

## D5 Research Priorities

Chris Siddon (SSC Subgroup co-chair) provided a presentation outlining the work completed by the SSC Research Priorities Subgroup (Subgroup) and other review bodies. The Magnuson-Stevens Fishery Conservation and Management Act requires that regional fishery management councils develop “multi-year research priorities for fisheries, fisheries interactions, habitats, and other areas of research that are necessary for management purposes”. The NPFMC updates Research Priorities (RPs) on a triennial cycle, and the last review was in 2021. Public testimony was provided by Megan Williams (Ocean Conservancy) and Lauren Divine (Aleut Community of St. Paul Island Tribal Government). Written public testimony was provided during the SSC’s April meeting by Gordon Kruse (Bering Sea Fisheries Research Foundation), Marissa Wisneiwski (Alaska Marine Conservation Council), and Jamie Goen (Alaska Bering Sea Crabbers). Additional oral public testimony on RPs was provided by Cory Lescher (Alaska Bering Sea Crabbers) and Scott Goodman (Bering Sea Fisheries Research Foundation) at the February SSC meeting, at which time the SSC was not able to take up this item due to time constraints.

Dr. Siddon reviewed the research prioritization processes (approved by the SSC at the June 2023 meeting) and presented a list of 12 recommended RPs for “top ten” consideration, as well as 12 alternative RPs.

The Subgroup’s process for selecting their recommended RPs included reviewing the 2021 top-ten list, new top-five priority lists from each of the Plan Teams, the Social Science Planning Team (SSPT), the Bering Sea FEP team, new public submissions, and new RPs from SSC members. The Subgroup revised, combined, or added to these RPs to improve clarity, reduce redundancy, and broaden topics that spanned input from multiple groups. Care was taken to minimize any potential change of intent from the original RPs. See [Debrief on 2024 research priorities process](#) for details.

The SSC discussed reducing the list to 10 RPs by removing (1) *the Norton Sound Red King Crab Case Study* and (2) *Improve discard mortality rate estimates for scallops, crab, and groundfish stocks by gear types*. However, after considerable discussion, there was strong support for retaining all 12 Subgroup-recommended RPs with minor additions in the form of parenthetical examples, several of which were drawn from public testimony, to provide clarification or emphasis. These are included in Table 1 below with SSC additions bolded. The SSC continues to support the Norton Sound case study as a pilot study for the incorporation of LK, TK, and subsistence information in a relatively small scale fishery that is experiencing challenges related to both stock and climate change factors. Additionally, as noted in several SSC February reports beginning in 2018, the NSRKC commercial and subsistence fisheries have incorporated multiple community protection measures in combination with conservation-oriented measures, none of which have been assessed for their efficacy in providing for the sustained participation of fishing communities and therefore their potential applicability to other fisheries. The SSC also noted that the recommendation for this study was well received by the LKTKS and Climate Change task forces, and thus may represent an important pilot for ways to better incorporate LK and TK in Council decision processes. For the RP on discard mortality, the SSC notes that this RP was broadened from focusing on scallop to include crab and groundfish and determining accurate discard mortalities is critical for ongoing and planned analyses such as the small sablefish release analysis. The SSC also recommended that the Subgroup prepare brief descriptions to accompany the top RPs when they are provided to the Council in June and added to the database, consistent with past top-ten lists.

The SSC commends the Subgroup for refining and implementing the RP selection process and appreciates the structured input from Plan Teams, the SSPT, the FEP Team and the public. The SSC also highlighted the excellent contributions of Nicole Watson (former NPFMC Staff) to the Subgroup.

An overview of the Critical Ongoing Monitoring (COM) prioritization process was also provided. There were 21 COM priorities identified in 2021 and the Plan Teams provided a new list of 16 COM priorities, seven from the previous review and nine that were elevated from the Urgent or Important categories. The Subgroup reviewed and edited the COM priorities and, as with the RPs, revised, combined, or added to them to improve clarity, reduce redundancy, and broaden topics resulting in a total of 15 Subgroup-recommended COM priorities.

The SSC appreciates the Subgroup's work on COM priorities but noted that inclusion of RPs from the other categories (e.g. Urgent or Important) along with efforts to generalize input from multiple Plan Teams may result in a "watering down" of COM priorities. The COM category designates the highest priority for the Council, which is to create and maintain indispensable data collection programs that substantially contribute to the understanding and management of fish populations, fisheries, and the communities engaged in or dependent upon those fisheries. The SSC notes that further work is needed to address the framing of a number of the items on the Subgroup's updated COM list before they are ready for SSC review and prioritization as some of the COMs appear to reflect priorities for urgent process studies rather than monitoring. When reviewing the COM list, the SSC recommends the subgroup review and consider the "Procedure for review of each research category: 1.1.Critical, ongoing monitoring research" from the SSC June 2021 Report: Appendix B. Given the limited time for in-depth review of the COM priorities, the SSC agreed to retain the 2021 top COM priorities with no changes for this cycle. The SSC Subgroup will review and revise the COM priorities in the 2027 Research Priority cycle.

Based on the Social Science Plan Team recommendation and the Council's overall goal to facilitate the increased use of Local Knowledge, Traditional Knowledge and Subsistence information (LKTKS) within the Council process, the Subgroup recommended the addition of a general statement to the COM category:

*The Council has adopted the LKTKS Protocol and has committed to incorporating LKTKS information into ongoing management decision making processes when available and relevant. Research focused on ongoing monitoring of the incorporation of LKTKS would increase the transparency and identify gaps in inclusivity of the process. There are numerous ways Traditional Knowledge will strengthen all Research Priorities, including offering new frameworks for analysis; fostering relationships between Indigenous and Western scientific researchers and communities.*

The SSC supports the Subgroup recommendation to add this general statement.

The Subgroup also provided recommendations for the next (2027 – 2030) RP cycle process. The SSC concurred with the Subgroup's suggestions and offered several more, included below:

- Full review of both Research Priorities and COM priorities.
- Consideration of an additional opportunity for Plan Teams (or PT chairs) to review the SSC Subgroup efforts to consolidate, reduce redundancy, and maintain the core essence of the top RPs to ensure fidelity to the Plan Team intent before full SSC review.
- The SSC Subgroup, in collaboration with Council staff, reviews and recommends updates/revisions to the RP Database (e.g., when to "retire" an RP from the list).
- When the SSC subgroup reviews research priorities, consider the "Procedure for review of each research category" in the SSC June 2021 Report: Appendix B and Research Priority terms and definitions. In particular, there should be a clear distinction between Critical Ongoing Monitoring and other research needs (Urgent, Important or Strategic).

- Consider incorporating RPs from and engagement with groups outside the Council process (e.g., Alaska Scientific Review Group) to refine priorities specific to the Council mission.
- Consider expanding the list of top research priorities to include research on the use of socioeconomic information to support Council decision-making (e.g. TAC setting), and research to advance stock assessment core capabilities (e.g. state-space modeling).

Table 1. The 12 SSC-recommended Research Priorities for Council consideration. Bolded text indicates SSC additions to provide clarification or emphasis. The Citations field provides reference to the sources of each RP and the Related RIDs field lists the ID numbers of other related RPs in the database. Asterisks (\*) represent RPs that were on the 2021 “Top 10” list in some form. For full details see the D3 *List of Research Priorities 2024-2027* document provided in the April 2024 SSC Agenda.

Description	Citations	Related RIDs
Further research to reduce western Alaska salmon bycatch in Bering Sea groundfish fisheries ( <b>e.g. research on salmon and drivers of salmon distribution, as well as drivers of groundfish fishery behavior including avoidance of other PSC species</b> ) (808).	Public, SSCsub, GPT, SSPT (Supp)	N024 (155, 156, 157, 182), N029, N031, N034, N035c, 235, SSCSub001
Quantify the magnitude of fishing gear ( <b>e.g., pelagic trawl vessels, derelict crab pots, and modified crab pots to reduce bycatch</b> ) impacts on crab and their associated benthic habitat and develop fishing gear innovations where needed (809).	Public, BSFEP, CPT, SSCsub, Council, GPT (Supp)	N025, N028, N030, N033, N039d, CPT 004, SSCSub002, Council001, BSFEP006, 235
Evaluate direct marine mammal-fishery interactions (including feeding on discards and spatio-temporal trends in bycatch) and potential mitigation measures for marine mammal conservation (810).	Public, SSCsub (Supp), GPT (Supp)	N037b, N039f, SSCsub007, SSCsub008, GPT011
* Examine the economic, social, and cultural effects of fisheries and fishery management policy on coastal communities over time (including impacts from fishery policy changes and Tribal citizen and Tribal Nation reliance on, participation in, and impacts of federally managed fisheries) (811).	Public, SSPT (x3), BSFEP, CPT (Supp)	230, BSFEP009, SSPT003, 226, 731, N020
* Develop actionable ecosystem indicators relevant to single-species stock assessments and ecosystem assessments that address climate change impacts to managed stocks (812).	Public, BSFEP, GPT	N035a, 189, BSFEP10, GPT015

* Continue to acquire basic life history information with an emphasis on improved estimates of size/age at maturity to advance understanding of the mechanisms for how maturity changes over space and through time (813).	Public, ScPT, CPT, GPT	N008, 171, 592, CPT002, CPT003
* Increased understanding of the spatial distribution, habitat requirements, and movement of crabs relative to life history events and fishing (814).	Public, CPT, BSFEP	N003, N011, N035b, N039a, 148, BSFEP006
Develop predictive tools and models that evaluate the impact of multiple projected climate scenarios on managed resources to inform management options related to ecosystem production and resilience and adaptation of fishing communities (815).	BSFEP, GPT, CPT	223, 225, 733, BSFEP008, GPT016, CPT006
Retrospective and meta- analysis regarding whether, how, when and why objectives and goals of fishery management plans are or are not achieved over time (e.g., Bmsy proxy evaluation) (816).	Public, SSCsub, GPT (Supp), SSPT (Supp)	N027, N032, GPT014, 365
* Norton Sound Red King Crab case study (731).	SSPT, CPT (Supp)	731
Improve surveys in untrawlable habitat, particularly for rockfish, Atka mackerel, sculpins, and snow crab (817).	Public, GPT	N003,N017, N022, 146
Improve discard mortality rate estimates for scallops, crab, and groundfish stocks by gear types (818).	Public, ScPT	203, N035f