



Scallop Plan Team Research Priorities REPORT

December 15, 2023, Virtual

Committee Members in attendance:

Tyler Jackson (*Co-Chair, ADF&G*)
Sarah Rheinsmith (*Co-Chair, NPFMC*)
Ryan Burt (*ADF&G*)
Scott Miller (*NMFS, SFD*)
Skylar Bayer (*NMFS, HCD*)

Members absent: Mike Byerly (*ADF&G*)

Research Priorities

The ScPT met on 14-Dec with a focus on prioritization of research priorities. The goal of this meeting was to refine the list of existing, new, and team member submissions to approximately 10 top priorities, vote to determine the top 5 priorities to provide to the SSC in February, and to create the supplementary list of priorities including critical ongoing monitoring. A presentation was provided by staff regarding the research priority process, a checklist of responsibilities for the Plan Teams, and background information and resources relevant to research priorities, such as the [website](#) and Research Priorities [eAgenda](#). Prior to the meeting, plan team members were asked to provide staff and the co-chairs a list of their top five, unranked priorities as a way to focus the discussion of the pre-prioritization meeting.

A description of the prioritization process for the meeting was provided by co-chair Sarah Rheinsmith and staff. Additional clarity was provided regarding the critical ongoing monitoring topics being seen as separate from the top 5 list of research priorities that will be provided to the SSC at the February 2024 Council meeting, as well as the supplementary list of priorities deemed important but not included in the final top 5 list. The supplementary list will be an amalgamation of priorities not included in the final CPT top 5 (which will be determined in January) and critical ongoing monitoring topics.

Members were provided with the opportunity to discuss the top priorities that were submitted in advance of the meeting from the existing and new submissions, providing rationale for their selections and identifying key considerations. Much of the rationale behind plan team members' top choices surrounded the need for additional life history information and information to inform population dynamics. To adequately manage the fishery at a state and federal level, ongoing research is necessary to better identify areas for potential management, such as identifying an

OFL and ABC and status determination of the stock. Additional comments were provided for each of the top research priorities, which were compiled into the Google sheet. During this discussion, priorities were identified that warranted inclusion in the draft top 10 voting list for January.

New ScPT member submissions were discussed, which include (not listed in ranked order):

Research ID	Title
ScPT001	Map scallop habitat-related distribution and abundance and assess fishery interactions
ScPT002	Develop population- dynamic models for scallop assessment
ScPT003	Continuation of State and Federal annual and biennial surveys

Public testimony was provided by Jim Stone. Testimony highlighted the need to prioritize life history, population structure, and other information critical to understanding and managing the stock.

After discussions and public testimony, the draft top 10 voting list was reviewed, and additional consideration was given to priorities that had not been included in this list. Priorities deemed critical ongoing monitoring were compiled into a separate list for communication to the SSC.

The following research priorities were identified as the top five priorities, in ranked order. :

Rank	Research ID	Title	Description
1	171	Acquire basic life history information (e.g., natural mortality, growth, size at maturity) for data-poor stocks	Basic life history information is needed for data-poor stocks including all blue king crab stocks, three red king crab stocks, Pribilof Islands golden king crab, scallops, sharks, skates, sculpins, octopus, grenadiers, and squid. Specifically, information is needed on natural mortality, growth rates, size at maturity, predation, and other basic indicators of stock production/productivity, which is especially critical for stocks in rebuilding.
2	166	Estimate scallop stock abundance	Estimate stock wide abundance of scallop in surveyed and unsurveyed areas using fishery independent methods.
3	553	Population structure of scallops	Currently scallop beds are monitored independently. Knowledge of source/sink dynamics and meta-populations processes will improve the ability to manage weathervane scallops at the stock level.
4	203	Improve discard mortality rate estimates for scallops	Field and laboratory studies are needed to estimate Alaskan scallop discard mortality by evaluating relationship between capture, release condition and deck time, and subsequent survival.
5	ScPT002	Develop population-dynamic models for scallop assessment	Modified from #175- Population dynamic models for scallops are needed to increase understanding of population dynamics and harvestable surpluses.

The following research priorities were included as the supplementary list, identifying them as important to the Plan Team, but not included in the top 5 (not listed in any ranked order):

Research ID	Title	Description
175	Develop age-structured models for scallop assessment	Age structured models for scallops are needed to increase understanding of population dynamics and harvestable surpluses.
363	Area-specific variability in scallop population processes	Investigate area-specific variability in vital population processes including growth, recruitment, natural mortality and movement including mark-recapture tagging studies. Bed-specific growth could be analyzed from archived shells.
571	Age validation for scallop shells	The combination of O18 (oxygen isotope) analysis and a benthic temperature model can be used to validate that the bands in cross sections of scallop shells are annuli and can be used to determine scallop age. This method is less time consuming than other methods that require recapture of scallops.
614	Expansion of catch in areas database to include BSAI and GOA crab and scallop fishing.	The NOAA Catch in Areas database incorporates VMS and Observer data and is used to characterize the distribution of fishing activity by target. This information is required for assessment of fishing effects on EFH and calculating fisheries bottom contact and spatial overlap. The database does not currently include crab or scallop fishing activity. Both VMS and observer data are available for these fisheries and work is needed to add it to the CIA database.
ScPT001	Map scallop habitat-related distribution and abundance and assess fishery interactions	Scallop EFH was mapped in 2012 based on survey and fishery distribution (Level 1). This research would develop a) species distribution models to advance scallop EFH to Level 2 habitat-related distribution and abundance, and b) evaluate fishing effects to scallop EFH using the new Level 2 maps. This priority would address two required EFH components of FMPs, component 1 (EFH descriptions and identification) and component 2 (evaluate fishing effects to EFH). This modifies research priority #238, "Develop a GIS relational database for habitat, to include a historical time series of the spatial intensity of interactions between commercial fisheries and habitat."

The following research priorities were included on the critical ongoing monitoring list for consideration and communication to the SSC (not listed in any ranked order):

Research ID	Title	Description
611	Collection of socio-economic information	Collect socio-economic information on commercial, recreational, and charter fishing, as well as fish processing, to meet the requirements of the MSFCMA sections 303(a)(5, 9, 13), 303(b)(6), and 303A.
612	Maintain observer program	Maintain the observer data collection activity and ensure that fishery dependent data collected provides a valid representation of the catch and can be compared easily to the previous data collection methods and time series remain intact.
173	Expand studies to identify stock and management boundaries	To identify and refine stock boundaries and understand source/sink dynamics (e.g., scallop metapopulations). Conduct studies to evaluate all crab stock boundaries relative to management boundaries (e.g, Bristol Bay red king crab, Adak red king crab, Aleutian Island golden king crab, EBS Tanner crab, Pribilof

		blue king crab). Expanded studies are needed in the areas of genetics, mark-recapture, reproductive biology, larval distribution, and advection. Such boundaries are to be evaluated so that the risks and consequences of management actions are clear.
ScPT003	Continuation of State and Federal annual and biennial surveys	Modified from #145 to include Scallop: Continuation of State and Federal annual and biennial surveys in the GOA, AI, NBS, and EBS, including crab pot surveys, is a critical aspect of fishery management off Alaska. It is important to give priority to these surveys, in light of recent federal budgets in which funding may not be sufficient to conduct these surveys. Loss of funding for days at sea for NOAA ships jeopardizes these programs. Budgetary concerns have resulted in cuts to not only days at sea, which increases uncertainty, but also sampling the deepest strata, which threatens the value of trawl surveys as a synoptic ecological survey. These surveys provide baseline distribution, abundance, and life history data that form the foundation for stock assessments and the development of ecosystem approaches to management. Although an ongoing need, these surveys are considered the highest priority research activity, contributing to assessment of commercial groundfish, crab, and scallop fisheries off Alaska.

The ScPT recognizes the need to address the lack of life history and population dynamics information and has reflected this in its priorities.