



Three-Year Plan for the Scientific and Statistical Committee of the Western Pacific Regional Fishery Management Council

Year 2021 – 2023

Introduction

The Scientific and Statistical Committee's (SSC's) primary responsibility is to provide ongoing scientific advice for fishery management decisions. The Magnuson-Stevens Fishery Conservation and Management Act¹ (MSA) states that the advice may include but not limited to:

“recommendations for acceptable biological catch, preventing overfishing, maximum sustainable yield, and achieving rebuilding targets, and reports on stock status and health, bycatch, habitat status, social and economic impacts of management measures, and sustainability of fishing practices.”

In providing scientific advice to the Council, the SSC forms working groups to discuss the particular issues in detail between the meeting and give a report to the SSC as a body during its regular meetings. SSC members also participate in peer-reviews of stock assessments and other scientific products for domestic and international fisheries management. The SSC members provide scientific support through projects, analyses, report development, and work products submitted to the Council and reported to the SSC for endorsement. The SSC maintains various research priority documents after vetting through different Council Advisory groups. These are the MSA Five-Year Research Priority, Cooperative Research Priority, Management Strategy Evaluation Priorities, and Insular and Pelagic Fisheries Research Plans.

SSC Three-Year Plan

The SSC Three-Year Plan will help the SSC and the Council to project the SSC workload in a three-year horizon. This may include action items that are already ongoing, upcoming actions, scientific products anticipated for review, scientific workshop development, and other projects that would generate scientific products to support fishery management decisions. Additional items may be added to the plan as new management priorities emerge. The plan is structured on a four meeting outlook to map the formation of the different working groups that shall meet before the SSC meeting.

The SSC Three-Year Plan for 2021 to 2023 will focus on the following items under each of the following thematic areas: 1) Limit specification (ABC or quotas) for pelagic and island fisheries; 2) Stock assessment development; 3) Scientific and research priorities to advance

¹ MSA § 302(g)(1)(B)

fishery management; 4) Science for fisheries management incorporating climate change; 5) Science workshops to change management paradigm; 6) Protected species; and 7) Socio-economics.

1) Limit Specifications

- a. Setting Acceptable Biological Catch for Island Fisheries (routine) – the SSC will be deliberating on the new information that was subject to WPSAR review
- b. Bigeye Tuna Specification (routine) – the SSC will review, per any incoming scientific information, the feasibility of catch limits for US and Participating Territories and any transfer of catch from the Territories.
- c. Develop catch limits for Pelagic MUS (routine) – the US may need to develop catch limits for billfish stocks that are in an overfished/overfishing situation, yet are under international jurisdiction.

2) Stock Assessment Development

- a. Territory Bottomfish Stock Assessment Development (routine) – SSC members will participate in data workshops and review stock assessment data and modeling decisions and results as needed through SSC meetings and the WPSAR process
- b. Marianas BMUS Species Complex and Stock Definition – SSC members will form a working group to review the Plan Team report on redefining the BMUS complex in the Marianas and whether an archipelagic-wide assessment is warranted.
- c. Working Group on the Stock Definitions of Archipelagic and Pelagic Fisheries - National Standards 3 (NS3) of the MSA does not provide clear guidance defining stocks relative to management units in US fisheries. A working group will ultimately provide guidance to the MSA NS3 definitions of stock based on management unit species that may be contained within a single jurisdiction, transboundary, or straddling stock. It will develop guidelines for defining specific stocks of both archipelagic and pelagic management unit species in the Western Pacific Region. This will have implications on the jurisdiction of the stock assessment (e.g. state versus federal versus international).
- d. Providing Critical Scientific Information to Address International Overfishing (ad hoc) - After an international RFMO science committee or provider considers a MUS in any Council FEP to be overfished or experiencing overfishing, Council staff or NMFS will present the assessment results, minimum stock-size threshold (MSST) from the appropriate FEP, and US catch histories of Council-managed fisheries to the SSC at its very next meeting. The SSC will either 1) advise Council staff to explore and develop management options before the RA issues a letter to the Council (notifying it of its one-year MSA 304(i) obligations); or 2) request NMFS to work with the RFMO science provider to provide necessary scientific information, such as stock projections before the RA issues its letter to the Council.

3) Scientific and Research Priorities to Advance Fishery Management

- a. Review of the Council’s research priorities and informing PIFSC’s Annual Guidance Memorandum (routine) – the Council maintains several research

priority documents that are used to identify priorities for funding and recommendations for the Annual Guidance Memorandum for PIFSC. These are the MSRA Five Year Research Priorities, Cooperative Research Priorities, Pelagic Fisheries Research Plan, and the Management Strategy Evaluation Priorities. These documents are reviewed in the last quarter of the year in time for the AGM drafting by NMFS and the funding RFP development in the subsequent year. The SSC will annually provide input to the Council in September to inform recommendations to PIFSC.

- b. PIFSC Science Plan (ad hoc) - SSC members will participate in the planning sessions for the development of the PIFSC Science Plan and provide comments on the draft plan as appropriate
- c. Archipelagic and Pelagic Annual SAFE Report Review (routine) – as part of complying with the requirements of the FEP and National Standard 2, the SSC will review and endorse the draft Annual SAFE reports at its regular June meetings. The regulatory deadline for the reports is June 30 of every year.
- d. Review of Status Determination Criteria under a revised MSA (ad hoc) – Status determination criteria under a revised MSA may require stocks deemed overfished to be instead determined “depleted”. However, overfished and depleted may have differing connotations. The SSC will provide some clarity or suggest criteria for when a stock is overfished vs. depleted.
- e. Western Pacific Stock Assessment Review (routine) – between 2021 and 2023, the SSC will participate in WPSAR meetings and desktop reviews as dictated by the WPSAR schedule. The SSC will also be tasked with reviewing the Terms of Reference for WPSARs,
- f. National Standard 1 Technical Guidance Memorandum (ad hoc) – NMFS will be releasing two Technical Guidance Memoranda under National Standard 1. The first is the Tech Memo on biological reference points and the second is on the data-limited fisheries. The SSC will be tasked to review and provide comments. Working groups will be formed to provide an in-depth review and provide a report.
- g. NMFS Science Policies (ad hoc) – the SSC will be reviewing science policy documents including Electronic Technologies Policy, NS2-related policies, etc.
- h. Monitoring and Evaluating Feasible Management Actions for Incidental Pelagic Management Unit Species (ad hoc) – The SSC and Council Staff will conduct a review of analyses that monitor trends in non-target but marketable pelagic management unit species (mahimahi, wahoo, pomfrets, opah, etc). Research is underway to determine trends in catch biomass from commercial and non-commercial fisheries in Hawaii and biological impacts. The SSC can also determine the feasibility of management actions (catch limits, creel limits, size limits, etc) for fisheries based on this information.

4) Science for Fisheries Management Incorporating Climate Change

- a. Applying the Static and Dynamic EFH Delineation Model to Uku and Territory Bottomfish – A SSC member developed the EFH delineation model. This project will apply the model to the management unit species, particularly to *Aprion virescens* and the territorial BMUS complex. The model uses the static EFH

definition and generates a probability gradient map to define which areas are hotspots, core, EFH, and non-EFH. The dynamic part of the model uses oceanographic data that can be projected in the future for various climate scenarios to view the change in EFH over time. The results of the project will be subject to WPSAR to refine the EFH definition for these species.

- b. Assessing threat abatement using area-based vs. non-area-based management tools in the WP Region - benefits of the ocean and its resources would include oxygen production, carbon sequestration, food production, employment, tourism, and biodiversity existence values. Threats would include global warming, ocean acidification, and land-based runoff, pollution, illegal fishing, exotic species, etc. An SSC subcommittee will analyze the efficacy of management tools to most effectively address such threats specific to the WP Region.
- c. Shifting Distributions – Climate change and physical forcing (e.g. ‘regime shifts’) may drive MUS distributions away from their historical distributions and/or away from (or towards) fishery distributions. This may introduce threats to fishery access, food production, and economies. It may also bring about new fishing opportunities. Distributions of MUS and their prey sources may also be affected, which need to be considered under the reauthorization of the MSA. The SSC will review the impacts of distribution and ‘regime shifts’ and provide any guidance to help inform adaptive management.
- d. Island Fisheries Ecosystem Indicators and Thresholds – The Council is working with a contractor to identify the ecosystem and climate change indicators that influence the nearshore fisheries and determine the thresholds in those indicators that would trigger management actions. The SSC will utilize the preliminary product and develop the scientific framework that would adopt the modeling approach and apply it to other species particularly for the management of the ecosystem component species.
- e. Process Error to Inform Extrinsic Ecosystem Drivers - The SSC will develop guidelines to use estimated process error from stock assessment models to inform likely future biomass uncertainties due to short-term ecosystem dynamics or long-term climate change.
- f. Advance the Management Strategy Evaluation efforts (routine) - The SSC will provide guidance on tools used for management strategy evaluation (MSE) and identify key management scenarios for which stated objectives are to be achieved.

5) Science Workshops to Change Management Paradigm

- a. Workshop on bigeye tuna management in WCPO longline fisheries (ad hoc) – comes with two themes: 1) area/zone-based management versus flag-based and 2) management objectives and evaluation. The overarching goal is to develop recommendations to update WCPFC CMMs, specifically management measures for WCPFC longline fisheries targeting tropical tunas, taking into account contemporaneous economic cost-benefit analyses and best available science. The SSC will guide Council staff in framing the workshop and objectives.
- b. National Workshop of the Scientific Coordinating Subcommittee of the CCC - Western Pacific SSC member representatives will participate in the National Workshop of the SCS in Alaska in August 2022. The thematic areas include: 1)

incorporating ecosystem indicators in stock assessments; 2) Developing information to support the management of interacting species in consideration of EBFM; 3) and developing fishing level recommendations for species with shifting distributions.

- c. Workshop on the Uptake of Multispecies Modeling to Inform Ecosystem Component Species Management - In June 2021, NMFS and UMASDD-SMAST co-hosted the Multispecies Modeling Applications Workshop. The goal of the workshop was to determine the impediments of the use of multispecies models (MSM) and find opportunities to enhance the uptake of MSM in fisheries management. The SSC will take the lead in organizing a regional workshop to create an inventory of MSM initiatives and develop a framework by which MSM could be used in the management of Ecosystem Component species.

6) Protected Species

- a. Biological Opinion Reviews – SSC will review and identify scientific issues regarding the impacts assessment and any potential RPMs/RPAs to the Council for ESA consultations for fisheries managed under the Council’s FEPs. These Biological Opinions (BiOps) may also contain RPMs/RPAs that require Council management action, and the SSC will provide scientific input as those needs arise. ESA consultations for the Hawaii deep-set longline fishery, American Samoa longline fishery, and the MHI and Territory bottomfish fisheries are ongoing, and draft BiOps are anticipated in 2021.
- b. Council Actions on Improving Protected Species Management Measures – The SSC will provide scientific input on Council actions and associated scientific products to improve protected species management measures in fisheries operating under the FEPs. Council action is scheduled in 2021 for the revision of seabird mitigation measures and prohibition of wire leaders in the Hawaii longline fishery.
- c. SSC Working Group on FKW Alternative Measures – The SSC formed a working group to develop recommendations on alternative approaches to weak hooks for reducing impacts to false killer whales (FKWs) in the Hawaii deep-set longline fishery. WG is developing an issues paper for SSC review at the June 2021 meeting with the aim of presenting the final product in September. The SSC will review the issue paper and provide future direction to the Council.

7) Socio-Economics

- a. Socioeconomic context of fishery data collection – the effectiveness of territorial fishery data collection improvement efforts will be dependent on support and cooperation from the fishing community. An evaluation of community perceptions and understanding related to data reporting is critical to gauging future support and expected participation in new data collection systems. The SSC will review socio-economic and socio-cultural aspects of the American Samoa and Guam bottomfish fishery that affects support for new data collection approaches. An SSC member with social science expertise will participate in territory Data Workshops to facilitate consideration of perceptions, incentives, and socio-cultural aspects of fisheries and communities.

- b. Fishing community resilience and adaptation to future shocks – narratives of COVID-19 impacts to regional fisheries and fishing communities are a key feature of the Annual SAFE reports in 2021. PIFSC monitored impacts of the pandemic on regional fisheries and communities during 2020². Establishing a framework to monitor and evaluate impacts, assess resilience, and document adaptations to future external shocks such as natural or social disasters that disrupt fishery production, supply chains, and markets will be critical for efficient fishery management decisions. The SSC will provide guidance on developing this framework. An SSC working group will be formed to:
 - i. Develop a standardized framework for soliciting “fisher observations” to inform future SAFE reports (I believe this was a recommendation from 140th SSC)
 - ii. Review how PIFSC/NMFS/WPFMC and perhaps more broadly (other US Federal agencies, Foreign Governments, Private Sector, Industry) have monitored and reported out on COVID impacts during 2020-2021 (or search literature for monitoring parameters)
 - iii. Evaluate areas of improvement/develop key monitoring parameters and strategies for Council fisheries and communities, with an eye towards flexibility in applications to future unexpected shocks (both negative and positive)

8) Organizational Coordination

- a. Annual and Quarterly Coordination Between Council and PIFSC Regarding Annual Priorities and Status – Council staff, in coordination with the SSC Chair, shall organize regular meetings with PIFSC Division Directors and leadership to discuss fishery science needs that will lead to Council management actions. Increased coordination with PIFSC staff allows for better monitoring of progress in addressing the science needs of the SSC.

² <https://www.fisheries.noaa.gov/resource/document/updated-impact-assessment-covid-19-crisis-us-commercial-seafood-and-recreational>

Schedule of Meetings and Working Group Sessions

2021							
<i>Inter-session</i>	March	<i>Inter-session</i>	June	<i>Inter-session</i>	September	<i>Inter-session</i>	December
FKW WG	Deep 7 BF ABC Setting Final Action	FKW WG	FKW WG	SSC WG SG3	NS1 TG SG1 Bio Ref Pts	AS Stock Assess Data WS	AS Stock Assess Data WS report
OCS WG		BET longline management in WCPO	Annual SAFE report review	AS Stock Assess Data WS	Seabird mitigation measures (EFP results)	Stock definitions of Island and Pelagic MUS WG	Seabird mitigation measures (anticipated final action)
NPO Striped Marlin Action Team	Wire leader amendment		NS1 TG SG3 Data Poor Stocks	SSC WG SG1	Research Priority review	WCPFC PAC	Uku EFH presentation
	NPO striped marlin catch limits		Wire leader amendment (final action)	WCPFC SC17	FKW WG Final Issues Paper	Resilience WG	BiOp review
	Seabird mitigation measures		BET Specs 2022	FKW WG	BiOp review		Resilience WG
	FKW WG						
2022							
<i>Inter-session</i>	March	<i>Inter-session</i>	June	<i>Inter-session</i>	September	<i>Inter-session</i>	December
SSC SG on MA BMUS Complex and Stock definition	AS stock assessment data and model decision	EFH Delineation WPSAR	SSC SG on MA BMUS report	WCPFC SC18	Research Priority review	MA Stock Assess Data WS	AS stock assessment data and model decision
	Stock Definition WG report 1	Stock Definition WG convenes	Annual SAFE report review	Stock Definition WG convenes	AS stock assessment data and model decision	WCPFC PAC	Stock Definition WG report 1
	Territorial BMUS workshop report		AS stock assessment data and model decision	Incidental pelagic MUS data workshop 1	BMUS revision options paper	Stock Definition WG convenes	
				National SCS WS		MSM planning	
				MSM planning			
2023							
<i>Inter-session</i>	March	<i>Inter-session</i>	June	<i>Inter-session</i>	September	<i>Inter-session</i>	December
Incidental pelagic MUS data workshop 2	Guam stock assessment data and model decision	AS BF Stock Assess WPSAR	Annual SAFE report review	WCPFC SC19	AS BF WPSAR report	P* and SEEM Analysis WG	ABC Setting for AS BMUS
Multispecies			Guam stock assessment data	BET stock assessment	AS BF Stock Assessment	WCPFC PAC	Guam stock assessment data

Version: August 3, 2021

Modeling Workshop	Island Fisheries Ecosystem indicators and thresholds MSM workshop report		and model decision		Report Research Priority review Guam stock assessment data and model decision		and model decision
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