
RESEARCH PRIORITIES

SSC REVIEW, APRIL 2024

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ACKNOWLEDGEMENTS

- Public participation and input
- Review Teams (BSFEP, CPT, GPT, SPT, SSPT, SSC Subgroup)

Thank you for your input and participation.

You have helped guide research priorities for this review and have helped to form the updated priorities based on your input.



ACTION

1. Complete the review of research priorities based on the top 10 priorities and short list provided by the SSC Subgroup for Research Priorities
2. Receive public testimony on the prioritization of the proposed research priorities
3. Determine top unranked research priorities to recommend to Council for 2024-2027



OUTLINE

PART I

- Resources available on eAgenda
- Background
- The process
- Response to previous SSC recommendations
- New process recommendations
- Review 2021 top priorities

PART II

- Review draft curated lists: Top priorities and COMs
- SSC Subgroup recommendations
- Receive public testimony
- Discuss priorities
- Determine finalized SSC Top priorities list and COM list



eAGENDA RESOURCES

- Summary [report](#), February 2024 (Review team Top 5's, COMs, Supplementary)
- SSC relevant previous minutes [summary](#)
- Curated list – draft [Top 10](#)
- Curated list – [COMs](#)
- Debrief on 2024 research priorities process (The [Report Card](#))



ADDITIONAL RESOURCES

- SSC February 2024 [eAgenda](#) (Plan Team reports, summary report, additional information)
- NPFMC Research Priorities [webpage](#)
- Research Priorities RFI [eAgenda](#)
- 2024 Research Priorities Triennial Review background [document](#)
- The [SSC proposed process](#) for the 2024 research priorities review
- The [2021 NPFMC list](#) of top research priorities
- The [2018 NPFMC list](#) of top research priorities
- The NPFMC research priority [category terms and definitions](#)
- [Link](#) to the NPFMC research priorities database
- Comprehensive [list](#) of public new research priority submissions



BACKGROUND: PURPOSE OF RESEARCH PRIORITIES

- Magnuson-Stevens Act requires Councils to identify 5-year research priorities for fisheries, fisheries interactions, habitat and other areas of research that are necessary for management purposes
- Council has moved to a system of identifying 5-year priorities on a triennial basis
 - Last review was in [2021](#)
- Research priorities are selected based on how well they align with or inform management for the federal fisheries the Council manages
- April 2024: Final SSC and Council review
- After final review, the updated research priorities are provided to:
 - Secretary of Commerce
 - Alaska Fishery Science Center
 - Research and funding entities such as North Pacific Research Board, University of Alaska, University of Washington, Oregon State University, Alaska Department of Fish and Game, Alaska Ocean Observing System

**The 2024 Process was reviewed and approved
by the SSC at the June 2023 meeting**

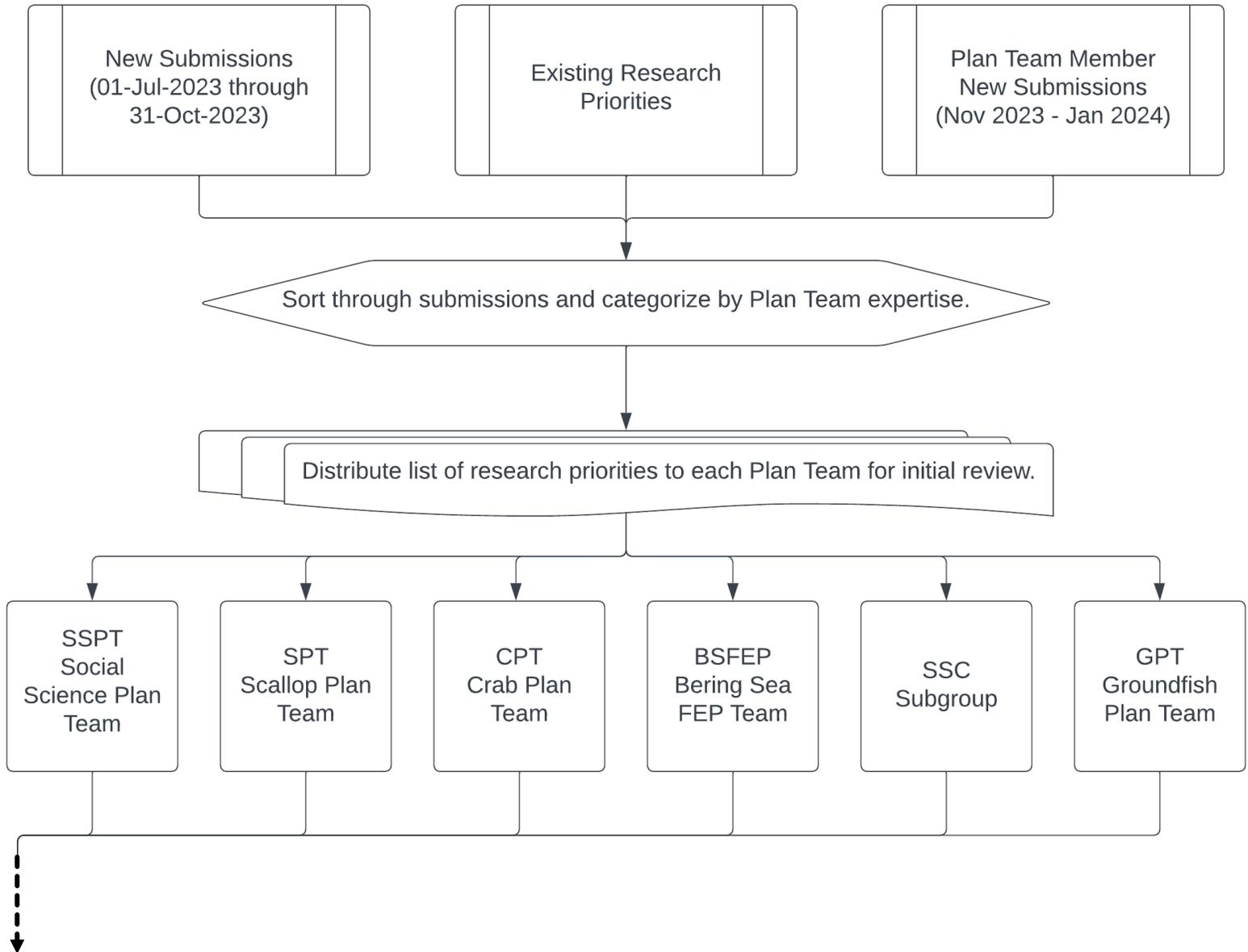
BACKGROUND: SSC PLAN FOR RESEARCH PRIORITIES 2024

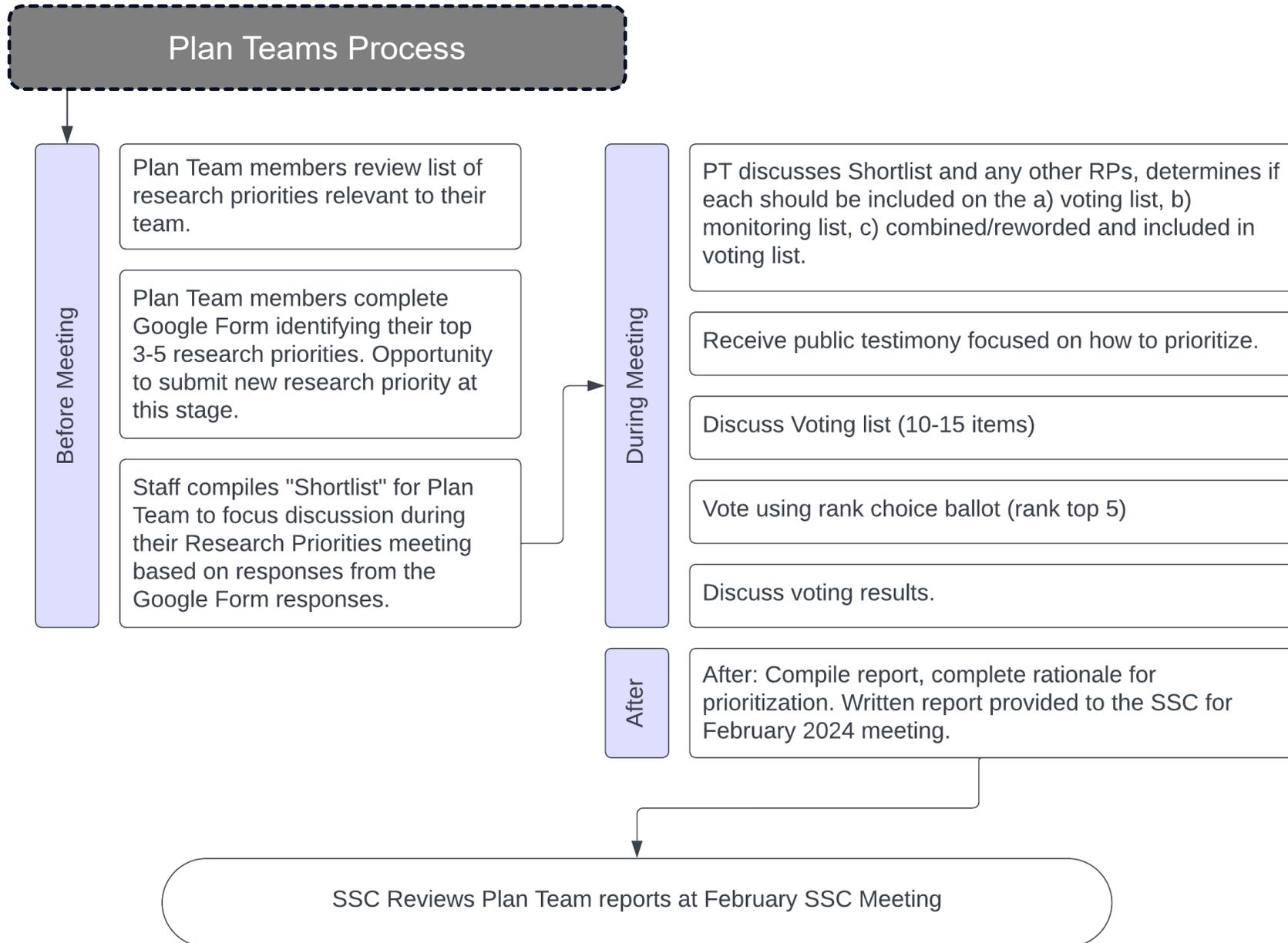
- Builds on existing process:
 - ☑ 1. Plan Teams as initial filter of research priorities – both of comprehensive list ([database](#)) plus top immediate priorities
 - 2. SSC amalgamates all inputs and identifies top 8-12 priorities
 - 3. Council considers and adopts final SSC recommendation
- Adds new defined pathway for public input
 - ☑ ■ Opportunity to suggest **new research priorities** through [online](#) public solicitation period, open July to October 31, 2023 (*note: submission period has now closed*)
 - ☑ ■ Opportunity to comment on **which projects are prioritized** at Plan Team review meetings scheduled Nov-Jan, and SSC in February

☑ = complete

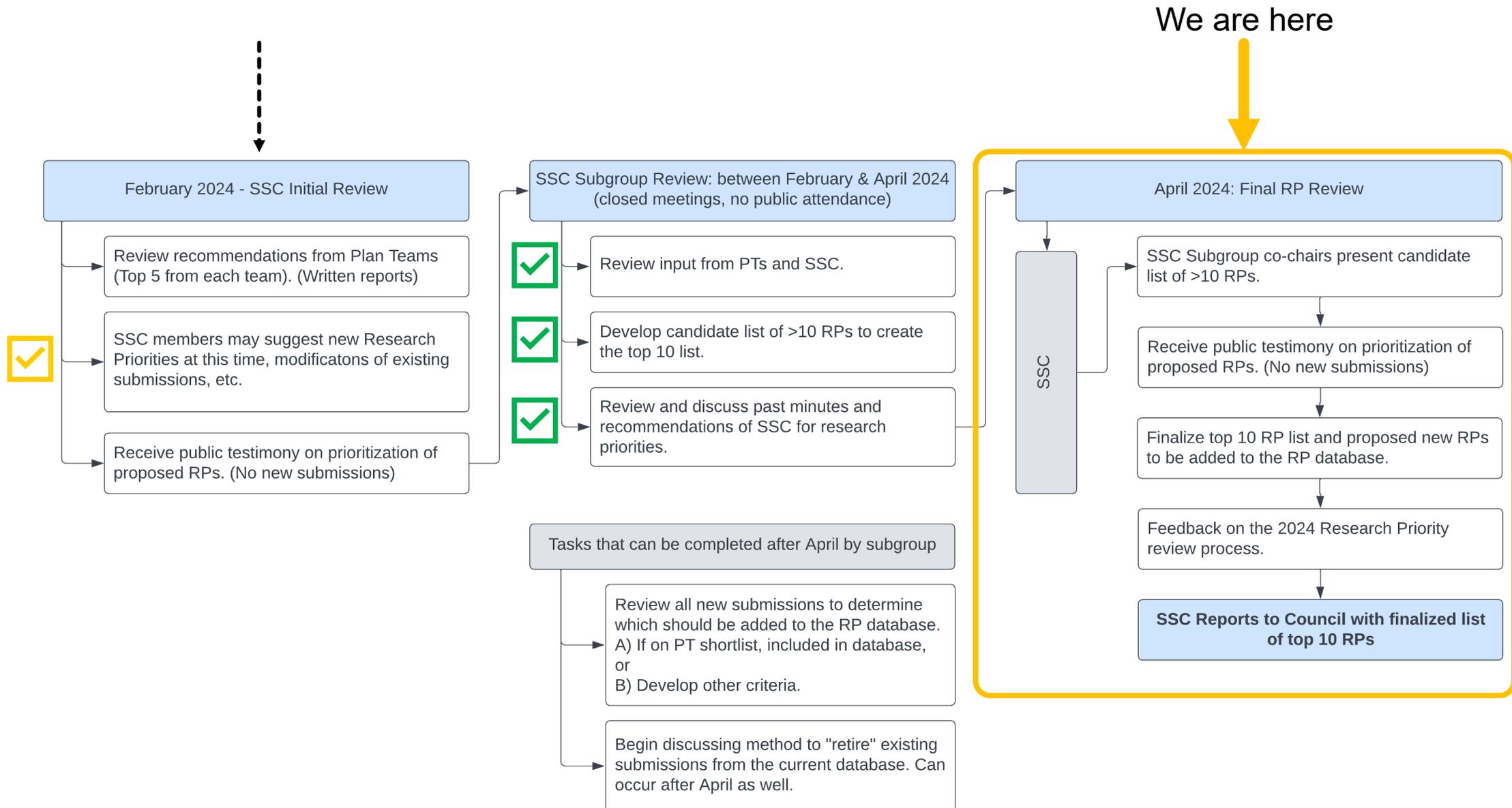


THE 2024 REVIEW PROCESS





THE 2024 REVIEW PROCESS



OUTLINE

PART I

- Resources available on eAgenda
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 - Debrief on 2024 research priorities process (The [Report Card](#))
- New process recommendations
- Review 2021 top priorities



HOW DID WE DO? 2021 SSC GENERAL RECOMMENDATIONS

2021 SSC Recommendation	Action for 2024 Review
<p> <input checked="" type="checkbox"/> Does not recommend highlighting/reviewing of COM research unless SSC receives a proposal to move a RP in/out of COM <input checked="" type="checkbox"/> </p>	<p>All existing priorities were reviewed by appropriate Team, including COM.</p> <p>May need to refine/clarify this step of the process moving forward: <i>Should Teams review all existing & new priorities including COM?</i> <i>Clarify that SSC only reviews COM if change recommended by Team.</i></p>
<p><input checked="" type="checkbox"/> Add COM category to database</p>	<p>Database categories include: COM, Urgent, Important, Strategic, and Pending (no category assigned)</p>
<p><input checked="" type="checkbox"/> Retain the description of COM research on Council website</p>	<p>COM description is provided on Council RP website</p>
<p><input checked="" type="checkbox"/> Appoint subgroup of SSC members to prepare for triennial review</p>	<p>SSC Subgroup for Research Priorities was formed and has met prior to the SSC review</p>



2021 SSC GENERAL RECOMMENDATIONS

2021 SSC Recommendation		Action for 2024 Review
Role of Plan Teams		2024 Review
<ul style="list-style-type: none"> ✓ GPT, CPT, SPT: review COM, Urgent, Strategic, and Important priorities & provide recommendations including top 3-5 to consider for Top 10 list. ✓ SSPT: review socioeconomic & human dimensions priorities, provide recommendations, including top 3-5. ✓ BSFEP: provide recommended priorities including top 3-5. 	<p>GPT, CPT, SPT, BSFEP, SSPT: reviewed new and existing priorities based on their topic(s) of expertise and provided recommendations in their reports, including their top 3-5 priorities.</p> <p>SSC Subgroup: reviewed topics that did not fall within the expertise of any of the pre-defined Teams</p>	
On-ramps		
<ul style="list-style-type: none"> ✓ Council staff to provide on-ramps for other groups to forward priorities. 	A Request for Information period occurred from Jul 1 – Oct 31, 2023 for both groups and stakeholders to submit new research priorities.	
<ul style="list-style-type: none"> ✓ Council staff to provide on-ramps for stakeholders to propose research priorities that do not fit under Teams. 	Groups & stakeholders submit new priorities during the RFI period, then provide input on how to prioritize at subsequent meetings.	

2021 SSC PROCESS RECOMMENDATIONS: *PRIOR TO SSC REVIEW*

2021 SSC Recommendation		Action for 2024 Review
Staff to update:		
<input checked="" type="checkbox"/>	Research status, priority ranking, changes to titles & descriptions, other project-specific comments.	Updates on status, rankings, changes to titles and/or descriptions, and other comments will be completed post-April 2024
<input checked="" type="checkbox"/>	Completed priorities & report availability (status), consolidations, deletions.	Edits to existing priorities will occur post-April 2024 (status, consolidations, deletions).
<input checked="" type="checkbox"/>	New priorities	New priority submissions were collected during the RFI period and will be added as needed to the database post-April 2024
<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/>	Recommendations for Top 10	Priority rankings were obtained from review Teams
Staff review of non-Plan Team on-ramps		
<input checked="" type="checkbox"/>	Staff to review non-Plan Team on-ramps for topics that do not fit into an established Team.	SSC Subgroup was tasked to review priorities that did not fit within the expertise of an established Team (marine mammals, seabirds, salmon, climate, etc.)
Plan Team reviews of new submissions		
<input checked="" type="checkbox"/>	Plan Teams review new public submissions	Teams reviewed all new submissions based on their expertise.
<input checked="" type="checkbox"/>	If submission not recommended, should communicate with the member of the public so they can provide further testimony, if desired.	Due to restrictions for collection of information, all submissions were anonymous, however, a list of all submissions was provided on the website which included the Plan Team assigned with each submission.

2021 SSC PROCESS RECOMMENDATIONS: *PRIOR TO SSC REVIEW, SSC SUBGROUP*

2021 SSC Recommendation		Action for 2024 Review
SSC Subgroup to distribute to members:		The SSC Subgroup was provided with:
<input checked="" type="checkbox"/>	Previous Top 10 list	Top 10 lists from previous two reviews
<input checked="" type="checkbox"/>	Recommended additions, deletions, and changes from Teams	Team reports (GPT, CPT, SPT, SSPT, BSFEP)
<input checked="" type="checkbox"/>	Council's 3-year outlook of emergent management issues	Most recent report of issues was 2008; not provided to Subgroup
Convene SSC Subgroup to discuss:		The SSC Subgroup met on Mar 4, 2024 and discussed:
<input checked="" type="checkbox"/>	Member recommendations for responding to changes submitted by Teams	Team recommendations
<input checked="" type="checkbox"/>	Draft Top 10 list, including rationale for review & approval at SSC meeting	Draft Top 10 list and rationale
<input checked="" type="checkbox"/>	Relevance of recommendations to Council's 3-year outlook of emergent issues	Relevance to 3-year outlook was not discussed as this has not been determined
<input checked="" type="checkbox"/>	Draft summary statements, statistics for overall list	Summary of statements and statistics compiled after meeting using collaborative documents
<input checked="" type="checkbox"/>	Any additional draft recommendations	Additional recommendations compiled after the meeting using collaborative documents

2021 SSC PROCESS RECOMMENDATIONS: PROCESS FOR AT THE 2024 SSC REVIEW MEETING

2021 SSC Recommendation		Notes/Changes
Review staff report		
<input checked="" type="checkbox"/>	Present Council research priorities from the last triennial review: Include overview of any changes the Council made from SSC recommendations and why	Previous priorities presented with summary of changes.
<input checked="" type="checkbox"/>	Provide a brief overview of additions, deletions, and changes recommended by the review Teams	Team reports were made available to the SSC at the February 2024 Initial Review , which includes recommendations.
Review SSC Subgroup report and revise/approve as appropriate:		
<input checked="" type="checkbox"/>	Top 10 list, including rationale.	
<input checked="" type="checkbox"/>	Subgroups recommended revisions to COM priorities, as needed (additions, deletions, edits).	
<input checked="" type="checkbox"/>	Subgroups recommended revisions to Strategic priorities, as needed (additions, deletions, edits).	
<input checked="" type="checkbox"/>	Subgroups recommended changes to the database, as needed.	Changes to the database will be determined after the April review.
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Consider revisions or improvements to the SSC research priorities review process	Revisions or improvements will be accepted during and after April meeting.

2021 SSC AND COUNCIL

RID	Category	2021 Top 10 Priorities	Changes?
148	Urgent	Spatial distribution and movement of crabs relative to life history events and fishing	No
163	Important	Conduct routine fish, crab, and oceanographic surveys in the Arctic Ocean	No
178	Urgent	Develop a framework and collect economic information	No
189	Urgent	Develop stock-specific ecosystem indicators and incorporate into stock assessments	No
246	Important	Cooperative research efforts to supplement existing at-sea surveys that provide seasonal, species-specific information on upper trophic levels	No
431	Important	Develop tools for analyzing coastal community vulnerability to fisheries management changes	No
592	Urgent	Maturity estimates for Bering Sea and Aleutian Island crab stocks	No
611	COM	Collection of socio-economic information	No
712	Urgent	Gap Analyses on loss of biological samples due to implementation of EM	Yes
731	Urgent	Norton Sound Red King Crab case study	No

2021 SSC AND COUNCIL

RID	Category	2021 Top 10 Priorities	Changes?
<p>The April 2021 Council motion added the following language to the description of the new research priority 712: “... as well as an evaluation of alternative sources or proxies for biological data as EM use increases.”</p> <p>RID 712 description: Research to determine the effects of loss of biological data collections due to Electronic Monitoring (EM). As the use of EM increases in different fisheries, fewer at-sea observer observations and collections are being made which reduces haul specific data collections. Evaluations of the effects of this on catch accounting estimates and stock assessment are needed as well as an evaluation of alternative sources or proxies for biological data as EM use increases.</p>			
712		Gap Analyses on loss of biological samples due to implementation of EM	Yes
731		Norton Sound Red King Crab case study	No



2024 CURATED LISTS OF RESEARCH PRIORITIES

ALI WHITMAN & CHRIS SIDDON, PhD

1. RECOMMENDED PROCESS FOR REVIEW
2. INTRODUCTION TO CURATED LISTS

RECOMMENDED REVIEW PROCESS: APRIL 2024 MEETING

1. Review draft curated lists: Top priorities and COMs
2. SSC Subgroup recommendations
3. Receive public testimony
4. Discuss priorities
5. Determine finalized SSC Top priorities list and COM list



RATIONALE FOR TOP PRIORITIES

- The recommendations for top priorities represents the curated list of research priorities in consideration for the Top 10 list for 2024 - 2027.
- The SSC Subgroup for research priorities reviewed all [new public submissions](#) and [Plan Team](#) recommended RPs.
- Additionally, the SSC subgroup revised, combined, or added to these RPs to improve clarity, reduce redundancy, and broaden topics that spanned input from multiple groups to the best of their ability. Care was taken to minimize any potential change of intent from the original RPs to the extent practicable.



2024 CURATED TOP 10-12 LIST (UNRANKED)

Description	Citations	Related RIDs
Further research to reduce western Alaska salmon bycatch in Bering Sea groundfish fisheries (808).	Public, SSCsub, GPT, SSPT (Supp)	N024 (155, 156, 157, 182), N029, N031, N034, N035c, 235, SSCSub001
Quantify the magnitude of fishing gear 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

2024 CURATED TOP 10-12 LIST ALTERNATIVES (UNRANKED)

Description	Citations	Related RIDs
* Conduct routine surveys of subsistence uses of resources in communities across the Bering Sea, northern Bering Sea and Arctic Ocean (163).	GPT, 2021 Top 10	163
Characterize expected changes in benthic production due to climate change, including collecting time-series data and understanding the impact of fisheries (819).	BSFEP	BSFEP008
Incorporate economics into decisions (820).	GPT	GPT008
Estimate scallop stock abundance (166).	ScPT	166
Population structure of scallops (553).	ScPT	553
Develop population dynamic models for scallop assessment (821).	ScPT	ScPT002
Physiological responses of crab to climate stressors (715).	CPT	715
Early life history population bottlenecks for crab (822).	CPT	CPT001
Explore optimal sampling strategies and geospatial approaches for time series of survey data (533).	GPT	533 (Currently COM)
* Analyses on loss of biological samples due to implementation of EM (823).	GPT (Supp), 2021 Top 10	GPT017
Develop spatially explicit stock assessment models (174).	GPT (Supp)	174
Modernization of fisheries-independent groundfish monitoring methods (824).	GPT (Supp)	GPT001

RATIONALE FOR CRITICAL ONGOING MONITORING

- The recommendations for COM represents the curated list of research priorities deemed COM for 2024 - 2027.
- The SSC Subgroup for research priorities reviewed and edited all COMs and recommends 15 COMs to move forward.
- The SSC subgroup is also requesting additional input on two COMs, and has proposed two COMs for removal from the COM category.
- The Plan Teams provided a list of 16 COMs in which seven were from the previous review and nine were elevated from the Urgent or Important categories.
- There were 21 COM priorities identified in 2021 (20 listed in the [letter](#), 21 in the [database](#); RID 735 was omitted from the letter in error).
- As with the top priorities, the SSC subgroup revised, combined, or added to these RPs to improve clarity, reduce redundancy, and broaden topics that spanned input from multiple groups to the best of their ability. Care was taken to minimize any potential change of intent from the original RPs to the extent practicable.



2024 COM

- Based on the Social Science Plan Team recommendation and the Council's overall goal to facilitate the increased use of Traditional Knowledge within the Council process, the SSC Subgroup recommends the addition of a general statement to the Critical Ongoing Monitoring category in the Research Priorities definition descriptions write up regarding Traditional Knowledge:

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.



2024 CURATED COM LIST (UNRANKED)

Description	Citations	Related RIDs
Continuation of State and Federal annual and biennial surveys (806).	CPT, GPT, 2021 & 2018 COM	144, 145
Maintain the core biological and oceanographic data (e.g., biophysical moorings, ocean pH, stomach data (diets), zooplankton, meroplankton, age 0 surveys such as BASIS, forage fish, benthic production) necessary to support integrated ecosystem assessment (800).	BSFEP, 2021 & 2018 COM	150, 186, 190, 192, 218
Evaluate interactions between fisheries and marine mammals, including Killer whale, Sperm whale, Stellar sea lions and Northern fur seals (801).	2021 & 2018 COM	159, 249
Assess vital rates of Steller sea lions (160).	2021 & 2018 COM	160
Assess the health of Stellar sea lions (161).	2021 & 2018 COM	161
Continue to develop and improve the use of indicator-based ecosystem assessments throughout the range of the Council's managed resources (187).	2018 COM	187
Maintain the observer program to monitor, collect and analyze fishery effort and the associated data for catch accounting (802).	CPT, GPT, ScPT, 2021 & 2018 COM	207, 612, 735
Continue to collect guided angler sector data for the halibut fishery (209).	2021 & 2018 COM	
* Monitor the economic effects from fishery policy changes on coastal communities with the collection of socio-economic information, including local knowledge and traditional knowledge (803).	CPT, ScPT, SSPT, 2021 & 2018 COM	226, 611, 714, 732
Explore factors that contribute to year class strength and recruitment for managed resources, including data-poor stocks (807).	GPT, ScPT (Top5), 2021 & 2018 Urgent	171, 208
Continue beluga whale surveys to assess the population, its interactions with fisheries, and collect and assess beluga whale prey information to help inform and support the Cook Inlet Salmon FMP and harvest specifications (805).	New priority	
Evaluation of salmon PSC mitigation measures (155).	GPT, 2021 & 2018 Urgent	
Expand studies to identify stock and management boundaries (173).	ScPT, 2021 & 2018 Urgent	
** Develop stock-specific ecosystem indicators and incorporate into stock assessments (189).	Public, CPT, GPT	189, N035a
** Cooperative research efforts to supplement existing at-sea surveys that provide seasonal, species-specific information on upper trophic levels (246).	SSC Subgroup	

2024 CURATED COM LIST (UNRANKED) – ADDITIONAL INPUT NEEDED

More input is requested on RID 165 & 228 to determine if they should remain or be removed from the COM list

Description	Citations
Conduct routine surveys of subsistence in the northern Bering Sea and Arctic Ocean (165).	SSPT, 2021 & 2018 COM
Monitor subsistence harvest (patterns, norms, quantities) in communities affected by Council actions (228).	2021 & 2018 COM

Proposed for “removal” from COM list

Description	Citations
Conduct routine fish, crab, and oceanographic surveys in the Arctic Ocean (163).	GPT, 2021 & 2018 Top 10
Expand statewide scallop survey (552).	2021 & 2018 COM

***Question to consider during discussion:
Are these COM?***



2021 & 2024 TOP RESEARCH PRIORITIES

2021 Top Priorities	2024 Top Priorities
Spatial distribution and movement of crabs relative to life history events and fishing	Further research to reduce western Alaska salmon bycatch in Bering Sea groundfish fisheries (808).
Conduct routine fish, crab, and oceanographic surveys in the Arctic Ocean	Quantify the magnitude of fishing gear impacts on crab and their associated benthic habitat and develop fishing gear innovations where needed (809).
Develop a framework and collect economic information	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).
Develop stock-specific ecosystem indicators and incorporate into stock assessments	* 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).
Cooperative research efforts to supplement existing at-sea surveys that provide seasonal, species- specific information on upper trophic levels	* Develop actionable ecosystem indicators relevant to single-species stock assessments and ecosystem assessments that address climate change impacts to managed stocks (812).
Develop tools for analyzing coastal community vulnerability to fisheries management changes	* 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).
Maturity estimates for Bering Sea and Aleutian Island crab stocks	* Increased understanding of the spatial distribution, habitat requirements, and movement of crabs relative to life history events and fishing (814).
Collection of socio-economic information	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).
Gap Analyses on loss of biological samples due to implementation of EM	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).
Norton Sound Red King Crab case study	* Norton Sound Red King Crab case study (731).
	Improve surveys in untrawlable habitat, particularly for rockfish, Atka mackerel, sculpins, and snow crab (817).
	Improve discard mortality rate estimates for scallops, crab, and groundfish stocks by gear types (818).

RECOMMENDED REVIEW PROCESS: APRIL 2024 MEETING

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POSSIBLE IMPROVEMENTS AND CLARIFICATIONS TO CONSIDER FOR NEXT REVIEW

While this iteration seemed smoother and included additional opportunities for both public and review team input, the following are potential areas for improvement:

1. Clarifications in the review process:
 - a. Should review teams examine all existing & new priorities relevant to their expertise including COM?
 - b. Clarify that SSC only reviews COM if a change has been recommended by a review team?
 - c. Which teams should participate in the review: all Plan Teams; what about Committees/Task Force groups?
2. Consider 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 all Research Priorities.





QUESTIONS?

ADDITIONAL RESOURCES: NPFMC RESEARCH PRIORITY CATEGORIES

- **Critical ongoing monitoring**

Information provided by monitoring activities in this category (1) provide an essential management function; (2) cannot likely be acquired through other means; or (3) are required by regulation. (e.g., agency fish surveys, socioeconomic data collections)

- **Urgent**

Research that is essential for compliance with federal requirements, including National Standards, or that has been identified by management as necessary to aid decision-making. It is expected that a one or two year project would meet the information need. Postponement would have a significant impact on management. (e.g., genetic analyses to resolve stock delineation questions for harvest specifications, fishery interaction studies to provide important input for Biological Opinions or NEPA analyses)

- **Important (near term)**

Obtaining a new set of data or research result that is likely to aid in the evaluation of a near term or ongoing management goal. The research might involve a time-limited program or work that could continue indefinitely. Postponement will not have an immediate impact on fishery management; however, the information generated will likely inform near term (e.g., <5 year) Council actions. (e.g., studies to improve stock assessment parameters, gear research to reduce bycatch, MSEs, social science surveys to inform new rationalization programs)

- **Strategic (future needs)**

Research that is valuable but is not associated with an immediate need or near-term (e.g., <5years) Council action. (e.g. long-term climate change studies, ichthyoplankton surveys that have not yet been linked to a stock assessment, monitoring contaminant levels in living marine resources)