

Southwest Atlantic Argentine Shortfin Squid

Fishery Improvement Project (FIP) Scoping Document

Author(s): Overseas Fisheries Development Council

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Introduction

The purpose of a FIP scoping document is to recommend strategies to address the fishery's challenges, as identified in the MSC pre-assessment or needs assessment. The scoping document provides recommendations on the actions that may be taken to reach one or more of the MSC scoring guideposts (SGs) for a given performance indicator (PI), but it is not meant to be prescriptive. Within the scoping document, PIs are prioritized to help guide the development of FIP actions.

The fishery being assessed is the squid-jigging fishery conducted by 82 fishing vessels registered under Taiwan Squid and Saury Fisheries Association, which targets *Illex argentinus* in the southwestern Atlantic. Those 82 squid-jigging fishing vessels are flying Taiwanese flag and engage in fishing activities on the high seas of the southwestern Atlantic and with the exclusive economic zone (EEZ) of the Falkland Islands. The Argentine shortfin squid Fishery in Southwest Atlantic Oceans was once managed by the South Atlantic Fisheries Commission (SAFC), which is a bilateral commission established by the United Kingdom and Argentina. The Commission used to conduct scientific researches based on the information provided by its members, and set a catch limit of the squid based on the assessment result. However, relevant joint scientific research projects came to a halt after Argentina's withdrawal from the Commission, making it no longer possible to obtain basic scientific information of the species to form a management decision. This fishery therefore is not managed by any organization.

FIP Unit of Assessment (UoA)

Table 1. FIP Unit(s) of Assessment

UoA 1	Description
Target species (common and scientific name)	Argentine shortfin squid (<i>Illex argentinus</i>)
Stock	Atlantic squid
Geographical area	Southwest Atlantic Oceans and the Falkland Islands' valid fishing zone: licence category B for illex

Fishing method or gear type	Jigging
Fishing fleet or group of vessels, or individuals fishing operators pursuing stock	Taiwan squid jigging fleet

Performance Indicators Summary

Table 2. Summary information for each Performance Indicator highlighted within the MSC pre-assessment or needs assessment as scoring either as fail (SG <60), achieve a conditional pass (60-79), or pass (SG ≥80).

Principle 1

PI Category		Scoring Range	Related PIs
1.1.1	Stock Status	SG ≥80	1.1.2, 1.2.3, 1.2.4
1.1.2	Stock Rebuilding	Not applicable	1.1.1
1.2.1	Harvest Strategy	SG <60	1.2.2, 1.2.3, 1.2.4, 3.2.1
1.2.2	Harvest Control Rules and Tools	SG <60	1.1.1, 1.2.1
1.2.3	Information and Monitoring	SG ≥80	1.2.1
1.2.4	Assessment of Stock Status	SG ≥80	1.2.1

Principle 2

PI Category		Scoring	Related PIs
2.1.1	Primary spp: Outcome Status	SG ≥80	2.1.2, 2.1.3
2.1.2	Primary spp: Management Strategy	SG ≥80	2.1.1, 2.1.3, 3.2.1
2.1.3	Primary spp: Information/Monitoring	SG ≥80	2.1.1, 2.1.2
2.2.1	Secondary spp: Outcome Status	SG ≥80	2.2.2, 2.2.3
2.2.2	Secondary spp: Management Strategy	SG ≥80	2.2.1, 2.2.3, 3.2.1
2.2.3	Secondary spp: Information/Monitoring	SG ≥80	2.2.1, 2.2.2
2.3.1	ETP spp: Outcome Status	SG ≥80	2.3.2, 2.3.3

2.3.2	ETP spp: Management Strategy	60-79	2.3.1, 2.3.3, 3.2.1
2.3.3	ETP spp: Information/Monitoring	60-79	2.3.1, 2.3.2
2.4.1	Habitat: Outcome Status	SG \geq 80	2.4.2, 2.4.3
2.4.2	Habitat: Management Strategy	SG \geq 80	2.4.1, 2.4.3, 3.2.1
2.4.3	Habitat: Information/Monitoring	SG \geq 80	2.4.1, 2.4.2
2.5.1	Ecosystem: Outcome Status	SG \geq 80	2.5.2, 2.5.3, 1.1.1, 2.1.1, 2.2.1, 2.3.1, 2.4.1
2.5.2	Ecosystem: Management Strategy	SG \geq 80	2.5.1, 2.5.3, 1.2.1, 2.1.2, 2.2.2, 2.3.2, 2.4.2, 3.2.1
2.5.3	Ecosystem: Information/Monitoring	SG \geq 80	2.5.1, 2.5.2, 1.2.3, 2.1.3, 2.2.3, 2.3.3, 2.4.3

Principle 3

PI Category		Scoring	Related PIs
3.1.1	Governance and Policy: Legal and/or Customary Framework	SG \geq 80	3.1.2, 3.1.3
3.1.2	Governance and Policy: Consultation, Roles and Responsibilities	SG \geq 80	3.1.1, 3.2.2
3.1.3	Governance and Policy: Long Term Objectives	SG \geq 80	3.1.1, 3.2.1, 3.2.2
3.2.1	Fishery Specific Management System: Fishery-Specific Objectives	SG \geq 80	1.2.1, 1.2.2, 2.1.2, 2.2.2, 2.3.2, 2.4.2, 2.5.2, 3.1.3, 3.2.2, 3.2.5
3.2.2	Fishery specific Management System: Decision-Making Processes	SG \geq 80	3.1.2, 3.2.1
3.2.3	Fishery Specific Management System: Compliance & Enforcement	SG \geq 80	1.2.3, 2.1.3, 2.2.3, 2.3.3, 2.4.3
3.2.4	Fishery Specific Management System: Monitoring and Management Performance Evaluation	60-79	3.2.1

Recommendations for Improvements by Performance Indicator

This section indicates the current performance of the fishery and provides more detail on the scoring issue level of each MSC PI that is likely to cause the fishery to either fail (SG <60) or pass with conditions (SG 60-79).

The recommendations provided below include brief descriptions of the type of information and/or actions that might help the fishery reach one or more scoring guideposts and can be used to help inform the development of the FIP workplan with stakeholders. The priority of addressing PIs is listed as high, medium or low depending on several criteria, including the MSC Environmental Rapid Assessment scores.

Table 3. Recommendations for PI 1.2.1

PI and Name	Harvest Strategy		
Scoring Guidepost	<60	60-79	≥80
Scoring issue description	<ul style="list-style-type: none"> • Harvest management exists, but its effectiveness is unknown or uncertain, and it is likely that the fishery is having serious negative impacts on retained populations. <p style="text-align: center;">Or</p> <ul style="list-style-type: none"> • There is no or limited harvest management, and it is unlikely the fishery is having serious, negative impacts on retained populations. 	<ul style="list-style-type: none"> • The harvest strategy includes all necessary components (monitoring, stock assessment, HCRs or some other science-based mechanism to limit harvest, and management actions to maintain sustainability. • The harvest strategy is excepted to achieve sustainability objectives, such as maintenance of stock biomass around or above a level consistent with B_{MSY} (or other proxy). • The strategy is likely to work based on prior experience or plausible argument. 	<ul style="list-style-type: none"> • As with the yellow scoring category, there is a complete harvest strategy with clear sustainability objectives. • There is evidence that elements of the harvest strategy work together to meet management objectives. • The harvest strategy is responsive to the state of stock.

		<ul style="list-style-type: none"> It is likely shark finning is not taking place. 	
Scoring Range and Rationale	<p>PI 1.2.1 scoring range <60.</p> <p>Since the Southwest Atlantic Argentine shortfin squid currently is not managed by any regional fisheries management organizations, there is a lack of relevant stock assessment and management measures at the regional level. In terms of country-level management, the Falkland Islands has a certain degree of management of Argentine shortfin squid, including issuing fishing licenses annually, restricting fishing areas and restricting fishing periods. It also stipulates that licensed fishing vessels must daily report their catch during the authorization fishing period to monitor their catch. In addition, the Falkland Islands Fisheries Department will conduct research and assessment on the stock of Argentine shortfin squid. Given that Argentine shortfin squid is in good condition as derived from its latest stock assessment, the Falkland Islands has not yet established any harvest control rules for this fishery.</p> <p>In general, harvest control strategy shall include monitoring, stock assessment, harvest control rules or a scientific-based harvest control mechanism, and etc. While there is evidence showing that stock of Argentine shortfin squid seems not be seriously impacted by the fishery in the Falkland Islands currently, considering neither a biological reference point, limit reference point nor further control rules for the resources is established, this PI is scored as Red Level (40~59).</p>		
Improvement Recommendations	The stocks shall be assessed to enable setting up biological reference point, limit reference point and control rules.		
Priority	High		

Table 4. Recommendations for PI 1.2.2

PI and Name	Harvest Control Rules		
Scoring Guidepost	<60	60-79	≥80

Scoring issue description	<ul style="list-style-type: none"> HCRs or other harvest control measures exist, but they are unlikely to result in sustainable fishing practices, where exploitation is reduced in response to evidence of stock depletion. <p>OR</p> <ul style="list-style-type: none"> F to be adopted at B_{LIM}, as part of HCR, is >1 to 1.5 times F_{MSY} or similar, and the stock is not depleted. 	<ul style="list-style-type: none"> Generally understood HCRs are in place or available, and are expected to reduce the exploitation rate as the point of recruitment impairment (e.g. limit reference point) is approached. There is some evidence that the tools used (or available) to implement HCRs are appropriate and effective in controlling exploitation. 	<ul style="list-style-type: none"> There are well-defined HCRs that ensure reduction of exploitation rates as stock size approaches PRI. Evidence clearly shows that management actions/tools in use are effective in achieving the exploitation levels required under the HCRs. HCRs are likely to be robust to major uncertainties such as ecological uncertainties.
Scoring Range and Rationale	<p>PI 1.2.2 scoring range <60. Pursuant to the Fisheries (Conservation and Management) Ordinance 2005 of the Falkland Islands, the Director of Fisheries may establish Individual Transferable Quota (ITQ) in the Argentine shortfin squid fishery. Currently, no ITQ system is introduced in the fishery according to the website of the Falkland Islands Fisheries Department. Having said that, the Falkland Islands manages the Argentine shortfin squid through the issuance of fishing license (License Type B, applicable to the Argentine shortfin squid fishery and the Sevenstar flying squid fishery). Every year only licensed fishing vessels are permitted to operate in the permitted area within the permitted period. Fishing vessels with License Type B shall comply with relevant provisions specified on the license, including operating in the permitted area within the permitted period (from February 15 to June 15 every year), ensuring fishers wearing appropriate safety equipment, prohibiting the use of baited lures, and not capturing, harming or cause death of seabirds. Moreover, in order to monitor the fishery, licensed fishing vessels shall daily report their catch. However, as mentioned before, since the SAFC is not operating now, no further scientific research on this stock is conducted as a basis of scientific management.</p> <p>In conclusion, despite there is effort control (issuance of fishing license) in place, the fishery lacks regulations to limit the mortality of the target species; given that no HCR is established for Argentine shortfin squid, this PI is scored as Red Level (20~39).</p>		
Improvement Recommendations	<p>The stocks shall be assessed to enable setting up stock harvest control rules.</p>		
Priority	<p>High</p>		

Table 5. Recommendations for PI 2.3.2

PI and Name	ETP species Management		
Scoring Guidepost	<60	60-79	≥80
<p>Scoring issue description</p>	<ul style="list-style-type: none"> • The gear as used in the fishery is not an “exempt gear”, or the gear may have ETP species interactions. • Appropriate management measure are in place to mitigate ETP bycatch, but compliance or enforcement are problematic. 	<ul style="list-style-type: none"> • If ETP requirements are in place: <ul style="list-style-type: none"> ■ Measures are in place that minimise the UoA-related mortality of ETP species ■ The measures are expected to be highly likely to achieve national and international requirements for the protection of ETP species. <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • If ETP requirements are not in place: <ul style="list-style-type: none"> ■ Appropriate measures are in place that are expected to ensure the UoA does not hinder the 	<ul style="list-style-type: none"> • If ETP requirements are in place: <ul style="list-style-type: none"> ■ A strategy is in place for managing the UoA’s impact on ETP species, including measures to minimise mortality, which are designed to be highly likely to achieve national and international requirements for the protection of ETP species. <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • If ETP requirements are not in place: <ul style="list-style-type: none"> ■ A strategy is in place that is expected to ensure the UoA does not hinder the recovery of ETP species. <p style="text-align: center;">AND</p> <ul style="list-style-type: none"> • There is an objective basis for

		<p>recovery of ETP species.</p> <p>AND</p> <ul style="list-style-type: none"> The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/species). There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species. 	<p>confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or the species involved.</p> <ul style="list-style-type: none"> There is some evidence that the measures/strategy is being implemented successfully. There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA related mortality of ETP species, and they are implemented as appropriate.
<p>Scoring Range and Rationale</p>	<p>PI 2.3.2 scoring range 60-79.</p> <p>The fishing gear (automatic jigging machine) and the fishing method (using unbaited lures and operating at night) used by the UoA can be considered a management strategy in a broader sense. In addition to the Marine Mammals Ordinance 1992 promulgated by the Falkland Islands, where harvesting or killing marine mammals in the Falkland Islands' territorial waters and fishing areas is prohibited; the fishing license issued by the Falkland Islands also specifies that any capture, harm or killing of seabirds or marine mammals is banned in the Falkland Islands. The Wildlife Conservation Act enacted by Taiwan prohibits, in Article 16, the protected wildlife from being disturbed, abused, hunted, killed, traded, exhibited, displayed, owned, imported, exported, raised, bred, and processed; Article 20 of the Regulations for Fishing Vessels Conducting Squid Jigging Fishery also stipulate that any salmon, trout, sea turtle, seabird, whale shark, cetacean, penguin or other prohibited species promulgated by the competent authority incidentally caught by any squid jigging fishing vessel shall be released when caught alive or discarded dead. Moreover, according to the research report released by the Falkland Islands Fisheries Department, there is no frequent interaction between the fishery the UoA engages in ETP species. Therefore, objectively speaking, such strategy can be considered effective. Considering the measures in place currently are not under regular review to examine their</p>		

	effectiveness or enforcement, this PI is scored as Yellow Level (60~79).
Improvement Recommendations	Strengthen the data collection quality and ability as a basis for the review of management measures. It is recommended to deliver skipper training to enhance the ability of filling in the logbook, safe handling and release ETP species, as well as species identification. Besides, to develop the observer program to collect information of fishing effort, geographic distribution, breakdown of discards, interaction levels and survival of released species, to review the effectiveness of fishing practice, or to assess the need for modifications to the practice and measures adopted.
Priority	Medium

Table 6. Recommendations for PI 2.3.3

PI and Name	ETP species information		
	<60	60-79	≥80
Scoring Guidepost			
Scoring issue description	<ul style="list-style-type: none"> The gear as used in the fishery is not an “exempt gear”. There is some reliable information on both composition and amounts of ETP bycatch form a similar fishery, but monitoring does not provide reliable information on UoA fishery impacts on ETP species. 	<ul style="list-style-type: none"> Qualitative or quantitative information is adequate to estimate the impact of the UoA on ETP species. Information is adequate to support measures to manage impacts on ETP species. 	<ul style="list-style-type: none"> Some quantitative information is adequate to assess the impact of the UoA on ETP species and to determine whether the UoA may be a threat to protection and recovery of the ETP species. Information is adequate to measure trends and support a strategy to manage impacts on ETP species.
Scoring Range and Rationale	PI 2.3.3 scoring range 60-79. As stated in the rationale paragraph of the ETP species outcome (2.3.1) section, the UoA vessels only report via logbook system. No observer is sent onboard squid-jigging vessels from Taiwan’s side currently. However, the Falkland Islands will send observers onboard licensed fishing vessels to collect information if considered necessary. Therefore, while a logbook system is currently in place to collect information, considering that Taiwan has not yet deployed observers onboard this UoA vessels, and that the observer data of the Falkland Islands is not collected in a systematic manner, it is deducted that such information may not be sufficient to evaluate the effectiveness of management strategies. This PI is scored as Yellow Level (60-79).		
Improvement Recommendations	Strengthen the data collection quality and quantity as a basis for the review of management measures. It is recommended to deploy observers to collect scientifically relevant data. And offer training to skippers to		

	improve the quality of logbook filling and the ability to handle and release ETP species safely, as well as the ability of species identification, to enhance the quality and quantity of data.
Priority	Medium

Table 7. Recommendations for PI 3.2.4

PI and Name	Monitoring and Management Performance Evaluation		
Scoring Guidepost	<60	60-79	≥80
Scoring issue description	<ul style="list-style-type: none"> Mechanisms for monitoring and evaluating performance of the fishery-specific management system are absent, or if they exist, they are not used. The fishery-specific management system is not subject to internal or external review. 	<ul style="list-style-type: none"> There are mechanisms in place to evaluate some parts of the fishery-specific management system. The fishery-specific management system is subject to occasional internal review. 	<ul style="list-style-type: none"> There are mechanisms in place to evaluate all parts, or at least key parts, of the fishery-specific management system. The fishery-specific management system is subject to regular internal and occasional external review.
Scoring Range and Rationale	<p>PI 3.2.4 scoring range 60-79.</p> <p>Taiwan</p> <p>The Fisheries Agency published the National Plan of Control and Inspection for Fisheries (NPCI) in November 2016 and made amendments to it in September 2018. This NPCI is adopted to prevent, curb and eliminate IUU fishing activities through improving vessel operators and fishers' compliance with the Fisheries Act and relevant conservation measures, develop and MCS policy for fisheries, set principles and standards for measures, and strengthen the fisheries controlling capacity of the fisheries competent authority and other relevant government bodies through risk assessment. The Fisheries Agency sets the annual objectives for port inspection, observer coverage, implementation on high seas boarding and inspection and produce annual report every year to review the implementation progress. This can be seen as an internal review mechanism in the fisheries management system that operates regularly. As for external review, since some fisheries, such as tuna fishery, are also under management of relevant regional fisheries management organizations, which Taiwan is its member, the compliance review conducted by such organizations can be regarded as the external review of Taiwan's fisheries management system. However, as currently there is no specialized international fisheries management organization for the Atlantic Argentine shortfin squid fishery, no similar mechanism can be applied as external review. Therefore, this PI is scored as Green Level (60~79).</p>		

	<p><u>Falkland Islands</u></p> <p>As stipulated in the Fisheries (Conservation Management) Regulations 2005, any approach or conservation measure that is adopted to ensure the utilization of fisheries resources and other relevant activities shall be reviewed once every 12 successive months. Therefore, there is a formal review mechanism for a specific fishery management system.</p> <p>Regarding the internal review of the fishery management system, the FIFD is subject to the review conducted by the government auditor every year, where the financial suitability and the compliance with all statutory duties and obligations will be assessed. The latest formal external review on management system was conducted in 2003 and had provided relevant information for formulation and implementation of the Fisheries (Conservation Management) Regulations 2005. Considering there are regular internal review and irregular review on fisheries management system, this PI is scored as Green Level (80+).</p>
<p>Improvement Recommendations</p>	<p>The external review of the management system should be considered on an occasional basis, so this task should be promoted within the workplan.</p>
<p>Priority</p>	<p>Medium</p>