

DRAFT

Onramps for Local Knowledge, Traditional Knowledge, and Subsistence

Local Knowledge, Traditional Knowledge, and Subsistence Taskforce

Prepared for review and discussion at March 2021 meeting

1. Introduction

The North Pacific Fishery Management Council (NPFMC) tasked the Local Knowledge (LK), Traditional Knowledge (TK), and Subsistence (LKTKS) Taskforce to “identify potential “onramps,” or points of entry, within the Council’s process (e.g., public testimony or analyses) for the taskforce’s work” at its January 2020 meeting. In response to this motion, the Taskforce co-chairs prepared a scoping paper with several potential onramp options for incorporating LK, TK, the social science of LK and TK, as well as subsistence information into the Council’s decision-making process.

At its [April 2020 meeting](#), the LKTKS Taskforce recommended four options be explored in greater detail including regular engagement between tribes and the Council, hiring or training a Tribal Liaison on Council staff, incorporating LK, TK, the social science of LK and TK, as well as subsistence information more systematically in social and cultural analyses, and expanding LK, TK, subsistence, and social science expertise on existing committees, Plan Teams, and staff.¹

The primary purpose of this document is to provide a written account of the pros and cons of each recommended onramp to help taskforce members reach consensus on how to move forward. This document is a tool to guide discussion and should not be considered a final product. After each onramp recommendation, except for tribal engagement which was discussed at the November 2020 meeting, there are discussion questions to help members prepare for open dialogue and consensus building at the March meeting. Section 2 includes definitions of key terminology as agreed by the taskforce. Section 3 explores each onramp option in detail. Each recommendation has supporting rationale, a variety of discussion questions intended to help members work towards consensus on key issues, and additional information and evaluation of each option.

2. Definitions for LK, TK, and Subsistence

Local Knowledge: Broadly includes the 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 fishery.² LK can evolve over time, and it is often acquired over the course of a few generations or less, but it is inherently the product of knowledge formation and dissemination based on personal, shared and inherited experience (Martin et al. 2007). It is recognized that bearers of LK are often relatively small groups of people, living in or connected to, a common geographic location who actively engage with the environment through local harvest of wild resources. However, these people may or may not be Indigenous to the area or base their understandings on knowledge that evolves over many generations (PFRCC 2011). For example, within the Bering Sea region, LK holders might include commercial Bering Sea fishermen who spend considerable time in the region, and are possibly intergenerational participants in the fishery, but reside (at least part of

¹ Appendix A contains all other onramp options that were reviewed, but not recommended, by the LKTKS Taskforce at the April 2020 meeting.

² At its first meeting, the LK, TK, and Subsistence Taskforce discussed the importance of gaining a common understanding of terminology as they provide key reference points for future work. The discussion on LK and TK presented here draws from the Bering Sea Fishery Ecosystem Plan (2019, 16).

the year) outside the region (i.e., in Lower 48 ports such as Seattle or Astoria). LK is currently provided in a non-systematic way via voluntary public testimony from skippers, coastal community residents, etc., and stakeholder interactions with the Council and its supporting bodies.

Traditional Knowledge is also experience-based, but it is inherently deeply embedded in cultures who have dwelled in a landscape since time immemorial (Berkes 1999, 8; Ingold 2000, 43). TK is more than information about the ecosystem and its components (i.e., species abundance or movement patterns) as it refers more specifically to knowledge held by Indigenous people which is inseparable from particular values. Specifically, the Bering Sea FEP (2019, 16) recognizes that TK is:

“A living body of knowledge which pertains to explaining and understanding the universe and living and acting within it. It is acquired and utilized by Indigenous communities and individuals in and through long-term sociocultural, spiritual and environmental engagement. [Traditional knowledge] is an integral part of the broader knowledge system of Indigenous communities, is transmitted intergenerationally, is practically and widely applicable, and integrates personal experience with oral traditions. It provides perspectives applicable to an array of human and nonhuman phenomena. It is deeply rooted in history, time, and place, while also being rich, adaptable, and dynamic, all of which keep it relevant and useful in contemporary life. This knowledge is part of, and used in, everyday life, and is inextricably intertwined with peoples' identity, cosmology, values, and way of life. Tradition – and [traditional knowledge] – does not preclude change, nor does it equal only 'the past'; in fact, it inherently entails change.” (Raymond-Yakoubian et al., 2017).

LK and TK are relevant to all fisheries sectors (i.e., commercial, recreational, and subsistence) and all aspects of fishery management in the Bering Sea Ecosystem. Finding pathways to incorporate LK, TK, and subsistence information into the Council's existing processes can provide an opportunity for the Council to be more responsive to ecosystem-based fishery management (EBFM) and climate change impacts throughout the Bering Sea region. For example, people who are intimately familiar with a particular landscape have knowledge about the past and present conditions of commercial and non-commercial fish species and could be the first to notice changes in resource abundance, species presence, or habitat destruction (Gadamus and Raymond-Yakoubian 2015; Clark 2016). For example, as Johannes and Nies (2007, 42) note, communities' or "fishers' knowledge may often be the only source of information on the history of changes in local ecosystems and on their contemporary state that is sufficiently fine scale to help us design ways to protect stock remnants and critical habitats." A practical example of LK with direct relevance to fishery management is that inshore cod fishermen communicated a decrease in the North Atlantic cod spawning stock on their fishing grounds prior to the biological collapse of the cod fishery (Johannes et al., 2000).

Subsistence: There are different ways of understanding or defining subsistence in Alaska, and those understandings influence how communities access resources and engage a subsistence way of life. For example, the State of Alaska has historically approached defining subsistence as traditional or customary use of resources and considers all Alaska residents qualified subsistence users. Federal policy, as designated under the Alaska National Interest Land Conservation Act of 1980, also focuses on the uses of wild resources while establishing a “rural preference” for subsistence rights for resource access and use on federal lands (Anderson 2016). While the State and Federal policies diverge on who can participate in subsistence activities, both definitions focus on the use and harvest of wild resources without recognizing the broader context in which they exist. An "Indigenous perspective” expands the understanding of subsistence by recognizing how hunting and gathering related activities are deeply connected to history, culture, and tradition (Raymond-Yakoubian, Raymond-Yakoubian, Monicreiff 2017). The importance of subsistence for Alaska Native communities, and the continuation of subsistence-related practices, is that it is a critical linkage to linguistic and cultural survival (Active 1999). Participation provides opportunities for different generations to learn from one another and pass on critical knowledge and value systems. As such, subsistence practices are meaningful beyond the harvest of nutritional and cultural goods as they

create and reproduce linkages across multiple social and ecological domains.

3. LKTKS Onramps Recommended by the LKTKS Taskforce

3.1 Conceptual Model for Council and Tribal Engagement

**The Taskforce reviewed its recommendation on tribal engagement at the November meeting.*

The LKTKS Taskforce recommended the Council initiate a process whereby tribes, or a tribal appointed representative, could regularly engage with the Council. This recommendation would add a new procedural component to the Council’s existing process. Overall, this recommendation is process informing, meaning engagement between federally recognized tribes³ and the Council could enhance relationships between tribes and the Council over time.

Developing guidelines to institute a process for tribes, or a tribally appointed representative, to meaningfully engage with the Council on its process or specific actions recognizes tribal government’s status as political sovereigns (Lindemuth 2017). The taskforce is aware that the National Marine Fisheries Service (NMFS) has primary responsibility for undertaking formal Tribal Consultations on marine issues under EO 13175, however, the Council is directly responsible for developing management strategies that affect tribes and their use of resources. For this reason, there are many interrelated benefits to including regularly occurring tribal engagement in the Council’s decision-making process:

- Creating a pathway for tribal engagement and two-way communication between tribes and the Council could build relationships and mutual trust through a deliberative and inclusive dialogue.
- Regularly occurring tribal-Council engagement can also provide an opportunity for the Council to better support NMFS as they engage formal Tribal Consultations.
- Potentially reduce the burden placed on the Council and its staff by ensuring Free Prior and Informed Consent (FPIC) principles are adhered to.⁴

What follows is an initial conceptual design for tribal engagement in the Council’s decision-making process. Ensuring this process adds value to the Council and tribes will require creativity, flexibility, and equity in the participatory process.

Participation: The individual or group representing tribal interests during the engagement process should be an official representative of a tribal government or entity (i.e., they are speaking with permission on behalf of their group). This ensures that all information that is shared is appropriate, has been approved, and meets FPIC principles while providing opportunity for direct engagement in decisions affecting them.

Participation in a particular meeting for tribal engagement with the Council could be extended to representatives of research organizations as needed or appropriate. Undertaken on an as needed basis, this could create an opportunity for three-way communication among Council members, tribes, and western scientists and address long-standing concerns expressed by Tribes over inequity in the practices and processes of research. Extending an invitation or request to third parties should be mutually agreed upon by participating tribes and the Council.

³ This includes all Indian tribes identified in the most recent list of “Indian Entities Recognized and Eligible to Receive Services from the United States Bureau of Indian Affairs” published in accordance with section 104 of Public Law 103-454 (108 Stat. 4792; 25 U.S.C. 479a-1) and any other Indian tribes acknowledged by the Bureau of Indian Affairs and identified for inclusion on such a list.

⁴The principles of FPIC “recognize(s) indigenous peoples’ inherent and prior rights to their lands and resources and respects their legitimate authority to require that third parties enter into an equal and respectful relationship with them based on the principle of informed consent. Procedurally, free, prior and informed consent requires processes that allow and support meaningful choices by indigenous peoples about their development path” (UN Sub-Commission on the Promotion and Protection of Human Rights 2005, 5).

Evaluation of LK and TK based on tribal engagement: Should TK be shared by tribes or their appointed representative in the engagement process, it must retain the relevant context. The taskforce's protocol will include additional information on this point, however, it is important to preface that tribal engagement should not be treated as an opportunity for data collection. While analysts may be able to synthesize LK and TK observations shared during an engagement meeting, it may not be appropriate or ethical for analysts to extract bits and pieces to convey to the Council or use as a means of plugging data gaps. For this reason, it is important to maintain a do no harm approach when utilizing LK and TK. (For an example of the Do No Harm approach, see the [CDA Collaborative Learning Projects.](#))

Agenda: To facilitate meaningful dialogue between tribes and the Council it may be appropriate to form an agenda prior to the meeting. However, it may be necessary for ad hoc topics to be considered. Topics to be discussed should be determined by Tribes and Councilmembers. For example, the Council may request (at a prior Council meeting) to hear from tribes on a particular issue or subject. This request might be made during staff tasking. If tribes solicit for topics that are beyond the purview of the Council, tribes may be referred to a designated staff person or a Tribal Liaison (pending Council action and approval) who can assist in determining how that topic can be addressed.

Time allocation: Thus far, the taskforce has considered tribal engagement as occurring during the Council's B Report process because this is regularly occurring reporting between agencies (e.g., NMFS or the U.S. Coast Guard) and the Council. Tribal engagement in the B Report process could entail a scheduled block of time (e.g. 4 hours) which is reserved for engagement with tribes and TK holders. The time allocated for engagement between tribes and the Council will likely vary by meeting and the topics requested by Councilmembers or tribes. This will require additional planning for time management at each meeting from Council staff, particularly the individual contacting and working with Tribes who would be expected to communicate and work closely with staff leadership in advance of each Council meeting.

Speaking and rules for engagement: To facilitate trust and relationship building, the dialogue between tribes and the Council should be inviting and not privilege one entity over another. For this reason, tribal speaker's time should not be limited. Tribal speakers may sign up to speak or participate prior to the engagement meeting, at the start of the Council meeting if the B reports are chosen as an appropriate venue for tribal engagement, or there might be prior communication between tribal representatives and the Council's liaison to provide some sense of participation.

Potential next steps: If the Council would like to pursue this idea, the next step would be to task staff or the Taskforce with developing or formalizing the conceptual model for tribal engagement. In making this determination, the Council would need to consider its own goals for pursuing tribal engagement (e.g., receive regular input on specific actions). Over the long-term, should the Council take action on tribal engagement, staff would need to contact tribes, Alaska Native organizations, and regional corporations to notify them of this new engagement opportunity, build relationships and identify initial steps to inviting tribes or their representatives to an engagement meeting, prior to establishing an initial meeting or agenda.

3.2 Tribal Liaison

The LKTKS Taskforce recommended the Council appoint/hire a Tribal Liaison to facilitate the inclusion of LK and TK at all levels of the Council process, and facilitate relationships between tribes and the Council across regions. When making its original recommendation in April 2020, the Taskforce was aware that Executive Order (E.O.) 13175 requires federal agencies to engage Tribal Consultation with federally recognized tribes. The Council is not considered a Federal agency under E.O. 13175, and therefore not responsible for formal Tribal Consultations, but the Council does develop management policies that directly affect tribes and their use of marine resources.

This recommendation from the Taskforce preceded the Council’s action on the Community Engagement Committee’s final report in February 2021 which Rural Fisheries Community/Tribal Liaison responsibilities to Council staff. The Council’s [motion](#) specifies:

“The Executive Director should assign responsibilities of a Rural Fisheries Community/Tribal Liaison position to staff. The primary duties would be to 1) serve as a first point of contact in the Council office for rural communities and Tribes to navigate the Council process; 2) provide outreach on Council actions; 3) facilitate presentations from rural and/or Alaska Native communities or Tribal organizations to the Council on Council issues of particular concern or with a direct or significant effect on such entities; and 4) account for and measure the impact of its engagement strategies over time.”

In light of the Council’s February 2021 motion, the Taskforce should consider whether this recommendation is considered complete. An important difference to note is that, at this point in time, Rural Fisheries Community/Tribal Liaison responsibilities are related to community engagement and not necessarily identifying, analyzing, and including LKTKS expertise or information.

Discussion questions for taskforce members related to hiring a Tribal Liaison

- Does the Taskforce consider this recommendation complete? Why or why not?

3.3 LK, TK, and Subsistence Information in Social and Cultural Analyses

The LKTKS Taskforce recommended LK, TK, the social science of LK and TK, and subsistence data be incorporated more systematically into analyses required by the National Environmental Policy Act (NEPA). LK, TK, the social science of LK and TK, or subsistence information are relevant to multiple types of actions and analyses. For example, LK or TK could inform ecosystem interactions, species abundance or distribution may inform an Environmental Assessment as well as the cultural importance of a particular resource for inclusion in a Regulatory Impact Review (RIR) or a Social Impact Assessment (SIA). This recommendation is in line with National Standards 2 and 8.⁵ Under this recommendation, the taskforce envisions a more formalized process for inputting LK (and non-economic social science more generally) into existing analyses.

Analysts have the discretion to craft analyses in a way they feel provides the Council the best scientific information available relevant to the management action. Given that there are varying levels of familiarity among Council and NMFS staff with evaluating LK, TK, the social science of LK and TK, or subsistence information and including this information in an analysis, it may be useful for the Taskforce to consider developing a framework of template for writing analytical sections based on LK, TK, the social science of LK and TK, and subsistence information. These considerations should not be seen as a rigid set of analytical requirements, but rather a starting point for analytical writing that will be accompanied by the LKTKS search engine and eventual protocols.

Subsistence considerations:

**The following are based on ADF&G Customary and Traditional Use Worksheets*

Length and Consistency of Use: *A long term consistent pattern of use and reliance on the fish stock or game population that has been established over a reasonable period of time, excluding interruption by*

⁵ National Standard 2 states that “conservation and management measures shall be based upon the best scientific information available,” and calls for the use of economic and sociological information (50 C.F.R. § 600.315(a) and (a)(1)). National Standard 8 requires Federal decision-makers to “take into account the importance of fishery resources to fishing communities by utilizing economic and social data that are based on the best scientific information available” to provide for such communities’ “sustained participation” and to minimize “adverse economic impacts on these communities to the extent practicable” (50 C.F.R. § 600.345(a) and (a)(1,2)).

circumstances beyond the user's control, such as unavailability of the fish or game caused by migratory patterns or climatic events: The analyst should consider whether the community has a long-term, consistent pattern of noncommercial taking, use, and reliance on a particular fish stock or marine mammal species. Long-term use can be conceptualized as a reasonable period of time not less than one generation, excluding interruption by circumstances beyond the user's control (e.g., Exxon Valdez spill).

Seasonality: *A use pattern recurring in specific seasons of each year:* Describe the patterns of resource use, and when they occur. Description may be brief, but it should help decision-makers consider the timing and availability of food sources - link to food security if possible.

Means and Methods of Harvest: *A use pattern consisting of methods and means of harvest which are characterized by efficiency and economy of effort and cost:* Description of how users harvest particular resources, including a characterization of labor and cost if data is available.

Location: *The area in which the non commercial long-term and consistent pattern of taking, use, and reliance upon the fish stock population has been established:* Simply describe where the harvest of this resource occurs. If maps are available, please include.

Processing and Preservation: *The means of handling, preparing, preserving, and storing fish which has been traditionally used by past generations, but not excluding recent technological advances where appropriate:* include any details about how a resource is processed, stored, or put away for later consumption.

Generational Transmission of Knowledge: *A use pattern which includes the handing down of knowledge of fishing skills, values, and lore from generation to generation:* The intergenerational transmission of knowledge can include skills, values, and stories connected to the resource.

Sharing and Exchange: *A pattern of taking, use, and reliance where the harvest effort or products of that harvest are distributed or shared, including customary trade (the exchange of a resource for small amounts of cash), barter (the exchange of a resource for something other than cash ie another wild food, gas, groceries, etc.), and gift-giving:* Sharing and the exchange of wild resources is an integral part of subsistence. Describing how a resource is exchanged is fundamental to understanding how harvest supports the community or region at large.

Economic, cultural, social, and nutritional elements of subsistence: *A pattern that includes taking, use, and reliance for subsistence purposes upon a wide variety of the fish and game resources and that provides substantial economic, cultural, social, and nutritional elements of the subsistence way of life.*

LK, TK, and the social science of LK and TK considerations

[See questions below]

• Discussion questions related to LKTKS and social and economic analyses:

- *What are the major points of consideration that should be included for LK, TK, and the social science of LK and TK in an analytical document?*
- *What guidance would you give to staff looking to include secondary sources of LK, TK, and the social science of LK and TK in an analysis?*
- *Are there other considerations for subsistence that should be considered?*

3.4 Increasing LK, TK, or Subsistence Representation on Council Committees and Plan Teams

The LKTKS Taskforce recommended the Council increase tribal, LK, or TK representation on its current Committees or Plan Teams. The Social Science Planning Team (SSPT), the Bering Sea Aleutian Islands Groundfish Plan Team, the Crab Plan Team, the Bering Sea Fishery Ecosystem Plan Team, and the Ecosystem Committee are evaluated below as initial options. Adding tribal, LK, and/or TK expertise to particular advisory bodies supporting the Council provides an opportunity to complement existing expertise which is largely composed of western, non-social scientists or agency representatives. An important exception to this observation is the SSPT and Community Engagement Committee. Additionally, rather than forming a new LKTKS committee, taskforce members agreed it would be more appropriate to add expertise to existing bodies. This approach is less burdensome to the Council and the public as it does not require creating or tasking a new body and eliminates the need to learn a new process.

Under this approach, one additional person with tribal representation, LK, TK, or subsistence expertise could be added to any recommended body, leaving open the possibility for additional representation over time. It is important to note, however, that one person cannot be expected to hold LK, TK, or subsistence knowledge related to every issue going before the Council.

A Plan Team is a standing advisory body whose membership consists of scientists and managers who review the status of the Council's Fishery Management Plans, Fishery Ecosystem Plans, and best available social science. A Committee is formed to advise on a specific issue. These can be standing committees or ad-hoc committees that are established for a particular duration and which then disband. Most of the Council's current committees are standing committees – e.g., the Executive, Enforcement, and Charter Halibut Management Committees. The Council also creates issue-specific committees to review staff work and management actions under development, and the degree of active participation needed from stakeholders on the Committee is a direct outcome of the Council's statement of purpose.

Social Science Planning Team (SSPT): The taskforce could consider the SSPT as a body for adding tribal representation, or a person with LK, TK, or subsistence expertise. The SSPT's core mandate is to strategically support Council decision-making by making recommendations to the Council on collecting or utilizing the best available social science information. The SSPT is currently composed of interdisciplinary social scientists and economists. Some members may have expertise related to the social science of LK, TK and subsistence, but there are no LK, TK, or subsistence knowledge holders currently represented on this body. This representation is distinct from forms of academic training, and could complement the SSPT's ongoing review of science, policy, management initiatives and actions by bringing direct environmental observations, Indigenous value systems, personal experiences, and more that are practically and widely applicable to the SSPT.

Prior to making a recommendation related to a new SSPT nomination, the Taskforce should consider the value of adding expertise to the SSPT against the resources required to participate. The SSPT typically has two meetings per year, though the body will meet more frequently to respond to Council tasking. Non-federal employee Plan Team members' travel expenses are reimbursed.

SSPT members are appointed from public organizations and academic institutions. Members have expertise in diverse social science fields such as anthropology, sociology, economics, and human geography. The Council may also consider members who are Tribally-affiliated (defined as being nominated by an Alaska Native Tribe or Alaska Native organization), as well as from North Pacific Research Board (NPRB) and other agencies or institutions as appropriate. With the consent of the sponsoring agency or institution, nominations may be made by the Council, the Scientific and Statistical Committee (SSC), the Advisory Panel (AP), the SSPT, or the public. All nominations will be subject to approval by the SSC, with the Council retaining final appointment authority. Appointments should reflect the SSPT's responsibility to provide advice and expertise from a range of social sciences and study areas.

Bering Sea Aleutian Island (BSAI) Groundfish and Crab Plan Team: The BSAI Groundfish and Crab Plan Teams review fishery stock assessments and other information related to ecosystem and economic issues,

and provide recommendations to the Council to support decision-making. Specifically, recommendations are often tailored to setting appropriate measures for the conservation and management of the BSAI groundfish, king, and Tanner crab fisheries.

There could be value in adding an LK or TK expert to the BSAI Groundfish or Crab Plan Team as LK and TK could contribute contemporary and historical baseline environmental data thereby mitigating uncertainty, support the identification of more robust stewardship and conservation practices, identify different and diverse value systems attached to the resource, and highlight potential management disputes early in the Council's decision-making (Thornton and Maciejewski Scheer 2012). Additionally, expanding LK or TK expertise on the Plan Teams could inform ongoing discussions related to the development of the Council's Research Priorities. It is possible that LK or TK experts may not have the western scientific knowledge to review stock assessment models, and it would not be appropriate to expect an LK or TK expert to hold expertise for every species under consideration. This difference in knowledge could provide alternative perspectives when reviewing annual Stock Assessment and Fishery Evaluation (SAFE) reports that provide the Council with a summary of the most recent biological condition of the groundfish stocks and the social and economic condition of the fishing and processing industries.⁶

Plan Teams meet at least twice a year for two weeks, and non-federal employee Plan Team members' travel expenses are reimbursed. However, a nominated individual would be expected to participate and contribute to the review and recommendations on stock assessment models. Currently, nominations to Groundfish and Crab Plan Teams are made with the consent of the sponsoring agency or institution, nominations may be made by the Council, the Scientific and Statistical Committee (SSC), the Advisory Panel (AP), or the Plan Teams themselves. All nominations will be subject to approval by the SSC, with the Council retaining final appointment authority. Appointments should reflect the Plan Teams' responsibility to provide advice in the areas of regulatory management, natural and social science, mathematics, and statistics. In general, Plan Team members are appointed from government agencies and academic institutions having expertise relating to the groundfish fisheries of the FMP region. Normally, each Plan Team will include at least one member from the Council staff, the regional office of the National Marine Fisheries Service (NMFS), NMFS' Alaska Fishery Science Center, the Alaska Department of Fish and Game, the Washington Department of Fisheries, the International Pacific Halibut Commission, the University of Alaska, the University of Washington, and other institutions and universities.

Bering Sea Fishery Ecosystem Plan Team: The Bering Sea Fishery Ecosystem (BS FEP) Plan Team plays a strategic role in moving the BS FEP forward. Specifically, the FEP Plan Team provides recommendations to the Council on the work of the Action Modules initiated so far under the FEP and their discrete projects with specified objectives, the initiation of future Action Modules, ecosystem-based fishery management approaches, and the overall FEP implementation. Specifically, LK and TK expertise could contribute to discussion and decision-making related to diverse value systems linked to fisheries management and climatic or other environmental observations. Additionally, the FEP Plan Team's membership could be complemented by the addition of a LK, TK or subsistence expert, given current members are primarily non-social scientists and agency representatives.

The FEP Plan Team typically has an annual meeting in March, and non-federal employee Plan Team members' travel expenses are reimbursed. A nominated individual would be expected to participate and contribute to the review and recommendations of all materials evaluated by the FEP Plan Team.

In terms of membership, the FEP's Terms of Reference do not explicitly reference Tribal, LK, TK, or subsistence expertise. FEP team members will be appointed from government agencies and academic institutions having expertise relating to the Bering Sea ecosystem. The membership should include

⁶ The SAFEs comprise the best available scientific information on the condition of the groundfish stocks and include overfishing level (OFL) and acceptable biological catch (ABC) recommendations for the Council's groundfish fisheries.

scientists and managers with diverse expertise, including ecosystem modeling, stock assessment of Bering Sea species, oceanography, seabirds and marine mammals, habitat, social science, and economics. Ideally, the FEP team should represent a diverse group of participants from many different agencies with expertise and management responsibility in the Bering Sea ecosystem, as well as members who also participate on the Council's other Plan Teams for Crab, Groundfish, and the Social Science Planning Team.

Ecosystem Committee: The Council's Ecosystem Committee provides advice on specific Council analyses, considers North Pacific management in the light of national ecosystem discussions, and suggests new ways for the Council to engage in ecosystem-based fisheries management (EBFM). Adding Tribal, TK, or LK holder representation to the Ecosystem Committee is appropriate as this body is tasked with increasing the Council's ability to enact EBFM, and the expertise provided by Tribal representatives or LK and TK holders can make a substantial contribution to this goal. Adaptive and responsive EBFM through the Ecosystem Committee requires an understanding of those dynamics and incorporates the best available science which includes LK and TK. Additionally, principles of EBFM are aligned with certain aspects of TK and indigenous knowledge, such as understanding the significance of key species to indigenous communities, environmental observations and perspectives of the local ecosystem, and linkages between human and environmental dimensions in EBFM.

By broadening and deepening the expertise on the Ecosystem Committee through the incorporation of LK and TK experts and the likely effect this additive representation will have on committee discussions and recommendations, the Council has an opportunity to better meet its [vision for the Ecosystem Committee](#): taking into account environmental variability and uncertainty, changes and trends in climate and oceanographic conditions, fluctuations in productivity for managed species and associated ecosystem components, such as habitats and non-managed species, and relationships between marine species.

In terms of membership, there are two models in use to determine Committee membership: 1) the Chair can use his/her authority to determine who should be on the Committee. This model is more frequently used to appoint Council members to committees, or for replacement members on standing committees. 2) The Chair may call for nominations for a vacant seat or a new Committee. In that case, interested stakeholders can submit their name and letter of interest to the Council office by a deadline, and the Chair will appoint Committee members based on the list of nominees.

Discussion questions for incorporating LK, TK, or subsistence expertise

- Which body would you recommend, and what is your supporting rationale?
- Are there any committees, Plan Teams, etc. that you feel are the least well-suited?
- Should other avenues for increasing representation be explored? If yes, what are they?

3.5 NEW! Ecosystem Status Report

Ecosystem Status Reports (ESR) are produced annually to compile and summarize information about the status of the Alaska marine ecosystems for the North Pacific Fishery Management Council, the scientific community, and the public. There are four regional reports, each updated once every two years: the Eastern Bering Sea (last updated 2019), Aleutian Islands (updated 2018), the Gulf of Alaska (updated 2019), and Arctic (forthcoming) ecosystems. These reports include ecosystem report cards, ecosystem assessments, and ecosystem and ecosystem-based management indicators that together provide context for ecosystem-based fisheries management in Alaska.

The ESRs annually summarize and synthesize climate and fishing effects (historical and future) on each region from an ecosystem perspective. Using an **indicator approach**, these reports provide the historical perspective of status and trends of ecosystem components and ecosystem-level attributes. Given this approach, information is steeply synthesized or reduced to be able to scale to the ecosystem level. In doing so, rich contextual information may be obscured; however broad human system dimensions are visible within an ecosystem context ([see link](#) – AFSC Ecosystem Status Reports).

Recently the ESR authors have taken steps to include local and traditional knowledge within the assessments. One recent example is the collaborative engagement of the seabird community (researchers, tribal councils, and community leaders) to derive a more robust understanding of population dynamics ([see link](#) - Eastern Bering Sea Assessment – 2019). This section was welcomed by the SSC and groups, and the authors hope to build on and expand this section. Examples from the report.

Unusual observations of adult pollock behavior were reported from community members as well as subsistence and commercial fishers in Bristol Bay from May–July 2018. Sightings of pollock swimming ‘with their heads out of the water’ and ‘behaving odd’ were reported. Adult pollock were reported to have washed up on shore in high numbers, and pollock were reported to have been caught in subsistence set nets during the salmon fishery(both near Pilot Point, UgashikRiver, and from the NushagakDistrict). “Traditionally, it is unusual to see pollock in the salmon season in Bristol Bay” (Catie Bursch, fisher, pers. comm.).

Northern fur seal pup production at St. Paul Island

s ~6% less than 2016. Pup production has been declining at St. Paul Island at an approximate annual rate of 4.0% since 1998. Anecdotal reports suggest smaller or skinnier pups at some rookeries on St. Paul Island. The estimated St. George pup production is approximately 5% greater than 2016 with no unusual pup mortality, but shows no significant trend since 1998. The decline of northern fur seals is also apparent to Elders, adults, and youth. Subsistence harvests represent the importance of securing seal meat to provide food security for winter (L. Divine, Aleut Community of St. Paul Island).

Given how long this product has been in development (over 10 years) and its high visibility with the Council, it could be beneficial to contribute content annually. It would be possible for LK and TK related to at-risk species or populations to be collected and included in the annual ESRs. Doing so would likely require additional resources (e.g., additional expertise or redirected tasking for existing social science staff), but it would allow for in-year observations to be collected regularly and incorporated into a high profile document. [ESRs for the Gulf of Alaska, Bering Sea, and Aleutian Islands can be found here.](#)

Some discussion questions

- 1) Comments and questions about the ESR
- 2) How could the ESR improve on reporting and attributing LK and TK?
- 3) What would be needed in terms of capacity to support this effort?
- 4) How could we develop, facilitate, and support a knowledge network to inform this effort?
- 5) How can reciprocity be addressed?
- 6) Have ESR authors met protocol guidelines or best practices? How can we support this?

APPENDIX A. Previously Evaluated Onramp Options for LKTKS Information

Below, in no particular order, are a number of LKTKS onramp options considered by the LKTKS Taskforce at its April 2020 meeting to show the full range of options.

1. Community Profiles

Starting in 2005, the AFSC compiled baseline socioeconomic information about Alaska communities (n =196) involved in commercial fisheries. Community Profiles include a wide variety of descriptive and attribute data, including: natural resources, fisheries-related infrastructure, engagement and importance of shore-based processing plants, as well as the extent to which community members participate in commercial, subsistence, or recreational fishing.

The actual process of updating Community Profiles is expensive and could potentially require additional staff expertise, depending who is building or updating the profile and whether they are trained in relevant methodologies (i.e., interviews, participant observation, or other ethnographic methods). There is an opportunity for the Taskforce to consider how to build upon the existing Community Profile process via synthesizing existing LK and TK research specific to particular communities, or the collection of primary data via in-person interviews, focus groups, oral histories, or participant observation. Such data may include, but is not limited to, the values attached to subsistence fishery engagement, changes in patterns of subsistence and commercial resource use, as well as any corresponding changes to patterns or practices of social and cultural engagement.

Updating these profiles could provide an opportunity for more robust understandings of the human dimensions of the Bering Sea region and beyond, which would allow the Council to be more responsive to National Standards 2 and 8. Analysts often rely on Community Profiles for assessments, such as the Communities section of a Regulatory Impact Review (RIR) or a Social Impact Assessment. While it is not reasonable to expect a one-time effort to collect comprehensive LK and TK for all potentially relevant Council actions, this approach would build relationships with experts in communities. It is possible that analysts may be able to engage and collaborate with these experts in the future, pending their consent. [The current set of community profiles can be browsed here.](#) **AFSC is also currently working on developing a Community Mapping Dashboard which will contain more updated information.**

2. Ecosystem and Socioeconomic Profiles (ESPs)

ESPs are produced by stock assessment authors working closely with assigned socioeconomic experts, typically economists, at AFSC. ESPs bridge the gap between ecosystem research for a stock assessment and the broader economic systems connected to a stock. These profiles offer a consistent approach to integrating socioeconomic information alongside ecosystem information in stock assessments. ESPs use data collected from a large variety of national initiatives across regional science centers to generate a set of standardized products that culminate in a focused, succinct, and meaningful communication of potential drivers for specific stocks. The first ESP was completed in 2017 for sablefish, after which the Council recommended that ESPs be developed for priority stocks in the Alaska groundfish and crab management plans (GOA pollock, St. Matthews Blue King Crab, Pacific cod team initiated, crab team TBD). ESPs are one part of ongoing work to improve our understanding of environmental and climate forcing of ecosystem processes with a focus on variables that can provide direct input into or improve stock assessment and management. [The ESP of the Walleye Pollock stock in the Gulf of Alaska can be found here, as an example.](#)

Currently, LK, TK, and the social science of LK and TK, are not systematically considered when

developing an ESP for a specific stock. There is an opportunity over the long-term for the Taskforce to provide guidance on how to incorporate such information. An ESP could be an appropriate place for LKTKS information that is stock-specific. Currently, the social science portion of the ESP process is dominated by economic indicators such as economic performance, ex-vessel value, price, etc. Community-level indicators cover the local quotient, deliveries, vessel registration, revenue, and more. Although there is willingness to incorporate LKTKS information, the Taskforce faces a challenge in providing guidance for incorporating it. First, much of the analysis and reporting for the ESP process is dominated by a quantified indicator format. LKTKS information is not likely to be easily reduced to a +/- indicator. Additionally, ESP team authors would need to solicit LKTKS information. Without a formal, mandated process to require its inclusion, the value of this knowledge would be author or team-dependent.

3. Research Priorities Development

The Council's research priorities consist of a wide range of science-based needs and interests that support or improve the Council's ability to manage marine resources in federal waters off Alaska's coast and maintain sustainable fishing communities. Specific research topics are organized online through [a publicly accessible database](#) that can be queried for changes in research status and can also be downloaded completely for detailed information about all of the Council's research needs. Research topics are ranked through four priority categories: *Critical ongoing monitoring*, *Urgent*, *Important (near term)*, and *Strategic (future needs)*. These priority categories have specific [definitions](#) that emphasize correspondence of research to the Council's time horizon of management concerns.

Currently, there are no LK or TK research priorities. There are two subsistence-related priorities (ID 228 and ID 165). The Taskforce could make recommendations to the Council on the nature and scope of research priorities to be developed in the future. For example, such recommendations might include collecting LK and TK related to particular stocks or actions being undertaken by the Council. The Taskforce could also identify and recommend particular approaches that might be well-suited for such work such as participatory and qualitative methods. It should be noted that these studies should be carried out with the consent of individual participants as well as local and regional tribal councils.

4. Public Testimony

Public testimony is taken at Plan Team, Committee, Taskforce, and Council meetings. Currently, LK and TK are most often heard by the Council via spoken or written public testimony. This will continue to be a viable pathway for the Council to collaborate with LK and TK holders.

5. Intro to the Council Process

Council staff have recently developed a series of materials introducing the public to the Council's process. One such outreach tool is a presentation on the Council's process, which has thus far been given by the Deputy Director. To date, the Intro to the Council Process presentation has not included a formal space for public testimony, though these presentations are interactive. It would be possible to take public testimony, or make a solicitation for LKTKS via public testimony at these outreach events in addition to the public testimony opportunities presented at Plan Team, Committee, Taskforce, or Council meetings.

6. Standing Committee for LK, TK, and Subsistence

The Council could develop and initiate a standing LKTKS Committee as an avenue to solicit related information, review analyses, and make recommendations to the Council on discrete and appropriate actions. If such a Committee is developed, the expertise and representatives should be diverse across the Bering Sea region, LK and TK holders, and individuals actively involved with subsistence. Related,

membership might primarily include local stakeholders and social science experts. This Committee could exist independently or be a subgroup under the Bering Sea Fishery Ecosystem Plan Team or the Social Science Planning Team.

The Taskforce is intended to dissolve at the completion of its work, though a standing Committee or Team of LK, TK, and subsistence experts could be created to continue to give input on research priorities and analyses. A LKTKS Committee may be able to provide guidance related to LK, TK, the social science of LK and TK, or subsistence related to specific actions, be a clear body for interested stakeholders to engage or give public testimony, and act as a review body for analyses containing these forms of knowledge. It is not envisioned that a Committee would be a standing group of LK, TK, or subsistence experts to be treated as an extractive information resource as needed (i.e., staff could not expect that body to, comprehensively, be experts on all possible issues).

7. Teleconference Co-management

The Council could use in-season or pre-season teleconferences with regional or tribal entities related to particular species of interest. A similar process exists between the [Yukon River Drainage Fisheries Association](#) and the [Alaska Department of Fish and Game](#) and the [US Fish and Wildlife Service](#). That particular co-management process includes in-season fishery management teleconferences to exchange information on the timing, abundance, escapement, and management strategies for salmon throughout the drainage. Utilizing a similar process for certain species, such as Norton Sound Red King Crab or halibut, could provide an opportunity for the Council to hear local observations regarding current and past environmental conditions, management strategies, and receive buy-in and feedback from local stakeholders. It is also a process by which these stakeholders can share their knowledge to participate in decision-making in a meaningful way.

Such an approach could require more time and investment from Councilmembers apart from the current five annual meeting structure. However, it is possible to imagine holding an annual meeting in concert with one of the five Council meetings. Regardless of when the meeting would occur, hosting such teleconferences requires staff resources, but using a teleconference strategy would be a new process for facilitating inclusive and adaptive Federal fishery management. If the Council wanted to try this method, a species like halibut could be initially targeted. The Council could work with regional entities like the CDQ groups to communicate with residents. For example, the Council could align a teleconference with CBSFA's annual fishermen's meeting which would provide an opportunity for many residents to participate in the decision-making process. This meeting occurs in early summer, prior to the Council making recommendations to the IPHC in December.

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