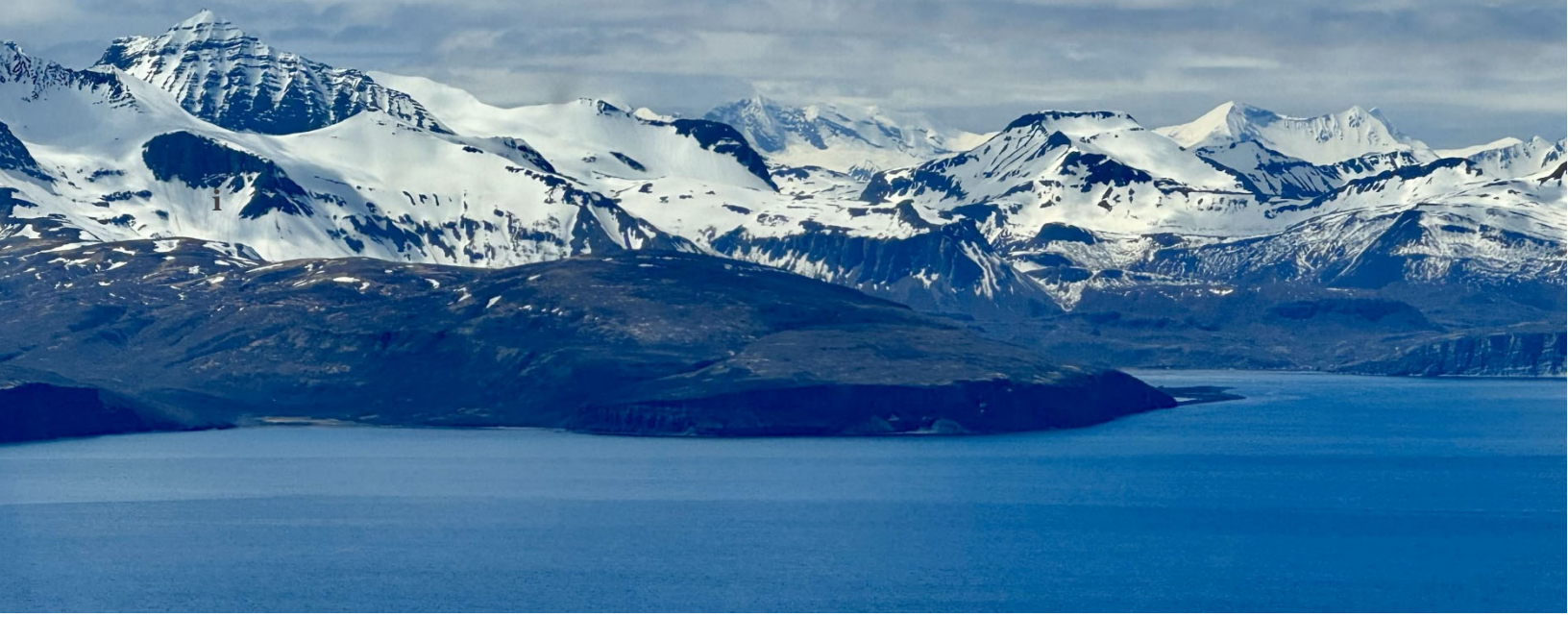


2024 CHIGNIK REGIONAL Resiliency Symposium

Symposium Summary

June 6 – 8th, 2024, Chignik Bay, Alaska

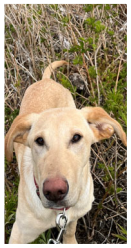
Coordinated and hosted by Chignik Bay Tribal Council, Agnew::Beck Consulting, and Flensburg Consulting

Thank you to the following organizations for supporting the Symposium:

Alaska Department of Environmental Conservation (ADEC) Alaska Clean Water Actions (ACWA)
Alaska Native Tribal Health Consortium
Chignik Bay Tribal Council
Paul G. Allen Foundation/VULCAN
National Science Foundation
University of Alaska Fairbanks
Environmental Protection Agency (EPA) Indian Environmental General Assistance Program (IGAP)

THANK YOU

to everyone who participated and *Chignik subregion residents*
to the Chignik Bay Tribal Council
to the City of Chignik Bay
to Partners & Presenters
and to our Chignik Bay hosts



Save the Date for the 4th Annual 2025 Chignik Regional Resiliency Symposium!

Tentatively scheduled for the third week of June, 2025

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Overview

Symposium Purpose

- Share progress and findings from regional research and planning projects.
- Convene researchers and community members to identify missing information and discuss emerging solutions to increase the region's ability to respond to change.
- • Work together to identify what next steps are most important.

Key Takeaways

- Creating more opportunities for youth involvement, transfer of knowledge and culture, youth participation, and youth leadership was a top theme that resonated in all sessions.
- The Symposium highlighted the continuing need to collaborate with partners and neighbors. There was a hope that next year's Symposium can include more residents for the Chignik Subregion, not just Chignik Bay.
- Research and data collection is key to fine tuning fisheries regulations, best practices, and resilience during fisheries disasters.

Outcomes

Immediately following the symposium, participants took the following actions:

- Hosting a Family Culture Camp in Chignik Bay (Alaska Coastal Cooperative).
- Completing LiDAR imagery for Chignik communities (Lake and Peninsula Borough).
- Launching the "Chignik Forever" mini feature film (Alaska Coastal Cooperative).
- Finalizing a Community Plan for Chignik Bay that will be adopted in 2025 (City of Chignik Bay, Chignik Bay Tribal Council, and Far West).
- Submitting a resolution for Alaska Tribal Spectrum's BIA application to install solar panels for 26 tribally owned homes (Chignik Bay Tribal Council).
- Completing a preliminary engineering report for the bridge and road to the dump site in Chignik Bay (Bristol Bay Engineering, Chignik Bay Tribal Council).

From the group exercise, "What does 'resilience' mean to you?"

Experience • Perseverance • Diversity

Success during difficult/challenging times

Meeting challenges • Strength

Ability to bounce back after disruptions

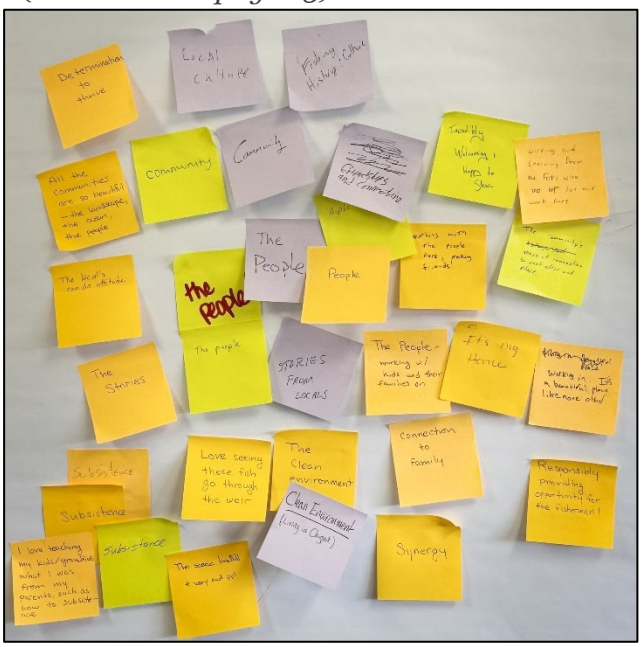
Ability to adapt to change • Subsistence

Planning for future needs • Awareness

Structured recovery • Passing on knowledge • Faith, listening, and doing what God says • Language • A buzz word used for grant applications • Language • Culture • Children

Preservation of people

Notes from the breakout question, "What do you value most about the Chigniks?"
(see details on page 23)

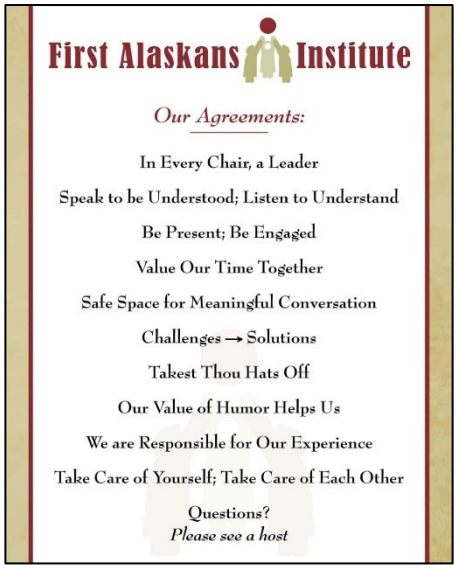


Acronyms

ACC	Alaska Coastal Cooperative
ACTION	The ACTION Project (also referred to as 'AC³TION'), funded by NSF and led by the ACC
ACGL	Arctic Coastal Geoscience Lab
ACWA	Alaska Clean Water Actions
ADF&G	Alaska Department of Fish and Game
AFE	Alaska Forum on the Environment
ANC	Alaska Native Corporation
ANTHC	Alaska Native Tribal Health Consortium
BIA	Bureau of Indian Affairs
BBAHC	Bristol Bay Area Health Corporation
BBNA	Bristol Bay Native Association
BBNC	Bristol Bay Native Corporation
BESC	Bristol Engineering Services Company
BLM	Bureau of Land Management
BOF	Alaska Board of Fisheries
CCLR	Center for Creative Land Recycling
CIC	Chignik Intertribal Coalition
CRAA	Chignik Regional Aquiculture Association
DCRA	Alaska Division of Community and Regional Affairs
DEC	Alaska Department of Environmental Conservation
DOI	U.S. Department of the Interior
DNR	Alaska Department of Natural Resources
DOT&PF	Alaska Department of Transportation and Public Facilities
EPA	U.S. Environmental Protection Agency
IGAP	Indian Environmental General Assistance Program
LiDAR	Light Detection and Ranging
LPB	Lake and Peninsula Borough
MSY	Maximum Sustained Yield (greatest annual average yield from a fish stock)
NRCS	Natural Resources Conservation Service (USDA division)
NSF	National Science Foundation
NWALT	Northwest Arctic Leadership Team
PER	Preliminary Engineering Report
STEAM	Science, Technology, Engineering, Art, Math
STEM	Science, Technology, Engineering, Math
TCR	Tribal Climate Resilience (EPA program)
TCTAC	Thriving Communities Technical Assistance Centers (EPA program)
TEK	traditional ecological knowledge
UAA	University of Alaska Anchorage
UAF	University of Alaska Fairbanks
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UW	University of Washington

June 6 (Thursday) Presentation Highlights

See presentation slides for details



Welcome & Agenda Overview

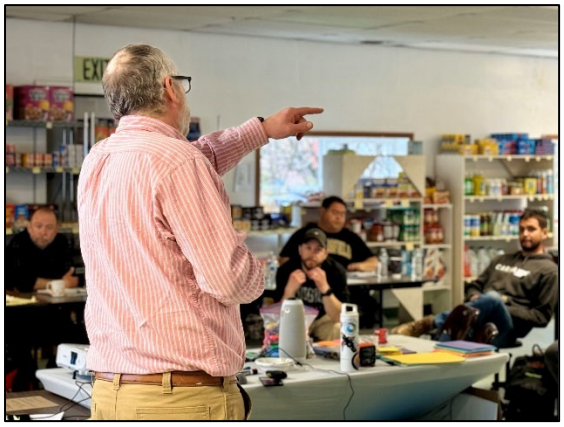
Jeanette Carlson, Chignik Bay Tribal Environmental Coordinator; Shelly Wade, Agnew::Beck Consulting Principal, Owner

- Opening Prayer
- Land Acknowledgement
- Group introductions
- Symposium Objectives & Meeting Agreements

Advancing Resilience in Indigenous Communities through Community Driven Science, Technologies, and Capacity Building

Chris Maio, Matthew Balazs, George Anderson, Mike Willis, Ryan Petersen

Overview



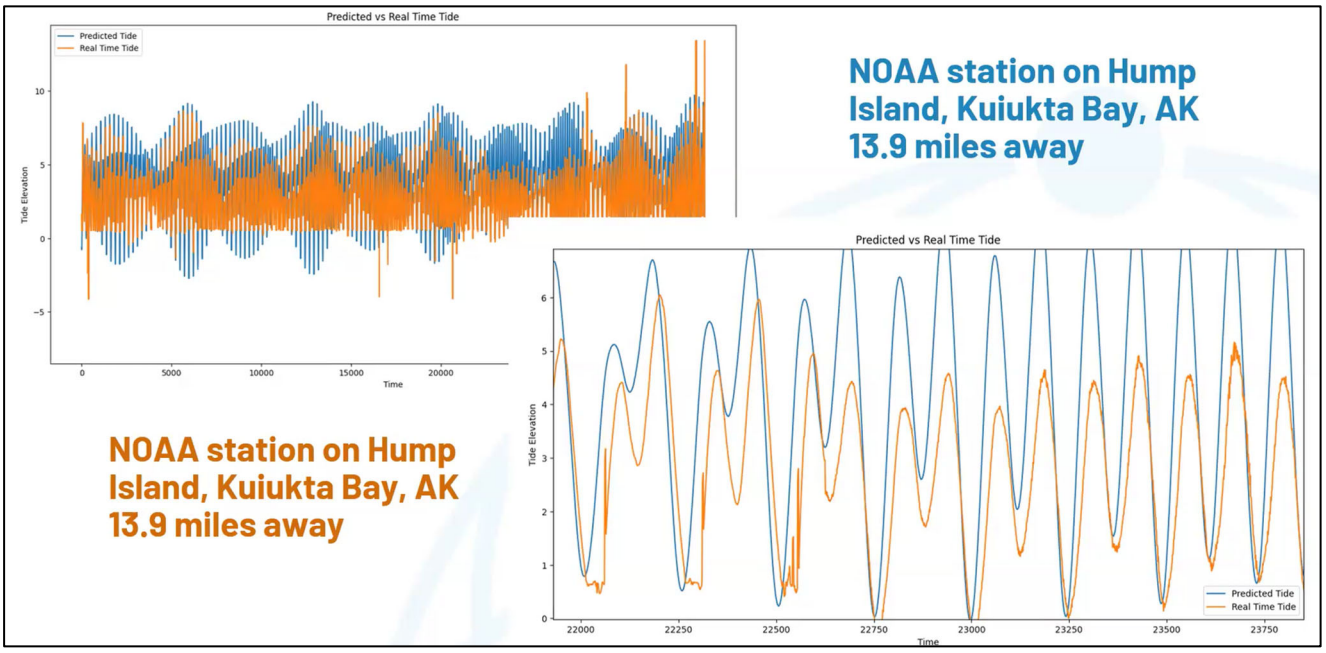
- The Alaska Coastal Cooperative's (ACC) mission is to enhance communication to identify and act on shared goals, advance applied science that addresses local priorities and delivers actionable products, and to contribute towards building technical capacity through education and training. The NSF-funded ACTION Project is an example of what the ACC does; other projects were discussed

Questions, Comments, Responses

- Q. This seems like a very broad topic. Can you narrow it down? How is this different than a community plan?
    - R: We want to integrate some things that are already known about a community and build from those existing ideas with capacity and technology. The approach is different in that this is about relationship building.
    - R: As people, we are more than subsisters and fishers. So, when we're talking about community resilience, it's about making sure our cultures are preserved, and that our elders' knowledge is preserved.
- Q. There are more empty homes than there are people living in Chignik Bay? How do we resolve this? Start a program for buying up vacant properties?
- Q. The visioning process sounds great, but I'm curious: What happens after the meetings and the data is collected? What are the goals? What does the result look like?

    - R: Some examples would be the elevation data that has been collected, water depth data collected, water level monitoring stations have been set up, a field school in Chignik Bay has been set up, and we created a documentary film to help others understand the changes in the environment. The products are foundations in data and setting up data sovereignty. It is data that is desired, collected, and owned by the community.
    - R: In terms of usefulness of data, wanting to see tangible or actionable items from data. For example, one of the successful actions from the last symposium was a community cleanup.

- Q. What is LiDAR for and why is it important?
    - R: It's a type of geospatial imagery that is used to measure elevation, changes in land use patterns, depths, and is important in community planning.
- Q. Is there a way to get LiDAR every year to show how things change over time?
    - R: We can compare Google Earth imagery with this data to show how landscapes have changed over the last five and ten years.
- Q: Does anyone know the original name of Indian Creek?
    - [No response.]
- Q: Do we have cameras to show the bay's erosion or how alder growth has changed over time? It would be good to see time lapses of growth and erosion. The biggest erosion concern that I've seen is in front of the clinic. There's a massive cut on the shore and we need more riprap there.
    - R: There's no shortage of applications to the technology we're using, whether it's shoreline changes or alder growth over time.



Slide from presentation showing that the measurements collected from tide cycles in Kuiukta Bay by Mike Willis' team (orange) are several feet different than what NOAA predicts (blue).

- Q: What is the datum projection on NOAA's bathymetry maps?
    - R: Bathymetric surveys are put on a "chart datum," which is very localized.
- Q: What is the goal for data collection; is it to develop a tide book?
    - R: It's simply to get a better idea of the tide changes.
- Q: I'm amazed at the difference in feet. Is that common?
    - R: NOAA data is based on a tide station over 13 miles away, so it may not accurately capture localized differences in water levels. Direct monitoring in the area can provide more useful data; This collection helps bridge the gap.
- Q: I'm interested in how wind might impact still water levels. Have you looked at that?
    - R: We have not; it would be an interesting correlation.

Chignik Bay Teacher Training Field Course and Family Camp Questions, Comments, Responses

- Q: Who wants to be involved in this program?
    - R: Kids are busy fishing in the summer. We have seniors that can help teach how to clean salmon and how to dry and can.
    - R: Angela can take a group out to the beach
- Q: How should we transport kids?
    - R: We'll put bells on them! [Laughter]. No, we'll use vans for transport There will be 8 students mostly locals
- Q: What is the age cutoff?
    - R: Middle high school kids. Kids that are under 12 should come with an adult.
    - R: This is a good opportunity for people who are learning to be teachers in rural Alaska.

Chignik Bay Video Premier and Discussion, Ryan Petersen with ACC
https://www.youtube.com/watch?v=GG7T6m1CNFw

- Q: What comments or feedback do you have about this first draft?
    - R: It's important to label the geographic locations.
    - R: This video could be used on Alaska Airlines flights as part of their passenger programming.
    - R: The video should have subtitles.
    - R: I would love to see a feature length director's cut.

Chignik Intertribal Coalition (CIC), Chignik Regional Aquaculture Association (CRAA)

George Anderson, CIC; Chuck McCallum, CRAA; Jon Gerkin, USFWS

Overview:

- George Anderson provided an update on CIC projects, including the Chignik River Subsistence Harvest Surveys wish USFWS and ADF&G, and the ACTION Project with ACC.
- Chuck McCallum provided an update on CRAA projects, including ADF&G's 2023 genetic sample analysis of sockeye, and UW Fisheries Research Institute's studies on smolt lagoon use (genetic analysis), king migration patterns (lazer ablation analysis), and annual monitoring of the hydrological and geomorphological characteristics/changes of Black Lake.

Questions, Comments, Responses

- Q. Do we have the results of the ADF&G sampling?
    - R: Not yet. They are still in the process of analyzing the samples.
- Q: What is the importance of collecting harvest data for subsistence?
    - R: We suspect that the numbers used for subsistence are lower than what they really are. In times of low abundance when there are not many fish and closure decisions are made, the impact on subsistence harvests is not well understood. Having a better idea on how regulatory decisions will impact subsistence harvesters is important.
    - R: From a BOF perspective, subsistence data is collected very infrequently – about every 10 years or so. It's important that the subsistence surveys sent out are returned. When the State makes a closure determination for an area, it considers whether an area has declining usage or low usage.
- Q: How are surveys conducted / collected?
    - R: They are generally mailed, or a notice is mailed providing a link to an online survey. If paper, there are usually designated places that you can drop them off - Miranda Lind in Chignik Lake is an example of a drop off place.
- Q: It seems like there would be a sampling error. What if I harvested fish and gave 100 away to my cousin. We would both report that we received 100 fish. How does the survey account for this doubling error potential?
    - R: There is a section of the survey where you can indicate whether it was direct harvest or whether it was given by someone.

UW Alaska Salmon Program

Cirque Gammelin & Jonathon Singleton, UW Alaska Salmon Program

Overview:

- Cirque Gammelin provided an update on the Juvenile Sockeye Competition Study within Chignik Lake, hypothesizing that earlier Black Lake emigration is increasing intraspecific competition within Chignik Lake due to earlier emigration.
- Jonathon Singleton discussed how studying sockeye otoliths may help to determine where juvenile sockeyes are rearing and their rate of growth in varying thermal regimes.

Questions, Comments, Responses

- Q: Are there any indications of competition in migration of smolt from Black Lake populations and Chignik Lake populations?
    - R: Yes, there appears to be potential competition between these two populations. The hypothesis is that Black Lake sockeye will outcompete Chignik Lake sockeye because their rearing period is longer.
- Q: Does it seem like there is enough food in Black Lack?
    - R: There appears to be. There is no need to supplement food currently.
- Q: Why was there an extreme jump in 2009?
    - R: Unsure; we assume that food availability was the main impact.

What is an otolith?

The University of Washington's College of the Environment describes otoliths as part of a fish's ear bones. Fish use these stone-like particles to sense vibrations and maintain balance in the water. Like counting the rings on a tree, each ring on an otolith indicates one year of life.

UAF Department of Fisheries and Ocean Science: Update on 2018 Disaster Research

Peter Westley & Scott Chandler, UAF

Overview:

- Peter Westley and Scott Chandler discussed their study, which investigates stressors that influence the abundance and ecology of Chignik's sockeye salmon that could lead to fishery failures. The goal is to complete a life-history statistical modeling of survival and potential stressors using simi lar designs from a Yukon study. Samples from 1994-2016 outmigrating smolt help determine size, run time, and differences between runs. Results so far show:
    - Small increases in smolt length (longer) and small decreases in body condition (thinner) over time.
    - Run times were particularly early in 2015 and 2016.
    - Age composition varies over time.

Questions, Comments, Responses

- Q: How do you tell the age of the fish you're sampling?
    - R: ADF&G determines the age by looking at their scales. Scales are layered and grow a bit more rapidly in the summer (bunched together) and slower in the winter (spread out).
- Q: How will your study link to the difference between hatchery salmon and wild salmon? I understand that hatchery fish are fed well and are a lot stronger than wild fish, and they are competing for the same food.
    - Response: It's an interesting conundrum. There are many studies that link hatcheries and the sheer number of fish in the ocean to shrinking salmon and potential fishery failures. We're hoping to integrate this into our target model.
- Q: What made you choose this location? And do you have plans to look at samples after 2016?
    - Response: There are very few samples after 2016 and it's really the 2015-2016 samples that best inform indicative stressors.
- Comment: Note that the escapement goals changed significantly after 1994. The harvest periods are much shorter, we are taking fish later into the season.
- Comment: There's a difference between a smolt run time and an adult run time.
- Comment: As we learn more about this, I am wondering if there is an opportunity refine to the relationship to the state management score (MSY).
- Q: Thinking about Kate Myers' work, how do you decide on the variables to use for Chignik.
    - Response: We can use very similar variables. For example, if we assume that these fish are going out to the Gulf of Alaska, we might look at surface water temperature in that area. Modification of the variables is somewhat determined by the amount of data we have for these samples; I believe the Yukon study had more data to work with.

Center for Creative Land Recycling: Brownfield Basics

Joy Britt, Center for Creative Land Recycling

Overview:

- Joy Britt presented on how to identify a brownfield site, how contaminated sites can affect communities that are more susceptible to impacts from climate change, and opportunities for redevelopment and/or management of sites. Brownfield properties can often provide housing or sites for tourist learning centers or shops.

Questions, Comments, Responses

- Can the Center for Creative Land Recycling help prepare solid waste proposals?
    - Yes, but we can only help as far as our scope (brownfields). The EPA offers technical assistance (https://www.epa.gov/environmentaljustice/environmental-justice-thriving-communities-technical-assistance-centers) through its TCTAC programs. Check out examples from https://nwejc.org/ and https://deohs.washington.edu/cehe/.

GreenStar Community Assessments: Chignik Lake, Chignik Lagoon, and Chignik Bay

Tanner Johnson, Alaska Forum on the Environment

Overview:

- Tanner Johnson highlighted the benefits of GreenStar Assessments for Chignik communities to reduce risks of contamination and improve solid waste management. Placards of Gratitude were presented to Chignik Lagoon representative George Anderson and Chignik Bay Tribe representative Roderick Carlson.

Questions, Comments, Responses:

- Q: How long does the GreenStar certification last?
    - Response: Five years. Technical assistance is available during that time.

Lake and Peninsula Borough: Capital Projects Update

Jodan Keeler & Danica Wilson, Lake and Peninsula Borough

Overview:

- Danica Wilson and Jordan Keeler presented on Chignik-specific capital improvement projects, proposed and funded. Projects discussed include LiDAR for the subregional communities to advance an addressing system and lot line delineation, Chignik dock uplands improvements, and design and construction of the hydroelectric dam.

Questions, Comments, Responses

- Q: Will the LiDAR capture our fishing and hunting grounds?
    - R: LiDAR is focused on the lived/built environment within community regions, but the Borough is open to capturing other areas.
- Q: Does the ARPA project include sewer and water utilities as well?
    - R: Just electricity.
- Q: Will the school be included in the energy audit even if it's closed?
    - R: Yes. All facilities, including teacher housing and the school, will be part of the audit.

June 7 (Friday) Presentation Highlights

See presentation slides for details

Socioeconomic Impacts of Fishery Disasters on Chignik Region Subsistence Users

Melissa Errand and Tom Sandborn, Northern Economics, Inc.

Overview:

- Economists Melissa Errand and Tom Sanborn discussed findings from approximately 33 individual interviews that explored the impacts of the 2018 Sockeye fishery disaster on Alaska's subsistence users. Interviews were conducted within five communities in the Chignik Subregion. The final report will be published in July and will include ideas and actions that may help prepare for or recover from future disasters.

Questions, Comments, Responses

- Q: What are the long-term impacts of the fishery disaster is the disrepair of homes and buildings and how this will be addressed. When the disaster occurred, people had to leave their homes and vacate facilities and emigrate to other communities. If in the future people decide to come back, how will we address the damage and repair of the abandoned homes and buildings? What can we do in the interim to prepare for the return?
    - R: This wasn't something that we heard about during interviews, so let's continue this conversation after the presentation.
- C: A follow-up question could be whether Native Corporations or other might be willing to subdivide and donate land. If people want to come back, they don't have a place to build a home, so securing land would also be important.
    - R: We are also talking about two different groups of people. One group who has lived her before and another that may recognize this place as their ancestral home who many never have lived here.
- Q: The context of "subsistence" seemed very narrow in the presentation, as if it was reduced to the act of catching fish for one's belly. Did you hear a broader interpretation during your interviews?
    - R: This is a great question about interview protocol. It was challenging to capture the true sentiments of "subsistence". Somethings can't be quantified or coded

> *"There is a kind of peril about the system of words we use. My parents never uttered the word "subsistence". It's a word my generation said and learned how to compartmentalize thoughts and identify what we do. Our measures, and how many buckets and jars we stack over a year, does not explain it. We're still learning."*

within this type of analysis. However, there are more high-level descriptions in the report.

- Q: Why was the tenure period singled out?
    - R: We wanted to focus on what was happening just prior to the disaster. The report will show longer, broader timelines.
    - C: For me, the last 10 years were the most volatile in this community's history. Looking at a longer time period (40 years) will capture a different story.
- C: Reaching out to families that used to live here but are longer here would add significant value to this report.
- C: There wasn't a slide breakdown of the methodology. It seems like a very small sample size.
    - R: It was a small sample size, but the interviews were extensive, open-ended discussions.
- Q: There is a slide that indicates people will never leave this place despite the hardship. Can you explain this reasoning?
    - R: Again, this is a very complex notion that is difficult to capture. The report does not explore the reasoning.
- Q: Does the report explain precisely how the population and employment declined in each community?
    - R: We have one area in the report that shows population decline, but one of the biggest barriers for rural Alaska communities is the ability to report accurate information about population. We compare data with fisheries and data based on PDF applications with other demographic indicators. We may be able to incorporate more employment data from the Department of Labor and Workforce Development.

"When I visited Saint Paul during a fishery downturn, I heard a scientist ask: 'Why do you stay there when things are so bad?' Local responded that 'families, elders and friends are buried here. This ground is sacred to us.' Villages all over Alaska are the same: village residents do not want to leave the land that is so special, even when food is in short supply."

- C: It's important to explain what happens when people can't return to the community or have a meaningful role. Our youth learn who they are by who they're related to, and they learn about the history of the community, and they get a sense of their own identities when they are in their home community. There are social, emotional, and psychological effects, and relationship-building knowledge with relatives and friends. We do not yet have appropriate terminology to explain this, but we should.

> *"Thinking about improving resiliency, one way would be to create a culture camp. Bring kids in that could have grown up here and just process fish and share with elders that live here."*

- Q: Referring to how we are balancing systems of culture and life, was there any discussion about how to build resilience during closures?
    - R: One theme was to improve communications. We spoke to individuals who didn't understand the reasons for closures and were confused about certain permitting processes and management regulations.
- C: A few months ago the Upper Cook Inlet had an abundance of Sockeye but low abundance of Kings. The Board of Fisheries closed the entire east side of the fishery. All setnetters and the fleet of gillnetters were to have experienced a fishery disaster simular to what we experienced here. However, ADF&G then created a permit specific to the setnetters so they could continue to fish. The reasoning for the decision is that gillnetters are more non-discriminatory with their catches. These decisions are extremely difficult beccause of the significant generational impact on local fishermen and their families. There is an opportunity for more data collection and research to better understand salmon behavior and improve fishing methods, and to selectively target sockeye while conserving Chinook salmon. There's also a need for proactive management and potential future solutions to avoid similar conflicts.
- C: More suggestions for improving resiliency are to diversify our economy, support small businesses through loans, and increase workforce development training for our youth.
- Q: Is it possible to use disaster relief funds to support the kind of research that the report is referencing, especially in terms of research and supporting a future fishery adaptation/resiliency?

Chignik Subregional Watershed Plan

Shelly Wade (Owner) and Holly Smith (Associate), Agnew::Beck Consulting

Overview:

- Shelly Wade and Holly Smith introduced the purpose, project timeline, and initial findings. Participants were asked to break out into small groups to discuss the below components, which were then shared with the full group. Ideas and topics that were noted more than once are marked with a checkmark (✓) for each instance.

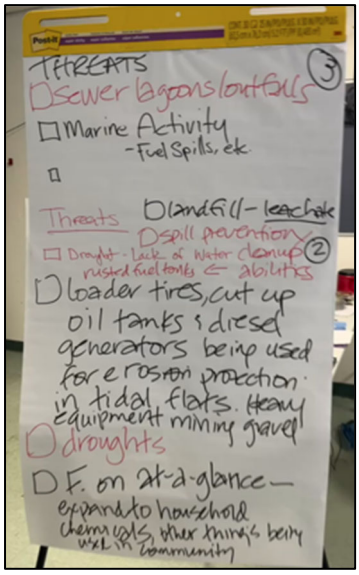
Discussion #1: What do you value most about the Chigniks?

1. The People ✓✓✓✓✓✓✓✓✓✓
    - "The local's can-do attitude."
    - "Working with kids and families on boats."
    - "Working with the people here, making friends."
    - "Learning from the folks who live and work here."
    - "Incredibly welcoming and happy to share."
    - "Determination to thrive."
2. Fishing Culture & History ✓✓✓✓
    - "I love seeing fish go through the weir."
    - "Responsibly providing opportunity for the fisherman!"
3. Community ✓✓✓
    - "It's my home."
    - "The community's sense of connection to each other and place."
4. Subsistence ✓✓✓
    - "I love teaching my kids and grandkids what I learned from my parents, such as how to subsist."
5. Stories from Locals ✓✓
6. Clean Environment ✓✓
7. Connection to Family and Friends ✓✓
8. Beauty ✓✓✓
    - "All the communities are so beautiful – the landscape, the ocean, the people."
    - "Working here: It's a beautiful place like no other."
    - "The scenic landfill."
9. Workplace ✓✓
10. Synergy

Discussion #2: What uses or areas should be protected?

1. Wildlife ✓✓✓
    - Castle Bay crab
    - Octopus
2. Recreational areas ✓✓✓
    - Community picnicking
    - Fresh water for kids to swim in
3. Mariculture
4. Water storage
5. Habitat complexity
6. W/M of Lake and Peninsula Borough boundaries
7. Subsistence berry picking in Chignik Bay
8. Wetlands in middle of Chignik Bay

Discussion #3: What are some potential threats to the watershed?

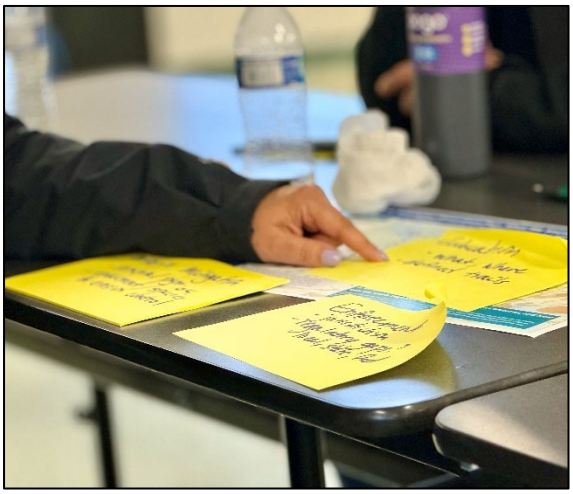


1. Contamination ✓✓✓✓
    - Spills ✓✓
    - Rusted fuel tanks ✓✓
    - Landfill leachate
    - Lack of cleanup
    - Household chemicals
    - Vacant or abandoned infrastructure
    - Sewer lagoon outfalls
    - Marine activity
2. Drought ✓✓
3. Native invader plants / Proliferating native plants ✓✓
4. Avalanches / Landslides
5. Volcanic ash

Discussion #4: How should threats be addressed?

Note: Some ideas shared on Saturday, June 8, during the Alaska Coastal Cooperative ACTION vision session are included below as they relate to potential watershed strategies.

1. **Assessment – Evaluating and Understanding Current Conditions**
    a. More backhaul (inventory with LiDAR or field work) ✓✓
    b. Identify property owners and institute site IDs in order to establish liability for abandoned properties and/or monitor all properties ✓✓
    c. Prioritize streams and establish baseline datasets of priority streams ✓✓✓✓
        - Water quality
        - Water temperature



    b. Define & map trails and distinguish between motorized (ATV) and non-motorized ✓✓
    c. Identify regulatory gaps in enforcement (categorize by local, tribal, state, federal)
    d. Identify liability for vessels and boat owners
    e. Use E-DNA to identify aquatic invasive species
    f. Add missing anadromous streams to ADF&G Alaska Waters Catalog
    g. Document dynamic movement of fish
    h. Continue to assess traditional areas / how Chignik has evolved over the last 40-50 years
    i. Use bathymetric data to identify areas where mariculture might thrive

2. Prevention – Protecting Uses and Mitigating Harm

a. Education ✓✓✓✓✓
   - Awareness campaigns:
     - Safer chemical usage in households and landfills✓✓
     - Native invader plant species
     - Burnable vs. non-burnable
     - Drinking water safety
     - Spill prevention
     - Landfill + spring cleanup
     - Habitat restoration
   - Signage – English, Alutiiq, and Sugpiaq
   - Post flyers in public places
   - Develop youth leadership programs
   - Show up to local meetings

b. Establish City Ordinances ✓✓✓
   - Mitigate pollution from increased volume of passenger boat traffic ✓✓
   - Create speed limit
   - Adoption of hazardous materials standards

c. Reduce road dust contamination ✓✓
   - Resurface roads and runway
   - Enforce speed limit

d. Establish Spring Clean-Up & Removal of native invader plans similar to trash clean up efforts. ✓✓

e. Designate holding area for heavy equipment to prevent contamination

f. Flood mitigation

g. Drought mitigation
   - Salmon habitat project to divert water to priority salmon streams

h. Slide mitigation

i. Improve Commercial Fishing Waste Disposal Program

j. Erosion Control
   - Planting new vegetation
   - Reinforcement projects
   - Tools/Resources for shore protection

k. Invest in new incinerator for fire mitigation and to reduce hazardous chemicals

l. Have tools and resources for spill prevention

m. Implement program of fuel tank inspection and repairs

n. Trail maintenance

o. Establish native species proliferation and invasive species removal programs

p. Abandoned building reclamation
   - Demolish and cleanup abandoned buildings
   - Can the city create a program to clear some lots at no cost to owner through brownfield grants?
   - Minimize pollution hazard of Trident facility through negotiations

q. Create diamond grids for trails

r. Focus on emergency response:

- Preparation
- Identify, create shelters
- Identify fire lines
- Identify key infrastructure
- Gather supplies and necessary equipment
- Have tools and resources for spill cleanup

3. **Monitoring – Tracking and Analyzing Data Trends Over Time**
    a. Establish monitoring programs for pollutants (drinking water systems, fresh water systems
    b. Update datasets
    c. Video surveillance
    d. Establish shellfish testing program
    e. Establish trail maintenance program
    f. Cruise ship discharge (bilge water, sewage, graywater, solid waste) monitoring framework and program
    g. Create data management plans for each community

4. **Guiding Principles – What is Integrated with All Strategies**
    a. Prioritize the Youth Voice ✓✓✓✓✓✓✓✓
        - Culture camp ✓✓✓✓
            - Look at Gather Grant for Ivanof Bay
            - Note that BBNC is in the process of enrolling descendants
            - BBNC has reached out to Chignik Bay Tribe to host a culture camp next year

        - Develop youth leadership programs ✓✓✓✓
            - Set up an organizational model like the Northwest Arctic Leadership Team (NWALT), a collaborative initiative with the school district, Tribes, Alaska Native corporation, and industry partners ✓✓✓
        - Provide workforce development opportunities for our youth so they can be part of upcoming projects ✓✓✓
            - Create a counselor position to help with training

b. Tell Our Story ✓✓✓✓
   Provide an historical aspect to show how Chignik has evolved over the last 40-50 years
   - Community voices are the priority ✓✓
   - Identify community/cultural values ✓✓
   - Identify what to retain as traditional knowledge (not to be shared publicly)

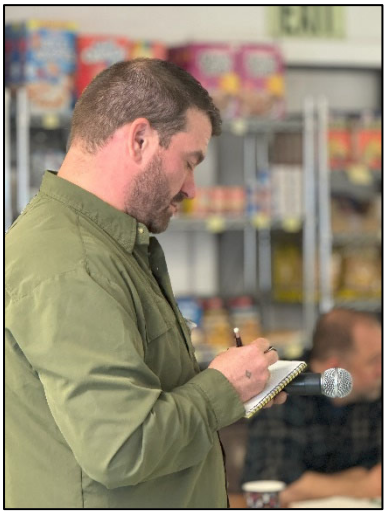
c. Establish a Model of Governance, Communication, Connection ✓✓✓✓
   - Use/adapt governance models that have worked well in other communities ✓✓✓
     - Refer to the Regional Elders Council Model, which includes elected representatives from each community
       - Develop an Inupiaq Language Commission
     - Ownership of action cannot depend on one entity – all must share in solutions and outcomes
   - Widen the circle of partners that work within our community and communicate expansively ✓
   - Continue to build relationships within Chignik Intertribal Coalition
   - Create a Community Advisory Board that meets locally provides communications and connections to ongoing threats and initiatives

d. Integrate Economic Development ✓✓✓
   - Incorporate Workforce Development in Solutions ✓✓✓
     - Create year-round employment
     - Leverage existing infrastructure and projects
     - Youth-focus
   - Develop Value Added Markets in Fisheries and Aquaculture
     - Assess mariculture opportunities
   - Focus on Processor Issue
     - Recognize the Trident acquisition as a significant opportunity to effect processing in Chignik Bay
   - Increase timber production for alders to reduce native invaders

June 8 (Saturday) Presentation Highlights

See presentation slides for details

Chignik Bay Tribe and the City of Chignik Bay with Bristol Engineering: Overview of Projects



Isaac Pearson, Bristol Engineering Services Company; Dannica Anderson, Chignik Bay City Clerk; and Jeanette Carlson, Chignik Bay Tribe

Overview:

- Participants learned of ongoing and completed projects conducted by Bristol Engineering Services Company on behalf of the Chignik Bay Tribal Council and the City of Chignik Bay. Projects included the completion of the Draft Community Plan, Tribal Hazard Mitigation Plan, Community Resiliency Action Plan, and Data Gap Analysis.

Questions, Comments, Responses

- C: Note that the East Side Electrical Distribution Project now includes the whole site – east and west side.
- C: Note that the community generator house is in an avalanche slide zone and a tsunami inundation area.
- C: Over the next year, the BIA will be offering grants for homes to install solar panels. Alaska Tribal Spectrum (ATS) is applying to BIA on behalf of Tribes. Chignik Bay Tribe submitted the required resolution for 26 tribally owned homes and is waiting to hear from ATS if Chignik Bay is selected for the project.
- C: Note that many community projects began with the completion of the Tribal Hazard Mitigation Plan, which needs to be updated every five years. FEMA funds are great, but you must be current on the plan.
- C: Land use planning is needed/missing in the community plan.
- C: The community plan doesn't seem to recognize that our fishermen are our first priority. I'm concerned that there isn't more information about the processor and about getting fuel.
    - R: This is a good reminder that we need more input from everyone for this plan.

National Science Foundation: ACTION Project – Alaska Coastal Cooperative for Co-producing Transformative Ideas and Opportunities in the North

George Anderson, CIC; Chris Maio, Matthew Balazs, and Casey Ferguson, UAF
Facilitated by Shelly Wade, Agnew::Beck Consulting

Overview:

- Enhancing communication and collaboration is a primary goal of the ACTION Project. Presenters led the group in a Visioning Discussion to brainstorm what is needed in Chignik Bay now and in the future.

Group Discussion: What are our community and regional priorities?

- Map our trails and create a parks and recreation department; build boardwalks and viewing decks
- Help organize, interview, and continue the work on the history of Chignik and how that's evolved in 40-50 years
- Stand up an NWALT-model from the Northwest Arctic Borough with the school district, ANCs, Tribes, industry partners (e.g., Red Dog)
- Identify community/cultural values – "Alutiiq/Sugpiaq Values"
- Establish a Regional Elders Council Model with elected representatives from each community
- Create an Inupiaq Language Commission
- Adapt governance models that have been successful
- Widen circle of partners that work with the community and communicate out in a more expansive way
- Think outside the box of onshore canneries: What are other ways (value-add or marketing) of using fish?
- Let's make this a year-round fishery like it used to be
- Focus on the processor issue; this is an historic opportunity to effect processing in Chignik
- Provide workforce development and training of our young people so they can be part of upcoming/future projects
- Host more culture camps with our youth

- Send a letter to BBNC requesting collaboration with Tribe to do culture camps here next year. BBNC is in process of enrolling descendants, which are now a huge population of Shareholders. We need to work harder at preparing future generations to take over.
- Hire a counselor to help with training
- Build a community store. The Community Hall is great as a placeholder, but we need something more like what Trident provided.
- Continue to build relationships within CIC
- Make Chignik a hub for workforce development. We've got the infrastructure.

- Bring youth together – culture camps, training, regular schedule, using upcoming projects, getting head – where can we fit youth in – let's create program for them; give them life skills
- Gather more data (Bathymetric!)
- Assess mariculture opportunities
- Create a Community Advisory Board that holds local meetings on a regular basis; be connected to what's going on to keep communication going
- Community voices are the priority, especially youth!

Closing Comments

"We've heard about these priorities year after year. We are fully aware of them, but it's great to have them articulated by different people, different voices. We also hope this conversation can expand to the other Chigniks so we can align our resources."

"It blows me away how many people are out there that care about Chigniks. So, thank you."

"Let's start training our young people so that they can be part of this and so that they'll take ownership of it. They're our next leaders."

"The youth are the bridge to our future and their brains are just as good as ours."

"When this meeting is over, it's not over. This is the beginning of the conversation. I am always listening, whether the issue is old or new."

"Who will actually lead and do the projects? Research is great, but who will act?"

"I really appreciate every single one of you who have come here, come together for this."

"We're understanding the mission now that our priorities are coming together and ensuring all voices are heard and part of discussion and ownership of action."

"We can't depend on one entity – we have to share in all of this."

"We're resurrecting our community in a different way and we're learning to adapt to the changes."

"I really appreciate all the good words that the local people here have put into this. What you have to say is the heart of this meeting. It is your words and your presence."

"You all ask the best questions. Real results won't happen without those questions. I have faith that this community will drive their futures. Keep having these conversations outside of this room."

"Already, I see some things we can do right away – like incorporating ideas for youth leadership in this summer's culture camp.?"

Appendices

Symposium Evaluations
Symposium Flyer
Symposium Agenda
Attendees List
List of Presentations/Attachments (hyperlinked)

Symposium Evaluations

12 participants submitted evaluations about the Symposium – their feedback is below.

Questions 1-4: Rate these statements.

Category	Prompt	Average Score 1 = Strongly Disagree 5 = Strongly Agree
Symposium Purpose	I understood the purpose of the Symposium.	**4.8**
	There was value in what we worked on, and my days were well spent.	**4.8**
Openness	I felt comfortable asking questions and expressing my views.	**4.8**
	Discussion was facilitated in an appropriate manner.	**4.8**
	Adequate time was given for questions, answers and discussion.	**4.5**
Productivity	The Symposium ran efficiently with minimum interruptions/ disruptions.	**4.1**
	I was satisfied with the overall outcome of the Symposium.	**4.6**
Logistics	The Symposium location and space was satisfactory for the group's needs.	**4.6**
	The time and length of the Symposium was appropriate.	**3.8**

Question 5: What did you enjoy most about the symposium?

- Reconnecting with everyone
- Fisheries science updates. Appreciated zoom/online participants' ability to engage. Great in-person presence - awesome to have experts, consultants, etx. here in person! Community meals/events
- smolt samples, electric studies and Isaac presentation
- Sharing all the information and finding ways to work together
- The people.
- THE PEOPLE!
- Listening to the locals
- Getting folks together for a meaningful discussion
- The multiple organizations that attended
- How people from multiple areas (community, academia, public works, etc) came together to be active in Chignik's present and future. The community events were particularly wonderful.

- Project updates and opportunity to engage in interactive discussion about how these projects affect the Chignik region.

Question 6: What was your least favorite part of the Symposium?

- Early AM start on first day
- Weather :) - Maybe needed a little more time, but not much more. Good balance to maintain engagement. Overall, really well done.
- Couldn't get as in depth on some topics because of time
- Hmmm… not enough food ;) j/k
- POWERPOINT PRESENTATION FORMAT
- The high winds when we were flying
- None
- First day was very long with too much information. It also would have been good to have more in person representation from the other regional villages.
- The lack of ADFG's involvement.
- We had to rush a few sections of the agenda due to weather affecting those that needed to depart Chignik Bay on outbound flights.

Question 7: Do you have any specific suggestions for improving future Symposiums?

- Days were too long. Movement/activity would be helpful. Movement breaks. Tour of cannery? Trash pick up?
- Maybe having an outdoor community project activity with all participants, ie. alder clean-up, litter pick-up, trail restoration, or hike. More participation from Perryville and Ivanoff and Lagoon and Lake, but I know housing people is challenging.
- Job creation and employment. Community services for elders. Training opportunities and employers.
- Thank you very much so grateful for being able to interact w/ everyone
- PUT EVERYONE IN A CIRCLE FOR PRESENTING + DISCUSSION
- The best improvement is getting more locals to attend and engage in the discussions. This is no reflection on how well the symposium went, the team did an excellent job with their work.
- Getting more folks involved
- Ask for "outsiders" for a donation or registration fee to help cover costs. I imagine most would be able to help cover costs.
- None at this time.

Symposium Flyer

2024 CHIGNIK REGIONAL Resiliency Symposium

JUNE 6TH - 8TH AT THE COMMUNITY HALL

ALL ATTENDEES ARE ELIGIABLE FOR THE DOOR PRIZE DRAWINGS!

JUNE 6TH, 9:30 AM-5:30 PM

10:30 AM - UAF researchers unveil a year's worth of progress on a community-driven science project that strengthens Indigenous resilience through technology and capacity building. Expect data updates, a field school discussion, and a video premiere.

11:30 AM - Chignik Intertribal Coalition and Chignik Regional Aquaculture Association present updates on tribal fish initiatives and funded projects.

1:30 PM - Alaska Salmon Program & ADF&G Kodiak Lab examine Chignik Lake vs Black Lake sockeye competition & growth patterns, with an update on 2018 disaster research projects.

2:30 PM - Chignik communities explore Green Star assessments for improved resource management & brownfield redevelopment in a changing climate.

3:45 PM - LPB managers present on funded and proposed projects for Chignik communities with timelines.

COMMUNITY POTLUCK JUNE 6TH AT 6:00 PM

JUNE 7TH, 9:30 AM-5:30 PM

10:00 AM - Economists delve into the economic impacts of fishery disasters on subsistence users' way of life. Join the session for a project overview, timeline, and interactive feedback.

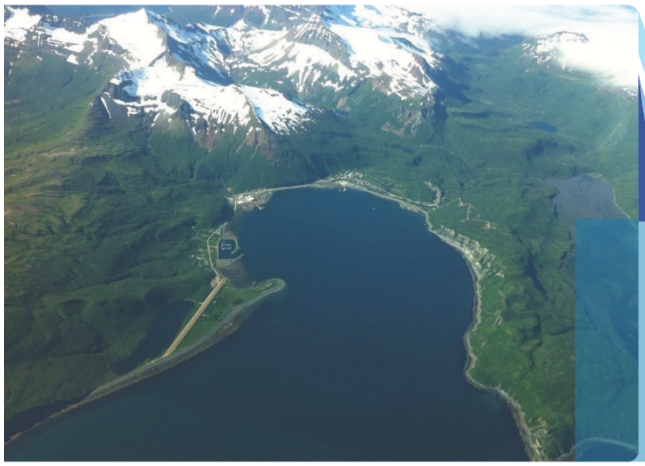
1:00 PM - Agnew::Beck Consulting leads a comprehensive Chignik Subregional Watershed Plan workshop. Join discussions on project goals, threats to water quality, valuable resources, and action strategies to prioritize.

COMMUNITY BBQ JUNE 7TH AT 6:00 PM

JUNE 8TH, 9 AM-3:30 PM

10:00 AM—Bristol Engineering will dive deep into Chignik Bay Tribe and City accomplishments, including completed Community and Hazard Mitigation Plans, project reports, and future plans.

11:00 AM - NSF's ACTION project partners with Chignik Intertribal Coalition for a "Visioning Discussion." Share your thoughts on coastal issues and shape the project's direction for Chignik Bay.



Join us on Zoom!

https://agnewbeck.zoom.us/j/81897860633

Dial: 1-888-475-4499 (Toll-free)

Meeting ID: 818 9786 0633#

Passcode: 604470#

Need More Information?

Debbie Carlson, CBTC Admin: 907-749-4018
Chickie Carlson, CBTEC : 907-749-4019

https://chignikwatershed.com/

Detailed agendas are available at the Tribal & City offices

Symposium Agenda

Chignik Regional Climate Resiliency Symposium
June 6-8, 2024

Location:	Chignik Bay Community Hall
June 6 (Thursday)	9:30 am –12:15 pm refreshments, presenters/sessions below 12:15 – 1:30 pm lunch 1:30 – 5:30 pm presenters/sessions below 6:00 – 7:30 pm community potluck; all are invited!
June 7 (Friday)	9:30 – 11:45 am refreshments, presenters/sessions below 11:45am – 1:00 pm lunch 1:00 – 5:30 pm presenters/sessions below 6:00 – 7:30 pm barbeque; all are invited!
June 8 (Saturday)	9:00 am – 12:15 pm refreshments, presenters/sessions below 12:15 – 1:30 pm lunch 1:30 – 3:30 pm open discussion, next steps, and closing circle 6:00 pm dinner on your own (food available for Symposium guests)

June 6 (Thursday)

9:30-10:30 am ***Coffee & Refreshments, Welcome & Agenda Overview***

(Jeanette Carlson, Chignik Bay Tribal Environmental Coordinator; Shelly Wade, Agnew::Beck Principal::Owner)

- *Opening Prayer & Land Acknowledgement*
- *Introductions*
- *Symposium Objectives & Meeting Agreements*

10:30-11:30 am *Paul G. Allen Family Foundation:* ***Advancing Resilience in Indigenous communities through Community-driven Science, Technology, and Capacity Building.***

- Updates on the project after 1 year, including topographic and bathymetric mapping, water level gauges, and erosion monitoring data,
- Chignik Field School informational discussion,
- World premiere of project video.

(Presenters: Chris Maio/UAF, Matthew Balazs/UAF, George Anderson/CIC, Mike Willis/UAF)

11:30 am-12:15 pm ***Chignik Intertribal Coalition (CIC), Chignik Regional Aquaculture Association (CRAA)***

- CIC update, including BBNA Fish Task Force
- CRAA summary of fish projects funded in 2024
  (Presenters: George Anderson/CIC, Chuck McCallum/CRAA)

12:15 – 1:30 pm ***Lunch***

1:30 -2:30 pm ***UW Alaska Salmon Program, UAF Department of Fisheries and Ocean Science, ADF&G Kodiak Island Limnology Laboratory Projects***

- *Competition between Chignik Lake & Black Lake sockeye fry*
- *Using otoliths to assess where Black Lake sockeye grow up*

  (Presenters: Cirque Gammelin & Jonathon Singleton/UW AK Salmon Program)
- *Update on 2018 Disaster Research funded projects*

  (Presenters: Peter Westley & Scott Chandler/University of Alaska Fairbanks Department of Fisheries and Ocean Sciences, Heather Finkle/ADF&G Kodiak Island Limnology Lab Director-Research Biologist tentative)

2:30 – 3:30 pm ***Green Star Community Assessments - Chignik Lake, Chignik Lagoon, Chignik & Brownfields Basics***

- *How to identify a brownfield site, what to do with them, and how these potentially contaminated sites can affect communities in the face of climate change*

  (Presenters: Joy Britt, Senior Brownfields Redevelopment Consultant/Center for Creative Land Recycling)
- *Highlights of the Green Star Community Assessments for Chignik subregion communities to improve and prioritize water, wastewater, energy and waste disposal operations and practices.*

  (Presenters: Tanner Johnson, Environmental Programs Coordinator, Alaska Forum)

3:30 – 3:45 pm ***Break***

3:45 -4:30 pm ***Lake & Peninsula Borough (LPB) funded projects in the Chignik Region***

- *This session will summarize funded and proposed projects for communities, including timeframes.*

  (Presenters: Nathan Hill/LPB Manager, Jordan Keeler/LPB Projects Manager, Danica Wilson/LPB Community Development Coordinator)

4:30 – 5:30 pm ***Questions/Answers or Breakout Sessions***

6:00 -7:30 pm ***Dinner at Community Hall (Potluck)***

June 7 (Friday)

9:30-10:00 am ***Coffee & Refreshments, Agenda Overview***

10:00-11:45 am ***Socioeconomic impacts of fishery disasters on Chignik Region subsistence Users***

- *This session will provide an overview of the overall project and timeline and interactive feedback from participants.*

  (Presenters: Melissa Errand, Economist and Tom Sanborn, Research Assistant with Northern Economics, Inc.)

11:45–1:00 pm ***Lunch***

1:00—5:30 pm ***Chignik Subregional Watershed Plan***

- *Introduce the Project – What is the project purpose and timeline? What is the project area? What work has happened so far?*
- *Discuss Threats & Strengths* – What are the water quality threats in the watershed? What areas/resources are most important and should be protected?
- *Review and Discuss Strategies* – What projects can help us address threats, protect resources, and ensure a healthy and thriving watershed into the future?
- *Prioritize Strategies* – What is most important for us to focus on?
- *Action Planning* - How can we make progress together? Who will lead this work?
- *Confirm Next Steps* – What comes next? How can I stay involved?

(Presenters: Shelly Wade and Holly Smith, Agnew::Beck Consulting)

6:00 -7:30 pm ***Dinner at Community Hall (Barbeque)***

June 8 (Saturday)

9:00-10:00 am ***Coffee & Refreshments, Agenda Overview***

10:00-11:00 am ***Overview of Bristol Engineering Services Company (BESC) Projects with Chignik Bay Tribe and City of Chignik in Chignik Bay***

- *This session will highlight recently adopted plans - The Chignik Bay Community Comprehensive Plan & Tribal Hazard Mitigation Plan, Preliminary Engineering Reports or priority projects, and future proposals, such as the construction of a tsunami shelter.*

  (Presenters: Isaac Pearson/BESC, Dannica Anderson/Chignik City Clerk, Jeanette Carlson/Chignik Bay Environmental Coordinator)

11:00-noon ***National Science Foundation: ACTION Project – Alaska Coastal Cooperative for Co-producing Transformative Ideas and Opportunities in the North***

- Introduction to the ACTION project and partnership with Chignik Intertribal Coalition

- Chignik Bay “Visioning Discussion” – gaining feedback on current and future activities and how to best align ACTION to address priorities specific to Chignik Bay
  (Presenters: Chris Maio/UAF, George Anderson (CIC), Matthew Balazs/UAF, Casey Ferguson/(UAF)

12:00-3:30 pm **Lunch, *Open Discussion, Next Steps & Closing Comments Circle***

Attendee List

In person

Name	Organization	Email
Holly Smith	Agnew::Beck Consulting	holly@agnewbeck.com
Shelly Wade	Agnew::Beck Consulting	shelly@agnewbeck.com
Tanner Johnson	Alaska Forum on the Environment	
Chris Capo	Bristol Bay Native Corporation	
Isaac Pearson	Bristol Engineering Services	jpearson@bristol-companies.com
Chickie Carlson	Chignik Bay Tribal Council	jeanettecarlson749@gmail.com
Debbie Carlson	Chignik Bay Tribal Council	cbaytc@aol.com
Roderick Carlson	Chignik Bay Tribal Council	
Sue Flensburg	Chignik Bay Tribal Council advisor	sflensburg@gmail.com
Robert Carpenter	Chignik City Council	chignikcityclerk@gmail.com
George Anderson	Chignik Intertribal Coalition	
Ronald Lind	Chignik Lake River Limited	
Charles McCallum	Chignik Regional Aquaculture Association	chuckmccallum@gmail.com
Axel Kopun	Chignik resident	
Billy Anderson	Chignik resident	
Brandon Daugherty	Chignik resident	
David Hill	Chignik Resident	
Ernie Carlson	Chignik resident	Janisc585@aol.com
Eugene Carlson	Chignik resident	
Kaeloni Scanlan	Chignik resident	
Peter Anderson	Chignik resident	ptanderson780@yahoo.com
Arlene Kopun	City of Chignik	
James Anderson	City of Chignik	
Dannica Anderson	City of Chignik	chignikcityclerk@gmail.com
Mary Inovejas	DEC	mary.inovejas@alaska.gov
George Pappas	DOI Office of Subsistence Management	george_pappas@ios.doi.gov
Hazel Nelson	Land & Sea Resources	northsider579@gmail.com
Melissa Errand	Northern Economics, Inc.	melissa.errend@norecon.com
Tom Sandborn	Northern Economics, Inc.	tom.sandborn@norecon.com
Märit Carlson-Van Dort	Part-time Chignik resident	marit@farwestak.com
Casey Ferguson	University of Alaska Fairbanks	
Chris Maio	University of Alaska Fairbanks	cvmaio@alaska.edu
Matthew Balazs	University of Alaska Fairbanks	mbalazs@alaska.edu
Mike Willis	University of Alaska Fairbanks	mdwillis@alaska.edu
Peter Westley	University of Alaska Fairbanks	
Scott Chandler	University of Alaska Fairbanks	
Jon Gerken	USFWS	jonathon.gerken@fws.gov

Over Zoom

Name	Organization	Email
Oxcenia O'Domin	Alaska Native Tribal Health Consortium, Chignik River Limited Board Member	
Ryan Peterson	Alaskanist Stories Films	firstcast@gmail.com
Joy Britt	Center for Creative Land Recycling	joy.britt@cclr.org
Alvin Pedersen	Chignik Lagoon resident	
Sabrina Anderson	Chignik Lagoon Village Council Deputy Administrator	
Michelle Anderson	Chignik Lagoon, Village Administrator	manderson@chigniklagoon.net
Clinton	Chignik Lake resident	
Benjamin Allen	CRAA, Chignik Council Member	
Stephen Price	DEC	stephen.price@alaska.gov
Earl Krygier	KEE Biological Consultants	
Angela Krauss	Part-time Chignik resident	kimccarlson@gmail.com
Kimberly Basler	Part-time Chignik resident	angeladaugherty_327@hotmail.com
Melodee Carlson-Forbes	Part-time Chignik resident	mdcarl74@aol.com
Ian Purnell	Swiss Filmmaker	
Phyllis Carlson		

List of Presentations/Attachments (hyperlinked)

1. UAF's Alaska Coastal Cooperative: Introductory Presentation at the 3rd Chignik Regional Climate Resiliency Symposium (Chris Maio, George Anderson, Matthew Balazs, Mike Willis): **Presentation Slides**

2. Chignik Forever Video (Alaska Coastal Cooperative, Final Version, Posted July 9th, 2024): **YouTube Link**

3. UW Salmon Program: Juvenile Sockeye Competition Within Chignik Lake (Cirque Gammelin): **Presentation Slides**

4. UW Salmon Program: Using Otoliths to Determine Where Juvenile Sockeye Rear in the Chignik Watershed (Jonathon Singleton): **Presentation Slides**

5. UAF Department of Fisheries and Ocean Science: Update on 2018 Disaster Research (Peter Westley, Scott Chandler): **Presentation Slides**

6. Center for Creative Land Recycling: Reclaiming the Past, Building the Future: Brownfield Basics (Joy Britt): **Presentation Slides**

7. GreenStar Community Assessments – Chignik Lake, Chignik Lagoon, and Chignik (Tanner Johnson): **Presentation Slides**

8. Lake and Peninsula Borough: Capital Projects Update (Jordan Keeler): **Presentation Slides**

9. Northern Economics, Inc: Socioeconomic Impacts of Fishery Disasters on Chignik Region Subsistence Users & Pathways to Resilience (Melissa Errand, Tom Sandborn): **Presentation Slides**

10. Chignik Subregion Watershed Plan Update: (Shelly Wade, Holly Smith): **Project At-A-Glance Poster**

11. Chignik Bay Tribe and City of Chignik: Overview of Projects (Dannica Anderson, Jeanette Carlson, Isaac Pearson): **Presentation Slides**

12. National Science Foundation: ACTION Project – Alaska Coastal Cooperative (Chris Maio, George Anderson, Matthew Balazs, Mike Willis, Casey Ferguson): **Presentation Slides**

13. Chignik Community Research Database List prepared by Chignik Bay Tribe as part of the National Science Foundation ACTION Project **Research Database List**