VILLAGE OF CLARK'S POINT

TRIBAL HAZARD MITIGATION PLAN [2019 – 2024]

FINAL Revision 0
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Prepared for:

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ACRONYMS AND ABBREVIATIONS

%	percent
°F	degrees Fahrenheit
BBAHC	Bristol Bay Area Health Corporation
BBEDC	Bristol Bay Economic Development Corporation
BBHA	Bristol Bay Housing Authority
BBNA	Bristol Bay Native Association
BIA	Bureau of Indian Affairs
Bristol	Bristol Engineering Services Company, LLC
CDQ	Community Development Quota
CFR	Code of Federal Regulations
City	City of Clark's Point
Community	Clark's Point
Council	Clark's Point Village Council
DCCED	State of Alaska Department of Commerce, Community, and Economic Development
DHS&EM	State of Alaska Division of Homeland Security and Emergency Management
DNR	Department of Natural Resources
DOTID	Department of Transportation and Infrastructure Development
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FMA	Flood Mitigation Assistance
GIS	Geospatial Information System
HMGP	Hazard Mitigation Grant Program
ID	identification
IGAP	Indian General Assistance Program
IHS	Indian Health Service
km	kilometer
MM	Modified Mercalli Scale
mph	miles per hour

ACRONYMS AND ABBREVIATIONS (continued)

NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NTTFI	National Tribal Transportation Facility Inventory
NWS	National Weather Service
PDM	Department of Homeland Security Pre-Disaster Mitigation
THMP	Tribal Hazard Mitigation Plan
Tribe	Village of Clark's Point
USACE	US Army Corps of Engineers
USGS	US Geological Survey

EXECUTIVE SUMMARY

The Tribal Hazard Mitigation Plan (THMP) for Clark's Point, Alaska (Community) was developed in accordance with the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). Bristol Bay Native Association (BBNA) represents the Village of Clark's Point (Tribe) and provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of the THMP. Planning Team members from the Community were identified by the Tribe to assist in the development of this plan.

Hazard mitigation reduces potential losses from future disasters. It is the goal of the Clark's Point Village Council (Council) to develop a disaster – resistant community for the general public and Tribe members by identifying hazard mitigation actions. These actions will reduce the impact of natural hazards on the Community and encourage the restoration and protection of natural and cultural resources.

This plan contains current community information, documents the planning process for the THMP, identifies the natural hazards that have an impact on the Community, identifies community assets, analyzes how the assets are impacted by natural hazards, and identifies the Community's vulnerability to these hazards. Additionally, the THMP lists the Community's mitigation goals and prioritized mitigation actions.

The Planning Team identified natural hazards that could affect the Community. The following is a list of natural hazards that have had an impact on the Community.

- Drought – Times with little to no rainfall results in low river and pond levels and impacts subsistence resources. The Community relies upon ground water and can become vulnerable due to a lack of water due to low ground water levels.
- Earthquake – Earthquakes can result in damage to the Community's underground utilities and can cause damage to older structures within the Community.
- Erosion – Cultural assets including burial sites, and the lower village are at risk to being lost or damaged due to erosion.
- Extreme Temperatures – Extreme cold conditions have an impact on underground utilities. Extreme heat conditions can ruin subsistence harvests. These temperatures can impact plant growth and disrupt subsistence activities.
- Flood – The lower village is at risk due to flooding. There are a few community members, cultural assets, and the bulk fuel storage that are at risk.
- Landslides – Access to the lower village is limited due to landslides.

- Severe Wind – High wind events can result in damage to structures, a reduction of visibility in winter due to blowing snow, decreased quality of air due to dust, and limits the accessibility of the Community via air transportation.
- Severe Winter Weather – Severe winter weather events limits air transportation in and out of the Community. Icy conditions can limit access to the lower village.
- Subsidence – Community roads are being damaged by subsidence.
- Tsunami – A few residents, the bulk fuel, and other cultural assets could be lost due to a tsunami.
- Volcano – Air quality decreases due to the presence of ash in the Community and is harmful to the health of residents. Ash can also have an impact on equipment and vehicles. Ash from volcanos has an impact on air transportation in and out of the Community.
- Wildfire – Wildfires destroy subsistence resources, structures, and is a sever risk to human life. Smoke from surrounding wildfires decreases air quality and is harmful to residents.

Mitigation goals were selected by the Planning Team for the identified natural hazards. These goals are broad statements that represent the Community's vision for reducing or avoiding losses from the identified hazards. The following is a list of mitigation goals:

- Promote recognition and mitigation of all natural hazards that affect the Community.
- Promote cross-referencing of mitigation goals and actions with other Tribal planning mechanisms and projects.
- Improve emergency response resources.
- Reduce the possibility of damages due to drought.
- Reduce the possibility of damages due to earthquakes.
- Reduce the possibility of damages due to erosion.
- Reduce the possibility of damages due to extreme temperatures.
- Reduce the possibility of damages due to floods.
- Reduce the possibility of damages due to landslides.
- Reduce the possibility of damages due to severe winds.
- Reduce the possibility of damages due to severe winter weather conditions.
- Reduce the possibility of damages due to subsidence.
- Reduce the possibility of damages due to tsunamis.

- Reduce the possibility of damages due to volcanos.
- Reduce the possibility of damages due to wildfires.

In addition to the identified hazards and the mitigation goals, the Planning Team identified mitigation actions to support the THMP mitigation goals. The following is a list of the high priority mitigation actions.

- Develop and provide, to the Community, brochures of each identified hazard.
- Develop an emergency plan for the Community.
- Educate the Community on the emergency plan.
- Conduct a yearly review of the plans and document progress towards their goals and actions.
- Investigate additional emergency water supply options for the Community.
- Determine the best strategy to protect the cemetery in the lower village site. Either construct a wall around the cemetery or relocate it.
- Construct a seawall or retaining wall around the cemetery in the lower village site.
- Design and build up roads throughout the Community.
- Design and construct new drainage features throughout the Community.
- Continue maintenance effort to repair water and sewer lines as needed.
- Acquire cones to place around landslide areas to warn residents of the hazard.
- Continue to provide snow removal service throughout the Community.
- Build up roads and trails, especially Bayou Loop Road.
- Develop and maintain an inspection process for the Code Red Cart.
- Identify, replace, and upgrade fire equipment as needed.
- Educate community members about the need for fire barriers around their homes.

The THMP is a living document that will be reviewed on an annual basis, and updated every five years. The annual reviews will monitor the relevance and implementation of the mitigation action plan, and evaluate the effectiveness and progress of the THMP. The annual evaluation of the THMP will include a review of any changes to assets, impacts from hazards, or any additional changes to the plan.

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1.0 INTRODUCTION

Bristol Bay Native Association (BBNA) is an Alaska Native Regional Non-Profit Corporation and tribal consortium. Incorporated under state law, corporation bylaws are structured as a pure tribal consortium. The 31 federally recognized tribes in the Bristol Bay region make up the members of the non-profit corporation. The 31 tribes are represented on the BBNA Board of Directors by their elected tribal presidents, or the president's designee (who must be a tribal member). Therefore, BBNA is directly controlled by the tribal governments it represents.

BBNA is a federally recognized tribal consortium for contracting purposes and is a "Tribal Organization" as defined in the Indian Self-Determination and Education Assistance Act. BBNA operates dozens of grants and contracts under various types of eligibility. Understandably, eligibility of each grant is controlled by the regulations and authorizing legislation of each particular funding source. BBNA operates both Indian and non-Indian programs.

BBNA represents all tribes within the Bristol Bay Region, and as such provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. On behalf of the Clark's Point Village Council (Council), BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of this Tribal Hazard Mitigation Plan (THMP) for Clark's Point, Alaska (Community). The THMP was prepared to meet the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). By meeting these requirements, it makes the Community eligible for funding through state and federal mitigation grant programs.

The purpose of hazard mitigation is to reduce potential losses from future disasters. The intent of mitigation planning is to maintain a process that leads to hazard mitigation actions. This THMP identifies the natural hazards that affect the Community, identifies actions to reduce losses from those hazards, develops long-term strategies to reduce the impacts of future events on people, property, and the environment, and establishes a coordinated process to implement the plan. The THMP establishes goals and objectives and associated actions to reduce and mitigate the threat of natural hazards to life, property, infrastructure, economic stability and emergency response capabilities in the Community while encouraging the protection and restoration of cultural and natural resources.

It is the goal of the Council to create a disaster-resistant community for the Village of Clark's Point (Tribe) members and the general public in the Community. The THMP includes information to assist government leaders and residents with current and future planning efforts to efficiently and effectively mitigate natural hazards in the Community.

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2.0 COMMUNITY DESCRIPTION

This section describes the location and geography, climate, history, demographics, and economy of the Community.

2.1 LOCATION AND GEOGRAPHY

The Community is located on a spit on the northeastern shore of Nushagak Bay, 15 miles from Dillingham and 337 miles southwest of Anchorage. The Community lies at approximately 58.8353 North Latitude and 158.5442 West Longitude (see Figures 1 and 2). The Community is located in Section 36, Township 15S, and Range 56W along the Seward Meridian. The Community is located in the Bristol Bay Recording District. The area encompasses 3.10 square miles of land and 0.90 square miles of water (State of Alaska Department of Commerce, Community, and Economic Development [DCCED], 2018).

2.2 CLIMATE

Climate can have a significant impact on the hazards that affect the Community. The Community's climate can also have an impact on the goals and mitigation strategies that are decided upon. The following is a climate summary of the Community:

The Community falls within the transitional climate zone, characterized by tundra interspersed with boreal forests, and weather patterns of long cold winters and shorter, warm summers. Fog and low clouds are common during winter months. The Nushagak Bay is ice-free from June through mid-November (DCCED, 2018). Annual precipitation ranges from 20 to 26 inches, and an average annual snowfall of 82 inches. The average winter temperatures range from 4 to 30 degrees Fahrenheit (°F), and the average summer temperatures range from 37 to 66 °F (National Oceanic and Atmospheric Administration [NOAA], November 2013).

2.3 HISTORY

The Community originally had an Eskimo name, "Saguyak," yet there is no evidence of a settlement at the site prior to the Nushagak Packing Company cannery, established in 1888. The Community was named for John Clark, who was the manager of the Alaska Commercial Company store at Nushagak. Clark is reputed to have operated a saltery prior to the establishment of the cannery. In 1893 the cannery became a member of the Alaska Packers Association. In 1901 a two-line cannery was built. During World War II, the canning operation ceased, and only salting was done in the Community. The plan was shut down permanently by 1952, and the Alaska Packers Association used the facility as the headquarters for its fishing fleet. In 1929, a major flood occurred. The city was incorporated

in 1971. The village has been plagued by severe erosion. A housing project in 1982 was constructed on high and safe ground on the bluff (DCCED, 2018).

2.4 ECONOMY

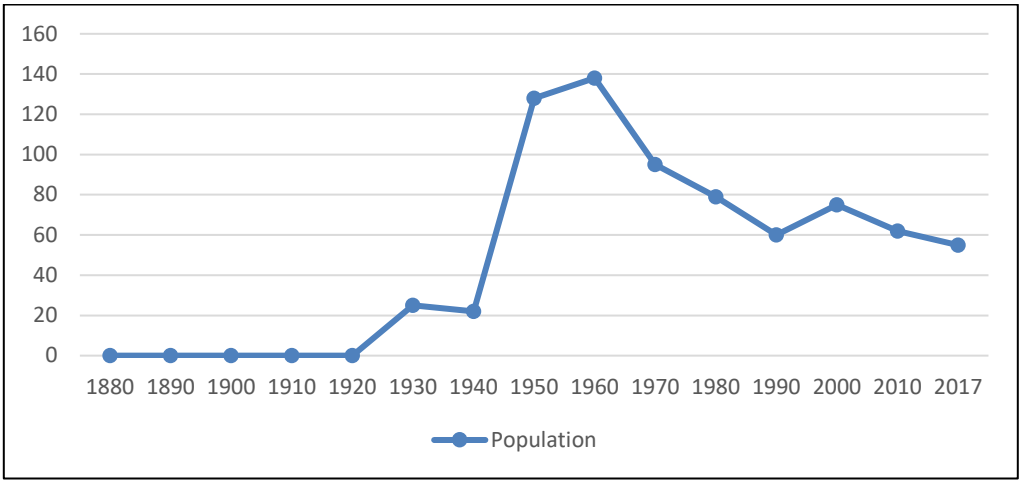
The local government, and education and health services provides the main employment opportunities in the Community (ALARI, 2018). Other Community employment opportunities include state government, leisure and hospitality, and manufacturing. There are 12 fishery permits issued to individuals in the Community. The Community's primary source for food is derived from a subsistence lifestyle. This lifestyle includes activities such as hunting, fishing berry picking, and other similar activities (DCCED, 2018).

According to the 2010 Census, the median household income in the Community was $25,625. At that time there were approximately 35 individuals (46.70 percent [%]) that were reported to be living below the poverty level (DCCED, 2018).

2.5 DEMOGRAPHICS

The 2017 State of Alaska Department of Commerce, Community, and Economic Development (DCCED) certified population is 55 (DCCED, 2018). Exhibit 2-1 depicts a historic representation of the population of the Community.

Exhibit 2-1: Population History



Source Note: Census Population History retrieved from DCCED
https://www.commerce.alaska.gov/dcra/dcraexternal/community/

The 2010 census recorded 62 residents with a median age of 35. The Community is principally an Alaska Native community with 80.85% Alaska Native, 19.15% Two or More Races. In 2010, the male and female population was 31 and 31 respectively. The 2010 census also revealed that there were 15 households with an average household size of 3 people (DCCED, 2018).

3.0 PLANNING PROCESS

This section provides information about the planning process that took place during the development of the THMP. It provides an overview of the planning process, the planning team, the public involvement efforts and documentation, the review and incorporation of existing plans, reports and studies, and the plans to integrate the THMP into other planning processes. Documentation of the planning process and public involvement is located in Appendix A and Appendix B, respectively.

3.1 PLANNING PROCESS

The planning process was developed following the requirements of 44 CFR 201.7(c)(1). The Department of Homeland Security Pre-Disaster Mitigation (PDM) grant provided funding and project oversight to the BBNA Department of Transportation and Infrastructure Development (DOTID). Bristol, BBNA's contractor, guided the development of a project team to assist BBNA DOTID with the THMP development.

The planning process took place on October 11, 2018. The following steps describe the planning process to develop the THMP and incorporates applicable work completed prior to 2018. All planning documents created or used are included in Appendix A.

1. **Establish the Planning Team:** An initial meeting was held with the Council to establish a point of contact and identify other team members. The titles and organizations of the Planning Team members are identified in Table 3-1. During the initial meeting there was a brief discussion about hazards that affect the community as described in the Risk Assessment (Section 5.0).
2. **Education of the Planning Team:** The THMP planning process was described to the Planning Team on October 11, 2018 and participants were asked to help identify hazards that affect the Community, and critical infrastructure.
3. **Organize Resources:** Members of the Planning Team identified resources, including staff, agencies, and local community members who could provide technical expertise and historical information needed in the development of the THMP (see Sections 3.2 and 3.3.1).
4. **Assess Risks**: The Planning Team identified the hazards and assets within the Community. With the assistance of Bristol, the Planning Team developed a risk analysis for the community assets in relation to the identified hazards. The Planning Team identified the areas of greatest concern to the Community and developed vulnerability statements. Section 5.0 provides a detailed description of the Risk Assessment.

5. Assess Capabilities: The Planning Team reviewed current administrative and technical, legal and regulatory, and fiscal capabilities to determine whether existing provisions and requirements adequately address relevant hazards (see Section 3.4 and Section 6.1).
6. Develop a Mitigation Strategy: After reviewing the risk analysis and vulnerability statements, the Planning Team developed the mitigation goals. Once goals were established, the Planning Team identified a comprehensive range of potential mitigation actions. Subsequently, the Planning Team refined the prioritized mitigation actions, and evaluated and prioritized the actions for implementation. Section 6.0 provides a detailed description of the Mitigation Strategy.
7. Monitor, Evaluate, and Plan Updates: The Planning Team developed a process to monitor, evaluate, and update the THMP to ensure it will be used as intended (see Section 4.0). Plan maintenance forms can be found in Appendix C. The Planning Team also established a plan to track the progress of the identified mitigation actions (see Section 6.7). Mitigation tracking forms are located in Appendix E.

In addition to the steps above, the Planning Team encouraged community input throughout the planning process. Section 3.3 details how the public was involved in the planning process.

3.2 PLANNING TEAM

The Planning Team is shown in Table 3-1, 44 CFR 201.7(c)(1).

Table 3-1: Hazard Mitigation Planning Team

Name	Title	Organization
Harry Wassily Sr.	Vice President	Clark's Point Village Council
Henry Wassily Sr.	Member	Clark's Point Village Council
Anthony Clark	Member	Clark's Point Village Council
Tony Clark	Member	Clark's Point Village Council
Sharon Clark	Member	Clark's Point Village Council
Kayla Wassily-Walker	Assistant	Clark's Point Village Council
Dan Breeden	Director	BBNA DOTID
Annie Fritze	Program Manager	BBNA DOTID
Isaac Pearson	Senior Engineer	Bristol (THMP Consultant)
Danielle Dance	Civil Engineer	Bristol (THMP Consultant)

3.3 PUBLIC INVOLVEMENT

Public involvement is important to the planning process of the THMP, 44 CFR 201.7(c)(1)(i). The Council defines "public" as living in the tribal service area or on tribal land, as well as any tribal member or citizen not living on the tribal lands that desires to provide comment on the THMP. It is important for the public to understand and be educated on the Community's priorities. The public also provides valuable insight into issues of concern, identifying community assets and areas that need improvement. The public can provide important information about the history of hazards that have affected the area. Additionally, they can provide ideas for continuing public involvement after the plan has been adopted.

A public meeting was held by BBNA DOTID and Bristol on October 11, 2018 in the Community to educate and receive feedback on the THMP. During the meeting, participants were given the opportunity to discuss how they have personally been impacted by the identified hazards in their community. They were also given the opportunity to discuss mitigation strategies that they felt would help prevent future losses due to the hazards. Additionally, the community was asked how they would like to be included in the remaining planning process and throughout the implementation of the mitigation strategies.

Newsletters were used to inform the public about the project. The first newsletter provided an overall description of the project, its purpose, the general process for plan development, and ways for the public to participate in the development of the plan. The second newsletter was sent to inform the public that a draft of the THMP was ready for review and provided the dates for a public review and comment period.

In addition to the public meeting and newsletters, residents or interested parties were encouraged to participate in, and had access to a public survey. This survey was available and located in the tribal office throughout the planning process and during the public meeting.

Seven surveys were completed and returned. The residents of the Community identified through the survey that they are most concerned about wildfires (see Exhibit 3-1). Additionally, Exhibit 3-2 illustrates the opinions of the residents regarding the importance of community assets. A copy of the survey distributed to community members and a complete summary of responses can be found in Appendix B.

Exhibit 3-1: Natural Disaster Concern (Survey Question #2)

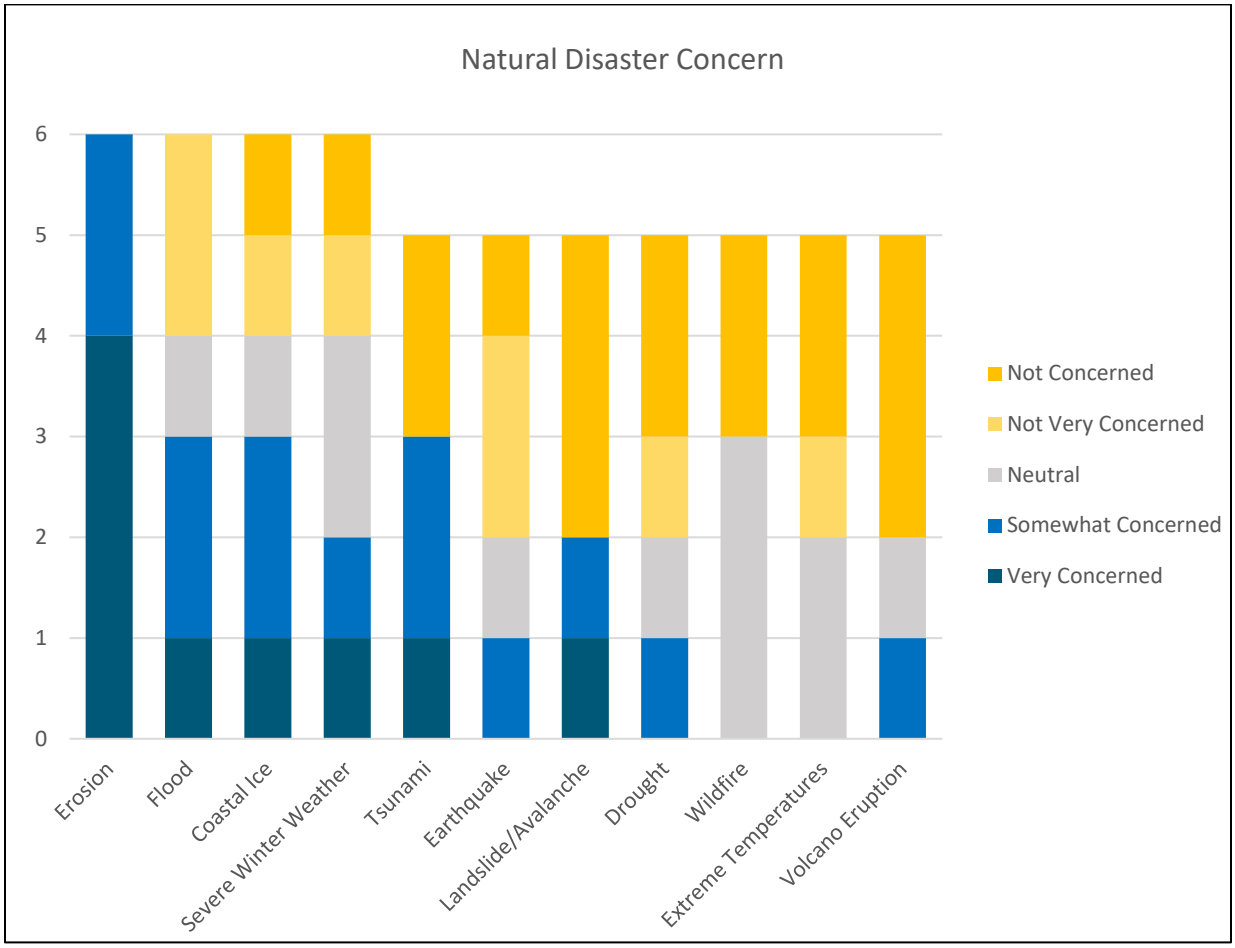
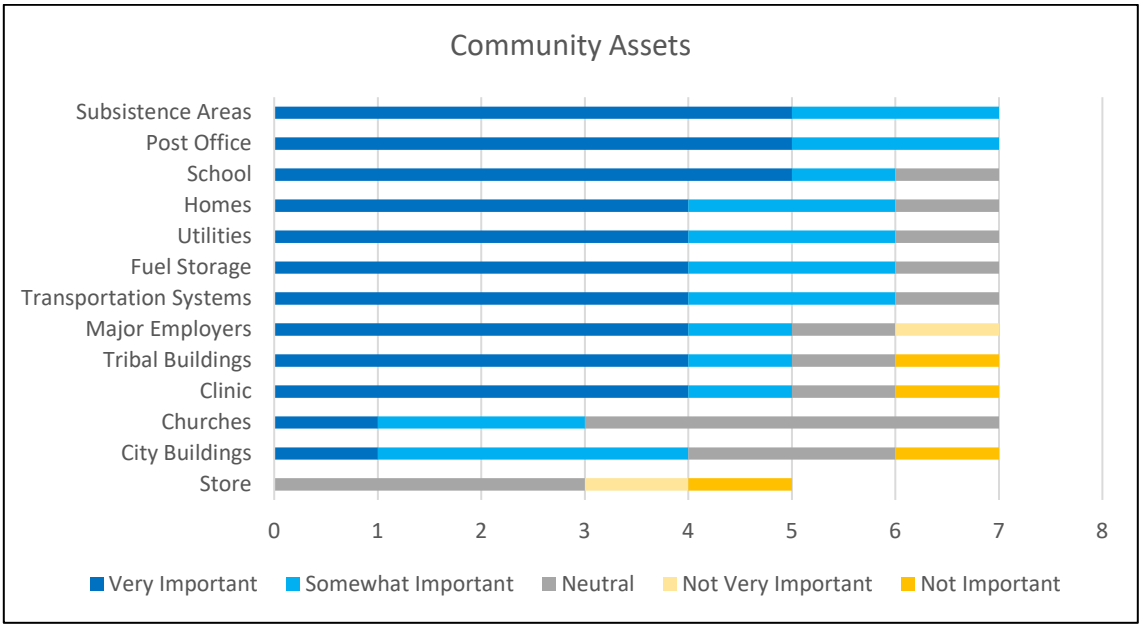


Exhibit 3-2: Community Assets (Survey Question #7)



All documentation and materials used to involve the public are located in Appendix B. This includes: public meeting advertisements, sign-in sheets, presentations, handouts, newsletters, surveys and a summary of responses, and any comments received via email, phone, or facsimile.

3.3.1 Other Communities, Tribal Agencies, and Regional Agencies Involved

The Planning Team worked to include all stakeholders in the planning process and development of the THMP, 44 CFR 201.7(c)(1)(ii). Table 3-2, provides the other stakeholders, communities, tribal agencies, and regional agencies that were involved in the planning process and development of the plan.

Table 3-2: Stakeholder Contacts

Stakeholder Type	Stakeholder	Contact Person (Title)	Contact Email
Village for Profit	Saguyak, Inc – Clark's Point	Betty L. Gardiner (President)	saguyakinc@yahoo.com
Regional for Profit	BBNC	Jason Metrokin (President)	jmetrokin@bbnc.net
Non-Profit Agency	BBNA	Gayla Hoseth (Natural Resources Director)	ghoseth@bbna.com
Non-Profit Agency	BBNA	Carla Akelkok (VPSO Program Manager)	cakelkok@bbna.com
Economic Development	BBNA	Kristina Andrew (Program Manager	krandrew@bbna.com
School District	Southwest Region Schools	Steve Noonkesser (Superintendent)	snoonkesser@swrsd.org
School	Clark's Point School	Shannon Harvilla (Principal)	sharvilla@swrsd.org
School	Clark's Point School	Kayla Wassily – Walker (School Secretary)	kaylawassily-wal@swrsd.org
Municipal	City of Clark's Point	Joseph Wassillie (Mayor)	cityofclarkspoint@gci.net
Electric Utility	Nushagak Cooperative	Robert Himshoot (CEO / General Manager)	rhimshoot@nushagak.coop

Table 3-2 (Continued): Stakeholder Contacts

Stakeholder Type	Stakeholder	Contact Person (Title)	Contact Email
Regional Housing	Bristol Bay Housing Authority (BBHA)	Brenda Akelkok (Executive Director)	bakelkok@bbha.org
Regional Hospital	Bristol Bay Area Health Corporation (BBAHC)	Robert Clark (CEO)	rclark@bbahc.org
Regional Hospital	BBAHC	Rebecca Coupchiak (CHAP Supervisor)	rcoupchiak@bbahc.org
Village Clinic			
Telephone	Nushagak Cooperative	Robert Himshoot (CEO)	rhimshoot@nushagak.coop
Community Development Quota Program (CDQ)	Bristol Bay Economic Development Corporation (BBEDC)	Norman Vanvactor (CEO)	norm@bbedc.com
State Representative	State of Alaska	Bryce Edgmon (Representative)	representative.bryce.edgmon@akleg.gov
State Senator	State of Alaska	Lyman Hoffman (Senator)	senator.lyman.hoffman@akleg.gov

Applicable stakeholders were contacted by e-mail to invite their participation in the planning process. Applicable comments provided by these stakeholders are included in Appendix B.

3.4 INCORPORATION OF EXISTING PLANS/STUDIES/REPORTS

During the development of the THMP the Planning Team reviewed any applicable existing plans, studies, and reports, 44 CFR 201.7(c)(1)(iii). Table 3-3 lists those documents reviewed by the Planning Team and contains a summary of the incorporated content.

Table 3-3: Existing Plans, Studies, and Reports Reviewed

Plans/Studies/Reports Reviewed for this THMP	Summary of Incorporated Content
US Army Corps of Engineers (USACE) Alaska Baseline Erosion Assessment	This report identifies the Community as having erosion issues and as a "Priority Action Community" (USACE, 2009).

Table 3-3 (Continued): Existing Plans, Studies, and Reports Reviewed

Plans/Studies/Reports Reviewed for this THMP	Summary of Incorporated Content
USACE Erosion Assessment	Erosion along the Nushagak Bay and Nushagak River occurr in the Community. Flooding, spring-breakup, high tides, and wind and wave action contribute to erosion conditions (USACE, 2007).
Long Range Transportation Plan	This plan identifies a list of priority transportation projects which includes improving drainage strucutres in the Community, and others (Clarks Point Village Council, 2018).
BBNA Forest and Fire Management Plan	This report provides information about the areas vegetation, soils, wildlife, forest, and fire management. It also provides regional goals and objectives to preserve and protect the region and details the fire management plan (BBNA, 2014).
State of Alaska Hazard Mitigation Plan	Identifies profiled hazards, provides resources, and provides goals and mitigation strategies identified by the State of Alaska Division of Homeland Security and Emergency Management (DHS&EM) (DHS&EM, 2013).
Alaska Emergency Response Guide for Small Communities	This guide provides general procedures to assist local officials in preparing for, responding to, and recovering from emergency and disaster situations developed by the State of Alaska DHS&EM (DHS&EM, 2017).
Bristol Bay Comprehensive Economic Development Strategy: 2017 – 2021	This report identifies the support of the Ekuk-Clarks Point Road as one of its transportation objectives (BBNA, 2018 Update).

NOTE: Complete reference information for the Plans/Studies/Reports in the table above is included in Section 8.0 of this plan.

3.5 INTEGRATION INTO OTHER TRIBAL PLANNING PROCESSES

The Planning Team worked to share and integrate the information collected during the planning process with other tribal planning processes, 44 CFR 201.7(c)(1)(iv). They accomplished this by attending tribal planning meetings when invited and providing regular updates to the Council. Through this process the Planning Team was also able to identify projects or actions for the mitigation plan.

The THMP was developed concurrently with the Clark's Point Tribal Transportation Safety Plan. As a result, safety throughout the community was addressed and discussed in various aspects regarding natural hazards, and safety on all modes of transportation in the Community.

There were no FEMA programs or initiatives occurring at the time of the planning process. Therefore, the planning process was not integrated into other FEMA programs or initiatives.

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4.0 PLAN MAINTENANCE

This section provides a formal maintenance plan to monitor, evaluate, and update the THMP to ensure that it remains an applicable and active document, and that improvements and updates to the THMP happen in a coordinated and organized manner, 44 CFR 201.7(c)(4)(i). This section also describes how the Council plans to continue public involvement in the maintenance of the plan. Appendix C contains questionnaires and forms to track the maintenance process.

4.1 MONITORING

The Planning Team will continue to monitor the progress of the mitigation actions to track the relevance and implementation of the mitigation action plan (Section 6.6) and all of its elements. Once a year from the time that the plan is adopted, the Tribal Administrator, or designee, will track the status of implementation of the identified mitigation actions and provide a status report to the Council. A more thorough review, by the responsible agency, of the progress of each identified mitigation action will be addressed in Section 6.7. The THMP Maintenance Monitoring Form (THMP Form 4-1) is located in Appendix C.

4.2 EVALUATING

The Planning Team will evaluate the THMP, in its entirety, to assess its effectiveness at achieving its stated goals and purposes. The Planning Team will evaluate the progress towards the THMP goals on an annual basis from the time the plan was adopted. The THMP Plan Update Evaluation Form (THMP Form 4-2) is located in Appendix C. This evaluation will include a review of the following:

- Identification of agencies, stakeholders, residents that have participated in THMP implementation efforts;
- Identification of notable changes to the risk assessment;
- Identification of new hazards and their impacts;
- Identification of new reports or planning materials available to the Community; and
- Identification of new hazard mitigation projects.

The Tribal Administrator, or designee, will contact the Council and other applicable stakeholders identified in Sections 3.2 and 3.3.1 to determine if the THMP needs to be updated to address newly identified hazards, new reports, or new hazard mitigation projects. The Tribal Administrator, or designee, will e-mail all stakeholders summarizing this process and request a planning meeting, if an update is warranted.

4.3 UPDATING

The THMP will be updated at least once every five (5) years. The plan can be revised prior to this when significant changes need to be made, if any necessary changes are identified during the evaluation process (Section 4.2). The Tribal Administrator, or designee, will contact the Council and Planning Team no later than the beginning of the fourth year following the THMP adoption to begin the process for updating the plan. The Planning Team will review and incorporate all applicable information collected or received to update the THMP. Comments received from the public and information collected from the THMP evaluation form (Form 4-2 located in Appendix C) and mitigation action plan review forms (Form 6-2 located in Appendix E) will aid the Planning Team in refocusing on any possible new hazards, or available resources.

In addition to reviewing the plan maintenance forms and mitigation action plan review forms the Planning Team will begin the following activities:

- Request grant assistance to update the THMP.
- Identify sections of the plan that need to be improved and begin brainstorming proposed changes.
- Update and analyze the risk assessment.
  - Review and update the hazard analysis.
  - Review and update the Community assets.
  - Complete a new risk analysis.
  - Re-evaluate the Community Vulnerability statements.
- Update the Community mitigation strategy.
  - Re-evaluate and update the Community mitigation goals.
  - Update and review mitigation actions.
- Update the THMP document.
- Submit updated THMP to FEMA for review and approval.

Table 4-1 identifies the plan maintenance timeline and the tasks that should be completed each year.

Table 4-1: Plan Maintenance Timeline

Year	Action(s)	Applicable Forms
2019	Plan Adoption	N/A
2020	• Monitor status of actions • Evaluate THMP	• THMP Form 4-1 • THMP Form 4-2
2021	• Monitor status of actions • Evaluate THMP	• THMP Form 4-1 • THMP Form 4-2
2022	• Monitor status of actions • Evaluate THMP	• THMP Form 4-1 • THMP Form 4-2
2023	Begin plan update activities (outlined in Section 4.3)	N/A
2024	Finalize THMP update	N/A
2025	THMP Update adopted	N/A

4.4 PUBLIC INVOLVEMENT IN THE PLAN MAINTENANCE PROCESS

The Council is committed to involving the public in the continual maintenance and updating of the THMP, 44 CFR 201.7(c)(4)(iv). A continued effort will be made to identify opportunities to raise community awareness about the hazards that affect the Community. This effort could include attendance and provision of materials at Tribe-sponsored events, outreach programs, and public mailings. Additionally, efforts will be made to include hazard mitigation into Community public meetings when possible.

A paper copy of the THMP and any proposed changes will be available at the Tribal office and at the BBNA DOTID office. An electronic copy of the THMP Plan will also be available from the Tribal office or the BBNA DOTID office. Comments or concerns can be directed to the Tribal Administrator, or designee. Any comments or concerns collected will be included in the annual monitoring effort and considered for inclusion in future THMP updates.

The Planning Team will ensure that the public will be involved in the THMP update. This involvement could be in the form of public meetings, newsletters, or other community correspondence techniques. The public will be given the time to review the draft plan prior to its adoption.

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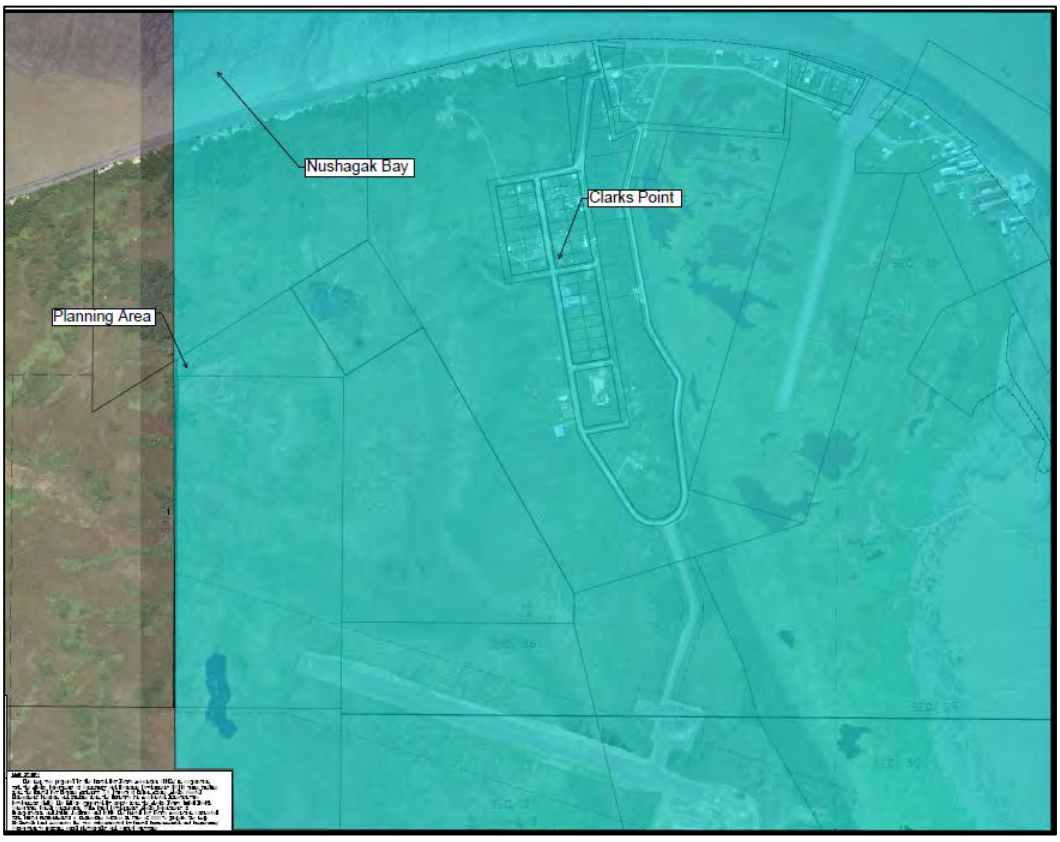
5.0 RISK ASSESSMENT

This section provides an analysis of the hazards that affect the Community planning area, 44 CFR 201.7(c)(2)(i). This section also identifies the Community's assets, analyzes the risks of assets associated with each hazard type, and assesses the vulnerabilities of local people, property, and natural environment.

The Community planning area is shown in Exhibit 5-1. The planning area encompasses Sections 25 and 36 of Township 15 South Range 56 West, and Section 31 of Township 15 South, Range 55 West, of the Seward Meridian. Community trails and subsistence areas may extend beyond the sections shown.

Exhibit 5-1: Planning Area



5.1 HAZARD ANALYSIS

The first step in the risk assessment is to identify the natural hazards that could affect the planning area. Natural hazards result from uncontrollable or unexpected natural events. The Planning Team reviewed 13 possible hazards that could affect the planning area. Each hazard was evaluated based on a range of factors. Table 5-1 through Table 5-4 provide the classifications and definitions of each factor (FEMA, 2013). These factors included the

location of affected area (Table 5-1), the maximum extent or magnitude of the event (Table 5-2), and the probability of future events Table 5-3. Based on the rankings from Table 5-1 through Table 5-3, the possible hazards were then ranked again based on their overall impact on the Community (Table 5-4). The hazard identification worksheet (Worksheet 1) is located in Appendix A.

Table 5-1 provides a classification and its definition related to the geographic area that the hazard may affect.

Table 5-1: Location

Color Code	Area Affected	Definition
BLUE	Negligible	• Isolated single-point occurrences • Less than 10% of planning area
GREEN	Limited	• Limited single-point occurrences • 10% to 25% of planning area
YELLOW	Significant	• Frequent single-point occurrences • 25% to 75% of planning area
RED	Extensive	• Consistenct single-point occurrences • 75% to 100% of planning area

Table 5-2 provides classifications and definitions used to determine the significance of each hazard based on maximum extent or magnitude seen in historic events or future probability.

Table 5-2: Maximum Extent or Magnitude

Color Code	Maximum Extent	Definition
BLUE	Weak	• Little to no damage done • Slow speed of onset or short duration of event • Limited classification on scientific scale (if applicable)
GREEN	Moderate	• Some damage and loss of services for days • Moderate speed of onset or moderate duration of event • Moderate classification on scientific scale (if applicable)
YELLOW	Severe	• Devastating damage and loss of services for weeks or months • Fast speed of onset or long duration of event • Severe classification on scientific scale (if applicable)
RED	Extreme	• Catastrophic damage and uninhabitable conditions • Immediate onset or extended duration of event • Extreme classification on scientific scale (if applicable)

Table 5-3 provides classifications with definitions related to the probability of future events happening in the planning area.

Table 5-3: Probability of Future Events

Color Code	Probability of Future Event	Definition
BLUE	Unlikely	• Less than 1% probability of occurrence in the next year • Recurrence interval of greater than every 100 years
GREEN	Occasional	• 1% to 10% probability of occurrence in the next year • Recurrence interval of 11 to 100 years
YELLOW	Likely	• 10% to 90% probability of occurrence in the next year • Recurrence interval of 1 to 10 years
RED	Highly Likely	• 90% to 100% probability of occurrence in the next year • Recurrence interval of less than 1 year

After the possible hazards were evaluated according to location, extent or magnitude, and probable future occurrence each hazard was then ranked according to its overall impact. A hazard's overall impact is the effect or consequence of the hazard on the Community and its assets. The Community's assets are identified and further discussed in Section 5.2. Table 5-4 provides the classifications with definitions to determine the overall impact of each hazard on the planning area.

Table 5-4: Overall Impact

Color Code	Impact	Definition
GREEN	Low	• Event has minimal impact on planning area • Two or more criteria fall in lower classifications
YELLOW	Medium	• Event's impacts on the planning area are noticeable but not devastating • Criteria fall mostly in the middle ranges of classifications
RED	High	• Event is likely/highly likely to occur with severe strength over a significant or extensive portion of the planning area • Criteria consistently fall in the high classifications

Table 5-5 shows a summary of the hazard analysis (also provided in Appendix A, Worksheet 1). This summary identifies each of the hazards evaluated, if the hazard presents a significant impact to the Community, and an explanation of why it was or was not determined to be significant to the Community and further analyzed by the Planning Team.

Table 5-5: Significant Hazards in the Planning Area

Hazard	Significant (Yes/No)	Explanation
Avalanche	No	Avalanches do not occur in the Community due to the generally flat terrain.
Drought	Yes	Times with little to no rainfall can result in low river and pond levels can impact the susbsistence fishing activities, and other subsistence activities. Drought also contributes to dust emissions and causes dry vegetation, increasing the risk of wildfires.
Earthquake	Yes	The Community lies between two major fault lines: the Denali Fault to the West and the Bruin Bay Fault to the East. Earthquakes occur frequently in the Community, and can result in damage to buildings, utilities, and wells.
Erosion	Yes	The Community is situated along the Nushagak Bay. Beach front is being lost and there is risk of cemeteries being disturbed due to erosion.
Extreme Temperatures (Severe Cold & Heat)	Yes	Temperatures over 80°F can ruin harvested fish and impact wildlife. These high temperatures dry out the tundra and increase wildfire risk. Residents are experiencing more severe heat days and less severe cold days than in the past. Severe cold days can cause damage to old, underground utilities.
Flood	Yes	Flooding can occur in the lower village site due to heavy rainfall, heavy spring snow melt, or high tides. This can cause a loss of or damage to property.
Landslide	Yes	Large sloughing of the bluff can occur due to heavy rainfall along Bayou Loop Road and Hillcrest Drive which blocks one of the access roads to the lower village.
Severe Wind	Yes	Strong wind storms occur every fall in the Community. These storms can damage structuresand impacts transportation in and out of the Community.
Severe Winter Weather	Yes	Severe winter weather can affect plane access to the community for travel, food and supplies, and medical emergency evacuations.
Susidence	Yes	Soils become noticeably soft during spring breakup. The Community is begginning to notice an impact to the roads and trails.
Tsunami	Yes	The Community could be impacted by tsunamis, which could cause catastrophic damage to the lower village site.

Table 5-5 (Continued): Significant Hazards in the Planning Area

Hazard	Significant (Yes/No)	Explanation
Volcano	Yes	There are a number of active volcanos along the Alaska Peninsula and Cook Inlet that could deposit ash in the Community or disrupt flights to the Community. The corrosive properties of volcanic ash are harmful to equipment and detrimental to human health.
Wildfire	Yes	There have been 11 fires within roughly 16 miles of the Community since 1997, totaling 16,749 acres. Wildfires can destroy structures and subsistence resources, and is a severe risk to human life.

The following sections examine each hazard identified by the Tribe that could impact the planning area. This examination includes a general description of each hazard, its anticipated location, anticipated extent, history of occurrences in the planning area, and the probability of future occurrences.

Some hazards, such as tornadoes, could occur in the planning area, but with such infrequency that they were not considered for this evaluation.

5.1.1 Drought

A drought is a period of time that has unusually dry weather. This length of time persists long enough that it causes deficiencies in water supplies. The effects of a drought take a long period of time to develop however, over time they can severely impact water supplies, crops, wildlife, subsistence areas, and recreational resources. Direct and indirect impacts to the economy can be significant if the drought conditions extend over a long period of time. If a drought continues for a long duration it can make the area more susceptible to fire.

5.1.1.1 Location

All land in the entire tribal planning area (see Exhibit 5-1) is equally at risk for the hazard.

5.1.1.2 Extent

Drought can impact subsistence foods, increase fire risks, decrease river water levels, and impede navigation. With limited rainfall or snowfall, local water bodies can see a reduction in water levels including rivers, streams, fishponds, and shallow groundwater aquifers. Residents of the Community rely on a groundwater well for drinking water and household sanitation. The Community has two additional drilled wells but with a much smaller capacity. These wells are not able to be used currently. A drought can impact the level of these groundwater wells.

Weeks without sufficient rainfall can lower water levels in fishponds and tributaries, disrupting spawning areas available for salmon and resulting in poor subsistence harvest. Additionally, dry summers can result in poor production of natural berry patches. As a community with a subsistence lifestyle, residents can be especially impacted by drought because it can affect the quality of, and access to native food sources. These drought conditions can affect an entire year's supply of subsistence foods.

Limited moisture can also increase dust emissions caused by wind and travel on gravel roads and runways. Dust is a nuisance as well as a health hazard. Dust can settle on subsistence foods such as berry patches or salmon hanging out to dry. Inhaling airborne dust is also a risk, particularly for children, elders, and people with respiratory issues. Dust contains particulate matter that can irritate a person's eyes and throat, aggravate existing heart and lung disease, and damage lung tissue.

5.1.1.3 History of Occurrences

Due to limited data collection in rural Alaska, historical drought events are based on anecdotal evidence from community members. A summary of comments collected throughout the THMP planning process is provided below:

- Residents describe that when there is a mild winter with little snow, the following summer tends to be much hotter with little rain.
- Residents explained that drought-like conditions tend to occur every three to five years.

5.1.1.4 Probability of Future Events

Droughts are likely to continue to affect the Community.

5.1.2 Earthquake

An earthquake is a sudden trembling or movement in the earth's crust due to a sudden release of energy along the edge of the earth's tectonic plates. Earthquakes typically occur without warning. The effects of an earthquake can be felt far beyond the site of its epicenter. The epicenter is the point on the earth's surface that is vertically above the point in the crust where the seismic movement begins. A seismometer detects the vibrations caused by an earthquake and plots them on a seismograph. The magnitude of an earthquake is measured using the Richter scale. Most earthquake-related deaths and property damage are caused by the collapse and failure of structures due to ground shaking. The amount of damage depends upon the duration and extent of the shaking.

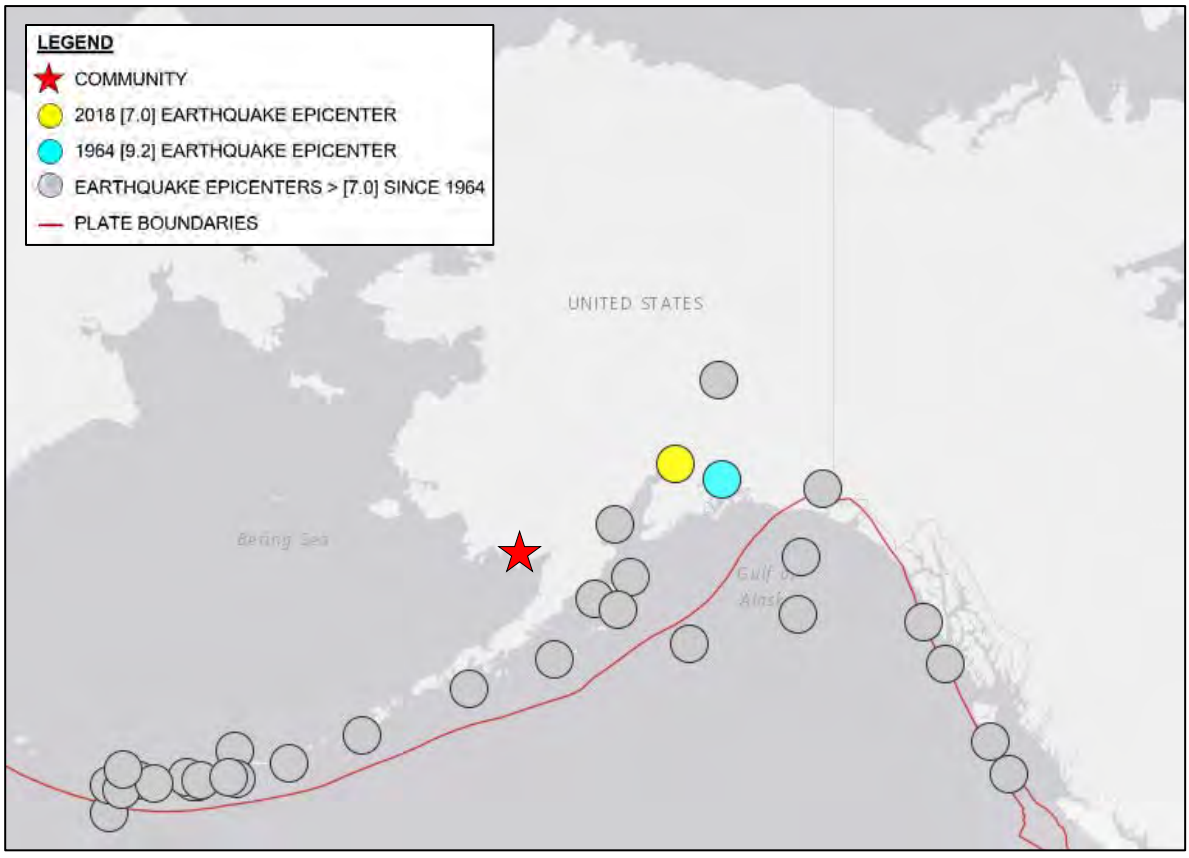
Landslides, liquefaction, and tsunamis are some other damaging effects of an earthquake. Earthquake-induced landslides are the down-slope movement of rock, soil and other debris

due to ground movement on a steep mountain or hillside slope. Liquefaction occurs when saturated, unconsolidated sand or soil is disturbed due to the shaking from an earthquake. This shaking causes ordinarily solid material or soils to behave like a liquid. A tsunami is a series of enormous ocean waves that can damage or destroy buildings and infrastructure and cause flooding.

5.1.2.1 Location

An earthquake above a 7.0 on the Richter scale is considered a major earthquake. The epicenters of all major earthquakes occurring in Alaska since 1964 are shown on Exhibit 5-2. This map was developed using the US Geological Survey (USGS) Earthquake Catalog Search feature (USGS, 2018). The Community is located approximately 414 miles southwest of the 1964 earthquake epicenter, the largest recorded earthquake in Alaska. The Community is not located on any mapped fault lines. The largest earthquake that has occurred within a 75 miles radius of the Community was a magnitude 6.6 on the Richter scale, located 60.4 miles away on the Alaska Peninsula in May 1990. The closest earthquake to occur near the Community of at least magnitude 2.5 was a magnitude 3.1 earthquake that occurred 4.0 miles away in May 2004 (USGS, 2018). More historic earthquake information surrounding the community is provided in Section 5.1.2.3.

Exhibit 5-2: Major Earthquakes in Alaska

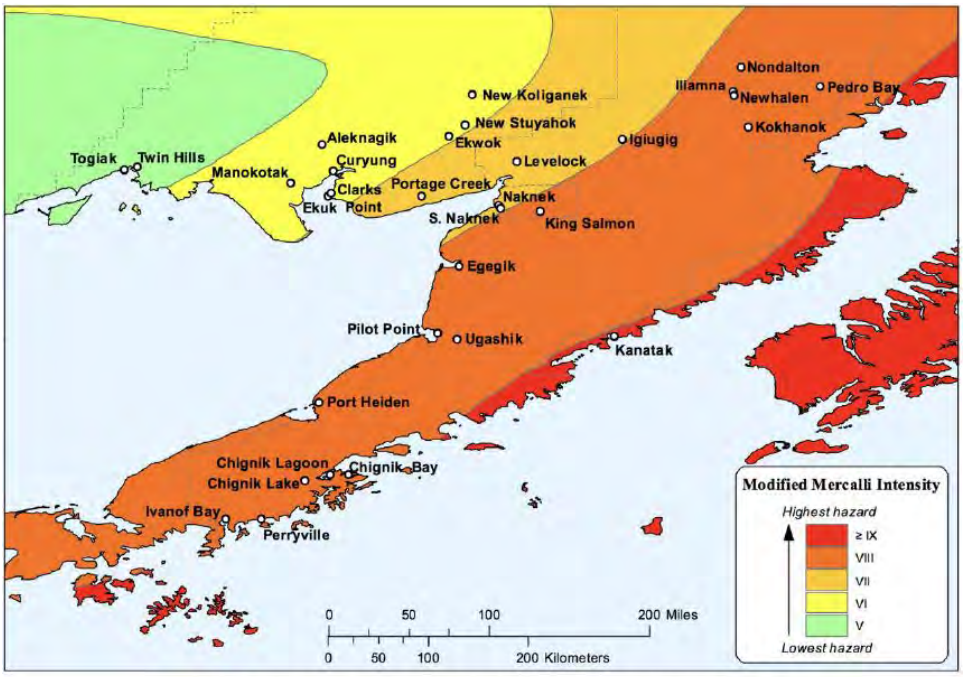


5.1.2.2 Extent

Earthquakes are rarely felt in the Community. Community members have reportedly felt slight tremors from major earthquakes in Alaska, but these earthquakes have not caused any known damage in the Community. The most severe earthquake felt in the Community was the Great Alaska Earthquake of 1964. Residents described having to evacuate up a nearby hill in the winter, create a temporary shelter, and shut down the school and cannery. This earthquake had a recorded magnitude of 9.2 on the Richter scale, making it the second largest recorded earthquake in the world. Its effects were felt as far away as South Africa (Alaska Earthquake Center, 2018).

The Geological Hazards Team of the USGS National Earthquake Information Center in Golden, Colorado created a time-independent probabilistic seismic hazard map for the Bristol Bay Region of Alaska. The map (Exhibit 5-3) depicts the intensity of potential earthquake ground shaking that has a 2% chance of occurring in 50 years, presented in terms of the Modified Mercalli Scale (MM) and based on peak ground acceleration. The Community is located in a Zone VI MM Intensity, indicating the earthquake risk is relatively low (Natalia Ruppert, Presentation, November 22, 2016).

Exhibit 5-3: Bristol Bay Earthquake Hazard Map



USGS map showing the intensity of potential earthquake ground shaking that has a 2% chance of occurring in 50 years, site class B (based on peak ground acceleration)

The largest local concern regarding earthquakes in the Community is a disruption in the groundwater. A large earthquake nearby the Community could potentially alter the mineralogy or quality of groundwater.

Seismic activity can cause damage to older community structures and underground utilities. This activity also has the potential to cause chemical spills if tank connections become loose or break.

5.1.2.3 History of Occurrences

The largest earthquake felt in the Community was in 1964. One resident recalls evacuating from the lower village to the bluff. At the time there was no way to get to the top of the bluff so they had to climb to the top. This was in the winter and very cold. Residents dug out little shelters for some protection. Everyone evacuated, except one person. They remained on the bluff for about five hours until the tsunami warnings ceased. People had to slide down the bluff to get back to the lower village site. This resident recalls mothers and fathers sliding down the hill holding small children on their laps. This resident also recalls the steel chimney stacks of the cannery clanging together during the earthquake. This earthquake prompted the Community to invest in a shelter and to build stairs to the top of the bluff for an easier evacuation route.

The USGS Search Earthquake Catalog was consulted for a history of recorded earthquakes with epicenters within 75 miles of the Community and magnitude of 2.5 or greater since 1964. Table 5-6 shows the top ten data results by distance from the community, Table 5-7 by magnitude, and Table 5-8 by date (USGS, 2018).

Table 5-6: Top 10 Historic Earthquake Epicenters Closest to Community

Date	Magnitude	Distance from Clark's Point (miles)	Location
May-2004	3.1	4.0	Bristol Bay
Apr-2011	2.5	5.6	Bristol Bay
Sep-2018	3.0	5.9	31 kilometer (km) S* of Dillingham
May-2009	2.5	6.9	Bristol Bay
Mar-1997	3.3	12.7	Bristol Bay
Apr-1995	3.1	14.1	Bristol Bay
Sep-2017	2.5	16.1	45 km SSE* of Dillingham
Aug-2011	3.1	24.4	Alaska Peninsula
Feb-2011	3.7	29.5	Alaska Peninsula
Jun-2015	2.8	33.2	51 km WNW* of King Salmon

* South (S), South Southeast (SSE), West Northwest (WNW)

Table 5-7: Top 10 Greatest Magnitude Historic Earthquakes near Community

Date	Magnitude	Distance from Clark's Point (miles)	Location
May-1990	6.6	60.4	Alaska Peninsula
Feb-2003	5.5	60.8	Alaska Peninsula
Jun-2010	4.9	73.3	Alaska Peninsula
Nov-1984	4.6	68.8	Alaska Peninsula
Mar-1976	4.5	66.4	Alaska Peninsula
Jan-2004	4.2	68.8	Alaska Peninsula
Sep-2001	4.2	50.6	Bristol Bay
May-1992	4.2	62.7	Bristol Bay
May-2016	4.1	69.9	20 km S* of King Salmon
Jan-1986	4.1	63.5	Alaska Peninsula

* South (S)

Table 5-8: Top 10 Most Recent Historic Earthquakes near Community

Date	Magnitude	Distance from Clark's Point (miles)	Location
Sep-2018	3.0	5.9	31 km S* of Dillingham
Feb-2018	2.8	62.3	11 km WSW* of King Salmon
Sep-2017	2.5	16.1	45 km SSE* of Dillingham
Aug-2017	2.5	71.7	36 km S* of King Salmon
May-2017	3.0	54.1	34 km WSW* of King Salmon
Jan-2017	3.0	72.4	75 km SSW* of King Salmon
Sep-2016	2.7	74.6	112 km SW* of King Salmon
Jun-2016	2.6	52.3	67 km ENE* of Dillingham
May-2016	4.1	69.9	20 km S* of King Salmon
Jul-2015	2.8	65.1	82 km NE* of Dillingham

* South (S), West Southwest (WSW), South Southeast (SSE), South Southwest (SSW), Southwest (SW), East Northeast (ENE), Northeast (NE)

5.1.2.4 Probability of Future Events

It is likely for earthquakes to occur in or near the Community in the future.

5.1.3 Erosion

Erosion is the wearing away, movement, or transportation of land. This can occur along riverbanks, shorelines, dune materials, and beaches. Repetitive flooding events, sea level rise, wave action, subsidence, sediment loss, and climate change can result in long-term erosion. Though most erosion happens gradually over a long period, it can also happen quickly due to periodic natural events such as windstorms, flooding, hurricanes, and storm surges. This can also be intensified by human activities or influences such as the construction of embankment protection structures or water table depletion. Erosion is measured as the rate of change in the displacement or position of the shoreline or riverbank over a given period of time. Erosion does not typically cause death or injury to people; however, it can destroy community infrastructure, buildings, and transportation systems.

5.1.3.1 Location

The Community experiences severe erosion along the beach front and banks of Nushagak Bay. Significant erosion areas are identified on Figures 1 and 2.

5.1.3.2 Extent

The Planning team has classed the area affected by erosion as "extensive." The erosion of highest concern is the beach front along the Nushagak Bay. According to a 2007 Erosion Information Paper for Clark's Point, developed by US Army Corps of Engineers, the lower village was relocated to higher ground starting in 1980, however, public and private cemeteries, old tribal building (a cultural asset), and the cannery are still at risk due to erosion. The report indicated an erosion loss of 0.2 acres per year (USACE, 2007).

5.1.3.3 History of Occurrences

Erosion is an on-going process. However, particular events can result in notable occurrences of erosion, such as floods. Long-term residents indicated that the community has lost 100 to 150 feet of bank since 1943 (USACE, 2007).

5.1.3.4 Probability of Future Events

Significant erosion is visible along the beach front of Nushagak Bay. It is highly likely for erosion to continue to occur in the Community due to flooding, spring break up, and wind and wave action

5.1.4 Extreme Temperatures

Extreme temperatures constitute different conditions in different parts of the country. In colder climate regions such as Alaska, extreme cold events involve temperatures -10 °F and below. Extreme cold temperatures can occur after a winter storm or during long durations

of storm inactivity. Fatalities and injuries can occur from extreme cold by causing hyperthermia or frostbite NOAA, National Weather Service (NWS), December 2018). Extreme heat events involve temperatures above 80°F. These temperatures are much rarer in Alaska, but are being experienced more frequently due to climate change.

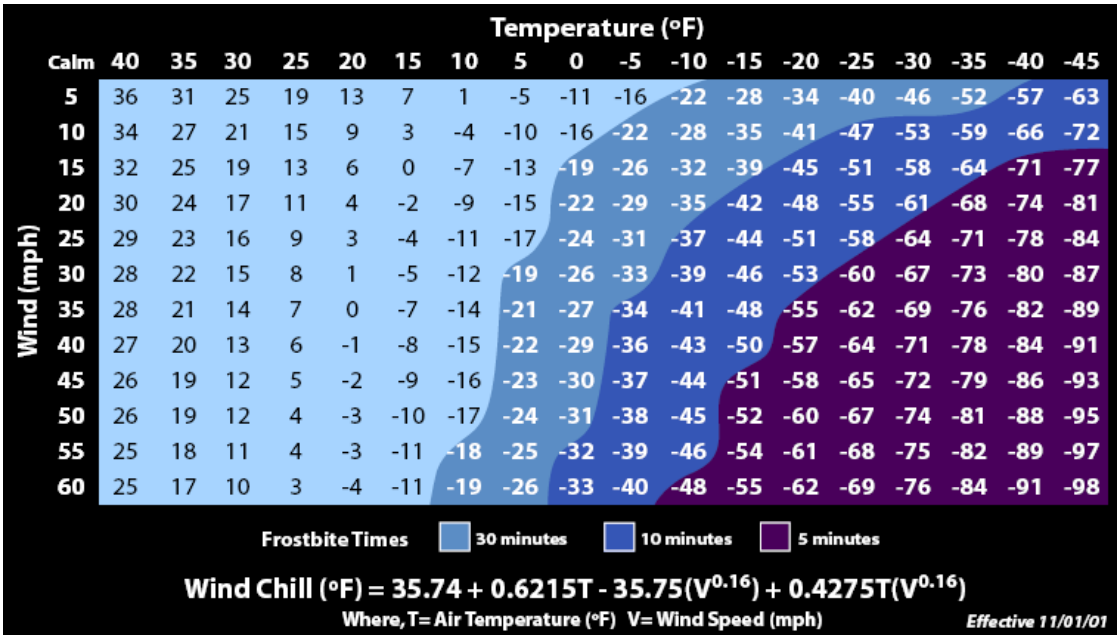
5.1.4.1 Location

Extreme temperatures affect the entire tribal planning area (see Exhibit 5-1).

5.1.4.2 Extent

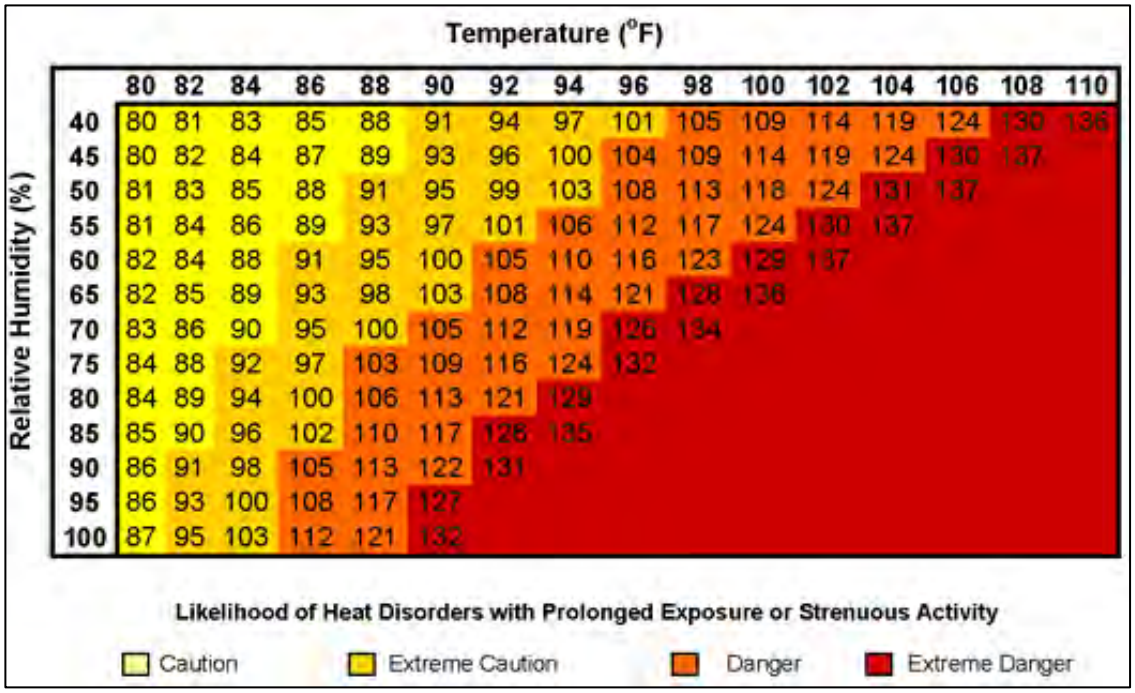
Extreme cold varies from region to region. For the purpose of this report, extreme cold is being classified as the temperature at which frostbite occurs in 30 minutes, or less. This determination was based on the NOAA NWS wind chill chart in Exhibit 5-4 (NOAA NWS, 2018).

Exhibit 5-4: Wind Chill Chart



Extreme heat has been classified as the temperature at which heat disorders are deemed cautionary, based on the NOAA NWS heat index in Exhibit 5-5 (NOAA NWS, 2018).

Exhibit 5-5: Heat Index Chart



The Community has experienced temperatures as low as -34°F in 2010 and as high as 93°F in 2017 (Weather Underground, 2018). There are no known fatalities, injuries, or illnesses caused by extreme temperatures in the Community. However, residents are impacted by these events in various ways.

Most residents are aware of the dangers of extreme cold and know how to prepare for winter weather. The community is most at risk of extreme cold during a power outage or during winter hunting expeditions. Underground sewer and water lines are old and susceptible to breaks due to freeze / thaw conditions. These events also makes it difficult to get vehicles to run and creates challenges for pumping oil. Extreme cold in the late spring early summer has the potential to impact plant growth and disrupt subsistence activities.

Extreme heat, on the other hand, can ruin subsistence fish harvest and cause harm to other subsistence wildlife and vegetation. Elderly residents are distressed by extreme heat, especially because there is no air conditioning. Extreme heat also increases dust plumes, which negatively affects the health of elderly individuals and those with respiratory problems, and increases the risk of wildfires.

5.1.4.3 History of Occurrences

History of extreme temperature events is based on accounts from community members. According to residents, extreme cold is occurring less often while extreme heat is occurring more often. Residents recall a winter when it was extremely cold about 20 years ago. During

this winter the sewer line froze and broke which caused a raw sewage exposure in the Community. Residents also recall a hot summer, 1993 or 1994, when residents were out on the tundra and a cigarette was dropped which caused a wildfire.

Table 5-9 and 5-10 identify historical extreme temperatures recorded in the Community (Weather Underground, 2018).

Table 5-9: Historical Extreme Cold Events

Year	Minimum Temperature (°F)	# of Days Below -10°F
2018	-11	1
2017	-16	8
2016	-5	0
2015	-11	1
2014	-11	1
2013	-11	2
2012	-31	33
2011	-29	11
2010	-34	18
2009	-20	14
2008	-27	19

Table 5-10: Historical Extreme Heat Events

Year	Maximum Temperature (°F)	# of Days Above 80°F
2018	72	0
2017	93	1
2016	75	0
2015	84	1
2014	78	0
2013	82	2
2012	71	0
2011	73	0
2010	75	0
2009	78	0
2008	71	0

5.1.4.4 Probability of Future Events

It is highly likely that the Community will continue to experience the effects of extreme temperatures.

5.1.5 Flood

Flooding is the accumulation of water where normally none exists. There are various types of flooding, such as, coastal flooding, riverine flooding, and shallow flooding. Additionally, flooding can occur due to rapid snowmelt, ice jams, heavy rainfall, severe thunderstorms, tropical storms, and other high precipitation events. Flooding can damage buildings, personal property, and infrastructure. It can cause road or bridge closures. It can cause a disruption of services, such as, transportation, or utility services. It can also cause injuries or death.

Flooding events are the most significant threats to ecosystems along river and coastal areas of Alaska. As the water runs over and through the watershed, it picks up and carries contaminants and soil. Everything from leaked motor oil on parking areas, plastic grocery bags, pesticides, fertilizers, detergents, and sediments; known as non-point source pollutants. Point source discharges are; discharge points, bulk fuel storage and sewage treatment plants, and other regulated known sources or points of pollutant discharges. If untreated, these pollutants wash directly into waterways carried by runoff from rain and snowmelt. These contaminants can infiltrate groundwater and concentrate in streams and rivers and can be carried down the watershed and into the ocean. Non-point source pollution is linked to the creation of large dead-zones (areas with minimal oxygen) in the ocean and threatens the health of the ecosystem.

5.1.5.1 Location

Areas in the Community at risk of flooding are depicted on Figures 1 and 2. FEMA flood maps are not available for the Community. Areas subjected to flooding were based on community input.

5.1.5.2 Extent

The Community has experienced flooding in the past in the lower village. Flooding does not typically occur in the upper portion of the village on higher ground. Usually flooding occurs in the fall from storm surges. Flood waters typically subside with the tide unless there are severe wind conditions. Flood events have recently been less severe.

The low-lying areas adjacent to Nushagak Bay have the highest risk. This includes the lower cemeteries, village tank farm, city tank farm, old clinic, Catholic Church, and several roads and personal dwellings, and cannery. Additionally, many roads and properties in the

Community have poor drainage. During long periods of heavy rainfall, these areas can flood and maintain standing water for days or weeks.

5.1.5.3 History of Occurrences

Historical accounts of flooding is provided by community residents. According to residents the most recent flood event occurred in August of 2018. It affected the cannery and the old airport. The old airport acts as a barrier, diverting water behind the cannery which caused some erosion issues to occur.

Residents also recalled a flooding event in 2005. This event caused damage to vital infrastructure. The Community sustained damage to the airport, the cannery dock, its power generator, and personal property. Residents lost outboard motors, skiffs, fuels tanks, four wheelers, nets, and other personal items. Homes were flooded and had to be relocated. A disaster declaration (AK-06-214) was declared, by Governor Murkowski, due to flood this event (DHS&EM, 2013).

Flood events that have occurred in the Community are listed in Table 5-11 (USACE, 2015).

Table 5-11: Flood Events

Flood Event	Water Depth (Feet)	Recorded Damage (If Known)
November 1929	4	--
November 1949	None Recorded	--
December 1960	0.5	Home site flooding
October 1964	3 – 4	Home site flooding
August 1980	2.5	Home site flooding
May 1985	6	Damaged the old clinic, flooded truck motors, and dry docked boats with open drain ports
October 1995	1.5	Water covered the airstrip
October 2005	Unknown	Disaster Declaration AK-06-214
August 2018	Unknown	Caused additional erosion issues near the old cannery.

5.1.5.4 Probability of Future Events

It is highly likely flooding will continue to happen in the lower village.

5.1.6 Landslide

A landslide is the movement of a mass of debris, rock, or earth by force of gravity down a slope. Landslides occur when the stability of the slope changes from stable to unstable. This

can be caused by storms, earthquakes, volcanic eruptions, fire, erosion, and other human-induced activities. Steep slopes and long slopes have a higher probability to slide. High soil water content and/or slopes with low vegetative coverage are also likely to slide. Landslides cause infrastructure and property damage, environmental disturbance, and possible injuries and fatalities.

5.1.6.1 Location

Landslides occur in the Community along the bluff along Hillcrest Drive and Bayou Loop Road (see Figures 1 and 2).

5.1.6.2 Extent

Landslides are associated with heavy rains that saturate the soil. The upper and lower village is separated by a bluff, which consists of steep slopes. These sites are accessed by using Hillcrest Drive and Bayou Loop Road. Due to landslides along the bluff access to the lower village could be blocked.

Within the Community there is an area with a steep gradation near Hillcrest Dr. Highly saturated, or unstable soils cause landslides to occur in this area. This impacts travel on the road connecting these areas, creates a risk of damage to the residences below as well as hinders commuting along the road.

5.1.6.3 History of Occurrences

Historical accounts of landslides are provided by community residents. According to residents, a couple of years ago, a landslide occurred due to heavy rain on Hillcrest Drive. It took out many trees and damaged the road. They were unable to fix the road for over a year. During that time the road could be used but residents had to use extreme caution while navigating that section of road.

5.1.6.4 Probability of Future Events

It is anticipated that landslides will continue to have an occasional impact on the Community.

5.1.7 Severe Wind

Severe wind can accompany other natural hazards or occur alone. Wind events pose a threat to vital utilities, lives, and property. Severe winds are classified using the Beaufort Wind Scale. Strong gale winds of 47 miles per hour (mph) and greater are considered severe and likely to produce damage.

5.1.7.1 Location

Severe wind affects the entire tribal planning area (see Exhibit 5-1).

5.1.7.2 Extent

The Beaufort Wind Scale gives a force scale of 1 – 12 based on sustained wind speed. Exhibit 5-6 identifies the scale and the consequences that are possible at the different levels as well as, the impacts to ocean water movement (NOAA NWS, March 2013). Any wind event, Force 9 and higher is considered severe and can cause damage within the Community.

Exhibit 5-6: Beaufort Wind Scale

The Beaufort Wind Scale

Force	Name	Wind Speed knots	Wind Speed mph	Consequence
0	Calm	0	0	Smoke rises vertically
Wave height: 0 m - **Sea:** Like a mirror				
1	Light air	1-3	1-3	Smoke drifts with air
Wave height: 0.1 m (.25 ft) - **Sea:** Ripples - No foam crests				
2	Light breeze	4-6	4-7	Weather vanes become active
Wave height: 0.2-0.3 m (0.5-1 ft) - **Sea:** Small wavelets - Not breaking				
3	Gentle breeze	7-10	8-12	Leaves and small twigs move
Wave height: 0.6-1 m (2-3 ft) - **Sea:** Small wavelets - Crests begin to break				
4	Moderate breeze	11-16	13-18	Small branches sway
Wave height: 1-1.5 m - **Sea:** Small waves becoming longer, numerous whitecaps.				
5	Fresh breeze	17-21	19-24	Small trees sway - Waves break
Wave height: 2-2.5 m (6-8 ft) - **Sea:** Moderate waves - Many whitecaps				
6	Strong breeze	22-27	25-31	Large branches sway
Wave height: 3-4 m (9.5-13 ft) - **Sea:** Larger waves forming - Whitecaps everywhere				
7	Near gale	28-33	32-38	Whole trees sway - difficult to walk
Wave height: 4-5.5 m (13.5-19 ft) - **Sea:** Sea heaps up - White foam blown around				
8	Gale	34-40	39-46	Twigs break off trees
Wave height: 5.5-7.5 m (18-25 ft) - **Sea:** Edges of crests break into spindrifts				
9	Strong gale	41-47	47-54	Shingles blow off roofs
Wave height: 7-10 m (23-32 ft) - **Sea:** High waves - Sea rolls - Reduced visibility				
10	Storm	48-55	55-63	Trees uprooted - Damage to buildings
Wave height: 9-12.5 m (29-41 ft) - **Sea:** Very high waves with overhanging crests				
11	Violent Storm	56-63	64-73	Widespread damage
Wave height: 11.5-16 m (37-52 ft) - **Sea:** Exceptionally high waves				
12	Hurricane	Over 63	Over 73	Violent destruction
Wave height: 16+ m (52+ ft) - **Sea:** Sea completely white - Excessive foam				

Severe wind can be present all year, but these events are most common during the spring and fall months. These conditions can cause loose debris to blow around the Community and detach roofing or siding from homes and other structures.

In the winter, severe winds can cause snowdrifts that impacts visibility and travel throughout the Community. In the summer and fall months, severe wind conditions produce an unhealthy amount of dust. The airport runway and all of the roads in the Community are gravel. This produces large amounts of airborne dust, impacting subsistence harvests and producing a breathing risk to everyone, but especially young children and those with respiratory issues.

Severe wind impacts air transportation in and out of the Community. This increases risks to residents if there is a lack of needed supplies, medications, and mail. This also decreases the ability to evacuate for medical emergencies.

5.1.7.3 History of Occurrences

Wind data has been researched for events in the last 10 years. Table 5-12 identifies historical severe wind events recorded in the Community (Weather Underground, 2018).

Table 5-12: Historical Severe Wind Events

Year	Max Wind Speed (mph)	# of Days Above 47 mph
2018	41	0
2017	43	0
2016	41	0
2015	53	1
2014	44	0
2013	38	0
2012	39	0
2011	38	0
2010	69	1
2009	59	3
2008	38	0

5.1.7.4 Probability of Future Events

Severe wind events are highly likely to continue to occur in the Community.

5.1.8 Severe Winter Weather

Severe winter storms can include snow, freezing rain, sleet, or a mix of the previous forms of precipitation. Heavy snowfall occurs when large quantities of snow is produced in a short period of time. Drifting snow creates an uneven distribution of snow caused by strong winds. This weather can cause harm to individuals, cause power outages, cause property damage, and damage utilities.

5.1.8.1 Location

Severe winter weather affects the entire tribal planning area (see Exhibit 5-1).

5.1.8.2 Extent

Air transportation is essential to the Community. Severe winter storm conditions create a hazard for planes to land in the Community. These storms hinder the ability to evacuate for medical emergencies, and receive needed supplies, medications, and mail due to ice or snow on the runway. There have been times in the past when planes have not been able to land in the Community for several days at a time.

Traveling in severe winter conditions is dangerous for residents because of the blowing snow and reduced visibility. This is exacerbated by colder temperatures because of their effect on the snow ratio. Due to the average temperatures in Alaska being lower than the rest of the United States during winter months, a snow ratio of 1:20 was assumed. This means that for every 1 inch of precipitation, 20 inches of snow falls. With extreme cold, the snow ratio can increase up to 1:50. This 'fluffy' snow is hard to manage because it becomes airborne easily (AccuWeather, 2019).

Icy conditions throughout the Community can present a hazard for all residents. Vehicles are at risk of sliding off the roads if the roads are not cleared of snow and ice. Walking residents are at risk of falling and injuring themselves. Walking residents share the road with vehicles and large equipment. This causes a risk to pedestrians walking in the Community.

5.1.8.3 History of Occurrences

Precipitation data has been reviewed for the Community in the last 10 years. Table 5-13 identifies historical severe winter weather events recorded in the Community between the months of November and March for the past six years. Precipitation data was not available between 2008 and 2012 (Weather Underground, 2018).

Table 5-13: Historical Severe Winter Weather Events

Year	Maximum One Day Precipitation (inches)	# of Days Above 1.0 inch
2018	0.81	0
2017	0.2	0
2016	1.28	1
2015	0.39	0
2014	1.1	1
2013	0.61	0

Additionally, residents in the Community provided the following accounts of severe winter weather:

- There was a snow event large enough in the past that required them to have to dig vehicles out of the snow.
- When there is blowing snow, planes don't come in for days at a time.
- Sometimes roads are icy enough that chains are necessary for safe driving.

5.1.8.4 Probability of Future Events

Severe winter weather will likely continue to occur and impact the Community. However, the Community is noticing that they are not getting the amount of snow that they used to get in the past. This is due to the warmer winter temperatures that they are experiencing.

5.1.9 Subsidence

Subsidence is the settling of surface soils either gradually over time or a sudden sinking. This is often experienced in swampy areas with soft or wet soils. Many things including thawing permafrost, declining groundwater levels, compactions, mining, and drainage can cause subsidence. The collapse of surface areas can damage infrastructure and buildings.

5.1.9.1 Location

Subsidence does not impact the entire planning area. Areas impacted by subsidence can be found on Figures 1 and 2.

5.1.9.2 Extent

Subsidence in the Community is impacting the community roads and trails, especially in swampy tundra areas. The gradual settling of the earth around the community is damaging roads and making residents more likely to get stuck in wet conditions.

5.1.9.3 History of Occurrences

A historical account of subsidence is provided by community residents. Residents indicated that subsidence is occurring on Bayou Loop Road. According to resident's accounts the road is sinking and a tractor fell down a hill once.

5.1.9.4 Probability of Future Events

Subsidence will continue to impact the community as permafrost continues to thaw.

5.1.10 Tsunami

A tsunami is a series of large waves created disturbances that take place undersea, such as a volcanic eruption or earthquake. These waves are powerful and can travel many miles over open sea, and can potentially cause devastating damage to shorelines. These powerful waves can result in flooding, can cause severe property damage, and cause injuries and deaths.

5.1.10.1 Location

The lower village site could be impacted by tsunamis.

5.1.10.2 Extent

Tsunamis have not had an impact on the Community to this point. However, should a tsunami occur in the Community it could have an extreme impact.

The bulk fuel for the Community is susceptible to impacts from tsunamis because they are located in the lower village. Should the Community lose access to fuel they would not be able to operate equipment or run power generators. A tsunami could be life threatening if one occurred because there are a few community residents that live in the lower village.

Additionally, a tsunami would increase erosion problems that are already occurring along the beach front of Nushagak Bay. This area provides subsistence resources as well as economic resources for community members. There are old buildings that hold a cultural significance, as well as cemeteries, and the cannery that could potentially be lost due to a tsunami.

5.1.10.3 History of Occurrences

No tsunamis have occurred in the Community. However, residents stated that they occasionally receive tsunami warnings for the community. One resident recalled evacuating to the top of the bluff during the 1964 earthquake. They stayed on the bluff for about five hours until the tsunami warning ceased.

5.1.10.4 Probability of Future Events

Tsunamis have a low probability to affect the Community. However, residents are concerned due to the impacts a tsunami could have, should one occur.

5.1.11 Volcano

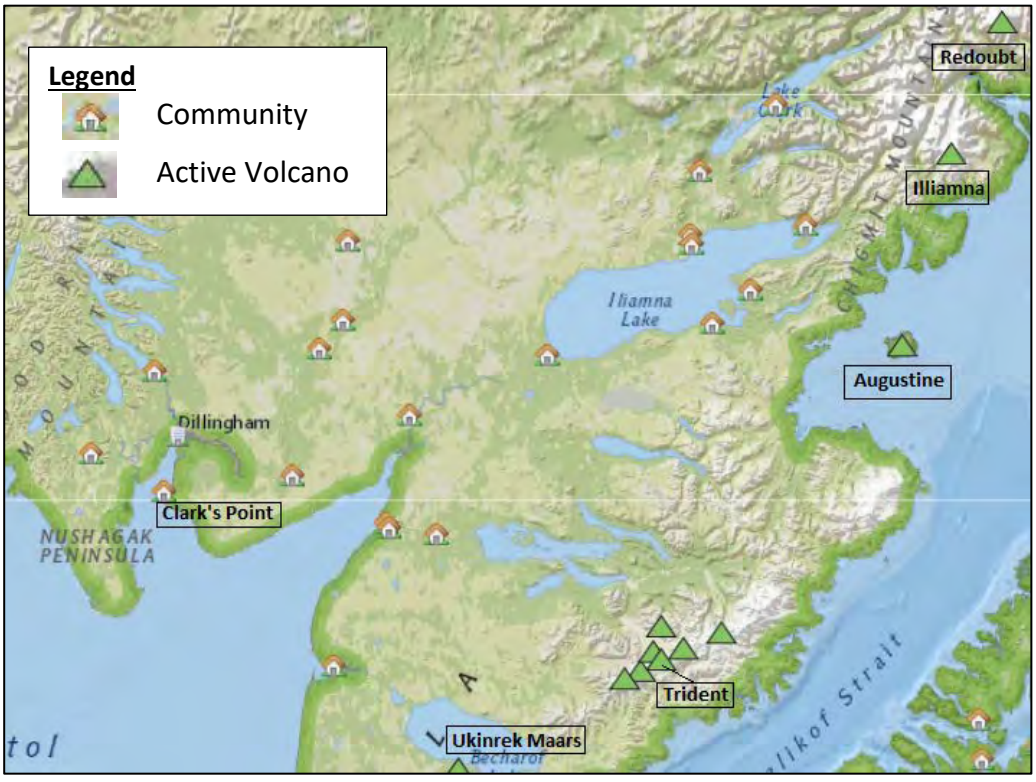
A volcano is a typically conical shaped mountain or hill that has a crater or vent. Lava, rock fragments, gases, and hot vapors erupt from the earth's core through the crater or vent. Volcanos are generally found where tectonic plates are diverging or converging. Erupting volcanos can pose hazards to those in the immediate area of the eruption or outside of the area for many miles. A volcano produces volcanic ash when it erupts. This can impact aircraft and vehicle transportation. It can also cause injury to people as it impacts air quality. Breathing volcanic ash can damage the lungs and cause breathing issues.

5.1.11.1 Location

The three closest volcanos to the Community with any historical eruptions are Ukinrek Maars at 101 miles, and Trident 131 miles away.

Exhibit 5-7 identifies some of the volcanos that can impact the Community with ash fall. The entire planning community is at risk when ash fall enters the area (see Exhibit 5-1).

Exhibit 5-7: Volcanos near Clark's Point



5.1.11.2 Extent

Volcanic ash is the primary concern for the Community for various reasons. Ash fall produces poor air quality and is a health risk to people with respiratory issues. Ash fall also creates a hazard to equipment, generators, vehicles, or anything with a motor. Volcanic ash is corrosive and can damage machinery. In rural Alaska, it can be challenging to replace equipment due to limited local resources, and delivery access to the Community. The Community relies upon air transportation for supplies, mail, and medical emergencies. Volcanic ash may or may not fall on the Community depending on the wind direction from the source. However, it can still have an impact if it is in the flight path of the aircraft.

5.1.11.3 History of Occurrences

Residents in the Community recall the following impacts of volcanic ash:

- Mount Redoubt erupted in 2009. This eruption caused interrupted air transportation throughout the state and Bristol Bay region.
- Ash fall can affect airplane travel

5.1.11.4 Probability of Future Events

Volcanos are anticipated to occasionally affect the Community. Volcanic eruptions are challenging to predict, and ash fall impacts are dependent on wind patterns.

5.1.12 Wildfire

A wildfire spreads through the consumption of vegetation. It typically occurs in areas with abundant vegetation. It often begins unnoticed and spreads quickly. It produces dense smoke that can be seen for many miles. Wildfires can result in damage to property, subsistence areas, and loss of life. The smoke produced from wildfires can prohibit air transportation in and out of a community, and reduces air quality.

Fuel, weather, and topography contribute to the behavior of the wildfire (Idaho Firewise, 2018):

- Wildfire fuel includes structures and vegetation. Dense, large areas burn for a longer duration and creates large amounts of heat. Less dense and dry areas burn quickly with less heat.
- Weather that can affect a wildfire includes wind, moisture, temperature, cloudiness, and air pressure. Wind moves the wildfire across the landscape and provides oxygen which can make the fire grow quickly. It can also cause embers to blow to new areas potentially causing new fire locations. Low humidity and high

temperatures can cause the vegetation to become dry. High humidity and rain can extinguish or slow the fire down.

- Topography, or physical features, including aspect and slope of an area, can contribute to the behavior of a wildfire. Wildfires burn more rapidly moving up a slope because it preheats the fuels which makes them more combustible. Also, south and west facing slopes have drier fuels due to more exposure to the sun.

5.1.12.1 Location

A map of wildfires located in and around the Community since 1939 is provided in Exhibit 5-8. However, wildfires have an impact on the entire tribal planning area (see Exhibit 5-1) due to the impacts of smoke and subsistence resources.

Exhibit 5-8: Clark's Point Fire Map

Source: (Alaska Interagency Coordination Center, 2018)

5.1.12.2 Extent

Subsistence areas around the Community provide needed food sources for residents. Wildfires can damage these areas and the resources they provide, such as berries, greens, and wildlife.

Smoke from wildfires produce poor air quality. It is hazardous to residents and pets, especially the elders, young children, and those with respiratory issues. Smoke from wildfires can also have a negative impact on subsistence harvests, specifically fish in smoke houses and in drying racks. This is an issue because residents throughout the community rely upon these harvests to sustain themselves through the winter months.

Nearby wildfires are a great concern and stress for the Community because they lack the ability to fight a fire if one were to occur. The Community has a code red trailer that can be pulled via an all-terrain vehicle for fire suppression gear. . This equipment is outdated. The fire department is a group of volunteers, which is currently inactive.

5.1.12.3 History of Occurrences

Table 5-14 below provides a list of wildfires and their impacts (in acreage) in or around the Community (Alaska Interagency Coordination Center, 2018). The community residents recall the fire in 2012 taking 5 days to put out. Fortunately the fire didn't reach the Community, but the possibility was present.

Table 5-14: History of Wildfires

Fire Name	Year	Estimated Impact (Acres)	Distance from Clark's Point (Miles)
Ekuk	1997	57	2.7
Queens	1981	1.0	5.2
St-404002	1984	100	8.2
Kanakanak	2002	0.1	10.2
Snake River	2012	16,566	10.9
Igushik	2001	1.5	14.6
Dillingham	1997	20	14.8
Dlg Vfd	2005	0.1	15.2
Nerka	1997	0.3	16.0
Kanakanak	2003	1.0	16.2
Dillingham	2015	2.0	16.3

5.1.12.4 Probability of Future Events

Wildfires are highly likely to continue to affect the Community. The Community is noticing drier and hotter seasons with more lightning. These conditions cause the vegetation to become drier, and more susceptible to fires. These same conditions are becoming more common throughout Alaska which also increases the risk of smoke from distant wildfires being blown into the Community.

5.2 COMMUNITY ASSETS

The Planning Team determined the potential impacts of natural hazards to the Community assets. Assets are broadly defined as anything that is important to the Community such as the people, the economy, and the natural and built environments of the Community. Some assets are more vulnerable to these hazards because of their socioeconomic uses and physical characteristics.

5.2.1 People

The most important asset to the Community is the people. The 2017 DCCED certified population was 55. Residents are not always in their homes. The following list provides the main places that people are in large numbers during the day when not in their place of residence.

- Clinic
- Post office
- Village Council Building
- Village Trailers 1 and 2
- School Building

5.2.2 Economy

The local economy is important to understand when planning to reduce the impacts of hazards. Economic resiliency influences recovery after a natural disaster. The following is a list of economic resources that could be affected and pose a severe impact on the Community should a hazard impact the Community.

- Post Office
- City Hall

5.2.3 Built Environment

Existing infrastructure and structures are another important asset to the Community. The following is a list of important infrastructure, existing structures, and critical facilities in the community.

- Critical Facilities/Existing Structures
  - Clinic
  - Post Office
  - City Hall
  - Saguyak Building
  - Village Council Building
  - Village Trailers 1 and 2
  - Catholic Church
  - School Building
  - Upper and Lower Cemeteries/Grave Sites
  - Lower Village Home and Cultural Assets
  - Cannery
- Infrastructure
  - Generator Building
  - City Maintenance
  - Water Pump Station
  - City Tank Farm
  - Village Tank Farm
  - Old Airport
  - Airport
  - Overhead Power and Communication Lines
  - GCI, Nushagak, Bristol Bay Towers
  - City Sewer Lines
  - Sewage Lagoon
  - Landfill
  - Water Lines
  - Weather Station

5.2.4 Natural Environment

Natural resources and environmental assets are also important to the Community. These resources are important to the Community's quality of life and identity.

- Subsistence areas (hunting and berry picking areas)
- Beach

5.3 RISK ANALYSIS

The risk analysis assesses the potential effects of the identified hazards on the vulnerable assets that have been identified. Table 5-15 provides a list of the identified assets with the Community. It provides a monetary value, if applicable, to the asset as well as the number of occupants that could be affected should a natural hazard impact the asset. Each asset was evaluated for each identified hazard. If the hazard posed a significant risk to the asset an "X" was placed in the corresponding "Hazard Impact" column in Table 5-15. This

information helped the Planning Team determine where the Community is most vulnerable and further helped in the identification of mitigation goals and actions.

The Planning Team used a combination of historical, exposure, and scenario analysis to determine the impact each hazard could have on the Community assets. They used historical analysis by reviewing the frequency and impact on the Community of the hazard in the past. Exposure analysis was used by evaluating the existing assets in the area where the hazard is likely to occur or has occurred in the past. Additionally, they used Community plans to identify future assets that may be affected by the hazard. The Planning Team used scenario analysis by asking "what if" questions about the hazard and made predictions of how the hazard would impact the Community assets should a hazard occur.

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Table 5-15: Risks to Vulnerable Assets

Facility Type	Number of Occupants	Facility Name	Facility Number (See Fig. 1 & 2)	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts											
						Drought	Earthquake	Erosion	Extreme Temperatures	Flood	Landslide	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Government	3	Post Office	9	58°50'5.90"N, 158°32'52.65"W	$200K		X		X			X	X			X	X
	1	City Hall	8	58°50'5.34"N, 158°32'53.99"W	$100K		X		X			X	X			X	X
	1	Village Trailer 2	19	58°50'2.43"N, 158°32'53.04"W	$50K	X	X		X			X	X			X	X
	3	Village Council Building	16	58°50'4.33"N, 158°32'50.05"W	$800K	X	X		X			X	X			X	X
	N/A	Weather Station	23	58°49'47.93"N, 158°31'43.79"W	Unknown		X	X	X			X	X			X	X
Transportation	N/A	Old Airport	27	58°50'25.26"N, 158°32'56.37"W	Unknown		X	X		X		X	X		X		X
	N/A	Official NTTFI Roads	21	4.1 Miles	$10M		X	X	X	X	X	X	X	X	X		X
	1	Airport	26	58°50'6.01"N, 158°31'43.43"W	$7M		X		X			X	X	X		X	X

Table 5-15 (Continued): Risks to Vulnerable Assets

Facility Type	Number of Occupants	Facility Name	Facility Number (See Fig. 1 & 2)	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts											
						Drought	Earthquake	Erosion	Extreme Temperatures	Flood	Landslide	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Educational	N/A	School Building	11	58°50'8.19"N, 158°32'38.41"W	$500K		X	X	X	X	X	X	X		X	X	X
Medical	5	Clinic	14	58°50'5.86"N, 158°32'49.79"W	$500K	X	X	X	X			X	X			X	X
Community	N/A	Saguyak Building	7	58°50'4.67"N, 158°32'32.05"W	$200K		X					X	X			X	X
	3	Village Trailer 1	18	58°50'3.78"N, 158°32'53.18"W	$75K	X	X		X			X	X			X	X
	N/A	Catholic Church	15	58°50'9.73"N, 158°33'22.07"W	$50K		X			X		X	X		X		X
	N/A	Cannery	17	58°50'37.18"N, 158°33'5.88"W	Unknown		X	X	X	X		X	X	X	X		X

Table 5-15 (Continued): Risks to Vulnerable Assets

Facility Type	Number of Occupants	Facility Name	Facility Number (See Fig. 1 & 2)	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts											
						Drought	Earthquake	Erosion	Extreme Temperatures	Flood	Landslide	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Community (Continued)	N/A	Upper Cemetery/ Grave Site(4)	3	58°50'1.08"N, 158°32'37.66"W 58°50'3.79"N, 158°32'43.49"W 58°50'1.34"N, 158°32'50.93"W 58°50'4.35"N, 158°33'14.24"W 58°49'56.02"N, 158°32'53.25"W	--		x										X
	3	Lower Village Homes and Cultural Assets	20	58°50'26.13"N, 158°33'20.35"W	--		X	X	X	X		X	X	X	X	X	X

Table 5-15 (Continued): Risks to Vulnerable Assets

Facility Type	Number of Occupants	Facility Name	Facility Number (See Fig. 1 & 2)	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts											
						Drought	Earthquake	Erosion	Extreme Temperatures	Flood	Landslide	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Community (Continued)	N/A	Lower Cemetery/ Grave Site (3)	4	58°50'7.93"N, 158°33'26.72"W 58°49'57.43"N, 158°33'16.49"W 58°50'8.03"N, 158°33'3.53"W 58°50'18.99"N, 158°33'26.43"W	--		X	X		X					X		X
Utilities	3	Generator Building	5	58°50'4.64"N, 158°32'34.79"W	$400K		X		X			X	X			X	X
	N/A	City Maintenance	6	58°50'4.99"N, 158°32'37.26"W	$100K		X					X	X				X
	1	Water Pump Station	10	58°50'6.53"N, 158°33'0.33"W	$500K	X	X		X		X	X	X			X	X
	1	City Tank Farm	13	58°50'5.98"N, 158°33'16.61"W	$500K		X	X	X	X	X	X	X		X	X	X

Table 5-15 (Continued): Risks to Vulnerable Assets

Facility Type	Number of Occupants	Facility Name	Facility Number (See Fig. 1 & 2)	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts											
						Drought	Earthquake	Erosion	Extreme Temperatures	Flood	Landslide	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Utilities (Continued)	N/A	Village Tank Farm	12	58°50'7.05"N, 158°33'21.74"W	$100K		X		X	X	X	X	X		X	X	X
	N/A	Overhead Power and Communication Lines	24	Community Wide	Unknown		X	X	X	X	X	X	X	X	X		X
	N/A	City Sewer lines	28	Community Wide	Unknown		X		X				X	X			
	N/A	Sewage Lagoon	2	58°50'0.13"N, 158°32'56.18"W	1.5M		X		X								X
	N/A	Water lines	22	Community Wide	Unknown	X	X	X	X				X	X			X
	N/A	Landfill	1	58°49'56.39"N, 158°33'18.40"W	$1M		X	X				X	X				X

Table 5-15 (Continued): Risks to Vulnerable Assets

Facility Type	Number of Occupants	Facility Name	Facility Number (See Fig. 1 & 2)	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts											
						Drought	Earthquake	Erosion	Extreme Temperatures	Flood	Landslide	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Natural Environment	N/A	Beach	25	58°50'35.00"N, 158°33'19.42"W	--		X	X	X	X	X	X	X	X	X		
	N/A	Saguyak Lands	29	Various Locations	--	X		X	X	X	X	X	X		X		X

5.4 VULNERABILITY

The following lists the Community's overall vulnerability to the hazards that affect the planning area, 44 CFR 201.7(c)(2)(ii).

- Drought – Residents are concerned about low water levels in the Community groundwater well because there is not currently a backup water supply for the Community. Local berries, a subsistence resource, have been deficient in past years due to a lack of water.
- Earthquakes –The quality of water in the drinking water aquifer could be altered during an earthquake. Damage to older community structures and underground utilities could be caused due to seismic activity.
- Erosion – The lower village site and cultural assets including the two cemeteries are at risk to becoming damaged or lost due to erosion.
- Extreme Temperatures – Subsistence harvests are ruined in extreme heat conditions. Likewise, unnaturally cold temperatures in spring and summer impacts plant growth and disrupts subsistence activities. Underground water and sewer lines have frozen and broken due to extreme cold conditions.
- Flood - Structures in the lower village are at risk of flood. A few residents, the bulk fuel storage, the cannery, and other important cultural assets is in the lower village, and have been flooded in the past.
- Landslides – Residents are unable to access the lower village at times due to landslides on Bayou Loop and Hillcrest Drive.
- Severe Wind – Damage to structures, infrastructure have occurred due to severe wind speeds. Severe wind speeds have an impact on the delivery of supplies and travel via air transportation.
- Severe Winter Weather – The delivery of supplies is hindered via air transportation due to snow and ice on the runway. Residents are unable to access the lower village due to ice on Hillcrest Drive and Bayou Loop..
- Subsidence - Community roads are being damaged by the subsidence occurring in the Community.
- Tsunami – The bulk fuel, a few residents, and other cultural assets could be lost or damaged due to a tsunami.
- Volcano – Air quality decreases in the presence of ash and is detrimental to the health of residents and pets. The corrosive properties of the ash are harmful to equipment. Air transportation has stopped due to ash emissions from a volcanic eruption.

- Wildfire – Nearby subsistence areas and resources have been lost due to wildfires. The smoke from nearby wildfires and blown in smoke from distant wildfires decreases the air quality and poses a health risk to residents and pets.

6.0 MITIGATION STRATEGY

The following section describes the Community's mitigation strategy. This mitigation strategy will serve as a long-term plan for reducing the potential losses identified in the risk assessment. The THMP discusses the Community's current pre- and post- disaster hazard management plan, and existing and potential funding sources. It also provides the Community's mitigation goals, and actions. Along with these goals and actions this section provides an action plan, a tracking process for the mitigation actions, and a plan to implement these goals and actions into existing planning mechanisms.

6.1 PRE-/POST-DISASTER HAZARD MANAGEMENT

Pre- and post-disaster hazard management programs, policies, and mitigation capabilities of the Community were reviewed, 44 CFR 201.7(c)(3) and 201.7(c)(3)(iv). The Planning Team used this review to identify existing opportunities and challenges of existing capabilities of the Community. This information aided in the determination of mitigation actions for the identified hazards.

The Community is small with limited planning and land management tools. The resources available in the Community are listed below in Table 6-1 and Table 6-2. This THMP provides an opportunity to identify challenges and needs for additional programs and/or policies. It also provides an opportunity to work with other local agencies in the development of appropriate programs and policies.

The Community's planning and regulatory tools are listed in Table 6-1 below. These tools aid in the prevention and reduction of impacts from hazards in the Community.

Table 6-1: Planning and Regulatory Tools

Regulatory Tools (ordinances, codes, plans)	(Yes / No)	Comments
Comprehensive Plan	No	--
Land Use Plan	No	--
Wildland Fire Protection Plan	No	--
Emergency Response Plan	No	--
Long Range Transportation Plan	Yes	2018, developed by the Council
Tribal Transportation Safety Plan	Yes	2019, developed by the Council
Other Special Plans (e.g., climate change adaptation, coastal zone management)	No	--

Table 6-1 (Continued): Planning and Regulatory Tools

Regulatory Tools (ordinances, codes, plans)	(Yes / No)	Comments
Building Code[1]	No	--
Zoning Ordinances	No	--
Subdivision Ordinances or Regulations	No	--
Other	No	--

[1] New public facilities are designed by licensed professionals using applicable state and federal codes and regulations present at the time of design.

The Community's administrative and technical capabilities are listed in Table 6-2 below. These staff and their skills and tools can be used for mitigation planning and to implement specific mitigation actions.

Table 6-2: Administrative and Technical Capability

Staff / Personnel Resources	(Yes / No)	Department / Agency and Position
Administrator	Yes	Tribe
Environmental Program	No	--
Fire Department	No	--
Librarian	No	--
Village Public Safety Officer	No	Vacant
Health Aide	Yes	Bristol Bay Area Health Corporation (BBAHC)
Planner or engineer with knowledge of land development and land management practices	No	The Tribe hires consultants with this knowledge
Engineer or professional trained in construction practices related to buildings and / or infrastructure	No	The Tribe hires consultants with this knowledge
Planner or engineer with an understanding of natural and / or human-caused hazards	No	The Tribe hires consultants with this knowledge
Surveyors	No	The Tribe hires consultants with this knowledge
Floodplain Manager	No	--
Staff with education or expertise to assess the jurisdiction's vulnerability to hazards	No	The Tribe hires consultants with this knowledge

Table 6-2 (Continued): Administrative and Technical Capability

Staff / Personnel Resources	(Yes / No)	Department / Agency and Position
Personnel skilled in Geospatial Information System (GIS) and / or HAZUS	No	The Tribe hires consultants with this knowledge
Finance (Grant Writers)	Yes	Tribe, City, BBNA[1] (Situation Dependent)

[1] BBNA provides post-disaster grant management staff who can assist the Tribe with grant applications for disaster recovery and long-term recovery plans.

6.2 FUNDING

The following identifies existing and potential funding sources to implement proposed mitigation activities and actions, 44 CFR 201.7(c)(3)(iv) and 201.7(c)(3)(v).

6.2.1 Existing Funding Sources

At the time of the development of the THMP the Tribe has not received or allocated any non-FEMA funds for hazard mitigation actions or projects. However, the Tribe received PDM grant funding for the development of the THMP.

6.2.2 Potential Funding Sources

There are federal, tribal, and private funding sources available to the Tribe for proposed mitigation activities and projects. Sections 6.2.2.1 thru 6.2.2.3 provides a brief list and description of a selection of potential funding sources. In addition to the funding sources listed below other funding sources can be found from the following resources:

- Grants.gov – www.grants.gov is a public website where all federal agency discretionary funding opportunities are posted for grantees to find and apply. Some grant postings close quickly, so it is important to frequently check for potential opportunities.
- Catalog of Federal Resilience Programs for Alaskan Communities – The Denali Commission published a catalog detailing programs that are available to Alaskan communities. A copy of the catalog is located in Appendix D. See Section 8.0 for a web link to the catalog to check for updates (Arctic Executive Steering Committee, 2015).

6.2.2.1 Federal Funds

FEMA provides funding for eligible mitigation planning and projects that protect life and property from future disaster damages and reduces disaster losses. This funding is administered through three programs, the PDM, the Hazard Mitigation Grant Program

(HMGP), and the Flood Mitigation Assistance (FMA) Program. Below is a brief description of each of these funding sources.

Pre-Disaster Mitigation Program

The PDM Program is authorized by Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. The goal of this programs is to reduce the overall risk to structures and population from future hazard events. Funds from the program provides opportunities to raise public awareness and reduce future losses before disasters occur. PDM provides funds on an annual basis for hazard mitigation planning and projects. This funding is dependent on the amount congress appropriates each year (FEMA, 2018).

Hazard Mitigation Grant Program

HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Following a Presidential Major Disaster Declaration HMGP supports post-disaster cost-effective projects. The purpose of the HMGP is to provide funding for long-term hazard mitigation planning and projects that will reduce the risk of loss of property and life from future disaster. HMGP provides funding up to 75 % of mitigation projects. The remaining 25% of the mitigation project funding needs will come from other available funding sources (FEMA, 2018).

Flood Mitigation Assistance Program

The FMA Program is authorized by Section 1366 of the National Flood Insurance Act of 1968. The goal of this program is to reduce or eliminate claims made under the National Flood Insurance Program (NFIP). FMA provides funding on an annual basis for planning and projects that reduce or eliminate the risk of flood damage to buildings that are insured under the NFIP. Funding for this program is dependent on the amount congress appropriates each year for this program (FEMA, 2018).

6.2.2.2 Tribal Funds

Tribal funds have been available in the past. One of the Tribal funds available is the Indian General Assistance Program (IGAP). The IGAP provides funding sources to help manage and maintain an environmental office. This office conducts environmental assessments for the Community and helps to prioritize environmental concerns, and educate the public.

6.2.2.3 Private Funds

In general, private funds are not readily available to the Tribe. However, the Tribe could potentially have access to funds through local non-profit organizations and regional corporations.

6.3 MITIGATION GOALS

The findings from the risk assessment were used to develop mitigation goals and actions. The mitigation goals in this THMP are general guidelines that describe Community goals, 44 CFR 201.7(c)(3)(i). These goals are broad, long-term statements that represent the Community's vision for avoiding and reducing losses from the identified hazards. The Planning Team has identified the mitigation goals in Table 6-3.

Table 6-3: Mitigation Goals

Goal Number	Goal Description
1	Promote recognition and mitigation of all natural hazards that affect the Community.
2	Promote cross-referencing of mitigation goals and actions with other Tribal planning mechanisms and projects.
3	Improve emergency response resources.
4	Reduce the possibility of damages due to **drought**.
5	Reduce the possibility of damages due to **earthquakes**.
6	Reduce the possibility of damages due to **erosion**.
7	Reduce the possibility of damages due to **extreme temperatures**.
8	Reduce the possibility of damages due to **floods**.
9	Reduce the possibility of damages due to **landslides**.
10	Reduce the possibility of damages due to **severe winds**.
11	Reduce the possibility of damages due to **severe winter weather** conditions.
12	Reduce the possibility of damages due to **subsidence**.
13	Reduce the possibility of damages due to **tsunamis**.
14	Reduce the possibility of damages due to **volcanos**.
15	Reduce the possibility of damages due to **wildfires**.

6.4 POTENTIAL MITIGATION ACTIONS

Mitigation actions are specific activities, projects, actions, and processes that aid in achieving the mitigation goals. These actions are used to eliminate or reduce long-term risk to property and people from hazards and their impacts, 44 CFR 201.7(c)(3)(ii). There are four (4) types of mitigation actions that will help reduce long-term vulnerabilities. Mitigation actions fall under the following categories, local plans and regulations, infrastructure and structure projects, natural systems protections, and education and awareness programs. The Planning Team brainstormed and developed a comprehensive list

of potential mitigation actions. The full list (Potential Mitigation Actions) is located in Appendix A.

Not all of the identified actions can be implemented in the final action plan. This could be due to a lack of political acceptance, technical feasibility, lack of funding, and other constraints. The Planning Team refined the list of potential mitigation actions (see Appendix A) using the criterion listed below (FEMA, March 2013). These criterion were used to facilitate discussions and to aid in the determination of mitigation actions to be implemented into the prioritized mitigation action plan (Section 6.6). The underlined and bold action identifications (IDs) in the potential mitigation actions list (see Appendix A) were selected by the Planning Team to be implemented in to the action plan. Each of these actions were more thoroughly analyzed using the Mitigation Action Evaluation Worksheet located in Appendix A (FEMA, March 2013).

- Life Safety – Analyzes how effective the action is at preventing injuries and protecting lives.
- Property Protection – Analyzes the significance of the action at eliminating or reducing damage to infrastructure and structures.
- Technical – Analyzes if the action is technically feasible and if it is a long-term solution.
- Political – Analyzes public and political support of the action.
- Legal – Analyzes if the Community has authority to implement the action.
- Environmental – Analyzes the actions impacts on the environment and if it complies with environmental regulations.
- Social – Analyzes the action based on its effect on one or more segments of the population.
- Administrative – Analyzes the Community's personnel and administrative capabilities to implement and maintain action.
- Local Champion – Analyzes the action to determine if there is a strong advocate that will support the action's implementation.
- Other Community Objectives – Analyzes if the action advances other community objectives or plans.

These identified and selected activities represent a comprehensive range that will lessen the need for preparedness or response resources when a natural hazard impacts the Community in the future.

6.5 MITIGATION ACTION PLAN

The actions to be implemented into the mitigation action plan, identified by the Planning Team, were prioritized based on the importance of each item relative to the plan's goals, risks, and capabilities of the Community, 44 CFR 201.7(c)(3)(iii). Table 6-4 provides a prioritized list of mitigation actions, the position, office, department or agency responsible for the implementation of the action, potential funding options, and the timeframe for the action to be implemented. The Mitigation Action Implementation Worksheet (THMP Form 6-1) is included in Appendix E. A completed table will be included in the final draft. The Planning Team will complete this table with the help of the Mitigation Action Evaluation Worksheet located in Appendix A.

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Table 6-4: Prioritized Mitigation Actions

[1]Action ID	Description	Priority (High, Medium, Low)	Coordinating Department	Implementation Department/Role	Potential Funding Source	Timeframe
1.A	Develop and provide, to the community, brochures of each identified hazard.	High	Tribe / BBNC	Board	Grants	ASAP
1.B	Hold a monthly safety meeting and focus on one hazard each time.	Medium	Tribe	Board	Tribe	Monthly (Weekends)
1.C	Develop an emergency plan for the Community.	High	Tribe	Board	FEMA	Annually
1.D	Educate the Community on the emergency plan.	High	Tribe	Board	FEMA	Annually
2.A	Identify a location for all planning documents that is easily accessible.	--	Tribe	Board	Tribe	Now
2.B	Maintain a current location for all electronic versions of the planning documents.	Medium	Tribe / BBNC	Board	Website	Now
2.C	Conduct a yearly review of the plans and document progress towards their goals and actions.	High	Tribe / BBNC	Board	Tribe	Annually
2.D	Include goals and strategies in future planning document updates.	--	Tribe	Board	Tribe	Now
4.A	Investigate additional emergency water supply options for the Community.	High	Tribe / City	Board	Grant	Ongoing

Table 6-4 (Continued): Prioritized Mitigation Actions

[1]Action ID	Description	Priority (High, Medium, Low)	Coordinating Department	Implementation Department/Role	Potential Funding Source	Timeframe
4.C	Educate residents about the need for a personal water supply.	Medium	BBAHC	Board	Indian Health Service (HIS) / BBAHC	Ongoing
6.A	Determine the best strategy to protect the cemetery in the lower village site. Either construct a wall around the cemetery or relocate it.	High	Board	Board	Grant	Ongoing
6.B	Construct a seawall or retaining wall around the cemetery in the lower village site.	High	Tribe	Board	Grant	Ongoing
6.C	Continue to measure erosion along the Community.	Medium	Tribe	Board	Department of Natural Resources (DNR) / US Environmental Protection Agency (EPA)	Ongoing
6.E	Design and build up roads throughout the Community.	High	Tribe	Board	Bureau of Indian Affairs (BIA) / NTTFI	Ongoing
6.F	Design and construct new drainage features throughout the Community.	High	Tribe	Council / Board	City / Grant	Ongoing
7.A	Develop and provide a course on hypothermia for the Community.	Medium	Tribe / BBAHC	Public	Federal Agencies	Ongoing

Table 6-4 (Continued): Prioritized Mitigation Actions

[1]Action ID	Description	Priority (High, Medium, Low)	Coordinating Department	Implementation Department/Role	Potential Funding Source	Timeframe
7.B	Continue maintenance effort to repair water and sewer lines as needed.	High	City	City	State Grants	Ongoing
7.C	Develop an inspection process and schedule to inspect thaw wires on water and sewer lines.	Medium	City	Public	State Grants	Ongoing
8.B	Identify appropriate training for and train road maintenance operators.	Medium	City	BBEDC / City	BBEDC	Ongoing
9.A	Acquire cones to place aroiund landslide areas to warn residents of the hazard.	High	City	City	DOT&PF / City	Ongoing
9.B	Acquire and install landslide caution signs.	Medium	City	City	State / City	Ongoing
10.A	Reinstate the wind monitoring system.	Medium	Tribe	Board	State	Needs to be Done
11.A	Contine to provide snow removal service throughout the Community.	High	City	City	State / City	Ongoing
12.A	Build up roads and trails, especially Bayou Loop Road.	High	Tribe / City	Boths Boards	Grants	Ongoing
13.A	Educate community members about the hazards of tsunamis and what to do in such an event.	Low	Tribe	Board	FEMA	Ongoing

Table 6-4 (Continued): Prioritized Mitigation Actions

[1]Action ID	Description	Priority (High, Medium, Low)	Coordinating Department	Implementation Department/Role	Potential Funding Source	Timeframe
14.A	Educate community members about proper mask usage.	Medium	Tribe	Board	BBAHC	ASAP
14.B	Provide proper masks for community members through the clinic.	Medium	Tribe	Board	BBAHC	ASAP
15.B	Develop and maintain an inspection process for the Code Red Cart.	High	City	City	Code Red	Ongoing
15.C	Identify, replace, and upgrade fire equipment as needed.	High	Tribe	Board	BBEDC	ASAP
15.D	Maintain brush cutting to provide a fire barrier.	Medium	City	Village City	BBEDC / City	Ongoing
15.E	Educate community members about the need for fire barriers around their homes.	High	City / Tribe	Both Boards	N/A	ASAP

[1] Action IDs are not in sequential order. For a full listing of potential mitigation action items see Appendix A.

6.6 IMPLEMENTING ACTION PLAN INTO OTHER PLANNING MECHANISMS

After the adoption of the THMP by the Council, the Planning Team will work to incorporate the goals and actions of the THMP into other existing Community planning mechanisms, 44 CFR 201.7(c)(4)(iii). The Planning Team will accomplish this by performing the following activities:

- Review community-specific regulatory tools to establish where to incorporate the mitigation philosophy into other plans.
- Work with the community to increase awareness for implementing THMP philosophies and initiatives into other planning mechanisms. Provide assistance with incorporating the mitigation strategy (and Mitigation Action Plan) into relevant planning mechanisms (i.e., Utility Master Plans, Transportation Plans, Comprehensive Plan, Capital Improvement Project List, etc.)
- Update or amend other applicable planning mechanisms as necessary to include the THMP Action Plan.

6.7 REVIEWING PROGRESS GOALS

Tracking the progress of the mitigation actions and goals is important to the THMP, 44 CFR 201.7(c)(4)(ii) and 201.7(c)(4)(v). The Prioritized Mitigation Actions (Table 6-4) provides information pertaining to the tracking process for each mitigation action. It provides the following tracking process information:

- The estimated time to implement each action.
- The department, office, or agency responsible for coordinating and monitoring the implementation of each action; and
- The department, office, or agency and their respective roles in implementing each action.

The Mitigation Action Plan in Section 6.6 provides a description of the planned implementation timeframe for each Mitigation Action. A Mitigation Action Progress Report will be completed annually to monitor the progress of the Mitigation Actions, and any Mitigation Actions that require project closeout. The Mitigation Action Progress Report will address the current status of the mitigation project, any changes made to the project, implementation problems, and appropriate strategies to overcome them. The Mitigation Action Progress Report (THMP Form 6-2) is located in Appendix E.

When FEMA supported projects are completed, the project closeout documents will be prepared by the Tribe. Project closeout may include final invoicing, site inspections, and summary memorandums of the Mitigation Actions.

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7.0 PLAN ASSURANCES AND ADOPTION

This section complies with the requirements of 44 CFR 201.7(c)(6) and 44 CFR 201.7(c)(5). The Tribe assures that it will comply with all applicable regulation and federal statutes in effect with respect to the periods for which it receives grant funding in compliance with 44 CFR Parts 200 and 3002. The Tribe will amend its plan whenever necessary to reflect changes in Federal or tribal laws and statutes.

The Council will formally adopt the THMP after receiving a letter from FEMA stating that the plan is approved pending adoption. The THMP adoption resolution will be signed by the Council and will be placed in Appendix F. This document will show the Tribe's commitment to implementing the mitigation strategies identified in the THMP and authorizes the responsible agencies to execute their actions.

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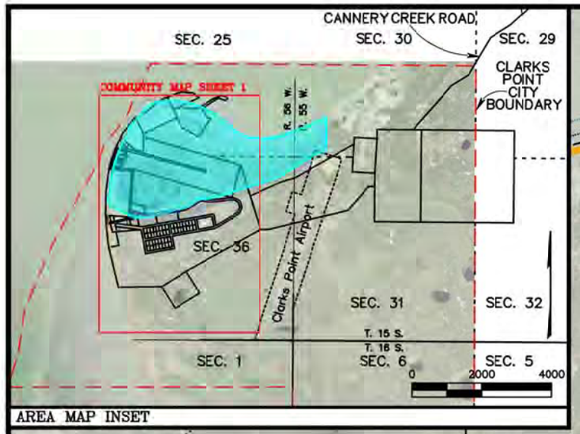
FIGURES



AREA MAP INSET

Community Map
CLARKS POINT

58° 50' 11" N 158° 32' 56" W (NAD 83)
Approximate Elevation: 10'
Township 15 South, Range 56 West, S.M., AK
U.S.G.S. Quadrangle "NUSHAGAK BAY D-2" Alaska
BRISTOL BAY RECORDING DISTRICT

LEGEND

- PLANNED AREA LIMITS
- OLD VILLAGE AREA LIMITS
- EROSION
- FLOODING
- LANDSLIDE
- SUBSIDENCE

0 200 400 800
SCALE IN FEET

FIGURE 1 of 2

MAP NOTES

This map was prepared by the Bristol Bay Native Association (BBNA) in cooperation with the Alaska Department of Community and Economic Development (DCED) using funding from the Bristol Bay Housing Authority, U.S. Bureau of Indian Affairs, Alaska Coastal Management Program and funding from the Initiative for Accelerated Infrastructure Development (IAID). The IAID is supported by grants from the Alaska Native Tribal Health Consortium, Denali Commission, USDA Rural Development, Alaska Department of Transportation and Public Facilities and DCED. The Bristol Bay Native Association contracted with Bristol Environmental & Engineering Services in June of 2003 to prepare the map. McClintock Land Associates Inc. was subcontracted by Bristol Environmental and Engineering Corporation to perform aerial photography and control surveying.

This map is based upon a digital orthophoto prepared to National Map Accuracy Standards from July 13, 2003 photography (nominal scale 1" = 1000'). An orthophoto is an aerial photo which has been corrected, by rectification to ground control stations, to remove aircraft distortions and warpage. The distortions are generally caused by topography and the aircrafts tilt and trim. Bing photography was added as needed to provide clarity.

Property and utility information has been generated from readily available sources with limited accuracy checks. Property information is not intended to represent a comprehensive title search of Recorders Office records. Utility locations are a approximate and show only the main lines. Generally, the information is current as of July, 2003.

This map should not be construed as a survey. On-site surveys should be conducted prior to engineering and or construction.

COORDINATE SYSTEMS

Horizontal Datum-NAD 83 Alaska State Plane Zone 6 (USS FEET)
based on TRI STATION "Dillingham At Mk"
Vertical Datum-NAVD 88, based on CORS tie to "Kenai" & "Cold Bay" & "Kodiak"

Magnetic Declination computed by U.S.G.S. Geomag program using IGRF2000 model as of January, 2004.

TOPOGRAPHIC & PLANIMETRIC DATA

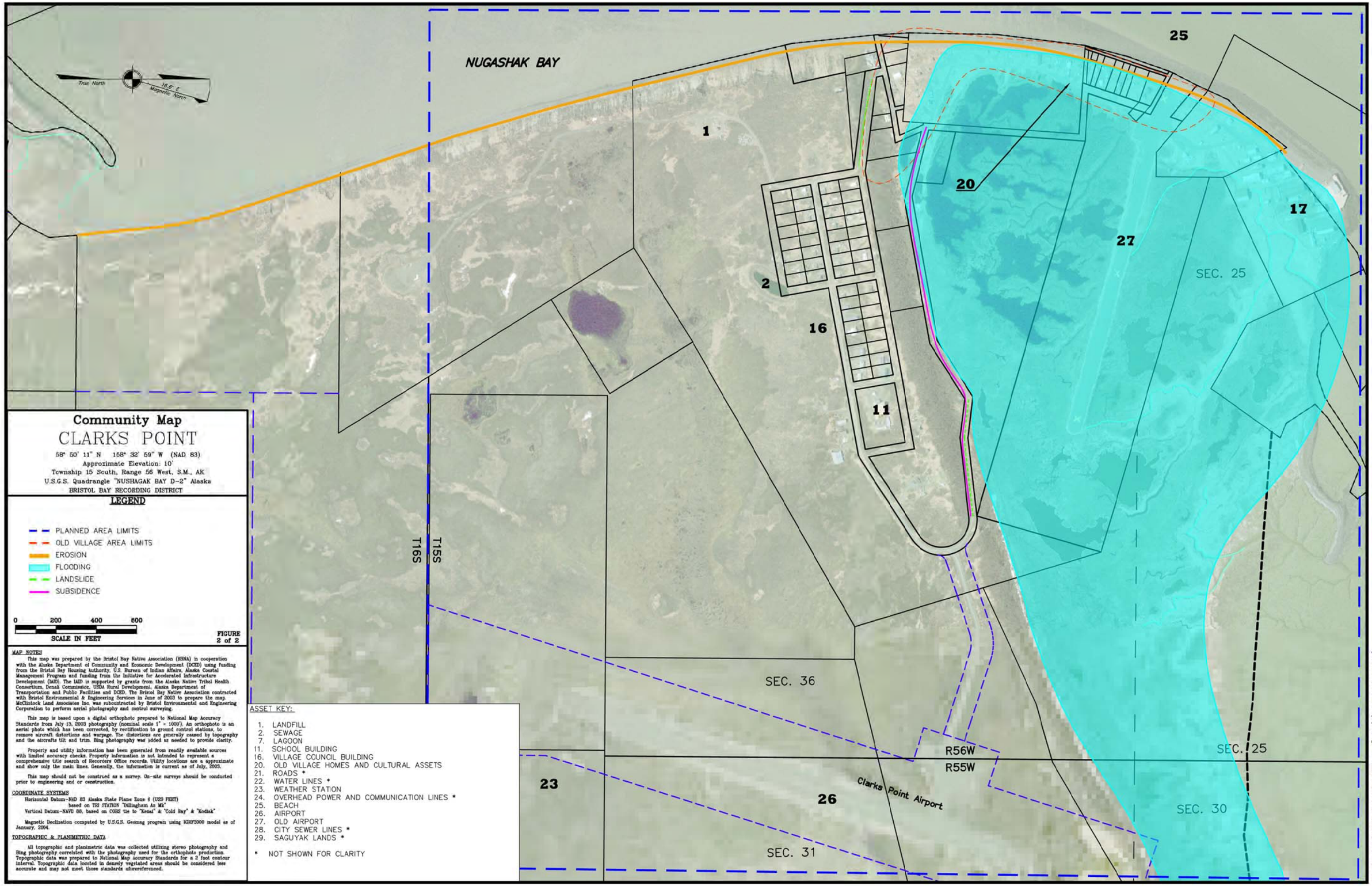
All topographic and planimetric data was collected utilizing stereo photography and Bing photography correlated with the photography used for the orthophoto production. Topographic data was prepared to National Map Accuracy Standards for a 2 foot contour interval. Topographic data located in densely vegetated areas should be considered less accurate and may not meet those standards aforereferenced.

ASSET KEY:

1. LANDFILL
2. SEWAGE LAGOON
3. UPPER CEMETERY/GRAVE SITES
4. LOWER CEMETERY/GRAVE SITES
5. GENERATOR BUILDING
6. CITY MAINTENANCE
7. SAGUYAK BUILDING
8. CITY HALL
9. POST OFFICE
10. WATER PUMP STATION
11. SCHOOL BUILDING
12. VILLAGE TANK FARM
13. CITY TANK FARM
14. CLINIC
15. CATHOLIC CHURCH
16. VILLAGE COUNCIL BUILDING
17. CANNERY
18. VILLAGE TRAILER 1
19. VILLAGE TRAILER 2
20. OLD VILLAGE HOMES AND CULTURAL ASSETS
21. ROADS *
22. WATER LINES *
24. OVERHEAD POWER AND COMMUNICATION LINES *
25. BEACH
26. AIRPORT
27. OLD AIRPORT
28. CITY SEWER LINES *
29. SAGUYAK LANDS *

* NOT SHOWN FOR CLARITY

CLARKS POINT COMMUNITY MAP SHEET 1 1"=200' (2003 PHOTOGRAPHY)



Community Map

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U.S.G.S. Quadrangle "NUSHAGAK BAY D-2" Alaska
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- OLD VILLAGE AREA LIMITS
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- FLOODING
- LANDSLIDE
- SUBSIDENCE

0 200 400 600
SCALE IN FEET

FIGURE 2 of 2

MAP NOTES

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ASSET KEY:

1. LANDFILL
2. SEWAGE
7. LAGOON
11. SCHOOL BUILDING
16. VILLAGE COUNCIL BUILDING
20. OLD VILLAGE HOMES AND CULTURAL ASSETS
21. ROADS *
22. WATER LINES *
23. WEATHER STATION
24. OVERHEAD POWER AND COMMUNICATION LINES *
25. BEACH
26. AIRPORT
27. OLD AIRPORT
28. CITY SEWER LINES *
29. SAGUYAK LANDS *

* NOT SHOWN FOR CLARITY

CLARKS POINT AREA USE MAP SHEET 2 1"=300' (2003 PHOTOGRAPHY)

APPENDIX A

Planning Process

- Meeting Minutes (October 11, 2018)
- Hazard Identification Worksheet
- Risk Analysis Worksheet
- Mitigation Action Types & Examples
- Potential Mitigation Actions
- Mitigation Action Evaluation Worksheet

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TRIP REPORT & MEETING MINUTES

Project: **BBNA THMP & TTSP Project**
Bristol Project No: 32190013
Reference: Clark's Point Planning Team Meetings & Public Meetings
Date of Meeting: October 11, 2018
Location of Meeting: Clark's Point Tribal Building
Participants:
Bristol: Danielle Dance, Jackie Wander
BBNA: Annie Fritze
Planning Team: See attached sign in sheet
Public Meeting: See attached sign in sheet

Summary

Jackie, Danielle, and Annie arrived in Clark's Point around 9:30 AM on October 11, 2018. They held a meeting with the planning team from 10:30 AM to 3:30 PM to discuss the Tribal Hazard Mitigation Plan (THMP) Project. We went through Worksheets #1-6 to collect background information for the plan including hazards to profile, community assets, vulnerability statements, mitigation goals, and potential mitigation strategies.

We did not have enough time to discuss the Tribal Transportation Safety Plan component of the project. The planning team was receptive to the idea of meeting with Bristol in Anchorage during the BIA Providers Conference in November.

From 4:00 PM to 5:15 PM, a public meeting was held in the Tribal Building. Jackie, Danielle, and Annie departed Clark's Point around 5:30 PM and stayed overnight in Dillingham. Notes taken during the planning team and public meetings are summarized below. Completed worksheets are attached to the end of the meeting minutes.

THMP Planning Team Meeting Notes

Worksheet 1 – Hazard Identification

- Avalanche
  - Flat tundra, no avalanches here
  - Do not profile
- Drought
  - When there is a mild winter with little snow, the following summer tends to be much hotter with little rain, but it does not happen very often
  - Significant affect to area, primarily the water sources and vegetation
  - Concerned about wells going dry, algae health hazards? No backup water supply, this could create a real emergency situation,
  - Happens every 3 to 5 years

- Earthquake
    - Last big earthquake that had significant impact to the community was in 1964, before there were homes up on the bluff, everyone had to evacuate, they had to spearhead a shelter, shut the school and cannery down, everyone had to climb the hill, everyone evacuated but one person, after that they built stairs up the hill, they dug out shelters, were up there for about 5 hours because of tsunami warnings, it was winter and very cold, the steel chimney stacks of the cannery clanged together.
    - Other earthquakes have only been minor tremors, never see structural damage, slight shaking, it's possible that things might fall off the wall, but hasn't happened recent
    - There was no loss of service during the '64 earthquake, but if there was an earthquake today, a tsunami would possibly reach the buildings up on the bluff
    - It's been quite a while since they've felt small tremors
- Erosion
    - Red across the board, bad erosion issues down by the water, losing beach front property every year, want a retaining wall or seawall like Togiak, also some erosion on the roadways in upper village
    - Would like the village to know that the graveyard is a priority and will be washing out soon, build a retaining wall around
    - or move the cemetery
    - What grants are available to relocate cemetery and other buildings?
    - Sometimes they excavate on the beach to get gravel for the roads, which increases the erosion rates, the beach washes away really easily
- Extreme Cold
    - Experience once in a great while, not as cold as it used to be due to climate change, especially a concern while traveling, need to take extra provisions
    - Can have an effect on water and sewer, 20 years ago, had a cold spell, sewer line was part of City maintenance, caused raw sewage exposure in the winter, had to sue through the City to be able to pay the maintenance workers, buried sewer pipes in the roadway are almost 40 years old, freeze thaw cycles can cause pipes to shift, insulation issues, lines are shallow because roads have worn down
    - 38-42 degrees below, worst case scenario in the past
    - Cold weather every 5 years or so
- Extreme Heat
    - So hot while picking salmon berries, had to drink a lot of water, 1993 or 1994, had a fire between Clark's Point and Ekuk, the tundra was so dry, someone dropped a cigarette
    - Very hot summer 3 years ago, in the 90-degree range
    - Water tabled dropped, it was a lot dryer
    - About 3 degree temperature difference between up on the hill versus down low
- Flood
    - Fall floods, have not seen it as much anymore like they used to due to climate change, the old bottom village would be underwater by about 5 to 6 feet
    - Flooding does not really happen in the upper portion of the village
    - The flood typically lasts until the tide subsides, unless there are bad winds

  - Ship Creek rose 5-6 feet, they could take their boats up
  - Most recent flood was this last August, affected the cannery area and old airport, the old airport acts like a break, flooding behind cannery (erosion issues)
  - 15 years ago, had issues flying, 4-foot tide waves
  - People lost their outboards, motors, skiffs, fuel tanks, 4-wheelers, nets, etc. had homes flooded, containers were relocated, happened in August, disaster declared
- Landslides
  - Yes it happens on the bluff, it would affect the entire community because it could block the access road to the lower village
  - Slide happened due to heavy rain on Hillcrest Drive, a couple of years ago, took out trees, took a year to redo the road, people could still use the road in the meantime but they had to be very cautious
- Severe Wind
  - Winds can also increase severity of landslides, erosion and flooding issues
  - During the landslide that happened, felt like 90 mph winds like a hurricane, also blew off half of a roof, airplanes can't land, people could not get in and out of the community for several days (3 max), winds can be felt differently at upper and lower village areas
  - Have high wind storms about every fall, also happens in the spring, sometimes in the summer, but does not happen very often where it's over 35 mph
  - Don't have a crosswind runway, planes have had to land on the old airport runway during severe winds
- Severe Winter Weather
  - Had bad storms when they were kids, had to dig people out, get bad ice on the roads that people needed chains to drive or else had to walk which could be dangerous too,
  - Happens less frequently than every 10 years
- Subsidence
  - Roads and trails are experiencing subsidence, especially in swampy tundra areas
  - Bayou Loop Road is sinking, people get stuck when the water runs down, tractor fell down hill, need to build up the roads and trails
- Tsunami
  - Lower village would be affected by large waves, could have catastrophic damage
- Volcano
  - Have had ash fall but does not really affect the community
  - Can affect the airplanes
  - The volcanic eruption down the chain a few years ago that affected the Dillingham area
  - Would like to profile so they could have a warning system for residents, education
- Wildfire
  - There was a fire across the river near Manokotak, needed planes to suppress, tundra fire in 2012, significant impact on Manokotak and Dillingham, if the wind had changed, the smoke could have come into Clark's Point, fire burned for 5 days before homeland security and forestry division brought a bladder of water, burned many acres including some of their corporation land, remote control airplane crashed and started the fire

  - Could affect the entire community depending on direction and strength of wind
  - Have a code red vehicle that is pulled behind a 4-wheeler, but don't know how well maintained it is
  - Interior fire up north on Nushagak and affected the elders, 4 years ago

Worksheet 3 – Risk Analysis

- Research best approach to address residential assets, Diane Tennyson's home is in the flood zone
- They have 7 cemeteries/grave sites – location identified on maps
- 5 total people in the clinic when the dental people are there
- Workers of the facility assets would be impacted by volcanic ash fall
- City maintenance has heavy equipment parts, antifreeze, oil, electrical parts, etc.
- City tank farm is located at the base of the bluff and can experience erosion, landslide, flood and tsunami
- Catholic church is down in the old townsite
- Landslide came pretty close to the Old school site in the past
- There are 2 cemeteries up on the hill and 4 down in the old village site
- Tom and Diane live in old village site
- Power poles could blow over and block access to the roads
- Drainage issues at the airport, had to install a culvert, subsidence/sinking issues
- Erosion would be impacted by beach erosion because of gravel source
- Foundation of weather station is experiencing erosion on the sides

Worksheet 4 – Vulnerability Statements

- Reviewed potential statements based on previous discussions (see attached)
- Want to protect the graveyards soon, high priority
- Email Danielle for more vulnerability statements

Worksheet 5 – Mitigation Goals

- Improve emergency response resources
- People could meet at the school in the event of an emergency, but it is locked up in the summer. They could renovate the existing shelter building down in old site – talked about funding this with the late Julie Baltar. Somewhere to have running water, kitchen, shower, etc.
- Sharing hazard information with community members.

Worksheet 6 – Mitigation Strategies

- Have two backup water wells but need piping and lift station, much less capacity than other wells within the community
- Just started brush cutting this year, need to do it every year
- Schools provide education for earthquake procedures, educational materials on TV
- Back in the 1980s, there was a study for mitigating erosion, funding never came through
- Excavating for gravel on the beach is contributing to erosion, they need to stop this because there is an existing gravel source, need to coordinate with the City to agree on a method to address the issue, post DEC regulations on beach??

- Roads need to be resurfaced, geotextile is becoming exposed and rotting
- Would like to see BBNA or BBEDC CDL operator training and mechanics
- Clara Clark Gravel Sales (Gave Bristol a copy of DCCED Business License Certificate)
- They use to have a wind monitor, would like to bring it back
- Just purchased a "cat in the box," in the event that power went down, for a backup power supply. N C Machinery was supposed to come and install online but have not yet. Have 4 generators.
- Need to order new scrapers for the grader, they have sanders but it is hard to find people to work and sand the roads
- Clinic used to have a satellite phone, not sure if they have it still, research cost

TTSP Planning Team Meeting Notes

- Briefly explained the project and requirements for the emphasis areas and implementation plan, but did not have enough time to discuss strategies
- The Council is unsure how much TTP funding they have available. They want to know how much funding is available to work on the roads.
    - Council meetings are the third Thursday of every month, but they will all be in Anchorage for AFN this next meeting
    - Do they need an MOU?
- Could meet in Anchorage during the BIA Conference to complete implementation plan
- During the public meeting, two planning team members agreed with the candidate emphasis areas presented

THMP Public Meeting Notes

- The school principal has only been in Clark's Point for 2 years, so he has not experienced many hazards there himself, but he says he has seen remnants of typhoons that have hit the area originating from Japan, and the erosion impacts
- Subsistence areas are a major asset, especially fishing. They have had incidences where tender boats have sunk causing oil leaks, people have had to pull their nets. They would like better response or protection for this, such as having containment booms on hand
- The City has a volunteer fire department, but it may be inactive, they have not met for a while. They used to be trained when they first got the code red vehicle through a state grant. Would like to pursue rejuvenating this program.
- Clark's Point has issues with public involvement, getting people to the public meetings. They think newsletters would be a productive means of communication.
- The Red Cross is going to show the principle how to make the school a shelter

TTSP Public Meeting Notes

- This summer, an overloaded tender boat sunk off the coast of Clark's Point, and the captain drowned
- Safety concern regarding poor drainage at the bottom of the hill on Bayou Loop, where ice jams occur, blocking access for fuel, etc.
- Unmarked nets on the beach can be a safety hazard because they can be hard to see for drivers on the beach, would like people to mark with bright orange ribbon

Attachments:

1. Planning Team Meeting Sign-in Sheet
2. Planning Team Meeting Agenda
3. Worksheet #1: Hazard Identification
4. Worksheet #3: Asset Analysis
5. Worksheet #4: Vulnerability Statements
6. Worksheet #5: Mitigation Goals
7. Worksheet #6: Mitigation Strategies
8. Safety Plan Candidate Emphasis Areas
9. Clark's Point Gravel Pit Business License
10. Public Meeting Sign-in Sheet
11. Public Meeting Flyer
12. Public Meeting Handouts
13. Public Meeting Presentation Slides

Meeting Minute attachments included in Appendix A. The remaining attachments can be found in Appendix B.

End Meeting Minutes

CC: File

Planning Team Meeting

Clarks Point Tribal Hazard Mitigation Plan (2019 - 2024) & Tribal Transportation Safety Plan
Date / Location: October 11 , 2018

Sign In Sheet

Name	Phone	Email
Sharon Clark	843-0974	sharonclark3225@yahoo.com
Henry Wassily Sr.	236 1253	henrykaren2aa@gci.net
Harvey W. Wassily Sr.	236-1263 cell# 843-1866	None
Anthony Clark	843-1647	None
Kayla Wassily-Walker	843-3066	kayla.wassilywalker@hotmail.com
Tony Clark	843-1647	none

HAZARD MITIGATION PLAN & TRANSPORTATION SAFETY PLAN

PLANNING TEAM MEETING AGENDA

Hazard Mitigation Plan

10:30 AM	Introductions Project Background & Schedule
10:45 AM	Worksheet 1 – Hazard Identification Worksheet 2 – Hazard Analysis
11:30 AM	Worksheet 3 – Risk Analysis
12:00 PM	**LUNCH**
12:30 PM	Worksheet 4 – Vulnerability Statements Worksheet 5 – Mitigation Goals
1:00 PM	Worksheet 6 – Mitigation Action Plan
1:45 PM	**BREAK**

Transportation Safety Plan

2:00 PM	Determine Emphasis Areas
2:15 PM	Implementation Plan Matrix
3:15 PM	Closing Statements Action Items
3:30 PM	**BREAK**

4:00 PM **COMBINED PUBLIC MEETING (2 HOURS)**

WORKSHEET #1: HAZARD IDENTIFICATION

Use this worksheet to identify which hazards are most significant to your community planning area. Follow the instructions provided on pages 9 and 10.

Write "Blue" "Green" "Yellow" or "Red" in Columns A-D based on definitions in Tables 1-4 on Pages 9-10.

Write "Yes" or "No" in Column E depending on the outcome of Column D.

Hazard	Column A Location (Geographic Area Affected) *(Table 1)*	Column B Maximum Probable Extent (Magnitude / Strength) *(Table 2)*	Column C Probability of Future Events *(Table 3)*	Column D Overall Significance *(Table 4)*	Column E Profile (Yes/No)
*Avalanche	Blue	Blue	Blue	Green	No
Drought	Yellow	Yellow	Yellow	Yellow	YES
Earthquake	Red	Green	Green	Green	YES
Erosion	Red	Red	Red	Red	YES
*Extreme Cold	Red	Yellow	Yellow	Red	YES
*Extreme Heat	Red	Yellow	Yellow	Yellow	YES
Flood	Yellow	Red	Yellow	Yellow	YES
*Landslide	Red	Yellow	Yellow	Yellow	YES
Severe Wind	Red	Green	Yellow	Yellow	YES
*Severe Winter Weather	Red	Green	Yellow	Yellow	YES
*Subsidence	Yellow	Blue	Green	Green	YES
Tsunami	Yellow	Red	Blue	Yellow	YES
Volcano	Red	Green	Green	Green	YES
Wildfire	Red	Red	Yellow	Red	YES
Other					

***** Definitions for selected hazards are located on the back for clarification.

SELECT HAZARD DEFINITIONS

Extreme Temperatures *(i.e. Extreme Cold, Extreme Heat)*: Extreme temperatures constitute different conditions in different parts of the country. In regions that are accustomed to winter weather, extreme cold temperatures involve temperatures between 20° F to -50° F. These temperatures can occur after a winter storm or during long durations of storm inactivity. Similarly, extreme heat is usually recognized as the condition where temperatures consistently stay ten or more degrees above the average high temperature for extended periods of time. Fatalities can occur from extreme temperatures by causing hyperthermia or frostbite in cold regions and hypothermia in warmer regions.

Landslide / Avalanche: A landslide is the movement of a mass of debris, rock, or earth by force of gravity down a slope. An avalanche is the movement of snow and debris down a slope by force of gravity. Landslides and avalanches occur when the stability of the slope changes from stable to unstable. This can be caused by storms, earthquakes, volcanic eruptions, fire, erosion, rapid temperature changes in the case of avalanches, and other human-induced activities. Steep slopes and long slopes have a higher probability to slide. High soil water content and/or slopes with low vegetative coverage are also likely to slide. Landslides and avalanches cause infrastructure and property damage, environmental disturbance, and possible injuries and fatalities.

Severe Winter Weather: Severe winter storms can include snow, freezing rain, sleet, or a mix of the previous forms of precipitation. Heavy snowfall occurs when large quantities of snow is produced in a short period of time. Drifting snow creates an uneven distribution of snow caused by strong winds. This weather can cause power outages, downed trees, and property damage. It can also cause deaths and injuries.

Subsidence: Subsidence is the settling over time or sudden sinking of surface soils due to subsurface movements. Some causes of subsidence are thawing permafrost, declining ground water levels, compactions, mining, and drainage of organic soils. Subsidence can destroy or damage infrastructure or buildings near areas affected by a sudden or gradual collapse of surface area.

NOTE: If you have any questions about the hazard definitions, or about Worksheet #1 in general, contact Danielle with Bristol at (907) 743-9394.

INSTRUCTIONS FOR WORKSHEET #1

Worksheet #1 is a tool to determine which hazards to include in the Tribal Hazard Mitigation Plan (THMP). Use these classifications / definitions to help identify the most significant hazards that affect your community. Give each hazard on Worksheet #1 a color code based on the definitions provided in Tables 1 – 4.

1. **Location (Geographic Area Affected)** – *[Column A]*

   This classification describes where the hazard occurs, how often it occurs, and how much of the community was impacted.

Table 1: Location (Geographic Area Affected)

Color Code	Area Affected	Definition
BLUE	Negligible	• Only one small area or none • Less than 10% of planning area • Isolated single-point occurrences
GREEN	Limited	• Only some of the community • 10% to 25% of planning area • Limited single-point occurrences
YELLOW	Significant	• Most of the community • 25% to 75% of planning area • Frequent single-point occurrences
RED	Extensive	• Almost all or All of the community • 75% to 100% of planning area • Consistent single-point occurrences

2. **Maximum Probable Extent (Magnitude / Strength)** – *[Column B]*

   This classification describes how much damage was done, how fast and for how long the hazard impacted the community, and the strength or magnitude of the hazard on a scientific scale, if applicable.

Table 2: Maximum Probable Extent (Magnitude/Strength)

Color Code	Maximum Extent	Definition
BLUE	Weak	• Little to no damage done • Slow speed of onset or short duration of event • Limited classification on scientific scale (if applicable)
GREEN	Moderate	• Some damage and loss of services for days • Moderate speed of onset or moderate duration of event • Moderate classification on scientific scale (if applicable)
YELLOW	Severe	• Devastating damage and loss of services for weeks or months • Fast speed of onset or long duration of event • Severe classification on scientific scale (if applicable)
RED	Extreme	• Catastrophic damage and uninhabitable conditions • Immediate onset or extended duration of event • Extreme classification on scientific scale (if applicable)

3. Probability of Future Events – *[Column C]*

This classification describes the possibility of the hazard occurring in the next year, and how often the hazard will occur.

Table 3: Probability of Future Events

COLOR CODE	Probability of Future Event	Definition
BLUE	Unlikely	• Less than 1% probability of occurrence in the next year • Recurrence interval of greater than every 100 years
GREEN	Occasional	• 1% to 10% probability of occurrence in the next year • Recurrence interval of 11 to 100 years
YELLOW	Likely	• 10% to 90% probability of occurrence in the next year • Recurrence interval of 1 to 10 years
RED	Highly Likely	• 90% to 100% probability of occurrence in the next year • Recurrence interval of less than 1 year

4. Overall Significance – *[Column D]*

This classification provides a way to determine how much impact the hazard has on the community. This classification is based on the classifications from Tables 1 – 3 (Columns A – C).

Table 4: Overall Significance

COLOR CODE	Impact	Definition
GREEN	Low	• Event has minimal impact on planning area • Two or more criteria fall in lower classifications (2 or more BLUE) • Profile – Likely doesn't need to be profiled but can
YELLOW	Medium	• Event's impacts on the planning area are noticeable but not devastating • Criteria fall mostly in the middle ranges of classifications (2 or more GREEN or YELLOW) • Profile – Choice of the Planning Team
RED	High	• Event is likely/highly likely to occur with severe strength over a significant or extensive portion of the planning area • Criteria consistently fall in the high classifications (2 or more RED) • Profile – Definitely profile

5. Profile (Yes OR No) – *[Column E]*

For the purposes of the THMP, "profile" means to include the hazard in the plan and analyze in more detail. Not all hazards need to be profiled for your community. Only hazards with a moderate to high overall significance should be included in the plan, but the Planning Team can choose to profile any hazard as they see fit. Use Table 4 (Column D) to determine if the hazard should be profiled.

Risk Analysis Worksheet *(Profiled Hazards Only)*

Column A Facility Name	Column B Number of Occupants	Column C Location	Column D Estimated Value	Column E: Hazard Impacts *(Fill in Hazards in Blank Columns Below)*											
				Drought	Earthquake	Erosion	Extreme Temeratures	Flood	Landslide	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Homes															
Sharon Clark	3	Saguyak Lot 9	$ 160,000							X					
Richard Clark	1	Saguyak Lot 1	$ 100,000							X					
Joel Clark	2	Saguyak Lot ?	$ 100,000							X					
Henry Wassily Sr.	5	Saguyak Ave	$ 100,000							X					
Harry Wassily Sr.	\	Saguyak Ave	$ 180,000							X					
Betty Gardiner	1	Saguyak Ave	$ 160,000							X					
Jerry Gardiner (rental)	2	Saguyak Ave	$ 160,000							X					
Imogene Gardiner (rental)	4	Saguyak Ave	$ 160,000							X					
Joseph Wassily	1	Saguyak Ave	$ 180,000							X					
George Ramondos	2	Saguyak Ave	$ 100,000							X					
Mariano Floresta	1	Saguyak Ave	$ 160,000							X					
Paul George	1	Saguyak Ave	$ 100,000							X					
Judy George	4	Saguyak Ave	$ 100,000												
Steven Aikins (Robert)	1	Hillcrest Dr	$ 160,000							X					
Billy Olson	6	Saguyak Ave	$ 100,000							X					
Michael Wassily	5	Tundra Ave	$ 30,000							X					

Risk Analysis Worksheet *(Profiled Hazards Only)*

Column A Facility Name	Column B Number of Occupants	Column C Location	Column D Estimated Value	Column E: Hazard Impacts (Fill in Hazards in Blank Columns Below)											
				Drought	Earthquake	Erosion	Extreme Temeratures	Flood	Landslide	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Robert Wassily	1	Saguyak Ave	$ 280,000							X					
Harry Wassily Jr.	0	Saguyak Ave	$ 280,000							X					
Gusty Wassily Sr.	5	Saguyak Ave	$ 480,000							X					
Logan and Betty	7	Hillcrest Dr	$ 480,000							X					
Anthony Clark	1	Hillcrest Dr	$ 280,000							X					
Aurora / Morris George	2	Upper Bayou Loop	$ 100,000							X					
William Norbert	4	Upper Bayou Loop	$ 20,000							X					
Diane Tennyson	3	Airport Road (1/4 mi)	$ 80,000							X					
Community Assets															
Clinic	5		$ 500,000	X	X	X	X			X	X			X	X
Post Office	3		$ 200,000		X		X			X	X			X	X
City Hall	1		$ 100,000		X		X			X	X			X	X
Generator Building	3		$ 400,000		X		X			X	X			X	X
City Maintenance	N/A		$ 100,000		X					X	X				X
Water Pump Station	1	Hillcrest Dr	$ 500,000	X	X		X		X	X	X			X	X
Saguyak Building	N/A	Saguyak Ave	$ 200,000		X					X	X			X	X
Village Council Building	3	Saguyak Ave	$ 800,000	X	X		X			X	X			X	X

Risk Analysis Worksheet *(Profiled Hazards Only)*

Column A Facility Name	Column B Number of Occupants	Column C Location	Column D Estimated Value	Column E: Hazard Impacts (Fill in Hazards in Blank Columns Below)											
				Drought	Earthquake	Erosion	Extreme Temeratures	Flood	Landslide	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Village Trailer 1	3	Saguyak Ave	$ 150,000	X	X		X			X	X			X	X
Village Trailer 2	1	Saguyak Ave	$ 100,000	X	X		X			X	X			X	X
City Tank Farm	1	Nushagak St	$ 500,000		X	X	X	X	X	X	X		X	X	X
Village Tank Farm	N/A	Nushagak St	$ 100,000		X		X	X	X	X	X		X	X	X
Catholic Church	N/A	Gardiners Way	$ 50,000		X			X		X	X		X		X
Village Old Territorial School	N/A	Lower Hillcrest Dr	$ 500,000		X	X	X	X	X	X	X		X	X	X
Upper Cemetery (2)	N/A	Down the hill	Priceless		x										X
Lower Cemetery (4)	N/A		Priceless		X	X		X					X		X
Old Village Homes and Cultural Assets	3	Down the hill			X	X	X	X		X	X	X	X	X	X
Beach	N/A				X	X	X	X	X	X	X	X	X		
Cannery	N/A				X	X	X	X		X	X	X	X		X
Old Airport	N/A				X	X		X		X	X		X		X
Roads	N/A				X	X	X	X	X	X	X	X	X		X
Saguyak Lands	N/A			X		X	X	X	X	X	X		X		X
Airport	1				X		X			X	X	X		X	X
Overhead power and Communications lines (GCI, Nushagak, Bristol Bay Towers)	N/A				X	X	X	X	X	X	X	X	X		X
City Sewer lines	N/A				X		X				X	X			
Sewage Lagoon	N/A				X		X								X
Landfill	N/A				X	X				X	X				X
Water lines	N/A			X	X	X	X				X	X			X
Weather Station	N/A				X	X	X			X	X			X	X

WORKSHEET #4: VULNERABILITY STATEMENTS

Develop a list of Vulnerability Statements (i.e. Problem Statements). These statements should summarize the most significant risks and vulnerabilities in the community that were identified during the hazard analysis and risk analysis.

Below is a small set of examples.

- The North Creek Sewage Treatment Plan is located in the 100-year floodplain and has been damaged in past events.
- The community's marine fuel header has begun to sink into the ground and slant to one side.
- The boardwalk to the new school, which is used for evacuation, has ground failure damage.

Vulnerability Statements:

1.) The old village site and cultural assets including the cemeteries are close to the shore and at risk to become damaged or lost from erosion and flooding.

2.) The community does not have a back up water source and are concerned about their wells being impacted by drought and earthquakes.

3.) The community has limited maintenance and emergency response equipment.

4.) Residents are unable to access the lower village at times due to landslides and ice on Bayou Loop and Hillcrest Drive.

5.) The community has overhead power lines that could be affected by severe wind. There is no cross wind runway so planes are not able to land.

6.) The vegetation around the community dries out and becomes a fire hazard due to drought and high heat conditions.

7.) Water and sewer utilities are buried shallow in the road corridor and are susceptible to freezing during extreme cold temperatures. The community has limited funding to repair damages. _____

_____

_____

WORKSHEET #5: MITIGATION GOALS

Develop a list of Mitigation Goals. Mitigation goals are general guidelines that explain what the community wants to achieve with the Tribal Hazard Mitigation Plan. They are broad policy-type statements that are long-term, and represent the vision for reducing or avoiding losses from the identified hazards.

The following are a few examples of mitigation goals.

- Promote development that is disaster-resistant.
- Build capacity of the Tribe to prepare, respond to, and recover from disasters.
- Reduce possibility of damages from [disaster].
- Promote recognition and mitigation of all natural hazards that affect the Community.
- Prevent damage to structures and infrastructure.
- Promote cross-referencing of mitigation goals and actions with other Tribal planning mechanisms and projects.

Mitigation Goals:

1.) Improve emergency response resources. _____

_____

2.) Education goal _____

_____

3.) Cross-referenceing plans. _____

_____

4.) _____

_____

5.) _____

_____

6.) _____

_____

7.) _____

_____

8.) _____

_____

9.) _____

_____

10.)_____

_____

Worksheet #6 Mitigation Actions

ACTIONS
Column B2
Description
Drought - back up water supply, public awareness extra water supply, two wells that are drilled but need to be piped. Lift station
Wildfire - Safe contained water tank, Code Red cart inspection, replace and upgrade fire equipment as needed, emergency plan, brush cutting for fire barrier
Earthquake - educational materials
Erosion - seawall/retaining wall around cemetery and/or relocation, continue measuring erosion, Stop gravel extraction from beach, build up roads, new drainage features
Extreme temperatures - class for hypothermia, continue to repair pipes, inspect thaw wires on water and sewer,
Flooding - Warning system, resources for repair from floods, improving drainage, operator training for road maintenance (BBEDC)
Landslides - cones around the landslide area, Landslide caution signs, quick response to compact area before repairs for equipment access
Severe Wind - wind monitoring system, Cross -wind runway, train people for utility repair, "cat-in-the-box" online, Review of agreement between school and city for back up power Severe Winter Weather - continue to provide snow removal service, new scrapers, ice cleats, identify people to sand roads, sign "Caution icey road", communication methods (acquire satelite phone), identify resident with VHF equipment and get an agreement to use). Subsidence - build up roads and trails especially Bayou Loop Road

Worksheet #6 Mitigation Actions

ACTIONS
Column B2
Description
Tsunami - awareness for community members, tsunami warning system, updating the shelter, encourage use of Queen Slough Volcano - educate community about proper mask usage, ensure the clinic has masks, Ensure health aide is available.
education on hazards - brochures, monthly meeting on each of the hazards, emergency plan, cemetery mitigation items

Clark's Point Tribal Transportation Safety Plan

Candidate Emphasis Areas

Emphasis Area	Strategic Linkage	Potential Strategies
Road Improvements	• Existing conditions, potholes, damaged culverts, standing water	• Resurface roads • New drainage ditches and culverts • Street signs at intersections
Road Maintenance	• Lack of trained operators • Lack of gravel source, beach excavation causing erosion	• Operator training • Road grading, pothole repair • Brush cutting • Secure a gravel source
Child Safety	• Lack of traffic control at school • Lack of helmet and car seat use	• Pass out helmets • Enforce car seat use • Install signs at school
Winter Conditions	• 1 crash in December 2016 on Bayou Loop due to ice • Steep roads and hills	• Better snow plowing • Install guardrails on Hillcrest Drive
Intoxicated Driving	• 1 crash in 2017 due to drunk driving, severe injury (medevac) • Damp community, no law enforcement	• Community awareness • Work with State Troopers
Pedestrian Safety	• Common mode of transportation	• Install streetlights
Speeding / Dust	• Community complaints of speeding and dust	• Install speed limit signs • Water the roads in summer
Trail Safety	• Lack of maintenance • Subsistence use	• Install trail markers • Hire maintenance crew • Expand cell service
Boating Safety	• Anecdotal evidence of intoxicated boating • Hazardous storm conditions	• Community awareness • Life vests • Storm shelter or docking area
Emergency Response	• Lack of emergency response resources	• Post clinic / emergency contacts • First responder training • Volunteer search & rescue / fire

IMPLEMENTATION PLAN

EMPHASIS AREA #1	STRATEGIC LINKAGE
OBJECTIVES	
SUCCESS INDICATORS	

4Es	ACTIONS	TARGET OUTPUT	RESPONISBLE PARTIES	DATE OF COMPLETION	PERFORMANCE MEASURES	MONITORING AND EVALUATION
EDUCATION						
ENFORCEMENT						
ENGINEERING						
EMERGENCY SERVICES						

MITIGATION ACTION TYPES AND EXAMPLES

Mitigation Type	Description	Examples
Local Plans and Regulations	These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built	• Comprehensive plans • Land use ordinances • Subdivision regulations • Development review • Building codes and enforcement • NFIP Community Rating System • Capital improvement programs • Open space preservation • Stormwater management regulations and master plans
Structure and Infrastructure Projects	These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards. Many of these types of action are projects eligible for funding through the FEMA Hazard Mitigation Assistance program.	• Acquisitions and elevations of structures in flood prone areas • Utility undergrounding • Structural retrofits • Floodwalls and retaining walls • Detention and retention structures • Culverts • Safe rooms
Natural Systems Protections	These are actions that minimize damage and losses and also reserve or restore the functions of natural systems.	• Sediment and erosion control • Stream corridor restoration • Forest management • Conservation easements • Wetland restoration and preservation
Education and Awareness Programs	These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady or Firewise Communities. Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. A greater understanding and awareness of hazards and risk among local officials, stakeholders, and the public is more likely to lead to direct actions.	• Radio or television spots • Websites with maps and information • Real estate disclosure • Presentations to school groups or neighborhood organizations • Mailings to residents in hazard-prone areas • StormReady • Firewise Communities
Emergency Response Actions	These are actions to identify emergency response or operational preparedness.	• Create mutual aid agreements with neighboring communities to meet emergency response needs • Purchase radio communications equipment • Develop procedures for notifying citizens of available shelter locations during an event

Potential Mitigation Actions

GOALS		ACTIONS	
No.	**Goal**	**ID**	**Description**
1	Promote recognition and mitigation of all natural hazards that affect the Community.	**1.A**	Develop and provide, to the community, brochures of each identified hazard.
		1.B	Hold a monthly safety meeting and focus on one hazard each time.
		1.C	Develop an emergency plan for the Community.
		1.D	Educate the Community on the emergency plan.
2	Promote cross-referencing of mitigation goals and actions with other Tribal planning mechanisms and projects.	**2.A**	Identify location for all planning documents that is easily accessible.
		2.B	Maintain a current location for all electronic versions of the planning documents.
		2.C	Conduct a yearly review of the plans and document progress towards their goals and actions.
		2.D	Include goals and strategies in future planning document updates.
3	Improve emergency response resources.	3.A	Ensure the presence of a health aide.
		3.B	Renovate the existing shelter in the old village site.
		3.C	Develop an agreement with the school district for the use of the school as an emergency shelter.
		3.D	Identify a location near the shelter to construct a facility to provide running water, a kitchen, and a shower.
4	Reduce the possibility of damages due to drought.	**4.A**	Investigate additional emergency water supply options for the Community.
		4.B	Acquire piping and contruct a lift station for two existing drilled wells. These have much less capacity but could serve as a back up water source.
		4.C	Educate residents about the need for a personal water supply.
5	Reduce the possibility of damages due to earthquakes.	5.A	Identify educational materials about earthquakes for community use.
		5.B	Ensure the school is providing education on proper earthquake procedures to the children.

Potential Mitigation Actions

GOALS		ACTIONS	
No.	**Goal**	**ID**	**Description**
6	Reduce the possibility of damages due to erosion.	**6.A**	Determine best strategy to protect the cemetery in the old village site. Either construct a wall around the cemetery or relocate it.
		6.B	Construct a seawall or retaining wall around the cemetery in the old village site.
		6.C	Continue to measure erosion along the Nushagak Bay.
		6.D	Prohibit gravel extraction from the beach.
		6.E	Design and build up roads throughout the Community.
		6.F	Design and construct new drainage features throughout the Community.
7	Reduce the possibility of damages due to extreme temperatures.	**7.A**	Develop and provide a course on hypothermia for the Community.
		7.B	Continue maintenance effort to repair water and sewer lines as needed.
		7.C	Develop an inspection process and schedule to inspect thaw wires on water and sewer lines.
8	Reduce the possibility of damages due to floods.	8.A	Develop or acquire a flood warning system.
		8.B	Identify appropriate training for and train road maintenance operators.
9	Reduce the possibility of damages due to landslides.	**9.A**	Aqcuire cones to place around landslide areas to warn residents of the hazard.
		9.B	Acquire and install landslide caution signs.
		9.C	Develop plan for a quick response to landslides on Bayou Loop Road.
10	Reduce the possibility of damages due to severe winds.	**10.A**	Reinstate the wind monitoring system.
		10.B	Investigate and design a cross-wind runway.
		10.C	Provide training to applicable people for proper utility repairs.
		10.D	Connect the Catepillar generator, as a backup power supply.
		10.E	Review the agreement between the school district and the city for to ensure backup power supply.

Potential Mitigation Actions

GOALS		ACTIONS	
No.	**Goal**	**ID**	**Description**
11	Reduce the possibility of damages due to severe winter weather conditions.	**11.A**	Continue to provide snow removal service throughout the Community.
		11.B	Acquire new scrapers for the grader.
		11.C	Provide ice cleats to community members.
		11.D	Identify and train community members to sand roads.
		11.E	Acquire and place "Caution Icy Road" signs around the community. Specifically on Hillcrest Drive.
		11.F	Identify the most appropriate communication method, in the event of an emergency, for the Community. Acquire applicable materials.
		11.G	Identify a community resident with VHF equipment and make an agreement for use during an emergency.
12	Reduce the possibility of damages due to subsidence.	**12.A**	Build up roads and trails especially Bayou Loop Road.
13	Reduce the possibility of damages due to tsunamis.	**13.A**	Educate community members about the hazards of tsunamis and what to do in such an event.
		13.B	Develop and acquire materials for a tsunami warning system.
		13.C	Update the emergency shelter.
		13.D	Encourage and promote the use of Queen Slough through instructional boards on the beach and other methods yet to be determined.
14	Reduce the possibility of damages due to volcanos.	**14.A**	Educate community members about proper mask usage.
		14.B	Provide proper masks for community members through the clinic.
15	Reduce the possibility of damages due to wildfires.	15.A	Acquire a safe, contained water tank.
		15.B	Develop and maintain and inspection process for the Code Red Cart.
		15.C	Identify, replace, and upgrade fire equipment as needed.
		15.D	Maintain brush cutting to provide a fire barrier.
		15.E	Educate community members about the need for fire barriers around their homes.

INSTRUCTIONS - MITIGATION ACTION EVALUATION WORKSHEET

Use this worksheet to help evaluate and prioritize each mitigation action that is going to be implemented in the Mitigation Action Plan. For each action, evaluate the potential benefits and / or likelihood of successful implementation for the criteria defined below.

Rank each of the criteria with a -1, 0 or 1 using the following scale:

- 1 = Highly effective or feasible
- 0 = Neutral
- -1 = Ineffective or not feasible

EVALUATION CRITERIA

Life safety – How effective will the action be at protecting lives and preventing injuries?

Property Protection – How significant will the action be at eliminating or reducing damage to structures and infrastructure?

Technical – Is the mitigation action technically feasible? Is it a long-term solution? Eliminate actions that, from a technical standpoint, will not meet the goals.

Political – Is there overall public support for the mitigation action? Is there the political will to support it?

Legal – Does the community have the authority to implement the action?

Environmental – What are the potential environmental impacts of the action? Will it comply with environmental regulations?

Social – Will the proposed action adversely affect one segment of the population? Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?

Administrative – Does the community have the personnel and administrative capabilities to implement the action and maintain it or will outside help be necessary?

Local Champion – Is there a strong advocate for the action or project among local departments and agencies that will support the action's implementation?

Other Community Objectives – Does the action advance other community objectives, such as capital improvements, economic development, environmental quality, or open space preservation? Does it support the policies of the comprehensive plan?

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Mitigation Action Evaluation Worksheet

Mitigation Action ID	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
1.A	1	1	1	1	0	1	1	1	1	1	9
1.B	1	1	1	1	0	1	1	1	1	1	9
1.C	1	1	1	1	0	1	1	1	1	1	9
1.D	1	1	1	1	0	1	1	1	1	1	9
2.A	0	0	1	0	0	0	0	1	1	0	3
2.B	0	0	1	0	0	0	0	1	1	0	3
2.C	0	0	1	0	0	0	0	1	1	0	3
2.D	0	0	1	0	0	0	0	1	1	0	3
4.A	1	0	1	1	0	1	1	1	1	1	8
4.C	1	0	1	1	0	1	1	1	1	1	8
6.A	0	1	1	1	0	1	1	1	1	1	8
6.B	0	1	1	1	0	1	1	1	1	1	8
6.C	1	1	1	1	1	1	0	1	1	1	9
6.E	1	1	1	1	1	1	1	1	1	1	10
6.F	1	1	1	1	1	1	1	1	1	1	10
7.A	1	0	1	1	0	0	1	1	1	1	7
7.B	1	1	1	1	1	1	1	1	1	1	10
7.C	1	1	1	1	1	0	1	1	1	0	8
8.B	0	1	1	1	1	0	1	1	1	0	7
9.A	1	1	1	1	1	1	1	1	1	1	10

Mitigation Action Evaluation Worksheet (Continued)

Mitigation Action ID	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
9.B	1	1	1	1	1	1	1	1	1	0	9
10.A	0	0	1	1	1	1	0	1	1	1	7
11.A	1	1	1	1	1	1	1	1	1	0	9
12.A	1	1	1	1	1	1	1	1	1	1	10
13.A	1	0	1	1	1	0	0	1	1	0	6
14.A	1	0	1	1	1	0	0	1	1	0	6
14.B	1	0	1	1	1	0	0	1	1	0	6
15.B	1	1	1	1	1	0	0	1	1	0	7
15.C	1	1	1	1	1	0	0	1	1	0	7
15.D	1	1	1	1	1	1	0	1	1	0	8
15.E	1	1	1	1	1	1	0	1	1	0	8

*Source: Local Mitigation Planning Handbook, FEMA, March 2013, Worksheet 6.1.

APPENDIX B

Public Involvement

- Public Meeting Comments
- Public Meeting Sign-In Sheet
- Public Meeting Flyer
- Public Meeting Handout
- Public Meeting Presentation
- Community Survey
- Community Survey Response Summary
- Newsletter #1 and Fax Transmittal
- Stakeholder Email
- Newsletter #2
- Letter to State Representative
- Letter to Senator

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TRIP REPORT & MEETING MINUTES

Project: **BBNA THMP & TTSP Project**
Bristol Project No: 32190013
Reference: Clark's Point Planning Team Meetings & Public Meetings
Date of Meeting: October 11, 2018
Location of Meeting: Clark's Point Tribal Building
Participants:
Bristol: Danielle Dance, Jackie Wander
BBNA: Annie Fritze
Planning Team: See attached sign in sheet
Public Meeting: See attached sign in sheet

Summary

Jackie, Danielle, and Annie arrived in Clark's Point around 9:30 AM on October 11, 2018. They held a meeting with the planning team from 10:30 AM to 3:30 PM to discuss the Tribal Hazard Mitigation Plan (THMP) Project. We went through Worksheets #1-6 to collect background information for the plan including hazards to profile, community assets, vulnerability statements, mitigation goals, and potential mitigation strategies.

We did not have enough time to discuss the Tribal Transportation Safety Plan component of the project. The planning team was receptive to the idea of meeting with Bristol in Anchorage during the BIA Providers Conference in November.

From 4:00 PM to 5:15 PM, a public meeting was held in the Tribal Building. Jackie, Danielle, and Annie departed Clark's Point around 5:30 PM and stayed overnight in Dillingham. Notes taken during the planning team and public meetings are summarized below. Completed worksheets are attached to the end of the meeting minutes.

THMP Planning Team Meeting Notes

Worksheet 1 – Hazard Identification

- Avalanche
  - Flat tundra, no avalanches here
  - Do not profile
- Drought
  - When there is a mild winter with little snow, the following summer tends to be much hotter with little rain, but it does not happen very often
  - Significant affect to area, primarily the water sources and vegetation
  - Concerned about wells going dry, algae health hazards? No backup water supply, this could create a real emergency situation,
  - Happens every 3 to 5 years

- Earthquake
    - Last big earthquake that had significant impact to the community was in 1964, before there were homes up on the bluff, everyone had to evacuate, they had to spearhead a shelter, shut the school and cannery down, everyone had to climb the hill, everyone evacuated but one person, after that they built stairs up the hill, they dug out shelters, were up there for about 5 hours because of tsunami warnings, it was winter and very cold, the steel chimney stacks of the cannery clanged together.
    - Other earthquakes have only been minor tremors, never see structural damage, slight shaking, it's possible that things might fall off the wall, but hasn't happened recent
    - There was no loss of service during the '64 earthquake, but if there was an earthquake today, a tsunami would possibly reach the buildings up on the bluff
    - It's been quite a while since they've felt small tremors
- Erosion
    - Red across the board, bad erosion issues down by the water, losing beach front property every year, want a retaining wall or seawall like Togiak, also some erosion on the roadways in upper village
    - Would like the village to know that the graveyard is a priority and will be washing out soon, build a retaining wall around
    - or move the cemetery
    - What grants are available to relocate cemetery and other buildings?
    - Sometimes they excavate on the beach to get gravel for the roads, which increases the erosion rates, the beach washes away really easily
- Extreme Cold
    - Experience once in a great while, not as cold as it used to be due to climate change, especially a concern while traveling, need to take extra provisions
    - Can have an effect on water and sewer, 20 years ago, had a cold spell, sewer line was part of City maintenance, caused raw sewage exposure in the winter, had to sue through the City to be able to pay the maintenance workers, buried sewer pipes in the roadway are almost 40 years old, freeze thaw cycles can cause pipes to shift, insulation issues, lines are shallow because roads have worn down
    - 38-42 degrees below, worst case scenario in the past
    - Cold weather every 5 years or so
- Extreme Heat
    - So hot while picking salmon berries, had to drink a lot of water, 1993 or 1994, had a fire between Clark's Point and Ekuk, the tundra was so dry, someone dropped a cigarette
    - Very hot summer 3 years ago, in the 90-degree range
    - Water tabled dropped, it was a lot dryer
    - About 3 degree temperature difference between up on the hill versus down low
- Flood
    - Fall floods, have not seen it as much anymore like they used to due to climate change, the old bottom village would be underwater by about 5 to 6 feet
    - Flooding does not really happen in the upper portion of the village
    - The flood typically lasts until the tide subsides, unless there are bad winds

  - Ship Creek rose 5-6 feet, they could take their boats up
  - Most recent flood was this last August, affected the cannery area and old airport, the old airport acts like a break, flooding behind cannery (erosion issues)
  - 15 years ago, had issues flying, 4-foot tide waves
  - People lost their outboards, motors, skiffs, fuel tanks, 4-wheelers, nets, etc. had homes flooded, containers were relocated, happened in August, disaster declared
- Landslides
  - Yes it happens on the bluff, it would affect the entire community because it could block the access road to the lower village
  - Slide happened due to heavy rain on Hillcrest Drive, a couple of years ago, took out trees, took a year to redo the road, people could still use the road in the meantime but they had to be very cautious
- Severe Wind
  - Winds can also increase severity of landslides, erosion and flooding issues
  - During the landslide that happened, felt like 90 mph winds like a hurricane, also blew off half of a roof, airplanes can't land, people could not get in and out of the community for several days (3 max), winds can be felt differently at upper and lower village areas
  - Have high wind storms about every fall, also happens in the spring, sometimes in the summer, but does not happen very often where it's over 35 mph
  - Don't have a crosswind runway, planes have had to land on the old airport runway during severe winds
- Severe Winter Weather
  - Had bad storms when they were kids, had to dig people out, get bad ice on the roads that people needed chains to drive or else had to walk which could be dangerous too,
  - Happens less frequently than every 10 years
- Subsidence
  - Roads and trails are experiencing subsidence, especially in swampy tundra areas
  - Bayou Loop Road is sinking, people get stuck when the water runs down, tractor fell down hill, need to build up the roads and trails
- Tsunami
  - Lower village would be affected by large waves, could have catastrophic damage
- Volcano
  - Have had ash fall but does not really affect the community
  - Can affect the airplanes
  - The volcanic eruption down the chain a few years ago that affected the Dillingham area
  - Would like to profile so they could have a warning system for residents, education
- Wildfire
  - There was a fire across the river near Manokotak, needed planes to suppress, tundra fire in 2012, significant impact on Manokotak and Dillingham, if the wind had changed, the smoke could have come into Clark's Point, fire burned for 5 days before homeland security and forestry division brought a bladder of water, burned many acres including some of their corporation land, remote control airplane crashed and started the fire

  - Could affect the entire community depending on direction and strength of wind
  - Have a code red vehicle that is pulled behind a 4-wheeler, but don't know how well maintained it is
  - Interior fire up north on Nushagak and affected the elders, 4 years ago

Worksheet 3 – Risk Analysis

- Research best approach to address residential assets, Diane Tennyson's home is in the flood zone
- They have 2 cemeteries – location identified on maps
- 5 total people in the clinic when the dental people are there
- Workers of the facility assets would be impacted by volcanic ash fall
- City maintenance has heavy equipment parts, antifreeze, oil, electrical parts, etc.
- City tank farm is located at the base of the bluff and can experience erosion, landslide, flood and tsunami
- Catholic church is down in the old townsite
- Landslide came pretty close to the Old school site in the past
- There are 2 cemeteries up on the hill and 4 down in the old village site
- Tom and Diane live in old village site
- Power poles could blow over and block access to the roads
- Drainage issues at the airport, had to install a culvert, subsidence/sinking issues
- Erosion would be impacted by beach erosion because of gravel source
- Foundation of weather station is experiencing erosion on the sides

Worksheet 4 – Vulnerability Statements

- Reviewed potential statements based on previous discussions (see attached)
- Want to protect the graveyards soon, high priority
- Email Danielle for more vulnerability statements

Worksheet 5 – Mitigation Goals

- Improve emergency response resources
- People could meet at the school in the event of an emergency, but it is locked up in the summer. They could renovate the existing shelter building down in old site – talked about funding this with the late Julie Baltar. Somewhere to have running water, kitchen, shower, etc.
- Sharing hazard information with community members.

Worksheet 6 – Mitigation Strategies

- Have two backup water wells but need piping and lift station, much less capacity than other wells within the community
- Just started brush cutting this year, need to do it every year
- Schools provide education for earthquake procedures, educational materials on TV
- Back in the 1980s, there was a study for mitigating erosion, funding never came through
- Excavating for gravel on the beach is contributing to erosion, they need to stop this because there is an existing gravel source, need to coordinate with the City to agree on a method to address the issue, post DEC regulations on beach??

- Roads need to be resurfaced, geotextile is becoming exposed and rotting
- Would like to see BBNA or BBEDC CDL operator training and mechanics
- Clara Clark Gravel Sales (Gave Bristol a copy of DCCED Business License Certificate)
- They use to have a wind monitor, would like to bring it back
- Just purchased a "cat in the box," in the event that power went down, for a backup power supply. Etsy Machinery was supposed to come and install online but have not yet. Have 4 generators.
- Need to order new scrapers for the grader, they have sanders but it is hard to find people to work and sand the roads
- Clinic used to have a satellite phone, not sure if they have it still, research cost

TTSP Planning Team Meeting Notes

- Briefly explained the project and requirements for the emphasis areas and implementation plan, but did not have enough time to discuss strategies
- The Council is unsure how much TTP funding they have available. They want to know how much funding is available to work on the roads.
    - Council meetings are the third Thursday of every month, but they will all be in Anchorage for AFN this next meeting
    - Do they need an MOU?
- Could meet in Anchorage during the BIA Conference to complete implementation plan
- During the public meeting, two planning team members agreed with the candidate emphasis areas presented

THMP Public Meeting Notes

- The school principal has only been in Clark's Point for 2 years, so he has not experienced many hazards there himself, but he says he has seen remnants of typhoons that have hit the area originating from Japan, and the erosion impacts
- Subsistence areas are a major asset, especially fishing. They have had incidences where tender boats have sunk causing oil leaks, people have had to pull their nets. They would like better response or protection for this, such as having containment booms on hand
- The City has a volunteer fire department, but it may be inactive, they have not met for a while. They used to be trained when they first got the code red vehicle through a state grant. Would like to pursue rejuvenating this program.
- Clark's Point has issues with public involvement, getting people to the public meetings. They think newsletters would be a productive means of communication.
- The Red Cross is going to show the principle how to make the school a shelter

TTSP Public Meeting Notes

- This summer, an overloaded tender boat sunk off the coast of Clark's Point, a couple of deckhands and the captain drowned
- Safety concern regarding poor drainage at the bottom of the hill on Bayou Loop, where ice jams occur, blocking access for fuel, etc.
- Unmarked nets on the beach can be a safety hazard because they can be hard to see for drivers on the beach, would like people to mark with bright orange ribbon

Attachments:

1. Planning Team Meeting Sign-in Sheet
2. Planning Team Meeting Agenda
3. Worksheet #1: Hazard Identification
4. Worksheet #3: Asset Analysis
5. Worksheet #4: Vulnerability Statements
6. Worksheet #5: Mitigation Goals
7. Worksheet #6: Mitigation Strategies
8. Safety Plan Candidate Emphasis Areas
9. Clark's Point Gravel Pit Business License
10. Public Meeting Sign-in Sheet
11. Public Meeting Flyer
12. Public Meeting Handouts
13. Public Meeting Presentation Slides

Meeting Minute attachments included in Appendix B. The previous 9 attachments can be found in Appendix A.

End Meeting Minutes

CC: File

Community Meeting

Clarks Point Tribal Hazard Mitigation Plan (2019 - 2024) &Tribal Transportation Safety Plan
Date / Location: October 11, 2018 at 4 PM / School Conference Room

Sign In Sheet

Name	Name	Name
* Shannon Harvilla	Shannon Harvilla	
* Sharon Clark		
Hayley Wood		

CLARK'S POINT TRANSPORTATION SAFETY PLAN & HAZARD MITIGATION PLAN

COMMUNITY MEETING

Come learn about two new projects in the works! The first is a Tribal Transportation Safety Plan, which proposes strategies to improve safety of the local roads, trails, boating facilities, and airport. The second project is a Tribal Hazard Mitigation Plan, which proposes strategies to protect the community against natural disasters such as wildfires, floods, earthquakes, & more.

We want to hear from you!

Attendees can provide input about safety and hazard priorities for the community. The project planners will be available for any questions or feedback from the public.

Posting date 9/28/2018

Thursday
October 11, 2018
4:00 PM

School Conference Room

Refreshments

Door Prizes

Discuss the future of Clark's Point!

For more information or to submit comments contact:

Jackie Wander
(907) 563-0013
jwander@bristol-companies.com

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Community Meeting Handout
Clark's Point Tribal Transportation Safety Plan
October 11, 2018

Dear Participant;

Thank you for attending the public meeting for the Clark's Point Tribal Transportation Safety Plan project. Your participation is crucial to the planning process. We appreciate any feedback you may have on this meeting or the project in general.

Bristol Engineering has been contracted by Bristol Bay Native Association (BBNA) on behalf of the Clark's Point Village Council to develop a Tribal Transportation Safety Plan (TTSP) for your community. A TTSP is a collaborative and comprehensive document that identifies transportation safety issues and strategies to address them. The overarching goal is to reduce risk of car crashes, fatalities, and injuries on the local transportation system. The TTSP is also essential for obtaining funding for safety projects. The TTSP project is currently at the Draft report level. After this public meeting, Bristol will incorporate public comments into a Final Draft TTSP, which will be submitted to the Council for review.

The purpose of this public meeting is to present the Draft TTSP to the community, as well as better understand the community's transportation safety priorities. Priorities can be any project or program aimed at improving safety for any mode of travel including roads, trails, pedestrian features, boating and aviation facilities, and more. Your comments will help determine emphasis areas for the plan.

Public comment is key to a successful project. Please feel free to contact me directly with any comments or concerns. I can be reached by email at jwander@bristol-companies.com or by phone (907) 743-9314.

Sincerely,

Jaclyn (Jackie) Wander
Civil Engineer II

Bristol
ENGINEERING
SERVICES COMPANY, LLC

111 W. 16th Avenue, Third Floor
Anchorage, AK 99501-5169
phone (907) 563-0013
fax (907) 563-6713
www.bristol-companies.com

Community Meeting for Clarks Point Tribal Hazard Mitigation Plan
October 11, 2018

Dear Participant;

Thank you for attending the public meeting for the Clarks Point FEMA Tribal Hazard Mitigation Plan (THMP). Your comments and participation are very important to the planning process. We appreciate any feedback you may have on this meeting or the project in general.

Bristol Bay Native Association (BBNA) Department of Transportation and Infrastructure Development (DOTID) has contracted Bristol Engineering Services Company, LLC (Bristol) to assist with the preparation of the FEMA THMP. The THMP is a planning document used to identify hazards that your community is exposed to and ways to reduce potential losses of important assets from these hazards. A FEMA approved and community adopted THMP enables the Local government to apply for grants through disaster related assistance programs like the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM), and others.

The purpose of this public meeting is to inform the community about the THMP, collect community feedback about the identified hazards and mitigation actions / projects. We are looking for personal experiences with the identified hazards, and assistance with identifying problem areas and issues of concern. We would also like input on the identified mitigation strategies and ways that the Planning Team can keep the public informed and involved in the process. This information will be used in the THMP. A draft copy will be available for review when completed.

Public comment is key to a successful project. Please feel free to contact me directly with any comments or concerns. My email is ddance@bristol-companies.com.

Sincerely,

Danielle Dance
Civil Engineer I

Attachments:
- Newsletter
- List of Preparedness Resources
- 12 Ways to Prepare Postcard

Bristol Bay Native Association
Transportation and Infrastructure Development

August 2018 Newsletter 1

This newsletter describes the Bristol Bay Native Association Transportation and Infrastructure Department's Tribal Hazard Mitigation Planning project development processes to all interested agencies, stakeholders, and the public and to solicit comments. It can also be viewed on the BBNA's website at www.bbna.com

Bristol Bay Native Association (BBNA) Transportation and Infrastructure Department (DOTID) was awarded a Pre-Disaster Mitigation Program grant from the Federal Emergency Management Agency (FEMA) to prepare your 2019 Tribal Hazard Mitigation Plan (THMP). Bristol Engineering Services Company, LLC (BESC) was contracted to assist the BBNA DOTID with preparing a 2019 FEMA approvable THMP plan.

The TMP will identify all natural hazards, such as earthquake, flood, erosion, severe weather, and wildland/tundra fire hazards, etc. The plan will also identify the people and facilities potentially at risk and ways to mitigate damage from future hazard impacts. We will document the public participation and planning process as part of this project.

What is Hazard Mitigation?
Hazard mitigation projects eliminate the risk or reduce the hazard impact severity to people and property. Projects may include short- or long-term activities to reduce exposure to or the effects of known hazards. Hazard mitigation activities could include relocating or elevating buildings, replacing insufficiently sized culverts, using alternative construction techniques, developing, implementing, or enforcing building codes,or developing, and implementing education programs.

Why Do We Need A Hazard Mitigation Plan?
Communities must have a State, FEMA approved, and community adopted mitigation plan to receive a project grant from FEMA's pre- and post- disaster grants identified in their Hazard Mitigation Assistance and other agency's mitigation grant programs. BBNA DOTID plans to apply for mitigation funds after our plan is complete.

A FEMA approved and community adopted THMP enables the Local government to apply for the Hazard Mitigation Grant Program (HMGP), a disaster related assistance program; the Pre-Disaster Mitigation (PDM), and the National Flood Insurance Program (NFIP) Flood Mitigation Assistance (FMA) grant programs.

The Planning Process
There are very specific federal requirements that must be met when preparing a FEMA approvable THMP. These requirements are commonly referred to as the planning process requirements of 44 CFR 201.7 (c)

The following steps describe the planning process in order to develop the THMP.

1. **Establish the Planning Team**
2. **Education of the Planning Team**
3. **Assess Risks**
4. **Assess Capabilities**
5. **Develop a Mitigation Strategy**
6. **Monitor, Evaluate, and Plan Updates**

We are currently in the very beginning stages of preparing the plan development. We will be conducting a Planning Team Meeting to introduce the project and planning team, to gather comments from community residents, identify hazards, and collect data to refine the vulnerability assessment.

We Need Your Help

BESC has prepared survey packets to begin collecting information for your THMP. Survey packets will be mailed to your village council and sent by email to your village administrator.

Establishing a Planning Team is a very important step. We will need a point of contact (POC)/team leader from your community. This group will consist of 2-5 people that have good knowledge about land use, the transportation system, public facilities, and safety resources within the community. BBNA DOTID will be in contact with your tribe to determine a POC and your planning team.

Once the Planning Team has been developed, they will begin to work on the following items:

- Identifying the hazards that impact your community;
- Determining information about the hazards such as, location, history, extent, and the probability of future events;
- Completing a risk analysis, and;
- Developing problem statements and goals.

BBNA DOTID will be in contact with your tribe to set up an initial teleconference meeting with the Planning Team, BBNA DOTID, and BESC to continue to work on the THMP development.

The BBNA DOTID team will be led by Annie Fritze, DOTID Program Manager or Dan Breeden, Department Director with assistance from Bristol Engineering Service Company, LLC (contracted by BBNA). BESC will be developing materials and lead the planning process with guidance from BBNA DOTID staff.

BBNA Tribal Hazard Planning Team

Team Member	Title	Involvment
Annie Fritze	Program Manager	THMP Team Leader, data gathering and plan review
Dan Breeden	Department Director	THMP Team Leader, data gathering and plan review
Isaac Pearson, P.E.	Senior Engineer	THMP Consultant
Danielle Dance	Civil Engineer	THMP Consultant

Public Participation

The purpose of this newsletter is to keep you informed, and to allow you every opportunity to voice your opinion regarding these important projects. We want to encourage public involvement as a continuous effort throughout the project.

We encourage you to take an active part in the development effort, and preparation of the Tribal Hazard Mitigation Plan.

The goal is to receive comments, identify key issues or concerns, and improve mitigation ideas, and to guide the community.

Please contact BBNA DOTID program staff or BESC if you have any questions, comments, or requests for more information:

Bristol Bay Native Association DOTID	**Bristol Engineering Services Company, LLC**
Annie Fritze OR **Dan Breeden** **PO Box 310** **Dillingham, Alaska 99576** **(907) 842-6219**	**Danielle Dance, Consultant** **111 W. 16th Avenue, Third Floor** **Anchorage, Alaska 99501** **(907)563-0013**

Useful web links

Volcano Information

- Visit the AVO website: www.avo.alaska.edu
- Sign up for the VNS: https://volcanoes.usgs.gov/vns2/
- Ash Impacts website: https://volcanoes.usgs.gov/volcanic_ash
- Ashfall advisories come from the NWS: www.weather.gov/afc/
- AVO would *love* your volcano observations and ash samples
    - *Find us at www.avo.alaska.edu/contact.php/*
    - *Is Ash Falling: www.avo.alaska.edu/ashfall/ashreport.php*
    - *Collection instructions: https://avo.alaska.edu/ashfall.php*
    - *Facebook: http://facebook.com/alaska.avo*
    - *Twitter: http://twitter.com/alaska_avo*
- Air Quality Advisories, DEC: http://dec.alaska.gov/air
- Airborne ash hazards to aircraft, NOAA: http://aawu.arh.noaa.gov
- Local Notice to Mariners, USCG: www.navcen.uscg.gov

Weather Information

- Watches and Warnings: https://alerts.weather.gov/cap/ak.php?x=1
- Any forecast: http://www.weather.gov/afc
- Mobile information (low bandwidth): http://www.weather.gov/source/afc/mobile/
- River Information: http://www.weather.gov/aprfc
- Rainfall: http://www.weather.gov/aprfc
- Breakup Info: http://www.weather.gov/aprfc/breakupESRIMap
- River Conditions: http://www.weather.gov/aprfc/riverConditions
- Alaska Weather T.V. Maps: http://www.weather.gov/afc/tv
- Sea Ice forecasts: http://www.weather.gov/afc/ice
- Outlook (temperatures and precipitation): http://www.cpc.noaa.gov
- Send us a storm report: http://www.srh.noaa.gov/StormReport_new/SubmitReport.php?site=AFC

WEBSITES

- Alaska DHS&EM: http://ready.alaska.gov
- Ready, Department of Homeland Security: https://www.ready.gov/
- Department of Commerce, Community and Economic Development (DCCED), State of Alaska Floodplain Management: http://www.commerce.state.ak.us/dca/nfip/nfip.htm
- Flood information for Alaskans: http://www.flood.alaska.gov
- Association of State Floodplain Managers: http://www.floods.org/
- Alaska-Pacific River Forecast Center (APRFC): http://aprfc.arh.noaa.gov
- Natural Resources Conservation Service (NRCS), Alaska Snow, Water and Climate Services: http://ambcs.org
- National Weather Service (NWS), Alaska Region Headquarters: http://www.arh.noaa.gov/
- Federal Aviation Administration (FAA), Alaskan Region's Weather Cameras: http://avcams.faa.gov/
- U.S. Department of the Interior—Bureau of Land Management (BLM), Alaska Fire Service: http://fire.ak.blm.gov/
- Alaska Energy Authority (AEA): http://www.akenergyauthority.org/
- Department of Commerce, Community and Economic Development (DCCED), Community Profiles: http://www.commerce.state.ak.us/dca
- Alaska Department of Public Safety, Rural Fire Training Office: http://www.dps.state.ak.us/fire/TEB/ruralfireprotection.aspx
- Department of Environmental Conservation (DEC): http://www.state.ak.us/dec/
- National Weather Service, Forecast Office Alaska Ice Desk: http://pafc.arh.noaa.gov/ice.php
- Federal Emergency Management Agency (FEMA): http://www.fema.gov/
- American Red Cross of Alaska: http://www.alaska.redcross.org
- Small Business Administration: http://www.sba.gov/localresources/disasteroffices/focwest/index.html


TAKE ACTION
AND
PREPARE
FEMA
FEMA V-1021
Catalog No. 1872-3
April 2018
There are many ways to take action and prepare before a disaster occurs. The actions on this card include some of the most important ways to help yourself, your family, and your community increase your preparedness. Simple actions at home and in your neighborhood can make a big difference!
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Facebook.com/readygov
Fema.gov/mobile-app
Ready.gov/prepare


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Facebook.com/readygov
Fema.gov/mobile-app
Ready.gov/prepare

12 WAYS TO PREPARE

- ☐  Sign up for Alerts and Warnings
- ☐  Make a Plan
- ☐  Save for a Rainy Day
- ☐  Practice Emergency Drills
- ☐  Test Family Communication Plan
- ☐  Safeguard Documents
- ☐  Plan with Neighbors
- ☐  Make Your Home Safer
- ☐  Know Evacuation Routes
- ☐  Assemble or Update Supplies
- ☐  Get Involved in Your Community
- ☐  Document and Insure Property

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Bristol

Clark's Point Village Council
Tribal Transportation Safety Plan

Bristol Engineering Services Company, LLC
Jackie Wander, Civil Engineer II

Bristol

Clark's Point
Tribal Transportation Safety Plan
October 11, 2018

Safety Minute

Bristol

Clark's Point
Tribal Transportation Safety Plan
October 11, 2018

Presentation Overview

- What is a Safety Plan?
- Importance of Safety Plans
- The Four E's of Safety
- Steps to Develop Safety Plans
- Data Collection & Surveys
- Emphasis Areas
- Implementation Plan
- Next Steps
- Questions / Comments
- **Break**
- Hazard Mitigation Plan
- Door Prizes!

Bristol

Clark's Point
Tribal Transportation Safety Plan
October 11, 2018

Tribal Transportation Safety Plan

"A Transportation Safety Plan is a collaborative and comprehensive document that identifies transportation safety issues and strategies to address them. Effective Transportation Safety Plans lead to projects that make the transportation system safer."

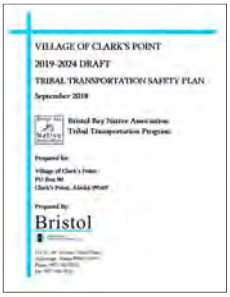
~ U.S. Department of Transportation Federal Highway Administration
Developing a Transportation Safety Plan

Bristol

Clark's Point
Tribal Transportation Safety Plan
October 11, 2018

Tribal Transportation Safety Plan

- Uses Data to Guide Transportation Investment Decisions
- Mechanism to Coordinate Safety Efforts
  - Engage leadership/stakeholders
  - Collect/analyze data
  - Determine emphasis areas
  - Identify strategies


VILLAGE OF CLARK'S POINT
2019-2024 DRAFT
TRIBAL TRANSPORTATION SAFETY PLAN
September 2018
Bristol Bay Native Association
Tribal Transportation Program
Bristol

Bristol

Clark's Point
Tribal Transportation Safety Plan
October 11, 2018

Importance of Safety Plans

- Proactive Approach to Planning
  - Prevents crashes
  - Improves unsafe transportation conditions
- Addresses Most Critical Safety Needs
- Develops Partnerships
- Fosters Multidisciplinary Cooperation
- Increases Access to Safety Funding

"Planning with safety in mind saves lives"

Four E's of Safety

- EDUCATION
  - Gives drivers information about making good choices
  - Informs about rules of the road
- ENFORCEMENT
  - Enforces traffic laws
  - Provides visible police presence
- ENGINEERING
  - Addresses roadway infrastructure
- EMERGENCY SERVICES
  - Provides rapid response
  - Quality of care when responding to collisions causing injury

Safety Plan Development

- Step 1 – Establish Safety Leadership Framework
- Step 2 – Collect & Analyze Safety Data
- Step 3 – Determine Emphasis Areas
- Step 4 – Identify Strategies
- Step 5 – Prioritize/Incorporate Strategies
- Step 6 – Draft a Plan
- Step 7 – Evaluate/Update the Transportation Safety Plan

Data Collection

- No Available Data
- Public Surveys

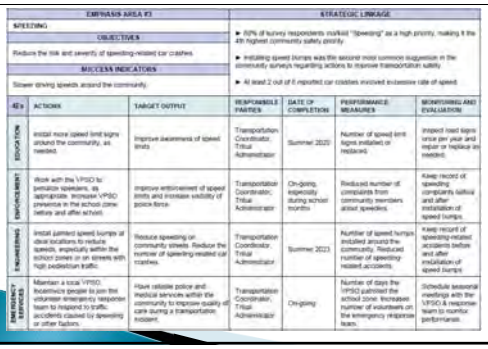
Anecdotal Crash Data

- Winter 2016
  - ATV crash on Bayou Loop
  - Flipped due to icy road
  - 2 occupants, minor injuries
- Summer 2017
  - ATV crash on Hillcrest Drive
  - Crashed into ditch due to intoxication
  - Severe injury, medevacked
- Accounts of people running off the road due to inattention (~3 in 2018)
- Accounts of drunk boating at night from Dillingham

Candidate Emphasis Areas

- Road Improvements
  - Drainage
  - Potholes
  - Intersection controls
- Road Maintenance
  - Better grading
  - Operator training
  - Gravel source
  - Brush cutting
- School Safety
  - Traffic control signs
- Winter Conditions
  - Snow plowing
  - Guardrails
- Intoxicated Driving
- Pedestrian Safety
  - Streetlights
- Child Safety
  - Helmets
  - Car seats
- Speeding / Dust
- Trail Safety
  - Trail markers
  - Maintenance
  - Cell service
- Boating Safety
  - Intoxicated boating
  - Life vests
  - Storm shelter
- Emergency Response

Implementation Plan



Next Steps

- Public Surveys!!
- Draft Safety Plan
  - November-December 2018
  - Collect public comment
- Final Draft Safety Plan
  - January-February 2019
  - Council review
- Final Safety Plan
  - June 2019
  - Resolution
- Implementation

Questions or Comments

Break

10 Minutes

Clarks Point FEMA Tribal Hazard Mitigation Plan

Bristol Engineering Services Company, LLC
Danielle Dance

Presentation Overview

- Project Background
- FEMA Tribal Hazard Mitigation Plan (THMP)
- Funding
- Identified Hazards
- Assets
- Mitigation Goals
- Mitigation Action Plan

U.S. Army Corps of Engineers *Alaska District*
Alaska Baseline Erosion Assessment
Erosion Information Paper – Clarks Point, Alaska
October 12, 2007

Project Background

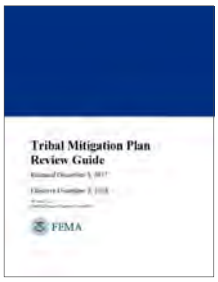
- BBNA DOTID awarded Pre-Disaster Mitigation Program grant from FEMA
  - Develop the Tribal Hazard Mitigation Plan
  - Contracted BESC
- Hazard Mitigation
  - eliminates risk to or reduces hazard impact severity to community assets
  - Projects can be long or short term
- Purpose of Plan
  - Identify ways to make community safer and more prepared
  - Provides opportunity for funding options through FEMA

Bristol Bay Native Association

Bristol Engineering Services Company, LLC

FEMA Tribal Hazard Mitigation Plan (THMP)

- Follows Code of Federal Regulations (CFR)
  - 44 CFR Part 201
- Identifies
  - Planning Process / Planning Team
  - Plan to keep the THMP current
  - Natural hazards in your community
  - Community assets
  - Mitigation strategy / action plan
  - Funding Opportunities



Funding

- Eligibility Requirement for FEMA Pre- and Post- Disaster Grants
  - FEMA approved and community adopted Hazard Mitigation Plan
    - Plan identifies mitigation projects for the community
- Grants
  - Hazard Mitigation Grant Program (HMGP)
  - Pre-Disaster Mitigation (PDM)
  - National Flood Insurance Program (NFIP)
  - Flood Mitigation Assistance (FMA)
- Other Grant Opportunities
  - State
  - Tribal

U.S. Army Corps of Engineers *Alaska District*
Alaska Baseline Erosion Assessment
Erosion Information Paper – Clarks Point, Alaska
October 12, 2007

Identified Hazards

- Hazards Identified Based on
  - Location
  - Extent
  - Probability of Future Event
  - Overall Significance
- Hazards Detailed in Plan
  - Location
  - Extent
  - History
  - Probability of Future Events
- Hazards
  - Drought
  - Earthquake
  - Erosion
  - Extreme Temperatures
  - Flood
  - Landslide
  - Severe Wind
  - Severe Winter Weather
  - Subsidence
  - Tsunami
  - Volcano
  - Wildfire
- What experiences have you had?

Community Assets

- Asset
  - People
  - Economy
  - Built Environment
  - Natural Environment
- Major Community Assets
  - Clinic
  - School
  - Post Office
  - Tribal Office
  - City Buildings
  - Utilities
  - Cemeteries
  - Cannery
  - Tank Farm
  - Others

Mitigation Goals

- Goals Based on Vulnerability Statements
  - The old village site and cultural assets including the cemeteries are close to the shore and at risk to become damaged or lost due to erosion and flooding.
  - The vegetation around the community dries out and becomes a fire hazard due to drought and high heat conditions.

FEMA Local Mitigation Planning Handbook
March 2013

Mitigation Goals

- Community Goals
  - Reduce possibility of damages due to:
    - Drought
    - Earthquake
    - Erosion
    - Extreme Temperatures
    - Flood
    - Landslide
    - Severe Wind
    - Severe Winter Weather
    - Subsidence
    - Tsunami
    - Volcano
    - Wildfire
  - Build capacity of the Tribe to prepare, respond to, and recover from disasters.
  - Promote cross-referencing of mitigation goals and actions with other Tribal planning mechanisms and projects
  - Promote recognition and mitigation of all natural hazards that affect the Community.

Bristol

Clark's Point
Tribal Transportation Safety Plan
October 11, 2018

Mitigation Actions

- Mitigation Actions Reduce Long-Term Vulnerability
- Types
  - Local plans and regulations
  - Structure and infrastructure projects
  - Natural systems protection
  - Education and awareness programs
  - Additional – Preparedness and Response Actions
- Actions Will be Used to Create a Mitigation Action Plan

FEMA Local Mitigation Planning Handbook
March 2013

Bristol

Clark's Point
Tribal Transportation Safety Plan
October 11, 2018

Mitigation Actions (Continued)

- Mitigation Actions
  - Educate community members on identified hazards with brochures.
  - Hold monthly meetings and focus on each hazard.
  - Create an emergency plan.
  - Educate the community on the emergency plan.
  - Protect the cemeteries from erosion and flooding (seawall, retaining wall or relocation)
- What other suggestions do you have?

Bristol

Clark's Point
Tribal Transportation Safety Plan
October 11, 2018

Continued Public Involvement

- Public Involvement is Important
  - Next Steps
- How can the Planning Team keep you informed and involved in this process?

Contact	
BBNA DOTID	Bristol Engineering (BESC)
Annie Fritze (907) 842-6143 afritze@bbna.com	Danielle Dance (907) 563-0013 ddance@bristol-companies.com

Bristol

Clark's Point
Tribal Transportation Safety Plan
October 11, 2018

Questions or Comments

Bristol

Clark's Point
Tribal Transportation Safety Plan
October 11, 2018

QUYANA!

COMMUNITY SURVEY

This is a public opinion survey regarding natural hazards in your community. The results from this survey will help the Tribal Hazard Mitigation Plan Planning Team improve public/private coordination, mitigation, and risk reduction efforts in your community. Additionally we would like information regarding the methods and techniques you prefer for reducing the risks and losses associated with these hazards.

NATURAL HAZARD INFORMATION

We would like to know about your experience involving natural hazards and your exposure to preparedness information.

1. In the last five (5) years, have you or someone in your household directly experienced any of the natural disasters listed below?
(Please check all that apply)

- ☐ Coastal Ice
- ☐ Drought
- ☐ Earthquake
- ☐ Erosion
- ☐ Extreme Temperatures
- ☐ Flood
- ☐ Landslide/Avalanche
- ☐ Severe Winter Weather
- ☐ Tsunami
- ☐ Volcano Eruption
- ☐ Wildfire
- ☐ Other (specify): _____

2. How concerned are you about the following natural disasters affecting your community?
(Check the corresponding box for each hazard)

Natural Disaster	Very Concerned	Somewhat Concerned	Neutral	Not Very Concerned	Not Concerned
Coastal Ice	☐	☐	☐	☐	☐
Drought	☐	☐	☐	☐	☐
Earthquake	☐	☐	☐	☐	☐
Erosion	☐	☐	☐	☐	☐
Extreme Temperatures	☐	☐	☐	☐	☐
Flood	☐	☐	☐	☐	☐
Landslide/Avalanche	☐	☐	☐	☐	☐
Severe Winter Weather	☐	☐	☐	☐	☐
Tsunami	☐	☐	☐	☐	☐
Volcano Eruption	☐	☐	☐	☐	☐
Wildfire	☐	☐	☐	☐	☐
Other _____	☐	☐	☐	☐	☐

3. Have you received information about how to make members of your household and home safer from natural disasters?

- ☐ Yes
- ☐ No **(IF *NO* Skip to Question 5)**

If "YES", how recently?

- ☐ Within the last 6 months
- ☐ Between 6 and 12 months
- ☐ Between 1 and 2 years
- ☐ Between 2 and 5 years
- ☐ 5 years or more

4. Who provided the last received information about how to make members of your household and home safer from natural disasters?
(Please check only ONE)

- ☐ News Media
- ☐ Government Agency
- ☐ Utility Company
- ☐ University or Research Institution
- ☐ Tribe
- ☐ Neighbor / Friend / Family Member
- ☐ Non-Profit Organization
- ☐ Not Sure
- ☐ Other (specify): _____

5. What is the most effective way for you to receive information about how to make your household and home safer from natural disasters?
(Please check UP TO THREE)

- ☐ Newspapers
- ☐ Radio
- ☐ Schools
- ☐ Internet (News Outlets/Email Newsletters)
- ☐ Books
- ☐ Mail
- ☐ Fact Sheet / Brochure / Newsletters
- ☐ Public Workshops / Meetings
- ☐ Other (specify): _____

COMMUNITY VULNERABILITIES AND HAZARD MITIGATION STRATEGIES

We need to understand which community assets may be vulnerable to natural hazards in order to assess community risk. Vulnerable assets are those community features, characteristics, or resources that may be impacted by natural hazards (e.g. populations with functional needs, environmental resources, economic components, and others). The next set of questions will focus on the vulnerable assets in your community and your preferred strategies to mitigate risk to those assets.

6. Community assets are characteristics, features, or resources that either allow the community to function or make a community unique. In your opinion, which of the following categories are most vulnerable to the impacts caused by natural hazards in your community?
(Rank the community assets in order [from 1 to 6] of vulnerability, 1 being most vulnerable and 6 being least vulnerable)

Community Assets	Potential Natural Hazard Impact	Order of Vulnerability
Human	Loss of life and/or injuries	_____
Economic	Business closures and/or job losses	_____
Infrastructure	Damage or loss of bridges, utilities, schools, etc.	_____
Cultural / Historic	Damage or loss of fish dry racks, cemeteries, etc.	_____
Environmental	Damage or loss of forests, rangeland, waterways, subsistence areas, etc.	_____
Governance	Ability to maintain order and/or provide public amenities and services	_____

7. We would like to know what specific types of community assets are most important to you. **(Check the corresponding box for each hazard)**

Community Assets	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
School	☐	☐	☐	☐	☐
Clinic	☐	☐	☐	☐	☐
Churches	☐	☐	☐	☐	☐
City Buildings	☐	☐	☐	☐	☐
Tribal Buildings	☐	☐	☐	☐	☐
Store	☐	☐	☐	☐	☐
Post Office	☐	☐	☐	☐	☐
Transportation Systems	☐	☐	☐	☐	☐
Major Employers	☐	☐	☐	☐	☐
Fuel Storage	☐	☐	☐	☐	☐
Utilities	☐	☐	☐	☐	☐
Homes	☐	☐	☐	☐	☐
Subsistence Areas	☐	☐	☐	☐	☐
Other _____	☐	☐	☐	☐	☐
Other:_____	☐	☐	☐	☐	☐
Other:_____	☐	☐	☐	☐	☐
Other:_____	☐	☐	☐	☐	☐

8. A number of activities can reduce your community's risk from natural hazards. These activities can be both regulatory and non-regulatory.
(Check the corresponding box that best represents your opinion on how to best reduce the risk and loss associated with natural disasters.)

Strategies	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Sure
I support a planning and regulatory approach to reducing risk	☐	☐	☐	☐	☐	☐
I support a non-regulatory approach to reducing risk	☐	☐	☐	☐	☐	☐
I support a mix of both regulatory and non-regulatory approaches to reducing risk	☐	☐	☐	☐	☐	☐
I support structure and infrastructure projects to reduce risk	☐	☐	☐	☐	☐	☐
I support natural systems protection projects to reduce risk	☐	☐	☐	☐	☐	☐
I support education and awareness programs to reduce risk	☐	☐	☐	☐	☐	☐
I support protecting historical and cultural structures	☐	☐	☐	☐	☐	☐
I would be willing to make my home more disaster-resistant	☐	☐	☐	☐	☐	☐
I support steps to safeguard the local economy following a natural disaster	☐	☐	☐	☐	☐	☐
I support improving the disaster preparedness of local schools	☐	☐	☐	☐	☐	☐

9. Natural hazards can have a significant impact on a community. However, planning for these events can help reduce the impacts. The following statements will help determine community priorities regarding planning for natural hazards in your community.
(Check the corresponding box to show us how important each one is to you.)

Statements	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Protecting private property	☐	☐	☐	☐	☐
Protecting critical facilities (e.g. roads, bridges, clinic, schools, store, etc.)	☐	☐	☐	☐	☐
Enhancing function of natural features (e.g. streams, wetlands)	☐	☐	☐	☐	☐
Protecting historical and cultural resources and landmarks	☐	☐	☐	☐	☐
Protecting and reducing damage to utilities	☐	☐	☐	☐	☐
Strengthening emergency services	☐	☐	☐	☐	☐

MITIGATION AND PREPAREDNESS ACTIVITIES IN YOUR HOUSEHOLD

Households can prepare and mitigate for natural hazards in order to prevent property damage, injuries, and loss of life. Any precautions taken or training received can make a big difference in your ability to recover from an emergency or natural disaster. Emergency care or access to basic services (e.g. electricity, gas, water, communications) may be temporarily cutoff. Or you may be asked to quickly evacuate. The following questions focus on your household's preparedness for natural hazards or emergencies.

10. Please check the activities that you have done in your household, plan to do in the near future, have not done, or are unable to do.
(Check one answer for each preparedness activity.)

Have you or someone in your household:	Have Done	Plan To Do	Not Done	Unable To Do
Attended a meeting or received written information on natural disasters or emergency preparedness?	☐	☐	☐	☐
Talked with members in your household about what to do in case of an emergency or natural disaster?	☐	☐	☐	☐
Developed a "Household/Family Emergency Plan" in order to decide what everyone would do in the event of an emergency or disaster?	☐	☐	☐	☐
Prepared a "Disaster Supply Kit" (stored extra food, water, batteries, or other emergency supplies)?	☐	☐	☐	☐

GENERAL HOUSEHOLD INFORMATION

We appreciate any information you are willing to share with us about you and/or your household.

11. Please indicate your age: _____

12. Gender **(Circle one)**: **Male** **Female**

13. How long have you lived in the community?

- ☐ Less than one (1) year
- ☐ 1 – 5 years
- ☐ 5 – 9 years
- ☐ 10 – 19 years
- ☐ 20 years or more

GENERAL COMMENTS

Please provide any additional comments about natural hazards in your community including historical disasters, existing efforts to prepare for or protect against a disaster, or comments about the Hazard Mitigation Plan Project in general.

Thank you for taking the time to complete this survey.

If you have any questions or comments, please contact **Danielle Dance** at **(907) 743-9394** or **ddance@bristol-companies.com**

SUMMARY - COMMUNITY SURVEY

A survey was distributed to the community members of Clark's Point, Alaska. This was done in an effort to collect public opinion regarding natural hazards that impact the community and preferred methods of reducing risk and losses associated with these hazards. Below is a summary of the data collected from the survey.

GENERAL RESPONDENT INFORMATION

Seven questionnaires were completed and returned. Question 12 asked about the gender of the respondents. Four respondents were male, and three were female, (See Figure 1). Question 13 asked about the length of time in the community. Eighty-six percent (six replies) of the questionnaires came from longtime residents that have lived in the community for 20 or more years (See Figure 2).

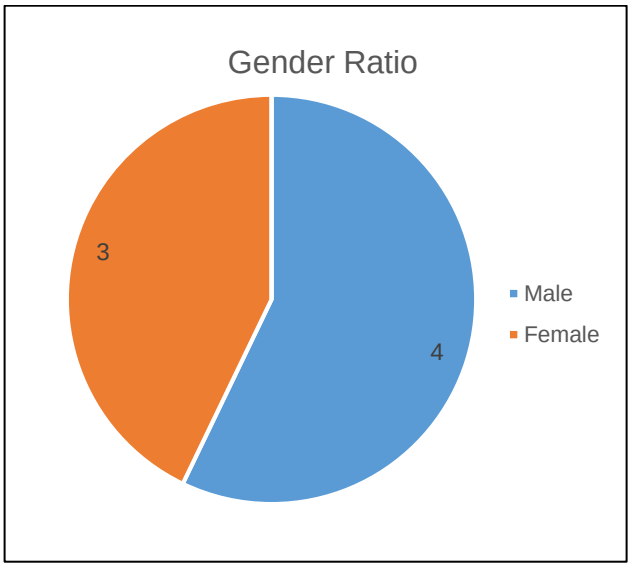


Figure 1: Gender Ratio (Question #12)

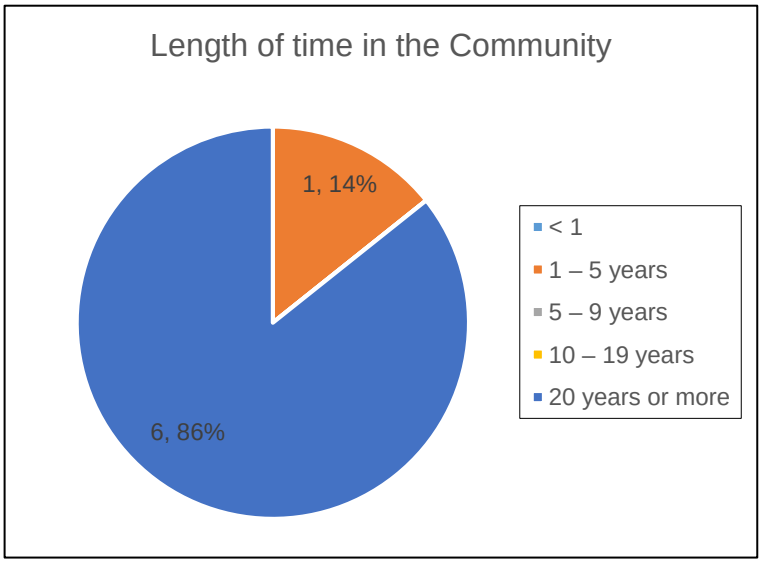


Figure 2: Length of Time in the Community (Question #13)

The residents that responded, ranged in age (Question 11) from 37 to 68. Eighty-six percent of the respondents were over the age of 60 (See Figure 3).

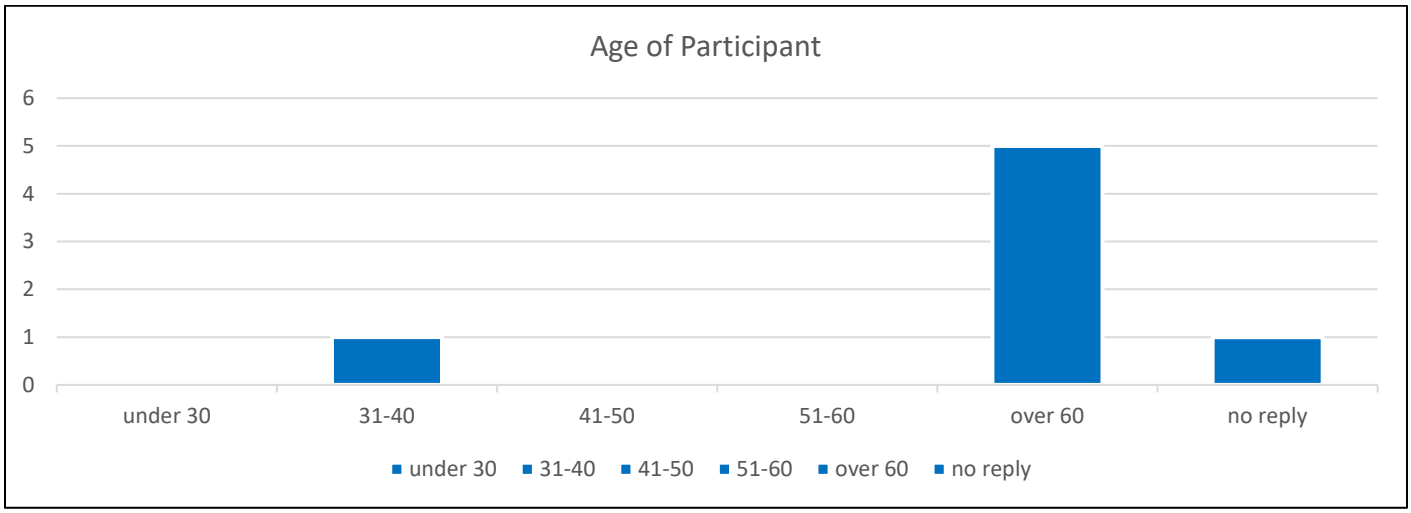


Figure 3: Age of Participant (Question #11)

NATURAL HAZARD INFORMATION

Information regarding experiences and concerns about natural hazards in the community was gathered (Question 1) from the survey. The survey respondents identified hazards that they have personally experienced (See Figure 4).

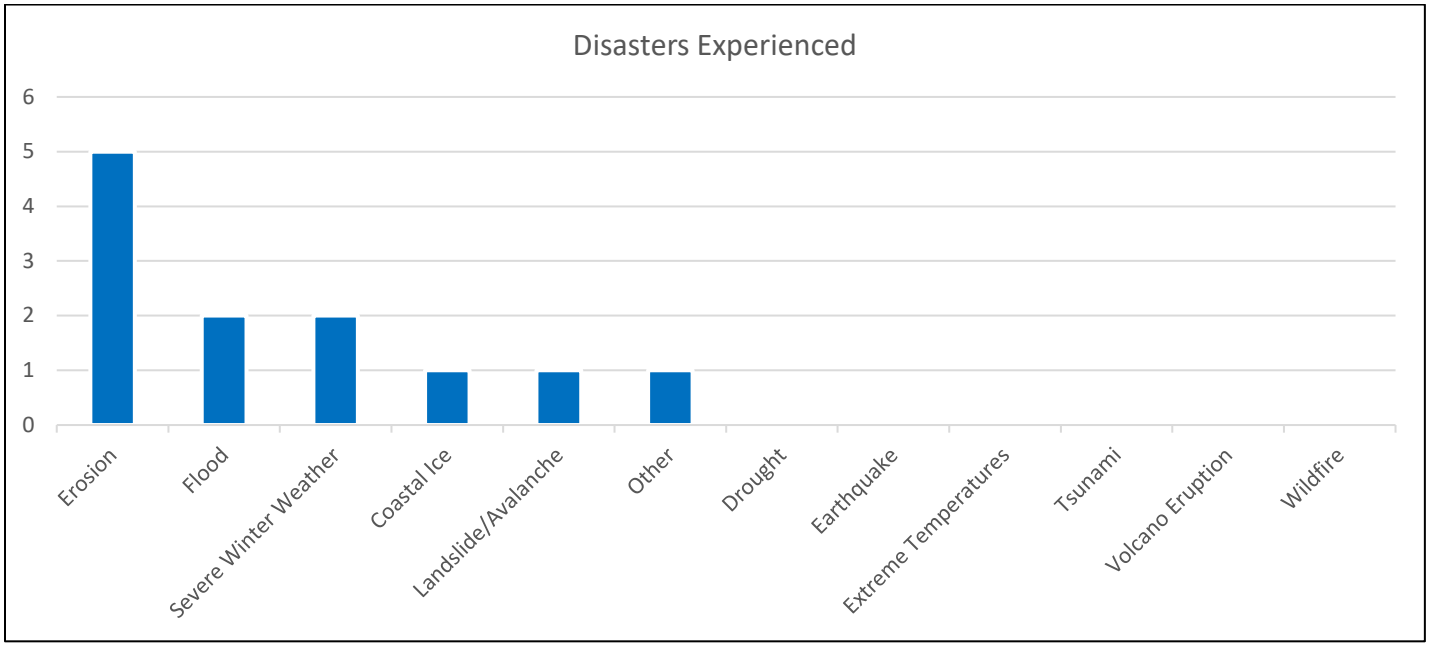


Figure 4: Disasters Experienced (Question #1)

Question 2 identified specific hazards that concerned the community members. The Community is most concerned about Erosion. Six individuals out of the seven replies expressed they were somewhat or very concerned about erosion. Other disasters of concern were flooding and coastal ice. Figure 5 identifies the concerns for the Community.

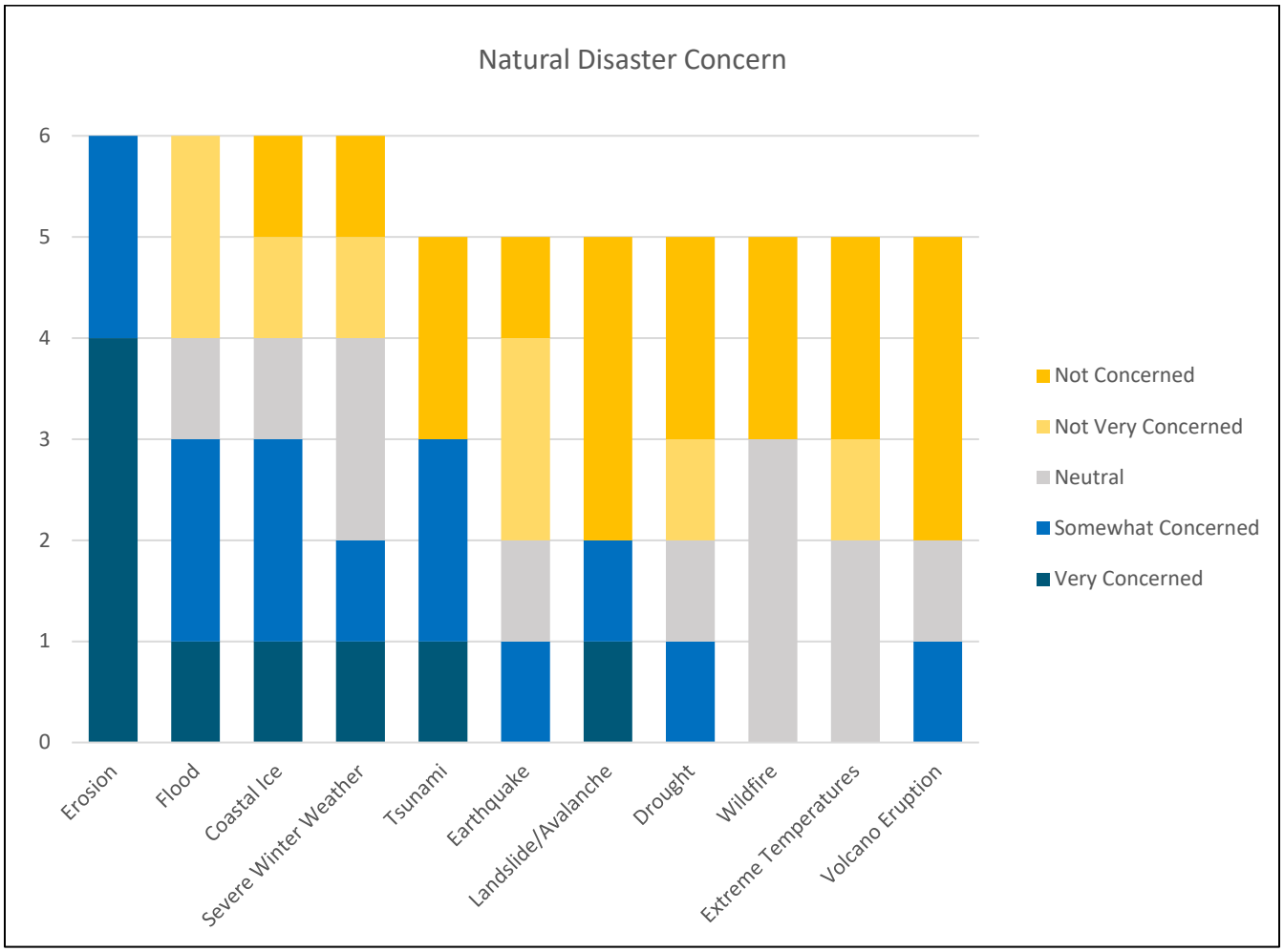


Figure 5: Natural Disaster Concern (Question #2)

The residents were asked if they received any information on how to make their homes and members of their household safe from a natural disaster and where they received that information (Question 3 and 4). Figure 6 indicates the source of the information obtained by the residents that said they received this information.

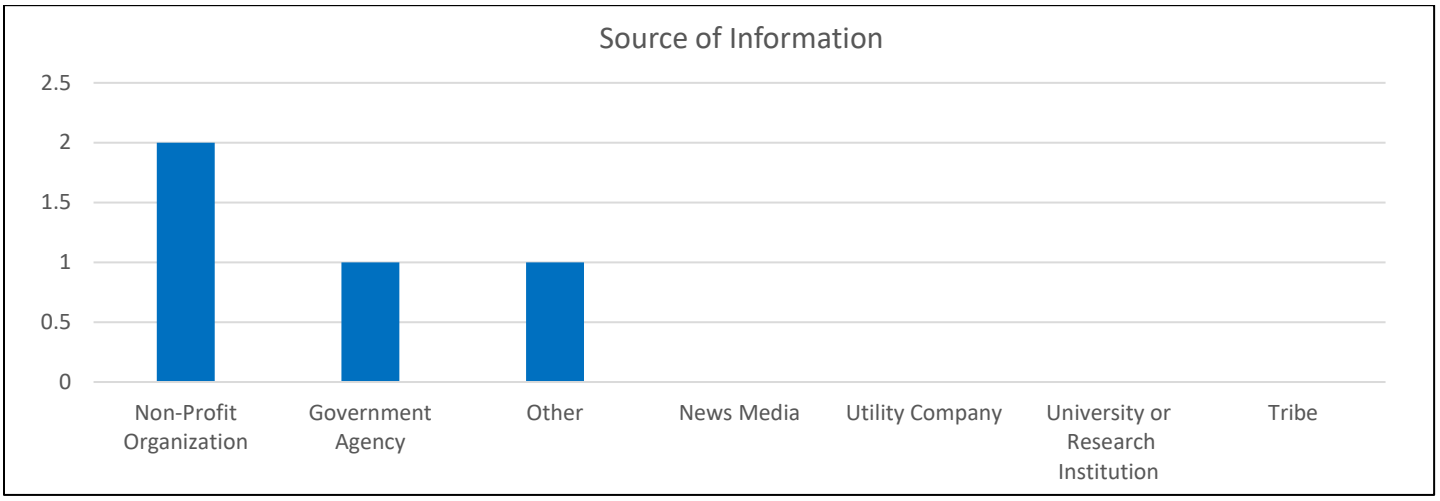


Figure 6: Source of Information (Question #4)

The residents were asked about the most effective way for them to receive information to protect their household and homes (Question 5). For those that responded, Public Workshops/Meetings and Mail were considered the two most effective ways of receiving this information. Figure 7 provides the respondents preferred method of receiving information about how to protect their homes and households.

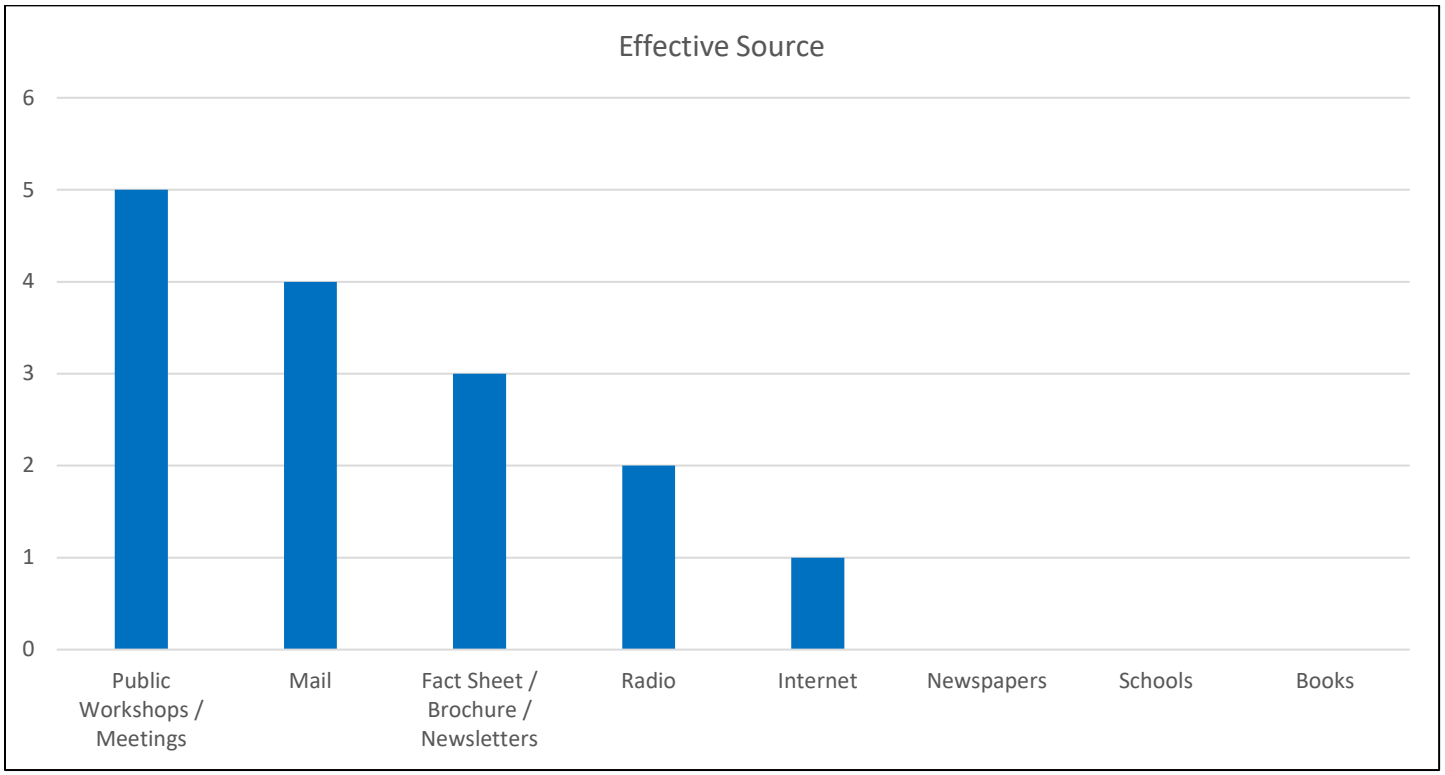


Figure 7: Effective Source (Question #5)

COMMUNITY VULNERABILITIES AND HAZARD MITIGATION STRATEGIES

The residents were asked to identify the categories of community assets that were most vulnerable to natural hazards (Question 6). Figure 8 portrays the opinions of those that responded to the survey.

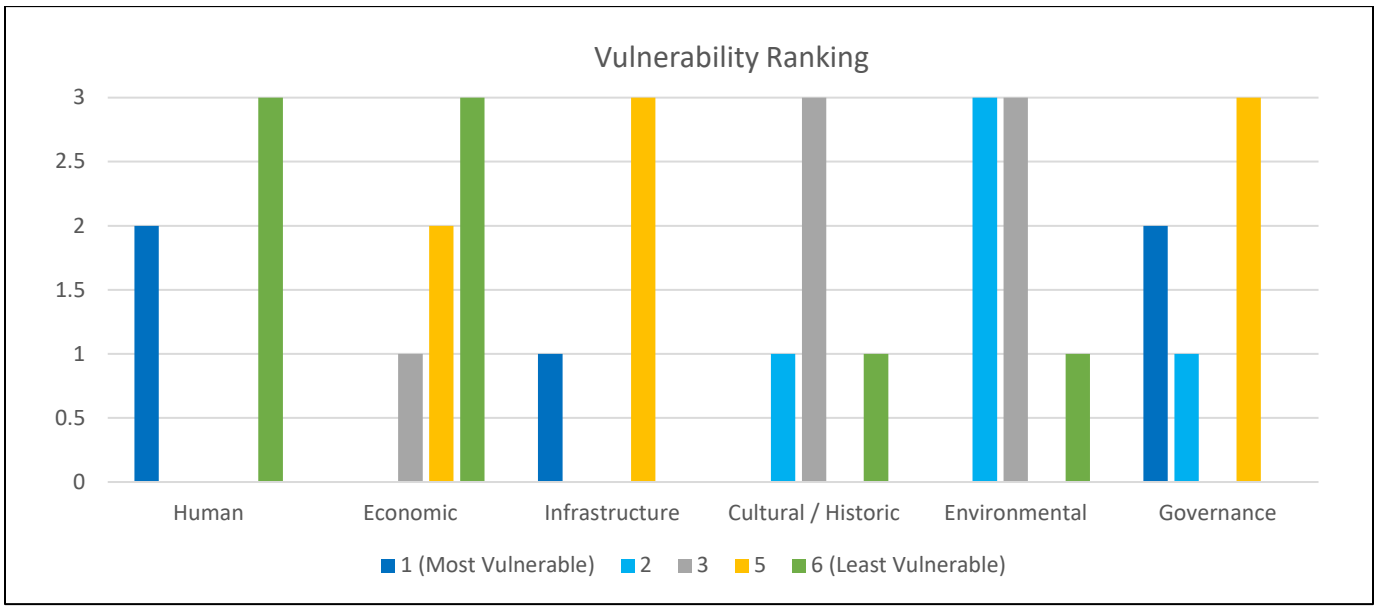


Figure 8: Vulnerability Ranking (Question #6)

Figure 9 shows to respondents' opinion of the importance of specific community assets (Question 7). Additionally, respondents were given an opportunity to write in some other assets they considered important. Land, Wetlands, Waterways, Roads, and Emergency plan were submitted as very important.

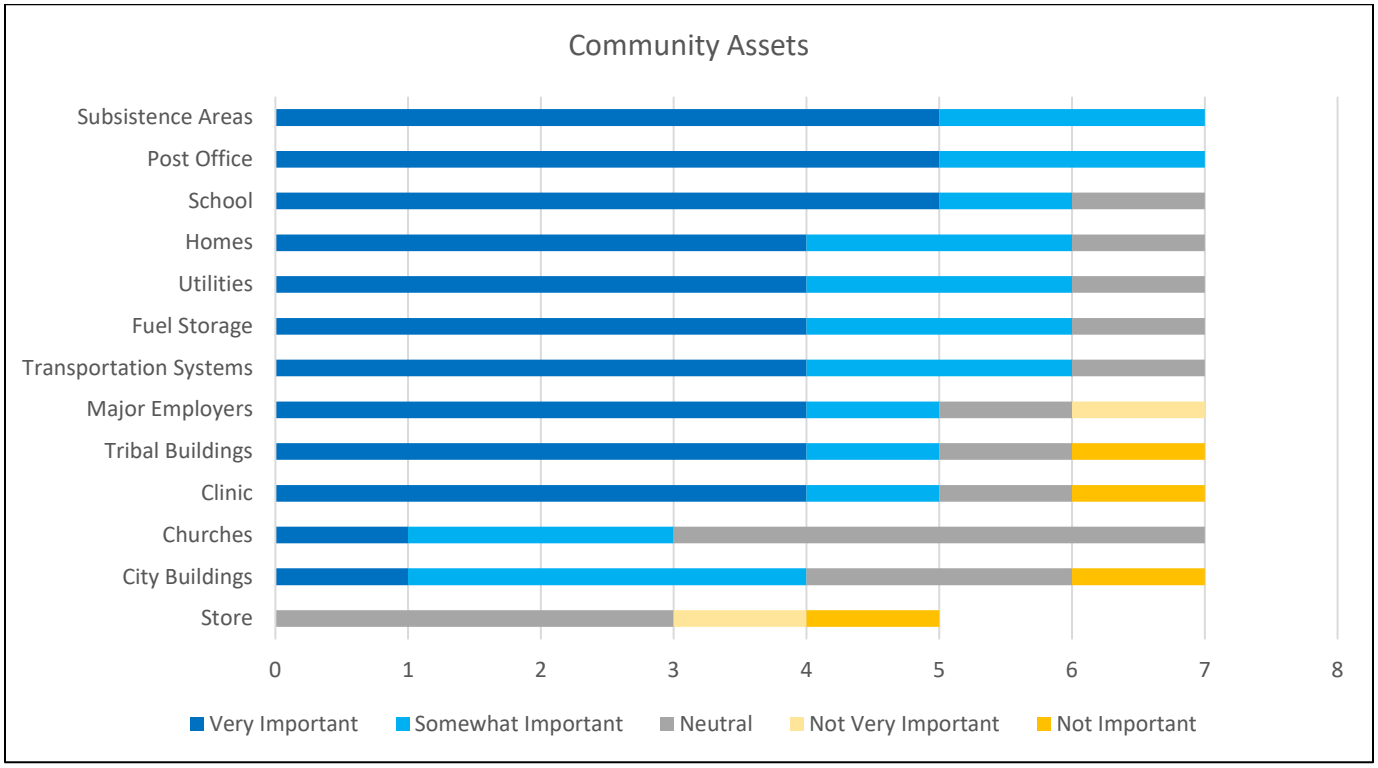


Figure 9: Community Assets (Question #7)

The survey respondents were asked to indicate agreement / disagreement with different mitigation strategies (Question 8). Figure 10 depicts the survey answers.

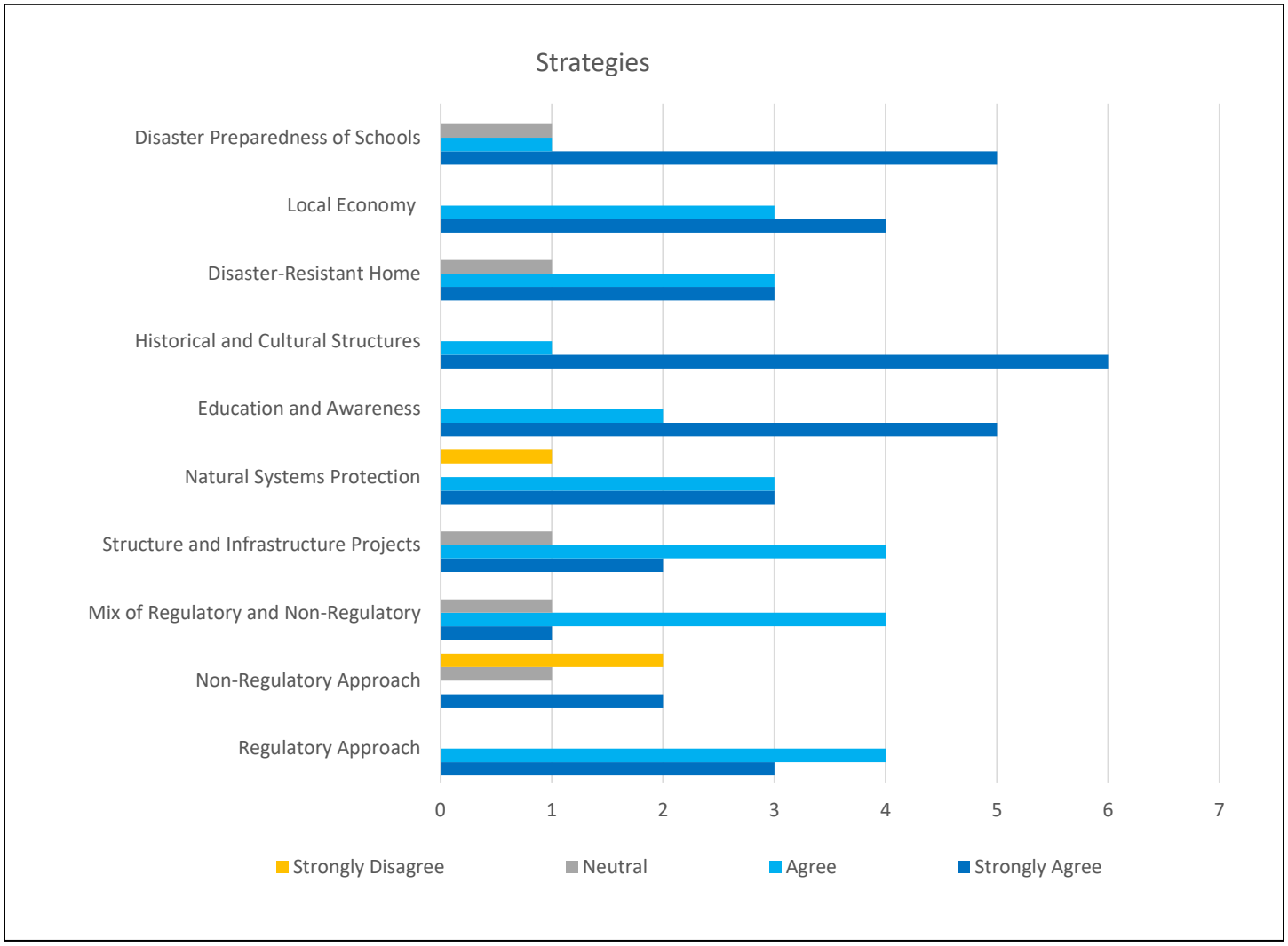


Figure 10: Mitigation Strategies (Question #8)

Question 9 asked community residents to identify community priorities regarding planning for natural hazards in their community (See Figure 11).

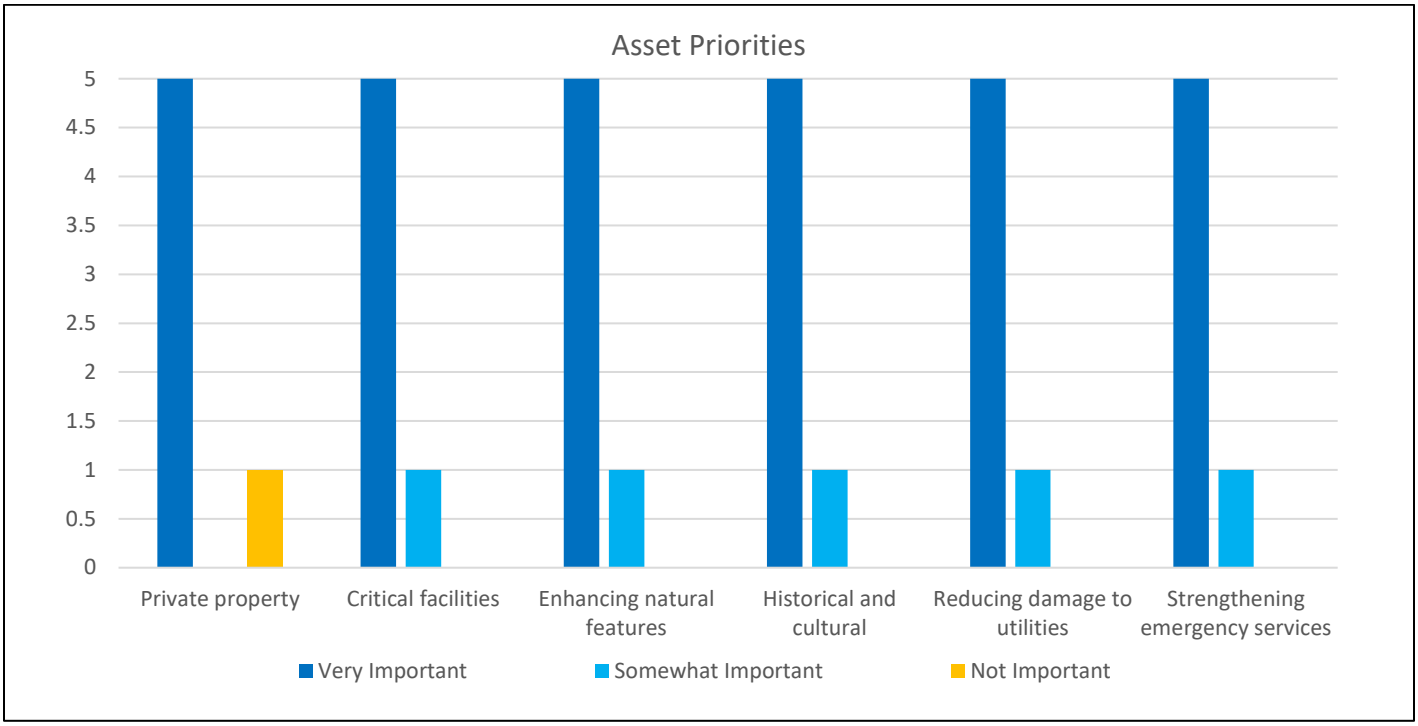


Figure 11: Asset Priorities (Question #9)

MITIGATION AND PREPAREDNESS ACTIVITIES IN THE HOUSEHOLD

Residents can protect themselves, their household members, and their own private property. Question 10 asked residents to identify preparedness activities they have personally done (See Figure 12)

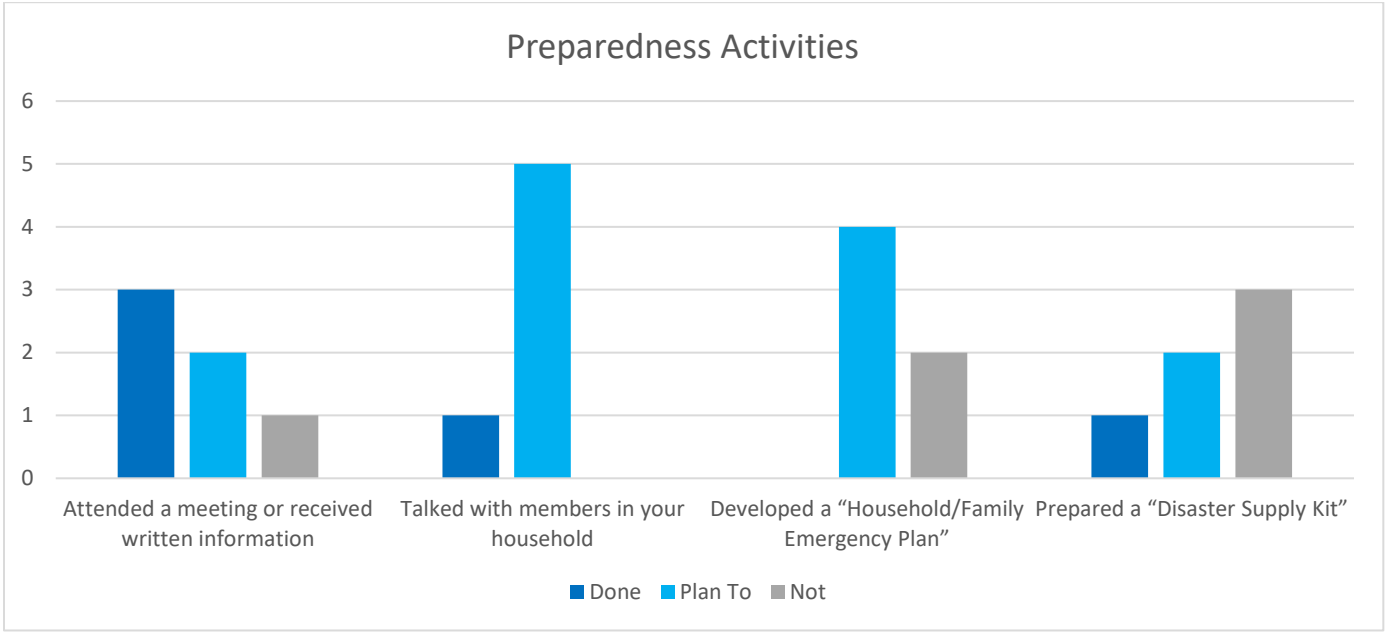


Figure 12: Preparedness Activities (Question #10)

GENERAL COMMENTS

The following is a list of comments made by some of the respondents.

- Flooding and earthquake led to a shelter being built very old just a place to go.
- Severe erosion on banks about to expose graves and loose homes, from wind and flood storms.
- Roads erosion occurring.
- Graveyard washing out on beach.
- Need flood water retainer wall.
- Quit having BBEDC buy things that is wasteful.
- Roads need fixing priority.
- Beach front graves yards washing up.
- With the warm winters we have, we get no buildup of ice to protect the flood zone, so we get a lot of flooding during the winter and summer time, with all this bad weather we been having the erosion of the land is very high, we need to build a break wall of some sort to keep the land from eroding away.

This newsletter describes the Bristol Bay Native Association Transportation and Infrastructure Department's Tribal Hazard Mitigation Planning project development processes to all interested agencies, stakeholders, and the public and to solicit comments. It can also be viewed on the BBNA's website at www.bbna.com

Bristol Bay Native Association (BBNA) Transportation and Infrastructure Department (DOTID) was awarded a Pre-Disaster Mitigation Program grant from the Federal Emergency Management Agency (FEMA) to prepare your 2019 Tribal Hazard Mitigation Plan (THMP). Bristol Engineering Services Company, LLC (BESC) was contracted to assist the BBNA DOTID with preparing a 2019 FEMA approvable THMP plan.

The TMP will identify all natural hazards, such as earthquake, flood, erosion, severe weather, and wildland/tundra fire hazards, etc. The plan will also identify the people and facilities potentially at risk and ways to mitigate damage from future hazard impacts. We will document the public participation and planning process as part of this project.

What is Hazard Mitigation?
Hazard mitigation projects eliminate the risk or reduce the hazard impact severity to people and property. Projects may include short- or long-term activities to reduce exposure to or the effects of known hazards. Hazard mitigation activities could include relocating or elevating buildings, replacing insufficiently sized culverts, using alternative construction techniques, developing, implementing, or enforcing building codes,or developing, and implementing education programs.

Why Do We Need A Hazard Mitigation Plan?
Communities must have a State, FEMA approved, and community adopted mitigation plan to receive a project grant from FEMA's pre- and post- disaster grants identified in their Hazard Mitigation Assistance and other agency's mitigation grant programs. BBNA DOTID plans to apply for mitigation funds after our plan is complete.

A FEMA approved and community adopted THMP enables the Local government to apply for the Hazard Mitigation Grant Program (HMGP), a disaster related assistance program; the Pre-Disaster Mitigation (PDM), and the National Flood Insurance Program (NFIP) Flood Mitigation Assistance (FMA) grant programs.

The Planning Process
There are very specific federal requirements that must be met when preparing a FEMA approvable THMP. These requirements are commonly referred to as the planning process requirements of 44 CFR 201.7 (c)

The following steps describe the planning process in order to develop the THMP.

1. **Establish the Planning Team**
2. **Education of the Planning Team**
3. **Assess Risks**
4. **Assess Capabilities**
5. **Develop a Mitigation Strategy**
6. **Monitor, Evaluate, and Plan Updates**

We are currently in the very beginning stages of preparing the plan development. We will be conducting a Planning Team Meeting to introduce the project and planning team, to gather comments from community residents, identify hazards, and collect data to refine the vulnerability assessment.

We Need Your Help

BESC has prepared survey packets to begin collecting information for your THMP. Survey packets will be mailed to your village council and sent by email to your village administrator.

Establishing a Planning Team is a very important step. We will need a point of contact (POC)/team leader from your community. This group will consist of 2-5 people that have good knowledge about land use, the transportation system, public facilities, and safety resources within the community. BBNA DOTID will be in contact with your tribe to determine a POC and your planning team.

Once the Planning Team has been developed, they will begin to work on the following items:

- Identifying the hazards that impact your community;
- Determining information about the hazards such as, location, history, extent, and the probability of future events;
- Completing a risk analysis, and;
- Developing problem statements and goals.

BBNA DOTID will be in contact with your tribe to set up an initial teleconference meeting with the Planning Team, BBNA DOTID, and BESC to continue to work on the THMP development.

The BBNA DOTID team will be led by Annie Fritze, DOTID Program Manager or Dan Breeden, Department Director with assistance from Bristol Engineering Service Company, LLC (contracted by BBNA). BESC will be developing materials and lead the planning process with guidance from BBNA DOTID staff.

BBNA Tribal Hazard Planning Team

Team Member	Title	Involvment
Annie Fritze	Program Manager	THMP Team Leader, data gathering and plan review
Dan Breeden	Department Director	THMP Team Leader, data gathering and plan review
Isaac Pearson, P.E.	Senior Engineer	THMP Consultant
Danielle Dance	Civil Engineer	THMP Consultant

Public Participation

The purpose of this newsletter is to keep you informed, and to allow you every opportunity to voice your opinion regarding these important projects. We want to encourage public involvement as a continuous effort throughout the project.

We encourage you to take an active part in the development effort, and preparation of the Tribal Hazard Mitigation Plan.

The goal is to receive comments, identify key issues or concerns, and improve mitigation ideas, and to guide the community.

Please contact BBNA DOTID program staff or BESC if you have any questions, comments, or requests for more information:

Bristol Bay Native Association DOTID **Annie Fritze OR** **Dan Breeden** **PO Box 310** **Dillingham, Alaska 99576** **(907) 842-6219**	**Bristol Engineering Services Company, LLC** **Danielle Dance, Consultant** **111 W. 16th Avenue, Third Floor** **Anchorage, Alaska 99501** **(907)563-0013**

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*** TX REPORT ***
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BRISTOL BAY NATIVE ASSOCIATION

PO BOX 310 DILLINGHAM ALASKA 99576
PHONE:(907) 842-5257
TOLL FREE 1-800-478-5257 FAX: (907) 842-5932

FAX TRANSMISSION COVER SHEET

DATE: August 20, 2018

TO: Vlg Admin

FAX:

SENDER: Annie Fritze

RE: Please Post and Share w/in your community - I will email and follow up with a phone call -
Quyana -
AF

8/20/2018
All but Chignik Bay faxed - will refax - AF

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Chignik Bay

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SENDER: Annie Fritze

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Quyana -

From:	Annie Fritze
To:	saguyakinc@yahoo.com; Jason Metrokin; Steve Noonkesser; cityofclarkspoint@gci.net; sharvilla@swrsd.org; kaylawassily-wal@swrsd.org; Robert Himschoot; bakelkok@bbha.org; rclark@bbahc.org; Gayla Hoseth; rcoupchiak@bbahc.org; Carla Akelkok; Kristina Andrew; Norm Van Vactor; Representative.Bryce.Edgmon@akleg.gov; Senator.Lyman.Hoffman@akleg.gov; Program Managers
Cc:	Dan Breeden; Dance, Danielle; Pearson, Isaac
Subject:	Clarks Point THMP
Date:	Thursday, January 24, 2019 9:20:34 AM
Attachments:	Bristol Bay Native Association FEMA Newsletter2 Final A newsletter for BBNA Clarks Point.docx

Clarks Point Community Stakeholders:

Bristol Bay Native Association (BBNA) was awarded a Federal Emergency Management Agency (FEMA) grant to develop Tribal Hazard Mitigation Plans (THMP's) for twenty (20) tribes in the Bristol Bay Region. We would like to take this time to acquaint you to the project, with the BBNA THMP Team, and to welcome your input and participation.

BBNA represents all tribes within the Bristol Bay Region, and as such provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. On behalf of the twenty tribes in this region, BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of their Tribal Hazard Mitigation Plan (THMP). The THMP was prepared to meet the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). By meeting these requirements, it makes the Tribal communities eligible for funding through state and federal mitigation grant programs.

We are excited to announce that the draft THMP for the Tribal Council of Clarks Point will be made available to the Tribal offices for public review and comment January 23-30, 2019.
This plan is available on BBNA's web page for public comment at https://www.bbna.com/wp-content/uploads/DRAFT-FEMA-THMP-ClarksPoint.21Jan2019.pdf

-
The goal is to receive comments, identify key issues or concerns and improve ideas for mitigation. When the draft plan is complete, the results will be presented to the community before submitting to FEMA for their preliminary approval and returned back to the Tribal Council for formal adoption.

Public comments should be received no later than January 30, 2019. Comments can be made via email, fax, or phone to Danielle Dance, Bristol Engineering Services Company, LLC at ddance@bristol-companies.com, (907)563-0013 or by fax at (907)563-6713. If no comments are received by the end of the comment period it will be assumed that there were no comments on the draft.

Please contact me should you have any additional questions at afritze@bbna.com, (907)842-6143 or Danielle Dance at ddance@bristol-companies.com, (907)563-0013
Quyana.

Annie Fritze
Transportation and Infrastructure Program Manager
afritze@bbna.com
907-842-6143

Bristol Bay Native Association
Transportation and Infrastructure Development

JANUARY 2019 Newsletter 2
Clarks Point

This newsletter discusses the Bristol Bay Native Association Transportation and Infrastructure Department's Tribal Hazard Pre-Mitigation Plan for your Tribal Council. This newsletter has been prepared to inform interested agencies, stakeholders, and the public about the project and to solicit comments. This newsletter and the draft mitigation plan can also be viewed on the BBNA's website at www.bbna.com

Bristol Bay Native Association was awarded a Federal Emergency Management Agency (FEMA) grant to develop Tribal Hazard Mitigation Plans (THMP's) for twenty (20) tribes in the Bristol Bay Region. On behalf of the twenty tribes, BBNA contracted Bristol Engineering Services Company, LLC (Bristol) to prepare your THMP.

The THMP identifies all natural hazards that affect the community, including earthquake, flood/erosion, severe weather, and wildland/tundra fire hazards, etc. The plan identifies the people and facilities potentially at risk and ways to mitigate damage from future hazard impacts. The public participation and planning process is documented as part of this project.

Why Do We Need A Hazard Mitigation Plan?
A FEMA approved and community adopted THMP enables your Tribal council's eligibility to apply for funding through state and federal mitigation grant programs.

The purpose of hazard mitigation is to reduce potential losses from future disasters. The intent of mitigation planning is to maintain a process that leads to hazard mitigation actions. This THMP identifies the natural hazards that affect the Tribal communities, identifies actions to reduce losses from those hazards, and develops long-term strategies to reduce the impacts of future events on people, property, and the environment, and establishes a coordinated process to implement the plan.

The THMP establishes goals and objectives and associated actions to reduce and mitigate the threat of natural hazards to life, property, infrastructure, economic stability and emergency response capabilities in the Tribal communities while encouraging the protection and restoration of cultural and natural resources.

We Need Your Help

We are excited to announce that the draft THMP for the Clark's Point Tribal Council is available at the Tribal office for public review and comment, January 23-30,2019 This plan is also available on BBNA's web page at https://www.bbna.com/wpcontent/uploads/DRAFT-FEMA-THMP-ClarksPoint.21Jan2019.pdf

for public comment. The goal is to receive comments, identify key issues or concerns and improve ideas for mitigation. When the draft plan is complete, the results will be presented to the community before submitting to FEMA for their preliminary approval and returned back to the Tribal Council for formal adoption.

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Public Participation
Public involvement is important to the planning process of the THMP. This meets the requirements of 44 CFR 201.7(c)(1)(i).

The purpose of this newsletter is to encourage public involvement as a continuous effort throughout the project. The goal is to receive comments, identify key issues or concerns, and improve mitigation ideas from all stakeholders in your community.

We encourage you to take an active part in preparing the Tribal Hazard Mitigation Plan development effort. The purpose of this newsletter is to keep you informed and to allow you every opportunity to voice your opinion regarding these important projects.

If you have any questions, comments or requests for more information, please contact:

Danielle Dance, THMP Consultant
111 W. 16th Avenue, Third Floor
Anchorage, Alaska 99501
(907)563-0013
ddance@bristol-companies.com

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Aleknagik
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Chignik Lake
Clarks Point
Curyung
Egegik
Ekuk
Ekwok
Igiugig
Iliamna
Ivanof Bay
Kanatak
King Salmon
Kokhanok
Koliganek
Levelock
Manokotak
Naknek
New Stuyahok
Newhalen
Nondalton
Pedro Bay
Perryville
Pilot Point
Port Heiden
Portage Creek
South Naknek
Togiak
Twin Hills
Ugashik

January 9, 2019

The Honorable Bryce Edgmon
State Capitol Room 208
Juneau, AK 99801

RE: Introducing BBNA's Tribal Hazard Mitigation Planning Project

Dear Representative Edgmon:

Bristol Bay Native Association (BBNA) was awarded a Federal Emergency Management Agency (FEMA) grant to develop Tribal Hazard Mitigation Plans (THMP's) for twenty (20) tribes in the Bristol Bay Region. We would like to take this time to acquaint you to the project, with the BBNA THMP Team, and to welcome your input and participation.

BBNA represents all tribes within the Bristol Bay Region, and as such provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. On behalf of the twenty tribes in this region, BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of their Tribal Hazard Mitigation Plan (THMP). The THMP was prepared to meet the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). By meeting these requirements, it makes the Tribal communities eligible for funding through state and federal mitigation grant programs.

The purpose of hazard mitigation is to reduce potential losses from future disasters. The intent of mitigation planning is to maintain a process that leads to hazard mitigation actions. This THMP identifies the natural hazards that affect the Tribal communities, identifies actions to reduce losses from those hazards, and develops long-term strategies to reduce the impacts of future events on people, property, and the environment, and establishes a coordinated process to implement the plan. The THMP establishes goals and objectives and associated actions to reduce and mitigate the threat of natural hazards to life, property, infrastructure, economic stability and emergency response capabilities in the Tribal communities while encouraging the protection and restoration of cultural and natural resources.

It is the goal of the Tribal organizations to create a disaster-resistant community for the Tribal members and the general public. The THMP includes information to assist government leaders and residents with current and future planning efforts to efficiently and effectively mitigate natural hazards in their communities.

We are excited to announce that the draft THMP for the Tribal Councils of **Aleknagik, Chignik Bay, Chignik Lagoon, Chignik Lake, Clarks Point, Egegik, Ekuk, Kanatak, Levelock, Manokotak, New Stuyahok, Nondalton, Perryville, Pilot Point, Port Heiden, Portage Creek, Togiak and Twin Hills** will be made available to their Tribal offices for public review and

comment in the next few months. These plans will also be made available on BBNA's web page for public comment at www.bbna.com. The goal is to receive comments, identify key issues or concerns and improve ideas for mitigation. When the draft plan is complete, the results will be presented to the community before submitting to FEMA for their preliminary approval and returned back to the Tribal Council for formal adoption.

A FEMA approved and community adopted THMP enables the Tribal council's eligibility to apply for funding through state and federal mitigation grant programs.

Sincerely,
Bristol Bay Native Association

Ralph Andersen,
President/Chief Executive Officer

cc: Dan Breeden, BBNA DOTID Director
Annie Fritze, BBNA DOTID Program Manager
Isaac Pearson, BESC Senior Engineer
Danielle Dance, BESC Civil Engineer

BRISTOL BAY NATIVE ASSOCIATION
P.O. BOX 310
DILLINGHAM, ALASKA 99576
PHONE (907) 842-5257

January 9, 2019

The Honorable Lyman Hoffman
PO Box 886
Bethel, AK 99559

RE: Introducing BBNA's Tribal Hazard Mitigation Planning Project

Dear Senator Hoffman:

Bristol Bay Native Association (BBNA) was awarded a Federal Emergency Management Agency (FEMA) grant to develop Tribal Hazard Mitigation Plans (THMP's) for twenty (20) tribes in the Bristol Bay Region. We would like to take this time to acquaint you to the project, with the BBNA THMP Team, and to welcome your input and participation.

BBNA represents all tribes within the Bristol Bay Region, and as such provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. On behalf of the twenty tribes in this region, BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of their Tribal Hazard Mitigation Plan (THMP). The THMP was prepared to meet the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). By meeting these requirements, it makes the Tribal communities eligible for funding through state and federal mitigation grant programs.

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public comment at www.bbna.com. The goal is to receive comments, identify key issues or concerns and improve ideas for mitigation. When the draft plan is complete, the results will be presented to the community before submitting to FEMA for their preliminary approval and returned back to the Tribal Council for formal adoption.

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President/Chief Executive Officer

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Annie Fritze, BBNA DOTID Program Manager
Isaac Pearson, BESC Senior Engineer
Danielle Dance, BESC Civil Engineer

APPENDIX C

Plan Maintenance

- Maintenance Monitoring Form (THMP Form 4-1)
- Plan Update Evaluation Form (THMP Form 4-2)

MAINTENANCE MONITORING FORM

Use this form to track the status of implementation of the identified mitigation actions, once a year. Use the information to provide the Council with a brief status report.

Date	**Evaluator**	**Comments** *(Brief Status Overview of Mitigation Actions)*

Date	**Evaluator**	**Comments** *(Brief Status Overview of Mitigation Actions)*

PLAN UPDATE EVALUATION FORM

Plan Section	Considerations	Explanation
Planning Process	Have any internal or external agencies been invaluable to the mitigation strategy?	
	Can any procedures (e.g., meeting announcements, plan updates) be done differently or more efficiently?	
	Has the Planning Team undertaken any public outreach activities?	
	How can public participation be improved?	
Capability Assessment	Have jurisdictions adopted new policies, plans, regulations, or reports that could be incorporated into this plan?	
	Are there different or additional administrative, human, technical, and financial resources available for mitigation planning?	
	Are there different or new education and outreach programs and resources available for mitigation activities?	

Plan Section	Considerations	Explanation
Plan Maintenance Procedures	Was the plan monitored and evaluated as anticipated?	
	What are needed improvements to the procedures?	
Hazard Profile	Has a natural and/or technical or human-caused disaster occurred?	
	Should the list of hazards addressed in the plan be modified? What hazards need to be addressed? Are there hazards that need to be added or removed? If so, list the hazards.	
	Are there new data sources and/or additional maps and studies available? If so, what are they and what have they revealed? Should the information be incorporated into future plan updates?	
Risk Analysis	Do any new critical facilities or infrastructure need to be added to the asset lists?	
	Have any changes in development trends occurred that could create additional risks?	

Plan Section	Considerations	Explanation
Mitigation Strategy	Are the goals still applicable?	
	Should new mitigation actions be added to the community's Mitigation Action Plan?	
	Do existing mitigation actions listed in the community's Mitigation Action Plan need to be reprioritized?	
	Have elements of the plan been incorporated into other planning mechanisms?	

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APPENDIX D

Funding Sources

CLIMATE RESILIENCE IN ALASKAN COMMUNITIES

Catalog of Federal Programs

PRODUCT OF THE

Coastal Erosion Working Group

OF THE ARCTIC EXECUTIVE STEERING COMMITTEE

September 2, 2015

In February 2015, the newly established Arctic Executive Steering Committee (AESC), in one of its first actions, established a Coastal Erosion Working Group (CEWG). The CEWG, which included representatives from the Executive Office of the President as well as ten Federal agencies, was tasked with examining opportunities for Federal action to address the imminent threats that coastal erosion and flooding pose to Alaskan Arctic coastal communities. Representation on the working group drew from both headquarters and the Alaska region, ensuring good knowledge of State and local stakeholders' needs.

One of the recommendations that the CEWG presented at the June meeting of the AESC, was to catalog Federal programs that could be useful for Alaskan coastal communities seeking to address erosion, flooding, and other resilience challenges. The following "Catalog of Federal Resilience Programs for Alaskan Communities" was developed by the CEWG in response to this recommendation. We hope this resource will support communities in Alaska in identifying Federal resources available to help address some of great challenges they are facing.

Ambassador Mark Brzezinski
Executive Director, Arctic Executive Steering Committee

Overview

According to the U.S. National Climate Assessment, over the past 60 years, climate change has caused the Alaskan Arctic to warm twice as rapidly as the rest of the United States, and accelerated rates of erosion caused by the combination of repeated extreme weather events, thawing permafrost, and decreased arctic sea ice are threatening the way of life in native villages.

Developed under the leadership of the Arctic Executive Steering Committee's (AESC) Coastal Erosion Work Group (CEWG), this catalog of Federal technical assistance programs and funding resources is the result of collaboration across Federal agencies to identify existing programs that may be used to assist coastal communities in Alaska facing challenges associated with climate-related risks. Although a variety of Federal programs are available to provide assistance, lack of information about the full range of resources available can present a barrier to communities securing assistance. This compendium is intended to help Alaskan communities identify Federal resources that can be used to support local efforts to gather and evaluate information about the risks posed by coastal erosion and other hazards; building capacity to mitigate those risks; advance onsite measures; and, if necessary, relocate community assets.

Each program's entry describes its purpose and funding potential, eligible applicants, and activities typically undertaken with its support. The Quick Reference Program Matrix serves to identify which programs can support the following activities:

> **Information Gathering and Evaluation:** Risk assessment and monitoring activities, including assessing hazards like coastal erosion, mapping subsistence patterns, and tracking natural climate variability;
> **Capacity Building:** Training, education, and community planning efforts, including digital access to tools and development of administrative needs to inform resilience planning;
> **On-site Measures:** Maintaining and strengthening infrastructure, land, and livelihoods within a community. Examples include redesigning roads and evacuation routes due to climate change impacts and investing in infrastructure that generates economic returns; and
> **Relocation:** Activities that support the relocation of entire communities or certain community assets, including new site identification and development.

Contributing agencies include the Departments of Agriculture, Energy, Health and Human Services, Housing and Urban Development, the Interior, Transportation, Homeland Security, Commerce, the Environmental Protection Agency, and the U.S. Army Corps of Engineers. While this guide attempts to be as comprehensive as possible in describing relevant Federal grant programs, programs are continually evolving and are subject to change.

About the Arctic Executive Steering Committee

President Obama established the AESC in his January 2015 Executive Order 13689 on *Enhancing Coordination of National Efforts in the Arctic*. The Executive Order directed Federal agencies to strengthen international cooperation to mitigate the greenhouse gas emissions driving climate change, understand more fully and manage more effectively the adverse effects of climate change, protect life and property, develop and manage resources responsibly, enhance the quality of life of Arctic inhabitants, and serve as stewards for valuable and vulnerable ecosystems. The AESC was charged with guiding executive departments and agencies and enhancing coordination of Federal Arctic policies across agencies and offices, and with State, local, and Alaska Native tribal governments and stakeholders.

The CEWG, co-chaired by the Department of Housing and Urban Development (HUD) and the Department of the Interior (DOI), was created to examine opportunities for improving Federal actions to address the imminent threat of coastal erosion and flooding impacting Alaskan Arctic coastal communities.

Quick Reference Programs Matrix

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
			Risk Assessment	Monitoring	Technical Training	Environmental Education	Preserving Traditional Lifestyles	Strategic Planning	Infrastructure Strengthening	Coastal Erosion Control	Recovery of Critical Infrastructure	Economic Development	Site Evaluation	Development	Infrastructure
Department of Homeland Security - Federal Emergency Management Agency	Flood Mitigation Assistance	12						X	X						
	Hazard Mitigation Grant Program	12						X	X	X	X				
	Pre-Disaster Mitigation Grant Program	13						X	X	X	X				
	Risk Mapping, Assessment, and Planning	13	X	X	X			X							
Department of Commerce – Economic Development Authority	Economic Adjustment Assistance Program	14	X					X	X		X	X	X	X	X
	Public Works Program	14							X		X	X		X	X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Department of Commerce – National Oceanic and Atmospheric Administration	Alaska Center for Climate Assessment and Policy	15	X					X							
	Alaska Ocean Observing System	15	X	X											
	Analyze, Forecast, and Support	16	X	X											
	Integrated Ocean and Coastal Mapping Program	16	X	X											
	National Oil and Hazardous Substances Pollution Contingency Plan	16	X	X				X							
	Climate Program	17	X		X	X									
	Observations	17	X	X											
Department of Energy	Alaska START Program	17			X	X		X	X		X	X			X
	Tribal Energy Program	18			X	X		X	X		X	X			X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Department of the Interior	Alaska Climate Science Center	19	X	X	X			X					X		
	ANILCA Sec. 1318 Historic Assistance	19					X								
	Landscape Conservation Cooperatives	19	X	X											
	North Slope Science Initiative	20	X	X		X									
	Subsistence – ANLICA Title VIII	20					X	X							
Department of the Interior - Bureau of Indian Affairs	Cooperative Landscape Conservation	20			X			X							
	Indian Energy Resource Development Program	21			X							X			X
	Tribal Transportation Program	21							X			X			X
Department of Transportation	Transportation Investment Generating Economic Return	22						X	X			X			X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Department of Transportation - Federal Aviation Administration	Airport Improvement Program	22							X						X
Department of Transportation - Federal Highway Administration	Federal-aid Highway Apportioned Funds	23							X			X			X
	Tribal Transportation Program	23						X	X			X			X
Department of Transportation - Federal Transit Administration	Public Transportation on Indian Reservations Program Tribal Transit Program	24						X	X		X				X
Environmental Protection Agency	Alaska Native Villages Grant	24			X				X						X
	Clean Water Act Indian Set-Aside Program	25						X	X						X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Environmental Protection Agency	Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program	25							X					X	
	Environmental Justice Small Grants	26						X							
	Indian General Assistance Program	26	X	X											
	Office of Water Climate Ready Water Utilities Program	27	X					X							
	Safe Drinking Water Act (SDWA) Tribal Set-Aside Program	27						X	X						X
Health and Human Services	ACF/ANA Environmental Regulatory Enhancement	28			X		X	X				X			
	CDC/NCID/ Arctic Investigations Program	29	X	X		X									

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Health and Human Services	CDC/NIOSH American Indian/ Alaska Native Program	29			X	X									
	CDC/NIOSH Climate Change Initiative	30	X												
	NIH/NIEHS Alaska Community Action on Toxics	30	X	X	X	X	X	X							
	NIH/NIEHS Research to Action	31	X	X	X	X	X	X							
	NIH/NIEHS The Center for Indigenous Environmental Health Research	31	X	X	X	X	X	X							
Department of Housing and Urban Development	Community Development Block Grant	32	X	X	X						X			X	X
	Emergency Solutions Grants Program	33							X		X				
	Indian Community Development Block Grant	33							X		X	X		X	X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Department of Housing and Urban Development	Mortgage Insurance for Disaster Victims – 203(h)	34												X	
	Native American Housing and Self-Determination Act - Indian Housing Block Grant Program	34	X	X	X	X		X	X	X	X		X	X	X
	Section 184 Loan Guarantee Program	35												X	
	Title VI Loan Guarantee Program	35							X	X	X			X	X
US Army Corps of Engineers	Continuing Authorities Program	35							X	X					
	International and Interagency Support Services	36	X	X			X	X	X	X	X		X	X	X
	Planning Assistance to States	36	X					X					X		
	Tribal Partnership Program	37	X					X	X	X			X	X	X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
US Department of Agriculture	Business and Industry Loan Guarantee	37										X			
	Community Facilities Loans and Grants	38												X	
	Electric Loans	38							X						X
	Rural Business Development Grant	38										X			
	Rural Energy for America Loans and Grants	39							X						X
	Sewer, Water, Solid Waste Loans and Grants	39							X						X
	Single Family Direct and Guaranteed Loans	40												X	
	Single Family Repair Loans and Grants	40									X				
	Telecom Loans	41							X						X

Department of Homeland Security (DHS) – Federal Emergency Management Agency (FEMA)

Program Name: Flood Mitigation Assistance (FMA)

Purpose: Authorized to reduce or eliminate claims under the National Flood Insurance Program (NFIP) by eliminating the long-term risk of flood damage to structures insured under the NFIP.

Eligible Applicants: States, U.S. territories, Federally-recognized tribes apply on behalf of local communities, who must be participating in the NFIP.

Funding Range: Severe Repetitive Loss structures can be funded at 100% federal cost; repetitive loss structures can be cost-shared at 90% federal cost. Insured structures and planning grants are cost-shared at 75 percent federal, 25 percent non-federal. Maximum Federal share for planning sub-applications per Applicant is $50,000 for State plans and $25,000 for local plans. Technical assistance up to $50,000 is available for states who were awarded FMA grant funds totaling at least $1million in FY 2014.

Program Activities: Projects include the elevation, relocation and acquisition of flood prone structures, and projects to address minor, localized flooding issues, such as upgrading culverts, building detention ponds, and otherwise improving local stormwater management facilities.

Because this program is funded by resources collected from NFIP policyholders, the recent focus of the program has been on mitigating severe repetitive loss structures in order to reduce the drain on the National Flood Insurance Fund (NFIF).

Severe repetitive loss structures and repetitive loss structures are prioritized for funding to maximize cost-effectiveness and reduce claims to the NFIF.

Additional Information: http://www.fema.gov/media-library-data/1432854343618-674f4cfd5dd49813a9aef429e5d49c7d/FMAFactSheetFY2015.pdf

Program Name: Hazard Mitigation Grant Program (HMGP)

Purpose: Provides grants to states, Indian tribal governments and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the recovery from a disaster.

Eligible Applicants: Funds become available only after a disaster is declared. The Governor of the state determines availability, however it is frequently available anywhere within the state or tribe in which the declaration was made.

Funding Range: The amount of assistance available under the HMGP is a percentage of FEMA's assistance made available under the response and recovery programs for the declared major disaster.

HMGP funds are generally 15 percent of assistance under these programs for states with a Standard State Mitigation Plan and 20 percent of assistance under these programs for those with an Enhanced State Mitigation Plans. Small impoverished communities may be eligible for up to a 90% Federal cost share in accordance with the Stafford Act.

Program Activities: Some examples of projects eligible for HMGP and the PDM grant funds include the development of all-hazards mitigation plans at the tribal, state and local levels, the seismic retrofitting of critical public buildings, and acquisition, relocation or elevation of flood-prone properties located in the floodplain.

Additional Information: http://www.fema.gov/hazard-mitigation-grant-program

Program Name: Pre-Disaster Mitigation Grant Program (PDM)

Purpose: Designed to assist States, territories, Federally-recognized tribes, and local communities in implementing a sustained pre-disaster natural hazard mitigation program.

Eligible Applicants: States, U.S. territories, Federally-recognized tribes.

Funding Range: In 2015, each state is eligible to receive a set aside of 1 percent of the total appropriated PDM funding, or $250,000; $5 million is set aside for Federally-recognized Tribal governments to receive a set aside of 1 percent of the total appropriated PDM funding, or $250,000; The balance of PDM Grant Program funds will be distributed on a competitive basis to all eligible applicants.

Program Activities: Elevation, acquisition, or floodproofing structures, seismic or wind retrofit of structures, major or minor flood hazard reduction activities, mitigation planning

Additional Information: http://www.fema.gov/media-library-data/1432847398289-878c470e718239eedcaadc8d52ea1823/PDMFactSheetFY2015.pdf

Program Name: Risk Mapping, Assessment, and Planning (Risk MAP)

Purpose: Not only is flooding one of the most common and costly disasters, flood risk can also change over time because of new building and development, weather patterns and other factors. FEMA is working with federal, state, tribal and local partners across the nation to identify flood risk and help reduce that risk through the Risk Mapping, Assessment and Planning (Risk MAP) program.

Eligible Applicants: State, regional, Tribal, and local communities can use enhanced hazard data to make more informed decisions regarding risk.

Funding Range: Varies.

Program Activities: Risk MAP provides high quality flood maps and information, tools to better assess the risk from flooding and planning and outreach support to communities to help them take action to

reduce (or mitigate) flood risk. Each Risk MAP flood risk project is tailored to the needs of each community and may involve different products and services.

Additional Information: http://www.fema.gov/risk-mapping-assessment-and-planning-risk-map

Department of Commerce (DOC) – Economic Development Administration (EDA)

Program Name: Economic Adjustment Assistance Program

Purpose: Helps communities design and implement strategies to address evolving economic changes that are causing or threaten to cause serious structural damage to the underlying economic base or undermining locally-developed development goals.

Eligible Applicants: (1) District Organization of a designated Economic Development District; (2) Indian Tribe or a consortium of Indian Tribes; (3) State, county, city, or other political subdivision of a State, including a special purpose unit of a State or local government engaged in economic or infrastructure development activities, or a consortium of political subdivisions; (4) institution of higher education or a consortium of institutions of higher education; or (5) public or private non-profit organization or association acting in cooperation with officials of a political subdivision of a State.

Funding Range: Investments range from $100,000 to $1,250,000; the average is approximately $829,000.

Program Activities: Can be used to conduct feasibility or environmental studies, capitalize revolving loan funds, and to fund the construction of publicly-owned infrastructure, such as water and sewer facilities, access roads, rail spurs, and broadband, to support the expansion of area businesses; business incubators; job training facilities; and other infrastructure investments.

Additional Information: http://www.eda.gov/pdf/about/Economic-Adjustment-Assistance-Program-1-Pager.pdf

Program Name: Public Works Program

Purpose: The Public Works Program provides strategic-investments to help communities build or expand access to the infrastructure assets that are the most basic building blocks of an economy and are required to support the growth and economic development of distressed regions.

Eligible Applicants: (1) District Organization of a designated Economic Development District; (2) Indian Tribe or a consortium of Indian Tribes; (3) State, county, city, or other political subdivision of a State, including a special purpose unit of a State or local government engaged in economic or infrastructure development activities, or a consortium of political subdivisions; (4) institution of higher education or a consortium of institutions of higher education; or (5) public or private non-profit organization or association acting in cooperation with officials of a political subdivision of a State.

Funding Range: Investments range from $200,000 to $3,000,000, the average is approximately $1.4 million.

Program Activities: Traditional infrastructure through this program including water and sewer system improvements, industrial parks, business incubator facilities, expansion of port and harbor facilities, skill-training facilities, and the redevelopment of brownfields. Also, technology-based facilities; research and development commercialization centers; facilities for workforce development; wet labs; multi-tenant manufacturing facilities; research, business and science parks with fiber optic cable; and telecommunications infrastructure and development facilities.

Additional Information: http://www.eda.gov/pdf/about/Public-Works-Program-1-Pager.pdf

DOC – National Oceanic and Atmospheric Administration (NOAA)

Program Name: Alaska Center for Climate Assessment & Policy

Purpose: NOAA's Regional Integrated Sciences & Assessments (RISA) program supports research teams that help expand and build the nation's capacity to prepare for and adapt to climate variability and change.

Eligible Applicants: NOAA 5 year funding agreement with ACCAP; ACCAP awards funding to other entities to accomplish its five year goals.

Funding Range: Varies.

Program Activities: Partner with stakeholders to inform realistic community plans and climate adaptation strategies using the most scientifically accurate, reliable, and up-to-date information.

Additional Information: http://cpo.noaa.gov/ClimatePrograms/ClimateandSocietalInteractions/RISAProgram/RISATeams/ACCAP.aspx

Program Name: Alaska Ocean Observing System

Purpose: Address regional and national needs for ocean information, gather specific data on key coastal and ocean variables, and ensure timely and sustained dissemination and availability of these data.

Eligible Applicants: AOOS Funding is based on a five year plan focusing on: safe marine operations; coastal hazard mitigation; tracking ecosystem and climate trends; and monitoring water quality.

Funding Range: $0-$500k.

Program Activities: (1) Enables advances in scientific understanding to support the sustainable use, conservation, management, and understanding of healthy ocean and coastal resources.

(2) Improves the Nation's capability to measure, track, explain, and predict events related directly and indirectly to weather and climate change, natural climate variability, and interactions between the oceanic and atmospheric environments.

Additional Information: http://www.ioos.noaa.gov/regions/aoos.html

Program Name: Analyze, Forecast, and Support

Purpose: Field forecast and warnings, facilities supporting the mission and programmatic leadership in the provision of life saving decision support services.

NWS has initiated Impact Based Decision Support Services (IDSS) to provide better, more useful information to partners, emergency managers, and decision makers to foster an appropriate public response.

Eligible Applicants: None, work is performed by NOAA.

Funding Range: N/A

Program Activities: Provides decision support services, warning coordination, and Arctic environmental intelligence (timely, reliable, and actionable information to help plan for and adapt to economic and ecological impacts, including disasters) to the State of Alaska and Alaska Native partners, industry and community stakeholders, and federal and other local officials.

Addresses mitigation science and technology gaps in the Arctic as well as forecast challenges to improve IDSS), such as: scarcity of in-situ observations (e.g., wave, ocean, and ice buoys, weather observation platforms, river gauge) in the Arctic; performance concerns with weather, water, ocean and wave prediction models in the Arctic region as compared to the rest of the US; and the lack of maturity of tactical and medium range weather and sea ice modeling capabilities.

Additional Information: http://www.weather.gov/organization/afs

Program Name: Integrated Ocean & Coastal Mapping Program

Purpose: Planning, acquiring, integrating, and disseminating ocean and coastal geospatial data and derivative products in a manner that permits easy access to and use by the greatest range of users.

Eligible Applicants: Participation in the IOCM approach (map used many times) is voluntary but coordination with and leveraging of other partner efforts are encouraged.

Funding Range: N/A

Program Activities: Federal mapping coordination.

Additional Information: http://iocm.noaa.gov/

Program Name: National Oil and Hazardous Substances Pollution Contingency Plan (NCP)

Purpose: Area Committees -- composed of federal, state, and local government officials -- must develop detailed, location-specific Area Contingency Plans.

Eligible Applicants: Federal, state, and local government officials serve on the committees. Participation and input by Alaska Native entities to the committees is encouraged.

Funding Range: N/A

Program Activities: Planning, preparedness, and exercises support resiliency to oil spills. Environmental Sensitivity Indices (ESI) maps and other tools assess the risk from oil spills and would also be useful potential species impacts.

Additional Information: http://response.restoration.noaa.gov/

Program Name: Climate Program

Purpose: Fund high-priority climate science, assessments, decision support research, outreach, education, and capacity-building activities designed to advance our understanding of Earth's climate system, and to foster the application of this knowledge in risk management and adaptation efforts.

Eligible Applicants: None, work is performed by NOAA.

Funding Range: Varies.

Program Activities: Varies.

Additional Information: http://cpo.noaa.gov/

Program Name: Observations

Purpose: Collection of space, atmosphere, water, and climate observational data owned or leveraged by National Weather Service. The Office is responsible for the development, acquisition and management of cost-effective observing technologies, hardware and software enhancements, maintenance and repairs, logistics, cost management, technical data verification, and life-cycle replacements of NWS observational platforms.

Eligible Applicants: None, work is performed by NOAA.

Funding Range: N/A

Program Activities: Weather and sea ice observations.

Additional Information: http://www.nws.noaa.gov/om/osd/portal.shtml

Department of Energy (DOE)

Program Name: Alaska Strategic Technical Assistance Response Team (START) Program

Purpose: To provide technical assistance in strategic energy planning to accelerate clean energy and energy efficiency projects and move projects closer to implementation.

Eligible Applicants: Any Indian Tribe, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.).

Funding Range: Varies.

Program Activities: The START team, which consists of DOE, including its national laboratories, and the Denali Commission, along with DOE's national laboratories and other local and national experts, assists rural Alaska Native communities in developing strategic energy plans to help mitigate the impacts of climate change by conducting energy awareness and training programs, and pursuing new renewable energy and energy efficiency opportunities. As a competitive technical assistance opportunity, Alaska START is aimed at achieving the following goals:

- Reducing the cost and use of energy for rural Alaska consumers and communities
- Increasing local capacity, energy efficiency, and conservation through training and public education
- Increasing renewable energy deployment and financing opportunities for communities and utilities.

Additional Information: http://www.energy.gov/indianenergy/office-indian-energy-start-team

Program Name: Tribal Energy Program

Purpose: To provide financial and technical assistance that enables tribes to evaluate and develop their renewable energy resources and reduce their energy consumption through efficiency and weatherization.

Eligible Applicants: Federally recognized Indian tribes, bands, nations, Alaska Native villages; other organized tribal groups and communities – including Alaska Native regional and village corporations; tribal energy resource development organizations.

Funding Range: Varies.

Program Activities: DOE's Tribal Energy Program promotes tribal energy sufficiency and fosters economic development and employment of energy efficiency on tribal lands through the use of renewable energy and energy efficient technologies through government-to-government partnerships. The Tribal Energy program provides financial opportunities through a competitive process; technical assistance through DOE's national laboratories; and education and training through webinars, student internships, and workshops to help build the knowledge and skills essential to developing, implementing and sustaining energy efficiency and renewable energy efficiency and renewable energy projects.

Additional Information: http://apps1.eere.energy.gov/tribalenergy/

Department of the Interior (DOI)

Program Name: Alaska Climate Science Center

Purpose: The Alaska Climate Science Center (AK CSC) provides scientific information, tools, and techniques that managers and other parties interested in land, water, wildlife and cultural resources can use to anticipate, monitor, and adapt to climate change.

Eligible Applicants: Any

Funding Range: No specific funding levels or deadlines.

Program Activities: The Center and its partners provide expertise in climate science, ecology, environmental impacts assessment, modeling, cultural impacts, and advanced information technology.

Additional Information: https://www.doi.gov/csc/alaska/

Program Name: Alaska National Interest Lands Conservation Act (ANILCA) Sec. 1318 Historic Assistance

Purpose: Technical assistance in preserving cultural resources.

Eligible Applicants: All Tribes and Corporations in Alaska.

Funding Range: No specific funding levels or deadlines.

Program Activities: Wide variety of activities related to cultural resources.

Additional Information: Telephone: (907) 644-3456

Program Name: Landscape Conservation Cooperatives

Purpose: Science and technical assistance.

Eligible Applicants: Any village or other entity.

Funding Range: No specific funding levels or deadlines.

Program Activities: Examples: provide tools to assess coastal hazards, including accelerated coastal erosion associated with climate change. Specific projects include: acquisition and analysis of imagery to quantify historical erosion rates and enable communities to consider the stability of existing and future infrastructure; data and modeling needed to predict the severity of flooding based on the circumstances and magnitude of storms; community vulnerability assessments that incorporate coastal erosion as well as other aspects of coastal change.

These projects are underway or are newly completed. A shared effort is planned by LCCs in Alaska to work with partners and communities to utilize these tools and information during the winter of 2015-16.

Additional Information: Arctic Landscape Conservation Cooperative: http://arcticlcc.org/

Western Alaska Landscape Conservation Cooperative:
https://westernalaskalcc.org/SitePages/Western%20Alaska%20LCC.aspx

Program Name: North Slope Science Initiative

Purpose: To facilitate and improve collection and dissemination of ecosystem information pertaining to the Alaskan North Slope region, including coastal and offshore regions. To improve scientific and regulatory understanding of terrestrial, aquatic, and marine ecosystems for consideration in the context of resource development activities and climate change.

Eligible Applicants: Any.

Funding Range: No specific funding levels or deadlines.

Program Activities: Provide resource managers with the data and analyses they need to help evaluate multiple simultaneous goals and objectives related to each agency's mission on the North Slope. The NSSI uses and complements the information produced under other North Slope science programs. The NSSI also facilitates information sharing among agencies, non-governmental organizations, industry, academia, international programs, and members of the public to increase communication and reduce redundancy among science programs.

Additional Information: http://www.northslope.org/

Program Name: Subsistence – ANLICA Title VIII

Purpose: Technical assistance related to subsistence.

Eligible Applicants: Any Tribe or village in Alaska.

Funding Range: No specific funding levels or deadlines.

Program Activities: Examples: 1) subsistence mapping in coastal communities to document where people go for particular resources at particular times of the year; and 2) document the flow of resources through sharing networks, which could be greatly disrupted if whole communities and groups of families are relocated.

Additional Information: Telephone (907) 644-3596.

DOI – Bureau of Indian Affairs (BIA)

Program Name: Cooperative Landscape Conservation (shifting to Tribal Climate Resilience in FY16)

Purpose: Funding for tribal climate adaptation, and ocean & coastal planning. Engagement and technical support, not operational funds.

Eligible Applicants: Federally Recognized Tribes.

Funding Range: Current administrative limit is $250k per award.

Program Activities: BIA is investing in technical assistance to support adaptation planning, including coordination, training, travel support for relevant training, and digital access to data and tools.

Additional Information: http://www.indianaffairs.gov/WhoWeAre/BIA/climatechange/index.htm

Program Name: Indian Energy Resource Development Program

Purpose: Assist tribes in development of tribal energy resources. This includes the Tribal Energy Development Capacity (TEDC) grant program to build capacity to develop conventional or renewable energy resources on Indian lands.

Eligible Applicants: Federally Recognized Tribes.

Funding Range: Varies depending on appropriations.

Program Activities: The TEDC grant program helps tribes in assessing, developing, or obtaining the managerial, organizational and technical capacity needed to develop energy resources on Indian land and to account properly for resulting energy production and revenues.

Additional Information: http://www.bia.gov/WhoWeAre/AS-IA/IEED/DEMD/TEDCP/index.htm

Program Name: Tribal Transportation Program

Purpose: To provide funding to tribes for access to basic community services that enhance the quality of life in Indian country, such as construction and/or reconstruction of roads, bridges, docks and trails. The TTP replaces the former Indian Reservation Roads (IRR) program. Note that this program is the same as the Department of Transportation's (DOT) TTP, although DOT can additionally provide strategic planning.

Eligible Applicants: Federally Recognized Tribes.

Funding Range: TTP is formula funded.

Program Activities: New roads can be built based on the specific needs for evacuation routes, or redesigning if impacted roads by changes due to climatic variances (flooding, snow fences and road shelters, etc.). TTP funds can also be used for facility preservation, road maintenance and bridge maintenance, as well as "emergency relief for federally owned roads" (this includes tribal or native roads and facilities that are transportation related). Equipment storage, material storage, equipment purchase are other allowable uses.

Additional Information: BIA: http://www.bia.gov/WhoWeAre/BIA/OIS/Transportation/index.htm; DOT: http://flh.fhwa.dot.gov/programs/ttp/

Department of Transportation (DOT)

Program Name: Transportation Investment Generating Economic Return (TIGER)

Purpose: Discretionary grants that focus on capital projects that generate economic development and improve access to reliable, safe and affordable transportation for disconnected communities, while emphasizing improved connection to employment, education, services and other opportunities, workforce development, or community revitalization.

Eligible Applicants: State, local and tribal governments, including U.S. territories, transit agencies, port authorities, metropolitan planning organizations (MPOs), and other political subdivisions of State or local governments.

Funding Range: $500M nationwide funds. Funding cannot exceed $200M and no more than $125M in a single state. TIGER can cover up to 80% in an urban area and 100% in a rural area. Minimum award for urban is $10M and rural is $1M. The annual funding for TIGER changes annually based on the appropriations and authorizations.

Program Activities: Eligible projects for TIGER Discretionary Grants are capital projects that include, but are not limited to: highway or bridge projects eligible, (including bicycle and pedestrian related projects); public transportation projects; passenger and freight rail transportation projects; port infrastructure investments (including inland port infrastructure); and intermodal projects. Eligibility requirements must be satisfied.

Additional Information: http://www.transportation.gov/tiger

DOT – Federal Aviation Administration (FAA)

Program Name: Airport Improvement Program

Purpose: Airport improvement planning and development.

Eligible Applicants: Public-use airports included within the National Plan of Integrated Airport Systems (NPIAS).

Funding Range: State of Alaska: 93.75% Federal, 6.25% cost sharing.

Program Activities: The AIP is authorized to provide grant funding for eligible airport improvements as requested by eligible airport sponsors. This would potentially include measures to safeguard airport infrastructure from erosion.

Additional Information: http://www.faa.gov/airports/aip/

DOT – Federal Highway Administration (FHWA)

Program Name: Federal-aid Highway Apportioned Funds

Purpose: Planning, preventive maintenance, infrastructure preservation, construction of highways and bridges, safety, congestion mitigation, and air quality improvement.

Eligible Applicants: State of Alaska Department of Transportation and Public Facilities.

Funding Range: Alaska receives approximately $480M in apportionment funds annually. Federal share is typically 80%.

Program Activities: In Alaska, Federal-aid highway apportioned funds may be used for roads, pedestrian facilities, and snowmobile trails. Funding may be available to assist villages with improving or repairing roads and boardwalks.

Additional Information: http://www.fhwa.dot.gov/federalaid/projects.cfm

Program Name: Tribal Transportation Program (TTP)

Purpose: To provide funding to tribes for access to basic community services that enhance the quality of life in Indian country, such as construction and/or reconstruction of roads, bridges, docks and trails. The TTP replaces the former Indian Reservation Roads (IRR) program. Note that this program is the same as the DOI BIA TTP, although DOT can additionally provide strategic planning.

Eligible Applicants: Federally recognized Tribes.

Funding Range: In MAP-21, the TTP is authorized at $450 million/year and funds are distributed through a statutory formula. The federal share is 100%.

Program Activities: Eligible uses for TTP funds are identified in 23 USC 202(a). These include transportation planning, design, construction, and maintenance of roads and bridges as well as any other project that would be eligible under Title 23. The project must be on or for a facility that provides access to or is located within tribal land. The planning and construction of emergency escape or relocation routes are eligible activities.

Additional Information: DOT: http://flh.fhwa.dot.gov/programs/ttp/;
BIA: http://www.bia.gov/WhoWeAre/BIA/OIS/Transportation/index.htm

DOT – Federal Transit Administration (FTA)

Program Name: Public Transportation on Indian Reservations Program Tribal Transit Program (TTP)

Purpose: Provide grants to Indian tribes for program activities eligible under FTA's Rural Areas Formula Program, 49 U.S.C. 5311.

Eligible Applicants: Federally recognized Indian Tribes and Alaskan Native villages, groups, or communities.

Funding Range: $25 million formula program and $5 million discretionary program. Discretionary funds are made available annually on a competitive basis.

Program Activities: Operating assistance to enable tribes to start new transit services; capital to enable tribal investment in new or replacement equipment; and funding for tribal transit planning studies. Examples of eligible resilience projects may include elevating or relocating transit assets that are located in a special flood hazard area, protecting transit assets vulnerable to high winds, installing mitigation measures that prevent the intrusion of floodwaters into underground segments of a public transportation system, strengthening systems that remove rainwater from public transportation facilities, and other projects that address identified vulnerabilities. However, relocating non-transit assets would not be considered an eligible resilience project.

Additional Information: http://www.fta.dot.gov/grants/15926_3553.html

Environmental Protection Agency (EPA)

Program Name: Alaska Native Village Grant

Purpose: To assist Alaska Native Villages and Alaska rural communities with the construction of new or improved drinking water and wastewater systems.

Eligible Applicants: The applicant must be an unincorporated community that has between 25 and 600 people; a second-class city (no population limits); or a first class city with not more than 600 residents.

Funding Range: Funding varies.

Program Activities: The program is planning, designing and constructing new and or improved water and wastewater infrastructure in various communities throughout the State of Alaska to improve the health and sanitation conditions in rural Alaska.

The ANV Program provides technical support to communities to design and construct water and wastewater systems. It is meant to assist Alaska Native Villages and Alaska rural communities with the construction of new or improved drinking water and wastewater systems. This funding can also be used to provide training and technical assistance in the operations and maintenance of these systems.

Additional Information: http://water.epa.gov/type/watersheds/wastewater/Alaska-Native-Village-and-Rural-Communities-Grant-Program.cfm

Program Name: Clean Water Act Indian Set-Aside Program

Purpose: Provides funding, 2% of the CWA SRF, for wastewater infrastructure to Indian tribes and Alaska Native Villages. The CWISA Program is administered in cooperation with the Indian Health Service (IHS). EPA uses the IHS Sanitation Deficiency System priority lists to identify and select projects for CWISA program funding. To be considered for CWISA Program funding, tribes must identify their wastewater needs to the IHS Sanitation Deficiency System.

Eligible Applicants: All federally recognized tribes, Alaska Native Villages, and tribes on former reservations in Oklahoma are eligible for CWISA Program funds.

Funding Range: Funding varies.

Program Activities: The program is planning, designing and constructing new and or improved wastewater infrastructure in various communities throughout the State of Alaska to improve the health and sanitation conditions in Alaska Native Villages. EPA issues all or the vast majority of funds to the Indian Health Service for Administration.

Additional Information: http://water.epa.gov/type/watersheds/wastewater/clean-water-indian-set-aside-grant-program.cfm

Program Name: Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program

Purpose: Provides funding for eligible applicants for projects that address local environmental and public health issues within an affected community. The CPS Program is designed to help communities understand and address exposure to multiple environmental harms and risks.

Eligible Applicants: Nonprofit organizations including, but not limited to, environmental justice networks; Federally recognized tribal governments; or Tribal organizations (includes American Indian/Alaska Native groups, cooperatives, partnerships, associations).

Funding Range: Up to $120,000.

Program Activities: Funds enable community-based organizations to partner with stakeholders from across industry, government, academia to develop and implement solutions that will significantly address

environmental and/or public health issues at the local level. Projects must use the CPS Model, comprised of seven elements of a successful collaborative partnership, to address local environmental and/or public health issues.

Additional Information: http://www.epa.gov/environmentaljustice/grants/ej-cps-grants.html

Program Name: Environmental Justice Small Grants

Purpose: The purpose of this grant program is to support activities designed to empower and educate communities to understand environmental and public health issues and to identify ways to address these issues at the local level. EPA anticipates awarding up to 25% of fiscal year 2015 awards to fund projects that support community climate resiliency.

Eligible Applicants: Incorporated non-profit organizations including, but not limited to, environmental justice networks, faith based organizations and those affiliated with religious institutions; federally recognized tribal governments; or tribal organizations.

Funding Range: Varies (up to $30,000).

Program Activities: Supports and empowers communities working on solutions to local environmental and public health issues. The program assists recipients in building collaborative partnerships to help them understand and address environmental and public health concerns in their communities. Successful collaborative partnerships involve not only well-designed strategic plans to build, maintain, and sustain the partnerships, but also working towards addressing the local environmental and public health issues.

Additional Information: http://www.epa.gov/environmentaljustice/grants/ej-smgrants.html

Program Name: Indian General Assistance Program (IGAP)

Purpose: Provide General Assistance Program (GAP) grants to federally recognized tribes and tribal consortia for planning, developing, and establishing environmental protection programs. The GAP program is exempt from competition, therefore, applications that meet the stated requirements in program regulations and guidance will be funded if funds are available.

Eligible Applicants: All federally recognized tribes in Region 10 are eligible to receive funds. Tribal consortia that meet the eligibility requirements may also receive funding, if available.

Funding Range: Typically $75,000 - $125,000 per year per grantee in Alaska (special projects not included).

Program Activities: Funding is provided under GAP for the purposes of planning, developing, and establishing tribal environmental protection programs. For example a tribe could use GAP funds to develop a climate change adaptation plan or to establish environmental protection programs that compliment non-environmental protection programs.

Activities related to establishing education, outreach, public participation, compliance assistance, and coordination programs for tribal environmental staff to work effectively with regulated entities are allowable.

Specific examples of allowable activities: climate change vulnerability/risk assessment; climate change preparedness/adaptation program (e.g., zoning rules and regulations; tax incentives; building codes/design standards; utility rates/fee setting; public safety rules and regulations); outreach and education; emergency management powers; community outreach/education programs; developing voluntary or partial environmental protection programs; participating in environmental policy making; coordinating with EPA or other federal agencies on the implementation of federal environmental protection programs; and entering into joint environmental protection programs with neighboring tribal, state, or local environmental agencies.

Additional Information: http://yosemite.epa.gov/R10/TRIBAL.NSF/Grants/IGAP

Program Name: Office of Water Climate Ready Water Utilities Program (CRWU)

Purpose: Assists drinking water, wastewater, and stormwater utilities, in addressing climate change impacts. Through the development of practical and easy-to-use tools, EPA promotes a clear understanding of climate science and adaptation options by translating complex climate projections into accessible formats. This information helps utility owners and operators better prepare their systems for the impacts of climate change.

Eligible Applicants: All water utilities can ask for assistance.

Funding Range: No direct funding. This is a technical assistance program.

Program Activities: Extreme weather events, sea level rise, shifting precipitation patterns and temperature variability, all intensified by climate change, have significant implications for the sustainability of the water sector. By planning for, assessing and adapting to these challenges, the water sector can fulfill their public health and environmental missions and begin the process of becoming climate ready.

Additional Information: http://water.epa.gov/infrastructure/watersecurity/climate/index.cfm

Program Name: Safe Drinking Water Act (SDWA) Tribal Set-Aside Program

Purpose: Provides grants to Indian Tribes, Alaska Native Villages, and to the State of Alaska for the benefit of the native villages. The grant funds are used to address the most significant threats to public health associated with Public Water Systems that serve Indian Tribes. Most types of projects that improve the health of the public being served by the public water system are eligible for funding, 2% of the SDWA State Revolving Fund.

Eligible Applicants: Any federally recognized Indian tribe is eligible to receive a project grant through the program. Eligible systems must serve tribes or Alaskan Native Villages, though they can be owned by someone other than the tribe. Private systems are also eligible.

Funding Range: Funding varies.

Program Activities: The program is planning, designing and constructing new and or improved drinking water infrastructure in various communities throughout the State of Alaska to improve the health and sanitation conditions in Alaska Native Villages. Funds may also be used to conduct project feasibility studies, engineering design work, and for project administration. EPA issues all or the vast majority of funds to the Indian Health Service for Administration.

Additional Information: http://water.epa.gov/grants_funding/dwsrf/allotments/tribes.cfm

Department of Health and Human Services (HHS)

Program Name: Administration for Children and Families (ACF) / Administration for Native Americans (ANA) Environmental Regulatory Enhancement

Purpose: To provide funding for the costs of planning, developing, and implementing programs designed to improve the capability of tribal governing bodies to regulate environmental quality pursuant to federal and tribal environmental laws.

Eligible Applicants: Federally recognized Indian tribes; Consortia of Indian tribes; Incorporated non-federally recognized tribes; Incorporated state-recognized tribes; Alaska Native villages, as defined in the Alaska Native Claims Settlement Act (ANCSA) and/or non-profit village consortia; Non-profit Alaska Native Regional Corporation/Associations in Alaska with village specific projects; Other tribal or village organizations or consortia of Indian tribes; and Tribal governing bodies (IRA or traditional councils) as recognized by the Bureau of Indian Affairs.

Funding Range: $300,000 per Budget Period.

Program Activities: The ERE program supports the principle that projects must follow tribal cultural preservation and natural resource management priorities in order to achieve environmentally healthy, sustainable Native American and Alaska Native communities. The Administration for Native Americans (ANA) is therefore interested in supporting locally designed projects that strengthen tribal environmental regulatory programs in a manner consistent with the goals of native communities. Program areas of interest for this FOA include, but are not limited to, the following:

Providing training and education to employees responsible for enforcing, or monitoring compliance with, environmental quality laws; Developing laws, regulations, and ordinances to protect the environment; Enforcing and monitoring environmental quality laws, regulations, and ordinances; Establishing baseline condition for regulatory purposes; Informing the community about regulations and environmental

stewardship; Building the technical and program capability of the tribe or organization to perform essential environmental program functions to meet tribal and federal regulatory requirements; Establishing demonstration projects to exhibit technologies, which can lead to compliance with environmental regulations.

Additional Information: http://www.acf.hhs.gov/grants/open/foa/index.cfm?switch=foa&fon=HHS-2014-ACF-ANA-NR-0777

Program Name: Center for Disease Control (CDC) / National Center for Infectious Diseases (NCID) / Arctic Investigations Program (AIP)

Purpose: AIP's mission is the prevention of infectious diseases in people of the Arctic and sub-Arctic. AIP places a special emphasis on diseases of high incidence and concern among the Alaska Native and other northern indigenous peoples. AIP conducts infectious disease surveillance, evaluate prevention services, and conduct applied research in collaboration with our partners.

Eligible Applicants: N/A

Funding Range: Intramural.

Program Activities: AIP focuses its research on priority areas that are of regional importance. These priority areas include: Surveillance in Alaska; Elimination of health disparities; Emerging infectious diseases; Preparedness and response; Circumpolar health; Water and sanitation. Focusing on these priority areas allows AIP to achieve its mission of preventing infectious diseases in the Arctic and sub-Arctic. These research priorities also provide a platform for strong partnerships, which combine CDC subject-matter expertise with local knowledge and community involvement. By working together, AIP has become a national and international research leader.

Additional Information: http://www.cdc.gov/ncezid/dpei/aip/

Program Name: CDC – National Institute for Occupational Safety and Health (NIOSH) American Indian/Alaska Native Program

Purpose: Collaborate with American Indian and Alaska Native (AI/AN) communities, organizations and partners to provide occupational safety and health (OSH) support.

Eligible Applicants: Tribal representatives, tribal employers, or their designees in need of occupational safety and health support can contact CDC/NIOSH directly to access a variety of programs.

Funding Range: N/A

Program Activities: Addresses occupational safety and health in tribal communities. NIOSH provides technical expertise in OSH through field studies and investigations, conducts health hazard evaluations (HHEs) and fatality investigations, and provides resources on specific OSH topics. We can offer technical assistance (tribal representatives, tribal employers/employees, and their designees). These include Health Hazard Evaluations, Fatality Investigations, and safety program support.

Additional Information: http://www.cdc.gov/niosh/

Program Name: CDC –NIOSH Climate Change Initiative

Purpose: Ensure current, emerging, and anticipated worker safety and health issues associated with climate change are appropriately identified and prioritized, and to determine the most important actions that are appropriate for CDC/NIOSH to address. Can provide technical assistance regarding occupational safety and health issues.

Funding Range: No direct funding, no cost for technical assistance.

Program Activities: Promote and coordinate intramural and extramural research, support and help facilitate other CDC/NIOSH initiatives with climate change implications, establish research priorities, recommend appropriate policies to CDC/NIOSH Leadership, interact with other agencies and organizations involved with climate change and participate on standard setting or technology development committees and work groups; Prepare and publish communication products regarding worker safety and health and climate change; Coordinate the provision of occupational safety and health related technical assistance to communities affected by climate change.

Additional Information: http://www.cdc.gov/niosh/topics/climate/default.html

Program Name: National Institute of Health (NIH) / National Institute of Environmental Health Sciences (NIEHS) Alaska Community Action on Toxics - Protecting the Health of Future Generations: Assessing and Preventing Exposures

Purpose: This community-based participatory research project investigates exposures to two classes of emerging endocrine-disrupting chemicals (EDCs) with the Yupik people of St. Lawrence Island (SLI) in the *Alaskan* Arctic. Exposure to POPs from both distant and local sources is a trend in the Arctic that is likely to increase due to increased global use and production of EDCs and climate warming. The aim of this exposure assessment is to provide information, ownership of data, and training for the people of SLI so that they can plan and participate in public health actions to reduce environmental health risks.

Eligible Applicants: Yupik people of St. Lawrence Island (SLI) in the Alaskan Arctic.

Funding Range: N/A

Program Activities: The purpose of this project is to initiate research partnerships that work in collaboration with the two Yupik villages of SLI to assess multiple exposure routes of two emerging EDCs-polybrominated diphenyl ethers (PBDEs) and perfluorinated compounds (PFCs). The project will assess exposures to PBDEs and PFCs in surface waters through analyses of contaminant levels and biomarkers for xenobiotic chemicals in the threespine stickleback fish. The research team will also analyze household dust for PBDEs and PFCs. Because the Yupik people of SLI depend on the harvest of wild foods to sustain them and their way of life, the research team will analyze levels of PBDEs and PFCs in traditional foods which are likely a major exposure pathway due to the biomagnification of POPs in marine mammals and fish that are critical components of the Yupik diet. This study will include a human

biomonitoring component in order to assess levels of PBDEs and PFCs in human blood serum in relation to measures of thyroid health.

Finally, the research team collaborates with the leadership, elders, and youth of SLI to develop measures to prevent and mitigate environmental exposures through community educational programs and public policy actions, including community-based research institutes for college credit, health fairs for all community members, and workshops for health care providers.

Additional Information:
http://tools.niehs.nih.gov/portfolio/index.cfm/portfolio/grantDetail/grant_number/R01ES019620

Program Name: NIH / NIEHS Research to Action

Purpose: Bring together community members and environmental and occupational health researchers to investigate the potential health risks of environmental and occupational exposures that are of concern to the community. The overall goal is to support changes to prevent or reduce exposure to harmful environmental exposures and improve the health of a community.

Eligible Applicants: All projects must include at least one research scientist in environmental or occupational health sciences in addition to at least one member of a community-based organization (CBO) who works directly and regularly with the affected community. The partnership between the research scientist and CBO should be equitable and draw upon the unique strengths that each brings to the partnership. Alaska Native and Native Hawaiian Serving Institutions encouraged to apply.

Funding Range: Direct costs must be less than $500,000 in any year, and need to reflect actual needs of the proposed project. The maximum period is 5 years.

Program Activities: Data collection, translation of research into public health action, and project evaluation are all required. Information collected will be translated into public health action using a variety of strategies; applicants must develop an education, outreach, prevention or intervention program(s) designed to improve overall understanding of the problem amongst community members, healthcare professionals or policymakers and to promote actions that will prevent or reduce harmful environmental / occupational exposures and improve human health. Finally, applicants must implement an evaluation plan to assess project outputs and impacts relevant to the proposed project's goals and objectives.

Additional Information:
http://www.niehs.nih.gov/research/supported/dert/programs/peph/prog/rta/index.cfm

Program Name: NIH/NIEHS The Center for Indigenous Environmental Health Research

Purpose: Partner with American Indian and Alaskan Native communities to build capacity to evaluate environmental health exposures, increase environmental health literacy and resilience, and inform program and policy development. The Center's Community Engagement Core will collaborate with

American Indian and Alaska Native (AI/AN) communities to develop culturally-relevant policies and assets-based programs that reinforce resilience to mitigate adverse health effects.

Eligible Applicants: N/A

Funding Range: N/A

Program Activities: The specific aims of the CEC are: 1) Dialogue: To equitably engage AI/AN stakeholders and CIEHR members for the ethical and culturally-appropriate translation and application of Center findings; 2) Knowledge: To strengthen the environmental health literacy (EHL) of AI/AN leaders, policy-makers and community members; 3) Action: To strengthen community resilience and capacity to promote environmental health in AI/AN communities on tribal lands and in urban settings; and 4) Evaluation: To assess the effectiveness of the CEC activities and contributions to the mission of the Center. The CEC will achieve the aims by utilizing long-term partnerships with tribal, rural, and urban AI/AN communities. The CEC will also build on the knowledge, lessons learned, strategies, and resources from the two established Centers located at the same institution: the Southwest Environmental Health Sciences Center and Center for American Indian Resilience. All CEC strategies and activities will be informed by community-based participatory research (CBPR) principles, which have been shown to be effective in AI/AN communities. Major strategies will include: 1) guiding the development of Community Advisory Boards (CABs) for each proposed research project and pilot projects; 2) giving presentations at tribal meetings, AI/AN health events, regional forums and national conferences; 3) conducting baseline assessments of EHL, implementing EHL community interventions and testing effectiveness; 4) developing and administering CBPR training to tribal leaders, community members, and researchers; 5) identifying and implementing strategies for enhancing community assets and resilience that improve health, build community capacity, and foster policy change; and 6) conducting short, mid, and long-term evaluation of CEC activities. The CEC will collaborate with the CABs and AI/AN partners to disseminate and translate successful research outcomes to tribal leadership, local communities, regional and national AI/AN forums, and scientific audiences to reduce environmental health risks and build AI/AN resilience across the U.S.

Additional Information:
http://projectreporter.nih.gov/project_info_description.cfm?aid=8994391&icde=25964664&ddparam=&ddvalue=&ddsub=&cr=3&csb=default&cs=ASC

Department of Housing and Urban Development (HUD)

Program Name: Community Development Block Grant

Purpose: To provide funding to metropolitan cities, urban counties and states to support their housing and community development strategies to develop viable urban communities.

Eligible Applicants: Funds are allocated by formula to metropolitan cities, urban counties and States.

Funding Range: Annual formula grants are provided to Alaska's two CDBG grantees – the State of Alaska and the Municipality of Anchorage.

Program Activities: Develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low-and moderate-income persons.

Additional Information:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment

Program Name: Emergency Solutions Grants Program

Purpose: To provide grant funds to State and local governments for the rehabilitation or conversion of buildings for use as emergency shelter for the homeless, for the payment of certain expenses related to operating emergency shelters, for essential services related to emergency shelters and street outreach for the homeless, and for homelessness prevention and rapid rehousing.

Eligible Applicants: The homeless, homelessness prevention and rapid re-housing.

Funding Range: Annual formula grants for the State of Alaska and the Municipality of Anchorage.

Program Activities: Rehabilitation or conversion of buildings for use as emergency shelter for the homeless, for the payment of certain expenses related to operating emergency shelters, for essential services related to emergency shelters and street outreach for the homeless, and for homelessness prevention and rapid re-housing.

Additional Information: portal.hud.gov/hudportal/HUD?src=/hudprograms/esg

Program Name: Indian Community Development Block Grant

Purpose: Development of viable Indian and Alaska native communities, including decent housing, a suitable living environment, and economic opportunities, principally for persons of low and moderate income.

Eligible Applicants: Federally-recognized Tribes or Indian Organizations on behalf of Federally-recognized Tribes. For the standard ICDBG program, applicant must submit an application under the annual Notice of Funding Availability (NOFA). Applications for imminent threat grants are processed on a first come, first serve basis.

Funding Range: The Alaska Office of Native American Programs has an estimated ICDBG allocation for FY2015 of $6,500,000 for grant awards. The ICDBG program also has a national set-aside of approximately $3,500,000 to fund Imminent Threat applications.

Program Activities: The competitive ICDBG program may be used for new construction, rehabilitation, and acquisition of residential units and public facilities as well as housing services, economic development projects. There is also a national set-aside for ICDBG Imminent Threat (IT) grants that are intended to alleviate or remove threats to health or safety as described at 24 CFR Part 1003, subpart E.

These grants provide a solution to problems of an urgent nature that were not evident at the time of the ICDBG Single Purpose funding grant cycle or require immediate action. These are non-competitive grants up to $450,000 ($900,000 for Presidentially-Declared Disasters) on a first come first serve basis. 70 percent of each grant must support activities that benefit low and moderate income persons.

Additional Information:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/fundingprogram#IHBG

Program Name: Mortgage Insurance for Disaster Victims – 203(h)

Purpose: This program provides mortgage insurance to protect lenders against the risk of default on mortgages to qualified disaster victims.

Eligible Applicants: Eligible customers are anyone whose home has been destroyed or severely damaged in a Presidential declared disaster area.

Funding Range: No down payment is required. The borrower is eligible for 100 percent financing. Closing costs and applicable fees must be paid according to program requirements.

Program Activities: Insure mortgages.

Additional Information: portal.hud.gov/hudportal/HUD?src=/hudprograms/mifdv_section203h

Program Name: Native American Housing and Self-Determination Act (NAHASDA) - Indian Housing Block Grant Program

Purpose: Supports a range of affordable housing activities on Indian reservations and Indian areas.

Eligible Applicants: Federally-recognized Tribes and their Tribally Designated Housing Entities are eligible to participate in this program.

Funding Range: Annual formula block grant to Indian Tribes and/or TDHEs. Alaska recipients received $94,588,589 State-wide in FY 2015 for the Indian Housing Block Grant program.

Program Activities: IHBG funding can be used for a variety of activities including new construction, rehabilitation, acquisition, housing services, and crime prevention. The Title VI loan guarantee program can be used to leverage all the above activities with a private market loan.

Additional Information:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/fundingprogram#IHBG

Program Name: Section 184 Loan Guarantee Program

Purpose: Provides homeownership opportunities to Native American living on trust, restricted, and simple fee land.

Eligible Applicants: Native Americans, Tribes, or Tribally Designated Housing Entities.

Funding Range: Varies.

Program Activities: This program offers HUD approved loan guarantees to private sector lenders who make home mortgage loans to eligible participants.

Additional Information:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/fundingprogram#IHBG

Program Name: Title VI Loan Guarantee Program

Purpose: To obtain financing for up to five times the amount of the Tribe's annual NAHASDA IHBG.

Eligible Applicants: Federally Recognized Tribes and their Tribally Designated Housing Entities are eligible to participate in this program.

Funding Range: Varies.

Program Activities: Financing can be used for any affordable housing purpose in accordance with an approved Indian Housing Plan.

Additional Information:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/fundingprogram#IHBG

US Amy Corps of Engineers (USACE)

Program Name: Continuing Authorities Program (CAP)

Purpose: Plan, design, and construct certain flood risk management and navigation improvements without specific congressional authorization. The basic objective of this program is to allow the Corps to respond more quickly to problems or needs where the apparent project scope and costs are small.

Eligible Applicants: State, Local, and Tribal Governments and ANCSA Corporations.

Funding Range: The amount of Federal participation is limited by Congress, and varies for each individual authority, however it is typically $5 million Federal, cost shared 65% Federal, 35% Non-Federal.

Program Activities: Several authorities exist under CAP which allow the Corps to assist communities with aquatic ecosystem, flood damage reduction, small navigation, and emergency streambank and shoreline protection projects. An example of the type of work supported by this program is the construction of a small revetment at Shishmaref to reduce risks of coastal erosion.

Additional Information:
http://planning.usace.army.mil/toolbox/agree.cfm?Id=229&Option=Continuing%20Authorities%20Program%20(CAP)&List=Process

Program Name: International and Interagency Support Services

Purpose: Planning, design, and/or construction for others.

Eligible Applicants: Federal State, Local, and Tribal Governments.

Funding Range: No per-project limit, all costs are born by the supported entity.

Program Activities: Interagency and International Services (IIS) is the U.S. Army Corps of Engineers (Corps) program providing technical assistance to non-Department of Defense (DoD) federal agencies, state and local governments, tribal nations, private U.S. firms, international organizations, and foreign governments. Most IIS work is funded on a reimbursable basis. The Corps provides engineering and construction services, environmental restoration and management services, research and development assistance, management of water and land related natural resources, relief and recovery work, and other management and technical services. An example of the type of work provided by this 100% stakeholder-funded program is the initiation of an adaptation study for Denali Commission looking at protect in place versus relocation for 31 communities identified by the GAO.

Additional Information:
http://www.usace.army.mil/Missions/MilitaryMissions/InteragencyInternationalSupport.aspx

Program Name: Planning Assistance to States

Purpose: This program permits the Corps to use its technical planning expertise to supplement and support state and Indian tribe efforts to undertake broad, statewide, comprehensive water resources planning. Upon request, the Corps will cooperate with a state or tribe in the preparation of plans for the development, use and conservation of water and related land resources located within the state or tribal boundaries.

Eligible Applicants: State, Local, and Tribal Governments and ANCSA Corporations.

Funding Range: Cost shared at 50 percent federal, 50 percent non-federal. Limited to $2 million per state or tribe annually. Individual studies generally range from $25,000 to $100,000.

Program Activities: Provides assistance to states, local governments, tribes and other non-federal entities for preparation of comprehensive plans for development and conservation of water and related land

resources. Studies are planning level of detail; they do not include detailed design for project construction.

Additional Information:
http://www.poa.usace.army.mil/Portals/34/docs/civilworks/CAP/Section22PlanningAssistancetoStatesandTribes.pdf (note: each Corps District has information about this program on their website).

Program Name: Tribal Partnership Program

Purpose: Secretary of the Army, in cooperation with Indian tribes and the heads of other Federal agencies, to study and determine the feasibility of carrying out projects that will substantially benefit Indian tribes.

Eligible Applicants: Tribal Governments and ANCSA Corporations.

Funding Range: No per-project limit, cost shared based on project purpose.

Program Activities: The U.S. Army Corps of Engineers can conduct studies that will substantially benefit Indian tribes. Topics that could be studied include flood damage reduction, environmental restoration and protection, preservation of natural and cultural resources, and, other projects the Secretary of the Army, in cooperation with Indian tribes and the heads of other Federal agencies, determines to be appropriate. This program provides an opportunity to assist with water resources projects that address economic, environmental and cultural resources needs.

Additional Information: http://www.usace.army.mil/Missions/CivilWorks/TribalNations.aspx

US Department of Agriculture (USDA)

Program Name: Business and Industry Loan Guarantee

Purpose: Can assist rural business with construction, repairs, equipment, machinery, inventory and supplies.

Eligible Applicants: For-profit businesses, Nonprofits and cooperatives, Federally-recognized Tribes, Public bodies and Individuals in rural areas of 50,000 people or less.

Funding Range: $5 – $10 million loan limit with certain exceptions.

Program Activities: Eligible activities include but are not limited to: (1) business conversion, enlargement, repair, modernization, or development; (2) purchase and development of land, easements, rights-of-way, buildings, or facilities; (3) purchase of equipment, leasehold improvements, machinery, supplies, or inventory; (4) debt refinancing when new jobs will be created and other conditions are met;

(5) business and industrial acquisitions when the loan will keep the business from closing and/or save or create jobs.

Additional Information: http://www.rd.usda.gov/programs-services/business-industry-loan-guarantees/ak

Program Name: Community Facilities Loans and Grants

Purpose: Finance essential rural community facilities.

Eligible Applicants: Public bodies, non-profits, Tribes.

Funding Range: Grants are limited to 75% of project cost but average about $30,000 due to limitation of funding. No loan limit.

Program Activities: Funds can be used to purchase, construct, and / or improve essential community facilities, purchase equipment and pay related project expenses.

Additional Information: http://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program/ak

Program Name: Electric Loans

Purpose: Build and repair electric infrastructure.

Eligible Applicants: Electric co-ops and other utilities (primarily).

Funding Range: No loan limit.

Program Activities: Funds may be used to finance electric infrastructure for: maintenance; upgrades; expansion; replacement of distribution, sub transmission and headquarters (service and warehouse) facilities; energy efficiency; and renewable energy systems.

Additional Information: http://www.rd.usda.gov/programs-services/electric-infrastructure-loan-loan-guarantee-program

Program Name: Rural Business Development Grant

Purpose: Facilitate the development of small and emerging business.

Eligible Applicants: Public bodies, non-profits and tribes.

Funding Range: $50,000 - 100,000 maximum grant (depending on activity type).

Program Activities: Congress historically has mandated a portion of this program's funding specifically for Federally Recognized Tribes.

Additional Information: http://www.rd.usda.gov/programs-services/rural-business-development-grants/ak

Program Name: Rural Energy for America Loans and Grants

Purpose: Purchase or install renewable energy systems or make energy efficiency improvements.

Eligible Applicants: Agricultural producers and rural small businesses.

Funding Range: Loan guarantees to $25M; Grants to $250,000 for energy efficiency improvements or $500,000 for renewable energy systems.

Program Activities: Funds may be used for the purchase, installation and construction of renewable energy systems, such as: Biomass (for example biodiesel and ethanol, anaerobic digesters, and solid fuels); Geothermal for electric generation or direct use; Hydropower below 30 megawatts; Hydrogen; Small and large wind generation; Small and large solar generation; Ocean (tidal, current, thermal) generation.

Funds may also be used for the purchase, installation and construction of energy efficiency improvements, such as: High efficiency heating, ventilation and air conditioning systems (HVAC); Insulation; Lighting; Cooling or refrigeration units; Doors and windows; Electric, solar or gravity pumps for sprinkler pivots; Switching from a diesel to electric irrigation motor; Replacement of energy-inefficient equipment.

Additional Information: http://www.rd.usda.gov/programs-services/rural-energy-america-program-renewable-energy-systems-energy-efficiency/ak

Program Name: Sewer, Water, Solid Waste Loans and Grants

Purpose: Provides funding for clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage to households and businesses in eligible rural areas.

Eligible Applicants: This program assists qualified applicants that are not otherwise able to obtain commercial credit on reasonable terms. Eligible applicants include: Most State and local governmental entities, Private non-profits and Federally-recognized Tribes.

Funding Range: Grants are limited to 75% of project cost. No loan limit.

Program Activities: Funds may be used to finance the acquisition, construction or improvement of: drinking water sourcing, treatment, storage and distribution; sewer collection, transmission, treatment and disposal; solid waste collection, disposal and closure; and storm water collection, transmission and disposal.

Additional Information: http://www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program/ak

Program Name: Single Family Direct and Guaranteed Loans

Purpose: Finance the purchase of homes for rural residents.

Eligible Applicants: Low and very low income individuals in rural areas of 35,000 people or less.

Funding Range: The maximum loan amount an applicant may qualify for will depend on the applicant's repayment ability. The applicant's ability to repay a loan considers various factors such as income, debts, assets and the amount of payment assistance applicants may be eligible to receive. Regardless of repayment ability, applicants may never borrow more than the Area's Loan Limits (plus certain costs allowed to be financed) for the county in which the property is located.

Program Activities: Funds can be used to build, repair, renovate or relocate a home, or to purchase and prepare sites, including providing water and sewage facilities.

Additional Information:
Single Family Direct Loan: http://www.rd.usda.gov/programs-services/single-family-housing-direct-home-loans/ak
Single Family Guaranteed Loan: http://www.rd.usda.gov/programs-services/single-family-housing-guaranteed-loan-program/ak

Program Name: Single Family Repair Loans and Grants

Purpose: Finance repair of homes.

Eligible Applicants: Very low income homeowners in rural areas. Grants are only available to very-low income homeowners in rural areas that are at least 62 years old.

Funding Range: Loans up to $20,000 at 1%, grants up to $7,500. Loan grant combinations up to $27,500 in certain circumstances.

Program Activities: Loans may be used to repair, improve or modernize homes or remove health and safety hazards. Grants must be used to remove health and safety hazards.

Additional Information: http://www.rd.usda.gov/programs-services/single-family-housing-repair-loans-grants

Program Name: Telecom Loans

Purpose: This program provides financing for the construction, maintenance, improvement and expansion of telephone service and broadband in rural areas.

Eligible Applicants: Most entities that provide telecommunications in qualified rural areas including: State and local governmental entities, Federally Recognized Tribes, Non-profits, including Cooperatives and limited dividend or mutual association and For-profit businesses (must be a corporation or limited liability company).

Funding Range: No loan limit.

Program Activities: Funds may be used to finance broadband capable telecommunications service: Improvements; Expansions; Construction; Acquisitions (in certain cases); Refinancing (in certain cases).

Additional Information: http://www.rd.usda.gov/programs-services/telecommunications-infrastructure-loans-loan-guarantees

APPENDIX E

Mitigation Tracking

- Mitigation Action Implementation Worksheet (Form 6-1)
- Mitigation Action Progress Report (Form 6-2)

MITIGATION ACTION IMPLEMENTATION WORKSHEET

Complete a mitigation action implementation worksheet for each identified mitigation action.

Mitigation Action / Project Title:	
Background / Issues:	
Ideas for Integration:	
Responsible Agency:	
Partners:	
Potential Funding:	
Cost Estimate:	
Benefits (Losses Avoided):	
Timeline:	
Priority:	
Worksheet Completed By:	*(Name / Department)*

MITIGATION ACTION PROGRESS REPORT

Progress Report Period:	*From Date:*	*To Date:*
Action / Project Title:		
Responsible Agency:		
Contact Name:		
Contact Phone / Email:	*Phone:*	*Email:*
Project Status:	❑ Project Completed ❑ Project Canceled ❑ Project on Schedule Anticipated completion date: _____ ❑ Project Delayed Explain:_____	

Summary of Project Progress for this Report Period

1. What was accomplished for this project during this reporting period?

2. What obstacles, problems, or delays did the project encounter, if any?

3. If uncompleted, is the project still relevant? Should the project be changed or revised?

4. Other Comments:

Next Step: What is / are the next step(s) to be accomplished over the next reporting period?

APPENDIX F

Adoption Resolution

Clark's Point Village Council

Resolution No. 2019-01
Tribal Hazard Mitigation Plan Adoption Resolution

WHEREAS, the Village of Clark's Point hereafter "Tribe" is a federally recognized tribe; and

WHEREAS, the Clark's Point Village Council is the governing body of the Tribe; and

WHEREAS, the Tribe recognizes the threat that natural hazards pose to people and property; and

WHEREAS, the Tribe has prepared a tribal hazard mitigation plan, hereby known as Village of Clark's Point Tribal Hazard Mitigation Plan [2019 – 2024] hereafter "Plan", dated 2/6/19 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Ekwok from the impacts of future hazards and disasters; and

WHEREAS adoption by the Tribe demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the Plan.

NOW, THEREFORE, BE IT RESOLVED, that the Tribe, hereby adopts the Plan as an official plan.

CERTIFICATION

The Clark's Point Village Council has adopted this resolution during a meeting held on 2/6/19, 2019, in Clarks Pt, Alaska, with a quorum present.

For ✓ Against ___ Abstain ___ Present ___ Absent ___

Betty Gardiner
Signature

2/6/19
Date

Betty Gardiner, President
Print Name / Title

Sharon J. Clark
Signature

2/6/19
Date

Sharon L. Clark Secretary/Treas
Print Name / Title

APPENDIX G

FEMA Approval & THMP Plan Review Tool

FEMA Region 10 Tribal Mitigation Plan Review Tool

The *Tribal Mitigation Plan Review Tool* records how the tribal mitigation plan meets the regulations in 44 CFR §§ 201.7 and 201.5 (if applicable) and offers FEMA plan reviewers an opportunity to provide feedback to the tribal government.

- **Section 1**: The Regulation Checklist documents FEMA's evaluation of whether the plan has addressed all requirements. If plan requirements are not met, FEMA uses each Required Revisions section to indicate necessary changes.
- **Section 2**: The Strengths and Opportunities for Improvement summary identifies plan's strengths as well as areas for improvement as part of the next plan update.

The FEMA mitigation planner must reference the *Tribal Mitigation Plan Review Guide* when completing the *Tribal Mitigation Plan Review Tool*.

<table>
<tr><td>Tribal Jurisdiction:

Village of Clarks Point</td><td colspan="2">Title of Plan:
Village of Clarks Point
Tribal Hazard Mitigation Plan
[2019 – 2024]</td><td>Date of Plan:

February 2019</td></tr>
<tr><td colspan="2">Tribal Point of Contact:
Kristin George</td><td colspan="2" rowspan="3">Address:
Clarks Point Village Council
PO Box 90
Clarks Point, AK 99569</td></tr>
<tr><td colspan="2">Title:
Administrator</td></tr>
<tr><td colspan="2">Agency:
Clarks Point Village Council</td></tr>
<tr><td colspan="2">Phone Number:
907-236-1435</td><td colspan="2">Email:
clp_villagecouncil@yahoo.com</td></tr>
</table>

State Reviewer (if applicable):	**Title:**	**Date:**

FEMA Reviewer:	**Title:**	**Date:**
Date Received in FEMA Region 10		
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved		

Section 1: REGULATION CHECKLIST

1. Standard Regulation Checklist **Regulation** (44 CFR § 201.7 Tribal Mitigation Plans)	**Location in Plan (section and/or page number)**	**Met**	**Not Met**
ELEMENT A. PLANNING PROCESS			
A1. Does the plan document the planning process, including how it was prepared and who was involved in the process? [44 CFR § 201.7(c)(1)]	Section 3.1 - 3.2		
A2. Does the plan document an opportunity for public comment during the drafting stage and prior to plan approval, including a description of how the tribal government defined "public"? [44 CFR § 201.7(c)(1)(i)]	Section 3.3		
A3. Does the plan document, as appropriate, an opportunity for neighboring communities, tribal and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? [44 CFR § 201.7(c)(1)(ii)]	Section 3.3.1		
A4. Does the plan describe the review and incorporation of existing plans, studies, and reports? [44 CFR § 201.7(c)(1)(iii)]	Section 3.4		
A5. Does the plan include a discussion on how the planning process was integrated to the extent possible with other ongoing tribal planning efforts as well as other FEMA programs and initiatives? [44 CFR § 201.7(c)(1)(iv)]	Section 3.5		
A6. Does the plan include a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within the plan update cycle)? [44 CFR § 201.7(c)(4)(i)]	Section 4.0 – 4.3		
A7. Does the plan include a discussion of how the tribal government will continue public participation in the plan maintenance process? [44 CFR § 201.7(c)(4)(iv)]	Section 4.1		
ELEMENT A: REQUIRED REVISIONS			
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT			
B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the tribal planning area? [44 CFR § 201.7(c)(2)(i)]	Section 5.1		
B2. Does the plan include information on previous occurrences of hazard events and on the probability of future hazard events for the tribal planning area? [44 CFR § 201.7(c)(2)(i)]	Section 5.1		

1. Standard Regulation Checklist **Regulation** (44 CFR § 201.7 Tribal Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
B3. Does the plan include a description of each identified hazard's impact as well as an overall summary of the vulnerability of the tribal planning area? [44 CFR § 201.7(c)(2)(ii)]	Section 5.4		
ELEMENT B: REQUIRED REVISIONS			
ELEMENT C. MITIGATION STRATEGY			
C1. Does the plan include a discussion of the tribal government's pre- and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the area, including an evaluation of tribal laws and regulations related to hazard mitigation as well as to development in hazard-prone areas? [44 CFR §§ 201.7(c)(3) and 201.7(c)(3)(iv)]	Section 6.1		
C2. Does the plan include a discussion of tribal funding sources for hazard mitigation projects and identify current and potential sources of Federal, tribal, or private funding to implement mitigation activities? [44 CFR §§ 201.7(c)(3)(iv) and 201.7(c)(3)(v)]	Section 6.2		
C3. Does the Mitigation Strategy include goals to reduce or avoid long-term vulnerabilities to the identified hazards? [44 CFR § 201.7(c)(3)(i)]	Section 6.3		
C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with emphasis on new and existing buildings and infrastructure? [44 CFR § 201.7(c)(3)(ii)]	Section 6.4		
C5. Does the plan contain an action plan that describes how the actions identified will be prioritized, implemented, and administered by the tribal government? [44 CFR § 201.7(c)(3)(iii)]	Section 6.5		
C6. Does the plan describe a process by which the tribal government will incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate? [44 CFR § 201.7(c)(4)(iii)]	Section 6.6		
C7. Does the plan describe a system for reviewing progress on achieving goals as well as activities and projects identified in the mitigation strategy, including monitoring implementation of mitigation measures and project closeouts? [44 CFR §§ 201.7(c)(4)(ii) and 201.7(c)(4)(v)]	Section 6.7		
ELEMENT C: REQUIRED REVISIONS			

1. Standard Regulation Checklist **Regulation** (44 CFR § 201.7 Tribal Mitigation Plans)	**Location in Plan (section and/or page number)**	**Met**	**Not Met**
ELEMENT D. PLAN UPDATES			
D1. Was the plan revised to reflect changes in development? [44 CFR § 201.7(d)(3)]	N/A		
D2. Was the plan revised to reflect progress in tribal mitigation efforts? [44 CFR §§ 201.7(d)(3) and 201.7(c)(4)(iii)]	N/A		
D3. Was the plan revised to reflect changes in priorities? [44 CFR § 201.7(d)(3)]	N/A		
ELEMENT D: REQUIRED REVISIONS			
ELEMENT E. ASSURANCES AND PLAN ADOPTION			
E1. Does the plan include assurances that the tribal government will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, including 2 CFR Parts 200 and 3002, and will amend its plan whenever necessary to reflect changes in tribal or Federal laws and statutes? [44 CFR § 201.7(c)(6)]	Section 7.0		
E2. Does the plan include documentation that it has been formally adopted by the governing body of the tribal government requesting approval? [44 CFR § 201.7(c)(5)]	Section 7.0		
ELEMENT E: REQUIRED REVISIONS			

2. Enhanced Regulation Checklist **Regulation** (44 CFR § 201.5 Enhanced Tribal Mitigation Plans)	**Location in Plan (section and/or page number)**	**Met**	**Not Met**
ENHANCED ELEMENT F. STANDARD PLAN REQUIREMENTS			
F1. Does the enhanced plan include all elements of the standard tribal mitigation plan? [44 CFR §§ 201.3(e)(3), 201.5(b), and 201.7]	N/A		
ENHANCED ELEMENT F: REQUIRED REVISIONS			
ENHANCED ELEMENT G. INTEGRATED PLANNING			
G1. Does the enhanced plan demonstrate integration to the extent practicable with other tribal and/or regional planning initiatives and FEMA mitigation programs and initiatives? [44 CFR §§ 201.3(e)(3) and 201.5(b)(1)]	N/A		
ENHANCED ELEMENT G: REQUIRED REVISIONS			
ENHANCED ELEMENT H. TRIBAL MITIGATION CAPABILITIES			
H1. Does the tribal government demonstrate commitment to a comprehensive mitigation program? [44 CFR §§ 201.3(e)(3) and 201.5(b)(4)]	N/A		
H2. Does the enhanced plan document capability to implement mitigation actions? [44 CFR §§ 201.3(e)(3), 201.5(b)(2)(i), 201.5(b)(2)(ii), and 201.5(b)(2)(iv)]	N/A		
H3. Is the tribal government using existing mitigation programs to achieve mitigation goals? [44 CFR §§ 201.3(e)(3), 201.5(a) and 201.5(b)(3)]	N/A		
ENHANCED ELEMENT H: REQUIRED REVISIONS			

2. Enhanced Regulation Checklist **Regulation** (44 CFR § 201.5 Enhanced Tribal Mitigation Plans)	**Location in Plan (section and/or page number)**	**Met**	**Not Met**
ENHANCED ELEMENT I. HMA GRANTS MANAGEMENT PERFORMANCE			
I1. With regard to HMA, is the tribal government maintaining the capability to meet application timeframes and submitting complete project applications? [44 CFR §§ 201.3(e)(3), 201.5(b)(2)(iii)(A)]	N/A		
I2. With regard to HMA, is the tribal government maintaining the capability to prepare and submit accurate environmental reviews and benefit-cost analyses? [44 CFR §§ 201.3(e)(3) and 201.5(b)(2)(iii)(B)]	N/A		
I3. With regard to HMA, is the tribal government maintaining the capability to submit complete and accurate quarterly progress and financial reports on time? [44 CFR §§ 201.3(e)(3) and 201.5(b)(2)(iii)(C)]	N/A		
I4. With regard to HMA, is the tribal government maintaining the capability to complete HMA projects within established performance periods, including financial reconciliation? [44 CFR §§ 201.3(e)(3) and 201.5(b)(2)(iii)(D)]	N/A		
ENHANCED ELEMENT I: REQUIRED REVISIONS			

Section 2: STRENGTHS AND OPPORTUNITIES FOR IMPROVEMENT

INSTRUCTIONS: The purpose of the ***Strengths and Opportunities for Improvement*** section is for FEMA to provide more comprehensive feedback on the tribal mitigation plan to help the tribal government advance mitigation planning. The intended audience is the tribal staff responsible for the mitigation plan update. FEMA will address the following topics:

1. Plan strengths, including specific sections in the plan that are above and beyond the minimum requirements; and
2. Suggestions for future improvements.

FEMA will provide feedback and include examples of best practices, when possible, as part of the *Tribal Mitigation Plan Review Tool,* or, if necessary, as a separate document. The tribal mitigation plan elements are included below in italics for reference. FEMA is not required to provide feedback for each element.

Required revisions from the **Regulation Checklist** are not documented in the **Strengths and Opportunities for Improvement** section. Results from the **Strengths and Opportunities for Improvement** section are not required for Plan Approval.

Describe the mitigation plan strengths areas for future improvements, including areas that may exceed minimum requirements.

- Planning process
- *Hazard identification and risk assessment*
- *Mitigation strategy (including Mitigation Capabilities)*
- *Plan updates*
- *Adoption and assurances*
- *Enhanced Plan - Integrated planning*
- *Enhanced Plan - Tribal government mitigation capabilities (commitment to a comprehensive mitigation program)*
- *Enhanced Plan - HMA grants management performance*