Post 1</u> (October 2024), <u>Plankton Month Post 2</u> (October 2024), <u>Plankton Month Post 3</u> (October 2024), <u>Plankton Month Post 4</u> (October 2024), <u>Plankton Month Post 5</u> (October 2024), <u>Ocean Sciences Festival Post</u> (October 2024), <u>GWA IPP Survey Post</u> (October 2024), <u>Zooplankton taxonomy workshop outreach event</u> (November 2024), <u>CORaL Newsletter</u> <u>post</u> (November 2024), <u>AMSS poster session</u> (January 2024).

PWSSC published the following *Field Notes* podcast episodes: <u>Climate Change</u> (February 2024), <u>Women in Science Feature</u> (March 2024), <u>Killer Whales</u> (April 2024), <u>Herring</u> Recruitment (January 2024), <u>Killer Whale Ecotypes</u> (January 2024). PWSSC was one *Field Notes* episode shy of the promised annual production of six *Field Notes* episodes due to the temporary long-term leave of the staff member that produces these episodes.

PWSSC engaged GWA PIs in a variety of activities and programming throughout the year:

• *Community Coastal Experience* (CCE) (June 2024) - Cruise on the PWSSC R/V *New Wave*: worked with Dr. Rob Campbell to perform a plankton tow and discuss his



research; met with Jessica Pretty to look at plankton under the microscope and talk about studying plankton.

- *Girls Exploring Marine Science* (GEMS) camp (July 2024) met with GWA scientists every day of camp.
- Ocean Sciences Festival (October 2024) 167 students and teachers attended.
 - PWSSC planned the Ocean Sciences Festival in Cordova during the GWA annual meeting (August 2024)
 - Planning for the Ocean Sciences Festival (September 2024)
 - Activity planning with Dr. David Paez and Dr, Paul Hershberger (USGS)
 - Activity planning with Anne Schaefer (PWSSC)
 - Activity planning with Dr. Scott Pegau (PWSSC)
 - Activity planning with Lauren Wild (UAF)
 - Activity planning with Donna Aderhold (PWSSC)
 - Activity planning with Dr. Rob Suryan (NOAA)
 - Activity planning with Trevor Branch (USGS)
 - Activity planning with Dr. Sarah Traiger (USGS)
 - Activity planning with Dr. Pete Rand (PWSSC)
 - Activity planning with Shelby Barnes (PWSSC)
 - GWA LTRM PIs attended.
 - Dr. Rob Suryan (NOAA)
 - Lauren Wild (UAF)
 - Dr. Sarah Traiger (USGS)
 - Dr. Paul Hershberger (USGS)
 - Dr. David Paez (USGS)
 - Anne Schaefer (PWSSC)
 - Shelby Barnes (PWSSC)
 - Dr. Pete Rand (PWSSC)
 - Dr. Scott Pegau (PWSSC)
- *Tuesday Night Talk* community lecture series
 - Dr. Sarah Traiger (USGS) discussed <u>recent changes in the Gulf of Alaska</u> <u>nearshore ecosystem revealed by long-term monitoring</u>. (Feb 2024)
 - Dr. Robert Suryan (NOAA): <u>Understanding Ecosystem Change and Recovery of</u> <u>EVOS Injured Resources in the Gulf of Alaska</u> (October 2024)
- *Whittier Science Week* (September 2024)
 - Robb Kaler (USFWS) joined us in Whittier for the Chugach School District Science Week to lead lessons on seabird research with the high school students, highlighting GWA-funded research projects (September 2024).
 - PWSSC worked with Robb Kaler (USFWS) to prepare an activity for Chugach School District Science Week in September (August 2024)



• PWSSC reached out to Dr. Shiway Wang (EVOSTC) and GWA LTRM management team about updating the 2014 injured resources graphic that was produced by NOAA (November 2024)

PWSSC hosted the following GWA LTRM research themed programs.

- *Nature Yoga* eight *Nature Yoga* sessions that highlighted EVOSTC-funded science and had ninety-five participants (April 2024-January 2025)
- *Nature Journaling* three *Nature Journaling* sessions that highlighted EVOSTC-funded science topics and had eleven people in attendance (June 2024-August 2024)
- Coastline Cleanup two events centered around marine debris and coastline cleanups (June 2024 and December 2024)
- Sea Squirts three Sea Squirts around EVOSTC-funded science and had thirty-two attendees (February 2024, September 2024, January 2024)
- *Discover Cordova* four *Discover Cordova* events around EVOSTC-funded science and had sixty-two attendees (May 2024-September 2024)
- *Fun Friday* five *Fun Friday* events with a focus on EVOSTC-funded science and had forty attendees (February–April 2024, January 2025)
- Science & Snacks six Science & Snacks programs with a focus on EVOSTC-funded science and reached eighty-four elementary students (September 2024-January 2025)
- *Discovery Room* 12 monthly sessions for grades K-6 with over 220 students every month to deliver science lessons in the classroom

Community Pathways for Student Science (COMPASS)

The overarching goal of the COMPASS project is to develop pathways to build a regional partnership network of schools to participate in the citizen science process. COMPASS builds on a successful community science-education partnership initiated in Seward in 2018 (the SeeBird Project). This project has created a local partnership and engages high school students in hands-on data collection in the Resurrection Bay area and serves as a foundational project framework for COMPASS development.

The goals of the COMPASS project are:

- 1. Establish a regional network of schools involved in the development, implementation, and data transfer of citizen science projects and partnerships
- 2. Through the network, support STEM science education and generation of scientific data relevant to monitoring of the Gulf of Alaska and to local community interests
- 3. Develop the best practices and tools for implementing citizen science projects in secondary education
- 4. Support student competency skills development and build capacity in schools
- 5. Increase awareness and outreach about the Gulf of Alaska ecosystem as well as EVOSTC restoration and monitoring activities

Progress



The COMPASS project is a 5-year program to pursue a regional network of school participants in three phases: a start-up phase, a build-up phase creating pilot community programs, and a dissemination phase.

The start-up phase involved mapping and a formational assessment of interests in CORaL partner communities in the five school districts. A COMPASS committee represented by CORaL partner communities convened to discuss and learn about existing programs in communities, map interest to participate, discuss ideas to build specific COMPASS activities in communities, and build support for the network.

During the current build-up phase, the initiatives based on these planning conversations are pursued in communities. In Seward, we have expanded the program in partnership with the CRRC and incorporated Traditional Ecological Knowledge perspectives in the COMPASS school year program. The Traditional Ecological Knowledge elements include an introduction to Traditional Ecological Knowledge in the Chugach region and "Being an Observer" learning circle.

We have developed a roadmap and curriculum materials for implementing the COMPASS template in partner schools and extended the network of participating schools to a new partner community. In 2024, we initiated a COMPASS project with a school in Cordova in partnership with the PWSSC, following the COMPASS template initially developed for the Seward program.

A workshop was held among CORaL Network partners to review and discuss outcomes for the COMPASS project. The outcomes incorporate categories for educational, scientific, outreach, and sustainability elements and include the following deliverables:

- 1. Formative assessment and partnerships for a regional COMPASS network
- 2. Implemented pilot COMPASS programs in participating in schools.
- 3. Best practices guidelines to incorporate citizen science into curriculum in the region.
- 4. A sustainability plan to carry opportunities for science-education partnerships forward.

The long-term vision is for the COMPASS network to support student STEM education and collect data relevant to monitoring of the Gulf of Alaska ecosystem. The COMPASS project provides an opportunity to bring scientific discoveries into classrooms, enables students to engage with the local environment, and contributes to collective and collaborative research in the region.

Coordination, Collaboration, Outreach

ASLC and Regional School Districts



The COMPASS project continued development of partnerships within the CORaL Network and with external network partners, including university partners and STEM education networks such as the T3 Alliance. Activities included a community presentation and outreach for high school students at the annual <u>Seward seabird festival</u> and organizing a SeeBird workshop in Seward for a T3 Alliance visit by national educators, presenting and providing hands-on experience of the COMPASS project.

EVOSTC Mariculture Projects

Mariculture Research and Restoration Consortium (Mar ReCon) Project 24220302

ASG attended two days of PI Meetings. ASG networked with members of Mar ReCon. ASG offers regular mariculture-focused workshops and training events that incorporate information learned through the MarReCon project with community participants from the EVOS region. ASG continues to meet with Mar ReCon team members.

PWSSC has been working closely with the Mariculture Research and Restoration Program to ensure that their work is being shared with the communities that they conduct their research in a way that is accessible to all community members, culturally relevant, and up to date with current research being conducted. To keep up to date on all research, PWSSC staff regularly checks in with Anne Schaefer (PWSSC) - Mar ReCon Program Coordinator. PWSSC also attended the in-person PI Meeting in Kodiak, Alaska (January 2025). PWSSC presented CORaL Network updates during the annual meeting. PWSSC worked throughout the year to keep Mar ReCon farmers and PIs up to date on CORaL Network education and outreach opportunities. One way we did this was by coordinating and sending out an outreach opportunities email containing CORaL Network education and outreach opportunities email containing FY24: August 2024 and January 2025.

PWSSC also worked hard to share the work of the Mar ReCon PIs and farmers through published articles and social media posts. PWSSC wrote the following articles containing research updates for the Mar ReCon program: February *Breakwater* (Feb 2024), Mar ReCon PI Meeting; April *Breakwater* (April 2024), MarReCon Updates; *Delta Sounds Connections* published (April 2024); August *Breakwater* (August 2024), CCE Article, CORaL Interns Article; CORaL Newsletter (November 2024), Ocean Sciences Festival; November *Breakwater* (November 2024), Ocean Sciences Festival; November *Breakwater* (November 2024), Ocean Sciences Festival; November *Breakwater* (November 2024), Mar ReCon program: Mar Recon PI Meeting in Cordova (Feb 2024), Mar ReCon Farmers (April 2024), Sierra Greene and CTD (April 2024), Biofouling Communities (April 2024), Biofouling communities and UAF (April 2024), NVE (April 2024), NVE 2 (April 2024), CCE Post (June 2024), Astrid post - intern hired under CORaL funding (August 2024), Cortez post - intern hired under CORaL funding (August 2024), Girls in Marine Science Post 2 (August 2024), Ocean Sciences Festival Post (October 2024)



PWSSC engaged Mar ReCon PIs and farmers in a variety of programming and activities:

- *Community Coastal Experience* (June 2024) Cruise on the PWSSC R/V *New Wave*. Dr. Alysha Cypher (PWSSC) put a multibeam sonar in the water for the participants to try and drive to look for kelp)
- *T3* programming with Dr. Alysha Cypher (PWSSC) (July 2024)
- *Girls Exploring Marine Science* (GEMS) summer camp (July 2024) campers met with Dr. Alysha Cypher to discuss mariculture and kelp farming.
- *Ocean Sciences Festival* (October 2024) Mar ReCon PIs attended and hosted booths: Dr. Alysha Cypher (PWSSC) & Caitlin McKinstry (NVE)
- *Tuesday Night Talks* community lecture series Sierra Greene (UAF) and Josie Haag (UAF): <u>Environmental Drivers of Growth on Aquatic Farms: An Update!</u> (October 2024)
- Mariculture Themed Programming:
 - *Mariculture Month* (April 2024)
 - Nature Yoga Kelp (April 2024)
 - Fun Friday Mariculture (April 2024)
 - Science & Snacks: Kelp (November 2024)
- *Discovery Room* sessions run monthly in grades K-6. PWSSC works with over 220 students every month to deliver them science lessons in the classroom.
 - Fourth Grade food chain; kelp; invertebrates. (November 2024)
 - Fifth grade explored solutions for ocean acidification; talked with Dr. Cypher to learn more about kelp's role as a carbon sink. (April 2024)

Social, cultural, and economic assessment of kelp mariculture opportunities for coastal villages within the EVOS spill zone (Kelp Values) Project 24220301.

ASG attended two days of PI Meetings. ASG presented on mariculture initiatives in Alaska, including Mar ReCon and CORaL Network. ASG continues to meet with Kelp Values team members.

ASG education specialist partnered with the Prince William Sound College to engage T3 students learning about ocean acidification. Students explored ocean acidification in a cup using baking soda to rapidly increase CO₂ and observe acidification changes in real time followed by a discussion of the chemistry of ocean acidification. They compared the mass, length, and developed qualitative scales to record the differences in local blue mussel shells exposed to current ocean water conditions, a moderate increase in pH, and an extreme increase in pH. Students then integrated the importance of ocean acidification into mariculture by examining the life cycles of oysters, clams, mussels, and crabs and identifying predators and prey in each life stage. Students identified which stages in life cycle negatively impacted by increased pH levels



and which stages (if any) might benefit from ocean acidification because of decreased predator populations or additional variables.

Other ASG Mariculture Activities:

- <u>Introductory Seaweed Cultivation and Processing Workshop</u> offered part of the Coastal Communities Exchange opportunity in Kodiak, AK, which took place on June 26, 2024, with nine participants.
- <u>Know Your Farmer Video Series</u> highlights the role of cooperatives in mariculture here in Alaska, with a second video planned for early 2025. These videos highlight mariculture operations in Alaska incorporating EVOS region farmers and draw on findings from the Mar ReCon Project to provide real-world examples of industry collaboration and innovation.
- <u>Kodiak Kelp Festival</u> was hosted in collaboration with Kodiak Island Brewing Company and Still, Southwest Alaska Municipal Conference, and Kodiak Ocean Growers, this three-day celebration highlighted Alaska's burgeoning kelp industry July 24-26, 2024. Festival activities included educational sessions on kelp harvesting, cultivation, and farming, with information shared from the Mariculture ReCon project. Community members also enjoyed live music, locally made seaweed-based foods and beverages, and a showcase of kelp-focused arts and wares.
- <u>Business Planning for Kelp Farmers Guidebook and Associated Tools</u>, in collaboration with ASG and Alaska kelp farmers, developed business planning and guidebook/tools to provide current and prospective kelp farmers guidance for kelp farming operations. Feedback meetings were conducted to refine these resources, and a virtual workshop is scheduled for April 2025. These tools also incorporate data and insights from the *Mariculture ReCon Project* to assist farmers in strategic business planning.

EVOSTC Education and Outreach Projects

The 2nd Annual Seward Science Symposium, Seward, Alaska, September 6-7, 2024. Plans were successfully implemented by CRRC and ASLC (in addition to non-CORaL partners: the Ocean Alaska Science and Learning Center and University of Alaska Fairbanks Seward Marine Center).

Whittier Science Week, Whittier, Alaska – September 10- September 13, 2024. In September, the CORaL Network co-hosted a successful *Imaq* ("ocean and all that is in it," Sugt'stun) Science Week in Whittier for all students in the Chugach School District (CSD). Participants from throughout the school district attended, including Whittier, Chenega, Tatitlek K12 students and high school students from their homeschool program. Over eighty-five youth attended, with half traveling from villages and other communities to stay at the school in Whittier for the week.



For this event, CACS organized a whole cadre of partner organizations including those from the CORaL Project: ASG, ASLC, PWSSC, and CRRC, as well as Kachemak Bay National Estuarine Research Reserve and the Northern Gulf of Alaska Long Term Ecological Research. Each partner was able to share some of their core educational activities with the students, on topics and for ages that fit their expertise best. It was an honor to be asked by CSD to coordinate the science curriculum for the week, and this was an especially important opportunity for regional partners to connect with the teachers and students from the Prince William Sound region. It also built momentum for CACS visits to Chenega, Tatitlek, and Whittier throughout the 2024-2025 school year and CRRC collaborations with CSD. Specifically, relationships built between CRRC and CSD led to the co-creation of kelp mariculture activities for a *Voyage School* session in Anchorage for participating students from the Chugach School District and an activity on subsistence food, natural resources, and ocean acidification through a virtual presentation for Chenega & Tatitlek Schools.

During the science week, a wide variety of activities, all organized around the theme of *Imaq*, guided students through connecting with place, learning about the ocean and local watershed, and thinking more about how they can help to steward the places where they live. ASG's Marine Education Specialist led two education programs over four sessions on *Waves & Erosion* and *Seabird Adaptations*. CACS's four educators led seven education programs over eighteen sessions on intertidal critters, invertebrates, echolocation, morphology, water quality, and watersheds. PWSSC's two Education Specialists and Education Director led five education programs over nine sessions around salmon life cycle, seabird research, and oil spill response. ASLC's three educators led five education programs over ten sessions on intertidal life, scoop on poop, seabird adaptations, animal perception, salmon habitat. CRRC's Education & Outreach team (two educators) and mariculture liaison led two education programs over eight sessions focused on traditional transportation and kelp mariculture.

PWSSC's two Education Specialists and Education Director led five education programs over nine sessions around salmon life cycle, seabird research, and oil spill response.

ASG's Marine Education Specialist led two education programs over four sessions on *Waves* & *Erosion* and *Seabird Adaptations*.

There and Back Again, ASLC, Seward, Alaska.

ASLC Learning Engagement programming allows students in grades 3-6 explore the life cycle of salmon as they navigate through a role-play adventure. Shana Kent, Learning Engagement Manager, and her team are part of CORaL Network and continue to provide education and awareness programming to stakeholders of all ages. *There and Back Again* is part of the Nocturne & Day Programs at ASLC. <u>https://www.alaskasealife.org/day_nocturne_programs</u>

Ocean Sciences Festival (OSF), PWSSC, Cordova, Alaska, October 2024.



This festival was designed to get EVOSTC-funded scientists to highlight their work to the communities in which they work in a way that is relevant and accessible to all. To kick off this program, we worked with the City of Cordova School District to host this festival in the gym of the Cordova Jr/Sr High School. Students in grades 3 through 12 were invited to attend. Teachers worked with the PWSSC to develop a passport (for grades 3-6) or a school assignment (for some of the Jr/Sr high school science classes) that encouraged students to have meaningful interactions with the presenters. Students were coached by their teachers ahead of time to make eye contact, introduce themselves, shake hands, and ask guided questions about their work. Students were able to interact with 23 different booths staffed with researchers and industry professionals from 14 different organizations, including USGS, USFS, NOAA, PWSSC, Prince William Sound Aquaculture Corporation, Cordova District Fishermen United, Alaska Sea Grant, U.S. Coast Guard, CRRC, Native Village of Eyak, Prince William Sound Economic Development District, Prince William Sound College, Copper River Watershed Project, and Prince William Sound Stewardship Foundation.

This was the first annual *Ocean Sciences Festival*. 167 students and teachers attended this event and worked with the thirty-three researchers and industry professionals. PWSSC plans to host OSF annually in Cordova, Alaska, as well as have a traveling festival in communities where the GWA LTRM annual PI meetings are held in the coming years to make this event a way for EVOSTC-funded scientists to easily connect with and share their work in the communities in which they work.

Community Coastal Experience (CCE) – Homer, Alaska, June 2-July 6, 2024. The 2nd Annual CCE was held during the summer of 2024. Staff members from CACS, along with many partners from the CORaL Network and various invited presenters, hosted a cohort of 8 participants for this 5-week program in which they explored learning and career opportunities in marine science, archaeology, Alaska Native culture & history, mariculture, and many other STEAM topics. The CCE worked closely with EVOSTC-funded researchers in collaboration with PWSSC.

The CORaL Network Partnership CCE Sub-committee participated in the hiring process for the 2024 CCE cohort including developing & editing application materials, reviewing applications, conducting & watching interviews, and selecting intern participants. The 8 selected interns were Albert Simeonoff Jr., raised in Akhiok and currently residing in Anchorage; Anna Torzillo, raised in Naknek and now residing in Homer; Aydon Weston, raised in the village of Mekoryuk on Nunivak Island and now residing in Seward; Imiya Hernandez from Nanwalek; Kayla Alvarado-Hogan, raised in Southeast Alaska and residing in Anchorage; Jaykob Thorne from Cordova; Melinda Byrd, raised in Fairbanks and residing in Homer; and Vladimir Moonin from Nanwalek.



Two staff members from CACS guided the CCE group as they traveled between Homer, Seward, Cordova, Kodiak, and Seldovia. In each location, the CCE group participated in coastal research and monitoring efforts, connected with local knowledge-bearers, practiced fieldworkrelated skills, and built relationships with scientists and with organizations that offer jobs and internships. Each CORaL partner worked together with CACS to help plan and execute this program.

Forty-seven presenters, not including CACS staff, were invited to co-create and deliver educational material during this year's program. These presenters included Elders Eugenia Moonin from Nanwalek and Eric Clock from Seward, as well as culture-bearers and artists from the Chugach region. Two CCE alumni, Shania Tanape and Krisnan Weston (2023), also returned to contribute to this year's program.

Historic Preservation Media Campaign

AMAR repeated the media campaign from the previous year again in 2024 to promote historic preservation messages. This included a set of four public service announcements (PSA) that played on two local radio stations over the summer, as well as social media posts and ads in the Kodiak Daily Mirror. These messages encourage respectful treatment of ancestral sites, artifacts, and human remains, and encourage members of the public to leave finds in place and report them to the Alutiiq Museum or other authorities. We had three individuals reach out directly to the Alutiiq Museum after they heard the PSAs, to report potential finds. In two cases these turned out to be unmodified rocks, and in a third case an individual reported seeing human remains on a beach years ago and wanted to report the finding. It is great to know that people are receiving the message.

In a previous year of the grant, AMAR produced a Kodiak Archaeology brochure that shares information about ancestral archaeological sites in the Kodiak Archipelago and explains the laws that protect them. This resource was distributed to local tribes, Alaska Native Corporations, municipal governments, and to the public at AMAR's front desk, at the Kodiak History Museum front desk, and at Discover Kodiak. This brochure was reprinted in 2024 and distributed again to organizations that needed more copies. Distribution will continue throughout the grant.

Coastal Connections Camp

ASG partnered with the Kenai Mountain Turnagain Arm Heritage Area (KMTA) to offer leader training for the Coastal Connections Camp program. The Coastal Connection Camp is designed to be a "camp-in-a-box" that trains leaders from each community and provides the supplies needed to offer camps in locations that may not have an organization or the infrastructure to develop and host camps themselves. For youth, this experience can be the first significant step towards stewardship and STEAM learning (science, technology, engineering, art, and math).



The Coastal Connections Camp (CCC) follows a Whole Being Teaching concept that meets the cognitive, social, emotional, and physical needs of middle school youth. The week-long camp creates connections to place, self, and peers all while building science, critical thinking, confidence, and personal resilience skills. Each day included outdoor coastal explorations, hands-on science, art, team building, and personal resilience skills creating a memorable experience with long-lasting impacts.

Ten formal and informal educators attended this 4-day training in Seward. Five went on to lead camps in their communities. Informal educators included CORaL Network partners from ASLC and PWSSC. The NPS also sent their informal educators to the training. Guest presenters included CRRC staff and the Director of the Seward Prevention Coalition.

Follow up survey comments from Leader Trainees within the CORaL Network:

- ASLC is currently trying to update many of our educational programs to make them less lecture based, and more interactive, engaging, as well as keeping them even more empathy, conservation, and stewardship based. Many of the learning/ teaching strategies I believe will become especially useful and helpful. I really appreciated all I learned while getting to shadow the Coastal Connections Camp Leader Training.
- Thinking about how to scaffold the information you are teaching, and the experiences people are having, pushing them outside their comfort zone and encourage growth, without pushing them too far, has been incredibly important for the development program I have been doing at work (ASLC). This really puts it in perspective how important finding balance in all the different programs you teach is, and while that balance will vary for everyone, it is important to watch for signs that people are starting to get too far outside their comfort zone. It is important to be mindful of this for them to get as much as possible out of the program.
- The team building activities were great! The social-emotional learning approach is being incorporated into our camps at the PWSSC. The resources you provided us with after the training are incorporated inside and outside of camp as needed.

Valdez offered two weeks of camp in collaboration with the Valdez Parks & Recreation Department. Seward offered four weeks of camp operated by KMTA with funding support from the National Park Service Ocean Alaska Science and Learning Center (NPS ASLC). After helping pilot the CCC in FY23, OASLC committed to funding support for offering camp in Seward for five years.

The Coastal Connection Camps have grown more than seven-fold, from serving seven children in Valdez in FY22, to twenty-three in Seward during FY23, to fifty kids across both communities in FY24.



Camps in both communities filled quickly and parents reached out as early as January about 2025 options. This speaks to the community need for high quality summer education programming for middle school youth and the success of the camps in each community.

Plans are underway to train leaders and add camps in Whittier and Kodiak for FY25. Camps continue in Seward and Valdez as an annual event. This model is easily scalable to use in a variety of communities and support communities both inside and outside of the EVOS region. Because the program uses two community leaders, the camps can continue for future summers without additional training. By the close of FY24, the Valdez leaders committed to returning FY25, demonstrating long-term viability and leveraged funding.

Marine Science Expedition

CACS launched a new week-long camp for teens called "Marine Science Expedition." CORaL funding allows us to offer this camp at zero cost to participants, though we do require a \$50 deposit during registration unless the teens apply for a scholarship. Summer 2024 was our second year of running the camp, and we had seven participants in the Marine Science Expedition (plus one who had to cancel due to health reasons). The MSE is for 16–18-year-olds. It is a week-long camp that weaves together activities focused on developing a sense of place, kayaking and outdoor leadership, and marine science. Participants learn basic kayaking and rescue skills and then kayak between camping locations in the Kachemak Bay State Park and the Peterson Bay Field Station. They visit a mariculture site in Peterson Bay and participate in a community-based monitoring project to collect data about sea star populations and prevalence of sea star wasting syndrome. The MSE is open only to youth from the EVOS-affected region or youth with strong family ties to the region. 2024 participants came from Nanwalek, Homer, Anchor Point, Soldotna, and Sterling as well as someone from Salem, Oregon who was born in Sitka with family in Kodiak, Valdez, and Dutch Harbor. One of the participants from 2023 enjoyed it so much that they opted to do the MSE a second time in 2024 and have since applied to be part of the 2025 CCE Cohort.

Trustee or Management Agencies

Trustee agencies are NOAA, DOI, USFS/USDA, ADF&G, ADOL, ADEC.

Native and Local Communities

The CORaL Network Partners worked closely with local and rural communities using CORaL funds combined with other partner organizational funds to administer a robust array of visits and learning opportunities for rural schools in the region (see *Table 2* below).

CACS partnered with schools in the Kenai Peninsula Borough School District (Seldovia, Port Graham, Nanwalek) and Chugach School District (Chenega, Tatitlek, Whittier). Activities were designed to meet the needs of the teachers, students, and communities. Some activities focused on supplementing district curriculum on certain topics with place-based examples (like cell



biology with plankton and algae; seamounts in the Gulf of Alaska) while other visits emphasized culturally responsive, seasonally relevant, place-based activities (observing signs of spring; beach foods and intertidal exploration; measuring snowpack and predicting meltwater).

Table 2 Rural school visits in the Kenai Peninsula Borough School District and Chugach School District during Year 3 of the grant.

Date	School/	CACS Staff	Activity	# of	# of
	Community			Days	Students
February 2024	Chenega	Alexa & Henry	Cell biology	2	9
February 2024	Tatitlek	Alexa & Henry	Seamounts and geology	2	10
April 2024	Chenega	Joscie & Iris	Observation, mindfulness, senses, snowpack, and impacts of snowmelt on the marine environment	3	9
April 2024	Whittier	Joscie & Iris	Observation, mindfulness, senses, snowpack, and impacts of snowmelt on the marine environment	1	35
April 2024	Tatitlek	Katie	Signs of spring, terrestrial and coastal (including herring spawning!)	3	10
May 2024	Port Graham	Katie & Alexa	Intertidal exploration & beach foods, plankton	2	25
October 2024	Chenega	Ryan & Joscie	Ocean acidification	3	9
	Whittier	Katie & Alexa	Water quality		16
October 2024	Whittier	Alexa & Joscie	Intertidal invertebrates and scientific sketching		16

Rural School Support

Bethel, Alaska

Science Fair – delivered to 180 students grades 3-12, Bethel, Alaska, February 3-4, 2024. Programs Offered:

• Science in Action (SIA) Vet—Students get an insider's view of ASLC's Wildlife Response and Rehabilitation program. They work in groups to 'care for' patients in a disciplinary, hands-on program.



- Scoop on Poop- Research-based programming for grades 6-12. Students analyze the scat of endangered Steller sea lions and employ scientific methods to develop their own research strategies.
- There and Back Again Students grades 3-6 explore the life cycle of salmon as they navigate through a role-play adventure.
- Cephalopods: Discovery of the mysteries of octopus and squid and the unique body structure of head-footed animals.

Soldotna, Alaska

Day Programming, ASLC Education Department, Seward, Alaska, March 4 - 5, 2024. This day programming is provided by the ASLC Education department for grades K-6 students.

- *Marine Mammal Adaptations*: Interactive hands-on activities that explore the unique adaptations of Alaska's marine mammals.
- *Bioluminescence*: Students investigate the bizarre adaptations of light-producers in the midnight zone and create actual bioluminescence.
- *Cephalopods*: Discovery of the mysteries of octopus and squid and the unique body structure of head-footed animals. Students get a deep dive into their anatomy with an actual squid dissection.
- *Sea Shore Survivors*: An interactive program for grades K-2. Students learn about the adaptations of tidepool animals through hands-on activities and dress-up role-playing actual squid dissection.

Cordova, Alaska

Morning Mingle, PWSSC, Cordova, Alaska, March 2024.

PWSSC hosted a *Morning Mingle* in March 2024 with the Native Village of Eyak tribal members. Staff members from the Native Village of Eyak were invited to join PWSSC for a morning mingle focusing on strengthening working relationships moving forward to spark future collaborations. One collaboration that came out of this was that PWSSC started working with NVE's family program coordinator to incorporate sensory friendly times into our programming.

Culture Week, PWSSC, NVE, CRRC, Cordova, Alaska, October 2024 – January 2025.

- The PWSSC Education Team volunteered during *Culture Week* at Mt. Eccles Elementary School. Culture Week is led by the Native Village of Eyak (NVE) and is one week of culturally focused games, crafts, and learning experiences for elementary school students. PWSSC is also working with NVE to incorporate Traditional Ecological Knowledge into our *Discovery Room* lessons.
- In October 2024, two NVE staff members led a lesson on the cultural use of drums and then taught first-grade students how to make their own Native drum.



- In November 2024, as part of the T3 kickoff event, students got to work with the NVE Cultural Center to 3D scan cultural artifacts and saw the Eyak Virtual Experience, a virtual reality simulation.
- CRRC presented culturally responsive lessons daily during Culture Week at Mt. Eccles Elementary School. NVE cultural coordinator invited CRRC staff members present on subsistence, storytelling, and ocean health.
- In January 2024, NVE staff led a lesson on the cultural practice of egging and played games with students about how to appropriately collect gull eggs. PWSSC is also collaborating with NVE in other programming such as the *Teaching Through Technology (T3)* event.

Seward, Alaska

Qutekcak Native Tribe NYO Invitational, Seward, Alaska, March 7-9, 2025. ASLC CORaL Network, CRRC, and other organizations supported the Qutekcak Native Tribe, Native Youth Olympics scheduled from Friday, March 7 - 9 through the Nocturne program, housing over eighty participants for 3 nights. Participants ASLC are supporting are from the following communities:

- Soldotna/Salamatof Coaches: Kya Ahlers and Judah Eason
- Barrow/Utqiagvik Coaches: Joanna Hopson and Kamron Rexford
- Kenai/Kenaitze Coaches: Amber Applebee and Rick Dunaway

Anchorage, Alaska

The ASLC Education Department provided a *Day Programming*, April 9–10, 2024 delivered to 405 students Grade K-6.

Programs Offered:

- *Marine Mammal Adaptations*: Interactive hands-on activities that explore the unique adaptations of Alaska's marine mammals.
- *SIA Vet:* Students get an insider's view of ASLC's Wildlife Response and Rehabilitation program. They work in groups to 'care for' patients in a disciplinary, hands-on program.
- Ocean Animal Perceptions: Students discover how animals sense the world. How do they smell underwater? How can you see without eyes? Students were introduced to other ways of knowing by participating in 'sense-on' activities that illustrate the unique adaptation.

Kodiak, Alaska

AMAR visits each rural school in the Kodiak Island Borough School District once per semester to lead cultural activities. During the spring semester, this includes participating in Alutiiq Week – a week full of cultural activities at each school. The rural school visits from Year 3 are presented in Table 3 below.

Table 3. Rural student visits



Date	School/ Community	Staff/Artist	Activity	# of Students
2/29/24	Chiniak	Dehrich & Leda (AMAR)	Alutiiq mask crafts	20
3/13/24 - 3/14/24	Akhiok	Leda (AMAR) & Hunter Simeonoff (culture bearer)	Alutiiq songs, dance & rattles, beaded bracelets, coloring fish shirts	17
3/25/24	Port Lions	Leda & Chyian (AMAR)	Alutiiq plant lore activities	20
4/8/24	Ouzinkie	Leda & Rebecca (AMAR)	Toy drums, coloring fish shirts, mask crafts, song & dance	13
4/23/24	Chiniak	Dehrich & Rebecca (AMAR), Gayla Pedersen (culture bearer)	Alutiiq plant lore & healing salve	14
5/20/24	Old Harbor	Leda & Chyian (AMAR)	Legend & craft activity, archaeology lesson	40
9/24/24	Old Harbor	Dehrich & Leda (AMAR)	Regalia craft & comparing historical accounts	40
10/1/24	Ouzinkie	Dehrich & Wesley (AMAR)	Archaeological mapping	16
10/7/24	Port Lions	Leda & Wesley (AMAR)	Sea mammal traditional use posters	25
11/12/24 – 11/23/24	Akhiok	Dehrich & Wesley	Alutiiq language, song, & dance	13
11/28/24	Chiniak	Leda (AMAR) & Kayla McDermott (Alutiiq beader)	Alutiiq doll headdresses	17

Native Village of Afognak, Kodiak, Alaska

AMAR staff participated in cultural activities and supported other staff throughout the summer camps (see *Table 4* below). This included Dig Afognak, hosted by the Native Village of Afognak and Nuniaq Camp hosted by the Alutiiq Tribe of Old Harbor. AMAR staff also traveled to Larsen Bay with Kodiak National Wildlife Refuge staff to lead cultural activities during a bear safety day camp for youth. This was an important trip as Larsen Bay does not have a school, so it is not one of the communities we visit for school activities.



Table 4. Summer camps that AMAR staff participated in during Year 3 of the grant.					
Dates	Event	Location	AMAR Staff	Activity	# of Youth
7/18/24 – 7/22/24	Dig Afognak (hosted by Native Village of Afognak)	Afognak Island	Dehrich	Alutiiq language, music, & dance	25
7/22/24 – 7/26/24	Nuniaq Camp (hosted by Alutiiq Tribe of Old Harbor)	Sitkalidak Island	Molly & Intern	Painting pictographs	11
7/19/24	Bear Safety Day Camp (hosted by Kodiak National Wildlife Refuge)	Larsen Bay	Leda	Antler keychains & pebble drawings	8

AMAR developed a new *Archaeology Education Box*. This includes both ancestral artifacts and replicas from our hands-on teaching collection, as well as a set of activities, lessons, and videos relating to archaeological resources and ancestral life on Kodiak. One of the goals of the box is to teach students the value of ancestral sites and their contents and how to respect and protect these places. We developed a set of third grade and fifth grade curriculum to go along with the box. The third-grade curriculum focuses on archaeological excavation and interpreting finds. The fifth-grade curriculum focuses on archaeological mapping techniques.

In 2024, AMAR started costing the one-hour *Alutiiq Cultural Orientation* presentation monthly, alternating between in-person and virtual events. In total, 106 people attended these presentations in year three of the grant. We also hosted this orientation specifically for new employees at the Kodiak Area Native Association (KANA) on-demand, and for the Community Coastal Experience when the group visited Kodiak. In total, about one hundred new KANA employees attended this presentation.

AMAR's Curator of Archaeology led an archaeological orientation training for Kodiak National Wildlife Refuge seasonal staff. This included an introduction to the Alutiiq/Sugpiaq people and an overview of archaeological sites, how to recognize and protect them, and the educational resources available at AMAR. There were two seasonal staff at the training.

Seldovia, Alaska Science Friday – March 26, 2024



Science Friday programming was delivered to thirteen students ranging from age 2 to 10 years old. With support from our other partners in the Kachemak Bay Environmental Education Alliance and leveraging CORaL as well as other funding, CACS facilitated 2-hour science focused sessions for homeschool students in Seldovia. On occasion, students from the Susan B. English School participated in these activities as a field trip. Activities were offered every Friday that school was in session, from February-May and September-December 2024 and January 2025. Participant ages ranged from 5-13, with most participants being 7-9 years old; the number of participants ranged from 10-27 youth per session, with most youth returning for most available sessions. CACS staff led half of the sessions during this time, with additional sessions regularly being led by the Kachemak Bay National Estuarine Research Reserve and Seldovia Village Tribe. Other regional partners including ASLC have led sessions, as well as community members in Seldovia supported by program staff.

Activities provided:

- Students were introduced to the adaptations of tufted puffins by creating small clay figures and coloring and assembling their own tufted puffin paper masks.
- Students "became" Seabird Scientists, weighing eggs with a scale and measuring them with simple paper calipers.
- Students went to the beach for a bird-watching lesson and to play a fun foraging game where students become common murderers who must protect their eggs from predators like foxes!
- ASLC seabird coloring books and other educational activities were provided for the students who were unable to attend.
- Scoop on Poop- Research-based programming for grades 6-12. Students analyze the scat of endangered Steller sea lions and employ scientific methods to develop their own research strategies.
- Sea Shore Survivors- An interactive program for grades K-2. Students learn about the adaptations of tidepool animals through hands-on activities and dress-up role-playing.
- Beaks Bubble and Burrow Students in grades K-4 engage in interactive games and activities and build a bird to discover the unique adaptations of Alaska's diving seabirds.
- There and Back Again Students in grades 3-6 explore the life cycle of salmon as they navigate through a role-play adventure.

Science Week helped to create a stronger connection between partners and resulted in additional outreach and shared programming opportunities.

4. Response to EVOSTC Review, Recommendations and Comments:

FY22-FY23 Biennial Review: Science Panel Comments



The Science Panel was impressed with the comprehensive proposal, the well-qualified team of personnel and appreciated the thoughtful and detailed response of the PIs to the SP's proposal review in 2021. The SP continues to strongly support these valuable education and outreach activities. While evaluating project progress, we noticed that a critical piece of this project has not been completed: a comprehensive evaluation that can both demonstrate impact and provide for adaptive management of this large program. This evaluation was promised in the initial proposal both by an internal Director of Evaluation and an External Evaluator. We could find no evidence in the FY22 and FY23 annual reports that this had been started, despite the PIs emphasis in response to SP comments in 2021 that they viewed this as a critical piece of the work in the first few years.

There is an extensive program schedule in Section 8 P 28 of the initial proposal-- it is about six pages long as a table, but it is not clear at all how these milestones / tasks have been met in the reports. For example, according to the milestone/tasks table from the annual reports, the development of the 5-year evaluation plan was "completed" during FY23 Q2. However, we do not see any evidence of this, or any internal and external evaluators detailed in the annual reports.

PI Response

Reviewing the comments received on the FY23 submission, we discovered that attachments and references to the front-end developmental evaluation were excluded in error. This work was undertaken by in-house staff at ASLC in FY23 (Dr. Fraser and team) and continued in FY24. This was the reason the completion of the first phase framework was referenced. We apologize for the oversight. As that work continued in FY24, data surfaced specific skills and needs for external evaluation and additional data that led to modifications to the FY23 evaluation framework. Attached is a Comprehensive Two-Year Front-End Developmental Evaluation Report, including appendices illustrating the work undertaken as part of FY23.

The Science Panel expects to see progress made on incorporating external and internal evaluators in the FY24 annual report, and reasonable justification if this has not been accomplished by then.

PI Response

We also note, as mentioned earlier in this report, that external evaluators with specific skills identified in FY24 were commissioned and are now pursuing process evaluation to support the work as outlined in the appendices.

FY22-FY23 Biennial Review: Executive Director Comments

I concur with the Science Panel. This project appears to be progressing as planned with the exception mentioned by the Science Panel. Annual reports were submitted on time and needed minor revisions, which were delayed by several months due to a PI family emergency in FY22



and staff turnover in FY23. The funding for this project is co-managed by ADF&G and the EVOSTC Office. Invoices and supporting documents are submitted timely. Invoice format is user-friendly. The Fiscal Manager is responsive to budget and/or invoice questions. Staff do not have any additional concerns currently.

FY22-FY23 Biennial Review: PAC Comments

Whissel asked for more information about the Science Panel concerns. Bien explained a fundamental challenge has been recruitment of evaluators and low capacity within Alaska. They tried to bring in folks who then dropped out. They explored internalizing some tasks. They wanted to source external evaluators from the State, which was a significant challenge. They are now in contract with a Seattle-based evaluation organization whose staff consists of many former Alaskans. They are also looking at training someone in-state and building capacity in Alaska.

Cunningham noted she works for the Chugach Regional Resources Commission (CRRC), which is part of the project, and she may abstain from voting. However, she commented that the project focuses a lot on the Sugpiaq culture, and she would love to also see more influence from other Alaska Native peoples in the region who deserve recognition, such as the Eyak people.

PI Response:

The CORaL Network Partners took this feedback seriously and reflected on the ways in which this has been done, or could be done better. While the Native Village of Eyak is included in the CRRC service region and therefore more generally included in our network's efforts to foster relationships with elders, mentors, and youth across the EVOS affected region, it was decided that we will undertake a much more significant initiative focusing specifically on the Native Village of Eyak and also the Qutekcak Native Tribe – two tribes in the EVOS region that unite Alaska Natives originating from all over Alaska.

The collaborative efforts have led to the co-development of culturally relevant gatherings and meetings, which serve as platforms for cultural exchange and enrichment. It culminated in a CANP (Collective Alaskan Native Perspectives) training in Cordova in February 2025 (outside of the timeframe of this current annual report). This training was done in collaboration with the Native Village of Eyak.

We continue to build upon our collaborations with Alaska Native peoples in the region and value Cunningham's input. Such ongoing input and interactions will not only enhance the understanding of Alaska Native traditions among participants but also reaffirm the importance of integrating Indigenous perspectives into broader educational frameworks.


Whissel introduced a motion to proceed with no concerns. Stephens seconded, and Cunningham recused herself. There was no opposition, and the motion passed with unanimous support from voting PAC members.

5. Budget:

Budget Category:	Proposed	Proposed	Proposed	Proposed	Proposed	5-YR TOTAL	ACTUAL
	FY 22	FY 22 FY 23 FY 24 FY		FY 25	FY 26	PROPOSED	CUMULATIVE
Personnel	\$1,108,919	\$1,168,245	\$1,201,966	\$1,214,819	\$1,195,726	\$5,889,676	\$2,037,083
Travel	\$165,642	\$171,396	\$195,290	\$194,549	\$202,512	\$929,388	\$332,711
Contractual	\$406,357	\$437,642	\$356,372	\$353,658	\$512,852	\$2,066,881	\$361,334
Commodities	\$140,351	\$84,131	\$72,570	\$69,152	\$55,516	\$421,721	\$186,622
Equipment	\$10,000	\$15,000	\$0	\$0	\$0	\$25,000	\$0
Indirect Costs (rate will vary by project)	\$460,978	\$424,612	\$416,272	\$411,340	\$421,938	\$2,135,141	\$631,844
SUBTOTAL	\$2,292,248	\$2,301,027	\$2,242,470	\$2,243,517	\$2,388,544	\$11,467,806	\$3,549,594
General Administration (9% of subtotal)	\$206,302	\$207,092	\$201,822	\$201,917	\$214,969	\$1,032,103	N/A
PROGRAM TOTAL	\$2,498,550	\$2,508,119	\$2,444,292	\$2,445,434	\$2,603,513	\$12,499,908	\$0
Other Resources (In-Kind Funds)	\$0	\$0	\$0	\$0	\$0	\$0	



6. Program Schedule

Project milestone and task progress by fiscal year and quarter, beginning February 1, 2022. D = delayed, C = completed, X = planned or not completed. Fiscal Year Quarters: 1 = Feb. 1-April 30; 2 = May 1-July 31; 3 = Aug. 1-Oct. 31; 4 = Nov. 1-Jan 31

FY2022-2026

	FY22				FY	23			FY	24			FY	25		FY26				
Milestone/Task	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Administration																				
Annual travel meeting of core partners		D	С				С				С	С	С	Х	Х				Х	
Annual internal review for work plan development			D	С	С		С	С	С	С	С	С			Х	Х			х	Х
Evaluation/Iterative Adaptations																				
Development of 5-year Evaluation Plan	D	D	D	D		С	С	D	С	С	С	С								
Formative assessments for Website, Data Viz App, & COMPASS		D	D	D	D	D					D	D	Х	Х	Х					
Integration of evaluation activities into work plan			D	D			D	D			D	D			X	X			Х	Х
Assessment summaries inform annual meetings						С	С			С	С			Х	Х			Х	Х	
CORaL Network Website																				
Website design and build	D	D	D	D	D					D	D	D	Х	Х	Х					
Aggregation of resources & dialogue integration			D	D	D	D	D			D	D	D	х	Х						
Recruitment of users and shared resources						D	D	D	D	D	D	D	Х	Х	Х	Х	Х	Х	Х	Х
Community Sharing																				
Stakeholder discussions to determine annual schedule and formats		С	С	С	С	С					С	С	х	Х	Х					
Agendas published prior to facilitated meetings		Γo l	be c ab	lete ove	rmi e tas	ned sk	by				С	С	С	С	Х					
Design protocols with Scientists in the Community			D	D	D	D	D	D	D	D	D	D	С	Х	X					
Publish Applications with Scientists in the Community			D	D	D	D			D	D	D	D		х	Х			Х		
(NO LONGER APPLICABLE) Application Reviews*				Х			X				Х				Х				Х	
(NO LONGER APPLICABLE) Administer/Mentor visits*			Х	Х	Х	Х	X	Х	X	Х	Х	Х	Х	Х	X	Х	Х	Х	Х	Х
Cultural & Communication Learning																				
Opportunities																	\vdash	<u> </u>		
Formative & development eval of competency needs	D	D	D	С	С	С	С	С	D	D	D	D								
Alaska Native Relations Capstone Course, annual		D				D	С		С					С				Х		



Alaska Native Relations Short Course,	D	D	D	D	D	D	D	D	D	D	D	С	С	С	Х	Х	Х	Х	Х	Х
Build & deliver ongoing, complementary			_	~	~	~	~	~	~	~	~	~	~	~	~					
offerings			С	С	С	С	С	С	С	С	С	С	С	С	С	Х	Х	Х	Х	Х
Milestone/Tasks		FY22			FY2	23			FY	24			FY	25			FY	26		
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Intern Institute																				
Develop curricula & schedules with partners		D	D	С	С	С		С	С	С		С	С	С		Х	Х	Х		Х
Recruit participants with local partners		D	D	С	С	С	С	С	С	С	С	С	С	Х	Х	Х	Х	Х	Х	Х
Implement 5-week course		D	D			С	С			С	С			Х	Х			Х	Х	
Post-institute follow-up with interns & partners				С	С			С	С			С	С			Х	Х			
Community Science & Outreach																				
Resources																				
ASLC, ASG, AMAR, CACS, CRRC,																				
PWSSC build five-year outreach products	D	D	D	D				С	С	D	D	D	D	D	Х					
plan with EVOSTC-funded projects																				
ASLC, ASG, AMAR, CACS, CRRC,																				
PWSSC develops and delivers annual	D	D	D	D	С	С	С	С	С	С	С	С	С	С	Х	Х	Х	Х	Х	Х
programs, products, and exhibits																				
ASLC, ASG, AMAR, CACS, CRRC,	D	D	Ь	Б	Ь	р	D	D	D	D	D	С	С	С	x	x	x	x	x	x
PWSSC install kiosk stations at 6+ sites.		Ľ	Ľ	Ľ	Ľ	2		Ľ		Ľ	Ľ	Č	č	Č	<u> </u>	1	<u> </u>			<u> </u>
ASLC, ASG, AMAR, CACS, CRRC,						_							_							
PWSSC develop video libraries for kiosks,	D	D	D	D	D	D	С	С	С	С	С	С	С	С	Х	Х	Х	Х	Х	Х
updated quarterly.					-					-								_		
ASG designs & builds Data Viz App with				D	D	D	D		D	D	D	С	С	С	Х					
Deta Viz Ann discomination & training					-		_	D	D	D	D	C	C	C	v			v	\mathbf{v}	-
Data Viz App dissemination & training					-		_	D	υ	U	μ	C C	C C	C	л	v	v	Λ	л	v
Data VIZ App: Data verification					-		-			-		C	C			Λ	л	┢──	-	л
Assess additional data streams to incorporate																	Х	Х	Х	Х
COMPASS Curriculum design			D	С	C	С	C	С		ł			-					+	-	-
COMPASS pilot school projects						C	Ĕ		D	D	С	С	С	x	x	x	x	x	x	x
Data analysis & review of COMPASS									D	D	D	C C	C C	\hat{C}	X	X	X	X	X	X
Dissemination of best practices and outreach															21	<u></u>	21	1	~	<u></u>
products from COMPASS												С				Х				Х
Build sustainability plans with COMPASS		1				_		_	_					_				L		
participants					D	D	D	D	D	D	С	С	С	С	Х	Х	Х	Х	Х	Х
Reporting				t	t		1								t	l				
Annual reports (due Mar1)							С			С			С				Х			
5-year review				1	T	1	Î							Ī	1	l	Х			
Deliverables				1	T	1	Î							Ī	1	l				
Evaluation Plan	D	D	D	D	T	1	Î				С	С	С	С	1	l				
Evaluation Summaries					D		С		D		С	С	С	С	Х				Х	
CORaL Network Website							ĺ	1					1	Ī	Х	Х				
Community Sharing schedule and agendas	Γ			D	D	D	D	D	D	D	С	С	С	С	Х	Х	Х	Х	Х	Х



Suite of communication, social science, and native relations learning opportunities – formats and specific outcomes TBD, reported annually					С				С				С				х			
5-week Intern Institute program		D	D			С	С	-		С	С			Х	Х			Х	Х	<u> </u>
Milestone/Tasks		FY22		FY22		FY23			FY24				FY25				FY26			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ASLC, ASG, AMAR, CACS, CRRC, PWSSC outreach products (curricula, distance learning sessions, podcasts, etc.)				D	С	С	С	С	С	С	С	С	С	х	Х	Х	х	х	х	Х
Network of kiosks across the region & video library				D	D	D	D	D	D	D	D	D	Х	Х	Х	Х	Х	Х	Х	Х
Data Visualization App for Community Science	D	D	D	D	D	D	D				С	С	Х	X	Х					
COMPASS Community Science model for schools			D	D	D	С	С	С												

*With the removal of mini grants from the original grant proposal, there will no longer be a need for mini grant proposal reviews or visits.

ATTACHED DOCUMENTS:

1. CORaL Front End Evaluation 2025

CORaL 2-Year Front End Evaluation

Prepared by: John Fraser, Ph.D. AIA, Director of Mission Impact, Alaska SeaLife Center

Executive Summary

The Community Organized Restoration and Learning Network (CORaL) has completed its two-year start-up phase, focusing on building connections between organizations in Alaska's *Exxon Valdez Oil Spill* (EVOS) affected regions. This evaluation employed an action research strategy of learning through doing and reflection, a type of developmental evaluation (see Cook, 2006; Patton, 2010; Van Winkelen, 2016). These methods involve active community dialogue, and use written documentation and reporting as post-hoc records that reflect the progress after activities were co-created by groups and with program participants to test ideas and learn as the process evolves. This report focuses on two dimensions of the project, with more emphasis on the initial phase of Network Building through the lens of Community of Practice Evaluation based on Wenger, Traynor and DeLaat's (2011) evaluation strategy.

- Processes and community of practice formation
- Program evaluation

Process and Community Formation

The network has progressed through early developmental stages of community practice formation but faces challenges in power dynamics and partner relationships. While the partners have established a refined mission statement and evaluation framework, tensions emerged regarding trust, reciprocity, and communication. The fall/winter facilitation process successfully addressed these challenges, resulting in commitments to financial transparency, conflict resolution mechanisms, and clearer decision-making structures.

Program Evaluation

Two flagship programs demonstrated significant growth over two years:

Community Coastal Experience (CCE) - This five-week immersive program for adults evolved from its pilot year based on participant feedback. Key improvements included shifting from didactic teaching to conversational engagement, better integration of cultural perspectives, and creating more welcoming environments. The program successfully connected participants with potential career pathways, with at least one participant returning to work with a partner organization.

Collective Alaska Native Perspectives (CANP) - This cultural program revealed important lessons about partnership dynamics when attendance at the Kodiak gathering fell short of expectations. Addressing these concerns led to structural solutions including a dedicated subcommittee, explicit participation expectations, and improved organizational support, resulting in significantly increased attendance at subsequent events.

Resource Sharing and Communications

The network established communication channels including newsletters, website sections, and social media to connect members and identify interested participants. After a brief hiatus, the shared CORaL newsletter was relaunched, helping advance network awareness and cultural representation. The group continues to invest in development of a shared website and the resources to populate that online learning forum and programming for the "kiosks" at each site.

Organizational Learning Outcomes

Partner organizations reported significant professional development outcomes from their participation:

- Alaska Native-led organizations gained insights into advocacy, securing stronger commitments, and addressing power imbalances
- Organizations with Eurocentric foundations focused on enhancing cultural responsiveness and integrating Indigenous perspectives
- All partners reported improvements in collaboration methodologies and program management

Next Steps

The evaluation recommends a robust external process evaluation examining structural dynamics and power relationships within the network. Future evaluation will focus on how cultural competency training translates into meaningful program changes, equitable decision-making processes, and authentic integration of Traditional Ecological Knowledge throughout network activities.

One aspect of that work was the final five months of the 2nd year, where explorations facilited by external consultants helped bring clarity to how the Network could shift process to move closer to the intended goals of this funding. That focus on process evaluation culminated in the hiring of an external process evaluator in fall 2024, and the publication of their process evaluation framework appended to this report. This report provides a summary of the process learning outcomes that led to the network's migration toward a Community of Practice as a lens for assessing the goals set out in the original grant and attached as an appendix to this report.

As the project moves into its formative evaluation phase, it will leverage the community co-creation strategies identified during this front-end evaluation while continuing to build a sustainable community of practice supporting learning in the EVOS-impacted region.

Methods and Phases

The CORaL Evaluation aims to ensure that the network's programs are engaging, accessible, and meaningful to their audiences. Four types—front-end, formative, process, and remedial— are being used to guide program design, each aligning with project populations and their diversity. The CORaL project faces unique conditions: geographically distant partners who share coastal environments with common environmental threats, cultural challenges, and opportunities. And in all cases, these communities continue to be shaped by the legacy of an oil spill that disrupted ecosystems and livelihoods in lands inhabited for over 7,500 years.

This two-year front-end evaluation addressed the challenges of convening organizations with overlapping missions but distinct service strategies. Using an action research lens, evaluation became an iterative, participatory process, integrating learning through direct engagement and reflection with project leaders and service communities. Instead of merely gathering audience insights pre-development, the approach fostered co-created knowledge—first among network partners, then with small groups engaged in cycles of inquiry as part of program delivery, experimentation with the design, and reflection by presenters and participants. Many programs served small numbers of people since quantitative measures would be statistically inaccurate.

The project prioritized understanding learning through partners' deep knowledge of their communities, feedback from program participants, and insights from hands-on activities and exploratory interactions. Rather than surveying a broad population, participants engaged with early concepts, storytelling exercises, and culturally rooted experiences. This learning-by-doing approach surfaced real-time feedback and emergent discoveries, ensuring community voices actively shaped program design.

Results demonstrate the power of embedding evaluation within iterative cycles of action and reflection. This process allowed the network to respond dynamically to participant needs while refining its own structure. Ethnographic fieldwork, participatory design meetings, and pop-up co-produced programs fostered shared inquiry and meaning-making. These methods laid the groundwork for scientifically, culturally, and educationally sound programs relevant to Southcentral Alaskan communities.

This report also revises the process evaluation approach originally proposed in the grant. Early plans assigned process evaluation to the Alaska SeaLife Center, but as both fiscal agent and coordinator, its dual role created perceived inequities. In mid-2024, external evaluators/facilitators were recruited to design and facilitate feedback with all partners, identify shortcomings and network challenges, and to make recommendations that would allow the network to address unmet needs. This process of engaged cocreated inquiry developed a set of recommendations for the skills and goals for an external process evaluation. The contractor for that formative phase work was commissioned in fall 2024 to summarize the recommendations emerging from the fall review. These results for the next phase of process evaluation is appended to this report.

Building on these insights, the next two years will focus on iterative formative evaluation, leveraging the most effective community co-creation strategies identified in front-end evaluation. A final remedial evaluation phase will ensure ongoing program refinement beyond the grant's lifespan.

Findings from the Processes and Community of Practice Formation Document Review

Using an emergent process, the program began with all partners participating in development of the Community Coastal Experiences (CCE) program (described later in this report as a program). The five-week program to support learners as they approach career decisions was designed as a program where each partner would host a small group of learners with presentations and programs about their specific area of expertise. The team also focused on developing two collaborative outputs, a website and content for a "kiosk" to present content from across the network.

The meetings and discussions focused on the work product and aided understanding of areas of expertise and opportunity that could be pursued by each organization. Examination of meeting minutes revealed that a great deal of time was dedicated to program development and deliverables, little time in the first year appeared to offer opportunities to reflect on process, and specifically issues of trust, reciprocity, and the sharing of practice expertise. That lack of attention to tacit assumptions and beliefs resulted in a series of missteps regarding trust and reciprocity that were revealed in a review of the results from the front-end evaluation of the first experimental effort. The results, documented in the evaluation report appended to this report, revealed challenges that would require substantial attention to heal rifts.

To address this concern, starting in October 2023 through March, 2024, the partners leadership team dedicated time in meetings to describing how CORaL membership would align with and enhance their missions, how they might measure impact of this program among their staff and service populations and what information they sought to feel the project was achieving its goals. This co-creation process produced a more clearly defined mission for this network:

The 2024 Refined Mission Statement:

The CORaL Network empowers our region by collaborating, learning from one another, and sharing scientific, cultural, and traditional knowledge. We foster community cocreation and responsiveness to meet the needs of our partners and their service communities.

That effort also led to common agreement on the evaluation terms of reference for this community of practice, or network to assess its success:

Partnership Engagement and Impact:

• Assessing the effectiveness of information sharing among partners and the broader community.

Network Awareness and Cultural Representation:

- Visibility in the region;
- Increasing public perception of adequate cultural representation and education in CORaL activities; and
- Ascertaining whether scientists are aware of culturally relevant information sources within the network.

Feedback Mechanisms and Collaboration:

- Quality of post-program feedback to CORaL partners and actions taken to address concerns;
- Quality of working sessions to troubleshoot feedback and collaboration on small outreach efforts among organizations; and
- Increases in the degree to which the group can align the collective vision with individual organization's missions in support of a shared vision for the region, emphasizing the importance of shared information and collaboration.

Collaborative Learning:

- The ability of partners to align with and support a collective regional vision while recognizing each organization's unique contributions;
- The ability of the partners to work collaborative to advance science communication and increase access to reliable science information across the region while recognizing each organization's unique contributions;
- Development of shared success metrics grounded in values like humility, openness, and curiosity
- Cultivation of a continuous learning environment where mistakes become growth opportunities and experiences are shared openly;
- Establishment of trust that enables vulnerability, collaborative problem-solving, and knowledge exchange;
- Evolution from organization-centric to region-focused collective work; and
- Recognition and strategic leveraging of specialized expertise across partner organizations

These critical categories collectively highlighted the many dimensions that would influence the nature of success within the CORaL, including monitoring of effective partnerships, cultural awareness as demonstrated through behaviors and interactions, collaborative feedback mechanisms, development of shared visions, and a commitment to being part of a shared learning culture, all of which would lay the foundations for a strong community of practice.

Process Challenges: Feedback Mechanisms & Collaborations Results from Developmental Evaluation

Despite all partners continuing to deliver the programming as anticipated in the original grant proposal, process challenges experienced by ASLC and staff changes in spring and summer 2024 caused unanticipated difficulties for the partners which left some tensions unresolved, and others became exacerbated. Coupled with the lack of attention to process and the commonly agreed metrics for assessing success gave rise to tensions that emerged in meetings. These processes align with the critical aspects of the first year's co-designed development evaluation framework categories of **Feedback Mechanisms** and the post-hoc reflection on **Collaboration**. The degree to which there were misaligned expectations troubled the other assessment categories led to a more extended exploration of process as a Front-end evaluation strategy. The concerns left unsaid or communicated outside of normal meeting processes helped reveal the degree to which partnership development and communications required attention. As this challenge surfaced in coordination discussions, ASLC sought out experienced facilitators to support the fall and winter coordination meetings as a path to conflict transformation.

The fall/winter facilitation process led by the Ginga & Ignin Collective successfully navigated the CORAL network past mistrust and conflict, culminating in a structured plan for collaboration and accountability.

Through preliminary conversations, data gathering, and shared planning tools, the facilitators ensured that all but one participant felt the January meeting met its goals. The network collectively developed next steps focusing on financial transparency, conflict resolution, decision-making structures, and long-term sustainability. Notable outcomes included commitments to improving the finance process, formalizing expectations for collaboration, and instituting clear mechanisms for conflict resolution and decision-making. Additionally, the group emphasized the need for a "Capacity Catalogue" to assess organizational strengths and responsibilities, ensuring alignment with CORAL's mission.

To sustain progress, the network established tracking mechanisms and gut-check questions to measure alignment with ethical, equitable, and mission-driven principles. The gut-check framework ensures that future decisions support healing for coastal communities, uphold collaborative and equitable engagement, and challenge power dynamics within the network. Practical steps, such as appointing facilitators, possibly taking advantage of AI notetaking, and maintaining a Master Calendar, provide operational clarity and accountability. A strong emphasis was placed on transparency, ongoing reflection, and maintaining respectful representation of tribal communities. By embedding these commitments into their processes, the network now has a strengthened foundation for sustainable, trust-based collaboration beyond the immediate grant funding cycle.

Coincident with this final Front End evaluation activity, ASLC recognized the need to ensure process evaluation continued in the Formative evaluation phase, and the importance of that process being managed by an external evaluation team. Headwater People responded to a Request for Qualifications and was commissioned to carry forward the process evaluation through the formative phase of the project based on the alignment of their proposal with the surfacing program need. That commission paralleled the work of the Ginga & Ignin Collective and resulted in the Process Evaluation Framework appended to this report.

Lastly, after a short hiatus, the shared CORaL newsletter was relaunched after the hiring of a dedicated staff person in fall 2024. That process used a scaffolding strategy to encourage reporting on activities based on advancing **Network Awareness and Cultural Representation** of programs led by the partners. And through the narratives submitted by partners, reflections on **Collaborative Learning**, the reports, while modestly touching on co-learning, revealed that partners were starting to identify skills and processes that they were learning from other partners.

Community of Practice Development Analysis Based on Wenger's Five Cycles

Despite the revealed conflict, to complete the front-end evaluation, we undertook an external review of project documents to assess the degree to which there is evidence that a community of practice is developing. Based on Etienne Wenger and Beverly Traynor's framework for communities of practice development, we analyzed meeting minutes, collaborative outputs, and program delivery. We compared these data to the reports from external facilitation during September 2024 and January 2025 to determine the state of health of the network. This content revealed that the network has some evidence supporting all five developmental cycles, where the fifth cycle would represent a mature community working toward common goals and sharing extensively across the community. It is important to note that communities of practice can also be organized with a natural lifespan if they are purpose driven to achieve a single goal, such as passing legislation or removing an obstacle that impacts different groups.

Consistent with most emergent networks, there is a need for a catalyst, a common sense of purpose. In this case, the project's purpose of equitable access to the broad range of science and cultural knowledge in Southcentral Alaska is not time-bound. The pedagogies for achieving these common goals, however, continue to advance through theory and practice. Therefore, it was assumed at the outset that becoming a self-directed network would require time and effort.

After the first year of work, all partners undertook an exercise to write their organizational mission, how being part of CORaL could advance that mission, and their own benchmarks for success. The developmental evaluation then used the consensus document as the foundation for evaluation and monitoring of project success, acknowledging that the network can only be as strong as the work contributes to each organization's success.

1. Potential (Discovering Common Ground)

- Identification of shared interests around EVOS-related education and Alaska Native knowledge
- Establishment of communication channels (newsletters, website sections) to connect potential members
- Development of social media and website subscription links to identify interested participants
- Creation of recurring engagement forums like Tuesday Night Talks that allow members to discover shared interests
- Cross-organizational coordination visible through partner contributions to newsletters

2. Coalescing (Exploring Connectedness)

- Regular community gatherings through educational workshops at conferences like Alaska Marine Science Symposium and the Whittier Science Week indicate an interest in exploring connectedness
- Organization of both the annual Seward Science Symposium and Whittier Science Week bringing together researchers and cultural workers appeared to support some level of connectedness but the links to the full network were not evident from this program.
- Delivery of 107 distance learning programs connecting educators and students across Alaska suggested there is investment in cultural competency and cross-cultural communication workshops building shared understanding but again, this finding is limited to the event reports that do not appear to suggest co-creation or community connectedness.

3. Maturing (Defining Joint Enterprise)

To assess the partnership documents through Wenger's third level of community of practice—maturing framework, we explored how partners reported on their joint enterprise. We looked beyond surface-level interactions to examine the depth of collective identity and shared ownership. Evidence included a shift from coordination where members report working alongside each other, to evidence of genuine collaboration where boundaries between individual contributions become blurred in service of collective goals.

We used several key indicators: First, language shifts from organization-centric references ("our program," "my project") to network-centric framing ("our collective approach," "the network's methodology"). Second,

decision-making processes documented in meeting minutes to understand how equitable participation across all members regardless of institutional size or status, introduced diverse perspectives actively shaping strategic direction. Third, we looked for emerging evidence of collective impact and crossfertilization between program initiatives.

While the current efforts—such as the Whole Being Teaching framework for Coastal Connections Camp, specialized "Rivers and Forests" and "Oceans and Coasts" curricula, the structured COMPASS program, mariculture initiatives, and the Collective Alaska Native Perspectives (CANP) training—represent important programmatic achievements, they currently exist primarily as product-focused individual deliverables rather than manifestations of a fully realized joint enterprise. A more mature network would evidence these initiatives converging on a unified platform like a collaborative website developed through equitable co-creation processes, with each partner having meaningful input regardless of organizational size or resource capacity. Instead, the current state suggests parallel work streams that, while valuable, have not yet evolved into deeply integrated efforts where boundaries between organizational contributions become seamless. True network maturity would be indicated by partners regularly cross-implementing each other's frameworks, sharing resources beyond designated projects, and collectively evaluating all programs through consistent metrics that reflect shared values and priorities rooted in equity across partners.

In future, program assessment will focus on the degree to which resource allocation provides particularly telling evidence—mature communities show documentation of shared budgeting, staff time devoted to network-wide priorities, and willingness to contribute organizational assets to collective endeavors without strict accounting of immediate returns (See the next section on organizational learning outcomes). Knowledge artifacts like the planned website, the realization of the shared curricula in development, and training materials would bear the intellectual contributions of multiple members rather than being developed in isolation and shared afterward.

Success of a community of practice will ultimately be revealed when reports reveal a genuine merging of identities where the community of practice itself becomes a distinct entity with its own reputation, standards of practice, and shared accountability structures. At this mature stage, archival materials will demonstrate members routinely leveraging their collective capacity to address challenges beyond what any single organization could accomplish, with explicit acknowledgment of their interdependence and commitment to sustaining the community beyond initial funding or mandates. This category of evaluation will be discussed throughout the formative phase of the evaluation to help build capacity and to use the program evaluation as a springboard for a more durable community of practice.

4. Stewardship (Growing Ownership)

In this front-end phase of evaluation, it was clear that stewardship of the network remains externalized by most partners and remains a grant funded strategy for program delivery. Despite that early finding, not uncommon in newly emerging potential communities of practice, there is some evidence that the potential for achieving the fourth level of community of practice, shared ownership and stewardship, are starting to emerge. In this report, we describe the potential evidence that may emerge in process and program evaluation that would portend potential resilience and future growth beyond this grant funding as a truly realized community of practice supporting learning in the EVOS impacted zone.

The 4th cycle of community of practice growth focuses on realizable value and identity transformation, where the network moves beyond immediate benefits to create sustainable, systemic impacts. This phase requires evaluating how network activities translate into lasting institutional change and broader social value. The formative evaluation should assess whether the CORaL is evolving from collaborative programming to a transformational entity with shared identity and purpose. Evidence of this maturation will emerge through several key indicators tied to the network's expanded initiatives:

- The expansion of the Community Coastal Experience (CCE) program from 7 to 50 participants presents an opportunity to evaluate whether this growth represents mere scaling or true transformation. We will examine program reporting to identify evidence how this expansion affects power dynamics between Western and Indigenous knowledge systems. For example, evidence that Alaska Native partners feel they have equal decision-making authority in program design rather than serving as cultural consultants. Successful growth would be evidenced by formal structures ensuring equitable participation and recognition across all knowledge traditions in reporting from all partners.
- Training leaders for program continuity should reveal organizational transformation beyond individual skill-building. Program evaluation will focus on evidence of whether leadership training crosses organizational boundaries, creates shared language across institutions, and leads to collective problem-solving approaches. Evidence would include cross-institutional mentoring structures, joint professional development protocols, and leadership practices that explicitly acknowledge diverse knowledge systems.
- Creating pathways for interns to secure full-time positions through their CCE experiences represents an opportunity to assess institutional commitment to network values. Therefore, the formative evaluation will focus on whether hiring practices across all partner organizations have been fundamentally altered to value community-centered approaches. Success would be evidenced by formal changes to each organization's job descriptions, evaluation metrics that value intercultural competencies, and career advancement structures that honor both scientific and Indigenous knowledge that extend beyond the CORaL funded programs. While some partners are already engaged in two-eyed seeing practices, the evidence for this domain would witness that type of transformative process at all partners unless prohibited by their funding charter.
- The development of educational resources like the Archaeology Education Box becoming an asset that all network partners leverage might serve as one type of evidence of the network's evolution beyond individual product creation. While it is initially based on one approach, moving forward these types of shared-use assets will be examined to witness how these resources represent true co-creation, with documentation showing collaborative development processes from conception through implementation based on their adaptation and use. Evidence would include shared intellectual property agreements, balanced attribution of knowledge sources, and evaluation protocols that honor diverse measures of success.
- At this point, the Network remains somewhat inward focused, with Alaska Native communities convening with network members through specific program encounters or individual institutional connections. Evidence of a resilent community of practice that reflects both Eurocentric science knowledges and Alaska Native cultural knowledges will be witnessed by an evolution from the consultative relationship to genuine shared ownership. Evaluators will examine how the network's members distributed decision-making authority equitably, particularly regarding how cultural knowledge is represented in program outputs by the network, and the reported degree of comfort

with two-eyed seeing as common practice and expectation. Success in these assessments during the formative phases in the next few years will be evidenced by formal agreements establishing Indigenous partners' authority over cultural content, transparent processes for resolving conflicts between knowledge systems, and mechanisms ensuring Alaska Native communities receive appropriate recognition and compensation. At present, this does appear evident within network members individual work, but the alignments and common language related to these strategies is not present in the current network documents

For CORaL to demonstrate the 4th cycle growth, formative evaluation must ultimately document how these initiatives collectively transform the network's identity from a collaboration of distinct organizations to a cohesive entity with shared purpose and practice. The evaluation should capture evidence that partner organizations have begun to see themselves primarily as CORaL members rather than independent entities temporarily collaborating, with corresponding changes to their organizational structures, resource allocation, and public identity.

5. Transformation (Evolving Practice)

Our ultimate evaluation goal during the summative phase at the end of the five-year grant will focus on transformation as the critical evidence that the CORaL has evolved into a sustainable community of practice capable of outliving its initial funding. We recognize that true network maturity transcends programmatic outputs to fundamentally alter how organizations understand their identities, missions, and relationships. We will look for success indicators including formal governance structures that have institutionalized equitable decision-making across Western and Indigenous knowledge systems; budget allocations from partner organizations' core funding (beyond grant resources) dedicated to maintaining network functions; modifications to individual organizational strategic plans that explicitly reference CORaL priorities as central to their own missions; established pathways for knowledge circulation where innovations from any partner routinely influence practices across all organizations; and evidence that the network has begun attracting external recognition and resources as a collective entity rather than through individual partners. Most significantly, we will document how network participation has transformed each organization's understanding of its purpose, with evidence that their self-definitions now inherently include their role within the broader community of practice—indicating that the collaborative identity has become so fundamental to their operational models that dissolution of the network following the grant period would be unthinkable.

While the 2-year front-end action research analysis reveals a community of practice that has progressed through the early developmental stages and is actively working in the maturing and stewardship phases, with elements of transformation beginning to emerge as the community expands its reach and deepens its practices. But the current hesitancy evident in the reports by some partners suggest that greater attention to the purpose of the grant and its programs for building shared value will be important tests of whether this network has the capacity to become a true community of practice.

Collaborative Learning Outcomes Revealed through Action Research and Post-hoc Document Assessment: Organizational Advancement Findings from the First Two Years

Beyond the community of practice evaluation, we also explored the professional development outcomes that have accrued for partners. At the end of the 2-year Front End Evaluation Cycle, each organization was

asked to respond to their institutional growth that flowed from participation in the grant-defined deliverables as part of the CORaL community. These reflective narratives were reviewed and coded for evidence of network impact on individual staff and organizational culture. These data were then reorganized using an axial coding schema to illustrate the learning domains evident in participation in the community to illustrate core themes that flowed through all partners. As part of that process, the coding also distinguished between the Alaska Native led organizations and those that focus on Eurocentric science as their pedagogical foundation, while acknowledging that both types of organization across the entire network are seeking to advance two-eyed seeing as a way of engaging with understanding the marine ecosystems on which all people in Southcentral Alaska depend.

The results demonstrate that the collaborative activities are contributing to professional development at each organization and in sub-group program collaborations. These outcomes are summarized as follows:

- The Alaska SeaLife Center (ASLC) staff evolved their teaching approach, moving from didactic presentations to facilitating conversations that connected their work to participants' experiences. Staff reported that although there was initial anxiety about this change, they ultimately found the new conversational format to be "a rewarding and enriching experience," with one staff member being specifically highlighted for adapting well to this approach.
- 2. The Alutiiq Museum and Archaeological Repository (AMAR) deepened their interdisciplinary collaboration skills through co-presenting with the Center for Alaskan Coastal Studies (CACS) at the Alaska Marine Science Symposium, where they learned about integrating Indigenous knowledge with Western science. This collaboration allowed AMAR to exchange knowledge with scientists and the public, strengthening their role in heritage preservation and community engagement.
- 3. The COMPASS program leaders enhanced their curriculum development capabilities by incorporating Traditional Ecological Knowledge (TEK) through collaboration with the Chugach Regional Resources Commission (CRRC). This integration was particularly evident in the "Being an Observer" learning circle, reflecting a deeper understanding of how to blend Indigenous knowledge with STEM education.
- 4. CRRC staff improved their public science communication skills through leveraging the Tuesday Night Talks series in Cordova to share knowledge on food sovereignty and ocean monitoring. Additionally, through collaboration with Dr. Tulla Holman, they refined approaches to incorporating TEK into formal education settings, particularly in the SeeBird project at Seward High School.
- 5. The Center for Alaskan Coastal Studies (CACS) expanded their cultural and ecological knowledge through collaboration with the Seldovia Village Tribe and Kenaitze tribal members during summer camp activities. Staff participated in activities related to clam gardens, salmon processing, and cultural uses of marine mammals, which enhanced their ability to deliver culturally responsive educational programs.
- 6. Prince William Sound Science Center (PWSSC) staff developed technical capabilities in digital exhibit design and implementation using Raspberry Pi technology. They gained competency in creating educational kiosk content and interfaces, which enhanced their ability to integrate technology into science communication efforts.
- 7. Across organizations, cultural competency was significantly improved. PWSSC staff enhanced their understanding of indigenous cultural practices through formal training, while CACS benefited from

cultural orientation training led by CRRC that improved their ability to discuss traditional skills and lead discussions on repatriation based on the lived experience of Alaska Native Elders.

- 8. CORaL fostered improvement in collaborative methodologies, with PWSSC developing strategies for effective community science implementation and AMAR recognizing broader lessons about network identity and collaboration, despite expressing reservations about public presentation of co-programming.
- 9. Program management knowledge was strengthened across organizations, with CRRC learning to set more explicit expectations and establish clearer accountability structures to ensure reciprocity from network partners. This learning helped CRRC develop a new strategy for network engagement that led to improved participation and higher attendance at fall 2024 events.
- 10. Several organizations reported gains in creating inclusive educational approaches. PWSSC developed expertise in accommodating neurodivergent learners and creating sensory-friendly programming, while ASLC learned the importance of creating "unspoken welcomes" by providing rest time and refreshments to allow participants to process their experiences.

The learning outcomes between Alaska Native-led organizations (AMAR & CRRC) and organizations with more Eurocentric approaches to science learning (ASLC, ASG, PWSSC, CACS) reveal distinct differences in professional development trajectories within CORaL. Alaska Native-led organizations primarily gained insights into advocating for their perspectives, securing stronger commitments from partners, and addressing power imbalances, as exemplified by CRRC's development of "new methods for cross-cultural engagement" and improved strategies for "setting explicit expectations" to ensure reciprocity. Their learning often centered on strengthening cultural representation and integrating Indigenous knowledge into broader contexts, with AMAR focusing on "connecting their community with cultural heritage" and co-presenting to blend traditional knowledge with scientific approaches.

In contrast, organizations with Eurocentric foundations predominantly focused on learning cultural responsiveness, with staff at ASLC shifting from "purely didactic teaching approaches" to more conversational formats, CACS expanding their "ability to discuss traditional skills," PWSSC developing "greater awareness of culturally-appropriate educational methods," and all gaining technical skills in program delivery while learning to integrate Indigenous perspectives into their existing frameworks—suggesting their primary professional development centered on adapting their established practices to become more culturally inclusive rather than fundamentally reimagining their approaches to knowledge systems.

Looking ahead, this front-end developmental evaluation reveals the need for a more robust external process evaluation that examines the structural dynamics at play within the CORaL. Future evaluation efforts should focus on how power relationships are negotiated across organizations, measuring the depth and reciprocity of collaborations beyond cooperative programming. Ideally, an external process evaluator will implement mechanisms to track how cultural competency training translates into meaningful changes in program design and delivery, behavior in network meetings, and particularly assessing whether Eurocentric organizations are fundamentally shifting their approaches to fully embrace inclusivity. These data recommend that the process evaluation include the frequency and quality of knowledge exchange, equitable decision-making processes, and how all partners can describe authentic integration of Traditional Ecological Knowledge throughout all network activities. Additionally, these findings recommend that a new process evaluation team develop strategies to measure the network's progress in leveraging EVOS-funded resources—an identified deficit area—while continuing to document how learning outcomes manifest in applied value across communities served. The involvement of Headwater People in guiding this next evaluation phase presents an opportunity to center Indigenous evaluation methodologies and ensure that the collaborative growth reflects the true spirit of co-learning that underpins the network's mission.

Program Evaluation:

Action Research Outcomes from the Community Coastal Experience program (2023-2024)

The Community Coastal Experience (CCE) program, a cornerstone CORaL initiative, completed two cycles of implementation. This five-week immersive program offers adults from the *Exxon Valdez Oil Spill* (EVOS) impacted region opportunities to explore career pathways in marine science, archaeology, cultural history, and coastal socio-ecological systems. Through a process of action research and responsive adaptation, the program evolved significantly from its pilot year in 2023 to its second iteration in 2024, demonstrating substantial growth in achieving the network's goals of culturally responsive science outreach and community engagement.

Year 1: Promising Beginnings and Learning Opportunities

The 2023 pilot program welcomed eight participants from diverse Alaska Native coastal communities for a journey through Kachemak Bay, Seward, Cordova, and Kodiak. Participants received a \$3,000 stipend, with all travel, lodging, and food provided through grant funding. The experience offered valuable engagement with cultural knowledge, scientific exploration, and professional networks.

Participant feedback revealed deep appreciation for cultural learning experiences, hands-on scientific activities, and interactions with specialists. They valued understanding Sugpiaq and Eyak cultures, engaging in scientific fieldwork like peatland mapping and plankton tows, and building connections with professionals in various fields.

However, the evaluation also identified several opportunities for growth. Participants expressed a desire for greater cultural integration throughout the program, better pre-program preparation, and more thoughtful scheduling of reflection periods. Some felt the program sometimes privileged Western scientific approaches over indigenous perspectives and knowledge systems.

Program leaders acknowledged both the accomplishments and challenges of the pilot year. They celebrated creating a supportive space for honest conversations and building new connections with rural communities. At the same time, they recognized limitations caused by rushed planning, cultural disconnects, and communication challenges. The pilot year results provided valuable insights that helped refine the program's evolution. (See Year 1 Report attached).

Year 2: Responsive Adaptation and Meaningful Growth

The 2024 program incorporated significant changes based on Year 1 feedback. Eight new participants joined the experience, and locations were expanded to include Seldovia. A total of 47 "presenter/learners" joined the participants in co-creating educational experiences and cultural encounters.

A fundamental shift occurred in the program's pedagogical approach. Many partners moved away from traditional didactic teaching toward conversational engagement. Presenters at many locations were given advanced guidance on how to support culturally responsive dialogues, inquiry strategies to facilitate discussions about their work rather than traditional didactic presentations focused on information transfer. These cultural exchanges between participants and presenter/learners were described after the program by

both presenters and participants as creating more meaningful connections because it allowed all participants to explore how their own experiences and knowledge contributed to shared understanding.

Program coordinators also focused on creating more welcoming environments through what they described as "unspoken welcomes" - providing refreshments, building in adequate break times, and allowing participants space to process their experiences. Participants reported that this approach was greatly appreciated.

While some staff initially expressed anxiety about the new engagement methods, they ultimately reported positive experiences after implementing the conversational approach. Following the program, staff expressed interest in continuing this type of engagement in the future, recognizing its value in creating more meaningful connections.

One difficulty occurred, in part due to misconceptions by a program participant, about acceptable behavior and choices during the program. That participant's involvement was terminated when the behavior became known to organizers, and the group engaged in a discussion about how to make expectations more clear for future participants to address any lingering sense of ill-will about the programs goals and the needs for a safe space for all.

The enhanced cultural connections bore fruit in tangible ways. At least one participant from Kodiak had a particularly meaningful experience engaging with archaeological digs related to their cultural heritage. This participant later returned to work with the Alutiiq Museum and Archaeological Repository after completing the CCE program, demonstrating the potential for lasting professional relationships to emerge from the experience.

Learning and Growth Across Two Years

The evolution from Year 1 to Year 2 demonstrates significant progress toward the CORaL Network's goals. The shift from presenter-centered to participant-centered approaches created space for more culturally responsive science outreach. The inclusion of Elders and cultural knowledge-bearers enhanced understanding of Alaska Native perspectives and fostered greater cultural competency among all involved.

The program's ability to create meaningful connections between participants and institutions was evidenced by the Kodiak participant who returned to work with the Alutiiq Museum. This outcome suggests the program is successfully opening pathways for regional youth to engage in scientific and cultural work within their communities.

Perhaps most significantly, the program demonstrated its commitment to learning and adaptation. The concerns raised in Year 1 were not dismissed but thoughtfully addressed through substantive changes to program design and delivery. This responsiveness created a more authentic experience that honored the knowledge and perspectives of all involved while still advancing the scientific and educational goals of the initiative.

Recommendations for Year 3

As the CCE program looks toward its third year, several opportunities emerge for continued growth:

Deepen the Co-Creation Process: Building on the successful shift toward more conversational engagement, the program should formalize processes for involving participants in program design before the experience begins. Creating mechanisms for real-time program adjustments based on participant feedback during the experience would further strengthen this approach. Consider engaging alumni more explicitly in

program planning and implementation, building on the successful involvement of two 2023 alumni in the 2024 program.

Enhance Cultural Integration: While significant progress has been made in integrating cultural perspectives, the program could further expand the role of Elders and cultural knowledge-bearers at each location. Developing specific activities that highlight the relationship between traditional knowledge and Western science would create valuable learning opportunities for all involved. Creating more structured opportunities for participants to share their own cultural knowledge would recognize the expertise they bring to the experience.

Strengthen Continuity Between Sites: Participants in Year 1 noted that while they recognized connections between locations, these weren't always explicitly developed. Creating more intentional thematic connections between sites and implementing reflection activities that help participants articulate these connections would enhance the coherence of the overall experience. A progressive learning model where skills build upon each other across locations would further strengthen the program's educational impact.

Support Knowledge Transfer: The program's ultimate success depends not only on participants' learning but on how they share that knowledge with their communities. Designing specific activities that prepare participants to translate their experiences for community contexts would enhance this aspect of the program. Developing resources participants can use after the program and establishing follow-up mechanisms to track community impact would provide valuable insights into the program's long-term influence.

Refine Staff Preparation as a Network: Building on the lessons from Year 2, developing more structured approaches to preparing staff for conversational engagement would address the anxiety some experienced. Creating opportunities for staff to practice these approaches before the program and providing specific tools and techniques for facilitating dialogue would enhance their confidence and effectiveness.

Enhance Evaluation Frameworks: Implementing more comprehensive pre- and post-program reflective practices would provide deeper insights into the program's impact on participants' knowledge, skills, and career aspirations. Because the program involves so few participants, the evaluative framing for this project is necessarily qualitative. The formative evaluation strategy outlined for the overall CORaL goals offers a central structure for these discussions that can be integrated as part of the program. Developing more longitudinal tracking of participant outcomes would strengthen the program's ability to demonstrate its value and continue its evolution.

Conclusion

The Community Coastal Experience program demonstrates the power of responsive program design and the value of bringing together diverse knowledge systems in environmental education and career development. Through its evolution from Year 1 to Year 2, the program has moved closer to embodying the CORaL's vision of culturally responsive science outreach that serves community needs while opening pathways for regional youth to engage in scientific and cultural work.

As the program continues to evolve, its commitment to learning and adaptation positions it to make increasingly meaningful contributions to both individual participants and the broader communities of the EVOS-impacted region. By continuing to balance scientific rigor with cultural responsiveness, the CCE program can play a vital role in fostering the next generation of leaders equipped to address the complex challenges facing Alaska's coastal communities.

Program Evaluation:

Action Research Outcomes from the Collective Alaska Native Perspectives program (2023-2024)

The Collective Alaska Native Perspectives (CANP) program has evolved significantly since its inception. Beginning with a successful first-year event in Seward, Alaska attended by representatives from all Network leadership teams, the program entered its second year with an April 2024 training in Kodiak that revealed important lessons about partnership dynamics within the CORAL.

Cultural Impact and Participation Challenges

The Kodiak gathering created meaningful cultural connections for participants, fostering intergenerational relationships between elders, young culture bearers, and tribal members. The sharing of local history and cultural practices from community perspectives proved deeply impactful.

However, while the cultural elements thrived, partner participation fell short of expectations. Despite building on the shared experience from the first year, attendance from CORAL partners was notably low. This created a stark contrast to the consistent support that CRRC provides to other organizations' initiatives throughout the region.

Revealing Network Dynamics

At the annual network meeting in October 2024, these concerns were addressed directly. The discussion revealed a fundamental misunderstanding about participation expectations. Many partners believed that attending the first event in Seward meant they shouldn't attend subsequent events to make space for others. They hadn't recognized that each community gathering was designed to showcase unique cultural perspectives and histories.

This miscommunication highlighted how even well-intentioned partners can miss crucial cultural contexts when working across communities. The pattern of inconsistent participation had become normalized within the network without recognition of how it undermined reciprocity and trust.

Additional concerns emerged about continued cultural insensitivity from some network members despite previous training opportunities. This raised questions about balancing grace for learning against enabling harmful patterns.

Implementing Structural Solutions

Following these conversations, the network implemented specific changes:

- A dedicated CANP subcommittee was formed to support planning
- Regular preparation meetings were established
- Expectations for partner participation were made explicit
- Organizations were encouraged to support staff attendance

These changes produced significant results. The February 2025 CANP training in Cordova and engaging with the diverse communities surrounding Eyak traditional homelands, while outside the scope of this report, saw

dramatically increased attendance, with organizations providing funding and sending more staff members, demonstrating that learning outcomes from the first two programs were being implemented.

Program Context and Evolution

The CANP program serves an important purpose within communities affected by the *Exxon Valdez Oil Spill*. It provides a platform for Alaska Native perspectives that were historically underrepresented in spill response and resource management decisions. The program helps place these issues within their proper cultural and historical context, serving as a means for healing and understanding.

The initiative continues to develop, expanding to include online learning components and educational films based on key program topics. As CANP moves forward, it demonstrates both the challenges of cross-cultural partnership and the transformative potential of directly addressing difficult dynamics within collaborative networks.

By creating spaces where diverse cultural perspectives can be shared authentically, CANP works to build stronger, more respectful relationships that honor the unique contributions of each community within the network.

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Appendix A: Formative Evaluation Framework for Yrs 3 - 5:

The CORaL Network Evaluation Framework focuses on using data to strengthen community-based collaborations that advance the use of scientific learning and restoration activities throughout the *Exxon Valdez Oil Spill Recovery Zone*. Moving beyond traditional metrics, this framework integrates cultural responsiveness and community engagement to capture both immediate outcomes and long-term systemic change.

The framework is organized around six foundational evaluation categories: Science Outreach, Regional Youth Engagement, Scientist-Community Partnerships, Cross-Cultural Capacity Development, Resource Optimization, and Network Sustainability. At its core, it emphasizes meaningful integration of scientific and traditional knowledge through co-created initiatives, cultural representation, and community-driven priorities. It measures achievement through both quantitative and qualitative indicators that track program reach, resource utilization, partnership quality, cultural integration, and network health. The framework particularly emphasizes the development of a sustained community of practice, assessed through network awareness, partner contributions, adaptive learning, and collective vision alignment.

Through a developmental evaluation approach, this framework serves as both a measurement tool and a guide for building culturally responsive, community-driven partnerships. It prioritizes regular assessment and adaptation while maintaining cultural sensitivity in evaluation methods. The goal is to create sustainable collaborations that honor as equal knowledge pathways, traditional ecological knowledge and the Eurocentric models for scientific research, build enduring trust between scientists, culture bearers, and their communities, and the pathways for youth to enter into these knowledge practices.

This framework builds on two years of partnership work and exploration with co-programming. It maintains the six core evaluation categories originally defined in the EVOSTC Grant Proposal while integrating cocreated indicators of success developed by partners in winter 2024. These include dimensions such as partnership engagement, cultural representation, collaborative feedback, collective vision, and adaptive learning and trust. The measures draw from Communities of Practice principles developed by Wenger, Traynor and DeLaat, providing proven indicators for assessing a professional practice network's ability to achieve shared goals.

This framework aims to ensure that each program component (e.g., program reach, resource utilization) but contributes to building a vibrant, culturally resonant, and self-sustaining learning community of practice.

Overview

The CORaL evaluation framework represents a comprehensive approach to assessing and strengthening community-based collaborations in science outreach, education, and restoration activities across the region. This framework uniquely integrates traditional evaluation metrics with cultural responsiveness, community engagement, and network development measures to capture both tangible outcomes and systemic transformation.

Core Framework Elements

1. Integrated Assessment Categories

The framework builds upon six foundational evaluation categories while incorporating deeper measures of network health and cultural integration:

- Science Outreach and Cultural Knowledge Integration
- Regional Youth Engagement and Pathway Development
- Scientist-Community Partnership Building
- Cross-Cultural Capacity Development
- Resource Optimization and Collective Impact
- Network Sustainability and Cultural Preservation

2. Cultural-Scientific Integration

The framework emphasizes the meaningful integration of scientific and traditional knowledge through:

- Co-created research and outreach initiatives
- Cultural representation in program design and delivery
- Community-driven priority setting
- Elder and youth engagement
- Traditional knowledge preservation and sharing

3. Partnership Development

The framework tracks the evolution and strength of partnerships through:

- Quality of collaborative relationships
- Information and resource sharing effectiveness
- Trust building and maintenance
- Cross-cultural competency development
- Collective problem-solving capacity

4. Community of Practice Development

Success is measured not just in immediate outcomes but in the growth of a sustained community of practice, assessed through:

- Network awareness and engagement
- Partner contribution and mutual support
- Adaptive learning and improvement
- Collective vision alignment
- Resource leveraging and optimization

Measurement Approach

Quantitative Assessment

- Program reach and engagement metrics
- Resource utilization and efficiency measures
- Partnership formation and sustainability indicators
- Youth participation and pathway tracking
- Cultural integration benchmarks

Qualitative Evaluation

- Partnership quality and trust indicators
- Cultural representation effectiveness
- Community satisfaction and feedback
- Knowledge integration success
- Network health and sustainability markers

Goals and Outcomes

Immediate Objectives

- Strengthen science-community partnerships
- Enhance cultural integration in scientific work
- Expand youth engagement in science and culture
- Optimize resource utilization across the network
- Build cross-cultural capacity and competency

Long-term Impact

- Create sustainable, community-driven scientific collaboration
- Establish lasting pathways for youth in science
- Preserve and integrate traditional knowledge
- Build enduring trust between scientists and communities
- Develop a self-sustaining regional network

Implementation Strategy

The framework employs a developmental evaluation approach, allowing for:

- Regular assessment and adaptation
- Continuous improvement based on feedback

- Flexible response to emerging needs
- Cultural sensitivity in evaluation methods
- Community participation in assessment

This evaluation framework represents more than a measurement tool; it serves as a guide for building a culturally responsive, community-driven network that bridges scientific and traditional knowledge while fostering lasting partnerships and positive regional impact.

Objective 1: Science Outreach

Purpose:

To ensure that science outreach is relevant, co-created, and culturally responsive, leading to increased public engagement and utilization of regional knowledge related to the *Exxon Valdez Oil Spill*.

Evaluation Questions:

- How effectively is science outreach co-created with regional communities?
- How effectively does the network blend scientific and traditional knowledge in outreach activities?
- To what degree are programs structured by community culture and needs?
- To what extent are partners sharing information and resources across the network?
- Does outreach increase public utilization and understanding of available scientific knowledge?
- How well do outreach materials reflect cultural understanding and pride?

Data Collection Methods:

- **Baseline and Comparative Assessments:** Consolidate existing knowledge across partners and document community-specific needs.
- **Formative Evaluations:** Post-program surveys (pre/post comparisons), paired interviews, and discussion groups with community stakeholders, program presenters.
- **Analytics:** Monitor resource utilization (website traffic pre-program event attendance, cost analyses), duration and depth of partners engagement in each program (who and how much)?

Reporting Metrics & Success Indicators:

- Baseline status of community knowledge.
- Increase in public awareness and understanding.
- Community satisfaction with program relevance and cultural alignment.
- **Quantitative:** Retrospective report on prior attendance figures, online engagement, and resource utilization metrics as known from 2023, updated to 2025.
- **Qualitative:** Feedback on cultural representation, storytelling assessments, and evidence of active learning achieved from start to today.
- **Network Dimensions:** Indicators of network awareness and culturally informed outreach (e.g., visibility of CORaL's role and culturally relevant content).

Objective 2: Regional Youth Participation

Purpose:

To create and evaluate community-based pathways that engage regional youth in science, building diversity in Alaska's scientific community while reinforcing a community-based approach.

Evaluation Questions:

- What new pathways to science professions are provided through CORaL's collaborative efforts?
- How many and how diverse are the youth engaged in these programs?
- How does participation impact youth career aspirations and self-perception as contributors to Alaska's science enterprise?

Data Collection Methods:

- **Logic Modeling:** Collaboratively develop logic models with partners to outline the contribution to youth career pathways.
- Participation Tracking: Use enrollment data and participation records from science programs.
- **Retrospective Surveys & Longitudinal Tracking:** Pre/post surveys (written, audio) and long-term monitoring of academic/professional trajectories.

Reporting Metrics & Success Indicators:

Participation and Reach

- **Number of Youth Engaged**: Track the total number of youth participants in each program or initiative, disaggregated by age, grade level, and geographic location.
- **Program Attendance and Completion Rates**: Document how many youth attend each event or program and successfully complete all required activities.

Diversity and Inclusion

- **Demographic Breakdown**: Collect data on gender, race/ethnicity, Tribal affiliation, and other relevant demographics to assess representation among participants.
- **Cultural Participation**: Track how many youth come from communities traditionally underrepresented in science, and whether they feel their cultural perspectives are reflected in the program.

Career Pathway Development

• **Percentage Pursuing Science-Related Careers**: Measure changes in youth career intentions preand post-program (e.g., via surveys or follow-up interviews).

- Internship and Mentorship Engagement: Count how many youth participate in science internships or mentorship opportunities offered through CORaL partners.
- **Enrollment in STEM Coursework:** For longer-term tracking, measure whether participants enroll in science/STEM courses or extracurriculars in subsequent academic years.

Quantitative Indicators of Program Effectiveness

- **Engagement Statistics**: Track the frequency of youth participation across multiple events, including repeated attendance or involvement in CORaL partner youth activities.
- **Program Reach**: Monitor the total number of outreach sessions, field trips, workshops, or hands-on science experiences offered, as well as the percentage of targeted youth who participate.

Qualitative Indicators of Growth and Learning

- **Testimonials and Reflective Narratives**: Collect first-person accounts from youth describing what they learned, how they grew, and whether they felt more connected to science and their community's cultural heritage.
- Mentor and Community Feedback: Gather insights from mentors, educators, Tribal Elders, or community leaders regarding observed changes in youth engagement, leadership, or skill development.
- Storytelling Assessments: Encourage youth participants to share experiences through creative
- Quality of collaborative planning: Shared resource development Cross-cultural mentorship opportunities

Network and Community Impact

- Alignment with Broader Community Goals: Evaluate how youth-focused programs support community priorities, such as cultural representation, local restoration needs, or economic development.
- **Partnership Formation**: Document new or strengthened relationships among CORaL partners and local communities resulting from youth engagement.
- Adaptive Learning Culture: Track how feedback from youth is integrated into future program designs, demonstrating responsiveness and continuous improvement.

Long-Term Tracking and Sustainability

- Follow-Up Surveys: Conduct periodic surveys (e.g., six months, one year later) to see if participants continue to explore STEM fields, remain active in community projects, or pursue science-related education/careers.
- **Ongoing Participation in CORaL**: Monitor whether former youth participants remain engaged in the CORaL (e.g., through alumni groups or advanced programs) and contribute to building a lasting community of practice.

Objective 3: Scientist-Community Partnerships

Purpose:

To foster robust partnerships where scientists actively engage with communities, co-create research opportunities, and support STEM skill-building aligned with community needs.

Evaluation Questions:

- Which communities are involved, and what are their identified needs?
- How well do scientists align their research with these community needs?
- What is the quality of engagement in building STEM-related skills and continuous improvement?

Data Collection Methods:

- **Knowledge Summaries & Data Source Evaluations:** Compile existing information from CORaL partners on community needs and research alignment.
- Formative Case Studies: Document and analyze specific community-scientist collaborations.
- **Surveys & Documentation:** Use surveys to assess satisfaction among community members and scientists; record details of STEM skill-building activities.

Reporting Metrics & Success Indicators:

Number and Quality of Collaborative Projects:

- Total number of partnerships initiated and sustained over time.
- Percentage of projects incorporating community co-leadership and co-design.
- Community feedback on the relevance and impact of the research.

Satisfaction Levels Among Community and Scientist Participants:

- Survey-based satisfaction ratings (Likert-scale and qualitative feedback).
- Indicators of increased trust and commitment to ongoing collaboration.

Documentation of How STEM Skills Are Enhanced:

- Number of community members participating in STEM skill-building activities.
- Pre- and post-assessments of STEM competencies acquired.
- Case studies highlighting skill application in real-world scenarios.

Quantitative Measures:

- Counts of partnership activities (e.g., workshops, mentorship programs, co-authored publications).
- Resource utilization metrics, such as funding distribution, material access, and technological integration.

Qualitative Measures:

- Feedback on partnership effectiveness, cultural relevance, and collective vision (e.g., mutual trust, openness, and humility).
- Community narratives demonstrating meaningful scientific engagement and ownership of STEM initiatives.

Network Dimensions:

- Indicators of effective information sharing (e.g., frequency and channels of communication).
- Degree of alignment with the network's broader cultural and scientific goals, as reflected in stakeholder interviews and document analysis.
- Expansion of collaborative networks over time, measured by new partnerships formed and sustained.

Objective 4: Capacity-Building Activities

Purpose:

To strengthen the network's collaboration through cultural and communication training, internships, and community connections that sustain long-term partnerships.

Evaluation Questions:

- Which capacity-building activities most effectively sustain network collaborations?
- How do these activities enhance cultural and communication competencies?

Data Collection Methods:

- **External Assessments:** Summarize results from independent evaluations (e.g., the Yr 2 Annual Meeting external assessment).
- **Participatory Facilitation:** Use feedback from facilitated partnership sessions and social network analyses.
- **Documentation:** Record instances of cultural/communication training and internships.

Reporting Metrics & Success Indicators:

Capacity-Building Activities and Outcomes:

- Number and diversity of capacity-building activities conducted.
- Participant satisfaction and self-reported skill acquisition.

Quantitative Indicators:

- Counts of events, training sessions, and participation rates.
- Metrics on engagement levels across different stakeholder groups.

Qualitative Indicators:

- Narrative feedback on collaboration quality, trust-building, and the development of a learning culture.
- Case studies illustrating best practices and lessons learned.

Network Impact and Sustainability:

- Evidence of new partnerships formed and strengthened.
- Increased interconnectivity and information-sharing among stakeholders.
- Long-term sustainability of collaborative efforts, measured by ongoing engagement and resource allocation.

Objective 5: Leveraging EVOSTC-Funded Resources

Purpose:

To optimize the use of EVOSTC-funded resources by fostering a collaborative, cross-agency network that achieves a collective impact greater than individual projects.

Evaluation Questions:

- How effectively are EVOSTC-funded resources being shared across the region?
- What is the overall impact of integrated projects compared to isolated efforts?

Data Collection Methods:

- **Resource Analysis:** Conduct detailed analyses of resource allocation and utilization.
- **Comparative Case Studies:** Compare integrated projects with individual efforts.
- **Partner Interviews:** Gather qualitative insights on collaboration effectiveness.

Reporting Metrics & Success Indicators:

Resource Efficiency and Utilization:

- Metrics assessing the efficiency of resource use.
- Comparative evidence of increased project outputs and outcomes through integration.

Collaboration and Network Effectiveness:

- Partner satisfaction ratings and qualitative feedback on collaboration quality.
- Evidence of enhanced shared decision-making and continuous improvement.

Impact on Broader Scientific and Cultural Goals:

- Efficiency and output comparisons demonstrating the added value of collaboration.
- Narrative feedback on collective vision, contributions, and resource leveraging.
- Indicators showing how resource-sharing supports broader cultural and scientific missions within the network.

Objective 6: CORaL Sustainability

Purpose

To ensure that the CORaL evolves into a self-sustaining mechanism for ongoing community-based collaborations and restoration activities beyond the grant period, while tracking the community of practice's growth and value creation over time.

Evaluation Questions

- 1. How effectively are developmental evaluation techniques being implemented to foster a thriving community of practice?
- 2. To what extent do these techniques support long-term sustainability of network collaborations and restoration efforts?
- 3. How do we observe and measure the network's progression through the cycles of growth (e.g., coalescing, maturing, stewardship, and transformation) as defined by Wenger, Trayner, and De Laat?

Data Collection Methods

- Developmental Evaluations:
 - Conduct regular, iterative assessments to capture ongoing progress, areas for improvement, and "value creation" moments (e.g., immediate or potential value) as the network evolves.
- Post-Grant Follow-Ups:
 - Surveys and interviews with network members to gauge whether collaborative relationships and restoration activities continue beyond the formal funding period, focusing on applied, realized, and transformative value.
- Project Tracking:
 - Analyze sustained projects, partnerships, and collaborative endeavors, noting how these contribute to or reflect different stages in the community of practice's growth cycle.
- Value Creation Stories or Reflective Narratives:
 - Collect qualitative accounts (e.g., interviews, focus groups, or written reflections) illustrating how members perceive and experience shifts in practice, trust, and learning over time—key indicators of movement through Wenger et al.'s value cycles.

Reporting Metrics & Success Indicators

- Frequency and Quality of Developmental Evaluations:
 - Number of evaluations completed; depth and utility of recommendations in shaping the network.
- Number of Sustained Projects and Partnerships:
 - Documented instances of ongoing collaborative efforts beyond the grant period.
 - Stakeholder Confidence in the Network's Longevity:
 - Self-reported perceptions of whether the CORaL will remain vibrant and effective post-grant.
- Quantitative:

- Metrics tracking continued engagement (e.g., number of active members, events, shared resources) and project outcomes over time.
- Qualitative:
 - Assessments of trust, a learning culture, and a growing community of practice through reflective feedback, storytelling, and value creation narratives.
- Organizational Measures:
 - Active involvement in network activities (e.g., attendance at meetings, cross-partner projects), effective information dissemination (e.g., newsletters, shared resources), and robust networking (e.g., number and diversity of new or strengthened connections).
- Cycles of Growth in a Community of Practice:
 - Evidence that the network is progressing through Wenger, Trayner, and De Laat's stages (immediate/potential value → applied value → realized/transformative value). Indicators may include:
 - Immediate/Potential Value: New ideas or resources shared at network meetings.
 - Applied Value: Implementation of these ideas in local programs or community engagements.
 - Realized Value: Documented improvements in community outcomes or project success tied to network collaboration.
 - Transformative Value: Broader systemic changes (e.g., policy shifts, new institutional collaborations) emerging from the CORaL Network's sustained efforts.

By explicitly integrating the **Wenger, Trayner, and De Laat** framework for communities of practice, this revised **Objective 6** captures not only the **end-state sustainability** of the CORaL Network but also the **iterative learning and growth** that characterize a healthy, evolving community of practice.

Conclusion

This integrated evaluation plan provides a comprehensive framework that tracks the immediate outcomes of CORaL's program initiatives and explores measures deeper, systemic qualities related to the creation of a community of practice across the regional organizations that make up the fledgling network such as cultural representation, trust, and collective learning. By combining the detailed objectives from the original 2025 plan with the robust indicators of success from the 2024 Common CORaL Measures, the new framework is positioned to capture both quantitative impact and qualitative transformation across the network.

Appendix B:

Measures to Track Success for the CORaL Network Partners:

On January 23rd, 2024, the CORaL partners responded to a set of questions that described how being a partner in the CORaL Network would advance their institutional missions, and what types of measurement would help them understand how the collaborative work was achieving those institutional outcomes. These measures were then analyzed, grouped, and consolidated into a series of indicators that could support internal reflection and and common evaluation strategy. The results presented here were revised on March 12, 2025 to streamline the Collaborative Learning categories defining success across the CORaL Network:

Partnership Engagement and Impact:

• Assessing the effectiveness of information sharing among partners and the broader community.

Network Awareness and Cultural Representation:

- Visibility in the region.
- Increasing public perception of adequate cultural representation and education in CORaL Network activities.
- Ascertaining whether scientists are aware of culturally relevant information sources within the network.

Feedback Mechanisms and Collaboration:

- Quality of post-program feedback to CORaL Network partners and actions taken to address concerns
- Quality of working sessions to troubleshoot feedback and collaboration on small outreach efforts among organizations.
- Increases in the degree to which the group can align the collective vision with individual organization's missions in support of a shared vision for the region, emphasizing the importance of shared information and collaboration.

Collaborative Learning:

- The ability of partners to align with and support a collective regional vision while recognizing each organization's unique contributions
- Development of shared success metrics grounded in values like humility, openness, and curiosity
- Cultivation of a continuous learning environment where mistakes become growth opportunities and experiences are shared openly
- Establishment of trust that enables vulnerability, collaborative problem-solving, and knowledge exchange
- Evolution from organization-centric to region-focused collective work
- Recognition and strategic leveraging of specialized expertise across partner organizations

These critical categories collectively highlight the multifaceted nature of success within the CORaL Network, encompassing effective partnerships, cultural awareness, collaborative feedback mechanisms, shared visions, a learning culture, and a strong community of practice.
Common Measures:

Quantitative Assessment:

- Public interest, attendance, resource utilization, and program reach.
- Program monitoring, input gathering, and assessing alignment with community needs.

Qualitative Assessment:

- Relationships built, incorporation of traditional knowledge, and qualitative progress documentation.
- Qualitative feedback for CANP, CCE, and any other shared programs, ideally using, storytelling assessments, and reflection

Partnership and Relationship Building:

- Assessment of strength of relationships between cultural organizations and scientifically focused organizations, and individual scientists or cultural workers.
- Qualitative feedback from program attendees, mentors, presenters, Tribal Members.
- Within the CORaL partners group, frequency and perceived quality of collaboration opportunities, and % of staff perception working and learning with partners.

Community Impact:

- Overall awareness, appreciation, and portrayal of cultural understanding of partner mission efforts.
- Alignment of partner programs with the needs of service communities, both as individual organizations, but more focused on where these service needs can be better supported across the network. identification of underserved members, and strategies for adapting programs based on feedback from within the network.

Program Growth and Adaptation:

- Long-term assessment of program growth and degree to which the CORaL Network sees those programs aligned to individual organizational missions and the shared work of the network.
- Within network measures: openness to partner feedback, adaptation based on feedback, and curiosity for personal growth.

Reach and Engagement:

- Measurement of program reach beyond that of our individual institutions, including event attendance, online resource access, and education box checkouts.
- Within group measures of opportunities for input gathering, collaboration, and assessing the reach of programs from institutions within the network.

Dimensions for Measuring Institutional Success:

Widespread Cultural Impact:

- Striving for widespread awareness, appreciation, accurate understanding, and pride in Alutiiq culture.
- Building strong relationships with scientists and being recognized as a valuable resource in the Kodiak region.

Knowledge Sharing and Relationship Building:

- Prioritizing knowledge sharing and relationship building through shared initiatives.
- Assessing success through participation metrics in in-person and online events, and strengthening connections with Tribal communities and partners.

Community Engagement and Trust:

- Seeking success in community engagement by addressing needs and collaborating with partners in innovative ways.
- Fostering trust within communities, leading to recommendations, continued engagement, and support for program improvement.

Adaptive Learning Culture:

- Internally, fostering an adaptive learning culture by reshaping programs and staff focus to align with community needs.
- Ensuring programs and learning opportunities are open to CORaL partners without cost, fostering a porous learning community where insights from CORaL partners are integrated for continuous improvement.

As an organization within the CORaL Network, our commitment to success through a holistic approach that integrates active participation, collaborative initiatives, and meaningful impact. Our overarching goals:

Organizational Measures of Active Involvement in CORaL Activities:

Collaborative Outreach and Relationship Building:

- Collaborating with at least two external outreach partners annually, fostering new relationships each fiscal year to strengthen the collaborative infrastructure of the CORaL Network and introduce the network to new partners.
- Organizing at least one community-sharing opportunity each year, blending scientific, cultural, and traditional knowledge for wider community engagement.

Information Dissemination and Documentation:

- Ensuring effective communication, the organization will share CORaL opportunities widely through emails, newsletters, and event inclusion for partners, educators, and students.
- Our focus on documentation involves developing outreach materials and prototypes, transparently showcasing progress and collaborative efforts within the CORaL Network.
- Our organization actively contributes information and updates on funded marine research, mariculture, and cultural projects to CORa through Network newsletters, conferences, and by providing content and materials on the website at least quarterly.

Networking and Relationship Cultivation:

• Cultivating relationships is a priority, and we commit to representatives of our organization participating in our networking opportunities with teachers, schools, EVOS Long-Term Research scientists, and other stakeholders.