



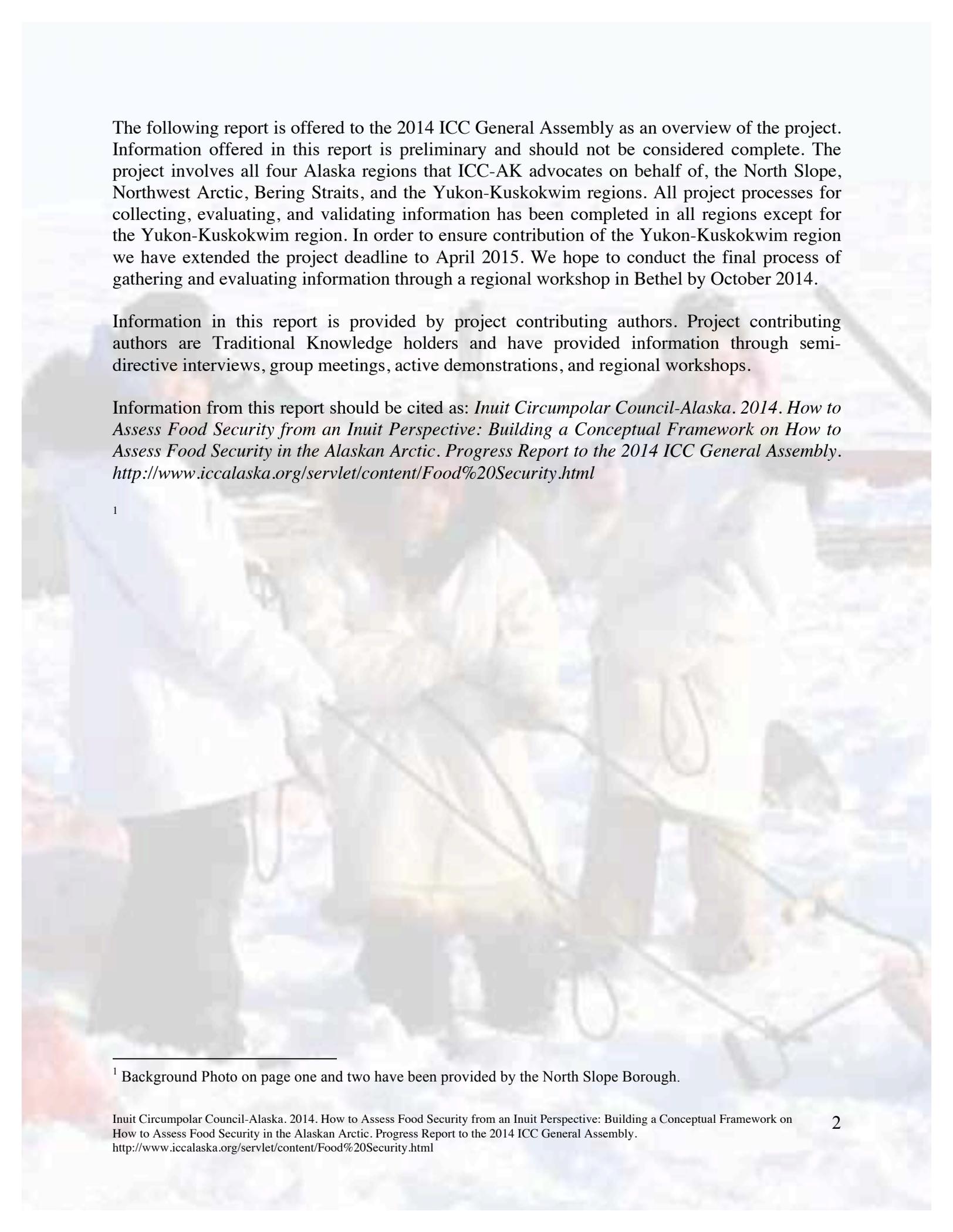
*How to Assess Food Security from an Inuit Perspective: Building a Conceptual Framework on How to Assess Food Security in the Alaskan Arctic
Progress Report to the 2014 General Assembly*

Inuit possess a unique understanding of food security within the Arctic; viewing food security to encompass both cultural and environmental systems; systems which interlink and support each other. While many changes are taking effect within Arctic ecosystems, primarily resulting from climate change and industrialization, food security is becoming a central topic of conversation. Research shows that food security definitions and assessment methods do not necessarily match the Arctic ecosystem or cultures within. In response to the need to address food (in)/security of traditional food resources within a changing Arctic, the Inuit Circumpolar-Council Alaska (ICC-AK), has commenced building a conceptual framework on how to assess food security from an Alaska Inuit perspective through a multi-year project.

The project builds upon the support of the ICC-AK board's decision to place food security as its first priority. Three objectives will be met within this project: 1) provide an understanding of Arctic food in/security, from an Alaska Inuit perspective; 2) identification of drivers of food in/security; 3) create a conceptual framework on how to assess food in/security across both cultural and environmental systems. Additionally, we hope to begin to identify what will need to be monitored in order to create action plans.

In part the development of this project aims to bring a greater level of Inuit involvement and Traditional Knowledge to future and ongoing assessment projects; providing greater insight into the Arctic ecosystem. Food security is not simply one of academic interest; it is a cornerstone of Inuit culture. Understanding Arctic food security and derived cultural and environmental system interconnections will provide policy makers and leaders with a holistic view of the Arctic.

ICC-AK is bridge between local communities, the national government and international bodies such as the Arctic Council. This connection provides ICC-AK with a unique position to ensure maximum impact of this project. The final results will be submitted to the Arctic Council, Alaska Native Organizations, Tribal organizations, NGOs, active Arctic Industries, Regional organizations, Alaska government offices and agencies, and federal agencies actively engaged in the Arctic.



The following report is offered to the 2014 ICC General Assembly as an overview of the project. Information offered in this report is preliminary and should not be considered complete. The project involves all four Alaska regions that ICC-AK advocates on behalf of, the North Slope, Northwest Arctic, Bering Straits, and the Yukon-Kuskokwim regions. All project processes for collecting, evaluating, and validating information has been completed in all regions except for the Yukon-Kuskokwim region. In order to ensure contribution of the Yukon-Kuskokwim region we have extended the project deadline to April 2015. We hope to conduct the final process of gathering and evaluating information through a regional workshop in Bethel by October 2014.

Information in this report is provided by project contributing authors. Project contributing authors are Traditional Knowledge holders and have provided information through semi-directive interviews, group meetings, active demonstrations, and regional workshops.

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¹ Background Photo on page one and two have been provided by the North Slope Borough.

STATEMENT OF NEED:

Arctic communities have developed a rich culture, shaped by the dynamic environment in which they live and is centered on the harvesting of Arctic flora and fauna. The socio-ecological relationship the Inuit have developed with the aquatic and terrestrial environment has been the foundation of their rich culture. Inuit traditional foods such as caribou, moose, waterfowl, salmon, whitefish, whale, seal, walrus, salmonberries, and sura, provide fiber, shelter, medicines, energy, nutrients, spirituality and much more. The Arctic environment is historically dynamic; however changes are occurring at an unprecedented rate, resulting in unpredictable changes and an increased vulnerability to many of these traditional foods, causing a threat to Inuit food security.

Changes to the Arctic environment are characterized by an increase in surface temperatures, changes to precipitation rates, erosion rates, decrease in sea ice coverage, etc. With these changes, ultimately stemming from climate change, the warming of the Arctic continues to attract industry attention for new opportunities. The United States Geological Survey has estimated that 13% of the world's undiscovered oil and 30% of the world's undiscovered gas remains in the Arctic region (Gautier et al. 2009).



Photo By: Sam Towarak

The offshore development of oil continues the regulatory process in the Alaskan Arctic.

The Russian Ministry of Transport expects 64 million tons of cargo to be shipped over the Northern Sea Route, through the Bering Strait by 2020 (Yegorov 2011). Mining and tourism continue to expand in the region. The combination of climatic and economic changes may exasperate the changes already being experienced today, such as an increasing amount of harmful contaminants found in Arctic marine mammals, the melting of permafrost, the emergence of new species, etc. These are all factors that influence the food security of Inuit communities.



Photo By: Sam Towarak

While many definitions and protocols exist and are arising to address food security across the world, these definitions do not necessarily reflect the Alaskan Arctic environment or its food webs.



Ahmasuk son's Olly & Wison Hoogendorn pull up an Ooguruk. Passing of knowledge. Photo By Brandon Ahmasuk.

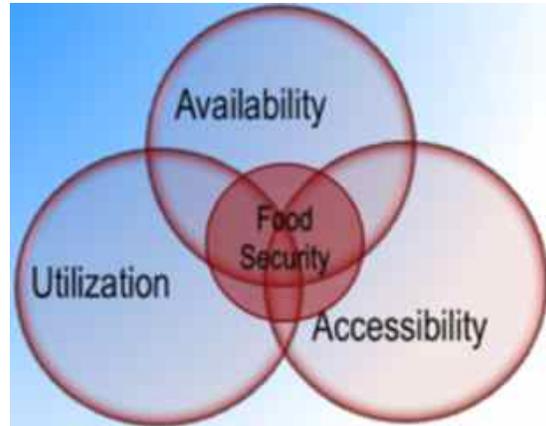
Current food security agendas are defined with an objective of fulfilling a calorie void. For example, food security within Africa addresses concerns over the sustainability of agriculture production systems.



Family preparing and storing salmon for the year. Photo By: Suzanne Heckman.

Within the United States food security is often defined through purchasing power and/or nutrient intake, and researched with an objective of establishing a quantifiable way of measuring food security (Staatz et al. 1990).

Today there is an increasing number of food security definitions; these definitions do not necessarily reflect the Alaskan Arctic environment or its food webs.



Overall, most definitions are based on these components: 1) availability of food (is the food of abundance (production, distribution, and exchange); 2) accessibility (or purchasing power); and 3) the utilization (or nutritional value). With these three objectives, food security is considered achieved (FAO 2009a, 1, fn. 1).

However, the Arctic ecosystem is more than these parts; food is more than a calorie source. In an environment where food provides more than calories, issues surrounding food security become multi-faceted and may require the



Photo By Clockwise: Mary Sage; Jackie Cleveland; Mary Sage; Ronald Brower

identification of food security vulnerabilities throughout the entire food web (Cualfield. 2002). Such an approach aims to combine various sources of knowledge and research, such as research addressing the impact of high fuel costs on hunting strategies, socio-ecological relationships, and cultural structures in addition to changes in species distribution, nutrient intake and quality of food. From an Inuit perspective, a threat to food security threatens an entire cultural way of life. Ultimately, the framework will be a tool to enhance the ability of Inuit communities to adapt to the changing environment, as well as provide an understanding for elected leaders and policy makers of the food in/security drivers.



A young woman in Gambell demonstrates how to collect and prepare seafood. Photo By Carolina Behe

The Objectives and Outcomes of this Inuit led project:

Through community meetings, semi-directive interviews, and workshops we are gathering information from traditional knowledge holders to identify the baselines (concepts/information) needed to assess the vulnerabilities of food security. The identification of needed baselines will reveal what Inuit priorities are in assessing food (in)/security and where vulnerabilities lie. For example, baselines may include the need to have full understanding of ice coverage to understand food web dynamics; an increased



A Wales drummer expresses the connection between culture and food security. By C. Behe

use of traditional knowledge applied to under ice currents to gain a better understanding of salmon distribution; or for an increase effort to be applied to establishing food web models that move beyond one-dimensional energy transfers, incorporating abiotic vulnerabilities, the human dimension etc.



Photo By: Chris Danner

This information will be gathered under the three objectives of the project: 1) provide an understanding of Arctic food in/security, from an Inuit perspective; 2) identification of drivers of food in/security; 3) create a conceptual framework on how to assess food in/security across both cultural and environmental systems. The project will contribute to our understanding of the pressures to traditional food resources and communities that are resulting from climate changes, increased human presence and development in the Arctic. It will also aid all that work within the Arctic in understanding the changes occurring.



In Pilot Station a man demonstrates how to set under ice nets for fish. Photo By: Carolina Behr

Methodology:

This project begins with an advisory committee made up of twelve people representing their respective regions (seven Traditional Knowledge holders, one cultural anthropologists and four youth representatives).

The committee serves to provide guidance to the project. The Traditional Knowledge holders and cultural anthropologist will conduct a peer review of the final product.

Since July 2012, ICC-AK has visited fifteen Alaska Inuit villages within the Southwest, Bering Strait, Northwest Arctic and North Slope regions, along the Bering, Chuckchi and Beaufort Seas.



Within each village visited we worked closely with the Tribal Councils to collect information and perspectives from Traditional Knowledge holders on the topic of food security, through semi-directive interviews and community meetings. The information gathered is being aggregated and analyzed to obtain a greater understanding of an Inuit food security definition and to identify overarching drivers (causes) of food security and insecurity.

Food Security Advisory Committee:

Myron Naneng and Tim Andrew – Yukon-Kuskokwim
 Julie Raymond-Yakoubian - Bering Straits
 John Goodwin, Percy Ballot
 and Austin Swan – Northwest Arctic

Regional Youth Representatives:

Suzanne Heckman – Yukon-Kuskokwim
 Angela Nashalook – Bering Straits
 Denali Whiting – Northwest Arctic
 Nicole Kanayurak – North Slope

Photo By: Carolina Behr

Preliminary findings and over arching themes have been pulled from expert interviews held within each region. The preliminary findings of overarching themes, drivers, and understanding of food security found within each region are being presented at regional workshops. Through this method, Traditional Knowledge holders at the village level and community meeting participants determine what is to be discussed at regional food security workshops.

Workshops: Each workshop is an important part of the overall project methodology, allowing for greater engagement of Arctic villages and a preliminary evaluation and validation process. For each workshop Traditional Knowledge experts are identified by their respective Tribal Councils and peers, to evaluate and validate the preliminary findings gained through analysis of information documented through expert interviews and offer further insight on drivers of food security and insecurity. Workshops have been held in Barrow, Kotzebue, and Nome. We hope to hold the Bethel workshop by October 2014.



Northwest Arctic Regional Food Security Workshop Participants. Photo By: National Park Service Staff



Bering Straits Regional Food Security Workshop Participants. Photo By: Gay Sheffield.



North Slope Regional Food Security Workshop Participants. Photo By: Carolina Behe

Preliminary Findings of Food Security and Identified Overarching Drivers:

Alaska Inuit food security is synonymous with environmental health. An environment is considered healthy when all parts are fit together. One elder explained that the Arctic environment is like a puzzle, with all pieces having a place and needed to make up the entire puzzle; this includes native languages, retention of traditional knowledge, animal health, etc. Within this understanding there

is an emphasis on the continuously changing Arctic environment with pieces of a puzzle adjusting to each other. During regional workshops participants offer additional concepts and terms that will be added to our current understanding of food security. For example, the North Slope Regional Food Security Workshop participants spoke of the importance of Inuit ‘natural rights’. Inuit natural rights describe the right for Inuit to be part of the ecosystem, to access food, and to protect the land and water. All of this information will be combined to draft an Alaska Inuit food security definition.

Through the process of this project many drivers of food security and insecurity have been identified. While each driver listed below may cause the need to adapt or make small changes, the accumulation and the inter-connecting nature of these drivers results in overall Arctic ecosystem change and food insecurity. It is worth pointing out at this time that many of the drivers listed are directly linked to decision-making power. The lack of decision-making power has resulted in many of the drivers associated



Photo By: Chris Danner

with social systems and the current lack of decision-making power impacts the ability for communities to easily adapt to changes resulting in increasing accumulative impacts.

Identified Drivers of Food In/Security:

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| <ol style="list-style-type: none"> 1. Health of wildlife (determined by multiple factors – all considered indicators of overall health, i.e. liver texture and color) 2. Habitat: where animals eat; reproduce; find refuge; and reproduce 3. New Species 4. Mental health 5. Education 6. Regulations 7. Access 8. Economics – Cash/Subsistence Economy; Government Subsidies | <ol style="list-style-type: none"> 9. Language 10. Transfer of Knowledge 11. Change in sea ice (consequences / benefits: support of food webs and diversity) 12. Change in ocean currents 13. Flooding 14. Availability 15. Erosion 16. Sharing Systems 17. Variety/diversity |
|--|--|

18. User conflict
19. Increase in shipping
20. Increase in tourism
21. Adaptation
22. Research methods
23. Change in food web dynamics
24. Processing and storing of food
25. Change in temperatures
26. Change in Precipitation
27. Tourism
28. Development
29. Decision making Power
30. Pollution
31. Burden of Conservation

32. Rate of Change
33. Mixed Diet
34. Waste (landfills), Water, Refuge
35. Change in Food Storage
36. Cultural / Self Identity
37. Dance/Feast
38. Value (cultural and economic)
39. Contaminants
40. Noise
41. Storm surges
42. Respect of Animals
43. Change in River Ice
44. Alteration in hydration systems



"This one is my son Wyatt & his 1st Spotted Seal that we harvested this spring." Quote and Photo By Brandon Ahmasuk.

We have a lot more work to do, and the contributing authors, such as workshop participants, of this project need to continue reviewing information and findings before more detailed information can be shared. However, we can share generalized descriptions of a few food insecurity drivers.



Photo By: Sam Towark

Economics. Part of this driver does encompass purchasing power (how much money is in your pocket); purchasing power is needed to acquire fuel, equipment, etc. It is often difficult for people to realize that Alaska Inuit use money to purchase items and that this does not diminish the importance of gathering traditional foods. Another aspect of economics is a question of what is subsidized by the government. If we take a close look at what it takes to ship a hot dog to a village like Wales and all of the subsidies involved and the environmental impact, there is a much higher cost than if culturally appropriate subsidies are offered, such as shells and fuel vouchers (some regional organizations do offer programs with culturally appropriate support).

Accessibility. When considering accessibility of traditional foods, we are talking about more than purchasing power or physical access to a food sources. Accessibility may be impeded by loss of knowledge and/or language; it may be impeded by regulations which conflict with traditional knowledge; it may be impeded by



Photo By: Carolina

a shift in food web dynamics driven by climate change or a shift in migration patterns driven by sports hunting, shipping, etc.

Connectivity and Self Identity. Connections between people are based on traditional foods. Self-esteem, cultural-identity and self-identity are tied to the entire ecosystem. Many of the project's contributing authors have discussed the importance of a child's first catch to food security. Children are taught that the first animal they catch of a season must be given to an elder. This act connects concepts of cultural and self-identity, education, language, knowledge of the environment, respect for animals, etc. A child's first catch is rooted in self-



Photo By: Carolina Behe

identity; an activity, which defines a new chapter in the child's life as the child, moves from being a receiver to becoming a provider. Such activities initiate learning of multiple Inuit values such as, one's responsibility to care for the world around them.

The point here is that all of this is connected. If each one of these drivers describes Arctic systems and the connections of those systems then there is not one piece that is more significant than another. In fact, Inuit Traditional Knowledge tells us that many times the greatest vulnerability points are where these pieces fit together.



Photo By: Sam Towark

Monitoring Drivers: When we begin to consider how to monitor some of these drivers we have to first recognize that Inuit Traditional Knowledge holders have monitoring methodologies and a key principle behind these methodologies is focusing on the relationships among components of the ecosystems as oppose to individual pieces. This is the same as monitoring what connects the puzzle pieces.



Afternoon in Gambell. Photo By: Carolina Behe

For example, monitoring walrus includes monitoring stomach contents, benthic species, ice thickness, wind directions, water temperatures, and the associated social components. Examples of social components include the transfer of knowledge and importance of a young hunter hunting walrus for the first time and transitioning from one being provided for to one that is providing. Social components also include village feast and sharing systems.

All of these components; how these components interact; and changes within the connections and/or new connections made are all important monitoring objectives for Inuit survival. This may result in multiple different suggestive research actions, such as the need to identify cultural key stone species as well as ecological key stone species.

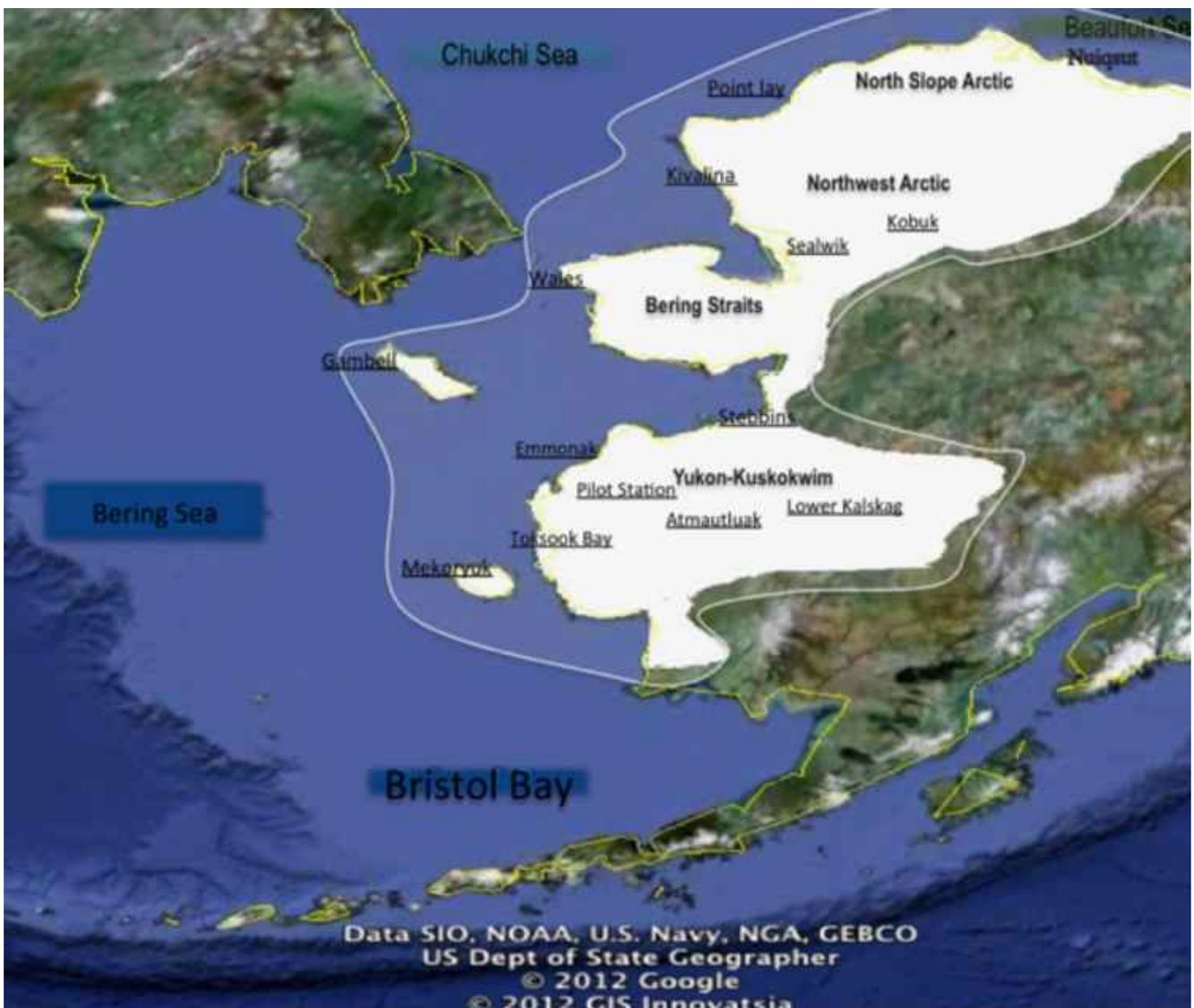
Conclusion:

The food security project shows that an accumulation of stressors are causing food insecurity; that food security is synonymous

with environmental health, where the term 'environment' includes Inuit culture as part of the ecosystem. The preliminary findings show that Alaska Inuit monitor their environment through a food security lens, focusing on the relationship among the pieces of the puzzle. Scientists often refer to each piece of this puzzle as systems. Focusing on the relationship between the pieces may be understood as the monitoring the inter-connections of systems. Traditional

Knowledge also shows that the greatest vulnerability points lie where these systems interconnect. This understanding has brought to light that every driver holds aspects of both social and physical systems.

By applying a food security lens to the changing Arctic, adaptive management, a holistic understanding of the Arctic systems and preservation of the entire ecosystem will be achievable.



Throughout the food security project we have visited the 15 villages identified on the map above.

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Photo Provided By: North Slope Borough