"There are just a few of us, but we are all important"

Responses to a Disaster Preparedness Survey in Interior Alaska River Villages

Celia Jackson

University of Alaska, Fairbanks

May 2015

Abstract

This survey explores individual perspectives about disaster preparedness in Interior Alaska villages. The results will be used to create a new, locally relevant preparedness outreach flyer for distribution across the Interior Alaska region. Modern Red Cross preparedness fliers use the "Be Red Cross Ready: Get a Kit, Make a Plan, Be Informed," flyer to educate people on useful preparedness behavior. This is also the standard across the United States used by the Federal Emergency Management Agency and other government agencies. But is the information contained within the "Get a Kit, Make a Plan, Be Informed" flyer really applicable to life in small, remote, Alaskan communities? Many of these communities are highly isolated according to the standards applied to the rest of the country: they experience often-extreme environmental conditions, and are composed of indigenous people who have their own worldview and concept of risk and community values. In order to effectively prepare people in villages for disasters, everything must be reconsidered to fit this Alaskan setting. Key findings from this survey project include: the importance of outdoor survival gear and cold-weather gear in emergency kits; the need for more written small community emergency plans; and the need for cultural competency training for disaster response professionals and volunteers.

Keywords: disaster preparedness, local knowledge

Table of Contents

Introduction	4
Objectives	5
Literature Review	8
Research Methods	12
Results How prepared are people in villages for a disaster? How is disaster response different in Alaska?	17
Discussion and Recommendations	24 25
Conclusion	28
Works Cited	1
Appendix 1 - Survey Version 1	1
Appendix 2 - Survey Version 2	1
Appendix 3 - Advice for Responders	2 3 4
Appendix 4 – List of Alaska Radio Stations	1
Appendix 5 – List of LPTV Stations in Alaska	1
Appendix 6 – List of Alaska Native Corporations	1
Appendix 7 – Federally Declared Disasters in Alaska	1

"There are just a few of us, but we are all important":

A Disaster Preparedness Survey in Interior Alaska's River Villages

Introduction

Disasters occur when and where hazards and vulnerability intersect. The International Federation of Red Cross and Red Crescent Societies (IFRC) defines a disaster as "a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources," (IFRC, 2014). The 2007 wildfires in southern California, which destroyed 1,300 homes and killed 27 people, was a disaster. So was the 2013 flooding of Galena that displaced more than 100 people in interior Alaska.

In both these cases the hazards (fire and flood) overwhelmed local resources to cope and prevent losses to vulnerable people. Communities can reduce the impact of disasters by addressing both hazards and vulnerability through a combination of preparedness, prevention, and response practices – however, these countermeasures must be tailored to the physical landscape, political structure, and social context of the community in question. There is no one-size-fits-all solution to disaster preparedness.

In order to build a tailored preparedness programs in Interior Alaska, we need to know what our audience thinks about preparedness. Therefore rather than use quantitative study methods to find a universal truth about disaster preparedness in interior Alaska, this survey project is a qualitative study designed to generate discussion and bring attention to rural disaster preparedness issues. In addition, we all think Alaska is

an inherently different place from the rest of the United States – but how? Readers should see Appendix 3 for more information about the study area as well special considerations for responders coming into Alaska as part of a disaster response.

Objectives

This survey project explores local perspectives about disaster preparedness in interior Alaska river villages. The results will be used to create a new, locally relevant "Get a Kit, Make a Plan, Be Informed" flyer. This project is also a component of a larger preparedness initiative funded by BP. In November 2013, the Red Cross received \$25,000 to collaborate with Tanana Chiefs Conference (TCC) in developing a new disaster

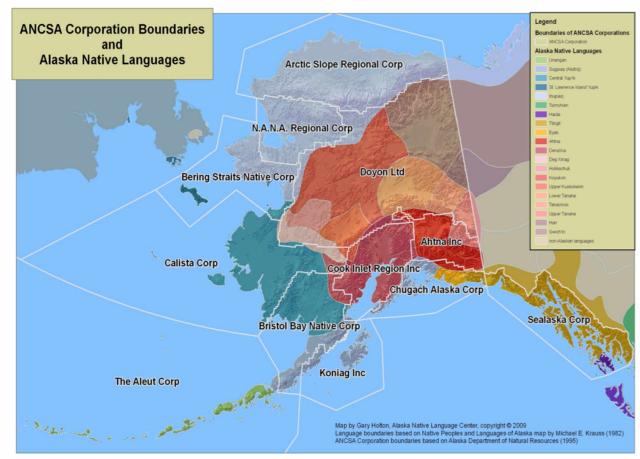


Figure 1: ANCSA Corporation Boundaries and Alaska Native Languages. Source: Holton, 2009.

preparedness flyer for rural, arctic, interior villages. TCC is the Alaska Native non-profit branch of Doyon Ltd., which is the Alaska Native Corporation responsible for managing interior Alaska Native lands and natural resources (Figure 1). TCC is responsible for both health and social services in the same area. TCC is also the primary Alaska Native agency responsible for disaster response and evacuations in the interior. The Red Cross and TCC worked closely together during the 2013 Galena flooding. Overall there are 13 Alaska Native Corporations and their corresponding Alaska Native non-profits, responsible for managing 43.7 million acres of land across Alaska.

According to the original Red Cross funding proposal:

"There are many agencies and organizations in Alaska including the State's Division of Homeland Security and Emergency Management, University of Alaska, TCC and other native non-profit health care agencies with great disaster preparedness information that is readily available to the general public; however, to our knowledge there is not currently a comprehensive disaster preparedness guide tailored to individual families in rural Alaska. As a partner in preparedness, response and recovery, we want to do our part to contribute to the greater good of preparedness for individual families in the State of Alaska."

This preparedness survey – and the flyer to be developed from the results – is designed to increase the capacity of people in interior Alaskan to prepare for a disaster by beginning to document the differences and similarities between interior Alaskan villages and the rest of the country. It first asks how prepared people in interior Alaskan river villages are for a disaster based on the recommendations in the "Get a Kit, Make a Plan, Be Informed," flyer (see Figure 2), and then asks for advice on what else respondents would

include based on their village's situation.

Be Red Cross Ready

Get a kit. Make a plan. Be informed.

It's important to prepare for possible disasters and other emergencies. Natural and human-caused disasters can strike suddenly, at any time and anywhere. There are three actions everyone can take that can help make a difference ..

Be Red Cross Ready Checklist

- e a family disaster plan and have practiced it.
- e an emergency preparedness kit.
- At least one member of my household is trained in first aid and CPR/AED.
- I have taken action to help my community prepare



At a minimum, have the basic supplies listed below. Keep supplies in an easy-to-carry emergency preparedness kit that you can use at home or take with you in case you must evacuate.

Water—one gallon per person, per day · Water—one gallon per person, per day (3-day supply for evacuation, 2-week supply for home) · Food—non-perishable, easy-to-prepare items (3-day supply for evacuation, 2-week supply for home) · Flashlight · Battery-powered or hand-crank radio (NOAA Weather Radio, if possible) • Extra batteries • First aid kit • Medications (7-day supply) and medical items • Multi-purpose tool • Sanitation and personal hygiene items • Copies of and personal hygiene items · Copies of personal documents (medication list and pertinent medical information, proof of address, deed/lease to home, passports, birth certificates, insurance policies) · Cell phone with chargers · Family and emergency contact information · Extra cash · Emergency blanket · Map(s) of the area

Consider the needs of all family

members and add supplies to your kit. Suggested items to help meet additional needs are: • Medical supplies (hearing aids with extra batteries, glasses, contact lenses, syringes,

cane) · Baby supplies (bottles, formula, baby food, diapers) · Games and activities for children • Pet supplies (collar, leash, ID, food, carrier, bowl) • Two-way radios • Extra set of car keys and house keys • Manual can opene

Additional supplies to keep at home or in your kit based on the types of disasters common to your area:

 Whistle • N95 or surgical masks •
Matches • Rain gear • Towels • Work gloves • Tools/supplies for securing your home • Extra clothing, hat and sturdy shoes Plastic sheeting - Duct tape - Scissors Household liquid bleach - Entertainment items - Blankets or sleeping bags

Make a plan



- Meet with your family or household
- Discuss how to prepare and respond to emergencies that are most likely to happen where you live, learn, work and play.
- O Identify responsibilities for each member of your household and plan to work together as a team.
- If a family member is in the military, plan how you would respond if they were deployed.

Plan what to do in case you are separated during an emergency ☐ Choose two places to meet:

- - Right outside your home in case of a sudden emergency, such as a fire
 - · Outside your neighborhood, in case you cannot return home or are asked to evacuate
- Choose an out-of-area emergence contact person. It may be easier to text or call long distance if local phone lines are overloaded or out of service. Everyone should have emergency contact information in writing or programmed into their cell phones

Plan what to do if you have to vacuate

- Cvacuate

 Decide where you would go and what
 route you would take to get there. You
 may choose to go to a hotel/motel,
 stay with friends or relatives in a safe
 location or go to an evacuation shelter
 if the contract of the if necessary.
- T Practice evacuating your home twice a year. Drive your planned evacuation route and plot alternate routes on your map in case roads are impassable.
- Plan ahead for your pets. Keep a phor list of pet-friendly hotels/motels and animal shelters that are along your evacuation routes

Be informed



Learn what disasters or emergencies Learn what disasters or emergencies may occur in your area. These events can range from those affecting only you and your family, like a home fire or medical emergency, to those affecting your entire community, like an earthquake or flood.

- ☐ Identify how local authorities will notify you during a disaster and how you will get information, whether through local radio TV or NOAA Weather Radio stations or
- Know the difference between differen weather alerts such as watches and warnings and what actions to take in
- Throw what actions to take to protect yourself during disasters that may occur in areas where you travel or have moved recently. For example, if you travel to a place where earthquakes are common and you are not familiar with them, make sure you know what to do to protect yourself should one occur.
- When a major disaster occurs, your community can change in an instant. Loved ones may be hurt and emergency response is likely to be delayed. Make sure that at least one member of your household is trained in first aid and CPR and knows how to use an automated external defibrillator (AED). This training is useful in many emergency situation
- Share what you have learned with your family, household and neighbors and encourage them to be informed.

Emergency Contact Cards for All Household Members Get your cards online at

redcross.org/prepare/ECCard.pdf. Print one card for each family member.

- O Write the contact information for each household member, such as work, school and cell phone numbers.
- ☐ Fold the card so it fits in your pocket, wallet or purse.
- Carry the card with you so it is available in the event of a disaster or other emergency.



For more information on disaster and emergency preparedness, visit redcross.org.

Figure 2: "Be Red Cross Ready" Flyer. Source: American Red Cross, 2009.

Literature Review

Preparedness surveys became popular in the United States after the September 11, 2001 terrorist attack on the World Trade Center in New York, and the August 23, 2005 federally declared disaster known as Hurricane Katrina in New Orleans. While there are too many disaster surveys to include in this paper, there are a few that are similar enough to the survey used here that it is useful to summarize them.

In 2012 the Federal Emergency Management Agency (FEMA) published a survey on individual preparedness, titled "Personal Preparedness in America: Findings From the 2012 FEMA National Survey," (FEMA, 2012). In Section 1 of the report, results from three surveys (2007, 2009, and 2011 FEMA Citizen Corps National Surveys) were synthesized into three categories: "Build a Kit," "Make a Plan," and "Be Informed," which is the same format used in this survey.

In the "Build a Kit" section, about half of respondents reported having disaster supplies at home. Of the recommended items for a disaster kit, the most commonly reported items were non-perishable food (69 percent), bottled water (66 percent), and flashlights (42 percent). FEMA also measured perceptions of risk of a natural disaster happening in the respondent's communities. Only about half of respondents believed that a natural disaster is possible in their community. The results also revealed a direct correlation between believing that a disaster could occur, and engaging in preparedness behavior.

Overall 60 percent of people who believed that a disaster could occur had emergency supplies at home, while only 40 percent of people who did not believe a disaster occur had emergency supplies. The most common preparedness behavior reported was

stocking emergency supplies at home and having a household emergency plan, while the least common preparedness behavior was participating in preparedness exercises or attending meetings on preparedness.

In the "Make a Plan" section, FEMA reported about 43 percent of respondents had a plan, while about 39 percent both had a plan and had discussed that plan with their household. In the "Be Informed" section, 46 percent of respondents said they were familiar with local hazards. In addition, about 35 percent of respondents had CPR training, 29 percent had first aid training, 23 percent had been to disaster preparedness training, and 11 percent reported being part of a community emergency response team.

The National Citizen Corps Surveys have further information about preparedness behavior. In the 2009 National Citizen Corps Survey (Citizen Corps, 2009), 42 percent of respondents reported that they would expect to need help to evacuate or get to a shelter in the event of a disaster. 50 percent reported needed help with transportation out of the area, while 8 percent said they would not have a place to go after the evacuation. The survey also reported that 29 percent of respondents did not prepare for disasters because they believed that emergency responders would help them, but that overall rural respondents were more likely to be prepared or have taken preparedness training than their counterparts.

The 2009 survey recommended "communicating more realistic expectations and personal responsibilities," "more emphasis... on the importance of stocking disaster supplies in multiple locations, and more specificity... on critical items... such as flashlights, radios, batteries, first aid kits, and personal documents." The survey also recommended using insights into specific sociodemographic characteristics in order to tailor

preparedness outreach to target audiences. In particular the survey found that there needs to be more emphasis on local level preparedness planning and communication using local agencies and social networking.

Outside of the United States, similar surveys have been done to measure national preparedness. A 2013 Australian study, called the "Queensland Community Preparedness Survey," (Queensland, 2013) found that families believed they knew the local risks of natural hazards and had taken appropriate preparedness steps, yet these same people were not able to provide specific examples of preparedness behavior. In other words, the survey found that people were not as prepared as they believed they were and that cultural background, household type, and income affected their level of preparedness. The survey recommended targeting preparedness programs to households with children, landlords and tenants of rental properties, and households that speak languages other than English in the home. Similar to the Citizen Corps survey, the Queensland survey found that locally tailored communication was necessary for effective communication of disaster preparedness information.

In Alaska there are no published disaster preparedness surveys, and little scholarly material on disasters in general. Nor are there disaster preparedness surveys about indigenous communities in the United States as a whole. This represents a gap in our understanding of specific Native American/Alaska Native responses to natural hazards and limits the ability of organizations, such as the Red Cross, to effectively communicate disaster preparedness information and create effective disaster planning partnerships.

Although we know that in other regions of the world studies have found that the inclusion of indigenous knowledge in disaster preparedness education helps communities cope with

natural hazards (Mercer, 2007), little has been documented in the Arctic. Conversely, failure to respect indigenous knowledge has been shown to create community vulnerability to disasters (Howitt, 2011).

Interior Alaska communities may benefit from a greater awareness and inclusion of indigenous knowledge about disasters and disaster preparedness. In Alaska, where western and indigenous knowledge has been combined to create educational programs, there have been numerous positive outcomes, including decreased dropout rates in schools and increased college attendance for Alaska Native students (Barnhard, 1998). The Alaska Rural Systemic Initiative, an educational reform project aimed at integrating local knowledge and pedagogical practices into the rural education system, has identified seven major strategies for success. These strategies are useful for thinking about how the data from an indigenous preparedness survey can be used to create disaster preparedness flyers as well as bigger educational initiatives. The strategies include: creating an indigenous science knowledge base; parent involvement for native ways of knowing; creating an academy of elders and cultural camps; establishing village science camps and fairs; and emphasizing native leadership development in education (Barnhardt, 2005).

There are a few good examples of curriculum that combines western and indigenous knowledge of disaster preparedness using the above recommendations in Alaska. The Geophysical Institute at the University of Alaska, Fairbanks, developed a series of K-12 modules about tsunami hazards and survival skills. For instance, in the curriculum "I Will Survive" students are expected to explore emergency survival skills and interview elders about traditional survival skills (UAF, 2010). In "The Day that Cries Forever," students are expected to demonstrate an understanding of tsunami and earthquake processes by

reading a story about the effects of the 1964 earthquake on the village of Chenega. According to the "Target Alaska Cultural Standards," listed in the curriculum, "students who meet this cultural standard are able to acquire and pass on the traditions of their community through oral and written history," (UAF, 2008). Although there are no corresponding curriculum or preparedness information published about Interior Alaska, this survey will hopefully add to a traditional knowledge base and encourage discussions that could lead to future projects.

Research Methods

This survey project was conducted in two iterations in order to incorporate reflexivity into the survey instrument development process. First, a beta survey - "Version 1" (see Appendix 1) – was developed and distributed. Then an edited final survey "Version 2" (see Appendix 2) was developed based on the results and feedback from Version 1.

The questions guiding this survey project were:

- 1. How prepared are people in interior Alaskan villages for a disaster?
- 2. How is disaster preparedness in interior Alaska different from the continental United States?

For both surveys, the American Red Cross of Alaska partnered with Village Patrol Safety Officers (VPSO's) to create, distribute, and collect the surveys. VPSO's, usually one man or woman per village, act as the sole provider of police, fire, and emergency medical services. Although they have law enforcement responsibilities VPSOs are not armed. Instead they alert Alaska State Troopers if there are law-enforcement issues. There are 10

VPSO posts in the TCC region (see Figure 3). Engaging VPSO's in disaster preparedness activities is a long-time goal of the American Red Cross of Alaska.

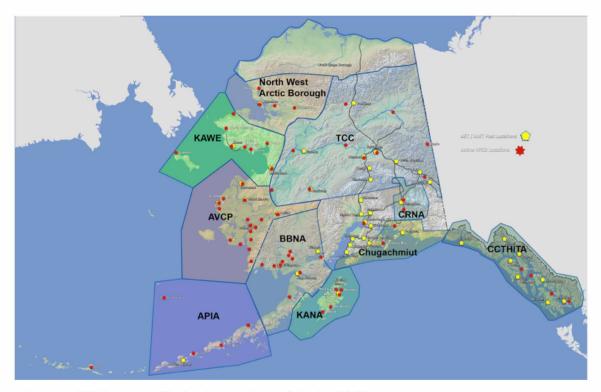


Figure 3: VPSO posts in Alaska. Source: State of Alaska, 2015

Prior to the development of this survey project the Red Cross conducted a general workshop to discuss the specific needs of preparing for disasters in rural Alaska in April 2014. The Fairbanks Red Cross office flew in experts from villages across Alaska, including Barrow, Fort Yukon, Galena, and Kotzebue. During the workshop participants indicated a need for a more comprehensive survey of local knowledge. Those discussions led directly to this Master's project.

In October 2014, Version 1 was completed and reviewed by the author's graduate committee at UAF and a representative of the VPSO program. In the survey, respondents were instructed to check the preparedness information that applied to them, and then

prompted to add additional information based on their experiences in the villages. For instance, respondents were asked, "Do you have the following items?" and prompted to check a 17-item list. Then they were asked, "What else would you take with you in an evacuation?" Respondents were also asked if they had CPR or first aid training, if they or someone they knew had been in a disaster, and what advice they had for the Red Cross or other organizations helping in a disaster. For a complete list of questions, see Appendix 1.

In addition to the survey, respondents were given a small preparedness item (magnetic flashlight) and entered into a drawing for a series of preparedness prizes, such as a radio, first aid kit, or Red Cross branded gear. Incentives were used to encourage a higher rate of return and compensate people for their time and assistance.

Once the first version of the survey was completed, the Red Cross planned to send a team of volunteers into four or five villages and conduct the surveys in the community on

an all-day trip. However it was decided that traveling to the villages would be too costly and logistically complicated. Instead our partner VPSO, who frequently travels to interior villages for work, delivered the surveys to with the local fire department, or locally stationed VPSO.

To simplify the delivery process, the surveys, preparedness incentive items, and a set of instructions were



Figure 4: A Red Cross volunteer ready to do surveys at the TCC Convention. Source: Author, March 2015.

compiled into kits. Each kit contained 20 surveys, 20 flashlights, and a raffle item. 15 kits were delivered in November 2014. After approximately one month, the surveys were returned in the mail.

There were a few important lessons learned from Version 1 (see the Discussion section). To make the survey process easier, Version 2 was shortened and simplified: some of the questions in Version 1 were found to be redundant and removed, while others were combined. However the survey still followed the basic "Get a Kit, Make a Plan, Be Informed," format. For a complete list of questions, see Appendix 2. The biggest difference between Version 1 and Version 2 was the distribution method. While in Version 1 the VPSO delivered the surveys directly to the villages in a kit, Version 2 was delivered in person at the TCC Annual Convention. The TCC Annual Convention takes place every March in Fairbanks, Alaska. In 2015 it was held at the Westmark Hotel in downtown Fairbanks.



Figure 5: A Red Cross volunteer interviews an Alaskan Native woman. Source: Author, March 2015.

Delegates from TCC villages in the Interior flew or drove into Fairbanks for one week to discuss important issues, hold elections, and adopt resolutions for their village councils. A health and safety fair and an arts and crafts fair were also held in conjunction with the conference, which drew other community members.

With permission from the TCC, the Red
Cross set up a booth in the main hallway
advertising current programs. For instance, there
was information on the Pillowcase Project (new

Red Cross elementary school curriculum designed and funded by Disney), Home Fire Campaign (the Red Cross aims to reduce fire deaths by 25% in five years by installing smoke alarms in high-risk communities), and a raffle for the disaster preparedness survey (see Figure 4 and 5). As with the first version, in return for a completed survey, respondents received a magnetic red cross LED flashlight and a chance to win either a preparedness kit or a hand-crank weather radio.

Results

Key findings from this survey project include: the importance of outdoor survival gear and cold-weather gear in emergency kits; the need for more written small community emergency plans; and the need for cultural competency training for disaster response professionals and volunteers. The most important results were determined to be those that were the similar on both surveys, despite significant differences in the format and delivery of Version 1 and Version 2. Especially interesting were the results that were similar between surveys but different from the recommendations in the standardized "Get a Kit, Make a Plan, Be Informed," Red Cross flyer. Other important results were those that reflected traditional values, such as sharing resources among the community (see Table 1 for a summary of results).

Outdoor survival, camping and hunting gear was emphasized by respondents in both versions of the survey Sharing of emergency goods was mentioned as a traditional value Respect and cultural awareness an important issue for responders to understand Flashlights were the most common go-kit item owned by respondents More than half of respondents knew CPR or first aid

More than half indicated wanting disaster preparedness training

More than two-thirds of people agreed that small children and the elderly are most vulnerable to disasters

More than two-thirds of respondents had been in a disaster or knew a family member or friend who had

More than two-thirds of respondents either did not know where to find their community's emergency plan, or assumed there was a plan when there was not

Table 1: Summary of survey results

How prepared are people in villages for a disaster?

Overall, of the 17 items on the recommended preparedness kit list, more than 50 percent of respondents reported having more than 50 percent of items on the list. In addition, the majority of respondents also reported having experienced a disaster, or knowing a family member who had experienced a disaster (>60 percent). Of the 79 responses to Version 2, 68 percent reporting having CPR training (compared to 35 percent in the FEMA Personal Preparedness survey), and 64 percent wanted CPR training. In addition, 33 percent of respondents reported having some kind of disaster preparedness training (compared to 23 percent on the FEMA Personal Preparedness survey), while 61 percent wanted some kind of disaster preparedness training. Finally, when asked, "who is most vulnerable to a disaster in your community?" more than 50 percent of respondents on both surveys agreed that children and elders were the most vulnerable disasters, with additional responses indicating that disabled or dependent adults were also an important vulnerable group. The FEMA Personal Preparedness survey did not have comparable data.

In Version 2 of the survey, respondents self reported the items they had ready for an evacuation for themselves, for their pets, and for their children. Overall, 75 percent of respondents reported having a flashlight, which is a greater percentage than the results from the 2012 FEMA Personal Preparedness Survey report (42 percent). However the

results are not directly comparable, as the FEMA responses were unprompted and openended, relying on respondents to recall their preparedness kit items from memory,

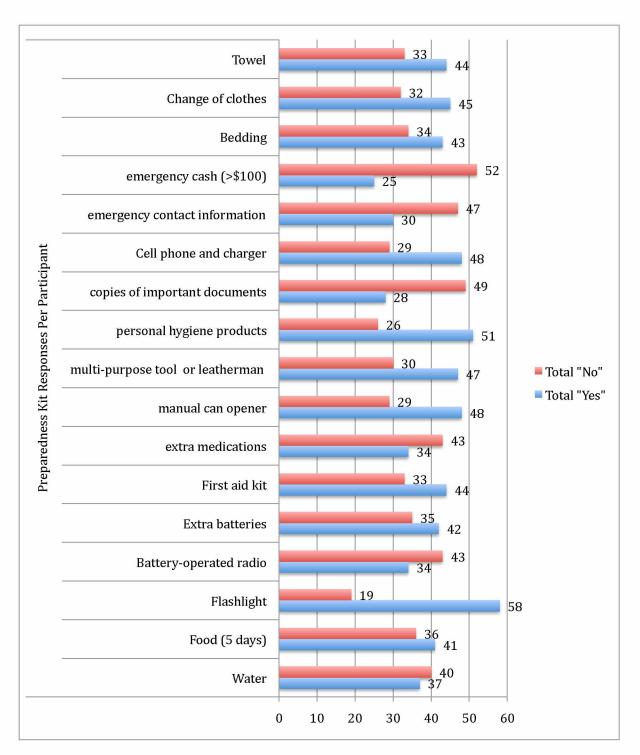


Figure 6: Combined Responses to Question 1.

while both Version 1 and Version 2 asked about specific items. Moreover, the survey results are probably high because Alaska experiences very long periods of darkness in the winter, making flashlights are a daily necessity. Other go-kit items that got high "yes" responses (>60 percent) included having personal hygiene products (66 percent), a cell phone and charger (62 percent), Leatherman (62 percent), and manual can opener (62 percent). The highest "no" response for the "Get a Kit" section was emergency cash (61 percent), copies of important documents (67 percent) and emergency contact information (61 percent) (see Figure 6).

How is disaster response different in Alaska?

Beyond the recommended list, respondents were asked, "if you had to evacuate from your village, what else would you bring?" Of the responses, about 25 percent were not useful, or not relevant to the survey (for instance, one respondent wrote "marijuana" for every answer on the survey). Those responses are labeled "Other" in Figure 8. Another 31 percent included items already listed on the 17-item list in the first question.

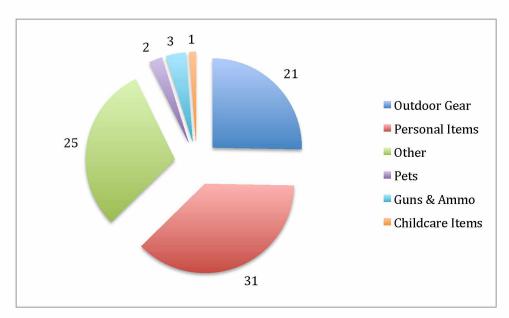


Figure 7: Combined Responses to Question 2

However, of the remaining 50 percent of responses, 21 percent responded with items that were categorized as "outdoor gear." Answers included "fishing gear," "lighters and matches," "tents," "rope," and hunting gear such as rifles and ammo. Respondents on both Version 1 and Version 2 responded consistently with outdoor gear (see Figure 7). Other interesting responses were "dry fish," "dry moose meet," "maps," and "satellite phone."

The results for the recommended childcare go-kit items were less useful because only a small segment of respondents reported having children, and of those only a few had infants. In addition the items in the survey were specific to age ranges. For instance, diapers and infant formula are only relevant for those with infants and small children, while "comfort items," and "games and activities," could apply to any age range. There were no suggested items that significantly differed from the recommended list. Instead many respondents listed items that could have fallen under the individual go-kit list, such as guns and ammo, knives, tents and sleeping bags. This is true of the pet go-kit section as well.

At the end of the survey, respondents were asked: "what advice do you have for your community in a disaster?" Key responses are summarized in Table 2. The majority of respondents replied with the standard recommended preparedness activities, such as creating a preparedness kit, making a plan, and knowing where to go in a disaster.

Respondents also said that knowing who is in charge, remaining calm and working together is important.

Village	Response
Husila	Contact city/tribal officers. Follow directs of emergency personnel.
Husila	Listen; put together a kit.
Husila	Work together and communicate your own whereabouts at all times
Stevens Village Stevens Village	Have a plan - good communication channels. Have a lists (like the ones on this survey) and post have meetings and reminders have a garbage disposal plan w, flood so things don't get too contaminated Start planning prior to an event or incident
Galena	Have multiple plans on where to meet/go in the event of a disaster, talk with specialists in the fields to develop a plan
Galena	Work together
Galena	Neighbors help neighbors
Ruby	Keep calm, comfort elder and children and mother with babies, leaders to be efficient and courteous to everyone, most of all to have a plan in place. Seek tho that have first aid training to assist in medical emergency
Holy Cross	Consider preparing a disaster kit and be ready for everything. I never thought about it until my house fire in 2007. I still have a lot to learn
Holy Cross	Pull together n' share
Beaver	Make sure you have your identification cards in order
Beaver	Look to the traditional ways
Fort Yukon	Have a written format on what to do keep folks informed
Fairbanks	Need to get the information out in multiple ways: radio, internet. We do not have cable so TV does not effect us
Koyukuk	I usually get the community together for a preparedness situation where to evacuate and who goes first make sure our evacuation site is set up for the community, usually the school
Hughes	Be prepared, have a back up plan
Hughes	Have the map/plan in every home or office
Arctic Village	Be calm, stay together, be support of
Tanana	Work together, put all your differences aside

Table 2: Key Responses to Question 16 of Survey 2.

When asked "what advice do you have for agencies or outside organizations helping your community in a disaster?" responses included knowing what the population of each village is, knowing who community leaders are, understanding the culture and history of villages and region, and being very clear and organized in the communication of what help is available. In particular, one respondent wrote: "Get training on the human factors. Have a group of responders that their only focus is on the personal welfare of those affected. Tell

people to hard truth up front DO NOT sugarcoat it! We are good at responding but bad at taking care of the affected people's emotional wellbeing." Key responses are summarized in Table 3.

	your community in a disaster?
Village	Response
Husila	People may not ask for help even when they need it. Make sure all elders and childre are accounted for.
Eagle	There are just a few of us but we are all important.
Stevens Village	When an incident occurs that they show empathy.
Galena	Get training on the human factors. Have a group of responders that their only focus is on the personal welfare of those affected. Tell people to hard truth up front DO NOT sugarcoat it! We are good at responding but bad at taking care of the affected people emotional wellbeing.
Galena	Check on elders in community and children.
Ruby	Contact first responders and leaders, and help those in dire need first. Go over plan with leaders.
Ruby	We from the villages are all close-knit family, and we are a proud people.
Allekaket	Listen to community members.
Holy Cross	Send people to help communities prepare for disaster - help us understand what can happen if not prepared.
Alatna	The number of people who need help. Also we are close to another community and when they help that community they think they help us but do not - we are a separat entity.
Fort Yukon	Teach preparedness.
Fairbanks	Fairbanks needs to make a plan and let the community know what it is. I don't think there is one. I Have lived here since 94 and have gotten no literature about one.
Fairbanks	Cultural awareness.
Fairbanks	Push for emptive training prior to a disaster.
Fairbanks	Help people write a plan, advertise where shelters are located.
Fairbanks	Offer free training courses in survival, CPR, first aide, ect.
Hughes	Get a list of the elders.
Arctic Village	Get in touch with the villages that are not very informed with you.
Tanana	Establish partnerships with agency prior to an incident, DHS/EM, Red Cross, BLM, AST, local fire department.
Minto	Know the local road system, power and water locations, school, stores, and gathering place for locals.
Minto	Understand village culture, know our history, respect our tribal government.
Minto	Be ready - have a good relationship with village leaders. Make sure that the villages know what to do. Prevention works. Prevent chaos by training, and touching base with the village.

Table 3: Key responses to Question 17 from Version 2.

Discussion and Recommendations

In Survey 1, of the 15 kits delivered the villages, five kits from five villages were returned for a total of 44 surveys. This was a much lower return than expected. Reasons for the low resturn might be lack of motivation within the fire departments or locally stationed VPSOs to complete and return so many surveys. While a good idea in theory, there was no relationship between the Red Cross and the VPSO/fire department partners prior to the delivery of the surveys except through the partner VPSO. Instead, it would have been better to meet in person or on the phone with each community beforehand in order to explain the project and give them a real person to send the survey packets back to. Even better would have been to travel to the villages in person if time and money was available.

For Survey 2, over the course of four days the volunteers and staff at the booth handed out over 200 surveys and collected 79 completed surveys, representing 30 villages in interior Alaska. The return was almost twice as much as the first version and covered a wider geographic area. However there were fewer surveys returned per village than in Survey 1. In Survey 1, there was more potential to compare results between villages, while in Survey 2 the results gave a big-picture view of the interior region.

Survey 2 had an advantage over survey 1 because the partner VPSO was present to distribute the surveys at the TCC Annual Convention. The partner VPSO was present for all four days and was able to target specific people who had experience and interest in disaster preparedness. Because this was a qualitative study, achieving a random sample was less important than getting meaningful responses. For instance, surveys were passed out to fire chiefs and community leaders from Galena, a village recently affected by the 2013 flooding. Conducting Survey 2 at the Convention also allowed for a bigger sample of

surveys from the Fairbanks area to compare to results from the villages. Table 4 shows a summary of the recommendations below.

Recommendations for a new disaster preparedness flyer
Get A Kit
Include hunting and camping gear
Emphasize cold weather clothing
Emphasize documentation and pre-planning tasks
Mention culturally important food
Make a Plan
Include clear instructions on how to find a village emergency plan
Include what agencies and organizations are responsible for disaster preparedness, response, and recovery in the interior
Encourage residents to identify personal resources for shelter in an evacuation, such as family or friends, in case of long-term displacement
Encourage residents to indentify central meeting places in their villages (schools, senior centers, community centers, etc.)
Be Informed
Should provide resources for disaster preparedness training
Should list radio stations and websites that would broadcast information in a disaster
Should list emergency declaration procedures and expected response activities from local, state, and

Table 4: Recommendations for a new disaster preparedness flyer

Get a kit

federal agencies

Should a family be displaced from their home during the cold-weather months, which is the majority of the year, they will need serious survival gear. Based on the results



Figure 8: "Bunny Boots," an Alaskan cold-weather staple. Source: Google, 2015

of the survey, and considering the environmental conditions of interior villages during the winter, families should keep an extra supply of cold weather gear in a safe and dry place. Cold weather gear includes parkas, snow pants, "bunny boots" (see Figure 8) or other warm footwear, hats, gloves, warm socks, and anything else needed to stay comfortable outside at negative 30 or 40 degrees Fahrenheit.

A family's village preparedness kit should also have fire-

starting tools and a way to cook warm food, such as a portable propane stove. Other recommendations are to have a spare tent, rope, hunting and fishing gear, traditional food (dry moose meat, dried fish, berries) and extra fuel for boats, four wheelers or snow machines. This list should be familiar to many people living in villages. Most of the items

items found in fish camps or with hunting supplies (see Figure 9). Therefore an easy way to think about a village emergency go-kit is to think about what is needed for fish camp, and duplicate it in a sealed tote stored in a safe, dry place.



Figure 9: A Kobuk River fish camp. Source: www.terragalleria.com

In addition to survival gear, any village emergency go-kit should include copies of important documents, preferably laminated. Based on survey results, most respondents did not have documents such as extra cash, emergency contact information, insurance information, social security number or copies of ID. Having important documents after a devastating disaster would decrease the time it would take to access state or federal aid.

Make a plan

In both surveys more than half of respondents stated that if they were separated from family, they would meet at central buildings, such as the village clinic, community hall, tribal office, or school. However, should a destructive ice-jam flood take out public buildings or make them inaccessible, such as the 2009 flooding of Eagle, families should

have another meeting place in their plan. It may need to be different for different hazards. Moreover, any emergency plan developed by a family should be displayed somewhere in the home where everyone can read it on a regular basis.

In some cases, evacuations may be necessary. Evacuations in villages are complicated and resource intensive, and may require entire communities to be moved. Generally speaking, more vulnerable members of the community, such as the elderly or families with small children, are moved first. Therefore families should have a plan for contacting each other in the event of an evacuation. They should also reach out to friends and family in major hubs, like Fairbanks or Anchorage, to plan for a place to stay. Otherwise they should know ahead of time if they will need emergency shelter. The majority of respondents on the survey indicated that they had family and friends they could stay with, but some did not or had not considered it.

Be informed

The survey revealed that most people in villages expect to rely on tribal institutions, nonprofit organizations, or the state for information during a disaster. Moreover, most people expected there to be a village emergency plan where there was none. Of the more than 200 villages across Alaska, there are less than 30 state-registered emergency plans, called Small Community Emergency Response Plans (SCERPs). Although there is a big push to complete more, it will take time before every community has a written response plan. People in villages should contact their community leaders and ask if there is a SCERP. If not, they should encourage their community to make one.

People in interior Alaskan villages should also know which local agencies are responsible for providing relief during a disaster, and what kinds of aid are available before

the disaster happens. In the interior each village has a village council responsible for day-to-day management. The councils are part of Doyon Ltd. And TCC, which is the native nonprofit based in Fairbanks and responsible for social services and environmental health and safety. Over the last decade, TCC has been heavily involved in disaster response and community evacuations. TCC works closely with the state and federal agencies to coordinate response and recovery.

There also many organizations and non-profits that provide assistance during disasters. The American Red Cross is federally mandated to provide mass care services. In Alaska, the Red Cross is the lead for sheltering and is usually present within a community within a few days to assist in managing and supplying emergency shelters. ARC also provides aid in the form of "individual client services," and works with every family to determine their recovery needs and help connect them with resources. Also present during disasters in Alaska are Adventist Community Services (ACS), and the Salvation Army. ACS provides warehousing for donations and bulk distribution items and the Salvation Army has mass care feeding capabilities that can be deployed around the state. And there are many more. Official local and statewide coalitions of non-profits, called Volunteer Organizations Active in Disasters (VOADs) coordinate disaster relief together.

This survey project has developed a bird's eye view of disaster preparedness in interior Alaska villages. In the future, this author recommends additional in-person surveys in the villages. Future surveys should also consider specific traditional responses to disasters, traditional disaster preparedness practices, and personal experiences with disasters. Future work should also more closely consider how traditional values can help communicate disaster preparedness information and encourage preparedness behaviors.

Another area that should be explored is subgroups such as families with small children, elders, or households with pets. In this survey less than 25 percent of respondents had pets or children, so this is an area that needs a closer look. In addition, as children and elders were considered the most vulnerable groups in a disaster, a closer look at how communities can help prepare children and elders would be very useful.

Conclusion

Generally speaking, no one living anywhere on planet Earth is as prepared as they should be for a disaster. But agencies and organizations can encourage preparedness behavior by understanding their local audience. One of the Red Cross' goals is to reduce community vulnerability through community disaster preparedness education. This means building cultural compatibility into standardized curriculum and recognizing local knowledge as an essential component of any preparedness program. The American Red Cross, and FEMA, has developed standardized disaster preparedness programs that are distributed across the country. But standard is not equal. If organizations want to deliver the same quality of education to interior Alaskan villages as they do for mainstream communities in the continental United States, then the above recommendations should be taken into consideration for future preparedness programs.

There are many ways in which disaster management differs between communities. Understanding those differences is the key to effective preparedness and response, and recovery. Organizations involved in disaster preparedness, response and recovery need to be flexible and reflexive enough to accommodate local needs in their communication and outreach strategies. There are ways to create and maintain a national standard image and

message, while allowing for local differences. It's not only a sign of respect and investment in the community, but also the best use of donor (or tax payer) money and resources. This survey project highlights some of the ways that disaster preparedness outreach can be tailored for interior Alaska villages.

Works Cited

- 1. Citizen Corps (2009). Personal Preparedness in America: Findings from the 2009 Citizen Corps National Survey. Federal Emergency Management Agency.
- 2. IFRC (2014). *About Disasters.* International Federation of Red Cross Red Crescent Societies. Retrieved October 27, 2014, from http://www.ifrc.org/en/what-we-do/disaster-management/about-disasters/IFSP
- 3. NWS (2009). Flood Damages Suffered in the United States During Water Year 2009. Retrieved April 20, 2015 from http://www.nws.noaa.gov/hic/summaries/WY2009.pdf
- 4. Stories in the News Ketchikan, Alaska June Allen. (n.d.). Retrieved October 30, 2014, from http://www.sitnews.net/JuneAllen/Fairbanks/080703 fairbanks flood.ht ml
- 5. USA Today (2009). *Ice jam breaks at Eagle, Alaska*. Retrieved April 20, 2015 from http://usatoday30.usatoday.com/weather/floods/2009-05-07-eagle-alaska-flooding N.htm
- 6. NIH (2015). *Cultural Competency*. National Institutes of Health. Retrieved April 20, 2015 from http://www.nih.gov/clearcommunication/culturalcompetency.htm
- 7. ANHC (2015). *Alaska Native Cultural Competencies*. Alaska Native Heritage Center. Retrieved April 29, 2015 from www.alaskanative.net
- 8. SAMSHA (2009). *A Guide to Build Cultural Awareness: American Indian and Alaska Natives.* Subsistance Abuse and Mental Health Services Administration. Retrieved April 20, 2015 from http://store.samhsa.gov/
- 9. SAMSHA (2014). Tips for Disaster Responders: Cultural Awareness When Working in Indian Country Post Disaster. Subsistance Abuse and Mental Health Services Administration.Retrieved April 20, 2015 from http://store.samhsa.gov/
- 10. FEMA (2015). *Disaster Declarations*. Retrieved April 10, 2015, from https://www.fema.gov/disasters/

- 11. Brabets, T. P., Wang, B., & Meade, R. H. (2000). *Environmental and hydrologic overview of the Yukon River basin, Alaska and Canada*. Anchorage, AK: U.S. Dept. of the Interior, U.S. Geological Survey.
- 12. Alaska State Department of Public Safety (2015). *Employment Opportunities*. Retrieved April 10, 2015, from http://dps.alaska.gov/ast/vpso/employment.aspx
- 13. American Red Cross (2009). *Be Red Cross Ready. Get a Kit. Make a Plan. Be Informed.* American National Red Cross.
- 14. Holton, G. (2009). ASNCA Corporation Boundaries and Alaska Native Languages. Retrieved April 10, 2015.
- 15. U.S. Census Borough (2015). *Alaska QuickFacts*. Retrieved May 1, 2015.
- 16. FEMA (2013). Personal Preparedness in America: Findings from the 2012 FEMA National Survey. Federal Emergency Management Agency.
- 17. FEMA (2009). Personal Preparedness in America: Findings from the 2009 Citizen Corps National Survey. Federal Emergency Management Agency.
- 18. The State of Queensland (2013). *Queensland Community Preparedness Survey*. The State of Queensland (Inspector-General Emergency Management).
- 19. Mercer, J., Dominey Howes, D., Kelman, I., & Lloyd, K. (2007, 12). The potential for combining indigenous and western knowledge in reducing vulnerability to environmental hazards in small island developing states. Environmental Hazards, 7(4), 245-256. doi: 10.1016/j.envhaz.2006.11.001
- 20. UAF (2010). *I Will Survive*. University of Alaska, Fairbanks, Geophysical Institute. Retrieved October 31, 2014, from http://www.aktsunami.com/lessons/912/unit9/atep-912-IWillSurvive.p df
- 21. Howitt, R., Havnen, O., & Veland, S. (2012). *Natural and unnatural disasters: responding with respect for Indigenous rights and knowledges.* Geographical Research, 50(1), 47-59.
- 22. Barnhardt, R. (2005). *Indigenous knowledge systems and Alaska Native ways of knowing*. Anthropology & Education Quarterly, 36(1), 8-23.
- 23. Barnhardt, R., & Kawagley, A. O. (1998). *Culture, Chaos and Complexity:* Catalysts for Change in Indigenous Education.

24. UAF (2008). *The Day That Cries Forever*. University of Alaska, Fairbanks, Geophysical Institute. Retrieved October 31, 2014, from http://www.aktsunami.com/lessons/912/unit2/atep_912_TheDayThatCriesForever.pdf

Appendix 1 - Survey Version 1

Village Preparedness Survey

Questions are based on the American Red Cross's <u>"Get a Kit, Make a Plan, Be Informed"</u> program.

Get a Kit

	Do you	a have the following items? (check all that apply)	
		Water (5 gallons)	
		Food (5 days - nonperishable)	
		Flashlight	
		Battery-operated radio	
		Extra batteries	
		First aid kit	
		Extra medications (5 days)	
		Manual can opener	
		multi-purpose tool or Leatherman	
		Personal hygiene products (toothpaste and toothbrush, soap, ect.)	
		Copies of important documents (in a waterproof/fireproof container)	
		Cell phone and charger	
		Emergency contact information	
		Emergency cash (>\$100)	
		Bedding	
		Change of clothes	
		Towel	
	What other items would you take with you in an evacuation? (you can write more		
	than or	ne item per line)	
	Do you	ı have children?	
		Yes	
		No	
	If yes,	do you have the following for each child, to take in the next 20 minutes?	
		Diapers (if applicable)	
		Baby formula (if applicable)	

	Games and activities
	Comfort items (stuffed animals, blankets, etc)
What	else would you bring for a child? (you can write more than one item per
line)	· · · · · · · · · · · · · · · · · · ·
Do vo	have pets?
	Yes
	No
If yes,	then do you have the following for each pet, available in the next 20
minute	•
	Pet food (5 days)
	Water (5 gallons, extra from yourself)
	Collar
	Leash or restraint
	ID tags
	Pet carrier
What	else would you bring for a pet? (you can write more than one item per line)
People	e in Villages might have different needs than people in Fairbanks or
Ancho	rage. What else would you need or want if you had to leave your home?
Do yo	u have the following? (check all that apply)
	A heating source for two weeks. What kind? (oil, wood, ect.)
	Clean water for two weeks
	Non-perishable food for two weeks for yourself and family (canned food,
_	etc.)
What	else would you need for two weeks at home? (you can write more than one
	er line)

	People in villages might have different needs than people in Anchorage or Fairbanks. What else would you need or want if you had to shelter at home for two weeks?
	Ш
Make	e a Plan
evacu may e	d, wildfire, storm, or earthquake threatens your home and you need to late to the closest community center or school for at least one week. You even need to leave town. What's your plan for where to meet and what to do ur sick, elderly, or special needs family members?
	How many people do you live with?:
	How many people do you live with?:How many people would you be expected to help?:
	How many people in your family would have special needs in an
	evacuation?:
	If you are separated from your family and you can't go home do you have a plan
	for where to meet?
	□ Yes
	□ No
	If yes, then where:
	If no, then what would you do? (You can list more than one item per line):
	Do you have nearby family or friend that you could stay with?
	□ Yes
_	□ No
	If yes, then where:

If no, then what would you do?(You can list more than one item per line):
Do you know where to find you village's evacuation or emergency plan?
□ Yes
□ No
If yes, then where:
If no, then what would you do (You can list more than one item per line):
Does your village have a central meeting place?
□ Yes
□ No
If yes, where would you meet in case of:
□ A flood:
□ A fire:
□ A severe storm:
□ An earthquake:
If no, then what would you do? (You can list more than one item per line):
Have you ever evacuated your village, or practiced an evacuation?
□ Yes
□ No
If yes, where did you go?:
Where would you put a shelter in your village? (You can list more than one item
per line).

	People in villages might need different plans than people in Fairbanks or
_	Anchorage. What other kinds of plans would you need in an evacuation? (You
	can list more than one item per line).
Be li	nformed
	Do you have first aid training, or CPR training?
	□ Yes
	□ No
	If yes, then when, and whom did you get it from:
	If no, then would you like first aid and/or CPR training?
	□ Yes
	□ No
	Do you have disaster preparedness training?
	□ Yes
	□ No
	If yes, then when and whom did you get it from:
	If no, then would you like disaster preparedness training?
	□ Yes
	□ No
	What kinds of disasters can happen in your village? (Check all that apply).
	□ House fire
	□ Wildfire
	□ Earthquake
	□ Floods
	□ Storms
	□ Tsunami
	□ Volcano
	□ Landslide
	What disaster are you most concerned about? (Check all that apply).
	□ House fire
	□ If so,
	why?:
	□ Wildfire
	☐ If so,
	why?

	Earthquake
	□ If so,
	why?:
	Floods
	□ If so,
	why?:
	Storms
	□ If so,
	why?:
	Tsunami
	□ If so,
	why?:
	Volcano
	□ If so,
	why?:
	Landslide
	□ If so,
	why?:
•	you ever experienced a disaster?
	Yes No
☐ If ves	which disasters have you experienced? (Check all that apply).
li yes, □	House fire
_	Wildfire
	Earthquake
	Floods
	Storms
	Tsunami
	Volcano
	Landslide
Did yo	u receive enough help in recovering from the disaster?
	Yes
	No
If no, v	what else did you need? (You can list more than one item per line).
	and the same family has a three start of
	nyone in your family been through a disaster?
	Yes No
☐ If ves	then which disaster did they experience?
II Y CO,	THOSE WITHOUT AISASTEL AIA THEY EXPENDING!

	House fire
	Wildfire
	Earthquake
	Floods
	Storms
	Tsunami
	Volcano
	Landslide
Did the	eir experience make you more likely to be prepared for a disaster?
	Yes
	No
If yes,	then how? (You can write more than one item per line).
	or where, are you most likely to go to for help during a disaster? (You can
write n	nore than one item per line).
	e, or who, are you most likely to go to for more information about what to do
during	a disaster? (You can write more than one item per line).
	lo you think is most vulnerable or in danger during a disaster? (You can
write n	nore than one item per line).
	·
\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	usuld van like offen geenle te konny ("est dies Assesse B. J.C.
	would you like other people to know (including the American Red Cross)
	preparing for disasters in your village? (You can write more than one item
per lin	Ե <i>)</i> .

Appendix 2 - Survey Version 2



Fill out and return to the Red Cross Booth #17 for a free flashlight!! And enter to WIN A Radio or Preparedness kit!!

Village Preparedness Survey - V2

□ multi-purpose tool or Leatherman

Questions are based on the American Red Cross's "Get a Kit, Make a Plan, Be Informed" preparedness education program.

Are you ready for a disaster in your village?? Do you have advice for your neighbors?? Fill out the survey below and help your community prepare!

Demographics

Birthdate:		
Gender:		
Ethnicity:		
Occupation:		
Home town:		
Get a Kit		

	Do you have a the following items stored together as an evacuation kit?				
		Water (5 gallons)			
		Food (5 days - nonperishable)			
		Flashlight			
□ Battery-operated radio					
		Extra batteries			
		First aid kit			
		Extra medications (5 days)			
		Manual can opener			

		Personal hygiene products (toothpaste and toothbrush, soap, ect)
		Copies of important documents (in a waterproof/fireproof container)
		Cell phone and charger
		Emergency contact information
		Emergency cash (>\$100)
		Bedding
		Change of clothes
		Towel
	lf you	had to evacuate from a village, what else would you bring?
_	lf vou	have children, do you have the following for each child in an
_	_	ation kit?
		Diapers (if applicable)
		Baby formula (if applicable)
		Games and activities
		Comfort items (stuffed animals, blankets, etc)
	What	else would you bring?
_	lf vou	have note than do you have the following for each not in an
	_	have pets, then do you have the following for each pet in an ation kit?
		Pet food (5 days) Water (5 gallons, extra from yourself)
		Collar
		Leash or restraint
		ID tags
		Pet carrier
	What	else would you bring?

□ Do you have the following to shelter in place for two weeks?

	□ A backup heating source. What kind? (oil, wood, etc.)
	□ Clean water for
	□ Non-perishable food for yourself and family (canned food, etc.)
	What else would you need for two weeks at home?
<u>Make</u>	<u>e a Plan</u>
	Where would you go if you were separated from your family or friends during a disaster?:
	If you could not go home, where is the closest family or friend that you could stay with? Or would you need to stay at a hotel or emergency shelter?:
	Where can you find your village's emergency plan?:
	Can you self-evacuate in an emergency or disaster? If so, how would you leave? (airplane, snowmachine, 4-wheeler, etc):
<u>Be In</u>	<u>formed</u>
	If you have first aid training, or CPR training, when and where did you get it?
	□ No training.
	Would you like new, or more, first aid and/or CPR training? ☐ Yes

	No
_	have disaster preparedness training, when and what kind of classes u take?
	No training.
Would kind?	you like new, or more, disaster preparedness training, and if so what
	Do not want training.
What I	kinds of disasters can happen in your village?
What o	disasters have you experienced (home fire, flood, wildfire, etc.)?
Did younged?	our life return to "normal" after the disaster? If not, what else did you
	Life is back to normal.
Who d	o you think is most vulnerable in your community in a disaster?

	dvice do you have for your community in a disaster?
What a	
	dvice do you have for agencies or outside organizations helping ommunity in a disaster?
your c	ommunity in a disaster?
your c	ommunity in a disaster?

Appendix 3 - Advice for Responders

Anyone responding to a disaster in Alaska should have a basic understanding of the size and geography of the state, its hazards, its logistical complications, and of some cultural competency. First of all Alaska is a vast, remote, place. At 6630,300 square miles Alaska equals one-fifth the area of the continental United States and is much bigger than Texas (see Figure 12). With a population of slightly less than 740,000 there is only about one resident per square mile. Only three cities have more than 10,000 people: Anchorage (291,826 people), Fairbanks (31,535 people) and Juneau (31,275 people) (U.S. Census Borough, 2015). In comparison, the three

largest cities in Texas all
contain more than 1 million
people. There are only about
10,000 people scattered
living in small communities
scattered along major rivers
and the coastlines. The
survey area covered in this
project is specifically in the



Figure 12: The size of Alaska in comparison to the United States. Source: Google, 2015.

Yukon-Koyukuk Census Area, which resides between the Alaska Range and Brooks Range, and runs west from the Canadian border down the Yukon River Basin into the Yukon-Kuskokwim Delta. The Yukon-Koyukuk area is primarily occupied by Athabascans, and encompasses six different Alaska Native language groups (see

Figure 1). Ecologically, the interior is dry and dominated by spruce forest, while the North Slope and west coast are covered by treeless tundra, and the south is temperate and characterized by spruce and fir.

Logistics

To put its size in perspective, Alaska extends 2,400 miles east to west, and 1,420 miles north to south. Driving from Prudhoe Bay to Anchorage covers a slightly longer distance than driving the I-5 from Canada to Mexico. And there is no road or rail system that connects the east and west edges of the state. In fact there are only four major highways in Alaska, mostly located in the southeast quadrant of the state. If you don't live in a city, town, or village near one of those highways, it's likely you live in the "bush." There are over 200 bush communities – also known as "villages" – together containing more than 10,000 people, without access to the road system. The only way in and out of these villages is by aircraft or boat in the summer, and in some cases by aircraft, snow machine or dog sled in winter.

These geographic and demographic realities make Alaska logistically complicated. Access to help following a major event is almost completely reliant on the ability to transport people and materials by air. Although water routes exist, transporting goods by river may take weeks to months. In the spring, when ice is still on the rivers, water transport is difficult or impossible. Logistically, rural Alaska is like an island nation – each village isolated from the others by hundreds of miles of road-less wilderness. Even communities on the road system, such as Valdez, plan to be isolated from help for several weeks to a month in a major disaster event.

Environment

Alaska also has extreme weather and environmental conditions. Numerous natural hazards exist: earthquakes, tsunamis, flooding, wildfire, landslides, shoreline erosion, severe weather, and human-caused events (chemical, biological, radiological, nuclear, technological). Because most villages in interior Alaska are located along large braded rivers, the most common hazards are flooding. Also common are wildfires, and severe weather.

The flooding regime along rivers in the interior – such as the Yukon, Tanana, and Koyukuk Rivers – involves short and long-term cycles of seasonal flooding.

There are predictable annual high flows through the Yukon River Basin during summer months, with ice-jam flooding along the main channels of the Yukon River in the springtime (Barbets, 2000). But despite being roughly predictable in its seasonal timing, the magnitude of river flooding is highly unpredictable.

Consequently, river flooding has displaced entire communities.

There have been many disastrous floods in interior Alaska. In 1967 the city of Fairbanks flooded, displacing 7000 people, and resulting in the creation of the Chena River Floodgates project (Stories in the News, 2014). The 1994 flooding of the Koyukuk River Basin resulted in the relocation of Allakaket and Alatna villages. In May 2009 a major ice-jam flood hit Eagle, an interior Alaskan village about 200 miles east of Fairbanks on the Canadian border. Huge chunks of ice crushed public buildings and knocked homes off their foundations, leaving more than 30 people homeless and making it the worst flood in the community's history.

It took days for relief teams to arrive due to bad weather (USA Today, 2009). The flooding began on May 4th, but people outside of the city limits did not receive aid until May 7th. City officials requested water, food, life jackets, stoves, propane, sleeping bags, and hand sanitizer, but received over 10,500 pounds of supplies, the majority of which were private donations and which overwhelmed the local airline service. Overall, the 2009 Alaska floods – which affected the entire Yukon River Basin – caused \$29 million in damages to buildings and infrastructure (NWS, 2009).

There have been 56 federally declared disasters in Alaska since 1950, averaging nearly one disaster per year (for a complete list of federally declared disasters in Alaska since 1954 see Appendix 8), which is about average for the country (FEMA, 2015). However Alaska has the lowest annual average temperature in the United States, and most federally declared disasters occur during winter months. In the winter, temperatures often dip down into the negative forties (-40 degrees Fahrenheit), and cold temperatures can last into late April during the breakup season.

Communications

Communications are another big difference between Alaska and the rest of the country. Emergency management programs now rely heavily on communicating to the public through social media and the internet, with emphasis on smart phones and special "apps" (the Red Cross has developed almost a dozen new apps to assist people in disasters). Although internet and cell service with data access is becoming more common, neither technology is guaranteed in the "bush." Often only a few

public buildings have Internet service, such as the fire station, tribal hall, or community center.

In the village of Tanana, on the confluence of the Tanana and Yukon Rivers, residents regularly experience interruptions in Internet service that can last for days or weeks. Rather than Internet, radio is the common method for communicating news and information. Low-power community television channels are another form of public communication. Cable TV is generally not available. These conditions make is especially important that communities be prepared and self sufficient, and that organizations providing relief are familiar with local conditions and can provide help and information quickly. For a list of radio stations in Alaska, see Appendix 4. For a list of local LPTV stations, see Appendix 5.

Cultural Competencies

Cultural competency is a concept originally generated in the health care industry. It's defined as the body of knowledge of a culture that allows a provider of services (whether health, disaster, or other social services) to be respectful of and responsive to the cultural beliefs, practices and needs of the community they serve (NIH, 2015). The idea of cultural competency has been adopted by the U.S. government is now common throughout almost every organization that works cross-culturally with diverse communities.

For instance, the Alaska Native Heritage Center developed a series of cultural competencies for the five major Alaska Native groups, including Athabascan communities (ANHC, 2015). Those competencies include knowing the name and location of the 11 Athabascan groups, describing the traditional social organization

of Athabascans, describing the importance of ceremonies in Athabascan culture, and understanding the changes that Athabascans have gone through since contact with westerners. If there is time before deployment to a disaster scene, responders are strongly encouraged to study the culture and history disaster area if it involves an Alaska Native community. There are many resources available, but this author recommends http://www.alaskanative.net/ as a good place to start.

In addition, the Substance Abuse and Mental Health Services Administration (SAMSHA) built an outreach brochure for disaster responders working in tribal areas, called "A Guide to Build Cultural Awareness: American Indian and Alaska Natives," (SAMSHA, 2009). In the brochure SAMSHA lists a series of myths and facts about American Indian and Alaska Native cultures, a description of tribal sovereignty laws and how tribal governments operate, inter-tribal cultural and regional differences, cultural customs, spirituality, communication styles, historical distrust between the U.S. government and tribal nations, cultural identity, and other important information.

Especially important is the "Self-Awareness and Etiquette" section. In this section, SAMSHA includes a list of etiquette do's and don'ts for responders to consider. Some of the "do's" include learning how the community refers to itself (tribal name, etc.), being honest about your role in the community, listening and observing more than speaking, being comfortable with long silences and pauses in conversation, and being open about self-disclosure and small talk.

Some of the etiquette "don'ts" includes avoiding the projection of stereotypes, avoiding intrusive questions early in conversation, interruption of the

other speaker during pauses in conversation, and being careful not to inject stories about personal distant American Indian/Alaska Native relatives unless there is a current relationship with that community. The brochure also recommends responders avoid looking at their watches and rushing conversation, as well as taking pictures or video without permission.

SAMSHA also provides a document called "Tips for Disaster Responders: Cultural Awareness When Working in Indian Country Post Disaster," (SAMSHA, 2014), that outlines ways that the recovery of American Indian/Alaska Native communities may be different from other communities in the United States. In the document, SAMHA advises that, "Some tribes do not have a word for "disaster," and refer to disasters differently than non-native cultures do. Some may feel that saying the word "disaster" may bring harm to their community. It is important to pay attention to how members... refer to disasters and other traumatic events and sue the same words and phrases they use." In other words, the jargon and concepts that responders use to talk to each other about disasters do not always translate to the community.

SAMSHA also advises that a responder's credibility in an American Indian/Alaska Native community depends more on personality and the ability to develop relationships than on professional qualifications. The above recommendations are even more reasons to prioritize observation and listening skills when responding to an unfamiliar community. While there is far more information available then can be listed here, this section can act as a brief introduction to Interior Alaska.

Appendix 4 – List of Alaska Radio Stations

Call Sign Frequency City of Licensee Formet					
	rrequency	License	Licensee	Format	
KAFC	93.7 FM	Anchorage	Christian Broadcasting, Inc.	Contemporary Christian	
KAKL	88.5 FM	Anchorage	Educational Media Foundation	Contemporary Christian	
KASH-FM	107.5 FM	Anchorage	Capstar TX LLC	Country	
KATB	89.3 FM	Anchorage	Christian Broadcasting, Inc.	Religious	
KAUG	89.9 FM	Anchorage	Anchorage School District	Variety	
KBFX	100.5 FM	Anchorage	Capstar TX LLC	Classic Rock	
KBRJ	104.1 FM	Anchorage	MCC Radio, LLC	Country	
KBYR	700 AM	Anchorage	OMG FCC Licenses LLC	News Talk Information	
KEAG	97.3 FM	Anchorage	MCC Radio, LLC	Classic Hits	
KENI	650 AM	Anchorage	Capstar TX LLC	News Talk Information	
KFAT	92.9 FM	Anchorage	OMG FCC Licenses LLC	Rhythmic Top 40	
KFQD	750 AM	Anchorage	MCC Radio, LLC	News Talk Information	
KGOT	101.3 FM	Anchorage	Capstar TX LLC	Pop Contemporary Hit Radio	
KHAR	590 AM	Anchorage	MCC Radio, LLC	Sports	
KLEF	98.1 FM	Anchorage	Chinook Concert Broadcasters	Classical	
KMVN	105.7 FM	Anchorage	Alaska Integrated Media, Inc.	Rhythmic AC	
KMXS	103.1 FM	Anchorage	MCC Radio, LLC	Hot Adult Contemporary	
KNBA	90.3 FM	Anchorage	Koahnic Broadcast Corporation	Album Adult Alternative	
KOAN	1080 AM	Anchorage	Falcon Broadcasting LLC	Talk	
KONR-LP	104.9 FM	Anchorage	Organization for Northern Development d/b/a Out North		
KRUA	88.1 FM	Anchorage	University Of Alaska - Board Of Regents	Alternative	
KSKA	91.1 FM	Anchorage	Alaska Public Telecom., Inc.	News Talk Information	
КТМВ	102.1 FM	Anchorage	OMG FCC Licenses LLC	Adult Album Alternative	
KTZN	550 AM	Anchorage	Capstar TX LLC	Sports	
KWHL	106.5 FM	Anchorage	MCC Radio, LLC	Active Rock	
KYMG	98.9 FM	Anchorage	Capstar TX LLC	Adult Contemporar	
KMGS	89.5 FM	Anvik	Kuskokwim PUblic Broadcasting Corporation		
KBRW	680 AM	Barrow	Silakkuagvik Communications, Inc.	Variety	

KBRW-FM	91.9 FM	Barrow	Silakkuagvik Communications, Inc.	Public Radio
KEDI	98.3 FM	Bethel	Strait Media LLC	Full Service
KJNR	91.9 FM	Bethel	New Life Tabernacle Homer AK	
KYKD	100.1 FM	Bethel	Voice for Christ Ministries, Inc.	Religious
KYUK	640 AM	Bethel	Bethel Broadcasting, Inc.	Public Radio
KYUK-FM	90.3 FM	Bethel	Bethel Broadcasting, Inc.	
KAGV	1110 AM	Big Lake	Voice for Christ Ministries, Inc.	Religious
KBUQ	91.9 FM	Buckland	Kotzebue Broadcasting, Inc.	
KCUK	88.1 FM	Chevak	Kashunamiut School District	Educational
KTDZ	103.9 FM	College	Last Frontier Mediactive, LLC	Adult Hits
KCDV	100.9 FM	Cordova	Bayview Communications, Inc.	Adult Contemporary
KLAM	1450 AM	Cordova	Bayview Communications, Inc.	Country
KDRG	91.9 FM	Deering	Kotzebue Broadcasting, Inc.	
KDHS-LP	95.5 FM	Delta Junction	Delta/Greely School District	Variety
NP NO DI	2010 111	borta janotion	Delta Junction Seventh-Day	, arrocy
KIAO	90.3 FM	Delta Junction	Adventist Church	
KDLG	670 AM	Dillingham	Dillingham City Schools	Variety
KDLG-FM	89.9 FM	Dillingham	Dillingham City School District	, an rooy
KRUP	99.1 FM	Dillingham	McCormick Broadcasting	Talk
KEAA-LP	97.9 FM	Eagle	Eagle Community School	High School
KUNT	1020 AM	Eagle River	Alaska Integrated Media, Inc.	News/Talk
KDJF	93.5 FM	Ester	Tanana Valley Television Company	Country
KAKQ-FM	93.3 FM 101.1 FM	Fairbanks	1	Adult
KAKQ-FM KCBF	820 AM	Fairbanks	Capstar TX LLC Last Frontier Mediactive, LLC	Contemporar Sports
KCDF	620 AW	ralibaliks	<	Sports
KDFJ-LP	105.9 FM	Fairbanks	Hope Chapel, Inc., d/b/a Calvary Chapel North Star	Religious
KFAR	660 AM	Fairbanks	Last Frontier Mediactive, LLC	News Talk Information
			1	News Talk
KFBX	970 AM	Fairbanks	Capstar TX LLC	Information
KIAK-FM	102.5 FM	Fairbanks	Capstar TX LLC	Country
KKED	104.7 FM	Fairbanks	Capstar TX LLC	Active Rock
KQHE	92.7 FM	Fairbanks	Little Flower Ministries	
KRFF	89.1 FM	Fairbanks	Athabascan Fiddlers Association, Inc.	
			University Of Alaska, on Behalf of U	
KSUA	91.5 FM	Fairbanks	Of AK, Fairbanks	Educational
KUAC	89.9 FM	Fairbanks	University of Alaska	Educational
KWDD	94.3 FM	Fairbanks	Last Frontier Mediactive, LLC	Educational
KWLF	98.1 FM	Fairbanks	Last Frontier Mediactive, LLC	Pop Contemporar Hit Radio
KXLR	95.9 FM	Fairbanks	Last Frontier Mediactive, LLC	Active Rock
KYSC	96.9 FM	Fairbanks	Tanana Valley Radio, LLC	Classic Rock
KZVV	88.3 FM	Fairbanks	Educational Media Foundation	Glassic Rock
KZVV	900 AM	Fort Yukon	Gwandak Public Broadcasting, Inc.	Varioty
KZPA KIYU	900 AM 910 AM	Galena	Big River Public Broadcasting Corp.	Variety Variety

KIYU-FM	97.1 FM	Galena	Big River Public Broadcasting Corporation	
KXES-LP	92.9 FM	Galena	Yukon Wireless, Inc.	Variety
KEUL	88.9 FM	Girdwood	Girdwood Community Club Inc	Variety
KCAM	790 AM	Glennallen	Alaska Bible College	Religious
KCAM-FM	88.7 FM	Glennallen	Alaska Bible College	
KXGA	90.5 FM	Glennallen	Terminal Radio, Inc.	Public Radio
KGYA	90.5 FM	Grayling	Kuskokwim Public Broadcasting Corporation	
KHNS	102.3 FM	Haines	Lynn Canal Broadcasting	Variety
KLOP	91.5 FM	Holy Cross	Kuskokwim Public Broadcasting Corporation	
KBBI	890 AM	Homer	Kachemak Bay Broadcasting Inc	Public Radio
KGTL	620 AM	Homer		Adult Standards/MC R
			Peninsula Communications, Inc.	
KMJG KWVV-FM	88.9 FM 103.5 FM	Homer Homer	Kasilof Public Broadcasting, Inc. Peninsula Communications, Inc.	Oldies Adult Album Alternative
KHOO	90.7 FM	Hoonah	Hoonah City School District	Alternative
KBBO-FM	90.7 FM 92.1 FM	Houston	OMG FCC Licenses LLC	Adult Hits
KDDU-FIM	92.1 FM	Houston		Adult Hits
КЈНА	88.7 FM	Houston	Evangelistic Alaska Missionary Fellowship, Inc.	Gospel
KXLW	96.3 FM	Houston	OMG FCC Licenses LLC	Country/Class c Rock
KZND-FM	94.7 FM	Houston	Alaska Integrated Media, Inc.	Active Rock
KHUS	98.1 FM	Huslia	Big River Public Broadcasting Corporation	
KAKI	88.1 FM	Juneau	Educational Media Foundation	
KBJZ-LP	94.1 FM	Juneau	Gastineau Broadcasting Corporation	Jazz
KINY	800 AM	Juneau	Juneau Alaska Communications, LLC	Full Service
			Alaska Broadcast Communications,	News/Talk,
KJNO	630 AM	Juneau	Inc.	Sports
KLSF	89.7 FM	Juneau	Educational Media Foundation	
KNGW	88.9 FM	Juneau	Life on the Way Communications, Inc.	
KQQJ	90.7 FM	Juneau	Juneau Seventh-Day Adventist Church	
KRNN	102.7 FM	Juneau	Capital Community Broadcasting, Inc.	Variety
			Juneau Alaska Communications,	Hot Adult
KSUP	106.3 FM	Juneau	LLC	Contemporary
KTKU	105.1 FM	Juneau	Alaska Broadcast Communications, Inc.	Country
КТОО	104.3 FM	Juneau	Capital Community Broadcasting, Inc.	Public Radio
KVIM-LP	92.7 FM	Juneau	Calvary Fellowship, Inc.	Religious

KXLL	100.7 FM	[uneau	Capital Community Broadcasting, Inc.	Adult Album Alternative/Mo dern Rock Hybrid
KXXJ	1330 AM	Juneau	Juneau Alaska Communications, LLC	Oldies/Classic Rock
KALG	98.1 FM	Kaltag	Big River Public Broadcasting Corporation	
KABN-FM	89.5 FM	Kasilof	Alaska Educational Radio System, Inc.	College
KFSE	106.9 FM	Kasilof	KSRM, Inc.	Active Rock
KWJG	91.5 FM	Kasilof	Kasilof Public B/G Inc	Oldies
KDLL	91.9 FM	Kenai	Pickle Hill Public Broadcasting, Inc.	Public Radio
KOGJ	88.1 FM	Kenai	Calvary Chapel of Twin Falls, Inc.	/
KWHQ-FM	100.1 FM	Kenai	KSRM, Inc.	Country
KFMJ	99.9 FM	Ketchikan	TLP Communications, Inc.	Oldies/Classic Rock
KGTW	106.7 FM	Ketchikan	Alaska Broadcast Communications, Inc.	Country
KRBD	105.3 FM	Ketchikan	Rainbird Community Broadcasting Corp.	Public Radio
KTKN	930 AM	Ketchikan	Alaska Broadcast Communications, Inc.	Full Service
KIAN	91.9 FM	Kiana	Kotzebue Broadcasting, Inc.	
KQVK	91.9 FM	Kivalina	Kotzebue Broadcasting, Inc.	
KBKO	88.3 FM	Kodiak	Sacred Heart Radio, Inc.	
KMXT	100.1 FM	Kodiak	Kodiak Public Broadcasting Corp.	Public Radio
KODK	90.7 FM	Kodiak	Kodiak Public Broadcasting Corporation	
KRXX	101.1 FM	Kodiak	Kodiak Island Broadcasting Company, Inc.	Pop Contemporary Hit Radio
KVOK	560 AM	Kodiak	Kodiak Island Broadcasting Company, Inc.	Country
KINU	89.9 FM	Kotzebue	Kotzebue Broadcasting Inc.	
KOTZ	720 AM	Kotzebue	Kotzebue Broadcasting, Inc.	Variety
KOYU	98.1 FM	Koyukuk	Big River Public Broadcasting Corporation	
KXKM	89.7 FM	Mccarthy	Terminal Radio, Inc.	Album Oriented Rock
KOGB	91.3 FM	McGrath	Blessed Hope Baptist Mission	
KSKO	870 AM	McGrath	Kuskokwim Public Broadcasting Corp.	Variety
IZVIZ A	1040 EM	Mondoy: Laber	Educational Media Farmadation	Contemporary
KYKA	104.9 FM	Meadow Lakes	Educational Media Foundation	Christian
KYMR-FM KAKN	88.9 FM 100.9 FM	Metlakatla Naknek	Annette Islands School District Bay Broadcasting Company	Contemporary Christian/Sout hern Gospel
KIAM	630 AM	Nenana	Voice of Christ Ministries, Inc.	Religious

KXBA	93.3 FM	Nikiski	Peninsula Communications, Inc.	Oldies
KUUK	91.9 FM	Noatak	Kotzebue Broadcasting, Inc.	
KICY	850 AM	Nome	Arctic Broadcasting Association	Southern Gospel
		9000		Contemporary
KICY-FM	100.3 FM	Nome	Arctic Broadcasting Association	Christian
KNOM	780 AM	Nome	KNOM Radio Mission, Inc.	Full Service
KNOM-FM	96.1 FM	Nome	KNOM Radio Mission, Inc.	Full Service
KQQN	89.3 FM	Nome	Nome Seventh-Day Adventist Church	
KORI	91.9 FM	Noorvik	Kotzebue Broadcasting, Inc.	
KIAM-FM	91.9 FM	North Nenana	Voice for Christ Ministries, Inc	Religious
KJNP	1170 AM	North Pole	Evangelistic Alaska Missionary Fellowship, Inc.	Religious
			Evangelistic Alaska Missionary	
KJNP-FM	100.3 FM	North Pole	Fellowship, Inc.	Religious
KNUL	99.1 FM	Nulato	Big River Public Broadcasting Corporation	
KJLP	88.9 FM	Palmer	Christian Broadcasting, Inc.	Religious
KFSK	100.9 FM	Petersburg	Narrows Broadcasting Corp.	Public Radio
KZNR	91.1 FM	Red Dog Mine	Kotzebue Broadcasting, Inc.	
KZNC	91.9 FM	Red Dog Mine Port	Kotzebue Broadcasting, Inc.	
KRBY	98.1 FM	Ruby	Big River Public Broadcasting Corporation	
KSDP	830 AM	Sand Point	Aleutian Peninsula Broadcasting, Inc	Public Radio/Full Service
KIEA	91.9 FM	Selawik	Kotzebue Broadcasting, Inc.	
KIBH-FM	91.7 FM	Seward	Kenai Educational Media, Inc.	
INDII I II	72.7 11.1	Jowana	i i i i i i i i i i i i i i i i i i i	Adult
KSEW	950 AM	Seward	Seward Media Partners, LLC	Contemporary
KSVJ	90.7 FM	Seward	Blessed Hope Baptist Mission	
KNKO	88.5 FM	Shageluk	Kuskokwim Public Broadcasting Corporation	
KCAW	104.7 FM	Sitka	Raven Radio Foundation, Inc.	Public Radio
KIFW	1230 AM	Sitka	Alaska Broadcast Communications, Inc.	Full Service
KQQS	89.3 FM	Sitka	nit. Sitka Seventh-Day Adventist Church	T all Service
KSBZ	103.1 FM	Sitka	Alaska Broadcast Communications, Inc.	Classic Rock
	0.0			Hot Adult
KKIS-FM	96.5 FM	Soldotna	KSRM, Inc.	Contemporary
KPEN-FM	101.7 FM	Soldotna	Peninsula Communications, Inc.	Country
KSLD	1140 AM	Soldotna	KSRM, Inc.	Classic Rock
KSRM	920 AM	Soldotna	KSRM, Inc.	News Talk Information
KUHB-FM	91.9 FM	St. Paul	Pribilof School District Board of Education	Public Radio

KKNI-FM	105.3 FM	Sterling	Kenai Broadcasting LLC	Classic Rock
KVRF	89.5 FM	Sutton	Radio Free Palmer, Inc.)
KTNA	88.9 FM	Talkeetna	Talkeetna Community Radio Inc.	Educational
KUDU	91.9 FM	Tok	Lifetalk Radio, Inc.	Religious
KNSA	930 AM	Unalakleet	Unalakleet Broadcasting, Inc.	Variety
KUCB	89.7 FM	Unalaska	Unalaska Community Broadcasting	Public Radio
KCHU	770 AM	Valdez	Terminal Radio, Inc.	Variety
KVAK	1230 AM	Valdez	North Wave Communications, Inc.	Country
KVAK-FM	93.3 FM	Valdez	North Wave Communications, Inc.	Adult Contemporary /Classic Rock
KAYO	100.9 FM	Wasilla	MCC Radio, LLC	Classic Country
KMBQ-FM KKNI	99.7 FM 1430 AM	Wasilla Wasilla, Alaska	OMG FCC Licenses LLC Kenai Broadcasting LLC	Adult Contemporary
KSTK	101.7 FM	Wrangell	Wrangell Radio Group	Public Radio
KWRG-LP	99.9 FM	Wrangell	Wrangell Adventist Broadcasting Corp.	Religious
KYKT	91.9 FM	Yakutat	Yakutat Tlingit Tribe	i I

Table 6: Radio Stations in Alaska. Source: www.fcc.gov.

Appendix 5 – List of LPTV Stations in Alaska

1	LPTV Station		
Service Area	City of license	Channel	Call Sign
Akhiok	Akhiok	9	K09UD
Akutan	Akutan	9	K09RH
Alakanuk	Alakanuk	8	K08KD
Allakaket	Allakaket, etc.	9	K09QL
Ambler	Ambler	11	K11QI
Anaktuvuk Pass	Anaktuvuk Pass	9	K09RS
Anchorage	Anchorage	6	KNIK-LP
Anchorage	Whittier	9	K09UB
Anchorage	Bethel	15 (RF channel 15)	KYUK-LD
Anchorage	Anchorage	18	KYEX-LP
Anchorage	Trapper Creek	24	K24AG
Anchorage	Anchorage	35 (RF channel 35)	KCFT-CD
Anchorage	Anchorage	38	KACN-LP
Anchorage	Anchorage	41 (RF channel 41)	KLDY-LD
Anchorage	Anchorage	45 (RF channel 45)	K45HQ-D
Angoon	Angoon	9	K09QF
Anvik	Anvik	7	K07RE
Arctic Village	Arctic Village	9	K09RV
Atmautluak	Atmautluak	12	K12NP
Atqasuk	Atqasuk	9	K09TZ
Barrow	Barrow	4	K04KS
Beaver	Beaver	9	K09QQ
Bethel	Bethel	21	K21A0
Bettles	Bettles	9	К09ТЕ
Cantwell	Cantwell	9	K09SI
Cape Pole	Cape Pole	13	K13SD
Chalkyitsik	Chalkyitsik	9	K09QG
Chenega	Chenega	13	K13VV
Chevak	Chevak	2	K02KX
Chickaloon	Chickaloon	10	K10MT
Chignik	Chignik	7	K07RY
Chignik Lagoon	Chignik Lagoon	9	K09SO
Chistochina	Chistochina	7	K07QZ
Chitina	Chitina	13	K13SB
Chuathbaluk	Chuathbaluk	6	K06LG
Circle	Circle	13	K13SI
Circle Hot Springs	Circle Hot Springs	3	K03GO
Circle Hot Springs	Circle Hot Springs	6	K06LP
Cooper Landing	Cooper Landing	8	КОВКО
Copper Center	Copper Center	12	K12MO
Cordova	Cordova	15	K15AK
Crooked Creek	Crooked Creek	7	K07RZ

Delta Junction	Delta Junction	17	K17AF
Dillingham	Dillingham	5	K05KF
Dillingham	Dillingham	10	K10LD
Diomede	Diomede	13	K13UX
Dot Lake	Dot Lake	13	K13RM
Eagle Village	Eagle Village	9	K09RF
Eek	Eek	11	K11SD
Ekwok	Ekwok	11	K11QW
Fairbanks	Delta Junction	10	K100B
Fairbanks	Fairbanks	13 (RF channel 13)	K100B K13XD-D
Fairbanks	Fairbanks	22 (RF channel 22)	K22EY-D
Fairbanks	Fairbanks	32	KDMD-LP
False Pass	False Pass	9	K09RP
Fort Yukon	Fort Yukon	7	K07RC
Gakona	Gakona	11	K11RG
Galena	Galena	4	K04LZ
Gambell	Gambell	9	K09QR
Glennallen & Copper	Glennallen & Copper	13	K13UB
Golovin	Golovin	7	K07QX
Gustavus	Gustavus	2	K02LW
	Haines	7	
Haines			K07RF
Halibut Cove	Halibut Cove	12	K12NW
Hollis	Hollis	8	K08KP
Holy Cross	Holy Cross	7	K07RJ
Hoonah	Hoonah	7	K07QV
Hughes	Hughes	9	K09RY
Huslia	Huslia	9	K09QD
Hydaburg	Hydaburg	9	K09QI
Igiugig	Igiugig	9	K09SP
Ivanof Bay	Ivanof Bay	9	K09SN
Juneau	Juneau	15	KCBJ-LP
Juneau	Juneau	26 (RF channel 26)	K26LI-D
Kake	Kake	9	K09QP
Kaktovik	Kaktovik	9	K09QY
	,	9	
Kalskag	Kalskag	9	K09TR
Kaltag	Kaltag	,	K09TX
Karluk	Karluk	9	K09QK
Kasigluk	Kasigluk	9	K09UE
Kenai Peninsula	Kenai, etc.	6	K06MF
Kenai Peninsula	Girdwood	10	K10MB
King Salmon	King Salmon	4	K04KN
Kivalina	Kivalina	9	K09QZ
Klukwan	Klukwan	4	K04KQ
Kobuk	Kobuk	2	K02KZ
Kodiak	Kodiak	11	KUBD-LP
Kodiak	Kodiak	17	K17GQ
		7	
Koliganek	Koliganek	· · · · · · · · · · · · · · · · · · ·	K07QW

			Troop G
Kongiganak	Kongiganak	9	K09RG
Kotlik	Kotlik	9	K09SL
Kotzebue	Kotzebue	13	K13UE
Kwigillingok	Kwigillingok	13	K13UK
Larsen Bay	Larsen Bay	9	K09QE
Levelock	Levelock	7	K07TT
Manokotak	Manokotak	9	K09TQ
McKinley Park, Alaska	McKinley Park	3	K03GK
Mentasta Lake	Mentasta Lake	9	K09QJ
		9	
Meyers Chuck	Meyers Chuck		K09TI
Minto	Minto	13	K13TK
Moose Pass	Moose Pass	15	K15AP
Mosquito Lake	Mosquito Lake	13	K13UM
Mountain Village	Mountain Village	13	K13TJ
Nelson Lagoon	Nelson Lagoon	9	K09QM
Nikolai	Nikolai	4	K04MB
Nome	Nome	11	K11TH
Northway	Northway	4	K04KP
Nuiqsut	Nuiqsut	9	K09RT
Ouzinkie	Ouzinkie	7	K07QY
		11	· ;
Paxson	Paxson		K11QV
Pedro Bay	Pedro Bay	13	K13SV
Petersburg	Petersburg	21	K21CK
Pilot Station	Pilot Station	15	K15AU
Point Hope	Point Hope	9	K09QN
Port Graham	Port Graham	13	K13SC
Port Moller	Port Moller	7	K07SO
Rampart	Rampart	9	K09RD
Red Devil	Red Devil	2	K02LA
Ruby	Ruby	4	K04KU
Savoonga	Savoonga	7	K07RD
Shaktoolik	Shaktoolik	7	K07QU
Sheep Mountain	Sheep Mountain	12	K12N0
h		9	
Shishmaref	Shishmaref	5	K09RZ
Sitka	Sitka		KSCT-LP
Skagway	Skagway	11	K11QE
Slana	Slana	4	K04KX
Slana	Slana	13	K13SM
St. George	St. George	9	K09RE
St. Michael	St. Michael	9	K09QX
St. Paul	St. Paul	9	K09RB
Stony River	Stony River	13	K13SE
Takotna	Takotna	4	K04LN
Tanana	Tanana	7	K07RB
Tanunak	Tanunak	9	K09SW
Teller	Teller	9	K09RO
Tetlin	Tetlin	7	K07SP
redin	reum		KU/3P

Tok	Tok	13	K13RR
Toksook Bay	Toksook Bay	11	K11QG
Tuluksak	Tuluksak	8	K08ID
Unalakleet	Unalakleet	9	K09RC
Unalaska	Unalaska	4	K04KV
Valdez	Valdez	15	K15AI
Venetie	Venetie	9	K09TW
Whale Pass	Whale Pass	7	K07SI
Womens Bay	Womens Bay, Alaska	2	K02ME
Yakutat	Yakutat	9	K09UA

Table 7: LPTV Stations in Alaska. Source: Wikipedia

Appendix 6 – List of Alaska Native Corporations

	Comp	olete List of Al	aska Native Corp	orations	
Ahtna, Incorporated		Bering Stra	Bristol Bay N aits Native Corp. Corporatio		
Community Name	Corporation Name	Community Name	Corporation Name	Community Name	Corporation Name
Cantwell	Yedetena Na Corp	Brevig Mission	Brevig Mission Native Corp	Aleknagik	Aleknagik Natives Limited
Chistochina	Ahtna (Yedetena Na Corp)	Council	Council Native Corp	Chignik	Chignik Lagoor Native Corp
Chitina	Chitina Native Corp	Elim Reserve	Elim Native Corp	Chignik Lagoon	Chigik River Limited
Copper Center	Ahtna (Kluti- Kaa Corp)	King Island	King Island Native Corp	Chignik Lake	Far West Inc
Gakona Little Lake Louise	Ahtna (Gakona Corp) Little Lake Louise Inc.	Koyuk Mary's Igloo	Koyuk Native Corp Mary's Igloo Native Corp	Clarks Point Dillingham	Saguyak Inc. Choggiung Limited
Lower Tonsina	Lower Tonsina Inc	Nome	Sitnasuak Native Corp	Egegik	Becharof Corp
Mentasta Lake	Ahtna (Mentasta Inc.)	Shaktoolik	Shaktoolik Native Corp	Ekuk	Ekuk Native Limited
Nebesna	Nebesna Native Group Inc.	Shishmaref	Shishmaref Natrive Corp	Ekwok	Ekwok Natives Limited
Slana	Slana Native Corp	Solomon	Solomon Native Corp	Igiugig	Igiugig Native Corp
Tazlina	Talzina Inc.	St. Lawrence	Elim Native Corp	Iliamna	Iliamna Native Corp
Twin Lake	Twin Lake Native Group Inc.	St. Michaels	St. Michael native Corp	Ivanoff Bay	Bay View Inc.
Aleut Co	orporation	Stebbins	Stebbins Native Corp	Kokhanok	Kokhanok Native Corp
Community Name	Corporation Name	Teller	Teller Native Corp	Koliganek	Koliganek Natives Limited
Akutan	Akutan Corp.	Unalakleet	Unalakleet Native Corp	Levelock	Levelock Natives Limited
Atka	Atxam Corp.	Wales	Wales Native Corp	Manokotak	Manokotak Natives Limited
Belkofski	Belkofski Corp	White Mountain	White Mountain Native Corp	Naknek	Paug-Vik Inc. Limited

False Pass	Isanotski Corp	Calista Co	orporation	New Halen	New Halen Native Corp
King Cove	King Cove Corp	Community Name	Corporation Name	New Stuyahok	Stuyahok Limited
Nelson lagon	Nelson Lagoon Corp	Akiachak	Akiachak Limited	Nondalton	Nondalton Native Corp
Nikolski	Chaluka Corp	Akiak	Kokarmiut Corp.	Olsonville	Olsonville Inc.
Pauloff	Canaly Cana	Alalaanula	Alakanyk Cam	De due Dess	Doduo Day Com
Harbor	Sanak Corp	Alakanuk	Alakanuk Corp.	Pedro Bay	Pedro Bay Cor
Sand Point	Shumagin Corp	Andereafsky	Nerklikmute Native Corp	Perryville	Oceanside Cor
	Tanadgusik		Kuskokwim Corp. (FF-		Pilot Point
St, Paul	Corp	Aniak	014813)	Pilot Point	Native Corp
C. C	St. George	A	Atmauthluak	Port	m
St. George	Tanadax Corp	Atmautluak	Limited	Alsworth	Tanalian Inc
Haalaaka	Ounalashka	Potho!	Bethel Native	Port Holden	Mochile Inc
Unalaska	Corp	Bethel	Corp	Port Heiden	Meshik Inc.
Unga	Unga Corp	Bill Moores Slough	Kongnikilnomui t Yuita Corp	Portage Creek	Ohgsenskale Corp
onga	oliga coi p	Chefornakes	Chefarnrmute	GIEEK	COLD
Arctic Slope	Regional Corp.	Slough	Inc.	Savonski	Savonski Corp
Community Name	Corporation Name	Chevak	Chevak Co	South Naknek	Qinuyang Limited
Anaktuvuk Pass	Nunamiut Corp	Chuloonawik	Chuloonawick Corp	Togiak	Togiak Natives Limited
Atkasook	Atkasook Corp.	Crooked Creek	Kuskokwin Corp. (FF- 014990)	Twin Hills	Twin Hills Native Corp
Barrow	Ukpeagivik Inupiat Corp	Eek	Iqfijouq Co	Ugashik	Ugashik Native Corp
Kaktovik	Kaktovik Inupiat Corp	Emmonak	Emmonak Corp	Doyo	n, Limited
Nooiksut	Kuugpik Corp., Inc.	Georgetown	Kuskokwim Corp (FF- 014860)	Community Name	Corporation Name
Point Hope	Tigara Corp	Gold Creek/Susitna	Gold Creek/Susitna Native Assoc.	Alatna	K'oyitl'ots'na Limited
Point Lay	Cully Corp., Inc	Goodnews Bay	Kiutsarak Inc.	Allakaket	K'oyitl'ots'na Limited
Wainwright	Olgoonik Corp., Inc.	Hamilton	Nunapiglluraq Corp	Anvik	Ingalik Inc.
	301 51, 1110.	Haycock	Haycock Native Group Corp	Beaver	Beaver Kwit'Chin Corp
	ch Alaska oration	Hooper Bay	Sea Lion Corp	Birch Creek	Tihteet'aii Inc.

Community Name	Corporation Name	Kalskag	Kuskokwim Corp (FF- 014817)	Birch Creek/Kanti shna	Neechootaalich aagat Corp
Chenega	Chenega Corp	Kasigluk	Kasigluk Inc	Canyon Village	Kian Tr'ee Corp
English Bay	English Bay Corp	Kipnuk	Kugkaktilk Limited	Chalkyitsik	Chalkyitsik Native Corp
Eyak Bay	Eyak Corp	Kongiganek	Qemirtalek Coast Corp	Chicken	Forty-Mile Inc.
Gulkana	Ahtna (Sta- Keh Corp)	Kotlik	Kotlik Yupik Corp	Circle	Danzhit Hanlaii Corp
Icy Bay	Chugach Natives Inc	Kwethluk	Kwethluk Inc	Deacons Landing	Deacons Landing Inc
Port Graham	Port Graham Corp	Kwigillingok	Kwik Inc	Dot Lake	Dot Lake Native Corp
Tatitlek	Tatitlek Corp	Lime Village	Lime Village Co	Eagle	Hungwitchin Corp
Cook In	llet Region,	Lower Kalskag	Kuskokwim Corp (FF- 014888)	Evansville	Evansville Inc.
Community	Corporation				
Name	Name	Marshall	Maserculig Inc	Falt	Doratoi Inc.
Alexander Creek	Alexander Creek Inc.	Mekoryuk	Nima Corp	Ft. Yukon	Gwitchyaazhee Corp
Caswell	Caswell Native Assoc. Inc.	Mt. Village	Azachorok Inc.	Galena	Gana-a 'Yoo Limited
Chickaloon	Chilkaloon Moose Creek Native Assoc.	Nagamut	Nagamut Limited	Grayling	Hee-yea Lingde Corp
Eklutna	Eklutna Inc.	Napaimute	Kuskokwim Corp (FF- 014900)	Grouse Creek	Grouse Creek Corp
Golovin	Golovin Native	Napakiak	Napakiak Corp	Healy Lake	Mendas Cha-ag Native Corp
GOIOVIII	Kenai Native	Nupukiuk	Hapakiak dorp	Treaty Bake	Nucleo Gorp
Kenai	Assoc. Inc.	Napaskiak	Napaskiak Inc.	Holy Cross	Delocheet Inc.
Knik	Knikatnu Inc. Montana	Newtok	Newtok Inc.	Hughes	K'oyitl'ots'ina Limited
Montana Creek	Creek Native Assoc.	Nightmute	NGTA Inc.	Huslia	K'oyitl'ots'ina Limited
Ninilchik	Ninilchik Natives Assoc., Inc.	Nunapitchuk	Nunapitchuk Limited	Kaltag	Gana-a'yoo Limited
Point Possession	Point Possession Inc.	Nunivak	Nima Corp	Kokrines	Kokrines Ic.

Salamatoff	Salamatoff Native Assoc. Inc.	Ohogamiut	Ohog Inc	Koyukuk	Gana-a'yoo Limited
Seldovia	Seldovia Native Assoc. Inc.	Oscarville	Oscarville Native Corp	Manly Hot Springs	Bean Ridge Corp
Tyonek	Tyonek Native Corp	Paimiut	Paimiut Corp	McGrath	MTNT Limited
Koniag, I	ncorporated	Pilot Station	Pilot Station Native Corp	Medfra	Medfra Native Council Inc.
Community Name	Corporation Name	Pitkas Point	Pitkas Point Native Corp	Minto	Seth-de-ya-ah Corp
Afognak	Afognak Native Corp	Platinum	Arvig Inc.	Munchumina	Minchumina Natives Inc.
Akhiok	Natives of Akhiok, Inc.	Quinhagak	Qanirtuuq Inc	Nenana	Toghotthele Corp
Anton Larsen Bay	Anton Larsen Inc.	Red Devil	Kuskokwim Corp (FF- 014924)	Nikoli	MTNT Limited
Ayakulik	Ayakulik Inc.	Russion Mission K	Kuskokwim Corp (FF- 014926)	Northway	Northway Natives Inc.
Bells Flat	Bells Flats Native Group Inc.	Russion Mission Y	Kuskokwim Corp (FF- 014927)	Nulato	Gana-a'yoo Limited
Kaguyak	Kaguyak Inc.	Scammon Bay	Askinuk Corp	Rampart	Baan-o-yeel kon Corp
Karluk	Karluk Native Corp	Sheldon Point	Swan Lake Corp	Ruby	Dineega Corp
Kodiak	Native of Kodiak Inc.	Sleetmut	Kuskokwim Corp (FF- 014936)	Shageluk	Zho-Tsa, Inc
Larsen Bay	Nu-Nachk Pit Inc.	St. Marvs	St. Marys Native Corp	Stevens Village	Dinyea Corp
Litnik	Litnik Inc.	Stoney River	Kuskokwim Corp. (FF- 014941)	Takotna	MTNT Limited
Litnik	Litnik Mative Group Inc.	Toksook Bay	Nunakauiak Yupik Corp	Tanacross	Tanacross Inc.
Old Harbor	Old Harbor Natvie Corp	Tuluksak	Tulkisarmute Inc.	Tananna	Tozitna Limited
Ouzinkie	Ouzinkie Native Corp	Tuntutuliak	Tuntutuliak Land Limited	Telida	MTNT Limited
Port Lions	Afognak Native Corp	Tununak	Tununrmiut Rinit Corp	Tetlin	Tetlin Indian Reservation
Port Williams	Shuyak Inc	Umkumiute	Umkumiute Limited	Venetie	Venetie Indian Reservation
Uganik	Uganik Native Group Inc.	Sealaska (Corporation	Wisenak	Wisenak Inc.

Uganik	Uganik Natives Inc.	Community Name	Corporation Name
Uyak	Uyak Natives Inc.	Angoon	Kootznoowoo Inc.
Woody Island	Leisnoi Inc.	Craig	Shaan-Seet Inc
	Regional oration	Hoonah	Huna Totem Corp
Community Name	Corporation Name	Hydaburg	Haida Corp
Ambler	Ivaisaapaagmi t Corp.	Juneau (4 Cities)	Goldbelt Inc.
Buckland	Buckland Nunachiak Corp	Kake	Kake Tribal Corp
Deering	Deering Ipnatchiak Corp	Kassan	Kavilco Inc
Kiana	Katyaak Corp	Klawock	Klawaock Heenya Corp
Kivalina	Kivalins Sinuakmeut	Klukwan	Kukwan Inc.
Kobuk	Koovukmeut Inc	Knight Island	Ganawas Corp
Kotzebue	Kikiktagruk Inupiat Corp	Saxman	Cape Fox Corp
Noatak	Noatak Napaaktukme ur Corp	Sitka	Shee Atika Inc.
Noorvik	Putoo Corp	Yakutat	Yak-tat Kwaan Inc.
Selawik Shungnak	Akuliuk Inc. Isingnakmeut		

Table 8: Native corporations and villages. Source: Alaska Department of Natural Resources

Appendix 7 – Federally Declared Disasters in Alaska

	Federally Declared Disasters in Alaska since 1950			
Number	Date	Incident Description	Declaration Type	
4162	1/23/14	Severe Storms, Straight-line Winds, and Flooding	Major Disaster Declaration	
4161	1/16/14	Flooding	Major Disaster Declaration	
4122	6/25/13	Flooding	Major Disaster Declaration	
4094	11/27/12	Severe Storm, Straight-line winds, Flooding, and Landslides	Major Disaster Declaration	
4054	2/2/12	Severe Storm Severe Winter Storms And	Major Disaster Declaration	
4050	12/22/11	Flooding	Major Disaster Declaration	
1992	6/10/11	Ice Jam And Flooding	Major Disaster Declaration	
2909	5/22/11	Moose Mountain Fire	Fire Management Assistance Declaration	
1865	12/18/09	Severe Storms, Flooding, Mudslides, and Rockslides	Major Disaster Declaration	
1843	6/11/09	Flooding and Ice Jams	Major Disaster Declaration	
2820	5/14/09	Mile 17 East End Road Fire	Fire Management Assistance Declaration	
1796	9/26/08	Severe Storms, Flooding, Landslides, and Mudslides	Major Disaster Declaration	
2699	6/22/07	Carbou Hills Fire	Fire Management Assistance Declaration	
1669	12/8/06	Severe Storms, Flooding, Landslides, and Mudslides	Major Disaster Declaration	
1666	10/27/06	Fire	Major Disaster Declaration	

1663	10/16/06	Severe Storms, Flooding, Landslides, and Mudslides	Major Disaster Declaration
1657	8/4/06	Snow Melt and Ice Jam Flooding	Major Disaster Declaration
2641	6/8/06	Parks Highway Fire	Fire Management Assistance Declaration
1618	12/9/05	Severe Fall Storm, Tidal Surges, and Flooding	Major Disaster Declaration
1584	3/14/05	Severe Winter Storm	Major Disaster Declaration
1571	11/15/04	Severe Winter Storm, Tidal Surges and Flooding	Major Disaster Declaration
2551	9/1/04	Taylor Complex Fire	Fire Management Assistance Declaration
2542	8/10/04	Bolgen Creek Fire	Fire Management Assistance Declaration
2525	7/1/04	Boundary Fire	Fire Management Assistance Declaration
1461	4/26/03	Winter Storm	Major Disaster Declaration
1445	12/4/02	Winter Storms	Major Disaster Declaration
1440	11/8/02	Earthquake	Major Disaster Declaration
1423	6/26/02	Flooding	Major Disaster Declaration
2365	6/30/01	Red Fox Fire	Fire Management Assistance Declaration
1316	2/17/00	Winter Storms And Avalanches	Major Disaster Declaration
1119	6/7/96	Wildfires	Major Disaster Declaration
2180	6/5/96	Millers Reach #2 Fire	Fire Management Assistance Declaration
1072	10/13/95	Severe Storm, Flooding	Major Disaster Declaration
1039	9/13/94	Severe Storm, Flooding	Major Disaster Declaration

2078	7/3/91	Appel Mountain Fire	Fire Management Assistance Declaration
909	5/30/91	Heavy Snow, Ice Jams, Flooding	Major Disaster Declaration
2074	7/5/90	Tok River Fire	Fire Management Assistance Declaration
832	6/10/89	FLOODING	Major Disaster Declaration
826	5/10/89	Severe Freezing	Major Disaster Declaration
813	3/11/88	Fire	Major Disaster Declaration
781	10/27/86	Coastal Storm, High Winds, Waves	Major Disaster Declaration
782	10/27/86	SEVERE STORMS, FLOODING	Major Disaster Declaration
493	12/18/75	Fire, Freezing	Major Disaster Declaration
452	11/14/74	SEVERE STORMS, FLOODING	Major Disaster Declaration
444	6/24/74	Freeze in Spawning Areas of Red Salmon	Major Disaster Declaration
408	11/7/73	Heavy Rains, Flooding	Major Disaster Declaration
2006	5/24/73	Chugach Fire	Fire Management Assistance Declaration
2005	6/18/71	Delta Junction Fire	Fire Management Assistance Declaration
2004	6/11/71	Hog River Fire	Fire Management Assistance Declaration
2001	6/26/70	Island Lake Fire	Fire Management Assistance Declaration
281	12/19/69	Heavy Rains, Landslide	Major Disaster Declaration
230	8/17/67	SEVERE STORMS, FLOODING	Major Disaster Declaration
168	3/28/64	Earthquake	Major Disaster Declaration
46	12/22/55	Severe Hardship to Salmon Industry	Major Disaster Declaration
31	11/10/54	Severe Hardship to Salmon Industry	Major Disaster Declaration

		Severe Hardship to Salmon	1
13	10/30/53	Industry	Major Disaster Declaration

Table 9. Source: www.fema.gov