



Local Knowledge, Traditional Knowledge, and Subsistence (LKTKS) Taskforce

Update for the April 2022 Council meeting

Co-Chairs:

Kate Haapala, Council staff

Sarah Wise, Alaska Fisheries Science Center

BS FEP Action Module

Protocols for Local Knowledge, Traditional Knowledge, and Subsistence

Protocols for Local Knowledge, Traditional Knowledge, and Subsistence

- No specific action but input and feedback is welcome
- Review the LKTKS Taskforce's membership and goals
- Discuss progress to-date
 - Taskforce reviewed a first draft of the protocol in January 2022
 - Walk through some key concepts and one guideline in detail
- Next steps



LKTKS Taskforce Membership

Mr. Toby Anungazuk Jr. (Golovin)
Dr. Rachel Donkersloot (Coastal Cultures Research)
Dr. Kate Haapala (NPFMC staff)
Ms. Bridget Mansfield (NMFS, AKRO)
Dr. Robert Murphy Jr. (Alaska Pacific University)
Ms. Darcy Peter (Woodell Climate Research Center;
Beaver)
Dr. Julie Raymond-Yakoubian (Kawerak)
Mr. Richard Slats (Chevak)
Mr. Simeon Swetzof (St. Paul)
Ms. Alida Trainor (ADFG Subsistence Division)
Dr. Sarah Wise (AFSC)



LKTKS Taskforce

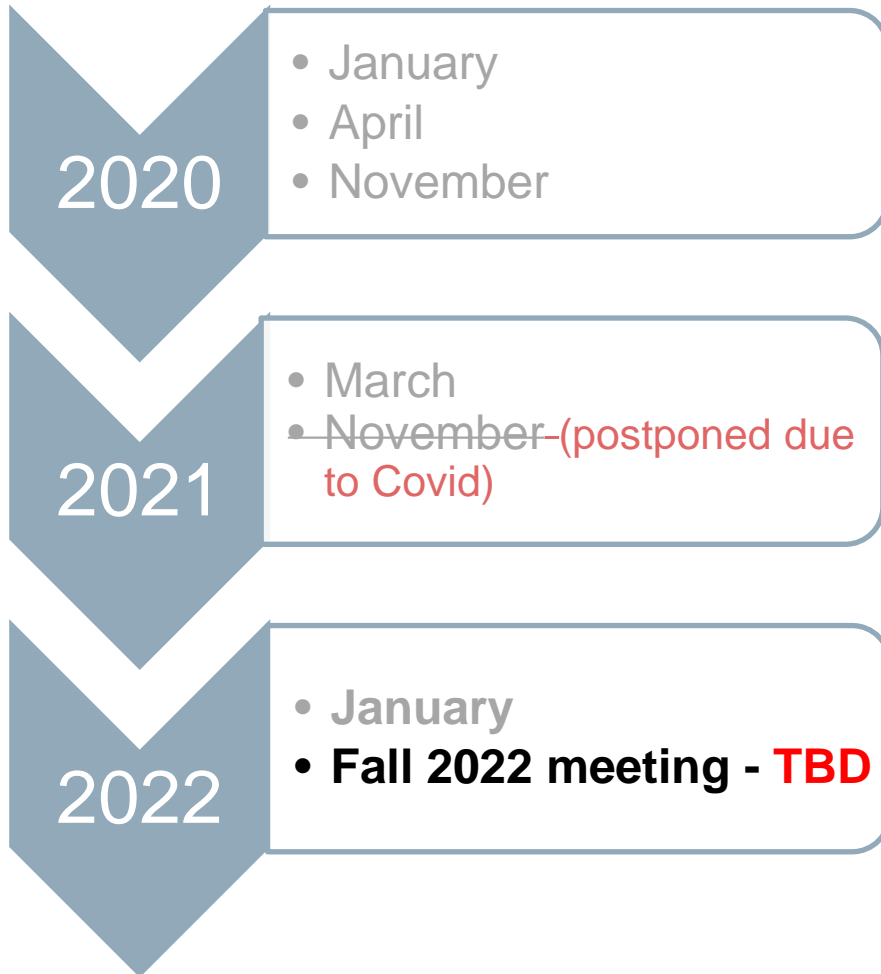
Goals:

1. To create processes and protocols through which the Council can identify, analyze, and consistently incorporate TK and LK, and the social science of TK and LK, into Council decision-making processes to support the use of best available scientific information in Ecosystem-based Fishery Management.
2. To create a protocol and develop recommendations through which the Council can define and incorporate subsistence information into analyses and decision-making.



Taskforce progress

Meetings through 2022



Work Products Completed

- ✓ Workplan
- ✓ Glossary of terms
- ✓ First draft of the protocol



Many ways of knowing

Western science is one way to make sense of the world around us. There are others that, when included, can contribute best available information for fisheries management.

Through the Taskforce's work, the Council will gain a stronger understanding of, and new processes and protocols for, using multiple knowledge systems in fisheries management actions.

Traditional Knowledge (TK) is rooted in generations of experience and understandings of Alaska Native peoples.

Local Knowledge (LK) emerges from the experiences people have with their day-to-day surroundings. Subsistence hunting, fishing, and gathering activities are deeply connected to history, culture, and tradition.



Additional considerations

LK

Observations and experiences of local people in a region as well as people with significant experience or expertise related to a particular location, species, or practice.

Evolves over time.

Based on personal, shared, and inherited experience.

LK holders may or may not be Indigenous Peoples.

(See Johannes et al., 2000; Martin et al., 2007; PFRCC 2011)

TK

“TK been handed down, undergone its own form of testing generation after generation, and is the culmination of finding the best practical skills to support Alaska Natives’ ways of life.”
Alaska Native Elder, personal communication, pg. 6

“In communities, TK is not compiled in print. The traditional ways of doing things have been handed down through generations by word of mouth and hands on learning by doing and living the life. Life experiences and observations have been to live the ways of their forefathers and to carry on their traditions, culture, and heritage for the next several generations.”
Alaska Native Elder, personal communication, pg. 16

Subsistence

The harvest of subsistence foods for nutritional, cultural, spiritual, and food security reasons is extremely important.

TK informs where individuals practice subsistence activities, how they practice them, and why they practice them.

TK is essential to a community’s ability to successfully enact food security (as well as water security, firewood security, etc.).

(See Callaway 2020; Donkersloot et al., 2021; Fienup-Reiordan 1990; Green et al., 2020; Wolf 2004)



'Knowledge' – Multiple ways of knowing in decision-making

Climate Adaptations

- Alessa et al. 2016
The role of Indigenous science and local knowledge in integrated observing systems: moving toward adaptive capacity indices and early warning systems. *Sustainability Science*, 11(1), 91-102.
- Eicken 2010
Indigenous knowledge and sea ice science: What can we learn from indigenous ice users?. In *SIKU: Knowing our ice* (pp. 357-376).
- Makondo & Thomas 2018
Climate change adaptation: Linking indigenous knowledge with western science for effective adaptation. *Environmental science & policy*, 88, 83-91.

Fisheries

- Anderton & Frost (2002)
Traditional/Local Knowledge Salmon Survey. Yukon River Panel Project CRE-16-02 Final Report.
- Chan et al. (2019)
Exploring diversity in expert knowledge: variation in local ecological knowledge of Alaskan recreational and subsistence fishers. *ICES Journal of Marine Science*, 76(4), 913-924.
- Gordon (2021)
Bridging Expert Knowledge and Fisheries Data to Inform Assessment and Management of Rockfishes in the Gulf of Alaska. University of Alaska Fairbanks.

Local Knowledge Traditional Knowledge

Environmental Observations

- Bielawski 2020
Inuit indigenous knowledge and science in the Arctic (pp. 219-227).
- Raymond-Yakoubian 2014
Indigenous knowledge and use of Bering Strait Region Ocean currents. Kawerak, Incorporated, Social Science Program.

Sustainable management

- Danielsen et al. 2014
Counting what counts: using local knowledge to improve Arctic resource management. *Polar Geography*, 37(1), 69-91.
- Hikuroa et al. 2011
Integration of Indigenous Knowledge and Science. *International Journal of Science in Society*, 2(2).
- Rosellon-Druker et al. 2019
Development of social-ecological conceptual models as the basis for an integrated ecosystem assessment framework in Southeast Alaska. *Ecology and Society*, 24(3).





Trust - acknowledging difference and respecting diverse cultural identities



Protocol background

The protocol's content reflects consensus among Taskforce members. The seven main guidelines are also in line with the research and engagement principles outlined in the Alaska Federation of Natives Guidelines for Research and those developed by the National Science Foundation, Office of Polar Programs in its Principles for the Conduct of Research in the Arctic.

<http://www.ankn.uaf.edu/IKS/afnguide.html>
<https://www.nsf.gov/geo/opp/arctic/conduct.jsp>

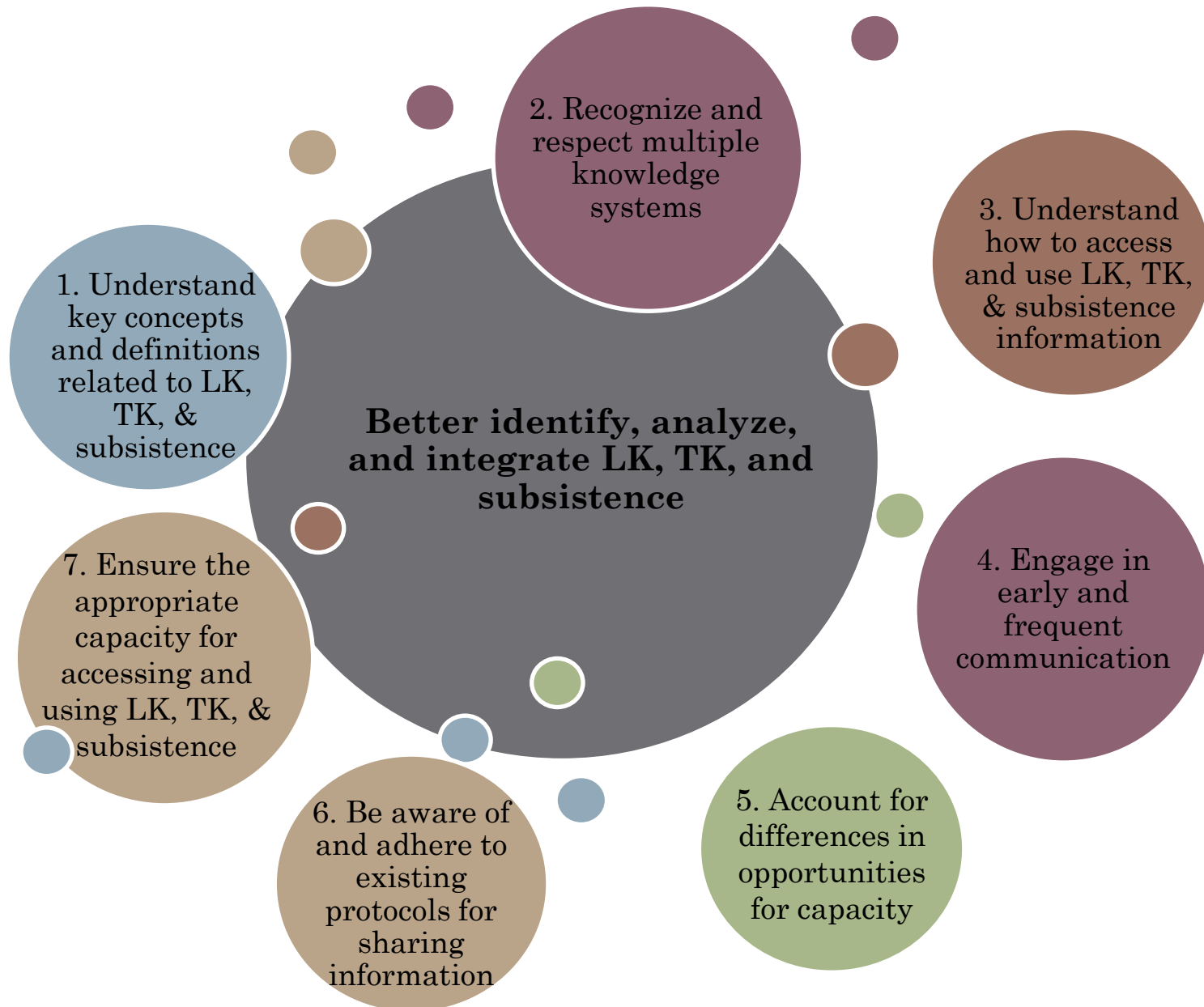


Protocol – *setting the stage*

- No one component of this protocol should be separated from the whole
- The suite of guidance centers on relationships, cultural sensitivity, awareness, and respect
- The protocol is:
 - intentionally broad
 - specific to the Bering Sea region and fisheries management
 - action-informing

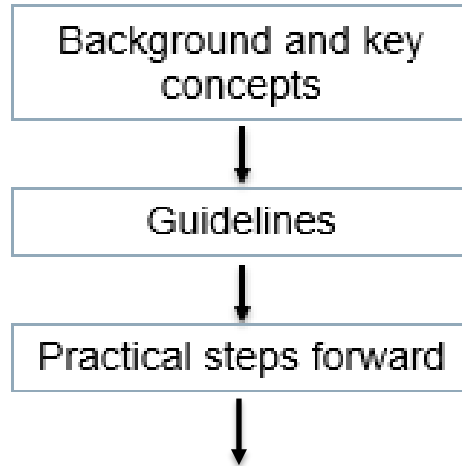


Protocol guidelines



Protocol structure

LK, TK, and Subsistence Protocol



Improve understandings and provide analytical guidance to **identify, analyze, and include** LK, TK, and subsistence information into the Council's decision-making process



Guideline 3

Recognize how to identify sources of LK, TK, the social science of LK and TK, and subsistence information

1. Search engine

2. Identifying experts

3. The community context



Photo credit: Anna Henry



LKTKS search engine

How can the Taskforce develop processes for identifying and defining sources of LK, TK, the social science of LK and TK, and subsistence information?

- A resource to more easily identify sources of LK, TK, the social science of LK and TK, and subsistence information.
- Sources of published or publicly available papers and reports related to LK, TK, or subsistence relevant to fisheries management and the North Pacific.

When the fish come, we go fishing:
Local Ecological Knowledge
of Non-Salmon Fish Used for Subsistence
in the Bering Strait Region



Subsistence Use and Knowledge of
Salmon in Barrow and Nuiqsut, Alaska

Principal Investigator
Courtney Carothers
School of Fisheries and Ocean Sciences
University of Alaska Fairbanks

Graduate Student Researchers
Shelley Colton, Katie Moerlein



Finding the search engine: <https://lktks.npfmc.org/>



NORTH PACIFIC
Fishery Management Council

Additional suggestions for sources of local knowledge (LK), traditional knowledge (TK), the social science of LK and TK, as well as information about the subsistence way of life can be sent to npfmc.lktks@gmail.com

All fields

Title

Author

Year From

Year To

Keywords

Groups

Methods

Species

Region

Title ↑	Author	Year	Link
Kusquqvagmiut Neqait: Fish and Food of the People of the Kuskokwim	Fienup-Riordan, Ann, Alice Rearden, and Marie Meade	2019	▼
Nunamta Ellamta-Ilu Ayuqucia/What Our Land and World are Like: Lower Yukon History and Oral Traditions	Rearden, Alice	2014	▼
'Always Taught Not to Waste': Traditional Knowledge and Norton Sound/Bering Strait Salmon Populations. 2015 Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative Project 1333 Final Product.	Kawerak, Inc., Brenden Raymond-Yakoubian, and Julie Raymond-Yakoubian	2015	Link ▼
'We Monitor by Living Here': Actualization of a Social-Ecological Monitoring Program Grounded in Gitga'at Harvesters' Observations and Knowledge	Thompson, Kim-Ly	2018	Link ▼
'What are you going to do, Protest the Wind?': Community Perceptions of Emergent and Worsening Coastal Erosion from the Remote Bering Sea Community of St. Paul, Alaska	Tran, Jessica, Lauren M. Divine, and Leanna R. Heffner	2020	Link ▼
"A Bitter Taste of Fish: The Temporality of Salmon, Settler Colonialism, and the Work of Well-Being in a Yupiaq Fishing Village	Voinot-Baron, William	2020	Link ▼
"A Preliminary Baseline Study of Subsistence Resource Utilization in the Pribilof Islands	Veltre, Douglas W., and Mary J. Veltre	1981	Link ▼
"Alaska Native Subsistence: A Matter of Cultural Survival	Thornton, Thomas F	1998	Link ▼
"Norton Sound Winter Red King Crab Studies, 2000	Brennan, Elisabeth L	2000	Link ▼
"The Last Cowboys: Keeping Open Access in the Aleut Groundfish Fishery of the Gulf of Alaska	Reedy-Maschner, Katherine	2019	Link ▼

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Building the search engine

The search engine contains LK, TK, the social science of LK and TK, and subsistence information (empirical and non-western scientific) related to the Council's jurisdiction.

Multi-step and iterative approach:

1. Retrieving sources – Taskforce expertise, Web of Science, Google Scholar, NOAA Voices, etc.
2. Examples of search terms “LK,” “TK,” “subsistence,” “fisheries management,” “climate change,” “wellbeing,” etc. to saturation.
3. To be included it must have a substantive focus based on specific parameters for the Council's jurisdiction (e.g., region and species), and refer to or be focused on LK, TK, and subsistence.
4. Then used an inductive approach to include thematically linked literature (e.g., equity, co-production, climate change, wellbeing, etc.) (Guest et al., 2006; Strauss and Corbin 1997).
5. Designed to be adaptive and evolve over time.
 - New submissions should be sent to npfmc.lktps@gmail.com



Identifying LK

- Asking fishing organizations or associations to identify cohorts of commercial fishers to talk to, and entities prepare a list of individuals who are well known with that specialized knowledge (Ames 2007).
- In communities, LK holders may be people who have experience with food preservation, learn from books and articles, and observers gathering (Alaska Native Elder, personal communication).



Identifying TK

“When citing experience of others, the Yupik will identify the source or sources of information and the people through whom it has been transmitted. When a person’s own observations and experience confirm such information, then a person can describe it as a known fact to him or her... [TK] is continually discussed in the community and while engaging in the activities that develop and require traditional knowledge, such as hunting, boating, or traveling over or amid sea ice. Children and youth are taught to remember stories and information accurately, to ‘put it into your body,’ by techniques such as keeping one’s head still while listening. Songs may also be used to memorialize notable events. The Yupik language is a key element of knowledge transmission...” – Noongwook et al., 2007, 48



The community context

- There is a real need to understand the various entities you're working with rather than designing a new system
- Different roles and responsibilities of agencies and key actors
- “Who do I talk to for this, for that, and the other?”



LAY OF THE LAND NORTON SOUND REGION

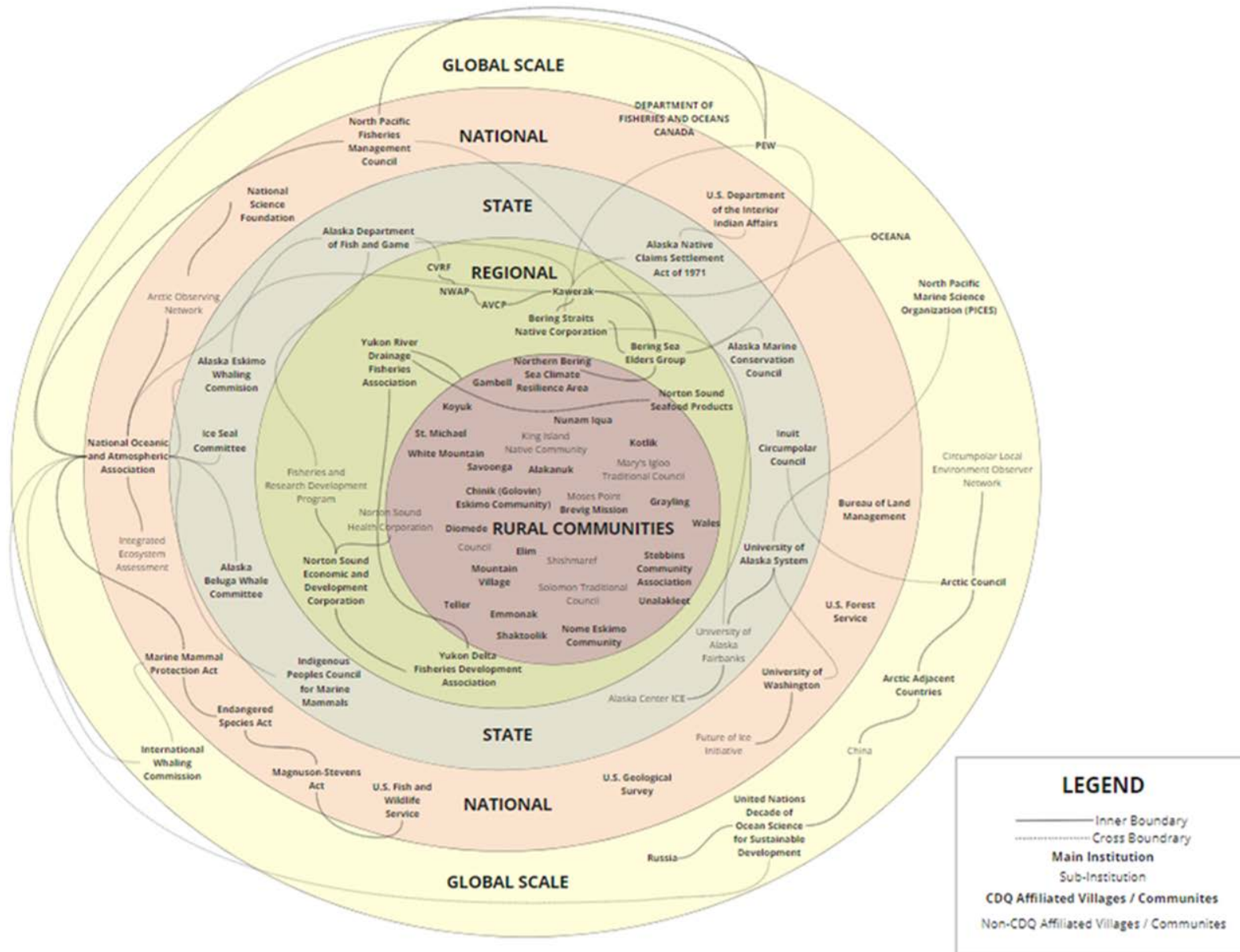


FIGURE 1: INITIAL OUTLINE OF VARIOUS INSTITUTIONS AND POLICIES INFLUENCING FISHERIES MANAGEMENT AND POLICY CREATION WITHIN THE NORTON SOUND REGION OF ALASKA ON GLOBAL, NATIONAL, STATE, REGIONAL, AND LOCAL SCALES



Key takeaways

- Strengthening relationships and rapport.
- Taking a layered approaches to providing guidance that is practically useful.
- Support the Council in being responsive to a variety of Presidential Memorandums, Executive Orders, and legislation...



Broader policy connections

Magnuson Stevens Act – National Standard 2 and 8

Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 16, 1994)

Executive Order 13175 – Consultation and Coordination with Indian Tribal Governments (November 9, 2000)

Presidential Memorandum – Tribal Consultation and Strengthening Nation-to-Nation Relationships (January 26, 2021)

Executive Order 13985 – Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (January 25, 2021)

Presidential Memorandum – Indigenous Traditional Ecological Knowledge in Federal Decision-making (November 15, 2021)



Next Steps

- ✓ The LKTKS Taskforce will have its next meeting in Fall 2022
 - Review a second draft protocol and further the discussion on potential onramps.
- ✓ The Taskforce intends to review a final protocol in January 2023 for Council review in early 2023, at which point the Council could consider adopting the protocol to inform its decision-making process.



Questions?

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