



SC14 Meeting Report

Annex 16: Jumbo Flying Squid Management Strategy Evaluation planning

Workplan item	Item description	Lead	Timeline
3.1.9	Develop an Operating Model to support MSE and other simulation work, including support for multiple phenotypes.	CHL/CHN/SQWG/ECU	
3.1.10	Extend the Operating Model to explicitly incorporate environmental effects on population dynamics, enabling research on climate change impacts.	SQWG	
3.2.1	Develop a plan for more detailed within-season fishery Monitoring depending upon the uptake of EM, etc.	SQWG	
3.2.2	Explore and develop alternative approaches to provide management advice if a stock assessment cannot be completed or is not suitable for management purposes.	SQWG	
3.1.X	Use available data from Members to parameterise key biological processes in the Operating Model, including maturity, growth and mortality by phenotype.	SQWG	
3.1.X	Develop an approach for conditioning the Operating Models in the absence of a benchmarked assessment model	SQWG	

MSE Objective: Evaluate whether management procedures compatible with the annual SPRFMO management cycle can achieve agreed sustainability objectives for jumbo flying squid under realistic biological, fishery and environmental variability, and assess whether climate-aware management procedures can improve robustness to environmental variability and climate-related changes.

Code	Activity	Coordinator	Funding		
			2027	2028	2029
3.5 Squid MSE					
3.5.1	Develop a staged roadmap for the Squid MSE, identifying the main technical and management components, respective roles, decision points and expected outputs.	SQWG/SC	In-kind	-	-
3.5.2	Facilitate dialogue with the Commission, managers and relevant stakeholders to identify management objectives, operational constraints, priority trade-offs and other considerations to guide the MSE.	SQWG/SC	-	In-kind	In-kind
3.5.3	Develop the technical specifications for the Squid MSE, including operating-model scenarios, data and implementation assumptions, performance metrics and criteria for evaluating candidate management procedures.	SQWG	-	In-kind	-
3.5.4	Design annual harvest control rules or other management procedures compatible with the SPRFMO management cycle, including climate-aware alternatives.	SQWG	-	In-kind	-
3.5.5	Evaluate the performance of candidate management procedures through MSE to determine their robustness to biological, fishery, data and environmental uncertainty.	SQWG	-	-	In-kind
3.5.6	Present preliminary MSE results and management trade-offs to the Commission, managers and relevant stakeholders, and use the feedback to refine the MSE framework and candidate management procedures. [2030?]	SQWG	-	-	-



OM requirements (ASTT ToR 2024):

Biology: to reproduce the different morphotypes of jumbo flying squid identified in the Southeastern Pacific, considering their differences in growth, and size at first maturity, as well as alternative assumptions regarding reproduction and stock-recruitment dynamics, and to mimic the semelparous biological trait and high natural mortality after spawning of the species.

Ecology: to consider ontogenetic migrations and spatial distributions of different phenotypes reported in the literature, as well as the high degree of cannibalism observed in this species. To consider the effect of climate variability on key parameters related to the life history of this species (e.g., growth, natural mortality, among others).

Fisheries: to consider the differences in selectivity among the various fleets operating on this species in the Southeastern Pacific, [both] at the size level (e.g., offshore vs. inshore fleets) [and sex level (e.g., trawl vs. jigging).]

Sampling: to consider different uncertainty scenarios associated with different levels of sampling effort (e.g., observer coverage, number of ports sampled).

Data reporting: to produce both aggregate statistics (i.e., catches, average sizes) and disaggregated data by size, fishing area, and fleet type, consistent with standardization of sampling effort among Members.