



ADAPT KODIAK

A COASTAL RESILIENCE WORKSHOP
REPORT



Funders for this Workshop

- Alaska Sea Grant
- Aleutian and Bering Sea Islands Initiative
- National Park Service
- Western Alaska Landscape Conservation Cooperative
- U.S. Fish and Wildlife Service



Western Alaska
Landscape Conservation Cooperative

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INTRODUCTION

Coastal communities, along with federal, state, tribal, corporation, and private lands are facing unprecedented coastal hazards brought about by rapidly changing environmental conditions, as well as changes in the marine environment. These changes are affecting lives, property, and livelihoods in addition to natural and cultural resources. Since 2016 coastal resilience workshops have been held in several locations in Alaska including the Bering Sea, Yukon-Kuskokwim Delta, Bristol Bay, Aleutians, and Southeast Alaska. These workshops included opportunities for community members to discuss challenges facing their communities as a result of the changing climate with scientists and decision makers. The topics focused on the greatest challenges facing coastal communities and then provided an opportunity to consider and discuss collaborative efforts to monitor, understand, mitigate, and adapt to changing coastal conditions.

Kodiak Island is a unique islanded community with a diverse population and robust fishing economy. Conducting a resilience workshop in Kodiak posed an unique opportunity to discuss the challenges Kodiak faces as a fishing community and major seafood processing hub, and a hub for Coast Guard activity. Kodiak is also a center of research that has entities actively engaging challenges from climate change including understanding the impacts of ocean acidification on important subsistence and commercial fishing species to planning renewable energy infrastructure. The goal of Adapt Kodiak was to facilitate a coastal resilience workshop like those held before, but structure it to Kodiak to focus on the challenges identified by Kodiak residents as important for discussion. To lead this effort a steering team composed of members from the university, tribes, agencies, and community members was assembled to plan topics and activities for the workshop.

The steering committee, which is listed below, identified four focus areas for the workshop. Participants were encouraged to attend all or a section of the workshop that meets their interest. The four areas are 1) fisheries futures, 2) food security and subsistence, 3) infrastructure and energy, and 4) culture and wellness.



ADAPT KODIAK STEERING COMMITTEE

Julie Bonney, Alaska Groundfish Data Bank

Michael Brady, Kodiak National Wildlife Refuge

Heather Finkle, Alaska Department of Fish and Game

Davin Holen, Alaska Sea Grant Marine Advisory Program, College of Fisheries and Ocean Sciences and Collaborating Faculty,
Alaska Center for Climate Assessment and Policy, International Arctic Research Center, University of Alaska Fairbanks

Tyler Kornelis, Kodiak Area Native Association

Tom Lance, Sun'aq Tribe of Kodiak

Stephanie Mason, Kodiak Area Native Association

Julie Matweyou, Alaska Sea Grant Marine Advisory Program, University of Alaska Fairbanks

Theresa Peterson, Alaska Marine Conservation Council

Danielle Ringer, College of Fisheries and Ocean Sciences, University of Alaska Fairbanks

Danielle Stickman, Western Alaska Landscape Conservation Cooperative

The workshop was held October 24 – 25 at the Afognak Center in Kodiak. Each of the four topics was facilitated through a half-day session that included several key presentations, followed by an hour-long small group discussion to generate new ideas based on what they had just learned. The workshop led with fisheries futures as fisheries are a keystone of the local economy and a way of life for many Kodiak residents. In the first section on fisheries futures the small groups used what they just learned to think about what Kodiak needs to do for monitoring local ocean and river conditions, and how to prepare for shifts in the fishery in the future such as new opportunities as species shift, or as abundance of key commercial species decline. This was followed in the afternoon by the important topic of food security and subsistence. Participants discussed how to grow more food locally and especially provide opportunities for more local markets and sharing opportunities for food, as well as local food production and processing. On the second day as participants looked out at the wind turbines on the hill overlooking the city we talked about infrastructure and energy. The City of Kodiak meets over 98% of its energy needs through wind and hydropower. The discussion then focused on innovations to maximize this capacity to reduce fuel oil and diesel use, and more importantly how to create and expand innovations in energy production for other communities on the island. Finally, the workshop ended with a discussion on culture and wellness. This topic was instrumental in wrapping up the workshop by bringing home the goal of finding ways to build a more livable, equitable, and healthy island community for the future. After some moving presentations the group discussed how



to build more connections locally through festivals, community centers, and other actions recognizing that the strength of Kodiak is diversity. This short workshop report details the discussions and the hope of participants is that this is just the start of a conversation.

Below is the agenda for the workshop.

Thursday, October 24

8:00 Registration, Check In, and Coffee

8:30 Welcome and Workshop Goals

<https://alaska.zoom.us/j/389237436>

Davin Holen, Alaska Sea Grant

Theresa Peterson Fisheries Futures Introduction

Danielle Stickman Food Security and Subsistence Introduction

Davin Holen Infrastructure and Energy Introduction

Danielle Stickman Culture and Wellness Introduction

Part I. Fisheries Futures

<https://alaska.zoom.us/j/389237436>

9:00 Fisheries Futures Speaker

*Mike Litzow, College of Fisheries and Ocean Sciences,
University of Alaska Fairbanks (via Zoom)*

9:30 Fisheries Futures Speaker

Darcy Dugan, Alaska Ocean Acidification Network (via Zoom)

10:00 Coffee Break

10:30 Fisheries Futures Speaker

Trent Dodson, Kodiak Regional Aquaculture Association

11:00 Innovation Lab

11:45 Innovation Lab Report

12:15 Lunch

Part II. Food Security and Subsistence

<https://alaska.zoom.us/j/673749709>

1:30 Food Security and Subsistence Speaker

Roberta Townsend Vennel, Kodiak Archipelago Leadership Institute

1:50 Food Security and Subsistence Speaker

Tom Lance, Sun'aq Tribe of Kodiak

2:10 Food Security and Subsistence Speaker

*Tyler Kornelis, Kodiak Area Native Association
& Kodiak Harvest Food Cooperative*

2:30 Food Security and Subsistence Speaker

Jacqueline Keating, Alaska Department of Fish and Game

3:00 Coffee Break

3:30 Innovation Lab

4:15 Innovation Lab Report

6:00 Reception at Afognak Center

*Hosted by the Western Alaska Landscape Conservation Cooperative
and the Aleutian and Bering Sea Initiative*

Friday, October 25

8:30 Check In and Coffee

9:00 Welcome, Goals for Day 2,

and Looking Forward

<https://alaska.zoom.us/j/321915668>

Davin Holen, Alaska Sea Grant

Part III. Infrastructure and Energy

<https://alaska.zoom.us/j/321915668>

9:10 Infrastructure and Energy Speaker

Darren Scott, Kodiak Electric Association

9:40 Infrastructure and Energy Speaker

Tyler Kornelis, Kodiak Area Native Association

10:10 Coffee Break

10:40 Innovation Lab

11:30 Innovation Lab Report

12:00 Lunch

Part IV. Culture and Wellness

<https://alaska.zoom.us/j/262700391>

1:00 Culture and Wellness Speaker

April Laktonen-Counciller, Alutiiq Museum of Kodiak

1:20 Culture and Wellness Speaker

Heather Preece, Providence Kodiak Island Medical Center

1:40 Culture and Wellness Speaker

Deborah Bitanga, Community Advocate

2:00 Coffee Break

2:30 Innovation Lab

3:15 Innovation Lab Report

4:00 Closeout and Workshop Summary

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October 24–25, 2019 • Afognak Center, Kodiak

SESSION NOTES

To help the attendees understand the process involved in building coastal community resilience the workshop moderator Davin Holen provided an overview of the types of workshops that have been held statewide, and how to begin a resilience planning process. This involves first starting a conversation around resilience from a community perspective, followed by identifying community vulnerabilities, monitoring change, mitigation activities, and then finally adaptation planning. This workshop was designed to address the first and second parts of the resilience process; starting a conversation and identifying vulnerabilities. The secondary goal of the workshop was to bring together participants from different stakeholder groups who might not normally interact. This could then lead to building collaboration to address the rest of the resilience process. This workshop was intended only as a beginning to the conversation, and it is hoped that continued conversations will occur at future events.



In total there were 88 registered participants for the workshop. The workshop began with over 70 participants in the first session and ended with around 40 participants by the end of day two. As noted above people were encouraged to attend all the workshop or whichever sections fit their interest. Below is a summary of each session. Session participants for the fisheries futures section of the workshop comprised six groups, for food security and energy there were four groups, and for culture and wellness three groups. Each group was unique and diverse in their ideas and over the course of the two days groups mixed and merged so ideas generated were not always by the same people in each group.



Innovation Lab

- Use what you just learned
- Think outside the box, no idea is too crazy
- Use whatever means you wish to share your idea

To Report

- **Community (your definition of community)**
- **Issue to address; i.e. vulnerability or risk**
- **Your groups idea; i.e. the resilience strategy**
- **Note the following:**
 - **Who**
 - **Ease of implementation, political will, etc.**
 - **Plan for implementation**
 - **Timeline**
 - **Partners**
 - **Communications strategy**
 - **Other factors**

The group work was designed to create ideas or innovations. Each group was provided the following directions.

Below you will find a summary of each group discussion by theme. Each group was unique in their approach to the discussion based on the guidelines provided above. The moderator for the workshop took notes for each group during the report out section. In addition, a few table moderators provided notes which are also included.

FISHERIES FUTURES

GROUP 1

There is a deep dependence on fisheries for subsistence and economy in Kodiak. The water is getting warmer so need to chill the water at hatcheries for example. We also need to adapt to new fisheries as species are changing. We will also need adaptable management structures.

Need to share food, possibly barter and share what we harvest in the subsistence economy. For the entire fishery

we should be focusing on ecosystems-based fisheries management to ensure resilience. Use local observers to provide data needs.

GROUP 2

The most important factors for fisheries futures are to raise awareness of the changes. We also need better avenues for cross communication between groups. There needs to be a nimbleness within the management system to provide opportunities quickly for the fleet to adapt.

Workforce development to prepare jobs for outside fishing. One path forward would be a systemwide watershed habitat symposium. We could also use citizen science projects to capture what is being seen on the ground (water).

We also need to lead by example, be leaders in our own practices and getting the message out about carbon reduction. Develop restocking opportunities in the rural villages.

GROUP 3

Kodiak is a community that is inclusive. We need more venues for idea sharing. There is a lot of disconnect



between groups on Kodiak. A community center for people for getting together for example. This would be a place for environmental education, grants, and learning about sustainable living practices. For example, Salmon Life where we get fishers and others together.

We also need to teach sustainability in the classroom. Key to resilience is to make good ideas pay off. Direct sales off boats is a good move on the part of the city. We need to reduce dependence on fossil fuels, collect rainwater, etc.

GROUP 4

Kodiak is what it means to be a fishing community. Kodiak is an inclusive community.

We still have a lot of questions. How do we look at the best available science and data? How do we both get data and report data? How do we plan for adaptation?

We need to focus on increasing trust in relationships by having cooperative science between those on the water daily with agencies who may be more disconnected. Water supply is a concern for the hatcheries and salmon returns. The species of main concern is sockeye which we see as vulnerable. Kodiak is dependent on sockeye. To raise awareness, we need to focus on the importance of the fishery to Kodiak through education as well as sharing this with other Alaskans and nationally.

GROUP 5

Most of what we discussed was mentioned already. The solution is to continue to have forums that bring a diversity of residents and interest groups together like this. Bring in more youth, report back to their high schools. Need more citizen science. Lodges and guides should also be included.

Our question is how do we connect with others who are experiencing the same thing? How do we stimulate collaboration with other communities?

Some notes from the table moderator.

Temperature Monitoring – Funding is running out / importance of temperature monitoring

- Community: Who on the island is doing what— What is the holistic overview of what's being done around the island? *Is it already being done?*
- Defining community in terms of a collaborative community.
- Didn't know about some of these projects — importance of sharing data & information.
- More events like this to talk about what we're all working on.
- -\$ and leadership and these organizations – if they don't know the value of some of the projects.
- Why continue to continue to monitor temperature?
- What are you going to do about it?
- Is that network of monitoring in place and if it is – then what do we do with that information?

- Get community members invested.
- Number of private operations to do some data sampling.
- Lodges and guides – Get them invested (incentives) to get them monitoring.
- How do train people to monitor correctly – *Quality control of monitoring*
- Annual Report Out – Same organizations report out next year
- Curious to see how the cod collapse affects crab

Annual meetings

- Missing links – Partners (communication, youth, tribal members)
- How do we connect with others – who are experiencing the same thing?
- How to get community to adapt?
- How do goals align with adapt?

GROUP 6

We need to focus on marine water quality and food security for this community. For example, what would be the consequence of disruption of the barge that brings in our food?

Our idea would be the model from New Zealand which is a marine sanctuary. We also need to manage the sea otters more. We need more citizen science initiatives. Turn the waters around Kodiak into a more managed marine sanctuary. Look at getting more oyster production for example. Resilience requires healthy habitat.

Some notes from the table moderator.

Community: Defined as being inclusive of all people, connecting with people. No resiliency without connections between people who act.

Issue: No or limited data sharing to better understand how climate is affecting us. Current climatic conditions are new territory. How do we include the Filipino community?

Some don't feel comfortable participating.

Ideas for solutions:

- Improve infrastructure to allow for better water storage. Although it was acknowledged that it is hard to make infrastructure improvements with a limited tax base.
- A community center might address community needs and be a way educate adults and youths about climate as well as provide information about the community.
- Art brings people together.



- Have a class about climate change in the schools; it would be easier to foster stewardship when the kids have to be in school and take a class.
- To be resilient, an action or program would have to be profitable to provide incentive.
- Kodiak could introduce energy saving programs.

There could be more gardening for food security if fisheries are unreliable, especially for low income families. More effort could be put into repairing infrastructure as opposed to purchasing new equipment.

FOOD SECURITY AND SUBSISTENCE



TYLER KORNELIS, KODIAK AREA NATIVE ASSOCIATION, SPEAKING DURING THE FOOD SECURITY AND SUBSISTENCE SESSION

GROUP 1

The focus of this group is food sustainability. To achieve resiliency one idea would be to have a tax exemption for locally grown produce. To be sustainable you need to plan ahead. Need to have more land available to grow crops. For seafood there is a concern with health of oysters.

For more food production need to expand cattle and chickens, but this may not be the most environmentally friendly way to produce more food. Need to change how we look at food availability, eat seasonally. For fishing, smaller scale processors could promote more local boats that direct market. Cut out the processor cost. Have more classes for local grown.

GROUP 2

Utilize the resources that we already have in Kodiak. Think about what Kodiak has to offer that we don't have to import.

Connect people to food. Find better ways to make the connection happen. Kodiak is a food industry, yet we don't see the products.

Get together and share the knowledge. We could have a Kodiak food workshop. Some of the topics could be how to compost in this environment, how to make jelly, when do you harvest rose hips, how do you smoke and can salmon. Put together a workshop series to share with other community members. How to process salmon that you buy directly from the fishers.

Communication with the entire community is difficult so we need to find innovative ways to reach all groups in the community. Get kids, elders, and fishers together for this event.

GROUP 3

For subsistence it's become harder to get fish. We need to find the silver lining in climate change. Farming may be a new option. Outmigration of community members is a problem.

Get the coop to get village products being grown into the city. More communication between the growers and the sellers. Find what is needed and desired for the local market. Find transportation cost reduction strategies. There are programs that will offset the cost of transportation. Kodiak Island Leadership Institute has immediate need to have an expeditor. Need food storage, cold storage so products can go longer before sold. Waste food could go to compost or become feed for animals. In town there are a lot of unused hoop houses. Move them to new sites or lease them.

Some notes from the table moderator.

- To link the people – Marine based challenges
- Look at trends over time
- Not all communities are one species – or they are more species.
- ADF&G – Salmon and non-salmon fish
- As streams dry up – that serves a whole host of issues
- Systems were flawed from beginning & resources are being misallocated
- Energy – efficiency
- Industry led science
- Smarter more efficient ecological way of doing business
- Alaska Leadership Seafoods Institute
- Indigenous based knowledge and practices – to help manage
- Season availability – food shopping (changing shopper habits to only buy seasonal fruits and veggies)

GROUP 4

A real question this group has is what would happen if one species is no longer harvestable. This could have a cascading effect on wild on other wild resources such as bears, which could impact bear viewing, etc.

There are a lot of structures that are not being used, for example the UAF food center in Kodiak. Need industry led science, funds dedicated to solving industry problems, use science to solve real world problems for industry. What

would a regionally derived solution. The community is already strapped. There are a lot of needs already. Need to be resources stewards instead of managers. How could we begin a forum around fisheries issues specifically, kind of modeled after the rural forum.

Some notes from the table moderator.

Community: Defined as being inclusive of all people, connecting with people. No resiliency without connections between people who act.

Issue: Lack of food security and a need to improve resiliency of food security respective of climate change.

For fisheries, how do we maintain participation as the fleet greys, permit costs remain high, an uncertainty in the success of fisheries increases?

Ideas for solutions:

- Subsidize locally grown food by providing tax exemptions for local growers.
- Establish a network of dedicated farmers/growers that would plan and structure crop plantings (who is growing what).
- Find adequate acreage to grow enough crops.
- Establish a means to grow crops year-round, perhaps through hydroponics.
- Diversify seafood input with either kelp or oyster farms (any shellfish would still require PSP testing= added cost).
- Although not the greenest means of food production, look at cattle options on the island. There is a disconnect with ranchers. This may require infrastructure investment (slaughterhouse, cold storage, etc ...).
- Change expectations of food availability to what is seasonally available.
- Develop more small-scale fish processors to allow fishermen more direct access to the consumer.
- Establish a format/protocol/schedule for fishermen to directly sell their catch to the public. With a mechanism in place, this may garner the interest of more boats and provide more options to the public. It will also allow a fresher product to be sold.
- Provide classes on gardening.
- Chickens are relatively easy to tend. It is just finding the balance of what population size will provide a profit yet be cost-effective and manageable.
- To develop resiliency there must be more land available to provide farming opportunities. There must also be more interest and participation from local residents.

ENERGY



DARREN SCOTT, KODIAK ELECTRIC ASSOCIATION, SPEAKING DURING THE ENERGY SESSION

GROUP 1

There are education and communication barriers for community members, especially in the rural communities. Is there a model for planning energy, looking at energy use, and identifying what are the options for renewables in the rural communities. Partners could be solar companies and tribes. Renewable Energy Alaska Project could be a partner.

GROUP 2

The focus should be on the outlying communities in Kodiak. We need to make sure there is training in the villages to provide jobs for emerging energy technologies. Use the PEC fund to fund new systems. ATVs and outboards could be electric. Identify if tidal turbines could be useful in the rural communities. There could be rebates to make sure the houses are more efficient. Heat pump systems could be expanded. Needs to be a community effort so that it can be maintained.

Ensure there is education for younger generation to understand issues, energy conservation, etc. Think about selling renewable energy as energy and economic conservation. Could focus on innovation, for example using wind turbines on fishing boats for short term power need.

Some notes from the table moderator.

- Community Resiliency Plan
- Larsen Bay – Water – Hydro – Energy
- Challenge; Quantity of water
- 6 endemic mammals on the island
- TCD – energy dynamic
- Food security
- Help becoming locally secure and/or sustainable
- Have TCDs considered energy?
- Tyonek – Hydroponics –
- How to communicate the importance of eating local? – Displays – like REAP*
- What about local issues with technology –
 - i.e. Having trouble getting hydro started.
- Local Cooperative with village communities
- Alaska Village Electrical Cooperative
- Power companies – having localized source of energy – what about individual power sources – like mills or something else – the thing with that is once you begin to take individual locations/houses off grid – reduces efficiency.
- Resources to google (Alaska Energy Authority & Denali Commission)
- Scholarships created for people to get trained – centralized agency support

GROUP 3

Focus on vulnerabilities in the outlying communities on Kodiak. Each of the villages is different and there is not one model for all. Each community should do an energy audit to better understand their power use and options. Island wide cooperative to address the technical issues. Have a few people to serve all the villages. Alaska Vocational Technical Center could have a scholarship to train younger generation. Could partner with Kodiak Electric Association.

GROUP 4

Focus on civic engagement. City and borough community resilience plan would be helpful. They need a comprehensive long-term plan. Individuals in the community should push for this to the borough. Look at other places like Juneau who have a plan. Encourage people to be more active. There needs to be plans for a third watershed for water security. Resiliency could be redundancy. Need to have more plans for fire prevention, evacuation and fire management practices.

Some notes from the table moderator.

Community: Defined as being inclusive of all people, connecting with people. No resiliency without connections between people who act.

Issue: Climate has changed the functionality of village power systems and each village has its own unique issues. Weather is a big issue, especially for hydro power systems.

In some cases, land ownership poses a problem (e.g. redirecting streamflow not allowed/feasible). Infrastructure changes are expensive and in some cases the villages don't own the infrastructure. Similarly, once a problem is identified, that does not guarantee that there will be people motivated to enact a solution.

Ideas for solutions:

- Perform an energy audit to determine what the power needs of a community are and what the community can pay for. Also could be used to determine if changing the power source would provide greater savings.
- Although Tribal Conservation Districts are more geared towards secure and sustainable food sources, it may be possible to receive assistance from the TCD if food security is tied to energy/power production.
- An island-wide village electric cooperative may be a way to allow for an information exchange among villages and provide dedicated personnel to help maintain power generation infrastructure.
- KEA could possibly establish or serve as a partner on a cooperatively managed utilities service and/or provide an apprenticeship program.
- An AVTEC scholarship program may be a way to interest younger people and provide them an opportunity to stay in and support their community.

CULTURE AND WELLNESS



APRIL LAKTONEN-COUNCELLER, ALUTIIQ MUSEUM OF KODIAK, SPEAKING DURING THE CULTURE AND WELLNESS SESSION

GROUP 1

This group looked at gardens. One of the issues is the number of slugs. You could have a rent a duck company to eat the slugs.

A lot of groups don't get to participate in lots of programs. Lack of financial resources leads to fewer segments of the communities participating. Many minority populations have knowledge about wild plants. Should have an event where everyone shares through food, use native plants.

GROUP 2

Kodiak City could have a community center for having a food fair. There is a disconnect between cultures and employment sectors. There haven't been too many ambassadors in the in the Filipino community, need to find ways to make connections. The same issue is the disconnect between the outlying villages and the city as well. Food areas are a place for socializing. Wood stove in the country store is a place for gathering. Need a place like this. How do we celebrate cultural differences? Crab fest is kind of a cultural festival, includes food. Salmon Life is a great opportunity but just focuses on the fishery. Need a festival for music and food, like Warm August Nights. We could add food to this event to make it more of a cultural sharing event. But the question is who is going to organize this? Lack of a community calendar now. Public radio has one but not everyone is a public radio listener. Incorporate local food in the school program. Incorporate gardening in the school. FFA and 4-H could provide this, FFA is in the school, 4-H is summer. Coast Guard is here but we don't integrate too much with them. Bottom line is a need for a community center.

GROUP 3

Common thread is how do we increase connections in Kodiak. Our diversity is a strength. Understanding the pride and respect of cultures will help us adapt and be resilient as we move forward. Understand and acknowledge the colonial history. There is a lack of knowledge of all the silos. There is power and resilience in the diversity. We need to focus on the importance of locally available food. People are really excited to see farmers markets and the increase of items that are available. Culture and wellness are not prioritized in resilience.

This is the end of the workshop, the session that brings it all together, but we have the least amount of participation. What does wellness advocacy look like, how can we recognize the power of our diversity, how do we integrate the translate population? How do we share the story of the colonial experience?



DEBORAH BITANGA, FILIPINO COMMUNITY ADVOCATE AND LOCAL ARTIST, SPEAKING DURING THE CULTURE AND WELLNESS SESSION

