Written Testimony of Vera Kingeekuk Metcalf

Before the
Committee on Science, Space, and Technology
U.S. House of Representatives

Hearing on
"Amplifying the Arctic: Strengthening Science to Respond to a Rapidly Changing Arctic"

Tuesday, September 20, 2022

Quyakamsi. Good morning, Chairwoman Johnson, Ranking Member Lucas, and Members of the Committee. I sincerely thank you for this opportunity to testify today.

Before beginning, I must say that it is my intention that my words are proper, respectful, and responsible to my ancestors, my family, and my community, and to our *Nangaghneghput*— which is our way of life and cultural values on St. Lawrence Island.

My name is Vera Kingeekuk Metcalf, I was born and raised on St. Lawrence Island, which lies in the Bering Strait between Alaska and Russia's Chukotka Peninsula. My home is the sixth largest U.S. island and is actually closer to Russia (36 miles) than to mainland Alaska (164 miles). We remain close to our Chukotkan neighbors with whom we share an Indigenous language, culture, family and clan connections, and our traditional natural resources and environment.

I have been the Executive Director of the Eskimo Walrus Commission in Nome, Alaska, since 2002. The Eskimo Walrus Commission (EWC) was formed in 1978 with membership from nineteen Alaska Native communities on the Bering, Chukchi, and Beaufort seas, which contains the full range of the Pacific walrus population. EWC has a co-management agreement with the U.S. Fish & Wildlife Service (USFWS) to provide Alaska Native participation in Pacific walrus management and conservation.

EWC's co-management goals are Research, Education, Connecting and Convening, and Advocacy. These all support our effort to be necessary and valuable partners in Pacific walrus conservation and management through actively participating in research, striving for our Indigenous Food Security, and contributing our Indigenous Knowledge (IK).

It is important for me to state upfront that Alaska Native people cannot be separated from our environment and natural resources. We are and always have been absolutely dependent on this intimate relationship with our environment and its gifts. To be grounded in this dependent relationship is a cultural strength, as we are with our land, waters, and air, with the Pacific walrus, bowhead and beluga whales, ice seals, migratory seabirds, fish, and so much more. If they are healthy, so are we. This is a basic Indigenous Knowledge concept.

At this point, I offer this definition of Indigenous Knowledge as developed by the Inuit Circumpolar Council (ICC), which is commonly used by the Inupiaq, Yup'ik, and St. Lawrence Island Yupik in Alaska. *[Note: For the purposes of this testimony, Indigenous, Alaska Native, and Inuit all apply to the Inupiaq, Yup'ik, and St. Lawrence Island Yupik in Alaska.]*

> Indigenous Knowledge is a systematic way of thinking applied to phenomena across biological, physical, cultural and spiritual systems. It has developed over millennia and is still developing in a living process, including knowledge acquired today and in the future, and it is passed on from generation to generation.
>
> Under this definition, IK goes beyond observations and ecological knowledge. It is not something simply to be documented as data to be used by others for their purposes. Instead its true value is found when it is applied by IK experts and knowledge bearers to questions about the health and condition of their world—the land, waters, air and all who inhabit it.

In my language, this is *Liisimalleghput*, which simply translated is "our knowledge—what we know." But it implies so much more that's not so easily explained. It also includes the understanding that we can only know so much. It adds a bit of humility to how much we think we know. Because as my IK experts remind us sometimes, *Kenlengituq*—there is always more to know. IK is an on-going synthesis of new information and observations gathered firsthand and from others, which are considered by IK experts who together apply their cultural understanding and IK to guide future plans and decision-making. It is an active social process based in cultural protocols and grounded in our way-of-knowing.

I'll highlight some examples of how IK can add to and improve research. Through the years working with scientists and federal managers, we have provided our knowledge of walrus behavior unknown or previously undocumented that significantly impacted research. For example, when reviewing aerial photographs of walrus on ice to begin the important task of estimating population, hunters suggested that the amount of time walrus spend in the water compared to the time spent resting on the ice during springtime must be accounted for and that walrus will also rest by hanging on ice by their tusks, which are not easily seen in the photographs. Although this improved the accuracy of the population estimate done in 2006, the confidence level of this estimate is still very low.

During a recent spring season with little proper sea ice for calves to nurse on, there was naturally great worry for calf survivability. While we were concerned, too, we also knew and documented that walrus can nurse in the water, which further shows the ability of walrus to adapt to varying conditions. Much like with the wider awareness of herds of walrus coming onshore instead of resting on diminishing sea ice caused great alarm, we understood this was normal and indicative of walrus living within and adapting to their environment. We have great respect for and learn from the marine mammals we live with and depend on.

EWC communities have contributed to scientific research in other ways, too. During a USGS marking/tagging expedition on an icebreaker in early spring sea ice in the Bering Sea, two experienced Indigenous advisors were onboard to learn about the project. It was an expensive project using a helicopter and small inflatables to find and approach walrus on ice. After days of heavy fog that prevented any successful tagging and with ship time running short, the EWC representatives suggested quieting the engines and all ship noise as they have often done when hunting. The noise and odor of the herd then drifted in through the fog, allowing walrus to be located and the research project to tag sufficient walrus to be successful. Also, perhaps more significantly, since the early days of EWC, Alaska Native hunters have contributed biological samples from harvested walrus for research. Consequently, there is a collection of source

materials for a multitude of scientific research projects comparing walrus health over the years and into these times of rapid climate change. I think it is important to realize that these samples would not be available without the participation of Indigenous communities.

The Arctic is our home and like Indigenous people everywhere, we believe our homeland and waters are the most precious and sacred place on earth. We remain dependent on hunting and gathering for our food security, whether it is fishing and picking greens and berries in the summer, hunting migrating marine mammals in fall and spring with the advance and retreat of sea ice, or traveling over our frozen world for what may come to us in winter. This all informs the Indigenous Knowledge of our world and is why we are the first observers of changes to our environment and those who inhabit it.

Countless are the observations and samples retrieved by Alaska Native communities of both the strangely sick and dead wildlife or in the presence of new, different species, or of oil contamination and excessive trash debris in our marine waters, and of eroding beaches and dangerous sinkholes caused by thawing permafrost, or of unusual and disruptive weather impacting our daily lives and Indigenous food security. Perhaps others now better understand what we've been saying for years, which is that climate change is not simply an interesting research topic. It is real and causing significant change to our way of life, and we will rely on our Indigenous Knowledge, as always, to find our proper relationship with our world.

I'll offer two examples for how this can happen. Let me first say that I have experienced many frustrations, disagreements, and misunderstandings regarding the co-management relationship with our partner, U.S. Fish & Wildlife Service (USFWS) during my twenty years with the Eskimo Walrus Commission (EWC). I have always felt that it was because the unequal power and authority dynamics of the arrangement prevented Alaska Native communities from ever being "seated at the table" during walrus management and research discussions. So when EWC was approached by USFWS with a long list of questions about what their researchers wanted to know about Pacific walrus and our relationship with them to use in developing a "harvest risk assessment" computer model, it was fairly typical of the usual way of doing business with us and the way scientific research, in general, has been conducted in the Arctic—one-sided and extractive.

This is where a different approach could offer a much more successful result for the goals of Pacific walrus conservation and management. We recommended creating a new initiative that would involve Alaska Native communities and IK experts from the beginning with the assumptions and questions that are necessary to consider in any modeling effort and on to examining the implications for the model. We suggested that even the term, "harvest risk assessment," negatively characterized our protected Indigenous right to harvest walrus for our food security. So I was very glad when the current USFWS Alaska Region Marine Mammal Division readily accepted and provided funding for the "Walrus Population and Harvest Model Project."

This will include USFWS visits to two Alaska Native communities to present their proposal and the selection of five IK experts from each community to gather in Anchorage to consult on the models and develop how Indigenous Knowledge can be used to improve both the population and harvest models. The project will also involve local community members who will conduct the research interviews. It is absolutely critical that communities are fully involved and understand

that their IK is incorporated in the models, because these will eventually be used to monitor and perhaps guide Alaska Native tribal harvest management plans. By including Indigenous Knowledge and collaboration, co-management now becomes co-production of knowledge (CPK) that will greatly improve the conservation and management of the Pacific walrus. In order for Indigenous communities to trust and have confidence in research, its results, and its implications for their future, it must include their participation and Indigenous Knowledge.

My other example is the current NSF-funded Study of Environment Arctic Change (SEARCH) project that I am involved with as a Co-PI and co-production team leader. SEARCH is "a collaboration of scientists, Indigenous People, and decision makers (from government and the private sector) synthesizing—across disciplines and knowledge systems—and sharing holistic understandings of the drivers and consequences of Arctic environmental change." At multiple occasions and multiple levels of inquiry, SEARCH provides opportunities for Indigenous Knowledge, from our observations to our communities' perspectives and on to our worldview, to guide and inform science and public policy.

From the project planning stage, SEARCH recognized the Inuit Circumpolar Council's (ICC) principle of "Nothing About Us Without Us" that declares "to others to respect our rights and promote Inuit self-determination and self-governance" as implemented in the UN Declaration of the Rights of Indigenous People (UNDRIP). But, actually, it truly is simply working properly and respectfully with Indigenous communities on any action, plan, or government policy that may affect them in Inuit Nunaat—Inuit Homeland.

Even though its model for co-production intends to evolve and improve over its four years, SEARCH has already begun collaborating in new, different ways. Instead of attempting to combine science and IK into single sets of data or one explanation of a climate change impact, each discipline, whether marine biology or public policy, and knowledge system approaches and examines changes to our land, waters, and all living in them in their own way. It offers a multi-year commitment to allow relationships, learning, and trust to grow in team members. Each will contribute to SEARCH produced papers, science briefs, conference presentations, and public media at the international, national, statewide, and local/regional level while making sure to reach our three represented constituencies, scientists, Indigenous People, and decision makers (government and private). This is effective co-production of knowledge for the Arctic. It recognizes Indigenous Knowledge from the beginning and incorporates Indigenous contributions throughout, while also ensuring its purpose and outcomes are relevant and useful for Arctic residents.

It is my sincere hope that my descriptions of Indigenous Knowledge and how it connects us to our land, waters, air, and all who live in them and my examples of some valuable features necessary for co-production of knowledge projects are meaningful and useful to the committee. I next hope to offer some observations about barriers to inclusive research and recommendations on how Federal science community can better partner with Indigenous Knowledge and communities.

First, I should begin with a disclosure statement that I have recently completed twelve years as vice president of Inuit Circumpolar Council (ICC)—Alaska and as a member of the Executive Council of ICC—International. As you may know, ICC was founded in 1977 by the late Eben Hopson of Utqiagvik, Alaska, and is an international non-government organization representing

approximately 160,000 Inuit of Alaska, Canada, Greenland, and Chukotka (Russia). ICC holds Consultative Status II at the United Nations Economic and Social Council and is a Permanent Participant at the Arctic Council. This experience provides me the confidence to recommend ICC as a reliable and valuable source for understanding the Alaska Native, Arctic Indigenous viewpoint. ICC's published statements, reports, and quadrennial General Assembly declarations are, in fact, Indigenous Knowledge and should be accepted as such.

Of special interest here, I highly recommend ICC's recently published *Circumpolar Inuit Protocols for Equitable and Ethical Engagement*. It offers eight protocols with specific directives for each. As stated in the report: "There are many steps and processes required to build long-lasting relationships, trust, and respect and to implement appropriate approaches, such as bringing together Indigenous Knowledge and science through a co-production of knowledge. The EEE Protocols and directives must be practiced collectively. For example, one cannot take one Protocol or directive under that Protocol and use it as the sole foundation of equitable and ethical engagement. These are not boxes to check - they are a collective pathway to equitable and ethical engagement."

Instead of simply reviewing this report, I will offer comments that are specific to my experience, which are reflected in some of its protocols. But again, I recommend the *Circumpolar Inuit Protocols for Equitable and Ethical Engagement* as required reading for those working with Arctic Indigenous communities.

My first comment is to express my sincere appreciation to those who prepared IARPC's Arctic Research Plan 2022-2026. The acknowledgement of the necessity of involving Indigenous Knowledge, leadership, and communities in research planning is important, because it hasn't always been the case. The *Participatory Research and Indigenous Leadership in Research* section is a clear statement of intention to collaborate honestly through the four objectives. This is a good start.

Let me begin by stating what I believe is the biggest barrier, it is the inherent mismatch between the science-research-government industry and the Indigenous-Alaska Native community. The resources afforded to science-research-government in financing, workforce, and decision-making authority can overwhelm the capacity of Alaska Native communities. From my experience the inequity has widened over the past twenty years when the Arctic was rediscovered because of climate change. While I have no verifiable numbers of the increase in research funding or number of projects and campaigns or news stories, I feel very certain that the increase is significant.

This funding provides for full-time, career professional scientists focused on their field of study to pursue their research projects. Their institutions provide them offices, equipment, travel, attendance at conferences, sometimes with support staff and student assistants, resulting in publications and peer recognition. However, those who I consider esteemed Indigenous Knowledge experts remain connected to their traditional role of provider, hunter, whaling captain and to their home land and waters. Others are respected examples of compassion and care during life's challenging times harvesting, feeding, sewing, nurturing children, family and many others with dignity and grace. They remain practitioners of their IK and feel responsible to share it with their family and community. IK Expert is not a job description or career. Instead, I offer this quote from an older experienced hunter and IK holder when asked how things were for

he and his family, he replied with "We're still here doing what we do." This is our way of life—providing for our Indigenous food security and caring for our families—and it continues still today.

I want to be clear that I'm not resentful of science-research-government institutions. I value their work and investment and serve on advisory boards for several research organizations. But this is the mismatch, the uneven level of capacity and activity dedicated to research. With the SEARCH project, we're taking some steps to lessen the barriers for IK participants. Instead of a "drive-by" interview, we've committed to multiple years at a funding level that begins to compensate them for their involvement more appropriately. Since many of our IK contributors do not have access to a computer and the internet, SEARCH also provides IK participants with a mobile tablet and prepaid online service so they can connect to project resources and meetings. However, there are still problems with the quality of service and access for our village-based participants where there is no broadband or technical and user support.

Another observation about the mismatch between knowledge systems and their representatives is that Indigenous Knowledge isn't any one person's intellectual property, and no one person is necessarily the holder of all a community's IK. As with EWC's plan to participate with USFWS on the co-production project on the walrus population and harvest model, we are engaging both St. Lawrence Island villages with meetings that include the entire community, who will choose five IK representatives to work on the project. Having ten IK experts from St. Lawrence Island in one room discussing their relationship and understanding of Pacific walrus will be an absolutely incredible occasion. This may seem expensive or time-consuming, but it is necessary to properly engage with Indigenous Knowledge for co-production research.

Another aspect of the mismatch is how the two knowledge systems are supported and nurtured. The question of how we raise the next generation of knowledge holders is constantly with me, and I believe it is with you, too. The STEM initiative in education is cited and endorsed seemingly everywhere, including the IARPC Arctic Plan, because there is a major concern about the future strength of our science, technology, engineering, and math industries.

I propose that Indigenous Knowledge should have equivalent initiatives to ensure there is the next generation of IK experts and practitioners in all communities and regions. This is absolutely critical for Indigenous communities' full and proper partnership in co-production of knowledge projects in the Arctic into the future. The science-academic-research institutions are firmly established and well-funded to perpetuate themselves normally, but even it must create large funding initiatives to support additional STEM education, post-graduate internships, and post-doc opportunities to develop the next generation of scholars, scientists, and researchers to continue their work.

In broad terms, Indigenous education is comprehensive and involves extensive experiential learning, language instruction, and study of cultural practices, beliefs, and spirituality. It requires Indigenous food security and sovereignty be protected and supported and, as the foundation of our culture and identity, Indigenous languages be legally protected and language schools established. This IK sharing—learning experience is a necessity for the well-being of Indigenous people, families, and communities and absolutely necessary for ensuring Indigenous Knowledge remains a capable partner and contributor to co-production of knowledge research projects in the Arctic. It is a mistake to expect the Indigenous Knowledge system to naturally perpetuate

itself in these times of extraordinary climate change when impacts to us are so strange and unnatural.

So this leads me into some final, more specific, thoughts about IARPC's research plan for the Arctic and the role Indigenous Knowledge and Alaska Native communities have in it. The Arctic Plan states:

> IARPC will seek opportunities to support the development or expansion of community-driven programs, liaison offices, and existing resources for researchers on how to engage with community and Indigenous organizations already in place.
>
> IARPC will work with and make researchers aware of existing Indigenous organizations, advisory committees, and co-management councils that focus on food security, community infrastructure, health and well-being, Indigenous practices, and species and ecosystems management. IARPC will also advance new venues where research activities can be informed by Indigenous Knowledge and the needs of Indigenous communities. (p. 30)

While these are good suggestions, they might serve only to enhance the mismatch that I've identified. As an existing co-management organization, EWC's annual budget is $200,000, which is insufficient to properly fulfill its most basic mission. I am its sole employee. I continually seek partnership opportunities to sponsor projects, like our Young Hunters Summit next month that will bring young providers and our next generation of IK experts together to prepare to be community leaders in natural resource management. But we are stretched very thin in our capacity to take on additional requests. For example, EWC does not receive any additional support for helping researchers connect to our communities.

Another example of a mismatch or disconnect would be the relatively new threat of harmful algal blooms (HABs) in the Arctic. As our waters warm, algal blooms are beginning to appear more regularly and some contain very high levels of toxin. This is especially concerning to Alaska Native coastal communities that actively harvest marine mammals, seabirds, among other marine resources and depend on them for their food security. For instance, we consume all parts of the walrus, including its intestines and stomach contents, which are normally clams, and this is where high levels of saxitoxin will be concentrated. So while HABs level in the ocean may not seem to require an emergency response, high levels of saxitoxin in the food chain is an immediate human health concern. However, it has been difficult for our communities to find who can help test both our marine waters and our food for contamination. Identifying the applied research and healthcare systems that can help us respond to this emerging climate change issue is a big worry for us.

I'll offer one last comment regarding the Arctic Plan to advance new venues to connect research with Indigenous communities. While there is currently one major science conference in Anchorage, Alaska annually, this is still very removed from Indigenous Arctic communities. It is an expensive trip, especially for those without financial support, and it seems more designed for researchers to satisfy the outreach requirements of their funding and not for seriously connecting with Alaska Native communities and interests. These venues need to be closer to and in our communities and organized to allow for open dialogue and conversation. Building trust

and a longer lasting relationship will require maintaining these gatherings annually. Each gathering will build on the previous and their focus and effectiveness will improve over the years.

I'll end with this thought—The Arctic is our home, eternal and sacred. We will continue to adapt, as we need, to live properly in it. Perhaps collaborating on co-production of knowledge research is simply another way we are adapting. We will share our Indigenous Knowledge to advance research. While it is beyond translation, this profoundest IK and way-of-knowing in my language is *Esla*. It encompasses and connects all things. This is what we will continue to rely on, and we will have greater confidence knowing it is included in future scientific study and in new governance in the Arctic.

Igamsiqayuvikamsi. Thank you.