Papua New Guinea Torres Strait tropical rock lobster fishery

MSC Fishery Assessment Report

Public Certification Report

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Glossary

AFMA	Australian Fisheries Management Authority
CEPA	Conservation and Environment Protection Authority
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAWE	Commonwealth Department of Agriculture, Water and the Environment
EEZ	Exclusive Economic Zone
eHCR	Empirical harvest control rule
ETP	Endangered, Threatened or Protected
FAO	Food and Agriculture Organization of the United Nations
FCM	Fisheries Certification Methodology
FIA	Fishing Industry Association (PNG)
GBR	Great Barrier Reef
HCR	harvest control rule
HS	harvest strategy
HSP	Harvest Strategy Plan
IFQ	Individual Fishing Quota
ITQ	Individual Transferable Quota
Kg	kilogram
Lb.	pound, equivalent to roughly 2.2 kg
LOA	length over-all
M	million (lbs.)
MSC	Marine Stewardship Council
MSE	Management Strategy Evaluation
MOU	memorandum of understanding
nm	nautical mile
NFA	National Fishing Authority (of PNG)
OFL	Over-Fishing Level
PNG	Papua New Guinea
PI	Performance Indicator
PMAC	Provincial Management Advisory Committee
PZJA	Protected Zone Joint Authority
QDAF	Queensland Department of Agriculture and Fisheries
RBC	Recommended Biological Catch
SCS	SCS Global Services
SI	Scoring Issue
SSB	Spawning Stock Biomass
t and mt	ton/metric ton
TAC	total allowable catch
TIB	Traditional Inhabitant Boat

TRLWG	Tropical Rock Lobster Working Group
TRLRAG	Tropical Rock Lobster Resource Assessment Group
TSPZ	Torres Strait Protected Zone
TSRA	Torres Strait Regional Authority
TSSAC	Torres Strait Scientific Advisory Committee
TAC	Total Allowable Catch
TRL	Tropical Rock Lobster
TVH	Transferable Vessel Holder
UoA	Unit of Assessment
UoC	Unit of Certification
VMS	Vessel Monitoring System
WWF	World Wildlife Fund

1 Executive Summary

This report presents the Marine Stewardship Council (MSC) assessment of the tropical rock lobster (*Panulirus ocellatus*) fishery, harvested by free diving or divers using "hookah" gear in the Torres Strait off Daru, Papua New Guinea (PNG), considered to be a single Unit of Assessment (UoA). Within the report, the Unit of Assessment will be referred to as the PNG Torres Strait tropical rock lobster fishery or the tropical rock lobster (TRL) fishery. The assessment was conducted and the findings prepared by SCS Global Services (SCS), an MSC-accredited, independent, third-party conformity assessment body (CAB), in accordance with the MSC Principles and Criteria for sustainable fishing. The assessment complies with the MSC Certification Requirements Version 2.01, 31 August 2018, and the guidance to the Certification Requirements Version 2.2, 25 March 2020.

Table 1. Unit of Certification(s) and Unit of Assessment(s)

Stock/Species (FCP V2.2 7.5.2.a)	Method of Capture (FCP V2.2 7.5.2.b)	Fishing fleet (FCP V2.2 7.5.2.c)
Tropical rock lobster, *Panulirus ornatus*	Hand collection by diving via "hookah" gear or free diving aided by scoop net and spear	Vessels flagged to Papua New Guinea licensed to fish for tropical rock lobster

Fishery Operations Overview

The PNG Torres Strait tropical rock lobster fishery is a commercial fishing operation with a limit of 7 vessels, each with approximately 5-7 fishers onboard, landing in Daru, PNG. Each larger vessel acts as a "home base" for the fishing activity which includes divers accessing reefs from smaller dory boats and hand-harvesting lobster using hookah dive gear or by free diving. All vessels operate within the Torres Strait and all catch is landed in Daru, PNG. The fleet fishes for tropical rock lobster (*Panulirus ornatus*).

Fishery strengths

Both fishery-dependent and fishery-independent data are collected including a time series dive surveys that provide an index of recruiting (age 1+) lobsters as close as possible to the start of the fishing season. The monitoring and stock assessment are undertaken by an experienced group of scientists. The data support a robust assessment of stock status which is regularly reviewed in an established scientific forum. A harvest strategy is in place that includes an empirical harvest control rule that is used to set the annual total allowable catch (TAC). Compliance with the TAC is assisted by relatively centralized catch processing facilities for much of the catch. The stock is assessed as being well above its target which is set at a biologically conservative level.

The hand collection method used to capture the target species is highly selective. This results in there being no catch of non-target species and minimal impact on habitats. There is no bait used and there are no known species that are dependent on the target species as prey or key life history stages, so ecosystem impacts are expected to be minimal for the fishery.

There are ample laws and regulations in place that provided legal basis for and clear arrangements between PNG and Australian government to collaborate in managing the fishery, including on a joint agreement for catch allocation between the two countries. The main intention of the regulations is to protect the traditional way of life, and livelihoods of traditional inhabitants in the Torres Strait. In addition, the enforcement of this fishery within the Torres Strait Protected Zone (TSPZ) both in PNG and Australian waters has been benefiting from regular surveillance and patrolling activities undertaken by the Australian government enforcement agencies. It has resulted in significant reduction of fishery infringements by fishing boats, especially those registered in PNG. There were about 19 infringement cases reported in 2015, that has significantly reduced to three (3) reported cases in 2019 and downed to only one (1) case reported in 2021.

Fishery weaknesses

There are concerns about the accuracy and timeliness of the catch data reported by PNG fishers, and CPUE indices have not been able to be calculated for this sector. A recommendation is proposed to address this issue. Some data are available on the customary and subsistence catch by indigenous groups, but good information on the potential bycatch in prawn trawl fisheries was not available at the time of the assessment. Because of this, a condition is proposed for PI 1.2.3. The engagement of the PNG fishers and management with the established scientific processes could be improved.

There is a lack of information available regarding any interactions with endangered, threatened, or protected species and benthic habitat, but this is likely due to lack of interactions between the gear and these components. The assessment team concludes that the UoA, those fishing for lobster by hand using hookah gear or free diving, has no impact on ETP species, but cannot be confident that ETP species are not harvested by other gears outside of the fishery's scope. The only other P2 weakness involves inconsistency in the reported catch of *P. versicolor*, characterized here as secondary minor, but several experts have testified that this species makes up an "insignificant" portion of the catch.

Although the intention of the various regulations created for marine resource management within the TSPZ, as stated above, is to protect the way of life and livelihoods of traditional inhabitants in the Strait, some regulations turned out to be not in favor of the traditional inhabitants. There has a been a dispute registered in Australian Federal court on the requirement for the Torres Strait's traditional-owner TRL license holders who can only employ indigenous crews from the Torres Strait region to work on their boats. This requirement resulted in several license boats underused due to their inability to secure enough indigenous crew from the region.

Assessment Overview

The team selected to undertake the assessment includes four team members that collectively meet the requirements for MSC assessment teams. These are:

- Mr. Alexander Morison, Principle 1 Expert
- Ms. Jessica Melgey, Principle 2 Expert

- Dr. Abdul Halim, Principle 3 Expert

This Public Certification Report presents the final assessment of the sustainability of the Papua New Guinea tropical rock lobster fishery. Strengths, weaknesses, and scoring for the three MSC principles are provided, along with a review of the site visit and conditions, peer review, and MSC Technical Oversight review.

The team met with fishery representatives, scientists, and stakeholders in Port Moresby and Daru, PNG, from February 13 through 17, 2023. Documents were presented by fishery representatives and fisheries scientists. Client representatives were thorough in their approach and provided the assessment team with supporting documents. The original announcement for the assessment indicated that the Risk-based framework (RBF) would not need to be used and this was confirmed from information provided prior to and during the site visit. The assessment proceeded without the RBF.

Stakeholders were notified of the onsite visit, invited to speak with the team regarding any concerns and time was scheduled during the onsite to meet with stakeholders. Several stakeholders participated in the onsite meetings, but there were no registered stakeholders and no stakeholder comments have been provided for this fishery. Peer Review of the assessment was conducted by Jeff Kinch and Klaas Hartmann. Improvements were made to scoring rationales and conditions based on Peer Reviewer comments.

In this report, we provide detailed rationales for scores presented for each of the Performance Indicators (PIs) under Principle 1 (Stock status and Harvest strategy), Principle 2 (Ecosystem Impact) and Principle 3 (Governance, Policy and Management system) of the MSC Standard. No PIs failed to reach the minimum Scoring Guidepost (SG) of 60, and the average scores for the three Principles remained above SG80). The team issued 4 scoring issue-level conditions for 3 different PIs that did not meet SG80 level. The fishery received 1 condition in Principle 1, zero conditions in Principle 2, and 3 conditions in Principle 3. A Client Action Plan, detailed in Section 6.6.1, was produced to meet the conditions.

Summary of Findings

For Principle 1 the evidence available suggests that all PIs achieve an unconditional pass with the exception of PI 1.2.3. For this PI although some additional information was provided during and after the site visit there was no information available on the potential catch by prawn trawlers and a condition has been proposed. A recommendation is also proposed to address deficiencies in the timely provision of data from the UoA for use in the annual assessment and TAC setting process.

In Principle 2 none of the PIs received scores under SG80. This is due to the highly selective nature of the gear which results in no bycatch and negligible impacts on the habitat or ecosystem.

In Principle 3, 2 of the PIs (3.2.3 and 3.2.4) received scores under SG80; these are related to the compliance and enforcement of the PNG management system and monitoring and management evaluation.

In this report, we provide the rationales for all scores proposed, which support that the fishery is recommended for certification.

The report was posted for Public Comment to the MSC website on 15 September 2023, with the public comment period closing on 6 October 2023. No comments were received. The positive certification determination has been finalized, and the 15 working day objection period passed with no objections after the posting of the Final Draft Report.

1.1 Report Details

1.1.1 Authorship and peer review

Audit Team

Alexander Morison – Morison Aquatic Sciences – Principle 1 Expert

Mr. Morison is a consultant specializing in fisheries and aquatic sciences. He has over 30 years' experience in fishery science and assessment at state, national and international levels and has held senior research positions for state and national organizations in Australia. He is currently chair of the Ecologically Related Species Working Group of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) and has been engaged in the Kobe process for harmonisation of measures across the tuna RFMOs. Mr. Morison has considerable experience with issues of tuna and other pelagic species through various positions in addition to his current role with CCSBT. He was Australia's representative on the Science Working Group during the establishment of the South Pacific Regional Fisheries Management Organisation and was the inaugural chair of the Jack Mackerel Working Group during that time. He has particular expertise with fish age and growth and has been involved in the development and implementation of harvest strategies for several fisheries. Mr. Morison has participated as part of a team undertaking MSC pre-assessments for several fisheries and is also trained as a lead auditor for MSC assessments.

Mr. Morison's experience satisfies the MSC requirements for a Team Member as described in PC2 (FCP v2.1):

- ✓ With relevant degree (Honours Degree in Zoology) and over 5 years of research experience in management or research experience in a marine conservation biology, fisheries, natural resources or environmental management position.
- ✓ Has passed new online training modules on modifications to the MSC Fisheries Standard before undertaking assessments using these modifications such as enhanced bivalves, salmon and other modifications that may be developed in the future (2019).
- ✓ Has passed the MSC compulsory training modules for Team Members within the last 5 years (2019).
- ✓ Affirms he has no conflict of interest in conducting this assessment.

Jessica Melgey – SCS Global Services, Inc. – Principle 2 Expert

Ms. Melgey has a Bachelor of Science in Biology, an M.S. in Fisheries Science, and more than twelve years of experience as a professional in fisheries science, policy, and management. She is widely experienced in the impacts of fisheries on aquatic ecosystems including to habitat, endangered and threatened species, and non-target bycatch. She has spent time in both the public and private sectors, and is familiar with permitting, policy, and regulatory issues in large- and small-scale fisheries. As a fisheries observer and observer data editor and later as a fishery analyst for the New England Fishery Management Council, she

gained familiarity with a wide range of vessel and gear types and understands much of the inner workings of commercial fisheries, including trawl, dredge, trap, gillnet, longline and seine fisheries for a wide range of species. She spent time aboard commercial vessels as an observer, a contract survey scientist, and a graduate student, and maintains a strong interest in collaborative research and fisheries sustainability.

Ms. Melgey's experience satisfies the MSC requirements for a Team Member as described in PC2 (FCP v2.1):

- ✓ With relevant degree (Master of Science in Living Marine Resources Science and Management from University of Massachusetts School of Marine Science and Technology, New Bedford, MA, USA), and over 5 years of experience in marine conservation biology, fisheries, natural resources, or environmental management as evidenced by her time with the Northeast Fisheries Observer Program, the New England Fishery Management Council, and an environmental consulting firm.
- ✓ Has passed the MSC compulsory training modules for Team Members within the last 5 years (2022).
- ✓ Affirms she has no conflict of interest in conducting this assessment.

Abdul Halim – Principle 3 Expert

Dr. Halim has decades of technical knowledge and extensive field experience on fisheries management and policy in Indonesia, particularly with small-scale fisheries. He worked for sixteen (16) years for The Nature Conservancy (TNC) in Indonesia. He began his assignment with TNC Indonesia Marine Program as Livelihood Program Coordinator, to then become Technical and Policy Manager, Program Manager, Program Director and finally Senior Marine Policy Advisor to the Country Director. He has experienced different organizational assignments ranging from on-site conservation jobs, technical, policy (government relations) and managerial (executive) responsibilities. Example of technical tasks included development of long-term strategic and annual conservation plans and programs and their effective execution on the grounds; policy responsibilities included galvanizing political commitments from local, national, and international (especially Coral Triangle countries) governments to support marine conservation and influencing policy and legal development; executive responsibilities include overseeing staff capacity development, ensuring prudent financial spending and maintaining good relationships with partners including donor agencies and all relevant units/programs within TNC globally.
Dr. Halim has been working as a Senior Independent Consultant since the past three years with various organizations, mainly Non-Government Organizations (NGOs) and projects working in Indonesia including, Environmental Defense Fund/Yayasan Bina Usaha Lingkungan (EDF/YBUL), Wildlife Conservation Society (WCS), Rare, Coral Triangle Center (CTC) and USAID Sustainable Ecosystem Advanced (SEA) project. Most of his assignments included productions of various policy and legal analysis and recommendations in the field of small-scale fisheries, rights-based fisheries management and alignment of conservation with fisheries management to inform the development and revision of policies, regulations and laws, including the Fisheries Law of Indonesia.

Dr. Halim was an active member of Indonesian delegation to the Conference of Parties of the UN Convention on Biological Diversity (UNCBD) up until few years ago. He has also authored and co-authored several publications around fisheries management and marine conservation at peer-reviewed international journals such as Marine Policy and Ocean and Coastal Management. He holds a Doctorate Degree from Bogor Agricultural University (IPB), Indonesia, on small-scale fisheries management, a Master of Arts (MA) in Marine Affairs from the University of Rhode Island, USA and a Bachelor in Fisheries from Bogor Agricultural University (IPB), Indonesia.

Dr Halim's experience satisfies the MSC requirements for a Team Member as described in PC2 (FCP v2.1):

- ✓ With relevant degree (Doctorate in small-scale fisheries management, Bogor Agricultural University, Indonesia, 2018; MAMA (Master of Arts in Marine Affairs), Department of Marine Affairs, University of Rhode Island, Kingston, Rhode Island, USA, 2002) and over 5 years of research experience in management or research experience in a marine conservation biology, fisheries, natural resources or environmental management position as evidenced by his tenure at TNC's Indonesia Marine Program as Technical and Policy Manager, Program Manager, Program Director and Senior Marine Policy Advisor.
- ✓ Has passed the MSC compulsory training modules for Team Members within the last 5 years (2019).
- ✓ Affirms he has no conflict of interest in conducting this assessment.

The team collectively meets the MSC Table PC3 team qualification and competency criteria:

- ✓ Mr. Morison meets the qualifications for fish stock assessment with: 3 years' or more experience of applying relevant stock assessment techniques being used by the fishery under assessment. As evidenced by over 25 years' experience with a wide variety of fishery assessment models including the types of integrated assessments that are used for the key tuna species in the WCPFC. This experience has been gained by being a member of and chairing the scientific groups responsible for selecting assessment methods, critically reviewing the outputs of such models and providing management advice based on those outputs.
- ✓ Mr. Alexander (Sandy) Morison meets the qualifications for "Fish stock biology/ecology" with 3 years' or more experience working with the biology and population dynamics of the target species or species with similar biology. This is evidenced by his work as the Statewide Science Leader for Victoria's Marine Fisheries Research with responsibility for rock lobster and giant crab assessments and research, as well as his involvement as the P1 assessor for MSC certification of several crustacean fisheries including the West Australian Rock Lobster, West Australian Deep Sea Crab, and the Japanese Snow Crab. This experience is verified by CV and public record.
- ✓ Ms. Jessica Melgey meets the qualifications for "Fishing impacts on aquatic ecosystems" with 3 years' or more experience in research into, policy analysis for, or management of, the impact of fisheries on aquatic ecosystems including at least two of the following topics: i. Bycatch. ii. Endangered, threatened, or protected (ETP) species. iii. Habitats. iv. Ecosystem interactions. As

evidenced by her more than 12 years of professional experience in fisheries including conducting numerous impacts analyses for threatened and endangered species and essential fish habitat, as verified by her CV.

- ✓ Dr. Abdul Halim meets the qualifications for 'Fishery management and operations 'with 3 years' or more experience as a practicing fishery manager and/or fishery/policy analyst/consultant, as evidenced by his publication list detailed in his CV which include: Halim, A., et al. 2018. Developing a functional definition of small-scale fisheries in support of marine capture fisheries management in Indonesia. Marine Policy; Halim, A., et al. L. 2017. Konsep hak pengelolaan perikanan sebagai alat pengelolaan perikanan berkelanjutan di Indonesia. Jurnal Kebijakan Perikanan Indonesia (JKPI) 9 (1): 11-20.
- ✓ Dr. Abdul Halim meets the qualifications for "Current knowledge of Papua New Guinea, language and local fishery context" with a. Knowledge of a common language spoken by clients and stakeholders (namely English language), and at least 2 assignments in the region (i.e., in the eastern part of Indonesia) in which the fishery under assessment is based in the last 10 years. This is evidenced by his experience as the MSC fishery assessor for P3 component of the North Buru and Maluku Associations, Indonesian Handline Yellowfin Tuna Fishery, certified in May 2020, and Indonesia pole-and-line and handline, skipjack and yellowfin tuna of Western and Central Pacific archipelagic waters, certified in January 2021. This experience is verified by CV.
- ✓ Understanding of the CoC Standard and CoC Certification Requirements. As evidenced by Team Lead, Mr. Morison, completing the MSC's Traceability training module (2022).

Peer Reviewers

The Peer Review Draft Report, incorporating conditions, scores, weightings, and a draft determination was sent on April 19, 2023 to the MSC Peer Review College.

SCS obtained confirmation from the Peer Review College that the selected peer reviewers did not have any conflicts of interest in relation to the PNG Torres Strait tropical rock lobster fishery and that the competencies of the peer reviewers match the required competencies.

The peer reviewers proposed by the Peer Review College were:

- Jeff Kinch
- Klaas Hartmann
- Emily Fisher
- Tim Emery

The peer reviewer comments have been incorporated into this report and were addressed by the assessment team. Peer reviewers provided helpful suggestions that clarified the rationales for several scoring issues in all three principles and improved the conditions. The full comments and responses for both peer reviewers are presented in Section 6.3.

1.2 Version details

Table 2. Fisheries program documents versions

Document	Version number
MSC Fisheries Certification Process	**Version 2.2**
MSC Fisheries Standard	**Version 2.01**
MSC General Certification Requirements	**Version 2.3**
MSC Reporting Template	**Version 1.2**

2 Unit(s) of Assessment and Certification and Results Overview

2.1 Unit(s) of Assessment (UoA) and Unit(s) of Certification

2.1.1 Unit(s) of Assessment

The Unit of Assessment includes the tropical rock lobster caught by select vessels licensed and permitted to operate in PNG and Australian waters of the Torres Strait Protected Zone (TSPZ) under the management of the Torres Strait Protected Zone Joint Authority. The Unit of Assessment includes 7 vessels of maximum 20 m in length from the Fishing Industry Association (PNG) Inc. Each larger vessel acts as a "home base" or "collector vessel" for the fishing activity which includes divers accessing reefs from smaller dory boats and hand harvesting lobster. The management plan allows for "catching by hand, scoop net and spear" and "free and hookah diving and traditional methods including surface lights." Fishing occurs year-round except for during the annual spawning closure from December 31 to March 1.

This fishery has been found to meet scope requirements (FCP v2.2 7.5) for MSC fishery assessments as it

- Does not target amphibians, birds, reptiles or mammals (7.4.2.1) or use destructive fishing practices (7.4.2.2), does not operate under a controversial unilateral exemption to an international agreement (7.4.2.3) and does not include an entity successfully prosecuted in respect of violation of a forced or child labour law within the last 2 years (7.4.2.4).
- The fishery does not include an entity successfully prosecuted for shark finning within the last 2-years (7.4.2.10).
- There are mechanisms for resolving disputes in place and the fishery is not overwhelmed by the dispute process (FCP 7.4.2.11), and the fishery has not previously failed assessment or had a certificate withdrawn.
- Is not an enhanced fishery (7.4.2.12), is not based on an introduced species (7.4.2.13) and does not represent an inseparable or practically inseparable species (7.5.9).
- The Unit of Assessment, the Unit of Certification, and eligible fishers have been clearly defined, traceability risks characterized, and the client has provided a clear indication of their position relative to certificate sharing (7.5).

Table 3. Unit of Assessment (UoA)

UoA	Description
Species	**Tropical rock lobster (*Panulirus ornatus*)**
Stock	**Torres Strait**
Fishing gear type(s) and, if relevant, vessel type(s)	**Diving via "hookah gear" and free diving; lobsters hand collected or aided by scoop net and spear**
Client group	**Fishing Industry Association, PNG**
Other eligible fishers	**The UoA and UoC are the same so there are no other eligible fishers.**
Geographical area	**Torres Strait, Western Pacific Ocean; Torres Strait Protected Zone; 9°50'S, 142°30'E. FAO Area 71.**

2.1.2 Unit(s) of Certification

Table 4. Unit(s) of Certification (UoC)

UoC	Description
Species	**Tropical Rock Lobster (*Panulirus ornatus*)**
Stock	**Torres Strait**
Fishing gear type(s) and, if relevant, vessel type(s)	**Diving via "hookah" gear and free diving; lobsters hand collected or aided by scoop net and spear**
Client group	**Fishing Industry Association, PNG**
Geographical area	**Western Pacific Ocean; Torres Strait Protected Zone; 9°50'S, 142°30'E. FAO Area 71.**

2.1.3 Scope of Assessment in Relation to Enhanced Fisheries or Introduced Fisheries

There is no evidence of enhancement or of introduced species in this fishery.

2.2 Assessment Results Overview

2.2.1 Determination, formal conclusion and agreement

With the information available, the Papua New Guinea Torres Strait tropical rock lobster fishery meets the minimum requirements for being awarded certification which includes meeting the SG60 for all Performance Indicators and an average score of 80 or greater for all three Principle scores. The team discussed the merits and shortfalls of the fishery and by consensus recommended certification for the fishery.

In accordance with MSC Certification Requirements, the findings were made open to objection by interested parties for a period of 15 working days from publication of the Final Report with the Certification Determination. No objections were received. The SCS Certification Board reviewed the report, Performance Indicator rationales, peer reviews and stakeholder comments and agreed with the Assessment Team's recommendation to certify the Papua New Guinea Torres Strait tropical rock lobster fishery. The certificate will be awarded after the Public Certification Report is posted to the MSC website.

https://fisheries.msc.org/en/fisheries/papua-new-guinea-torres-strait-tropical-rock-lobster-fishery/@@view

2.2.2 Principle level scores

Table 5. Principle level scores

Principle	UoA 1
Principle 1 – Target species	93.3
Principle 2 – Ecosystem impacts	89.0
Principle 3 – Management system	89.0

2.2.3 Summary of conditions

Table 6. Summary of conditions.

Condition number	Condition	Performance Indicator (PI)	Deadline	Exceptional circumstances?	Carried over from previous certificate?	Related to previous condition?
1-1	By the fourth surveillance audit provide evidence that there is good information on all other fishery removals from the stock	PI 1.2.3	Fourth surveillance audit	**No**	**NA**	**NA**
3-1	By the fourth surveillance audit, evidence exist to show that fishers have complied with the management system including fishing regulations on the size limit, egg-bearing females and ETP species.	PI 3.2.3	Fourth surveillance audit	**No**	**NA**	**NA**
3-2	By the fourth surveillance audit, an updated compliance report is produced to demonstrate improved compliance with reporting regulation, including completion and maintenance of logbooks by the boat captain, such that there is no evidence of systematic non-compliance.	PI 3.2.3	Fourth surveillance audit	**No**	**NA**	**NA**
3-3	By the fourth surveillance audit, evidence provided to show that the fishery-specific management system has functioning mechanisms in place for internal and external reviews of its management system.	PI. 3.2.4	Fourth surveillance audit	**No**	**NA**	**NA**

2.2.4 Recommendations

Recommendation 1: That measures are taken to improve the data collection and verification system for the UoA so that data from the PNG fishery is able to be provided to the stock assessment process in time for its use in the annual application of eHCR.

Recommendation 2: That more information is gathered regarding the extent and type (what species, how harvested, etc.) of the fishery's encounters with ETP species including dugong, sea turtles, and shovelnose rays. The assessment team treated these interactions as out of scope because the UoA is not responsible for any direct ETP impacts undertaken in the process of harvesting lobster, i.e., taking of any ETP species occurs outside of normal lobster fishing operations with a different gear and method. There is no way for a fisher to incidentally spear ETP species while directly pursuing the target species by hand, net or spear on the reef. However, evidence suggests that incidents occur while at sea for lobster fishing (but not while directly fishing for lobster) and would be characterized as illegal because taking of turtles and dugongs by licensed vessels and dinghies while fishing for tropical rock lobster or other related activities is prohibited by the Torres Strait and Western Province Tropical Rock Lobster Fishery Management Plan) and unreported. We were told these interactions are tracked by CEPA but received no records from that entity.

Recommendation 3: The assessment team characterized the second lobster species reported in logbooks, *Panulirus versicolor*, as secondary minor because the average catch from the data available was less than 5%. Catches were variable but hovered around the 5% threshold and in one year the stated catch was zero. We recommend that the client group require accurate logbook reporting of any harvested non-target species, especially *P. versicolor*, and provide this data each year during the surveillance audit.

Recommendation 4: Especially from the PNG side, that MCS strategy and approach are diversified (and their implementation are strengthened), to include support to educate willing operators, fishers, and communities as well as other preventive measures to deter IUU fishing and cross-boundary infringement, to improve compliance on fishery-specific management system regulations.

3 Traceability and eligibility

3.1 Eligibility date

The target eligibility date will be the date of the publication of the PCDR.

Based on the information provided by the client, SCS has determined that systems allow the fishery client to trace back to the UoC any fish or fish products sold as MSC certified and that the fishery client maintains appropriate records to demonstrate the traceability back to their UoCs of certified fish or fish products.

The SCS assessment team has communicated the following to the client, which they accepted:

a. All under-assessment product shall be clearly identified and segregated from certified and non-certified products.

b. The client shall maintain full traceability records for all under-assessment product, demonstrating traceability back to the UoC and including the date of harvest.

c. Under-assessment products shall not be sold as certified or labelled with the MSC ecolabel, logo, or trademarks until certification and product eligibility are confirmed.

3.2 Traceability within the fishery

Permitted fishers use only hookah gear or free diving to harvest tropical rock lobster. There is no risk of lobster harvested by any other means entering the certified product. The client uses VMS to ensure product originates from the stated geographical area.

The following traceability evaluation is for the UoC/UoA covering the PNG and Torres Strait tropical rock lobster hookah fishery. Below we've listed the main stages of the supply chain within the UoC fishery and the relevant tracking, tracing and segregation systems at each step.

1. **Capture of product:** Fishers only capture lobster using dive gear; though the regulations permit use of scoop nets and spears to aid in capture. No other gears are on board or permitted for use on the dinghies.
2. **On-board processing:** Lobsters offloaded from divers onto dinghies, which then offload the product to motherships moored on the fishing grounds referred to herein as "platforms." Aboard the platforms, heads are removed and the product is graded. Divers document catch with logbooks and NFA Marine Resource Control Form, referred to herein as "NFA Control Form." The NFA Control Form lists the name of the diver, date of catch, lobster size, species, fishing area, and estimated weight/quantity being landed or received at the anchored vessel in the reef. This document allows traceability back to the Unit of Certification, even to the exact diver who has caught the lobster.

3. **Product unloading:** Lobsters go from dinghies to the platforms. All offload from platforms to dinghies are documented with a transport sheet, before being transported again via dinghy to holding facilities in Daru. Only certified product is transported via dinghy from the platforms to Daru.
4. **Product transport:** Lobsters go from the reef via dinghies to the platforms then to holding facilities via dinghies.
5. **Product storage:** Lobsters are stored at holding facilities on Daru Island until sold and shipped.
6. **Product sale and first change of ownership:** First change of ownership occurs when lobsters are transferred from the fishermen to the first receivers at the platforms.

Information gathered at the site visit suggests there are some risks of mixing or substitution in the fishery. Local divers in villages may sell directly to the processors. This risk will be mitigated through the use of trainings and outreach. Sustainability consultants and NFA will meet villagers and operators to increase awareness of the need to maintain separation of UoC and non-UoC catch and explain the consequences of not reporting or correctly segregating catch. Further, lobster processors and divers are already under MSC CoC implementation; an initial workshop and CoC tools (Separation, Segregation, and Identification) will be conducted to ensure CoC control.

A further risk identified is the potential misidentification of the second, less frequently encountered species of lobster (*P. versicolor*) being identified as the certifiable species (*P. ornatus*). The species are readily distinguishable by fishers and processors, even as tails only, so the main risk is potential for substitution of the uncertified species. Similar to the above risk, PNG FIA plans to mitigate the risk of substitution by conducting outreach and having identification materials and protocols implemented to prevent the inclusion of *P. versicolor* with the certified *P. ornatus* catch under the MSC CoC.

Table 7. Traceability within the fishery

Factor	Description
Will the fishery use gears that are not part of the Unit of Certification (UoC)? If Yes, please describe: -	No.
Will vessels in the UoC also fish outside the UoC geographic area? If Yes, please describe: - If this may occur on the same trip; - How any risks are mitigated.	No. Vessels in the UoC do not also fish outside the UoC geographic area.
Do the fishery client members ever handle certified and non-certified products during any of the activities covered by the fishery certificate? This refers to both at-sea activities and on-land activities.	Divers may catch non-certified product (*P. versicolor*) that is then transferred to a platform. This catch is separately recorded via logbooks and

- Transport - Storage - Processing - Landing - Auction If Yes, please describe how any risks are mitigated.	is readily distinguishable at all stages based on size, color, etc.(see IPI section). Processors may sometimes receive small quantities of non-certified product (*P. ornatus*) from local villagers who dive within the area of UoA but not are not client members. Any such product is held separately to certified product within the processing facilities and is tracked under newly implemented CoC systems. Further examination has confirmed that this product is not brought to market for commercial purposes; it is often lower grade product that is designated for local consumption via local markets.
Does transshipment occur within the fishery? If Yes, please describe: - If transshipment takes place at-sea, in port, or both; - If the transshipment vessel may handle product from outside the UoC; - How any risks are mitigated.	Catch harvested by divers is brought aboard dinghies, which in turn move it to platforms moored on the fishing grounds. No transshipment of product occurs.
Are there any other risks of mixing or substitution between certified and non-certified fish? If Yes, please describe how any risks are mitigated.	There are opportunities for product from outside the UoA to enter the supply chain from local divers that sell directly to the processors. Any such product is held separately to certified product within the processing facilities and is tracked under newly implemented CoC systems. It is often lower grade product that is designated for local consumption via local markets. There is also risk of *P. versicolor* being incorrectly labelled as *P. ornatus*. These risks will be mitigated by education, outreach and training as well as having systems in place for quality control and CoC that allow accurate identification of certified product. NFA and FIA PNG set a clipboard or photos of both Certified and non-certified Lobster onboard anchored vessels at the reef for daily guidance to divers and buyers. As part of the CoC protocols being implemented, the clipboard and photos of both Certified and non-certified lobster will also be at the processing facility for double check for daily guidance to receivers and processing factory workers

3.3 Eligibility to enter further chains of custody

The team has concluded and determined that the product originating from the UoC will be eligible to enter further certified chains of custody and be sold as MSC certified or carry the MSC ecolabel. The point of intended change of ownership of product is the sale and transfer of lobsters from divers to processors at the platforms located on the fishing grounds. The team has determined that the point of first sale is also the point from which subsequent Chain of Custody is required. Lists of documents to be solicited by CoC auditor to examine systems to maintain segregation from the point where CoC is required include the transport sheet (from anchored vessel), FIA Batch Certificate, NFA Marine Resource Landing Control Form, logbooks, invoices from the cooperative for sales of TRL, the landing ticket and transport permit.

Below is a list of parties whose product will be eligible to use the fishery certificate and sell product as MSC certified with the blue eco-label:

- ✓ Fishing Industry Association PNG

List of eligible landing points:

- ✓ The three platforms located on the fishing grounds, from which all product is brought to Daru, PNG

SCS informs the UoC that if they sell or label non-eligible (nonconforming) product as MSC certified, they must (in accordance with FCP v2.2 7.9.4):

a. Notify any affected customers and SCS of the issue within 4 days of detection.
b. Immediately cease to sell any non-conforming products in stock as MSC certified until their certified status has been verified by SCS.
c. Cooperate with SCS to determine the cause of the issue and to implement any corrective actions required.

3.4 Eligibility of Inseparable or Practicably Inseparable (IPI) stock(s) to Enter Further Chains of Custody

The PNG Torres Strait tropical rock lobster dive fishery primarily consists of *Panulirus ornatus*, but *P. versicolor* and other *Panulirus* species may also be caught. The fishery logbooks provide for the recording of the catch of five different *Panulirus* species which are readily distinguishable by fishers. There are therefore no IPI stocks in the fishery. The frequency of catches of uncertified rock lobster species other than *P. versicolor* is considered to be negligible.

4 Scoring

4.1 Summary of Performance Indicator level scores

Table 8. Summary of Performance Indicator Scores and Associated Weights Used to Calculate Principle Scores.

Principle	Component	Wt	Performance Indicator (PI)		Wt	Score
One	Outcome	0.333	1.1.1	Stock status	1.0	100
	Management	0.667	1.2.1	Harvest strategy	0.25	100
			1.2.2	Harvest control rules & tools	0.25	95
			1.2.3	Information & monitoring	0.25	75
			1.2.4	Assessment of stock status	0.25	90
Two	Primary species	0.2	2.1.1	Outcome	0.333	100
			2.1.2	Management strategy	0.333	100
			2.1.3	Information/Monitoring	0.333	100
	Secondary species	0.2	2.2.1	Outcome	0.333	90
			2.2.2	Management strategy	0.333	85
			2.2.3	Information/Monitoring	0.333	85
	ETP species	0.2	2.3.1	Outcome	0.333	90
			2.3.2	Management strategy	0.333	80
			2.3.3	Information strategy	0.333	90
	Habitats	0.2	2.4.1	Outcome	0.333	100
			2.4.2	Management strategy	0.333	80
			2.4.3	Information	0.333	85
	Ecosystem	0.2	2.5.1	Outcome	0.333	80
			2.5.2	Management	0.333	80
			2.5.3	Information	0.333	90
Three	Governance and policy	0.5	3.1.1	Legal &/or customary framework	0.333	95
			3.1.2	Consultation, roles & responsibilities	0.333	95
			3.1.3	Long term objectives	0.333	100
	Fishery specific management system	0.5	3.2.1	Fishery specific objectives	0.25	100
			3.2.2	Decision making processes	0.25	85
			3.2.3	Compliance & enforcement	0.25	70
			3.2.4	Monitoring & management performance evaluation	0.25	70

Table 9. Final Principle Scores.

Final Principle Scores	
Principle	Score
Principle 1 – Target Species	93.3
Principle 2 – Ecosystem	89.0
Principle 3 – Management System	89.0

4.2 Principle 1

4.2.1 Principle 1 background

Life History Information (Tropical Rock Lobster; Target Species #1)

Taxonomic classification

Class: Malacostraca
Order: Decapoda
Family: Palinuridae
Genus: *Panulirus*
Species: *ornatus*

Overview of the fishery

The PNG fishery for the tropical rock lobster exploits part of the same stock that is also fished in waters of the Torres Strait under the jurisdiction of the Protected Zone Joint Authority (PZJA), and also in waters of the Great Barrier Reef (GBR) under the jurisdiction of the Queensland Government. The PNG fishery operates in PNG territorial waters and also in parts of the Torres Strait Protected Zone (Figure 1).

These fisheries are all based on the same species, (*Panulirus ornatus*, variously known as the tropical rock lobster, the ornate spiny lobster and the tropical ornate lobster), and are predominantly dive-based, hand-collection fisheries. Divers use surface-supplied air (hookah) or free-dive, and predominantly work from small (<6-metre) vessels (1 diver per vessel). Some lobsters are also collected at night on shallow reef flats by fishers using a light and handheld spear or scoop net. Operators can use motherships (primary vessels; large catch-storage vessels) in conjunction with smaller fishing vessels (tenders) or operate fishing vessels individually (Emery et al. 2021).

Within the PNG fishery vessels are a maximum of 20 m in length. Each larger vessel acts as a mothership for the fishing activity which includes divers accessing reefs from smaller dory boats (<6 m long) and hand harvesting lobster using hookah dive gear or by free diving. Historically catches of TRL in PNG waters were also taken by trawlers but this method of fishing for TRL has been prohibited since 1984. Since the early 1980s the catch of TRL by the PNG fishery has usually been a minor component of the total catch (Figure 2).

Within the fishery in the PZJA there are two classes of license. The Transferable Vessel Holder (TVH) sector predominantly uses hookah gear and operates using primary vessels with tenders. This allows these vessels to fish for a few days to several weeks. In contrast, the Traditional Inhabitant Boat (TIB) sector involves fishers working from small vessels and undertaking short trips (1–2 days), departing from their local island communities. In the GBR fishery, vessels operate like the TVH sector and some vessels are licensed to operate in both areas. Small quantities are caught as bycatch in prawn trawl fisheries in the Torres Strait and the GBR (Plaganyi et al. 2019).

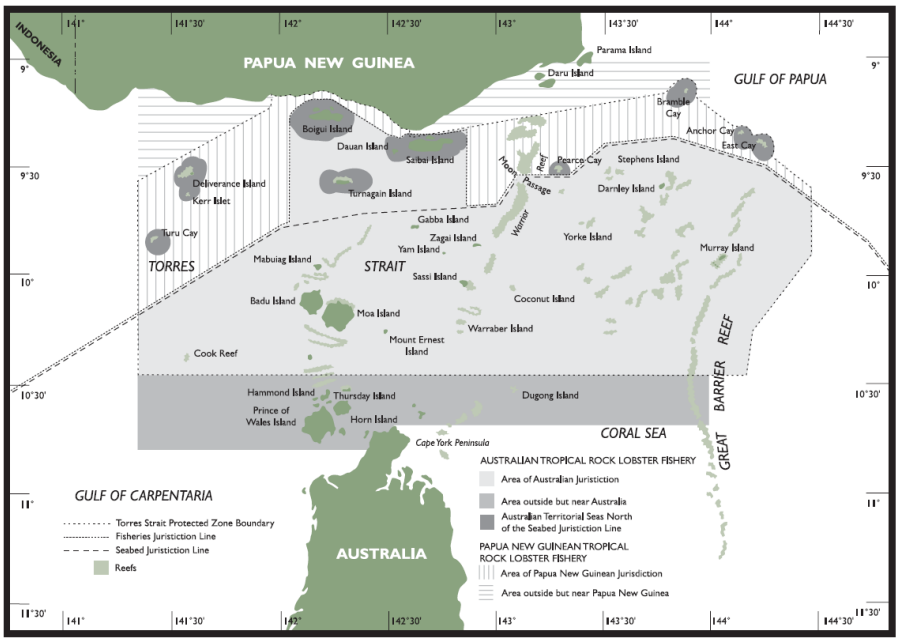

Figure 1. Area of the PNG Torres Strait tropical rock lobster fishery (from the PZJA Annual Report).

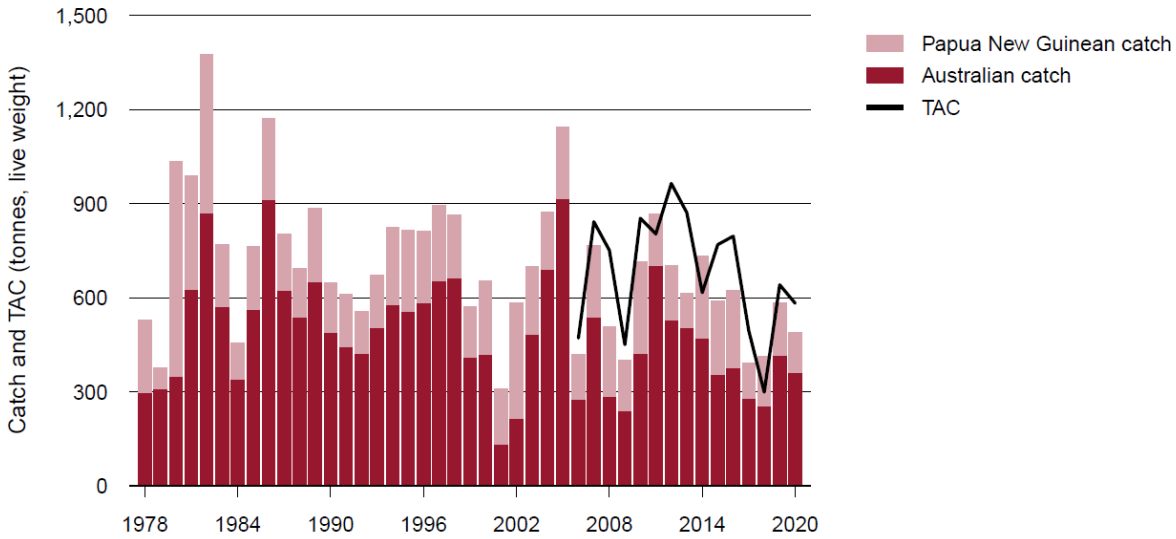

Figure 2. Catch and TAC of tropical rock lobster in the PNG Torres Strait tropical rock lobster fishery, 1978 to 2020 (from Emery et al. 2021). Note that the TAC did not become binding until the 2018–19 fishing season with the introduction of the management plan.

Distribution and Stock Structure

The tropical rock lobster (or ornate rock lobster; *Panulirus ornatus*) is distributed throughout the Indo-Pacific from the Red Sea and South Africa in the west to Japan in the east, with populations in the Solomon Islands, Papua New Guinea, S.W., W., N., N.E. and E. Australia, New Caledonia, and Fiji. The species is

found in shallow coastal waters generally less than 50 m and uses a variety of substrates including sand, mud, rocks, and coral reefs, making it unique among spiny lobster species that are generally found in less diverse habitats (Pitcher 1993).

Tropical Rock Lobster populations in northern Queensland (managed by Queensland), the Coral Sea (managed by the Commonwealth) and the Torres Strait (managed by the Torres Strait Protected Zone Joint Authority) are thought to comprise a single North-Eastern Australia biological stock, because of mixing of larvae in the Coral Sea [Pitcher et al. 2005]. Water movement models in Torres Strait predict that larvae are likely to be transported into the Gulf of Carpentaria (Wolanski et al. 2013), indicating that the north-eastern stock encompasses this region as well. The existence of a separate north Queensland and Torres Strait stock has been supported by recent genetic work using single nucleotide polymorphisms (Fahardi et al. 2022).

Biology

Torres Strait lobsters grow significantly faster than do similar species, recruiting into the fishery about one year after settlement, at 100 mm tail length (Pitcher et al. 1997). The juvenile lobsters are fished for only one year (Skewes et al. 1994) before most emigrate to breeding grounds in spring each year, when catch rates decline markedly. Tagging showed that emigrating lobsters moved north-east into the Gulf of Papua, maturing at the same time (Moore and MacFarlane 1984; Bell et al. 1987).

Tropical rock lobster prey consists mainly of bivalve and gastropod mollusks and occasionally small crustaceans. They grow to as large as 50 cm in total body length but are generally found more in the 30 to 35 cm range and below.

Reproduction and Recruitment

At age 3, most tropical rock lobsters in the North-Eastern Australia stock migrate from the Torres Strait to the Gulf of Papua to breed during the period from November to March (Moore and MacFarlane 1984; MacFarlane and Moore 1986). Mating and initial oviposition occur during the migration, with larval release commencing once females have reached the eastern seaboard of the Gulf of Papua. Multiple broods (up to three) may be hatched by a female, and post-spawning mortality of reproductive adults is high, meaning few lobsters make a return migration to the Torres Strait (Dennis et al. 1992). Recruitment follows spawning by about 6 months, between May and September (CSIRO, unpublished data).

Growth and Natural Mortality

Growth of lobster varies on both spatial and temporal (yearly) scales, and is influenced by water temperature, food availability, and density dependent effects (Skewes et al. 1997).

Status of stocks

The status of the stock is monitored by a combination of fishery-dependent data from logbooks and fish purchasers, and fishery-independent data from dive surveys. The nature and level of monitoring differs among the different jurisdictions but is most comprehensive for the Torres Strait where the majority of the catch is taken. The following overview is taken largely from Plagányi et al. 2019a unless otherwise cited.

Fishery independent surveys

A key component of the monitoring program is the fishery-independent survey which provides a time-series of relative abundance indices for TRL. Fishery-independent surveys have been conducted in the Fishery since 1989. Historically (1989-2014 and 2018), mid-season (July) surveys focused on providing an index of abundance of the spawning (age 2+) and juvenile (age 1+) lobsters. Mid-season surveys have been replaced with pre-season (November) surveys (2005-2008; 2014 to current) which focus on providing an index of recruiting (age 1+) lobsters as close as possible to the start of the fishing season to support the transition to quota management and setting of a TAC. Pre-season surveys also provide indices of recently-settled (age 0+) lobsters, which may become useful under quota management as they allow forecasting of stock one year in advance and are used in the empirical Harvest Control Rule (eHCR).

Catch and effort information

Data on the catch by the PNG fishers is obtained from daily logbook records of fishers and from data recorded on a daily purchase form that is completed by those purchasing the product from fishers. The logbooks require recording of information on the reefs fished, the method (hookah or not), the hours spent fishing, and numbers or weights of the catch.

Fishers in the transferrable vessel holder (TVH) sector are required to record catch and effort information in the Torres Strait Tropical Rock Lobster Daily Fishing Log (TRL04). The following data are recorded for each TVH fishing operation: the port and date of departure and return, fishing area, fishing method, hours fished and the weight (whole or tails) of TRL retained. Fishers in both the TVH and traditional inhabitant boat (TIB) sectors are required to record catch information in the Torres Strait Fisheries Catch Disposal Record (TDB02). The provision of effort information under the TDB02 is voluntary. Some processors previously (2014-2016) reported aggregate TIB catch information directly to AFMA predominantly through the Torres Strait Seafood Buyers and Processors Docket Book (TDB01).

Stock assessment

The stock assessment model (termed the 'Integrated Model') (Plagányi et al. 2009) was developed in 2009 and is an Age-Structured Production Model, or Statistical Catch-at-Age Analysis. It is a widely used approach for providing RBC advice and the associated uncertainties. The model integrates all available information into a single framework to assess resource status and provide an RBC. The model addresses all of the concerns highlighted in a review of the previous stock assessment approach (Bentley 2006, Ye

et al. 2006, 2007). The model is fitted to the mid-season and pre-season survey data and TIB and TVH catch per unit effort (CPUE) data. The growth relationships used in the model were revised from the previous stock assessment model (Ye et al. 2006) to ensure that the modelled individual mass at age more closely resembled field measurements. The model has been used as an Operating Model in a Management Strategy Evaluation (MSE) framework to support the management of the Fishery (Plagányi et al. 2012, 2013, 2018b).

The stock assessment model is non-spatial and assumes (conservatively) that the PNG Torres Strait tropical rock lobster fishery stock is independent of the Queensland East Coast Tropical Rock Lobster Fishery stock. A spatial version of the model has been developed as part of an earlier MSE project and can be used to investigate plausible linkages between these stocks (Plagányi et al. 2012, 2013).

The model includes three age-classes only (0+, 1+ and 2+ age lobsters) as it is assumed that lobsters migrate out of the Torres Strait in October each year. Torres Strait TRL emigrate in spring (September-November) and breed during the subsequent summer (November-February) (MacFarlane and Moore 1986; Moore and Macfarlane 1984). A Beverton-Holt stock-recruitment relationship is used (Beverton and Holt 1957), allowing for annual fluctuation about the average value predicted by the recruitment curve. The model is fitted to the available abundance indices by maximising the likelihood function. Quasi-Newton minimisation is used to minimise the total negative log-likelihood function (using the package AD Model BuilderTM) (Fournier et al. 2012).

This stock assessment model is scheduled to be updated every three years. Between these updates the pre-season survey results coupled with CPUE data are used to monitor the year-to-year variations in stock levels and to set the TACs. How this operates is described below.

The most recent integrated assessment was undertaken in 2019. The results of this assessment were as follows (TRLRAG 28 May 2020).

I. The reference case model adequately fits to the observed pre-season survey index for 1+ lobsters, however there is a larger error associated with the 0+ index which means the model gives much less weight in trying to fit to the observed 0+ index;

II. The reference case model also fits well to both previous benchmark surveys and the 1+ and 2+ indices from mid-year surveys;

III. Stock recruitment residuals are roughly evenly distributed;

IV. Fishing mortality estimates are close to the harvest strategy target level of 0.15, however with revised PNG catch figures the F statistic will be closer to the target value;

V. Overall, the stock assessment results indicate that the TRL spawning biomass $B(2019)_{sp}$ is approximately 93% of relative unfished biomass $B(1973)_{sp}$ (90% CI 0.67-1.19), which is well above the agreed target reference point of 65 per cent unfished biomass under the harvest strategy (Figure 3). The RAG noted that the biomass can be expected to fluctuate due to the natural variability of the stock. The RAG was reminded that the agreed target reference point is

relatively higher compared with other Australian fisheries and guidance under the Commonwealth Harvest Strategy Policy. This was deliberately designed to meet the objectives of the TRL fishery and protect the traditional way of life, and livelihoods of traditional inhabitants in the Torres Strait;

VI. The model estimated a stock biomass B (2019) sp of 4,467 tonnes; and,

VII. The 2019-20 season RBC output from the stock assessment is 766 tonnes.

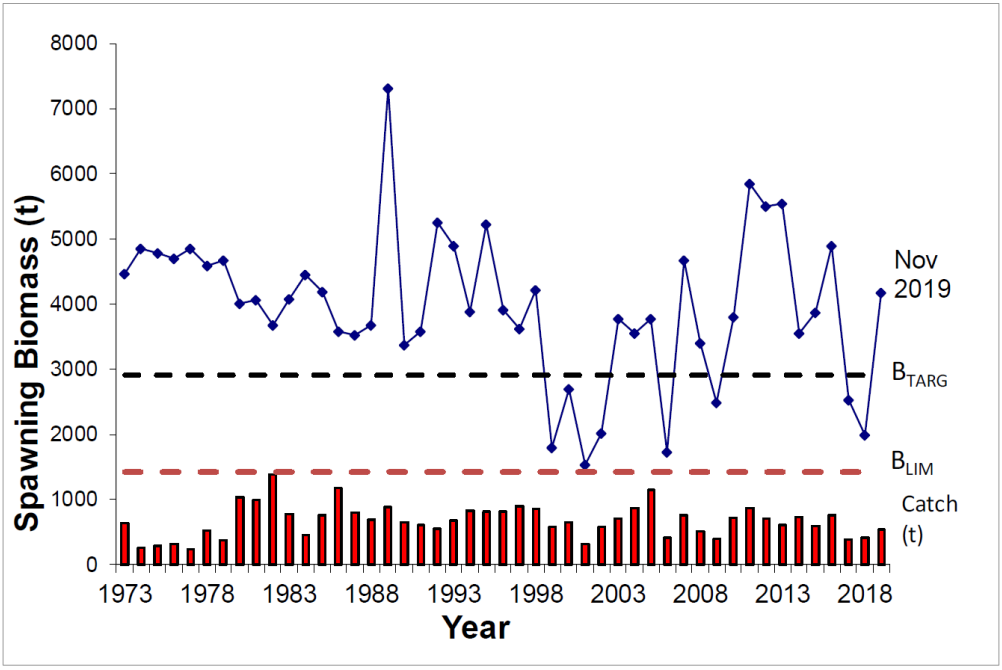

Figure 3. Stock assessment model estimates of spawning biomass relative to agreed reference points under the TRL Harvest Strategy (from TRLRAG 27 meeting papers).

Since the 2019 assessment, pre-season survey results for both Age 0+ and Age 1+ lobsters (Figure 4) and CPUE trends for the TVH and TIB sectors (Figure 5), have been monitored to track stock status and inform the eHCR.

In 2021, the survey Age 1+ abundance index was above the long-term average (4.7) for the pre-season surveys (2005-2021) and there was more spatial variability in observations of Age 1+ lobsters compared to the previous year. The abundance index for Age 1+ lobster in 2021 indicates that recruitment was generally widespread across the different strata surveyed. The 0+ abundance index declined to a level only slightly higher than its lowest point in 2017.

The eHCR calculations are intended to use the average catch for the past five years, which is based on actual catch values for 2016-17, 2017-18 and 2018-19 and the TAC value in the under-caught years of 2019-20 and 2020-21, which the RAG considered to be outliers. The 2020-2021 and 2019-2020 total catch

values were only around 51% and 78% respectively of the TAC (lower than the average proportion achieved since 2013) due to a number of external factors affecting the fishery. Different options for how to address this issue were explored by the TRLRAG but, as there was insufficient information to fully quantify the impacts of COVID-19 on the fishery-dependent data, the TRLRAG felt they could not reasonably justify stepping outside the bounds of the agreed harvest strategy and hence there was agreement to accept the default application of the eHCR without any ad-hoc adjustments. The CPUE series all exhibited a positive trend (Figure 5).

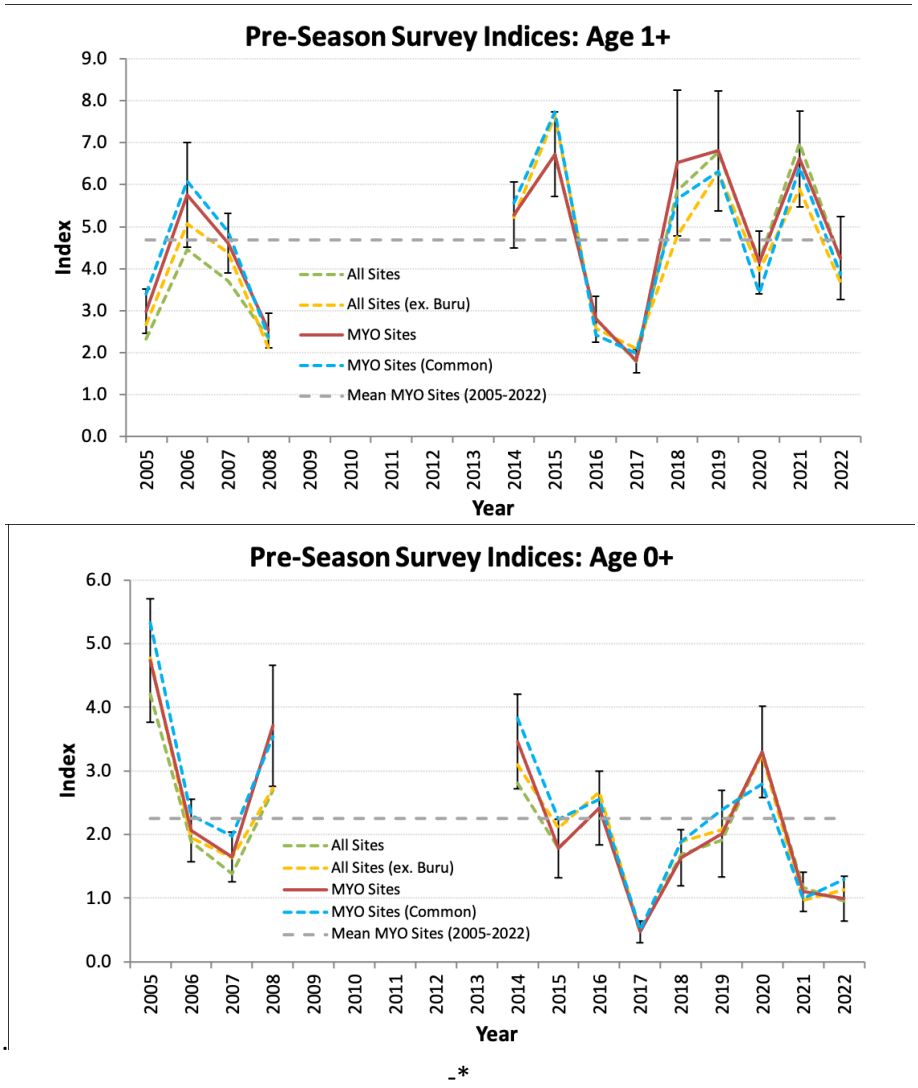

Figure 4. Abundance indices of recruiting (1+) and recently-settled (0+) tropical rock lobsters (Panulirus ornatus) recorded during pre-season surveys in Torres Strait between 2005 and 2022. The data represent abundance indices for all sites, as well as reduced series including Midyear-Only Sites (MYO). Error bars of MYO indices represent standard errors. Dashed grey line is the long-term average. (Note: Pre-season surveys were not conducted during 2009-2013) (from Dutra et al. 2022 TRLRAG 33 Meeting papers).

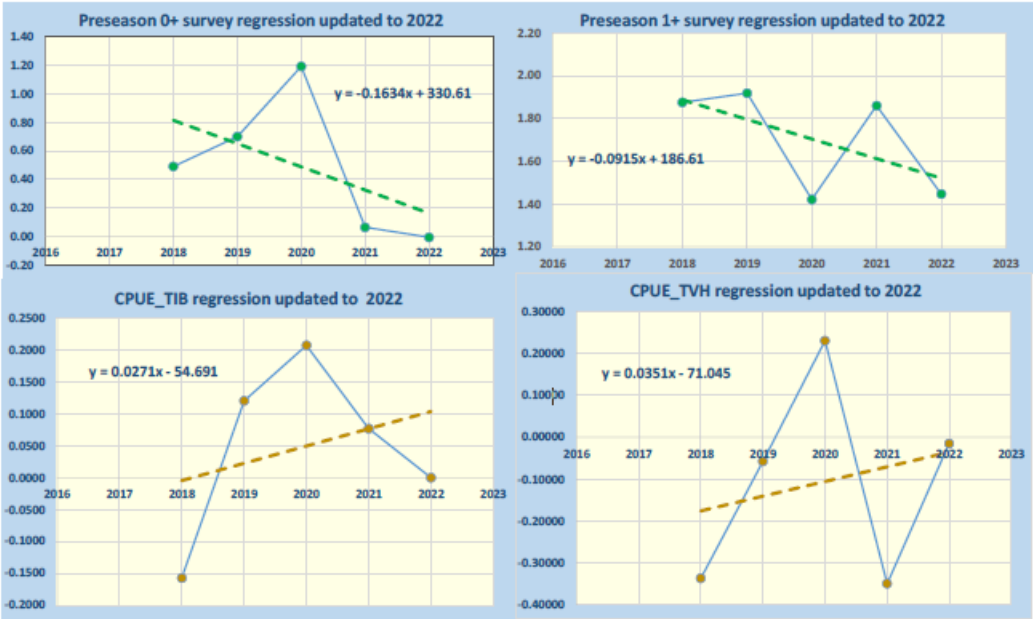

Figure 5. Summary of eHCR inputs and calculations showing the slopes of fitted regression lines to the log-transformed Preseason 0+ and 1+ indices, as well as the standardised CPUE data for the TIB (Seller model version) and TVH (Int-1 Model version) sectors (from Plagányi et al. 2022b).

Harvest Strategy

The harvest strategy (HS) for the combined PZJA TRL fishery is described in Plagányi et al. (2019). There is no separate HS for the PNG component of the fishery. It is designed to be consistent with the Australian Harvest Strategy Policy (HSP) although this policy does not apply to the TRL fishery.

The operational objectives of the HS are to:

a) Maintain the stock at (on average), or return to, a target biomass point (BTARG) equal to recent levels (2005-2015) that take account of the fact that the resource is shared and important for the traditional way of life and livelihood of traditional inhabitants and is biologically and economically acceptable.

- The agreed BTARG is more precautionary than the default proxy BMEY (biomass at maximum economic yield) level as outlined in the HSP.

b) Maintain the stock above the limit biomass level (BLIM), or an appropriate proxy, at least 90 per cent of the time.

- The agreed BLIM is more precautionary than the default proxy HSP BLIM.

c) Implement rebuilding strategies, if the spawning stock biomass is assessed to fall below BLIM in two successive years.

The HS reference points are:

a) The unfished biomass B0 is the model-estimate of spawning stock biomass in 1973 (start of the Fishery). B0 = B1973.

b) The target biomass BTARG is the spawning biomass level equal to recent levels (2005-2015) that take account of the fact that the resource is shared and important for the traditional way of life and livelihood of traditional inhabitants and is biologically and economically acceptable. BTARG is the proxy for BMEY, BTARG = 0.65 B0.

- The agreed BTARG is more precautionary than the default proxy BMEY (biomass at maximum economic yield) level as outlined in the HSP. The TRLRAG noted a BTARG higher that the HSP default was considered important for the Fishery because: 1) the stock is a shared resource that is particularly important for traditional fishing; 2) the stock has high variability; and, 3) all industry members recommended the HS maintain the stock around the relatively high current levels (TRLRAG meeting no. 17, 31 March 2016 and meeting no. 18, 2-3 August 2016).

c) The limit biomass BLIM is the spawning biomass level below which the risk to the stock is unacceptably high and the stock is defined as 'overfished'. BLIM is agreed to be half of BTARG, BLIM = 0.32 B0.

- The agreed BLIM is more precautionary than the default proxy HSP BLIM.

d) If the limit reference point (BLIM) is triggered in two successive years then the Fishery is closed.

e) The target fishing mortality rate FTARG is the estimated level of fishing mortality rate that maintains the spawning biomass around BTARG. FTARG = 0.15.

- FTARG = 0.15 is the target fishing mortality rate that corresponds to an optimal level in terms of economic, biological and social considerations (TRLRAG meeting no. 18, 2-3 August 2016).

eHCR (Empirical Harvest Control Rule) Application

The eHCR and stock assessment cycle is as follows:

- The eHCR is run in November each year to provide a RBC by 1 December for the following fishing season.
- A stock assessment is run on a three year cycle by March, unless the stock assessment is triggered by a decision rule (Section 2.10). The stock assessment determines the Fishery stock status and evaluates the performance of the eHCR and identifies if any revisions to the eHCR are required.
- If the eHCR needs to be revised, the stock assessment is conducted annually to estimate the RBC until the revised eHCR is agreed.

The decision rules for the HS are:

<u>Maximum catch limit</u>

- The eHCR includes a maximum catch limit of 1000 t. Once the HS is implemented the cap will be reviewed after three years using MSE testing with the updated stock assessment model.

Pre-season survey trigger

- If in any year the pre-season survey 1+ index is 1.25 or lower (average standardised number of 1+ age lobsters per survey transect) it triggers a stock assessment.

Biomass limit reference point triggered

- If the pre-season survey trigger is triggered in the first year, a stock assessment update must be conducted in March.
    - If after the first year the stock is assessed below the biomass limit reference point, it is optional to conduct a mid-season survey, the pre-season survey must continue annually.
- If the pre-season survey trigger is triggered two years in a row, a stock assessment must be conducted in December (of the second year).

Fishery closure rules

- If the stock assessment determines the stock to be below the biomass limit reference point in two successive years, the Fishery will be closed to commercial fishing.
    - MSE testing of the eHCR has shown that it is extremely unlikely (<1%) for the Fishery to be closed based on its current performance (Plagányi et al. 2018).

Re-opening the Fishery

- Following closure of the Fishery, fishery-independent mid-season and pre-season surveys are mandatory. The Fishery can only be re-opened when a stock assessment determines the Fishery to be above the biomass limit reference point.

Based on the decision rules, there are four alternative possible scenarios that may occur under the application of the eHCR .

Scenario 1 – Pre-season survey trigger not triggered and the eHCR does not require revision (Figure 6).

- The pre-season survey trigger is not triggered.
- The eHCR RBCs appear to remain within ranges tested by MSE.
- The updated stock assessment does not indicate any need for revision of the eHCR.
- Application of the eHCR continues unchanged.

Scenario 2 – Pre-season survey trigger not triggered, eHCR and stock assessment require revision (Figure 7).

- The pre-season survey trigger is not triggered.

- The eHCR RBCs appear to remain within ranges tested by MSE.
- The updated stock assessment indicates the eHCR recommended RBCs are outside the revised ranges tested by MSE, indicating that the eHCR should be revised.
- Annual RBCs need to be set using annual stock assessments until a revised eHCR has been agreed, after which the revised eHCR is applied.

Scenario 3– Pre-season survey trigger is triggered, eHCR is reviewed by stock assessment and the biomass limit reference point is not breached (Figure 8).

- The pre-season survey trigger is triggered in one year.
- A stock assessment update (March) is required to confirm if the biomass limit reference point has been breached. This assessment update determines that the biomass limit reference point has not been breached.
- If the biomass limit reference point is breached once, discussions will be held on preventative measures to reduce the risk of closure.
- The eHCR RBC is applied and consideration is given to revising the eHCR to prevent future incorrect indications that the biomass limit reference point may have been breached.
- The stock assessment continues on a three year cycle, unless triggered to occur by a decision rule.

Scenario 4 – Pre-season survey trigger is triggered, stock assessment confirms the biomass limit reference point is breached (Figure 9).

- The pre-season survey trigger is triggered in one year.
- A stock assessment update (March) is required to confirm if the biomass limit reference point has been breached. This assessment update determines that the biomass limit reference point has been breached.
- The pre-season survey trigger is triggered for a second successive year.
- A second stock assessment update (December) is required to confirm whether the biomass limit reference point has been breached a second time. This assessment update determines that the biomass limit reference point has been breached a second time.
- The commercial fishery is closed until an assessment update confirms that the stock has recovered to above the biomass limit reference point.
    - If the Fishery is closed to commercial fishing, discussions are held on future management arrangements.

Fishery-independent mid-season and pre-season surveys are mandatory and conducted on an annual basis. The Fishery will only re-open when the Fishery is assessed to be above the biomass limit reference point by the stock assessment.

- The eHCR must be revised before being re-implemented to reduce the risk of the Fishery breaching the biomass limit reference point and for the eHCR to incorporate rebuilding requirements.

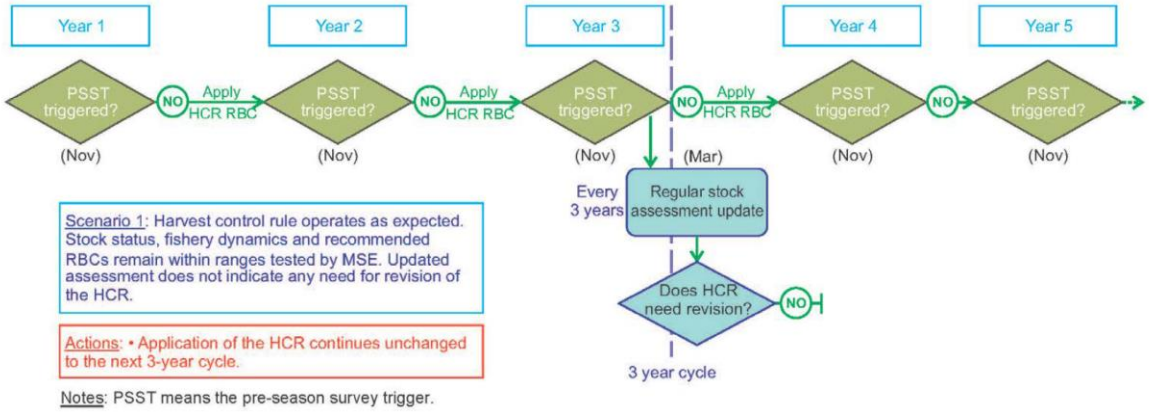

Figure 6. PNG Torres Strait tropical rock lobster fishery decision rule scenario 1.

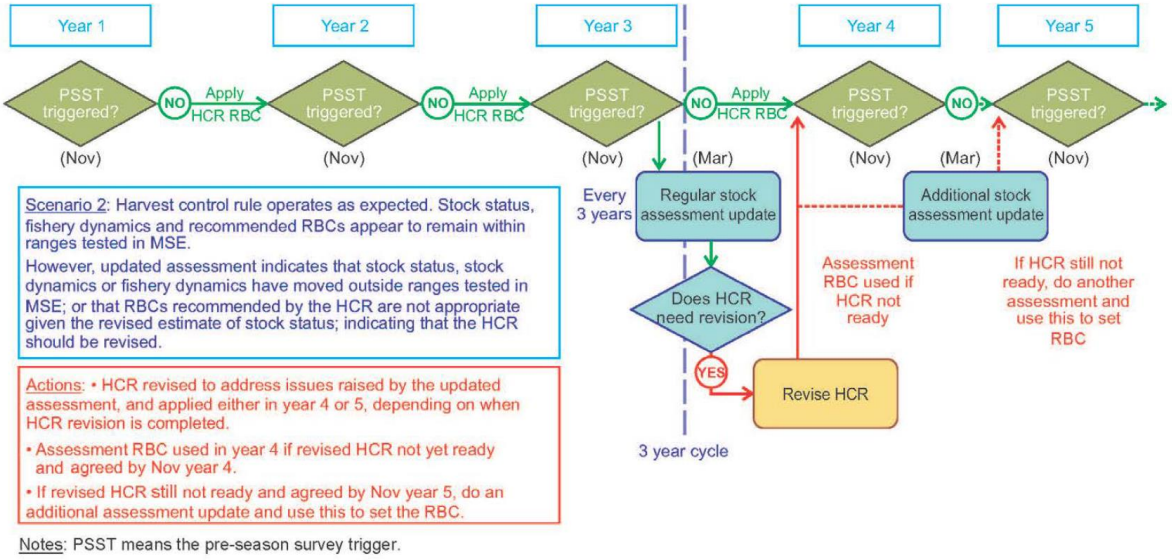

Figure 7. PNG Torres Strait tropical rock lobster fishery decision rule scenario 2.

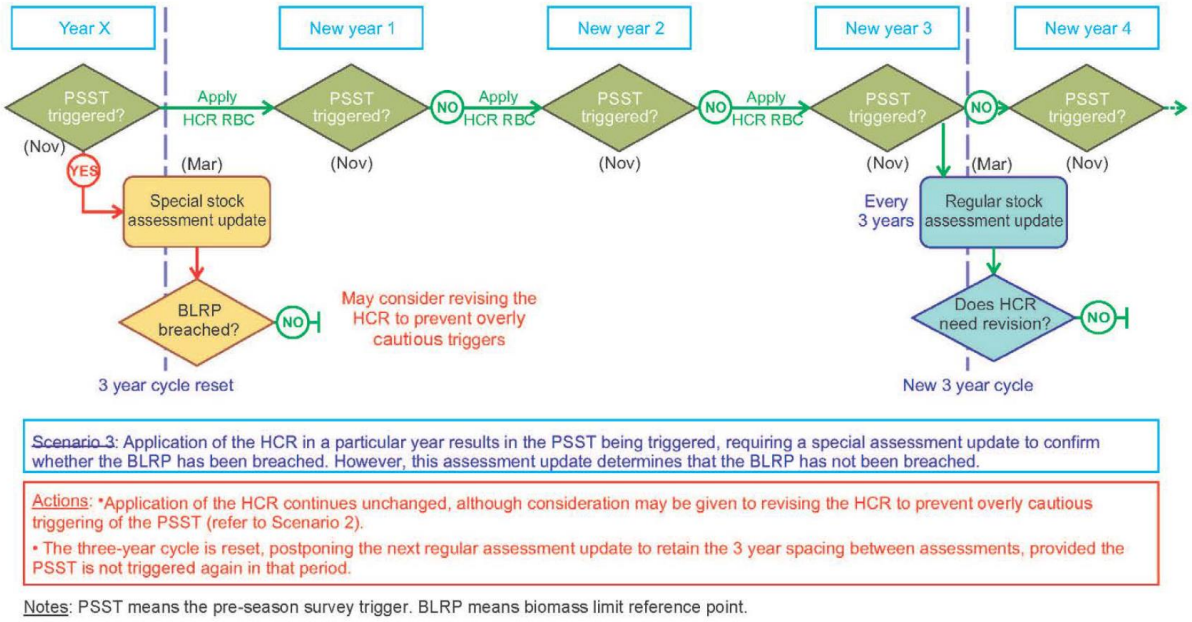

Figure 8. PNG Torres Strait tropical rock lobster fishery decision rule scenario 3.

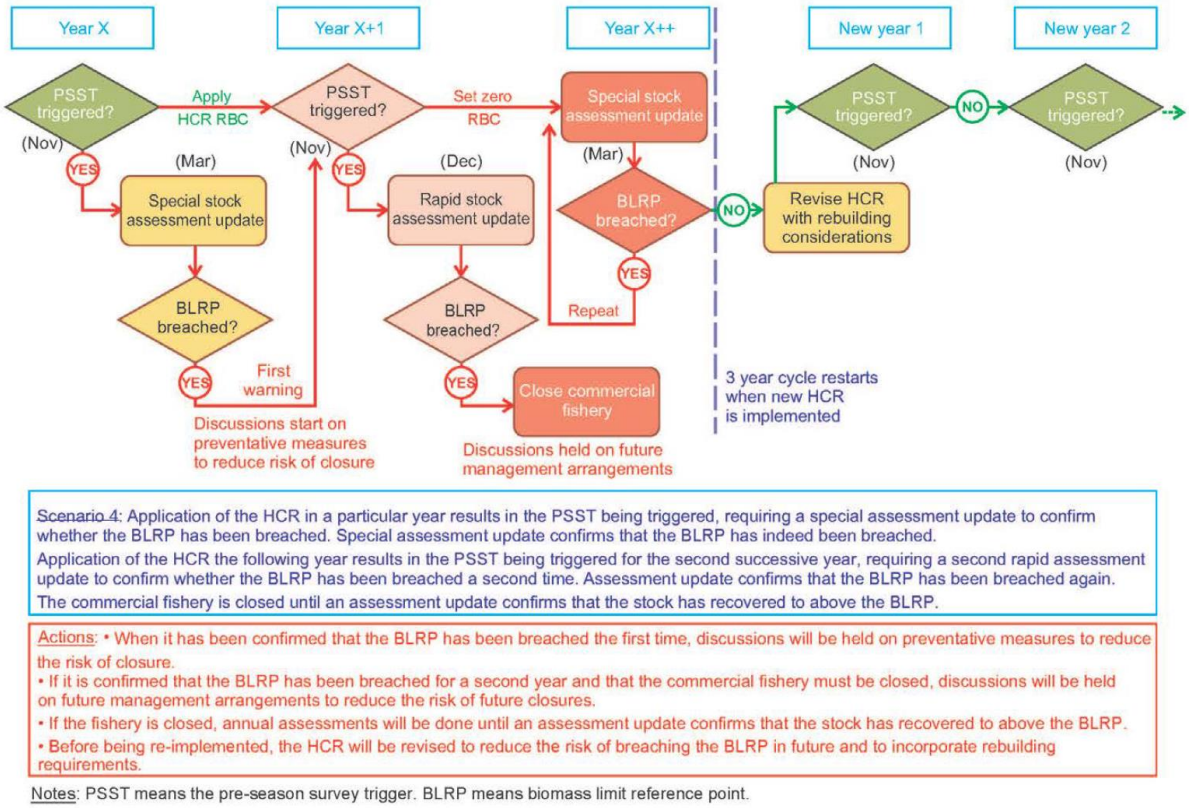

Figure 9. Torres Strait Tropical Rock Lobster Fishery decision rule scenario 4.

Empirical HCR

The empirical harvest control rule (eHCR) recommended by the TRLRAG uses the pre-season survey 1+ and 0+ indices, both standardised CPUE indices (TVH and TIB), applies the natural logarithms of the slopes of the five most recent years' data and the average catch over the past five years, with an upper catch limit of 1,000 t. The relative weightings of the eHCR indices are 70 per cent pre-season survey 1+ index, 10 per cent pre-season survey 0+ index, 10 per cent TIB sector standardised CPUE and 10 per cent TVH sector standardised CPUE (Figure 10). The use of the pre-season survey in the eHCR is a way to more directly provide forecasts without needing to quantify the complex underlying details of the environmental-recruitment relationship.

The eHCR uses the average catch over the past five years as a multiplier to inform the RBC. This dampens the influence of the most recent catch value, but if the recent value is negatively biased (as is a possibility in this case for the two most recent values), then it can have a reasonably substantial effect on the calculation of the RBC.

The application of the eHCR was affected COVID-19 impacts on fishing behaviour and catch levels. In the absence of COVID-19, it was predicted that the total catch in 2020 would have been close to the TAC, hence the total average catch was considered to be slightly negatively biased. On the other hand, it was

acknowledged in 2020 that the TIB CPUE data could be considered positively biased and that COVID-19 indirectly impacted the eHCR indicators in different ways (TRLRAG 2020, Plagányi et al. 2021). The management forum considered a range of alternative scenarios and sensitivity tests pertaining to implementation of the eHCR, before deciding whether to recommend the default implementation of the eHCR, or to undertake an ad-hoc adjustment.

As there was insufficient information to fully quantify the impacts of COVID-19 on the fishery-dependent data, the TRLRAG felt they could not reasonably justify stepping outside the bounds of the agreed harvest strategy and hence there was agreement to accept the default application of the eHCR without any ad-hoc adjustments. The global TAC for the Torres Strait Protected Zone (TSPZ) for the 2020-21 season was thus set at 623.5 tonnes, which was only slightly lower than the long-term average (since 2006) of 678t. However, ongoing disruptions to export markets for TRL have again impacted catches in 2021, and there is concern that these ongoing factors unduly bias (negatively) the average catch estimates used in the eHCR, and hence a number of alternative scenarios are considered in this discussion, as a basis to inform discussions at the forthcoming TRLRAG.

The influences of COVID-19 on the fishery-dependent catch and effort data highlighted the valuable role that fishery-independent surveys play in terms of providing reliable information to ensure sustainable catches. Ongoing work is focused on improving understanding of potential improvements to the standardisation of CPUE data, and in particular, how to account for inter-sector interactions.

Figure 10. Schematic summary of the empirical harvest control rule (eHCR) used to calculate the TRL (Tropical Rock Lobster) RBC (Recommended Biological Catch) (example shown for last year's RBC) based on the CPUE (Catch Per Unit Effort) data from two fishery sectors, the scientific survey indices of two age classes, and the total average catch over the past five years (source Plagányi et al. 2021).

TAC determination

The RBC is the recommended total catch of TRL (both retained and discarded) that can be taken by all sectors within the TSPZ and waters declared as areas outside but near to the TSPZ, including Australian and PNG fishers. The HSP states that when setting the TAC for the next fishing season the HS should take into account all sources of fishing mortality.

The HS does not include catches taken by non-commercial fishing sectors, for example traditional, recreational or research catches. The reason for this was the likely low level of overall catch and the lack of accurate data. However, if unaccounted fishing mortality were to increase significantly this may impact on the performance of the stock assessment. The HS may be updated in the future to account for changing circumstances in the Fishery.

Catch sharing arrangements

Once the TAC has been adopted by the PZJA, it is shared between PNG and Australian fishers, and between the two fishing sectors in Australia, according to an agreed catch sharing arrangement (Figure 11). This arrangement makes allowance for some take by PNG fishers from Australian waters and vice versa. The catch by the Queensland fishery is not part of this catch sharing arrangement but has its own TAC (of about 200t) that is considered to be conservative.

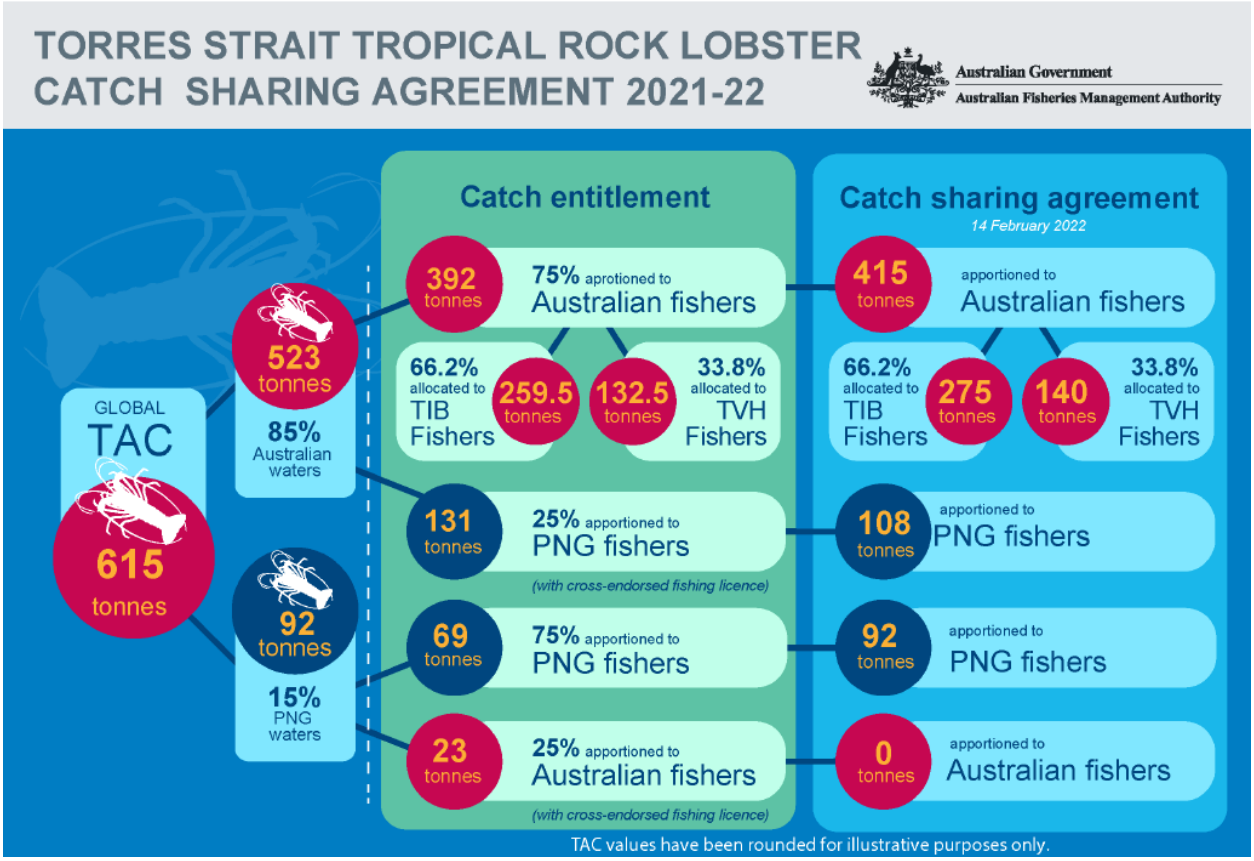

Figure 11. Diagram showing how the final catch sharing agreement between Australia and PNG operates (from TRL RAG 33 meeting papers).

Seasonal Operation of the Fishery

Fishing occurs year-round except for during the annual spawning closure from December 31 to March 1. There are also periodic closures to the use of hookah gear for three days either side of the full or new moon each month.

Fishing and Management

Fishing is by divers accessing reefs from small dory boats and hand harvesting lobster using hookah dive gear or by free diving. Spears and scoop nets are permitted for removing lobster from crevices, and surface lights may be used. Larger vessels act as collector ships and transport lobsters to the port in Daru.

The fishery is managed as a joint resource between PNG and Australia in the Torres Strait Protected Zone (TSPZ) under the management of the Torres Strait Protected Zone Joint Authority. The commercial fishery in PNG is managed by a combination of measures that include minimum size limits, a TAC, limited entry, closed seasons, hand collecting by hookah or free diving (spears and scoop nets permitted; no other gears), closed seasons, and a requirement to land all catch to a licensed fish receiver. Regulations are described in the Torres Strait and Western Province Tropical Rock Lobster Fishery Management Plan (NFA 1998) and are described in detail under Principle 3 (Section 4.4).

Catch profiles

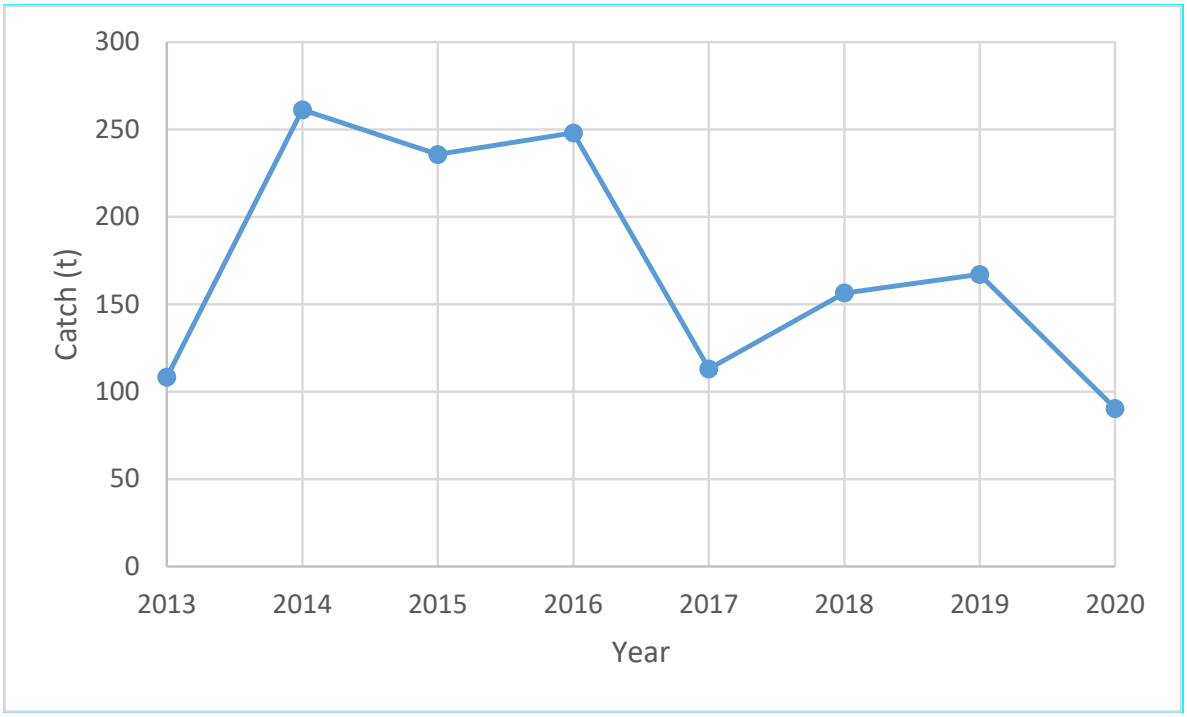

Figure 12. Catch of TRL by the PNG fishers.

Total Allowable Catch (TAC) and catch data

Table 10. Total Allowable Catch (TAC) and catch data

TAC	Year	2021	Amount	515 t
UoA share of TAC	Year	2021	Amount	94 t
UoA share of total TAC	Year	2021	Amount	94 t
Total green weight catch by UoC	Year (most recent)	2021	Amount	65 t
Total green weight catch by UoC	Year (second most recent)	2020	Amount	126 t

4.2.2 Principle 1 Performance Indicator scores and rationales

PI 1.1.1 – Stock Status

PI 1.1.1		The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing		
Scoring Issue		SG 60	SG 80	SG 100
a	**Stock status relative to recruitment impairment**			
	Guide post	It is likely that the stock is above the point where recruitment would be impaired (PRI).	It is highly likely that the stock is above the PRI.	There is a high degree of certainty that the stock is above the PRI.
	Met?	Yes	Yes	Yes

Rationale

There are two related lines of evidence that indicate that the stock is likely to be above the PRI. Firstly, there are the results of the fishery-independent surveys that are the primary input to the HCR. Historically (1989-2014 and 2018), mid-season (July) surveys focused on providing an index of abundance of the spawning (age 2+) and juvenile (age 1+) lobsters; mid-season surveys have been replaced with pre-season (November) surveys (2005-2008; 2014 to current) which focus on providing an index of recruiting (age 1+) lobsters as close as possible to the start of the fishing season (Plagányi et al. 2019a). This index is given a 70 percent weighting in the eHCR, compared to 10 percent for the three other contributing indices (age 0+ survey index, and 2 CPUE indices). These surveys have provided direct estimates of the levels of recruitment for over 20 years and the most recent ones (for 2022) indicate that age 1+ levels of recruitment fluctuating around the long-term average and above PRI (Figure 4). Secondly, there are the estimates of spawning biomass that come from the integrated stock assessments that are used as a periodic check on the performance of the eHCR. These use the data from the surveys, combined with other data inputs to estimate the likely levels of spawning biomass. The most recent reference case stock assessment model suggested that the TRL spawning biomass was approximately 93% of relative unfished biomass B(1973), (Plagányi et al. 2019d) which is well above the agreed target reference point of 65 per cent unfished biomass and limit reference point of 32 per cent of unfished.

Both these methods indicate that, although recruitment is highly variable, there is no evidence that the PRI has been approached and it is highly likely that the stock is above the PRI.

This meets the requirements of the SG 60, SG 80 and SG 100 levels.

b	**Stock status in relation to achievement of Maximum Sustainable Yield (MSY)**			
	Guide post		The stock is at or fluctuating around a level consistent with MSY.	There is a high degree of certainty that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?		Yes	Yes

Rationale

As noted in the rationale for scoring issue a, the most recent survey results (for 2021) show high levels of 1+ recruits, and the results of the most recent (2019) reference case stock assessment model suggested that the TRL spawning biomass was approximately 93% (90% CI 67%-119%) of relative unfished biomass B(1973), which is well above the agreed target reference point of 65 per cent unfished biomass under the harvest strategy (Plagányi et al. 2019a) . The relatively high TRP was adopted to reduce the likelihood of low stock levels impacting catchability because it naturally has a high variability, and the stock is a shared resource that is particularly important for traditional fishing.

The estimates of spawning biomass have fluctuated, as would be expected with such a short-lived species, but have been above the conservative target level for most of the 40+ years of the trajectory (Figure 3). MSY is not directly estimated but the chosen TRP is well above the usual default proxy level of 40% of unfished biomass, and is above the default proxy of biomass for maximum economic yield (BMEY) specified in the HSP.

This meets the requirements of the SG 80 level.

This estimate of spawning biomass is from 2019 and this species is subject to frequent fluctuations in stock size. Nevertheless, the levels of recruitment recorded by the surveys over the intervening years (Figure 4) indicate that the spawning biomass has not substantially declined. Furthermore, the lower 90% CI bound (67%) represents the value above which the biomass is likely to be with 95% certainty. This lower bound is well above the 40% MSY proxy and, combined with the survey estimates of recruitment, means that there is still a high degree of certainty that the stock is above a level that is consistent with MSY over recent years.

The SG100 requirements are therefore met.

References

Plagányi, ÉE, Dennis, D, Deng, R, Campbell, R, Hutton, T, & Tonks, M. 2019a. Torres Strait Tropical Rock Lobster Fishery Harvest Strategy. November 2019a. Australian Fisheries Management Authority. Canberra.23 pp.

Éva Plagányi, Rob Campbell, Mark Tonks, Nicole Murphy, Roy Deng, Kinam Salee, Mick Haywood, Judy Upston, Steve Edgar 2019d.Torres Strait rock lobster (TRL) Final Report 2019 on fishery surveys, CPUE, stock assessment and harvest control rule development: AFMA Project 2016/0822. June 2019 Draft Final Report.

Stock status relative to reference points

	Type of reference point	Value of reference point	Current stock status relative to reference point
Reference point used in scoring stock relative to PRI (SIa)	Relative spawning biomass	32% of unfished (1973) levels	Above: 93% of unfished levels (90% CI 67%-119%)
Reference point used in scoring stock relative to MSY (SIb)	Relative spawning biomass	65% of unfished (1973) levels	Above: 93% of unfished levels (90% CI 67%-119%)

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	100
Condition number (if relevant)	

PI 1.1. 2 – Stock rebuilding

PI 1.1.2		Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe		
Scoring Issue		SG 60	SG 80	SG 100
a	**Rebuilding timeframes**			
	Guide post	A rebuilding timeframe is specified for the stock that is the shorter of 20 years or 2 times its generation time. For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.		The shortest practicable rebuilding timeframe is specified which does not exceed one generation time for the stock.
	Met?	NA		NA
Rationale				
The stock does not require rebuilding				
b	**Rebuilding evaluation**			
	Guide post	Monitoring is in place to determine whether the rebuilding strategies are effective in rebuilding the stock within the specified timeframe.	There is evidence that the rebuilding strategies are rebuilding stocks, or it is likely based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe.	There is strong evidence that the rebuilding strategies are rebuilding stocks, or it is highly likely based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe.
	Met?	NA	NA	NA
Rationale				
The stock does not require rebuilding				
References				
List any references here, including hyperlinks to publicly-available documents.				
Draft scoring range and information gap indicator added at Announcement Comment Draft Report				

Draft scoring range	<60 / 60-79 / ≥80
Information gap indicator	More information sought / Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	
Condition number (if relevant)	

PI 1.2.1 – Harvest strategy

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring Issue		SG 60	SG 80	SG 100
a	**Harvest strategy design**			
	Guide post	The harvest strategy is expected to achieve stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in PI 1.1.1 SG80.
	Met?	Yes	Yes	Yes

Rationale

The HS that has been adopted for the TRL fishery uses an annual indicator-based estimate of stock status to set the TAC following an agreed empirical HCR (eHCR), coupled with a model-based estimate of stock status every 3 years, to check that this eHCR is maintaining the stock at expected levels (Plagányi et al. 2019a). The indicators are based on results of fishery-independent surveys that estimate the abundance of young TRL on the fishing grounds, and CPUE indices from the TVH and TIB sectors of the fishery. These sectors are responsible for the majority of the catch in the fishery.

This approach is directly responsive to the state of the stock as measured by levels of recruitment and CPUE, and is designed to achieve stock management objectives that are consistent with those in PI 1.1.1 at SG 80.

This meets the requirements of the SG 60, SG 80 and SG 100 levels.

b	**Harvest strategy evaluation**			
	Guide post	The harvest strategy is likely to work based on prior experience or plausible argument.	The harvest strategy may not have been fully tested but evidence exists that it is achieving its objectives.	The performance of the harvest strategy has been fully evaluated and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.
	Met?	Yes	Yes	Yes

Rationale

The HS and the eHCR have been evaluated prior to their adoption using an MSE approach (Plagányi et al. 2012, 2018b). The MSE testing considered a range of uncertainties including implementation uncertainty (arising from a range of scenarios under which catches may not match those expected), increases in catchability, survey observation error, increased frequency of poor recruitment, and higher mortality of spawning lobsters (such as

was historically seen when targeted trawling was permitted). Although TACs only became formally binding relatively recently (2018-19) they were generally complied with prior to this. There is evidence that the HS is achieving its objectives from the results of the abundance estimates from the fishery-independent surveys (Figure 4) and the integrated assessments of relative spawning abundance (Figure 3). These show that the stock has been above or only briefly below target levels and that the fishery is not the main influence on the level of recruitment.

This meets the requirements of the SG 60, SG 80 and SG 100 levels.

c	**Harvest strategy monitoring**			
	Guide post	Monitoring is in place that is expected to determine whether the harvest strategy is working.		
	Met?	Yes		

Rationale

The monitoring of catches and effort in the fishery, and the fishery-independent indices of abundance, feed into the combination of annual use of an empirical eHCR and a periodic integrated assessment. These are expected to be sufficient to determine whether the harvest strategy is working.

This meets the requirements of the SG 60 level.

d	**Harvest strategy review**			
	Guide post			The harvest strategy is periodically reviewed and improved as necessary.
	Met?			Yes

Rationale

A HS for the fishery was initially developed over 10 years ago (Plagányi et al. 2012) and involved an annual stock assessment that was used to provide the RBC. This approach has since been revised to use the eHCR annually to provide the RBC, with the stock assessment used to check on its performance at least every three years (Plagányi et al. 2019a).

This meets the requirement of the SG 100 level.

e	**Shark finning**			
	Guide post	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	NA	NA	NA

Rationale

This scoring Issue is not scored as sharks are not a target species.

f	Review of alternative measures			
	Guide post	There has been a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock, and they are implemented, as appropriate.
	Met?	NA	NA	NA

Rationale

Because each TRL is captured by hand individually there is likely to be negligible UoA-related mortality of unwanted catch in the fishery. Any undersized animals that may be caught are able to be released immediately. After the site visit the team were provided with a copy of a report that contained data on the species composition and quantity of catch taken by traditional fisheries in the Torres Strait (Busilacchi et al. 2014). This study included both commercial and subsistence take of lobsters and found that there was a negligible proportion (<1%) of undersized animals. There are no other potential sources of unwanted catch.

We note that there have been instances of post-capture mortality of animals that are held in coffs of port-based holding facilities. Such mortalities, however, are not considered to be unwanted catch in the sense intended in this performance indicator. Also, there have been recommendations developed to help reduce the likelihood of such mortalities (such as reducing holding densities and anchoring coffs in deeper water) so that even if such mortalities were considered to be unwanted catch, there have been alternative measures developed.

References

Plagányi, É.; Deng, R.; Dennis, D.; Hutton, T.; Pascoe, S.; van Putten, I.; Skewes, T. 2012. An integrated Management Strategy Evaluation (MSE) for the Torres Strait Tropical Rock Lobster *Panulirus ornatus* fishery. CSIRO/AFMA Final Project Report

Plagányi, ÉE, Deng, R, Campbell, R, Dennis, D, Hutton, T, Haywood, M & Tonks, M 2018b, 'Evaluating an empirical harvest control rule for the Torres Strait *Panulirus ornatus* tropical rock lobster fishery', Bulletin of Marine Science, vol. 94, pp. 1095–120.

Plagányi, ÉE, Dennis, D, Deng, R, Campbell, R, Hutton, T, & Tonks, M. 2019a. Torres Strait Tropical Rock Lobster Fishery Harvest Strategy. November 2019a. Australian Fisheries Management Authority. Canberra.23 pp.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	100
Condition number (if relevant)	

PI 1.2.2 – Harvest control rules and tools

PI 1.2.2		There are well defined and effective harvest control rules (HCRs) in place		
Scoring Issue		SG 60	SG 80	SG 100
a	**HCRs design and application**			
	Guide post	Generally understood HCRs are in place or available that are expected to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached.	Well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.	The HCRs are expected to keep the stock fluctuating at or above a target level consistent with MSY, or another more appropriate level taking into account the ecological role of the stock, most of the time.
	Met?	Yes	Yes	Yes
Rationale				
The MSE testing that has been done (Plagányi et al. 2108b) provides a strong basis for expecting that the eHCR that has been developed and implemented will keep the stock fluctuating at or above the target level most of the time. This target level, of 65% of unfished spawning biomass is conservative and likely to be well above MSY for this productive species. The ecological role of the stock does not require such a high target level, which has been adopted for social and economic reasons, but it would nevertheless be accommodated by such a level. This meets the requirements of the SG 60, SG 80 and SG 100 levels.				
b	**HCRs robustness to uncertainty**			
	Guide post		The HCRs are likely to be robust to the main uncertainties.	The HCRs take account of a wide range of uncertainties including the ecological role of the stock, and there is evidence that the HCRs are robust to the main uncertainties.
	Met?		Yes	Yes
Rationale				
The MSE testing considered a range of uncertainties including implementation uncertainty, increases in catchability, survey observation error, increased frequency of poor recruitment, and higher mortality of spawning lobsters (such as was historically seen when targeted trawling was permitted). This testing included a range of scenarios under which the catch might not match those expected from the eHCR. These are considered to cover the main uncertainties, and the form of eHCR that has been adopted was shown to be robust to them.				

Although there has been no explicit consideration of the ecological role of the stock, the eHCR is considered to take this into account through the adoption of a high TRP.

This meets the requirements of the SG 80 and SG 100 levels.

c	HCRs evaluation			
	Guide post	There is some evidence that tools used or available to implement HCRs are appropriate and effective in controlling exploitation.	Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the HCRs.
	Met?	Yes	Yes	No

Rationale

The tools used to implement the eHCR include the limited entry nature of the fishery, TACs that limit the catch, logbooks that record catch and effort from the main catching sectors, and pre-season fishery-independent surveys of lobster abundance. The evidence from the stock assessments is that these have been effective in maintaining stocks and ensuring that exploitation levels do not exceed those expected under the HS.

This meets the requirements of the SG 60 and SG 80 levels.

The recent occurrence of situations outside those tested in the MSE work, such as catches and catch rates being affected by COVID-19 related marketing issues, has created uncertainty as to how best to address these in the application of the eHCR. This uncertainty mainly concerned the potential for the eHCR to unnecessarily reduce the RBC, Nevertheless, it does means that there remains some uncertainty as to whether required exploitation levels would be achieved under a range of plausible scenarios that might be considered as exceptional circumstances. The need for more work on how to identify and respond to such exceptional circumstances has been recognised (Plagányi et al. 2022).

The requirements of the SG 100 level are therefore not considered to be met.

References

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80

Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	95
Condition number (if relevant)	

PI 1.2.3 – Information and monitoring

PI 1.2.3		Relevant information is collected to support the harvest strategy		
Scoring Issue		SG 60	SG 80	SG 100
a	**Range of information**			
	Guide post	Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.	Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data are available to support the harvest strategy.	A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, UoA removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.
	Met?	Yes	Yes	No
Rationale				
There is quite a comprehensive range of information that has been collected on the stock and the fishery. The stock structure is quite well understood , the growth and productivity have been described (e.g. MacFarlane and Moore 1986, Moore and MacFarlane 1984, Bell et al. 1987, Dennis et al. 1992, Skewes et al. 1997, Pitcher et al. 2005, Wolanski et al. 2013), estimates of stock abundance are provided through the stock assessments (e.g. Plaganyi et al. 2019d), and most importantly fishery-independent surveys of abundance provide an index of abundance that reflects a broad range of influences on recruitment levels (Plaganyi et al. 2022). This information is clearly sufficient to support the harvest strategy. Catch levels for the TVH sector especially, and the TIB sector to a lesser extent, are monitored with sufficient accuracy to support the HS. The catches from the most recent year for PNG fishery have sometimes been late for use in the eHCR and subject to later revision but it is acknowledged that this is partly due to the short turn around time needed for the application of the eHCR. Nevertheless, data for four of the five years needed have been available from the UoA and a method to obtain a preliminary estimate for the most recent year has been agreed by the RAG. Testing of the eHCR also included scenarios where there was a level of uncertainty in the total catch, particularly for the PNG fishery. This meets the SG 60 and SG 80 requirements. Information collected during the surveys also includes a range of environmental observations which, although not directly related to the HS, are useful for helping interpret the data collected. Overall, however, the issues about timeliness of UoA data submission and data concerns for the TIB sector means that we do not consider the SG 100 requirements to be met.				
b	**Monitoring**			
	Guide post	Stock abundance and UoA removals are monitored and at least one indicator is	Stock abundance and UoA removals are regularly monitored at a level of	All information required by the harvest control rule is monitored with high

		available and monitored with sufficient frequency to support the harvest control rule.	accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.	frequency and a high degree of certainty, and there is a good understanding of inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty.
	Met?	Yes	Yes	No

Rationale

The abundance of the stock is monitored annually by the combination of pre-season surveys, and CPUE indices for the TVH and TIB sectors. This frequency fits with the annual TAC setting cycle and has a level of accuracy and coverage that is consistent with the requirements of the eHCR.

Removals by PNG fishers are also reported but there are concerns about the accuracy and timeliness of these data. The format of the logbooks for these fishers suggests that the data should be of an equivalent standard to other sectors, but CPUE indices have not been able to be calculated for this sector. And when the eHCR has been calculated, the complete catch data for the most recent year have not always been available for PNG fishers, necessitating some extrapolations based on previous averages (e.g. Plaganyi et al 2022). Nevertheless, as the eHCR works on the average catch over the most recent 5 years, incomplete data for the most recent year for the smallest commercial sector does not represent a major information gap. And, although this has not prevented the application of the eHCR, it is not desirable that such basic data as catch levels are not routinely available from the UoA. More information was obtained during and after the site visit about the data collection system for the UoA. Copies of letters were provided that showed that the NFA had taken steps to improve the timely provision of data in 2018 and 2022. This showed that the agency was aware of the issue and was trying to remedy it, but not that they have been successful to date.

The fact that the eHCR has continued to be applied, despite data for the UoA not always being available, is evidence that there are indicators available and monitored sufficiently frequently to support the HCR. This meets the SG 60 and SG 80 levels. The concerns over data provision remain, however, and it is important that it be improved for the UoA so we are proposing a recommendation to this effect.

Recommendation: That measures are taken to improve the data collection and verification system for the UoA so that data from the PNG fishery is able to be provided to the stock assessment process in time for its use in the annual application of eHCR.

These issues with data provision mean that it is not possible to find that all information required by the HCR is monitored with a high frequency and a high degree of certainty.

This does not meet the requirements of the SG 100 level.

C	**Comprehensiveness of information**			
	Guide post		There is good information on all other fishery removals from the stock.	
	Met?		No	

Rationale

Other fishery removals means those outside the UoA. For this fishery, this means the other commercial sectors (TVH and TIB), customary and subsistence catch by indigenous groups, catch by recreational fishers, and bycatch in prawn trawl fisheries.

Removals by the TVH and TIB sectors are reported regularly to the PZJA and are used by the science provider in the calculation of CPUE indices. These are the largest catches from the stock.

After the site visit the team were provided with a copy of a report that contained data on the species composition and quantity of catch taken by traditional fisheries in the Torres Strait (Busilacchi et al. 2014). This study included both commercial and subsistence take of lobsters and found that about 85% of the total catch was for the export market with the remainder consumed domestically. This component also included a negligible proportion (<1%) of undersized animals. Although now somewhat dated, this study does provide good information on these removals and provides evidence that the catch levels were small compared to the known commercial catches.

No additional information was obtained about the bycatch in prawn trawl fisheries although we were advised that a project involving onboard observers was underway and would report soon. This is potentially a source of unreported mortality and until the results of this study are provided we consider that there remains a gap in the information available on other removals.

This does not meet the requirements of the SG 80 level.

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Skewes, T. D., D. M. Dennis, C. R. Pitcher & B. G. Long (1997). Age structure of Panulirus ornatus in two habitats in Torres Strait, Australia. Mar. Freshwater Res. 48: 745-750. Wolanski, E., Lambrechts, J., Thomas, C. and Deleersnijder, E. 2013. The net water circulation through Torres Strait. Continental Shelf Research, 64: 66–74.	
Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	60-79
Information gap indicator	More information will be sought on the quality of the data available on catches from the PNG fishery and from non-commercial sectors
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	75
Condition number (if relevant)	Condition 1-1 PI 1.2.3 – Information and monitoring

PI 1.2.4 – Assessment of stock status

PI 1.2.4		There is an adequate assessment of the stock status		
Scoring Issue		SG 60	SG 80	SG 100
a	**Appropriateness of assessment to stock under consideration**			
	Guide post		The assessment is appropriate for the stock and for the harvest control rule.	The assessment takes into account the major features relevant to the biology of the species and the nature of the UoA.
	Met?		Yes	Yes

Rationale

The HS for the fishery uses a combination of an annually implemented indicator-based assessment that adjusts the TAC in response to changes in survey estimates of recruitment and CPUE, and a periodic model-based integrated stock assessment that provides a more comprehensive estimate of spawning stock biomass and fishing mortality. The assessment model is scheduled for updating every 3 years unless the decision rules in the HS indicate the need for an earlier update (which happened in 2020). This form of assessment is appropriate for this short-lived species in which the fishery is largely reliant on the level of recent recruitment to the shallow reefs on which divers operate. It incorporates knowledge of the life cycle and behaviour of the target species which are major features that determine the nature of the fishery, and also uses fishery-independent estimates of recruitment strength that integrate the effects of spawning stock biomass and environment influences on the levels of recruitment. Such a recruitment index provides for forecasts without the need to quantify the complex underlying details of the environmental-recruitment relationships (Plagányi et al. 2018b).

This meets the requirements for the SG 80 and SG 100 levels.

b	**Assessment approach**			
	Guide post	The assessment estimates stock status relative to generic reference points appropriate to the species category.	The assessment estimates stock status relative to reference points that are appropriate to the stock and can be estimated.	
	Met?	Yes	Yes	

Rationale

We have considered that the 'assessment' for this stock is the combination of the periodic model-based assessment and the annually determined indices that are used in the eHCR but that it is sufficient to meet the PI's requirements if either of these components does so.

To score this PI we focus on the model-based assessment as the inputs to the eHCR are not used as a comparison against any specific reference points.

The model-based assessment provides periodic estimates of spawning stock biomass relative to unfished (1973) levels. The chosen reference points (target of 65% of unfished levels; limit of 32% of unfished levels) are biologically conservative but appropriate for the economic and social characteristics of the fishery.

This meets the requirements of the SG 60 and SG 80 levels.

c	Uncertainty in the assessment			
	Guide post	The assessment identifies major sources of uncertainty.	The assessment takes uncertainty into account.	The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.
	Met?	Yes	Yes	Yes

Rationale

As noted above, we have considered that the 'assessment' for this stock is the combination of the periodic model-based assessment and the annually determined indices that are used in the eHCR but that it is sufficient to meet the PI's requirements if either of these components does so.

The integrated model-based assessment explicitly addresses and accounts for a range of potential uncertainties as are detailed in the assessment reports (e.g. Plagányi et al. 2019d, 2022). The standardised CPUE series that are used are subject to a range of sensitivities to explore effects of changes to data selection, methods of effort calculation, changes to areas fished and different levels of data aggregation. There were also analyses done to account for observation and process error in the survey index when data for the 0+ index were seen to be anomalous. And the assessment process involves examining the sensitivity of outputs to a range of alternative model settings, such as changes to steepness in the stock-recruitment relationship and assumptions about hyperstability. Once a reference case has been selected, 90% confidence intervals are calculated for model parameters and for trajectories of estimated spawning biomass and exploitable biomass.

Thus the assessment has identified major sources of uncertainty, takes these into account, and presents results in a probabilistic way.

This meets the requirements of the SG 60, SG 80 and SG 100 levels.

D	Evaluation of assessment			
	Guide post			The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.
	Met?			No

Rationale

The latest form of integrated assessment has not been tested such as through MSE testing. We have not seen evidence that alternative hypotheses and assessment approaches have been rigorously explored.

The requirements of the SG 100 level are not met.

e	**Peer review of assessment**			
	Guide post		The assessment of stock status is subject to peer review.	The assessment has been internally and externally peer reviewed.
	Met?		Yes	No

Rationale

The assessment is reviewed by the TRLRAG after each update.

This meets the requirements of the SG 80 level.

The latest version of the model is a 2009 revision of an earlier assessment that was externally reviewed and was updated to address all of the concerns highlighted by that review (Plagányi et al. 2019d). This review, however, took place in 2005/2006 and there have been no reviews since that time. Given the long time since the last review, and the many improvements in stock assessment approaches since then, we do not consider this previous review to meet the requirements for SG 100.

References

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	90
Condition number (if relevant)	

4.3 Principle 2

4.3.1 Principle 2 background

Overview of Non-target Catch

All species that are affected by the fishery and that are not part of the Unit of Certification are considered under Principle 2. This includes species that are retained for sale or personal use (assessed under Performance Indicator 2.1), bycatch species that are discarded (Performance Indicator 2.2), and species that are considered endangered, threatened, or protected by the government in question or are listed by the Convention of International Trade of Endangered Species (CITES) (Performance Indicator 2.3). This section contains an evaluation of the total impact of the fishery on all components in P2 and includes both observed and unobserved fishing mortality. Unobserved mortality may occur from illegal, unregulated, or unreported (IUU) fishing, biota that are injured and subsequently die because of coming in contact with fishing gear, ghost fishing, waste, or biota that are stressed and die as a result of attempting to avoid being caught by fishing gear. This section also considers impacts on marine habitats (Performance Indicator 2.4) and the ecosystem more broadly (Performance Indicator 2.5).

Primary species

For the purposes of a MSC evaluation, primary species are those in the catch, and within the scope of the MSC program (fishes or shellfish), and not defined by the client as the target – which is evaluated under Principle 1. Primary species will usually be species of commercial value to either the UoA or fisheries outside the UoA, with management tools controlling exploitation as well as known reference points in place. In addition, the institution or arrangement that manages the species (or its local stock) will usually have some overlap in a jurisdiction with the UoA fishery.

Secondary species

Secondary species include fish and shellfish species that are **not** managed according to reference points. Secondary species are also all species that are out of the scope of the standard (birds/ mammals/ reptiles/ amphibians), and which are not ETP species. These types of species could in some cases be landed intentionally to be used either as bait or as food for the crew or for other subsistence uses but may also in some cases represent incidental catches that are undesired but somewhat unavoidable in the fishery. Given the often-unmanaged status of these species, there are unlikely to be reference points for biomass or fishing mortality in place, as well as a general lack of data availability.

Main species

For Primary and Secondary species, species may be considered “Main” based on either resilience/vulnerability or catch volume. Species that are not “Main” are “Minor”. Main and Minor species must meet different Performance Indicators (PIs) in P2.

- **Resilience/vulnerability:** If the species is considered "less resilient" (as defined in SA3.4.2.2) and it is ≥ 2% of the catch, then it is considered Main, otherwise it is considered Minor.
- **Catch volume:** If the species is not considered "less resilient" and it is ≥ 5% of the catch, then it is considered Main, otherwise, it is considered Minor.

Overview of Species Classification

The analysis for P2 is made considering that the UoA and the UoC are the same and composed of the PNG fleet with permits to land tropical rock lobster harvested using hookah or free diving gear.

The only non-target species considered in this assessment is the painted rock lobster, *Panulirus versicolor*. Catches of *P. versicolor* in the years where data was provided ranged from 0 to 4,047 kg, making up 0.0-6.0% of the landed catch (Table 11). There is no known assessment of this stock of this species, but it makes up less than 5% of the catch by volume on average and is therefore classified as secondary minor.

No other bycatch or species interactions are documented in this hand-selected dive fishery, though there is some potential for other species to be harvested opportunistically. Without reporting of any other catch, the assessment team must assume there is no unwanted catch and the only species harvested are *P. ornatus* (target) and *P. versicolor* (minor secondary).

Table 11. Catch (tail weight in kg) for the two rock lobster species reported in 2018–2021 from the Papua New Guinea Torres Strait Protected Zone.

Fishing Year	Tail weight (kg)			*P. versicolor* percent of catch
	P. ornatus	*P. versicolor*	Total	
2018	33,336.4	0.0	33,336.4	0.0%
2019	63,132.1	4,046.8	67,179.0	6.0%
2020	46,693.8	2,631.6	49,325.3	5.3%
2021	16,610.5	833.5	17,444.0	4.8%
average				4.0%

Observer Programs/Information Sources

Due to the small size and historically traditional/indigenous nature of this fishery, as well as the lack of bycatch afforded by the highly selective nature of the fishing method, there is no observer coverage. Logbooks provide information on a second species of lobster landed as well as individual tail weight, catch location, and effort.

Primary Species

According to the definition provided in the MSC Standard V2.0 (SA3.1.3.3), a primary species requires “management tools and measures in place, intended to achieve stock management objectives reflected

in either limit or target reference points". Due to the nature of the highly selective diver-based fishery with licenses that specify that only tropical rock lobster can be harvested, there are no primary species caught.

Secondary Species

All other species not considered under target or as primary species are considered secondary species following MSC guidance (MSC CR V2.0; SA 3.1.4).

A The painted rock lobster (*P. versicolor*) is harvested at rates that make up less than 5% of the catch volume annually and is therefore considered secondary minor for this assessment.

The painted rock lobster ranges from the Red Sea and east coast of Africa to southern Japan, Micronesia, Melanesia, northern Australia, and Polynesia, including the waters of PNG. The species is found mostly in shallow waters up to about 15 m in coral reef areas, often on seaward edges of the reef plateau in both clear water and higher energy areas. The species is nocturnal and not gregarious; in daytime, it hides in crevices and cavities of the rocks. It reaches a maximum total length of about 40 cm and averages length less than 30 cm (Fischer and Bianchi 1985).

Data provided by the PNG lobster dive fishery indicates that painted rock lobster makes up a small amount of the annual catch volume, but the risk and stock assessments for the *P. ornatus* fishery suggest it is an "insignificant" component of the catch, and no information is provided about the stock status of this species. Further, a 2014 report characterizing the PNG artisanal fisheries provided to the assessment team made no mention of *P. versicolor*. Evidence collected at the site visit continued to support the fact that no other species are preferentially targeted in this species other than *P. ornatus*, with very small catches of *P. versicolor* largely kept for home consumption.

There are no other secondary species in the PNG Lobster fishery, again due to the highly selective nature of dive gear.

Endangered, Threatened and Protected (ETP) Species

Endangered, threatened and protected (ETP) species in PNG are protected by various international agreements and national and state legislation. International agreements include:

- Convention on the Conservation of Migratory Species (CMS) of Wild Animals 1979 (Bonn Convention).
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- The Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds in Danger of Extinction and their Environment 1974 (JAMBA).
- The Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment 1986 (CAMBA).

- The Agreement between the Government of Australia and the Government of the Republic of Korea on the Protection of Migratory Birds 2007 (ROKAMBA).
- The CMS Memorandum of Understanding (MOU) on the Conservation and Management of Dugongs (Dugong dugon) and their Habitats throughout their Range.
- Any other international agreement, or instrument made under other international agreements approved by the Minister for Environment.

While the Torres Strait may provide habitat for several ETP cetaceans and sharks, none of these species are caught in the PNG tropical rock lobster dive fishery and there is very little chance for any other type of interaction of these species with the fishery due to the shallow habitat where fishers target lobster. The assessment team notes that no documented ETP interactions have been provided in the assessment process.

Using a precautionary approach, we consider here potential impacts of the fishery on the two ETP species most important to the reef, seagrass, and mangrove habitat in the Torres Strait, the dugong and the green sea turtle, which are also considered "cultural keystones" in the region (Butler et al. 2012).

Dugong (*Dugong dugon*)

Biology

The dugong is a marine mammal that is the only extant species of the family Dugongidae. It is the only strictly marine herbivorous mammal species and has a range that spans 37 countries and territories from east Africa to Vanuatu which likely represents relict populations separated by large areas where it was extirpated or greatly overexploited (Nishiwaki and Marsh 1985; Marsh et al. 2002). Dugongs have a long generation time due to being long-lived with a low reproductive rate and high investment in each offspring. They generally birth only one calf per cow after a gestation of 13–15 months, calve only every 2.4 to 7 years, and the oldest dugong whose tusks have been examined for age determination was estimated to be 73 years old when she died. In addition, females do not bear their first calf until they are at least six and up to 17 years old (Marsh and Kwan 2008). Population simulations indicate that even with the most optimistic combinations of life-history parameters (e.g., low natural mortality and no human-induced mortality) a dugong population is unlikely to increase more than 5% per year.

Dugongs start eating seagrasses soon after birth, but they grow rapidly during the suckling period when they also receive milk from their mothers. They are exclusively herbivorous and specialize on seagrasses, preferring species of the genera *Halophila* and *Halodule* and selecting for plants that are highly digestible (low in fiber) and high in nutrients (Aragones 1996).

Their preferred habitat is wide, shallow protected bays and mangrove channels as well as in the lee of large inshore islands where seagrass beds are most likely to be present. In the Torres Strait, they may be seen more than 10 km from land due to the wide, shallow continental shelf in this area (Marsh and Saalfeld 1989, 1991).

Status

It has been stated that the Torres Strait is the most important dugong habitat in the world (Marsh et al. 2002). The relative abundance and distribution of dugongs have been recorded along the Queensland, Australia coast since the 1980s using a series of aerial surveys, and relative density of dugongs has been stable for 30 years despite the species vulnerability to human-induced mortality and the current indigenous fishery (Marsh et al. 2015). Population size estimates for Torres Strait in 2001, 2006, 2011, and 2013 ranged from 12,603 (2011) to 15,727 (2013; Sobtzick et al. 2014), though other methods estimated the population to be as high as 102,519 (Hagihara et al. 2016). There is a lack absence of robust data on absolute population size and harvest level, but evidence still suggests that the harvest is sustainable, and the population status is stable (Marsh et al. 2015).

Management

A traditional subsistence fishery for dugong exists in the Torres Strait, protected by the Torres Strait Treaty between Australia and PNG. Community-based Dugong and Turtle Management Plans, developed by individual Torres Strait Islander communities, are also being implemented on a voluntary basis throughout the Torres Strait with the assistance of the Torres Strait Regional Authority. Each community-based plan includes a range of culturally based management arrangements that have been agreed to by each respective community.

Information

No interactions between the PNG hookah dive fishery for lobster and dugong were reported, but the spatial and temporal overlap between the two means the potential for interaction including boat strikes, entanglement, and opportunistic harvest exists. The latter is legal within the bounds of the local subsistence fishery and may not be considered an impact of the lobster fishery, if occurring. Figure 13 illustrates sighting information for one year of the aerial survey and illustrates the concentration of dugongs in the same shallow reef waters fished by the divers. Still, it is unlikely that the impacts from this small, artisanal dive-based fishery will have a significant impact on the population.

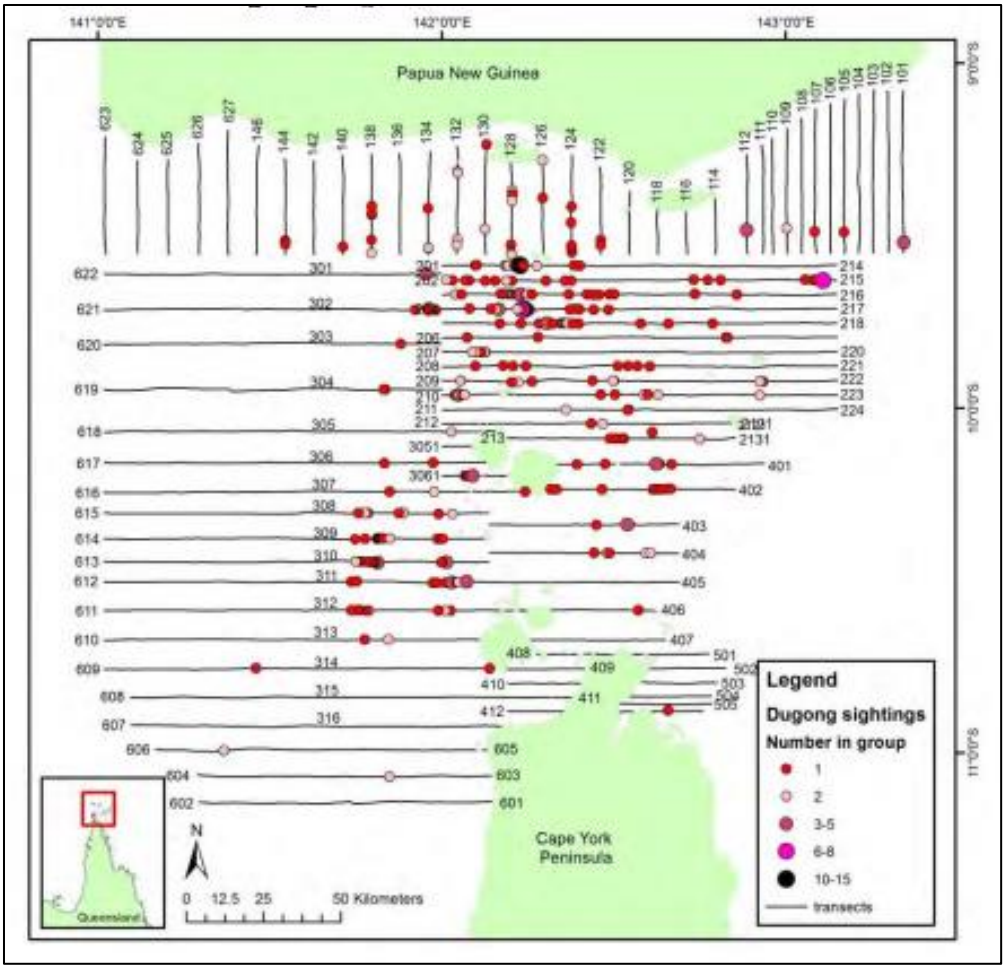

Figure 13. GPS tracks of transects (three-digit numbers) surveyed in the Torres Strait in November 2013 and the position and number of dugongs sighted per transect. (Figure from Sobtzick et al. 2014.)

Green Sea Turtle (*Chelonia mydas*)

The other ETP species considered most likely to interact with the PNG dive fishery for lobster are marine turtles, particularly the green turtle. While hawksbill (*Eretmochelys embricata*), loggerhead (*Caretta caretta*), olive ridley (*Lepidochelys olivacea*), and leatherback (*Dermochelys coriacea*) turtles may also be present in the Torres Strait (Fuentes et al. 2015), they are considered less likely to overlap with the fishery and not analyzed further in this assessment.

Biology

Green turtles nest year-round in the Torres Strait (Limpus et al. 1989), and, like dugongs, occupy shallow reef and mangrove areas where they feed on sea grasses, algae, and occasional invertebrates (André et al. 2005).

Status

Hagihara et al. (2016) estimated the abundance of large immature and adult-sized green turtles (both sexes) in Central and Western Torres Strait using data from aerial surveys in 2006, 2011, and 2013. Population estimates were as high as 400,000 animals (2013) but the authors concluded that the status of the population is considerably uncertain, due in part to the variable proportion of green turtles migrating from Torres Strait to breed at the time of the surveys (Limpus and Nicholls 2000). The estimates of potential biological removal for the species in the same study was 80 to 4,000 animals (Hagihara et al. 2016).

Management

A traditional subsistence fishery for sea turtles exists in the Torres Strait, protected by the Torres Strait Treaty between Australia and PNG. Community-based Dugong and Turtle Management Plans, developed by individual Torres Strait Islander communities, are also being implemented on a voluntary basis throughout the Torres Strait with the assistance of the Torres Strait Regional Authority. Each community-based plan includes a range of culturally based management arrangements that have been agreed to by each respective community.

Information

No interactions between the PNG hookah dive fishery for lobster and sea turtles were reported, but green turtles often occupy shallow areas near coral reefs, and much like dugong, may be subject to vessel strikes, entanglement, and opportunistic capture. The latter is legal within the bounds of the local subsistence fishery and may not be considered an impact of the lobster fishery, if occurring. Again, there has been no documentation provided of direct interaction of the PNG tropical rock lobster fishery with ETP species, and the species discussed in this section are presented following a precautionary approach.

It is unlikely that the impacts from this small, artisanal dive-based fishery will have a significant impact on the green sea turtle population.

Habitat Impacts

Overview

When assessing the status of habitats and the impacts of fishing, teams are required to consider the full area managed by the local, regional, national, or international governance body(s) responsible for fisheries management in the area(s) where the UoA operates (this is called the "managed area" for assessment purposes).

According to MSC FCPV2.1 GSA 3.13.3, the assessment team must determine and justify which habitats are commonly encountered, vulnerable marine ecosystems (VMEs)[1], and minor (i.e., all other habitats) for scoring purposes, [where]:

> "A commonly encountered habitat shall be defined as a habitat that regularly comes into contact with a gear used by the UoA, considering the spatial (geographical) overlap of fishing effort with the habitat's range within the management area(s) covered by the governance body(s) relevant to the UoA; and
>
> A VME shall be defined as is done in paragraph 42 subparagraphs (i)-(v) of the FAO Guidelines (definition provided in GSA 3.13.3.22) [as having one or more of the following characteristics: uniqueness or rarity, functional significance, fragility, Life-history traits of component species that make recovery difficult, and/or structural complexity]. This definition shall be applied both inside and outside EEZs and irrespective of depth."

Both commonly encountered and VME habitats are considered 'main' habitats for scoring purposes (GSA 3.13.3).

Much of the following background habitat information is taken from the Land and Sea Management Strategy for Torres Strait 2016-2036 (TSRA 2016).

The Torres Strait is a broad stretch of tidally complex shallow water (largely less than 40 m) protected from swell by the northern Great Barrier Reef (GBR) to the south, but subject to strong tidal currents over

1 According to MSC FCPV2.1 GSA 3.13.3.2: VMEs have one or more of the following characteristics 1)Uniqueness or rarity – an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by similar areas or ecosystems; 2)Functional significance of the habitat – discrete areas or habitats that are necessary for survival, function, spawning/reproduction, or recovery of fish stocks; for particular life-history stages (e.g., nursery grounds, rearing areas); or for ETP species; 3)Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities; 4)Life-history traits of component species that make recovery difficult – ecosystems that are characterised by populations or assemblages of species that are slow growing, are slow maturing, have low or unpredictable recruitment, and/or are long lived; and 5) Structural complexity – an ecosystem that is characterised by complex physical structures created by significant concentrations of biotic and abiotic features

a diverse seabed. It contains more than 300 islands (17 inhabited), many coral reefs, cays, sandbanks and large seagrass meadows, is made up of about 3% land, 6% tidally inundated reef flats, and 91% open seas (Figure 14).

The Torres Strait is ecologically complex, biodiverse and relatively pristine. It provides many different marine and island habitats for a highly diverse array of Indo-Pacific marine fauna. Habitat types include more than 13,000 km^2 of continuous seagrass meadows, over 1,200 coral reefs and in excess of 31,000 ha of highly diverse coastal mangroves (TSRA 2014a). The Torres Strait is the intact northern extension of the World Heritage listed Great Barrier Reef ecosystem and acts as a link to the coral triangle of south-east Asia. The Torres Strait is also an important international shipping route and in recognition of the associated environmental risks, was classified as a Particularly Sensitive Sea Area by the International Maritime Organisation in 2005.

For the purpose of this assessment, the commonly encountered habitat is coral reefs, which are considered a VME and therefore main habitat. Minor habitat for this fishery consists of the sand flats where dinghies and or motherships anchor during dive operations.

Management

Several policy and institutional frameworks exist that support the sustainable use and management of marine resources while also protecting habitats (including VMEs), biodiversity and the traditional islander way of life in the Torres Strait region. The Torres Strait Treaty entered into by Australia and Papua New Guinea in February 1985 defines sovereignty and maritime boundaries in the area between the two countries and includes protection of the marine environment.

Information

The PNG lobster fishery in the TSPZ is largely confined to the eastern Torres Strait within the Warrior Reef Complex, where substrate is largely silt (Haywood et al. 2008). More than 90% of the fishing occurs at Silver, Wapa and Kokopi reefs, with some fishing at Gimini, Parama and the fringing reefs of Daru (NFA 1998). Depths in the fishing areas are <20 m and there are numerous continental islands, sand cays and coral reef systems. River runoff from the mainland creates turbid water in this area, and reef systems generally consist of mud banks surrounded by coral. *Panulirus ornatus* use these mud and coral systems extensively, particularly when they are associated with macroalgae and sea grass beds (Dennis et al. 1997).

Seabed habitat data are collected in conjunction with lobster abundance during tropical rock lobster surveys in the TSPZ. Information from these surveys includes percentage cover of substrate types (sand/mud, rubble, hard substrates and coral) and biota (seagrass and algae). Data collected before 2015 are representative of ~130 sites, while the most recent surveys are representative of ~75 sites. The most recent Torres Strait Rock Lobster assessment report (Plagányi et al. 2022) presents extensive up-to-date trend data for habitat characteristics that can be used to assess the state of the habitat used by the UoA over time.

The patchy distribution of lobsters, associated with appropriate habitat, results in concentrated diver effort in these locations. This, combined with the small fleet size, catch restrictions, and remoteness/inaccessibility of the fishing grounds, means that large portions of the habitat are exempt from impacts of lobster fishing. There are only a maximum of 7 storage/carrier vessels moored at one time, and moorings are long-term, meaning very little disturbance to the sediment occurs on any regular basis. Moorings never occur near reefs, and dinghies carrying fishermen are also anchored in sandy areas and never atop reefs.

The greatest potential for habitat impacts is physical damage inflicted by divers. However, lobster fishing is highly selective, and divers are generally motivated not to harm the reefs on which their livelihoods depend. During very low tides, divers may stand on the substrate when jumping back onto the dinghies, otherwise they are swimming/snorkeling in search of lobster and not touching the reefs. Hand-held tools such as scoop nets may incur minimal damage when used to extract lobsters. The potential for such activities to profoundly damage these habitats is considered minimal due to the high energy and resilience of these dynamic environments.

The PNG and Torres Strait tropical rock lobster hookah fishery is expected to have negligible impacts to habitat due to the nature of the fishing method (hand selection by divers). Divers do not walk on top of reefs, and dinghies and motherships set anchors preferentially on sandy substrate where they are unlikely to do damage. Gear loss is also considered negligible; any tools dropped by divers can easily be retrieved.

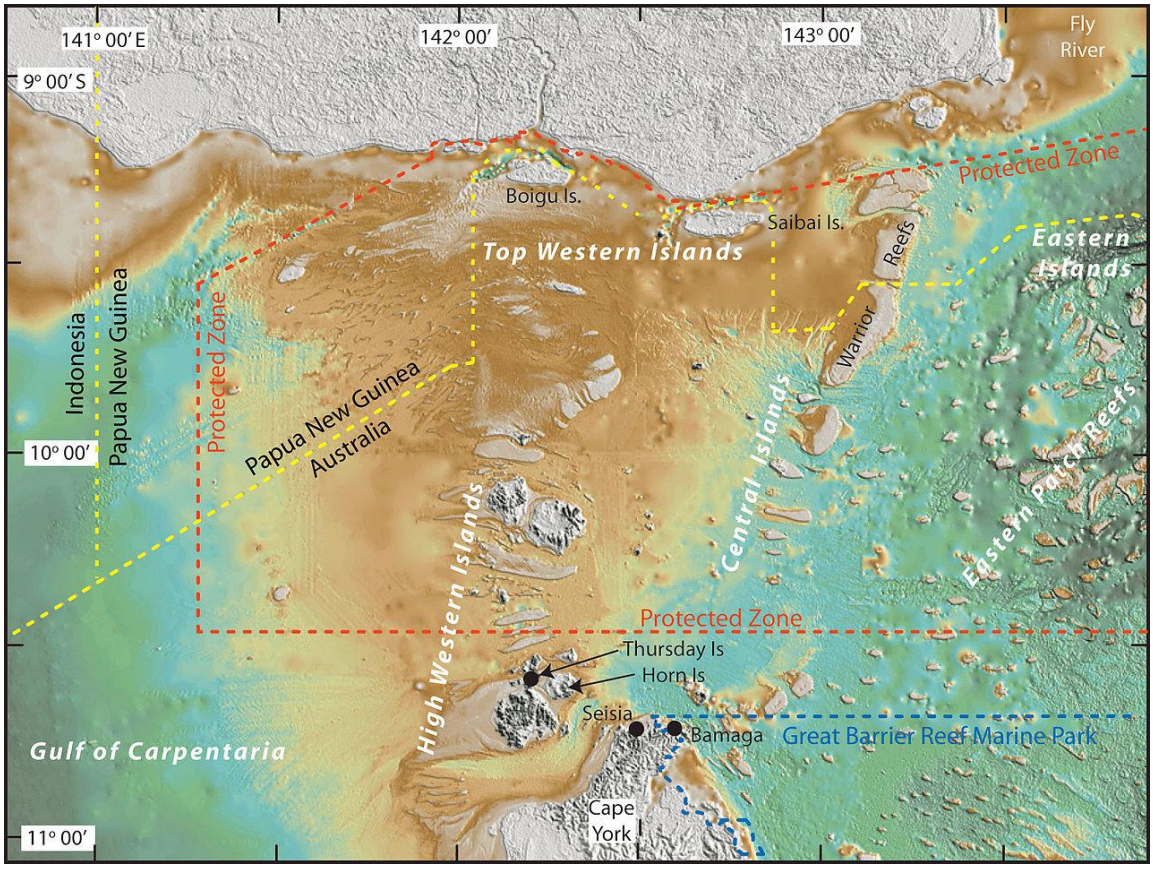

Figure 14. False colour bathymetric map of the Torres Strait region derived from a bathymetry grid developed by Geoscience Australia. Colours represent water depths. The locations of the Torres Strait Protected Zone, the northern limit of the Great Barrier Reef Marine Park and the fishing/seabed jurisdiction boundaries of Australia, Indonesia and Papua New Guinea are shown.

Ecosystem Impacts

Fisheries impact ecosystems by removing biomass of the targeted species, which plays a role in the trophic structure associated with the community. Removal of biomass generally results in fewer individuals and may shift the population toward smaller available size classes.

The tropical rock lobster's role is a generalized benthic predator/scavenger. They also provide prey (particularly when small) for larger fish and invertebrates. They may also interact with other members of the reef community in non-consumptive ways, including in competition for habitat within the reef.

While studies to determine the wider ecosystem structure and function including removal of the target stock have not been conducted for the PNG lobster fishery, an ecological risk assessment from the Australian portion of the TSPZ found that no risks were rated as major or above (Furlani et al. 2007). Research on ecosystem impacts of the baited pot fishery for lobster in Western Australia revealed no difference in lobster diets between areas with high and low lobster densities in either macro-algal or

seagrass habitats, or between lobsters of varying sizes. These studies concluded that the removal of legal-sized lobster is unlikely to have a significant impact on benthic algal and faunal assemblages of shallow limestone reefs and seagrass meadows (Bellchambers et al. 2012). Additionally, no known species are dependent on rock lobster for a majority of their diet, so their removal by the fishery is unlikely to impact the animals above them in the food web (Furlani et al. 2007). Finally, the management system for the fishery operates to a very conservative target reference point (60%), which means that removals are even less likely to have any broader ecological impacts.

4.3.2 Principle 2 Performance Indicator scores and rationales

PI 2.1.1 – Primary species outcome

PI 2.1.1		The UoA aims to maintain primary species above the point where recruitment would be impaired (PRI) and does not hinder recovery of primary species if they are below the PRI		
Scoring Issue		SG 60	SG 80	SG 100
a	**Main primary species stock status**			
	Guide post	Main primary species are likely to be above the PRI. OR If the species is below the PRI, the UoA has measures in place that are expected to ensure that the UoA does not hinder recovery and rebuilding.	Main primary species are highly likely to be above the PRI. OR If the species is below the PRI, there is either evidence of recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main, to ensure that they collectively do not hinder recovery and rebuilding.	There is a high degree of certainty that main primary species are above the PRI and are fluctuating around a level consistent with MSY.
	Met?	Yes	Yes	Yes

Rationale

There are no primary species in this fishery. Regulations for the PNG lobster fishery in the TSPZ prohibit landing anything other than lobster. Other lobster species besides *P. ornatus* are caught in small quantities and therefore considered under PI 2.2.

As a dive fishery consisting of a relatively small and highly skilled workforce, there is a high degree of certainty that the only other species collected are occasional and for personal use. Following MSC guidance SA 3.2.1:

> "If a team determines that a UoA has no impact on a particular component, it shall receive a score of 100 under the Outcome PI."

The UoA receives a score of 100 under the outcome PI.

B	**Minor primary species stock status**			
	Guide post			Minor primary species are highly likely to be above the PRI.

				OR If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor primary species.
	Met?			Yes
Rationale				
There are no primary species in this fishery and therefore following MSC guidance SA 3.2.1 the UoA shall receive a score of 100 under the outcome PI.				
References				
Draft scoring range and information gap indicator added at Announcement Comment Draft Report				
Draft scoring range				≥80
Information gap indicator				
Overall Performance Indicator scores added from Client and Peer Review Draft Report				
Overall Performance Indicator score				100
Condition number (if relevant)				

PI 2.1.2 – Primary species management strategy

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
Scoring Issue		SG 60	SG 80	SG 100
a	**Management strategy in place**			
	Guide post	There are measures in place for the UoA, if necessary, that are expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are likely to be above the PRI.	There is a partial strategy in place for the UoA, if necessary, that is expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the PRI.	There is a strategy in place for the UoA for managing main and minor primary species.
	Met?	Yes	Yes	Yes
Rationale				
There are no primary species. Following MSC guidance Table GSA3 'if necessary' – if the UoA has no or negligible impact on this component no specific rationale need be given to meet **SG60 and SG80**. The assessment team concluded that the restriction of gear type and the use of such a highly selective gear as mandated by the Torres Strait and Western Province Tropical Rock Lobster Fishery Management Plan (NFA 1998) is a strategy in place to manage impacts to main and minor primary species; therefore **SG100 is met.**				
B	**Management strategy evaluation**			
	Guide post	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the fishery and/or species involved.
	Met?	Yes	Yes	Yes
Rationale				
The highly selective gear used in this fishery can be considered a measure to reduce impacts on primary species that is likely to work based on plausible argument; **SG60 is met**. There are no primary species caught, thus demonstrating these measures are working and **SG80 is met.** Regular review of logbook data can be considered testing that confirms the strategy will work and **SG100 is also met.**				
C	**Management strategy implementation**			

	Guide post		There is some evidence that the measures/partial strategy is being implemented successfully.	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its overall objective as set out in scoring issue (a).
	Met?		Yes	Yes
Rationale				
We reiterate that the UoA has no or negligible impact on this component and therefore a management strategy is not required (MSC guidance GSA 3.5.1). However, we note that the highly selective gear used in this fishery is considered a measure to reduce impacts on primary species. There are no primary species caught, thus demonstrating these management measures are implemented successfully **and SG80 is met**. The lack of catch of primary species is clear evidence of the strategy being implemented and **thus SG100 is also met**.				
D	**Shark finning**			
	Guide post	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	NA	NA	NA
Rationale				
Scoring issue **is not scored** as no sharks are caught by the UoA.				
E	**Review of alternative measures**			
	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main primary species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main primary species and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of all primary species, and they are implemented, as appropriate.
	Met?	NS	NS	NS
Rationale				
Per GSA3.5.3, "If there is no unwanted catch of primary species, or no primary species at all, then the 'Review of alternative measures' scoring issue (e) is not scored."				
References				
NFA 1998				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	100
Condition number (if relevant)	

PI 2.1.3 – Primary species information

PI 2.1.3		Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species		
Scoring Issue		SG 60	SG 80	SG 100
a	**Information adequacy for assessment of impact on main primary species**			
	Guide post	Qualitative information is adequate to estimate the impact of the UoA on the main primary species with respect to status. OR If RBF is used to score PI 2.1.1 for the UoA: Qualitative information is adequate to estimate productivity and susceptibility attributes for main primary species.	Some quantitative information is available and is adequate to assess the impact of the UoA on the main primary species with respect to status. OR If RBF is used to score PI 2.1.1 for the UoA: Some quantitative information is adequate to assess productivity and susceptibility attributes for main primary species.	Quantitative information is available and is adequate to assess with a high degree of certainty the impact of the UoA on main primary species with respect to status.
	Met?	Yes	Yes	Yes
Rationale				
There are no main primary species. The catches of all retained species are reported by all licensees to the National Fisheries Authority in Torres Strait Lobster Logbook sheets. Data from these logbooks indicate there have been no non-target species retained by the wild collection fishery (UoA) other than the one other lobster species considered secondary minor. There are also annual pre-season surveys in Australian waters that document both TRL species encountered by the UoA, as well as plankton surveys to monitor nauplii. This is considered quantitative information (i.e., the catch of primary species is zero), and is verified through compliance checks and monitoring, providing a high degree of certainty. **SG 100 is met.**				
B	**Information adequacy for assessment of impact on minor primary species**			
	Guide post			Some quantitative information is adequate to estimate the impact of the UoA on minor primary species with respect to status.
	Met?			Yes
Rationale				

There are no minor primary species. The catches of all retained species are reported by all licensees to the National Fisheries Authority in Torres Strait Lobster Logbook sheets. Data from these logbooks indicate there have been no non-target species retained by the wild collection fishery other than one other TRL species, *P. versicolor*, classified as secondary minor. This is considered quantitative information (i.e., the catch of primary species is zero), and has been verified through compliance checks and monitoring, providing a high degree of certainty. **SG 100 is met.**

C	**Information adequacy for management strategy**			
	Guide post	Information is adequate to support measures to manage main primary species.	Information is adequate to support a partial strategy to manage main primary species.	Information is adequate to support a strategy to manage all primary species and evaluate with a high degree of certainty whether the strategy is achieving its objective.
	Met?	Yes	Yes	Yes

Rationale

There are no primary species. As above, catches of all retained species are reported and verified. This information is considered adequate to support a strategy to manage all primary species and evaluate the strategy with a high degree of certainty. **SG100 is met.**

References

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	100
Condition number (if relevant)	

PI 2.2.1 – Secondary species outcome

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit		
Scoring Issue		SG 60	SG 80	SG 100
a	**Main secondary species stock status**			
	Guide post	Main secondary species are likely to be above biologically based limits. OR If below biologically based limits, there are measures in place expected to ensure that the UoA does not hinder recovery and rebuilding.	Main secondary species are highly likely to be above biologically based limits. OR If below biologically based limits, there is either evidence of recovery or a demonstrably effective partial strategy in place such that the UoA does not hinder recovery and rebuilding. AND Where catches of a main secondary species outside of biological limits are considerable, there is either evidence of recovery or a, demonstrably effective strategy in place between those MSC UoAs that have considerable catches of the species, to ensure that they collectively do not hinder recovery and rebuilding.	There is a high degree of certainty that main secondary species are above biologically based limits.
	Met?	Yes	Yes	Yes
Rationale				
The only secondary species in this fishery is the painted rock lobster, *Panulirus versicolor*. Catches of this species make up <5% of the annual catch by volume, classifying it as secondary minor. There are no secondary main species in this fishery and therefore **SG100 is met by default**.				
B	**Minor secondary species stock status**			
	Guide post			Minor secondary species are highly likely to be above biologically based limits. OR

				If below biologically based limits', there is evidence that the UoA does not hinder the recovery and rebuilding of secondary species
	Met?			No

Rationale
Assessment documents available for the tropical rock lobster fishery (e.g., Plagyani et al. 2022) consider catch of *P. versicolor* insignificant and there are no indications that the species is below biologically based limits. Additionally, *P. versicolor* is considered less desirable for eating so it is not preferentially sought, and therefore exploitation rate is expected to be low. But there is not enough information available to consider *P. versicolor* highly likely to be above biologically based limits, so **SG100 is not met and SG80 is awarded**.
References
Plagyani et al. 2022

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	90
Condition number (if relevant)	

PI 2.2.2 – Secondary species management strategy

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
Scoring Issue		SG 60	SG 80	SG 100
a	**Management strategy in place**			
	Guide post	There are measures in place, if necessary, which are expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be above biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a partial strategy in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be above biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a strategy in place for the UoA for managing main and minor secondary species.
	Met?	Yes	Yes	Yes

Rationale

There is a high degree of confidence that no species other than the target ornate rock lobsters and one other species of *Panulirus* are caught by the UoA. The highly selective gear acts as measures and a partial strategy in place for secondary species management and **SG60 and SG80 are met**. Additionally, the conservative nature of the TRL TAC means that exploitation on the target species is low and in conjunction with the less desirable nature of *P. versicolor*, suggests it is likewise experiencing low fishing mortality.

The PNG NFA Lobster Fishery Management Plan (NFA 1998) includes a strategy that would minimize the quantity of unwanted catch including limited entry, gear restrictions, and closures. **This meets the SG100 level**.

B	**Management strategy evaluation**			
	Guide post	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/species).	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the UoA and/or species involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or species involved.
	Met?	Yes	Yes	No

Rationale

The PNG NFA Lobster Fishery Management Plan (NFA 1998) includes measures that would minimize the quantity of unwanted catch including a limited entry program, gear restrictions, and closures. These measures are considered likely to work, based on plausible argument and **SG60 is met.**

The lack of unwanted catch in the fishery and no secondary main species provides some objective basis for confidence that the measures will work. Additionally, regular, formal risk assessments have been conducted on the Australian TSPZ tropical rock lobster fishery (see Furlani 2007, Commonwealth of Australia 2017, 2020) and all have concluded that there was low risk to the ecosystem from this fishery, including bycatch. These assessments did not include the UoA but assessed a fishery that uses the same gear to harvest lobsters in the Western Torres Strait (part of the shared resource from which PNG also harvests) and is therefore considered a comparable analysis.

The lack of any catch other than the target lobster species and one other secondary minor species, *P. versicolor*, in this fishery provides some objective basis for confidence that the measures will work and is based on some information directly about the UoA and species involved. **SG80 is met**. The lack of testing means there is not enough confidence that the strategy will work to award **SG100**.

C	**Management strategy implementation**			
	Guide post		There is some evidence that the measures/partial strategy is being implemented successfully.	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a).
	Met?		Yes	No

Rationale

The lack of reported catch other than lobster in this fishery provides some evidence that the measures in place to minimize bycatch are being implemented successfully; **SG80 is met.** Questions about the harvest and management of *P. versicolor* do not allow the team to believe there is clear evidence of a strategy for this species that is achieving its objective, so **SG100 is not met**.

D	**Shark finning**			
	Guide post	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	NA	NA	NA

Rationale

No sharks are caught by the UoA therefore SI 2.2.2 D is not applicable.

E	**Review of alternative measures to minimise mortality of unwanted catch**			
	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main secondary species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main secondary species	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of all secondary species, and

			and they are implemented as appropriate.	they are implemented, as appropriate.
	Met?	Yes	Yes	No
Rationale				
The use of risk assessments to examine the Australian PZJA Torres Strait tropical rock lobster fishery against the Guidelines for the Ecologically Sustainable Management of Fisheries (see Furlani 2007, Commonwealth of Australia 2017, 2020) acts as a review of the potential effectiveness and practicality of alternative measures to minimize UoA-related mortality of unwanted catch of secondary species; **SG60 is met**. The risk assessments for this fishery are carried out every three years and include proposed conditions to ensure risks are managed; this regular review of the effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main secondary species **meets the requirements of the SG80 level**. The review is not conducted biennially so **SG100 is not met**.				
References				
NFA 1998; Furlani 2007; Commonwealth of Australia 2017; Commonwealth of Australia 2020				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	85
Condition number (if relevant)	

PI 2.2.3 – Secondary species information

PI 2.2.3		Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species		
Scoring Issue		SG 60	SG 80	SG 100
a	**Information adequacy for assessment of impacts on main secondary species**			
	Guide post	Qualitative information is adequate to estimate the impact of the UoA on the main secondary species with respect to status. OR If RBF is used to score PI 2.2.1 for the UoA: Qualitative information is adequate to estimate productivity and susceptibility attributes for main secondary species.	Some quantitative information is available and adequate to assess the impact of the UoA on main secondary species with respect to status. OR If RBF is used to score PI 2.2.1 for the UoA: Some quantitative information is adequate to assess productivity and susceptibility attributes for main secondary species.	Quantitative information is available and adequate to assess with a high degree of certainty the impact of the UoA on main secondary species with respect to status.
	Met?	Yes	Yes	Yes
Rationale				
There are no main secondary species in the UoA and this is documented by catch data that is adequate to assess the impact with a high degree of certainty. **SG100 is met.**				
B	**Information adequacy for assessment of impacts on minor secondary species**			
	Guide post			Some quantitative information is adequate to estimate the impact of the UoA on minor secondary species with respect to status.
	Met?			No
Rationale				
There is only one minor secondary species in the fishery, *P. versicolor*, another tropical rock lobster species. Logbook reporting is required in this fishery but there is some uncertainty as to the accuracy of quantity and identification, most notably in the year where zero catch was recorded for the species. The degree of				

uncertainty here is not adequate to estimate the UoA impact on minor secondary species with respect to status; **SG100 is not met**.				
C	**Information adequacy for management strategy**			
	Guide post	Information is adequate to support measures to manage main secondary species.	Information is adequate to support a partial strategy to manage main secondary species.	Information is adequate to support a strategy to manage all secondary species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.
	Met?	Yes	Yes	No

Rationale

There is no main secondary catch in this fishery and therefore it is unnecessary to collect information adequate for management strategy of main secondary species. **SG60 and 80 are met** by default.

The information provided from logbooks on the quantity of *P. versicolor* caught is not adequate to support measures to manage minor secondary species with a high degree of certainty due to some amount of concern over accuracy and completeness of catch records for other TRL species; **SG100 is not met**.

References

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	85
Condition number (if relevant)	

PI 2.3.1 – ETP species outcome

PI 2.3.1		The UoA meets national and international requirements for the protection of ETP species The UoA does not hinder recovery of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	**Effects of the UoA on population/stock within national or international limits, where applicable**			
	Guide post	Where national and/or international requirements set limits for ETP species, the effects of the UoA on the population/ stock are known and likely to be within these limits.	Where national and/or international requirements set limits for ETP species, the combined effects of the MSC UoAs on the population /stock are known and highly likely to be within these limits.	Where national and/or international requirements set limits for ETP species, there is a high degree of certainty that the combined effects of the MSC UoAs are within these limits.
	Met?	NA	NA	NA
Rationale				
This scoring issue has not been scored as there are no national or international requirements that set limits for ETP species following SA3.10.1.1 (MSC 2018).				
b	**Direct effects**			
	Guide post	Known direct effects of the UoA are likely to not hinder recovery of ETP species.	Direct effects of the UoA are highly likely to not hinder recovery of ETP species.	There is a high degree of confidence that there are no significant detrimental direct effects of the UoA on ETP species.
	Met?	Yes	Yes	Yes
Rationale				
The UoA consists of fishermen hand collecting lobster using hookah equipment or free diving, though sometimes spears or scoop nets may be used. The UoA does not have direct impacts on ETP species such as dugongs and green sea turtles while in direct pursuit of the target species; i.e., a fisher would never spear a dugong or turtle while in the act of spearing a lobster. While we understand there may be some harvesting of ETP species including dugong, sea turtles, and shovelnose rays to sell in local villages, particularly when lobster fishing is not very good, this is outside the scope of the UoA because any such fishing has a different target species from the UoA. Nevertheless, as any such fishing would be in violation of regulations, the potential for such fishing is evaluated under PI 3.2.3 where compliance matters are considered. The risk of entanglement or boat strikes is considered low and unlikely to have significant population impacts on sea turtles or dugong. The assessment team believes the direct effects of the UoA on ETP species are low to non-existent making the UoA highly likely not to hinder recovery of ETP species; **SG60 and SG80 are met.**				

Additionally, we have high confidence that the UoA has no detrimental direct effects on sea turtles, dugong, or any other ETP species due to the high selectivity of hand collection. **SG 100 is met.**				
C	**Indirect effects**			
	Guide post		Indirect effects have been considered for the UoA and are thought to be highly likely to not create unacceptable impacts.	There is a high degree of confidence that there are no significant detrimental indirect effects of the UoA on ETP species.
	Met?		Yes	No
Rationale				
Many species prey on tropical rock lobster including sea turtles and toothed cetaceans. Considering that there are no known ETP species which rely on tropical rock lobster as their main food source, it is highly unlikely that the fishery would create unacceptable impacts to ETP species. Additionally, the very conservative target reference point used in this fishery further mitigates any potential indirect impacts. Other potential indirect effects include vessel strikes or entanglement with hookah hoses, each of which would be considered a rare event and unlikely to create unacceptable impacts. This meets requirements for the **SG 80 level**. The **SG 100 is not met** because there have been no specific studies to categorize the UoA's impact on ETP species.				
References				
NFA 1998				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	90
Condition number (if relevant)	

PI 2.3.2 – ETP species management strategy

PI 2.3.2		The UoA has in place precautionary management strategies designed to: meet national and international requirements; ensure the UoA does not hinder recovery of ETP species. Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	**Management strategy in place (national and international requirements)**			
	Guide post	There are measures in place that minimise the UoA-related mortality of ETP species, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a strategy in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a comprehensive strategy in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to achieve above national and international requirements for the protection of ETP species.
	Met?	NA	NA	NA
Rationale				
This scoring issue has not been scored as there are no national or international requirements that set limits for ETP species following SA3.10.1.1 (MSC 2018).				
b	**Management strategy in place (alternative)**			
	Guide Post	There are measures in place that are expected to ensure the UoA does not hinder the recovery of ETP species.	There is a strategy in place that is expected to ensure the UoA does not hinder the recovery of ETP species.	There is a comprehensive strategy in place for managing ETP species, to ensure the UoA does not hinder the recovery of ETP species.
	Met?	Yes	Yes	No
Rationale				
The prescribed use of highly selective fishing gear (hand-selecting lobsters while free or hookah diving) acts as a management strategy to ensure the UoA does not hinder the recovery of ETP species. The fishery liaises with relevant Provincial and District Fisheries officials to report any incidences of interaction with ETP species to the PNG Conservation and Environment Protection Authority (CEPA). Additionally, the PNG NFA Lobster Management Plan (1998) states "Taking of turtles and dugongs by licensed vessels and dinghies while fishing				

for tropical rock lobster or other related activities is prohibited." Therefore, a strategy is in place and the UoA meets SG 80.

More evidence of a comprehensive strategy for the fishery to manage ETP species interactions would be needed to meet SG100.

C	Management strategy evaluation			
	Guide post	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is an objective basis for confidence that the measures/strategy will work, based on information directly about the fishery and/or the species involved.	The strategy/comprehensive strategy is mainly based on information directly about the fishery and/or species involved, and a quantitative analysis supports high confidence that the strategy will work.
	Met?	Yes	Yes	No

Rationale

The operational measure of the highly selective fishing gear is considered likely to manage direct UoA impacts on ETP. This is based on confidence of the fishing method's selectivity and the low risk of other sources of mortality. The fishery prohibits take of turtles and dugong while lobstering and liaises with relevant Provincial and District Fisheries officials to report any incidences of interaction with ETP species to the PNG CEPA. These measures are considered likely to work based on plausible argument and **SG60 is met**.

The selective nature of the gear, which largely restricts the harvest of marine life to lobsters and minimizes any other impacts, provides an objective basis for confidence that the measures/strategy will work. **SG80 is met.**

A quantitative analysis of the fishery's interaction with and measures to protect ETP species would be needed to meet **SG100**.

D	Management strategy implementation			
	Guide post		There is some evidence that the measures/strategy is being implemented successfully.	There is clear evidence that the strategy/comprehensive strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a) or (b).
	Met?		Yes	No

Rationale

The selective, low-impact nature of hand-harvesting lobster successfully implements a strategy to avoid ETP impacts. The lack of frequent and consequential interactions with ETP species reported demonstrates that the strategy is being implemented successfully. This meets the **requirements for SG80**.

However, the anecdotal evidence that some ETP species are taken during lobster trips (even if not while pursuing the target species of the UoA) and the fact that no evidence from CEPA was provided to document any

interactions does not provide clear evidence that the strategy is being implemented successfully and achieving any objectives. **SG100 is not met.**				
E	**Review of alternative measures to minimize mortality of ETP species**			
	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species.	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.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality ETP species, and they are implemented, as appropriate.
	Met?	Yes	Yes	No

Rationale

Direct UoA-related mortality of ETP has not been reported and any interactions are generally likely to represent a very low risk to any populations of ETP species. The operational measure of the highly selective fishing gear is considered likely to manage direct UoA impacts on ETP, and the FMP prohibits taking of dugong and turtles. This is based on confidence of the fishing method's selectivity and the low risk of other sources of mortality. It is therefore considered unnecessary to review the potential effectiveness and practicality of alternative measures to minimize the UoA's impact on ETP species and **SG60 is met**.

The fishery liaises with relevant Provincial and District Fisheries officials to report any incidences of interaction with ETP species to CEPA, but no evidence of these reports were provided during the site visit. UoA-related mortality of ETP species is therefore effectively minimized, no alternative measures are needed, and this situation would only change if there was a change to the fishing method. **This meets the requirements of SG 80**.

Regular review of potential effectiveness and practicality of alternative measures for ETP species would be needed for the **SG100** level, and no evidence of this was found.

References

NFA 1998

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80
Information gap indicator	Data on any interactions with ETP species from PNG CEPA
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	80
Condition number (if relevant)	

PI 2.3.3 – ETP species information

PI 2.3.3		Relevant information is collected to support the management of UoA impacts on ETP species, including: • Information for the development of the management strategy; • Information to assess the effectiveness of the management strategy; and • Information to determine the outcome status of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	**Information adequacy for assessment of impacts**			
	Guide post	Qualitative information is adequate to estimate the UoA related mortality on ETP species. OR If RBF is used to score PI 2.3.1 for the UoA: Qualitative information is adequate to estimate productivity and susceptibility attributes for ETP species.	Some quantitative information is adequate to assess the UoA related mortality and impact and to determine whether the UoA may be a threat to protection and recovery of the ETP species. OR If RBF is used to score PI 2.3.1 for the UoA: Some quantitative information is adequate to assess productivity and susceptibility attributes for ETP species.	Quantitative information is available to assess with a high degree of certainty the magnitude of UoA-related impacts, mortalities and injuries and the consequences for the status of ETP species.
	Met?	Yes	Yes	No

Rationale

Qualitative information exists in the form of knowledge that the highly selective gear precludes most interactions with ETP species and impacts are likely to be negligible. The client suggested that some quantitative information is available through the reporting of ETP species interactions to CEPA, but the assessment team was not provided with any records. Qualitative information is adequate in that the UoA is considered not to impact ETP species because the act of pursuing the target species for the UoA does not include harvesting anything other than lobster; **SG60 is met**.

The fact that the UoA cannot impact ETP species renders information collection to support the management of UoA impacts on ETP species unnecessary. This is a small, artisanal fishery and even the unobserved impacts are unlikely to be a threat to protection and recovery of ETP species. **SG80 is considered met.**

There is no quantitative information available to assess with a high degree of certainty the magnitude of UoA-related impacts. **SG100 is not met.**

B	**Information adequacy for management strategy**

	Guide post	Information is adequate to support measures to manage the impacts on ETP species.	Information is adequate to measure trends and support a strategy to manage impacts on ETP species.	Information is adequate to support a comprehensive strategy to manage impacts, minimize mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives.
	Met?	Yes	Yes	Yes

Rationale
The information pertaining to the management of ETP species is appropriate to the associated risk of the UoA to ETP species, and **SG60 is considered met.** The strategy in place for the UoA (hand collection of lobster) prevents ETP species interaction and again precludes the need for information supporting the strategy and **SG80 is met**. As the UoA has no impacts to ETP species, we believe the information available is adequate for the strategy in place and **SG100 is met**.
References

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	60–- 79
Information gap indicator	

Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	90
Condition number (if relevant)	

PI 2.4.1 – Habitats outcome

PI 2.4.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates		
Scoring Issue		SG 60	SG 80	SG 100
a	**Commonly encountered habitat status**			
	Guide post	The UoA is unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	The UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	There is evidence that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.
	Met?	Yes	Yes	Yes
Rationale				
The low-impact nature of hand harvesting lobster with hookah dive gear or free diving minimizes the impact of the UoA on habitat, making the UoA unlikely to reduce structure and function of commonly encountered habitats; **SG60 is met**. While the fishery does take place on reefs, contact between the divers and vessels and these reefs is minimal. Moorings for the dinghies and collector vessels are on sandy or silty substrate for ease of anchor retrieval and collector vessels remain moored except when returning to port for maintenance. UoA habitats are highly unlikely to cause commonly encountered habitats serious or irreversible harm. This meets the **requirements for SG80**. The assessment team visited the fishing grounds and observed dive operations during the site visit and concluded that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm. This is also evidenced by the low risk with impacts negligible characterization for the Australian portion of this fishery in the ERA conducted by Furlani (2007), and the lack of evidence for fishery-induced change to habitat from the data gathered in annual pre-season resource surveys (TSTRL RAG 2022). There is no or negligible gear loss, very little bottom or reef contact, and fishers are motivated to keep reef habitat healthy to preserve their livelihood. **SG100 is met**.				
B	**VME habitat status**			
	Guide post	The UoA is unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	The UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	There is evidence that the UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.
	Met?	Yes	Yes	Yes
Rationale				

The main habitat for the PNG lobster dive fishery takes place on coral reefs which are considered Vulnerable Marine Ecosystems as defined by the MSC Standard V2.0 (GSA3.13.3.2). The low-impact nature of hand-collecting lobster ensures that the UoA is unlikely to reduce the structure and function of the VME habitats to a point where there would be serious or irreversible harm. **SG60 is met.**

In addition to the selective gear used, there is some evidence that divers and dinghies avoid contact with reefs, preferring to anchor on sandy or silty bottom for ease of anchor retrieval, making it highly unlikely that the fishery will reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm, **meeting SG80**.

Based on observations from the site visit and the characterization of the Australian component of this fishery (same gear and fishing practices) as low risk to habitat, the fishing practiced by the UoA is highly unlikely to reduce structure and function of coral reefs; **SG100 is met**.

C	**Minor habitat status**			
	Guide post			There is evidence that the UoA is highly unlikely to reduce structure and function of the minor habitats to a point where there would be serious or irreversible harm.
	Met?			Yes

Rationale

There is an objective basis for confidence that the fishery operations will not seriously or irreversibly affect the habitats due to minimal interaction with the sea floor or reefs, and no or negligible gear loss. The limited access and small fleet size (7 vessels), depth constraints of diving (< 20 m), plus vast remote coastlines, all contribute to considerable expanses of lobster habitat being unavailable to the fishery. There is also regular monitoring on the minor habitat overlapping the fishery (Plagyani et al. 2022) so **SG 100 is met**.

References

Furlani 2007; TSTRL RAG 2022

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	100
Condition number (if relevant)	

PI 2.4.2 – Habitats management strategy

PI 2.4.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats		
Scoring Issue		SG 60	SG 80	SG 100
a	**Management strategy in place**			
	Guide post	There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.	There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.	There is a strategy in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats.
	Met?	Yes	Yes	No
Rationale				
Impacts of the UoA on habitats are managed through the prescribed fishing method, limited entry, catch size limits, catch quotas, spatial management, time area closures and statutory reporting of catch and location of fishing activities. These are considered measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to the habitat; **SG60 is met**. The management strategy is aimed at maintaining the resource and a specific code of practice or habitat protection strategy does not exist, but it is not deemed necessary due to the nature of the fishery. Also, because the target species is highly dependent on reefs for its adult life stage, it follows that management of the habitat is necessary within management of the resource. Finally, the prohibition on trawling for lobsters or allowing lobsters to be caught in prawn trawls further limits habitat impacts. The measures mentioned above are considered a partial strategy in place expected to achieve the Habitat Outcome 80 level; **meeting SG80** for this SI. There is not a strategy in place to manage the impact of all MSC and non-MSC fisheries on habitats; **SG100 is not met**.				
B	**Management strategy evaluation**			
	Guide post	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/habitats).	There is some objective basis for confidence that the measures/partial strategy will work, based on information directly about the UoA and/or habitats involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or habitats involved.
	Met?	Yes	Yes	No
Rationale				
There is no specific habitat protection strategy in place in the UoA, but there is an objective basis for confidence that the fishery operations will not seriously or irreversibly affect the habitats due to minimal interaction with the sea floor or reefs by virtue of the management measures including the fishing method, limited entry, catch				

size limits, catch quotas, spatial management, time area closures and statutory reporting of catch and location of fishing activities.

A form of performance indicator for these measures is the regular risk assessments incorporating current management arrangements, extent of fishing activities, habitat distribution and available research, conducted on the Australian TSPZ tropical rock lobster fishery (see Furlani 2007, Commonwealth of Australia 2017, 2020) and all have concluded that there was low risk to the habitat from this fishery. These assessments did not include the UoA but assessed using the same gear to harvest lobsters in the Western Torres Strait (part of the shared resource from which PNG also harvests) and is therefore considered a comparable analysis. The reference level threshold is defined as when fishing impacts are considered to generate an undesirable level of risk (i.e., high) to any benthic habitat, at which point conditions are issued to ensure risks are managed.

The latest ecological risk assessment rated the potential impacts of lobster diving activities on all relevant habitats as low risk (Commonwealth of Australia 2020). This position is strengthened by the conditions in which the fishery operates both physically (resilient habitats) and commercially (small fleet, limited entry).

The requirements for **SG80 are met.**

Testing based directly on information from the UoA is not available and thus **SG100 is not met.**

C	**Management strategy implementation**			
	Guide post		There is some quantitative evidence that the measures/partial strategy is being implemented successfully.	There is clear quantitative evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue (a).
	Met?		Yes	No

Rationale

There is no specific habitat protection strategy in place in the UoA, but there is some quantitative evidence that the measures are being implemented successfully. The fleet size is capped at 7 vessels and 27 dinghies, making it likely that the fishery operations will not seriously or irreversibly affect the habitats due to minimal interaction with the sea floor or reefs. Management measures considered to address habitat management include the fishing method, limited entry, catch size limits, catch quotas, spatial management, time area closures and statutory reporting of catch and location of fishing activities. This is evidence for SG80 to be met. **This meets SG80.**

Clear quantitative evidence is lacking to meet **SG100**.

D	**Compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect VMEs**			
	Guide Post	There is qualitative evidence that the UoA complies with its management requirements to protect VMEs.	There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-	There is clear quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.

			MSC fisheries, where relevant.	
	Met?	Yes	Yes	No

Rationale
The main habitat for the PNG lobster dive fishery takes place on coral reefs which are considered Vulnerable Marine Ecosystems as defined by the MSC Standard V2.0 (GSA3.13.3.2). The low-impact nature of hand-collecting lobster acts as a management measure to protect VME habitat encountered by the fishery and use of this gear provides qualitative evidence that the UoA complies with its requirements to protect VMEs for **SG60**. In addition to the selective gear used, there is some quantitative evidence provided in the form of habitat monitoring and trend analysis by AFMA that indicates the UoA complies with VME protection requirements, **meeting SG80**. Clear quantitative evidence is lacking to meet **SG100**.
References
NFA 1998; Furlani 2007; Commonwealth of Australia 2017; Commonwealth of Australia 2020; Plagyani et al. 2022

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	80
Condition number (if relevant)	

PI 2.4.3 – Habitats information

PI 2.4.3		Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat		
Scoring Issue		SG 60	SG 80	SG 100
a	**Information quality**			
	Guide post	The types and distribution of the main habitats are broadly understood. OR If CSA is used to score PI 2.4.1 for the UoA: Qualitative information is adequate to estimate the types and distribution of the main habitats.	The nature, distribution and vulnerability of the main habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. OR If CSA is used to score PI 2.4.1 for the UoA: Some quantitative information is available and is adequate to estimate the types and distribution of the main habitats.	The distribution of all habitats is known over their range, with particular attention to the occurrence of vulnerable habitats.
	Met?	Yes	Yes	No
Rationale				
A fair amount of information is available on habitats within the Torres Strait Protected Zone, much of it coming from Australia. Pitcher et al. (2007) conducted extensive benthic surveys using cameras, trawls, and other sampling equipment and created models to describe several aspects of habitat throughout the TSPZ, and Gretch et al. (2012 and 2014) have addressed vulnerability of these habitats at a level of detail relevant to the scale and intensity of the UoA. In addition, surveys of the lobster resource conducted by the Australian Fisheries Management Authority for stock assessments include habitat surveys. The main types and distribution of habitats are broadly understood and known at a level of detail relevant to the scale and intensity of the UoA. **This meets SG60 and SG80**. More information on the distribution of habitats and any trends in status in PNG waters would be necessary to meet **SG100**.				
B	**Information adequacy for assessment of impacts**			
	Guide post	Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear.	Information is adequate to allow for identification of the main impacts of the UoA on the main habitats, and there is reliable information on the spatial extent of interaction and on the timing and	The physical impacts of the gear on all habitats have been quantified fully.

		OR If CSA is used to score PI 2.4.1 for the UoA: Qualitative information is adequate to estimate the consequence and spatial attributes of the main habitats.	location of use of the fishing gear. OR If CSA is used to score PI 2.4.1 for the UoA: Some quantitative information is available and is adequate to estimate the consequence and spatial attributes of the main habitats.	
	Met?	Yes	Yes	No
Rationale				
The impact of divers, dinghies, and motherships is known and information on fishing locations is available from VMS records. Information available is adequate to allow for identification of the UoA's impacts on the habitats with which it interacts and consider risk to habitat minimal (Furlani et al. 2007; AFMA 2009); **SG60 is met.** There is also reliable information from PNG on the spatial extent of interaction and the timing and location of dive operations as well as regular habitat surveys in the TSPZ (Plagyani et al. 2022). **SG80 is met**. Studies to quantify the impact of the UoA on habitat would need to be presented for **SG100** to be met.				
C	**Monitoring**			
	Guide post		Adequate information continues to be collected to detect any increase in risk to the main habitats.	Changes in all habitat distributions over time are measured.
	Met?		Yes	Yes
Rationale				
VMS data and fishery statistics are collected annually, and regular habitat data is collected during the Australian Fisheries Management Authority's tropical rock lobster surveys and reported in the stock assessment report (e.g., Plagyani et al. 2022). The results include trend analyses for several important habitat and ecosystem metrics. Therefore, adequate monitoring mechanisms are in place to detect any increase in risk to the main habitats. **SG80 is met**. This provides adequate information to detect changes in all habitat distributions over time; **SG100** is met.				
References				
Pitcher 2007; Gretch et al. 2012; 2014; TSRA 2016; Johnson et al. 2015; Plagyani et al. 2022				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80

Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	85
Condition number (if relevant)	

PI 2.5.1 – Ecosystem outcome

PI 2.5.1		The UoA does not cause serious or irreversible harm to the key elements of ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	**Ecosystem status**			
	Guide post	The UoA is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	The UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is evidence that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
	Met?	Yes	Yes	No

Rationale

An ecological risk assessment of the Australian TSPZ tropical rock lobster fishery found that there was low risk to the ecosystem from this fishery (Furlani et al. 2007). This fishery did not include the UoA but assessed using the same gear to harvest lobsters in the Western Torres Strait and is therefore considered a comparable analysis. Subsequent regular, formal risk assessments have been conducted on this fishery (Commonwealth of Australia 2017, 2020) and all have concluded that there is low risk to the ecosystem from this fishery, and therefore the UoA is unlikely to disrupt the key elements of the ecosystem enough to cause serious or irreversible harm; **SG60 is met.**

Localized depletions of lobster due to fishing may impact species that prey on them, but these depletions, if occurring, would be temporary and we are unaware of any evidence that they impact predators or disrupt underlying ecosystem structure and function. Additionally, the species is migratory over the fishing season so there is a continual movement of animals making localized depletions less likely and or prompt recoveries to depletions likely.

Most boat movement is within the TS area, with negligible risk of species translocation, but the introduced green mussel has the potential to be translocated on boat hulls and through ballast waters. Motherships input biological waste (discarded heads) and if these discards are considerable in volume, local substrate and water quality may be impacted.

These impacts are localized and temporary and therefore considered highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be serious or irreversible harm. **SG80 is met.**

Evidence to meet **SG100** was not provided and the scoring guidepost is therefore not met.

References

NFA 1998; Furlani 2007; Commonwealth of Australia 2017; Commonwealth of Australia 2020

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	≥80
Information gap indicator	More information sought
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	80
Condition number (if relevant)	

PI 2.5.2 – Ecosystem management strategy

PI 2.5.2		There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	**Management strategy in place**			
	Guide post	There are measures in place, if necessary which take into account the potential impacts of the UoA on key elements of the ecosystem.	There is a partial strategy in place, if necessary, which takes into account available information and is expected to restrain impacts of the UoA on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.	There is a strategy that consists of a plan, in place which contains measures to address all main impacts of the UoA on the ecosystem, and at least some of these measures are in place.
	Met?	Yes	Yes	No

Rationale

Australia's 2020 Assessment of the PNG Torres Strait tropical rock lobster fishery found that existing and proposed management measures for the fishery provide for fishing operations to be managed to minimise its impact on the structure, productivity, function and biological diversity of the ecosystem (Commonwealth of Australia 2020).

Impacts of the UoA on ecosystem structure and function are managed through limited entry, use of highly selective gear, target species size limits and restrictions on egg-bearing females, catch quotas, spatial and temporal management (seasonal closures), and statutory reporting of catch and location of fishing activities. The management objective is to manage the fishery with a precautionary approach (NFA 1998). This amounts to a partial strategy in place which takes into account available information and is expected to restrain impacts of the UoA on the ecosystem.

The fishery is considered to have negligible impact on ecosystem components due to the small scale, conservative management scheme, and low impact/highly selective gear, therefore a strategy and plan for ecosystem impacts are not necessary.

This meets the requirements for the **SG80 level**.

An explicit ecosystem plan in use by the UoA would be needed to meet **SG100**, and the fishery does not have this.

B	**Management strategy evaluation**			
	Guide post	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar UoAs/ ecosystems).	There is some objective basis for confidence that the measures/ partial strategy will work, based on some information directly about the UoA and/or the ecosystem involved.	Testing supports high confidence that the partial strategy/ strategy will work, based on information directly about the UoA and/or ecosystem involved.

	Met?	Yes	Yes	No
Rationale				
The measures in the fishery management plan are considered likely to work based on general experience, theory, and comparison with similar UoAs/ecosystems (e.g., Furlani et al. 2007). **SG60 is met.** The performance indicator for this strategy is periodic risk assessments incorporating current management arrangements, extent of fishing activities, ecosystem information and available research. The reference level threshold is defined as when fishing impacts are considered to generate an undesirable level of risk (i.e., high) to ecological processes within the ecosystem. Repeated risk evaluations of the Australian side of the joint fishery have found the fishery to pose low risk to the ecosystem (Furlani 2007; Commonwealth of Australia 2017; Commonwealth of Australia 2020), providing objective basis for confidence that the measures will work based on information from the ecosystem involved. **This meets the SG80 level**. As stated under Sia, the negligible impact suggests that an ecosystem strategy for the UoA may not be warranted. Evidence of testing ecosystem strategies was not provided and **SG100 is not met**.				
C	**Management strategy implementation**			
	Guide post		There is some evidence that the measures/partial strategy is being implemented successfully.	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a).
	Met?		Yes	No
Rationale				
The ecological risk assessments conducted by Australia (Furlani et al. 2007; AFMA 2009; Commonwealth of Australia 2017; Commonwealth of Australia 2020) deemed the Australian portion of this joint resource fishery to be a negligible risk to ecosystems. Fishery performance is monitored regularly in these risk assessments (every three years) which provides evidence of measures/partial strategy being implemented successfully. **SG80 is met.** Clear evidence of implementation of a management strategy to **meet SG100** is lacking.				
References				
NFA 1998; Furlani 2007; Commonwealth of Australia 2017; Commonwealth of Australia 2020				
Draft scoring range and information gap indicator added at Announcement Comment Draft Report				
Draft scoring range	≥80			
Information gap indicator				
Overall Performance Indicator scores added from Client and Peer Review Draft Report				
Overall Performance Indicator score	80			

Condition number (if relevant)	

PI 2.5.3 – Ecosystem information

PI 2.5.3		There is adequate knowledge of the impacts of the UoA on the ecosystem		
Scoring Issue		SG 60	SG 80	SG 100
a	**Information quality**			
	Guide post	Information is adequate to identify the key elements of the ecosystem.	Information is adequate to broadly understand the key elements of the ecosystem.	
	Met?	Yes	Yes	
Rationale				
Information available illustrates the key elements of the ecosystem in the fishery's waters. While not all of it is specific to the PNG portion of the fishery, the research undertaken by Australian agencies and institutions contributes to the understanding of the ecosystem and the information is therefore considered adequate to meet the **SG60** level. The habitat surveys conducted by AFMA include both biological and physical data that documents the state of the ecosystem in the TSPZ over time. This indicates that information is adequate to broadly understand the key elements of the ecosystem and **SG80 is met**.				
B	**Investigation of UoA impacts**			
	Guide post	Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, but have not been investigated in detail.	Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, and some have been investigated in detail.	Main interactions between the UoA and these ecosystem elements can be inferred from existing information, and have been investigated in detail.
	Met?	Yes	Yes	No
Rationale				
Main impacts of the lobster fishery on key ecosystem elements (other species, habitat, etc.) can be inferred from existing information and are documented in Furlani et al. (2007) and later Australian ecological risk assessments (Commonwealth of Australia 2017; 2020), but specific projects to investigate the impacts of the UoA have not been undertaken. The results of these ERAs allow the assessment team confidence that main impacts of the UoA (which is smaller than the Australian fishery) can be inferred from existing information, some of which is available in detail. **SG 60 and 80 are met.** The interactions of the UoA and the main ecosystem are not specified in work provided to the assessment team as most information available is in regard to the Australian fleet. Detailed investigations would need to be provided to meet **SG100**.				

C	**Understanding of component functions**			
	Guide post		The main functions of the components (i.e., P1 target species, primary, secondary and ETP species and Habitats) in the ecosystem are known.	The impacts of the UoA on P1 target species, primary, secondary and ETP species and Habitats are identified and the main functions of these components in the ecosystem are understood.
	Met?		Yes	Yes

Rationale

Similar to Scoring Issue b, there is sufficient information and studies on tropical rock lobster commercial fishing operations regionally to understand the main function of components in the ecosystem.

The main functions of the components in the ecosystem are known. Generally, the impacts of the UoA on target species and the lack of interaction with non-target species and habitats are all identified and understood in the ecosystem context as well, so **SG80 and SG100 are met**.

D	**Information relevance**			
	Guide post		Adequate information is available on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred.	Adequate information is available on the impacts of the UoA on the components and elements to allow the main consequences for the ecosystem to be inferred.
	Met?		Yes	No

Rationale

The available information is deemed adequate, due to the perceived lack of risk of ecosystem effects by the UoA based on ERAs conducted on a fishery with very similar characteristics (Furlani et al. 2007; Commonwealth of Australia 2017; Commonwealth of Australia 2020). Many case studies from other rock lobster fisheries in Australia and elsewhere have been documented, which provide valuable accounts to make relevant inferences for the UoA, and regular surveys provide evidence of trends in both biological and physical characteristics of the ecosystem that are considered adequate for the main consequences for the ecosystem to be inferred see above citations. This meets the requirements for the **SG80 level.**

More detailed information on the impacts of the UoA on the components and elements would be required to meet **SG100**.

E	**Monitoring**			
	Guide post		Adequate data continue to be collected to detect any increase in risk level.	Information is adequate to support the development of strategies to manage ecosystem impacts.

	Met?		Yes	Yes
Rationale				
Information on the impacts of lobster removal on benthic community structure is adequate to detect any increase in risk level and support the development of strategies to manage ecosystem impacts. Minimal information is available on the trophic effects of lobster fishing but given the lack of known lobster-reliant predators and the likely amount of lobster unavailable to the fishery, the probability of a significant trophic impact is low. Survey data collected during resource assessments and reported by AFMA (e.g., Plagyani et al. 2022) provides the ability to detect any increase in risk level as well as supporting the development of strategies to manage ecosystem impacts. The requirements for **SG80 and SG100 are met**.				
References				
NFA 1998; Furlani 2007; Commonwealth of Australia 2017; Commonwealth of Australia 2020; Plagyani et al. 2022				
Draft scoring range and information gap indicator added at Announcement Comment Draft Report				
Draft scoring range			≥80	
Information gap indicator			More information sought	
Overall Performance Indicator scores added from Client and Peer Review Draft Report				
Overall Performance Indicator score			90	
Condition number (if relevant)				

4.4 Principle 3

4.4.1 Principle 3 background

International and National Level Management

Decision Making Processes

The majority of decision-making processes for the management of the TRL fishery within the TSPZ, including for example, the determination of stock status and management measures are under the control of the Torres Strait Protected Zone Joint Authority (PZJA). As mandated by the Torres Strait Fisheries Act 1984, the Torres Strait Protected Zone Joint Authority (PZJA) was established that is responsible for making decisions and formulating policies relating to the management of all fisheries, including the TRL fishery in the Torres Strait Protected Zone (TSPZ). This joint authority consists of the Minister administering the Torres Strait Fisheries Act; the Queensland Minister administering the laws of Queensland relating to marine fishing in the Protected Zone; and the Chairperson of the Torres Strait Regional Authority (TSRA), which is the Commonwealth agency established under the Aboriginal and Torres Strait Islander Act 2005 that represents the interests of Torres Strait Islanders. The PZJA is supported by a Standing Committee consisting of four government agencies namely the Australian Fisheries Management Authority (AFMA), the Commonwealth Department of Agriculture, Water and the Environment (DAWE), the Queensland Department of Agriculture and fisheries (QDAF) and the TSRA.

To assist the PZJA with the management of the TRL fishery, Advisory Committees were created consisting of the Tropical Rock Lobster Working Group (TRLWG) and the TRL Resource Assessment Group (TRLRAG). The members of the TRLWG include five (5) traditional inhabitant members (one from each cluster nation), non-traditional inhabitant industry members, Queensland Department of Agriculture and Fisheries (QDAF), TSRA, and Australian Fisheries Management Authority (AFMA) members, fisheries scientists, and an economist. Meanwhile, the members of TRLRAG include five (5) traditional inhabitant members (one from each cluster nation), non-traditional inhabitant industry members, fisheries scientists, and QDAF, TSRA, and AFMA members. There is also a Torres Strait Scientific Advisory Committee (TSSAC) that takes a leading role in determining research priorities and assessing proposals for Torres Strait Fisheries related research each year. The consultative structure of the TRL fishery within the Torres Strait Protected Zone is depicted in Figure 15 below.

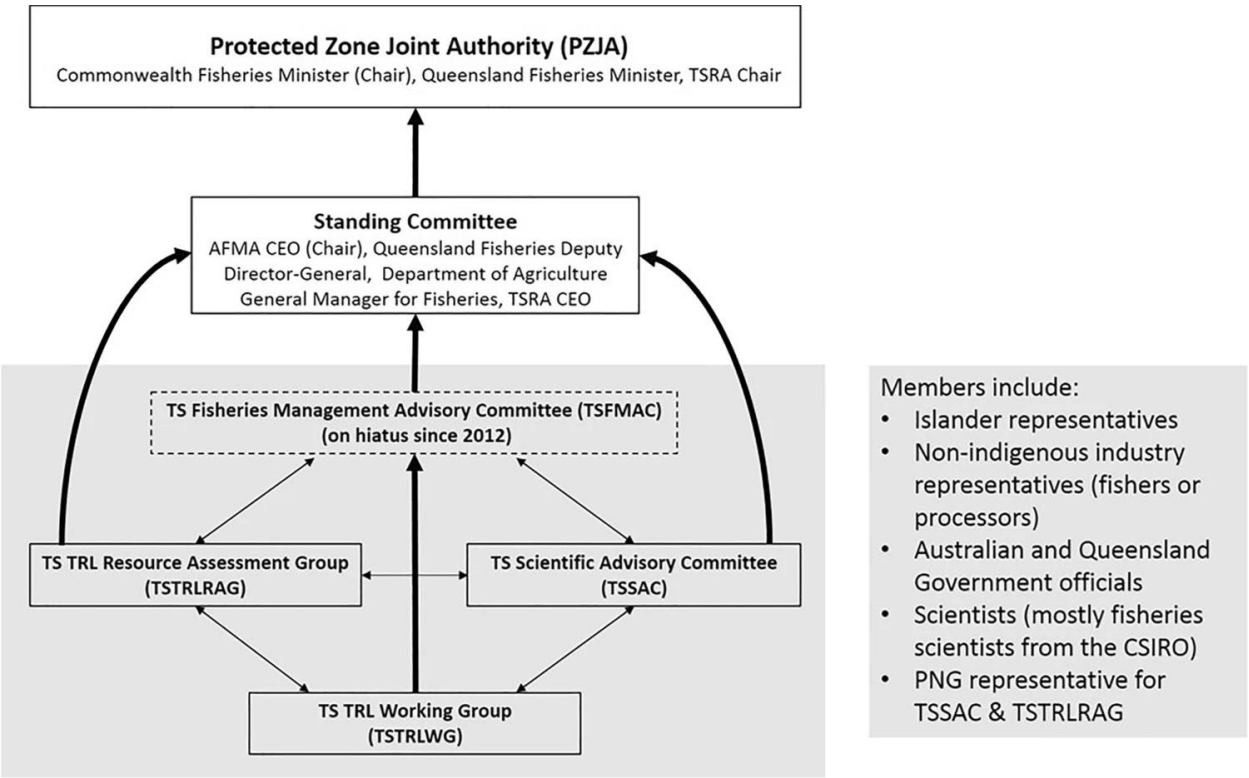

Figure 15. The consultative structure of the TRL fishery within the Torres Strait Protected Zone. Thick and thin lines indicate primary and secondary lines of communication respectively (Source: Lalancette and Mulrennan, 2022).

The consultative structure for the TRL fishery, as depicted above composed of four advisory bodies, namely: TSTRLRAG, TSSAC, TSTRLWG and TSFMAC. Nevertheless, TSFMAC has been on hiatus since 2012. These advisory bodies share information to the Standing Committee that then delivers strategic and operational advice to the PZJA which is responsible for decision-making. The representatives from PNG sit within the TSTRL Resources Assessment Group and TS Scientific Advisory Committee. In addition to group meetings, decision-making mechanism on matters relating to TRL fishery management involving both PNG and Australian government is recognized through Bilateral Meetings that they both co-chairs.

In-country PNG, the TRL fishery is managed nationally directly under the National Fisheries Authority (NFA). Considering the importance of the Torres Strait and Western Province lobster fishery for the PNG nation, NFA has established the Provincial Management Advisory Committee (PMAC). The membership of this Committee consists of: (a) one representative from provincial administration, (b) one district administrator, (c) three customary fisher representatives, (d) two local fishing industry representatives,) one NFA representative, (f) provincial fisheries officer; and (g) one representative from a non-government organization whose objectives include conservation of the marine environment and resources. This Advisory Committee must not include any elected political office holders from the national or provincial government or the person nominated for such office. The functions of the PMAC include among others to evaluate and endorse -if appropriate- the proposed new TRL fishery license for the vessels and dinghies

prior to submission and approval by the NFA. It is recognized that traditional inhabitants shall be given priority for dinghy allocation.

The modus operandi of the PMAC and its members follows the following procedures and such other procedures and standards as may be set by the Board:

a) the Chair of the PMAC is selected by a two-thirds majority; and

b) a quorum requires any six members and must include one customary fisher representative, the chair, and NFA representative; and

c) the PMAC meets as required, but no less than twice a year.

Roles and Responsibilities

As described above from the Australian side, the PZJA is the institution that responsible for the management, including formulation of policies, of the TRL fishery in the Torres Strait Protected Zone (TSPZ). The PZJA is supported by a Standing Committee that is responsible to deliver strategic and operational advice to the PZJA. In performing its roles and responsibilities, the Standing Committee is informed by the works of various groups, namely: TS Tropical Rock Lobster Working Group (TSTRLWG), TS TRL Resource Assessment Group (TSTRLRAG), and TS Scientific Advisory Committee (TSSAC). The role of TRLWG is to discuss issues, identify concerns and develop solutions and provide advice to the PZJA on a range of management matters, whereas the TRLRAG is responsible to provide advice on the status of fish stocks and on the impact of fishing on the marine environment that equally consider the biological, economic and wider ecological factors affecting the fishery. The role of TSSAC is to lead the determination of research priorities and assess proposals for Torres Strait Fisheries related research each year.

In addition to the committees and working groups described above, some Australian federal and state agencies also play important roles in relation to fisheries management undertakings in the TSPZ. They include Australian Fisheries Management Authority (AFMA), the Commonwealth Department of Agriculture, Water and the Environment (DAWE), the Queensland Department of Agriculture and Fisheries (QDAF) and the TSRA. The responsibility of AFMA is among others to manage fisheries in the high sea, within the 200 nautical mile Australian Fishing Zone (AFZ) and, in some instances, by agreement with the States to the low water mark. In this regard, AFMA provides management and advisory services and implements appropriate fisheries management arrangements in the Torres Strait fisheries. The DAWE develops policies and programs to address the effects of fishing on non-target species and the marine environment. The QDAF acts as an agent for the PZJA in day-to-day management of fisheries and licensing of commercial fishers operating in the Torres Strait. The TSRA aims to improve the lifestyle and well-being of Torres Strait Islander and Aboriginal people living in the region through the implementation of programs that address their poor socio-economic and health status. Finally, the TRL fishery stock assessment is undertaken by the Commonwealth Scientific and Industrial Research Organization (CSIRO), which is an Australian Government agency responsible for scientific research.

In Papua New Guinea, the National Fisheries Authority (NFA), a semi-commercial statutory authority, is the agency responsible for the management and development of the fisheries sector in accordance with the provisions of the Fisheries Management Act 1998, under the overall policy direction of the Minister. For the management of the TRL fishery, as mentioned in its management plan, the work of the NFA is supported by the Provincial Management Advisory Committee (PMAC). The PMAC is established to solicit and capture stakeholder input/advice in the management of the fishery, including to first evaluate and endorse the proposed new TRL fishery license for the vessels and dinghies prior to submission and approval by the NFA. However, this PMAC has recently been made redundant by the Fishery Manager and the evaluation and endorsement of the TRL fishery licensing is fully undertaken by the NFA through its Boards and the Licensing Advisory Committee.

Fishery-Specific Management

Objectives for the Fishery

The PNG government has developed a TRL Fishery Management Plan in the Torres Strait Protected Zone (TSPZ) under the jurisdiction of Papua New Guinea, Western Province, and the Gulf of Papua that regulates all fishing and activities associated with the catching, transshipping, processing, storage, buying, selling and exporting of tropical rock lobster products. This management plan is developed under the authority of, and in accordance with, The Fisheries Management Act 1998 and The Fisheries (Torres Strait Protected Zone) Act 1984, Chapter 411. The objectives of the TRL fishery as stated in this management plan include:

a) To manage the fishery to ensure that the stock size would be maintained annually at a level that will give maximum sustainable economic yield;

b) To ensure that the development of the tropical rock lobster fishery benefits the traditional users, particularly the traditional inhabitants of the TSPZ;

c) To maximize the opportunities for traditional inhabitants to participate by implementing policies that include managing the fishery as a dive fishery; and

d) To manage the fishery with a precautionary approach.

Fisheries Regulations to Meet Objectives

To achieve the stated objectives of the TRL fishery management above, the fishery is regulated based on the combination of inputs and outputs control. As stated in the management plan, they include the following:

1. Total Allowable Catch (TAC). The TAC will be based on the Catch Sharing Arrangement between Papua New Guinea and Australia. The TAC allocation for PNG is then gazetted in the National Gazette and reviewed not less than every three (3) years.
2. Licensing. Under this licensing arrangement, the followings are applied:

a) Under this plan no new licenses shall be issued to non-citizen companies, individuals or foreign joint venture arrangements. All license holders must be based in Daru.

b) All vessels must be citizen owned or substantially controlled and registered in PNG.

c) There shall be a maximum of seven (7) licensed vessels, of sizes no more than 20 m in total length.

d) A grace period of one (1) year is applied to current licensed vessels whose lengths are more than 20 m to meet clause (b) above. The one (1) year period begins from 31st March 2002.

e) There shall be no more than seven (7) registered dinghies attached to each vessel.

f) There shall be no more than 27 registered dinghies for cross-border endorsement. The 27 dinghies will be distributed among the licensed vessel. The dinghies shall display clearly on the bow the registration number of the licensed vessel.

g) The PMAC shall endorse all new licenses for the vessels and dinghies before submitting to NFA. Traditional inhabitants shall be given priority for dinghy allocation.

h) All lobster collected shall be exported from the Western Province. No product shall be moved to another province for export without clearance from the National Fisheries Authority.

i) All new licensed operators must have shore-based facilities based in Daru, including storage, refueling, provisioning, packaging and export.

j) Under the direction of the Managing Director, NFA will place fisheries observers on licensed vessels from time to time. All operators must cooperate and assist the fisheries observers.

k) Under this plan, licensed operators must make every effort to have their hookah divers trained to dive and authorized by a certified diving instructor. This will become a compulsory requirement for a vessel license.

l) Taking of turtles and dugongs by licensed vessels and dinghies while fishing for tropical rock lobster or other related activities is prohibited.

3. Size Limits and Restriction on Egg-bearing Females. Under this measure, the following are applied:

a) Topical rock lobster with a tail length of less than 115mm shall not be caught and exported.

b) Only a bag limit of 2 kgs can be transported to Port Moresby for personal consumption.

c) Berried (egg-bearing) female tropical rock lobster shall not be taken at any time.

4. Gear Restrictions. The following are applied under this measure:

a) The use of hookah gear for fishing of tropical rock lobster is prohibited from 1st December to 31st March each season.

b) A total of 49 hookah gears will be allowed to fish inside the PNG side of the TSPZ and Western Province tropical rock lobster fishery. Each licensed vessel will be allowed to have on board a maximum of seven (7) hookah gears per year.

c) Fishing for tropical rock lobster is only allowed by free and hookah diving and traditional methods including surface lights.

d) Fishing by SCUBA gear and underwater lights is prohibited.

5. Home Reefs. Home reefs and other fringing reefs are reserved for traditional and subsistence uses only. Licensed commercial vessels shall not be allowed. The home reefs are: Otamabu, Potomaza, Wamero, Gimini and Parama.

6. Export. Export, possession and sale of undersized tropical rock lobster, including the export of meat from undersized lobster is prohibited and offenders will be prosecuted.

7. Reporting. The following are required under this reporting requirements:

a) The licensed operators must submit catch and effort data to NFA on the standard lobster logbook provided or the operators' records. The data should include; weight in kilograms, number of days fished per diver and any other information that NFA may deem necessary.

b) Catch reports containing the information set out in Clause (a) must be submitted to NFA every 21st day of each month.

c) Failure to submit the required reports within fourteen (14) days after the required 21st day of each month or submitting incorrect data may result in penalizing the licensee.

Access Rights

The principal purpose of the Parties (i.e., Australia and PNG) in establishing the Torres Strait Protected Zone (TSPZ), and in determining its northern, southern, eastern and western boundaries, is to acknowledge and protect the traditional way of life and livelihood of the traditional inhabitants including their traditional fishing and free movement. This means the Torres Strait traditional inhabitants of both PNG and Australia may undertake traditional fishing activities in both the Australian and PNG waters of the TSPZ. This is furthered stipulated in Article 12 of the Torres Strait Treaty between Australia and the Independent State of PNG that explicitly reserves the practices of the traditional customary rights by the traditional inhabitants of the Torres Strait: "where the traditional inhabitants of one Party enjoy traditional customary rights of access to and usage of areas of land, seabed, seas, estuaries and coastal tidal areas that are in or in the vicinity of the Protected Zone and that are under the jurisdiction of the other Party, and those rights are acknowledged by the traditional inhabitants living in or in proximity to those areas to be in accordance with local tradition, the other Party shall permit the continued exercise of those rights on conditions not less favorable than those applying to like rights of its own traditional inhabitants". These traditional activities include traditional fishing that is defined in the Treaty as the

taking, by traditional inhabitants for their own or their dependents' consumption or for use in the course of other traditional activities, of the living natural resources of the sea, seabed, estuaries and coastal tidal areas, including dugong and turtle.

In 1984, the government of PNG enacted a Fisheries (Torres Strait Protected Zone) Act 1984 that further defines the traditional and the commercial fishing activities as defined in the Treaty. In relation to traditional inhabitants, the government of PNG defined them as persons who (a) live in the protected zone, or any area adjacent to the Protected Zone and to the north of the line described in Annex 5 to the Torres Strait Treaty declared by the Minister, by notice in the National Gazette, to be part of the adjacent coastal area of Papua New Guinea; (b) are automatic citizens, and (c) maintain traditional customary associations with the area or features in or in the vicinity of the Protected Zone in relation to their subsistence or livelihood or social, cultural or religious activities.

As for TRL commercial fishing activities in PNG, the access to the fishery is regulated through various means including: licensing system, gear restrictions, size limit, and area restrictions (home reefs). These are all detailed out in the TRL fishery management plan described earlier. Both Australia and PNG agreed on the TRL Total Allowable Catches through a Catch Sharing Arrangement. The PNG government is allowed by the Fisheries Management Act to enter into access agreement with (a) States and regional economic integration organizations and (b) any fishing association or similar body, a publicly incorporated company, or an individual, to utilize fisheries resources within the PNG waters and its Economic Exclusive Zones (EEZs). However, for the TRL fishery, there is no new licenses shall be issued to non-citizen companies, individuals or foreign joint venture arrangements for this fishery.

Review and Audit of the Management Plan

The PNG Fisheries Management Act 1998 Article 28(4) stipulated that a Fishery Management Plan shall be kept under review and shall be revised as necessary. Further Article 28(5) stated that each Fishery Management Plan, and each review of a Fishery Management Plan shall be endorsed by the Board, submitted to the Minister for approval; and notified in the National Gazette. There is no specific timeline defined in the Act and/or TRL fishery management plan on the period for the review processes. There has been no further review of the TRL Fishery Management Plan since 2002.

In practice, the fishery management plan is usually reviewed in every 5 years. Nevertheless, depending on the Fishery Manager, it can also be reviewed every 2 or 3 years, especially in the case for new fisheries. The request for a Management Plan review can also come as a directive from the Fisheries board or the Managing Director. Otherwise, the initiation and implementation of the Management Plan review are undertaken by the Fishery Manager. The stakeholders engaged in the revision is the major stakeholders who are directly involved in the fishery.

In general, the sequence of a Management Plan review includes:

1. Fishery data collection, analysis and review;
2. Internal consultation;

3. External consultation;
4. 1st draft for critical review;
5. Final draft;
6. Submission to the Board for endorsement;
7. Gazettal of Management Plan.

Area of Operation and Relevant Jurisdictions

The Tropical Rock Lobster (TRL) (*Panulirus ornatus*) is a migratory species, and in the Torres Strait is considered a shared stock between Australia and Papua New Guinea (PNG). It is the most valuable commercial fishery in the Torres Strait and supports an export market for live lobsters to China (AFMA 2021). For further description of the area of the fishery operation, please refer to the fishery Unit of Assessment (UoA) and Unit of Certification (UoC) described in Section 2.1.

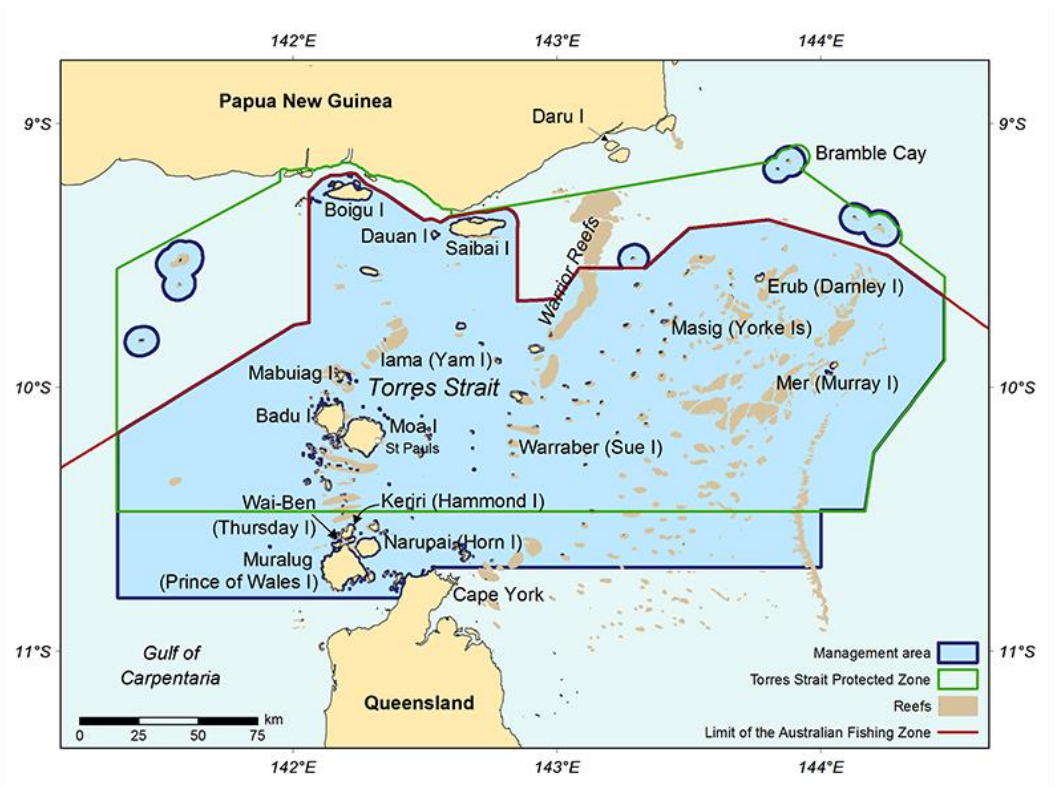

Figure 16. The management area of the PNG Torres Strait tropical rock lobster fishery shared between Papua New Guinea and Australia (source: https://www.awe.gov.au/abares/research-topics/fisheries/fishery-status/torres-strait-tropical-rock-lobster-fishery).

This TRL fishery under assessment is managed in accordance with the fisheries element of the Torres Strait Treaty -the Treaty between Australia and the Independent State of Papua New Guinea (PNG) concerning

Sovereignty and Maritime Boundaries in the area between the two countries, including the area known as the Torres Strait, and Related Matters 1985-. The Treaty's main objective is to preserve the fishery for traditional inhabitants of the Torres Strait. Torres Strait traditional inhabitants of both Papua New Guinea (PNG) and Australia may undertake traditional fishing activities in both the Australian and PNG waters of the TSPZ. There is a limited entry provided for non-traditional inhabitants and expansion is strictly reserved for the traditional inhabitants.

Since the Torres Strait Treaty was ratified, both PNG and Australia have entered into formal agreements to cooperatively manage six fisheries in the strait, including the TRL fishery. With regards to the commercial catch of the TRL, each year Australia and PNG should:

1. Agree on the global TAC and how it is to be apportioned between Australian and PNG waters.
    a) It is agreed that 85% of the global TAC is to be taken in Australian waters and 15% of the global TAC is to be taken in PNG waters. This is based on the agreed distribution of TRL in the area of the TSPZ.
2. Agree on cross-endorsement apportionments and preferential entitlement.
    a) Under Article 23(4) of the Treaty, each country is entitled to fish for 25% of the other country's TAC apportionment in the waters of the other country unless otherwise agreed. This is commonly referred to as cross-endorsement.
    b) Under Article 25 of the Treaty, where Australia and/or PNG does not itself propose to take all the TAC to which it is entitled, either in its own area of waters or that of the other country, the other country will have preferential entitlement to that share. This must be agreed upon between Australia and PNG.

The management of the TRL fishery from the PNG side is subject to the Fisheries Management Act 1998 and its amendment Fisheries Management Act 2015, Fisheries (Torres Strait Protected Zone) Act 1984 Chapter 411 Articles 21 and 22, and the and the Torres Strait and Western Province Tropical Rock Lobster Management Plan. In addition, the TRL fishery management and policy are also bounded by the directions as stipulated in the Fisheries Management Regulation 2000 that further defines the implementation of the PNG's Fisheries Management Acts mentioned above.

Recognized Interest Groups

The TRL fishery Unit of Assessment (UoA) is based in Daru, the capital city of South Fly District of the Western Province of Papua New Guinea. The key stakeholders in this fishery, especially from the PNG side include:

a) Relevant NFA operational business units
b) Licensed operators
c) Provincial Fisheries
d) District Fisheries

e) Fisherman's representative

f) South-Fly Treaty Chairman (also the chair of the Traditional Inhabitants Meeting).

Arrangements for On-going Consultations

The assessment team is not aware of any planned or ongoing consultation, education or training arrangements for the above interest groups or any details of other non-MSC fishery users or activities, which could affect the UoA, and its arrangements for liaison and co-ordination.

4.4.2 Principle 3 Performance Indicator scores and rationales

PI 3.1.1 – Legal and/or customary framework

PI 3.1.1		The management system exists within an appropriate legal and/or customary framework which ensures that it: - Is capable of delivering sustainability in the UoA(s); - Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and - Incorporates an appropriate dispute resolution framework		
Scoring Issue		SG 60	SG 80	SG 100
a	**Compatibility of laws or standards with effective management**			
	Guide post	There is an effective national legal system and a framework for cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2	There is an effective national legal system and organised and effective cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an effective national legal system and binding procedures governing cooperation with other parties which delivers management outcomes consistent with MSC Principles 1 and 2.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: No**

Rationale

This TRL fishery Unit of Assessment is located within the Torres Strait Protected Zone (TSPZ) which falls under the jurisdiction of both the government of Papua New Guinea (PNG) and Australia. The fishery is managed in accordance with the fisheries element of the Torres Strait Treaty, a Treaty between Australia and the Independent State of Papua New Guinea (PNG) concerning Sovereignty and Maritime Boundaries in the area between the two countries, including the area known as the Torres Strait, and Related Matters. Further, the Torres Strait Protected Zone Joint Authority (PZJA) was established, following the mandates of the Torres Strait Fisheries Act 1984, that is responsible for formulating policies and making decision in relation to the management of all fisheries, including the TRL fishery within the TSPZ. This joint authority consists of the Minister administering the Torres Strait Fisheries Act; the Queensland Minister administering the laws of Queensland relating to marine fishing in the Protected Zone; and the Chairperson of the Torres Strait Regional Authority (TSRA), which is the Commonwealth agency established under the Aboriginal and Torres Strait Islander Act 2005 that represents the interests of Torres Strait Islanders. At the national PNG level, the management of the TRL fishery is subject to the Fisheries Management Act 1998 and its amendment Fisheries Management Act 2015, Fisheries (Torres Strait Protected Zone) Act 1984 Chapter 411 Articles 21 and 22, and the and the Torres Strait and Western Province Tropical Rock Lobster Management Plan.

The framework for cooperation to manage the TRL fishery between the two countries is governed through the creation of a Consultative Structure. This Consultative Structure consists of Standing Committee and four advisory bodies namely: TS TRL Resource Assessment Group (TSTRLRAG), TS Scientific Advisory Committee

(TSSAC), TS Tropical Rock Lobster Working Group (TSTRLWG) and TS Fisheries Management Advisory Committee (TSFMAC). However, TSFMAC has been on hiatus since 2012. The representatives from PNG sit within the TSTRLRAG and TSSAC. In addition to group meetings, decision-making mechanism on matters relating to TRL fishery management involving both PNG and Australian government is recognized through Bilateral Meetings that they both co-chairs.

Since the Torres Strait Treaty was ratified, both PNG and Australia have entered into formal agreements to cooperatively manage six fisheries in the strait, including the TRL fishery. The cooperation between PNG and Australia in managing the TRL fishery within the TSPZ is governed by binding procedures and that their cooperation has delivered the TRL fishery management outcomes consistent with the MSC Principle 1 and 2. For example, with regards to the commercial catch of the TRL, each year Australia and PNG should:

1) Agree on the global TAC and how it is to be apportioned between Australian and PNG waters.

   a. It is agreed that 85% of the global TAC is to be taken in Australian waters and 15% of the global TAC is to be taken in PNG waters. This is based on the agreed distribution of TRL in the area of the TSPZ.

2) Agree on cross-endorsement apportionments and preferential entitlement.

   b. Under Article 23(4) of the Treaty, each country is entitled to fish for 25% of the other country's TAC apportionment in the waters of the other country unless otherwise agreed. This is commonly referred to as cross-endorsement.

   c. Under Article 25 of the Treaty, where Australia and/or PNG does not itself propose to take all the TAC to which it is entitled, either in its own area of waters or that of the other country, the other country will have preferential entitlement to that share. This must be agreed upon between Australia and PNG.

To summarize, the management system in place is effective, bindings and deliver the expected outcomes. The regular (annual) determination of the TRL fishery TAC as informed by the results of robust stock assessments and the agreed formula for the catch sharing allocation between Australia and PNG, as well as the agreed management measures have been effectively implemented to maintain the stock within a sustainable level. It is therefore, at the PZJA level, **SG60, SG80 and SG100 are met**.

In PNG, the fisheries management undertaking, especially that for the TRL fishery is subject to the Fisheries Management Act 1998 and its amendment Fisheries Management Act 2015, Fisheries (Torres Strait Protected Zone) Act 1984 Chapter 411 Articles 21 and 22, and the and the Torres Strait and Western Province Tropical Rock Lobster Management Plan. The TRL fishery management and policy are also bounded by the directions as stipulated in the Fisheries Management Regulation 2000 that further defines the implementation of the PNG's Fisheries Management Acts. The agency responsible for the management and development of the fisheries sector is the National Fisheries Authority (NFA), a semi-commercial statutory authority that works under the overall policy direction of the Minister.

The TRL fishery is managed directly by the National Fisheries Authority (NFA) with support from the Provincial Management Advisory Committee (PMAC). However, this PMAC has just recently been made redundant due to its ineffectiveness, and its function to solicit and capture stakeholder input/advice in the management of the fishery, including to first evaluate and endorse the proposed new TRL fishery license has been taken over by the NFA Boards and the Licensing Advisory Committee. In addition, the fisheries are managed guided by the parameters described in the Fishery Management Plan, as stipulated in the Fisheries Management Act 1998 Article 28. There is no specific timeline and/or binding procedures defined in the Act and/or TRL fishery management plan on the period for the management plan review processes, but it is up to the Fishery Manager in charge to propose such revision. Based on anecdotal information collected during the field audit, among other things that a Fishery Manager could use as reason for revision include the growing (business) interest in a particular fishery and the relevancy of the management plan with the current condition of the fishery. In addition, there is no evidence observed during the field audit concerning the cooperation among relevant parties on the mechanisms for effective monitoring, control, surveillance and enforcement of the fisheries

management plan. NFA has mainly been relied on the action taken by the community member who voluntarily report on the potential rules breaking they observed occurring in the fishery.

We therefore concluded that at the PNG (national) level, the **SG60 and SG80 are met**. However, **SG100 is not met** because there is no procedure yet in place that determine the cooperation among all related parties, including the Fishery Manager under NFA in the revision of the fishery management plan. Also, the cooperation with other relevant parties (institutions) to support the implementation of monitoring, control, surveillance and enforcement in the TRL fishery is still lacking.

B	**Resolution of disputes**			
	Guide post	The management system incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system.	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the UoA.	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes that is appropriate to the context of the fishery and has been tested and proven to be effective.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: YesPNG: Yes**	**PZJA: Yes** **PNG: No**

Rationale

At the TSPZ level, in 2018, a legal dispute was registered at the Australian Federal Court, concerning the AFMA's requirement that the Torres Strait's traditional-owner TRL licence holders can only employ Indigenous crews from the Torres Strait region to work on their boats (Baker, 2018). This requirement has caused several license boats underused or lying idle due to their inability to secure enough indigenous crew from the region. The solicitor, representing the traditional-owner TRL license holders, argued that the requirement has allowed the non-Indigenous commercial rock-lobster fishers, who employ crew from outside the Torres Strait, to take a greater proportion of the tightly regulated catch. The AFMA position had been to resist the removal of that requirement because it would reduce the employment opportunities for traditional inhabitants in that region. The Federal Court ordered the parties into mediation to solicit solutions acceptable for both parties. This is evidence that, at the PZJA level, there is an effective mechanism that has also been tested and proven effective.

Therefore, at the PZJA level, **SG60, SG80 and SG100 are met**.

At the national level in PNG, all government institutions, including the National Fisheries Authority (NFA) is subject by law to a mechanism for legal disputes potentially arises from fisheries management regulations. There have not been any reported legal challenges that the NFA have to deal with, which might indicate that the existing mechanism is appropriate and considered to be effective in resolving any issues arising from the TRL fishery in PNG.

This suggest that in PNG, both the **SG 60 and SG80 are met**. However, the mechanism has not yet been tested, therefore the management system **does not meet the SG100**.

C	**Respect for rights**			
	Guide	The management system has a mechanism to generally	The management system has a mechanism to observe the	The management system has a mechanism to formally

	post	respect the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	commit to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**

Rationale

As stated above, this TRL fishery within the TSPZ is managed in accordance with the fisheries element of the Torres Strait Treaty. The principal purpose of the Parties, namely Australia and PNG in establishing the TSPZ, was to acknowledge and protect the traditional way of life and livelihood of the traditional inhabitants including their traditional fishing and free movement. The Torres Strait Treaty recognizes the rights of traditional inhabitants from both the southern coast of Papua New Guinea and the most northerly point of Australian in the Torres Strait, including those who are depending on fishing for food and livelihood consistent with the objectives of MSC Principles 1 and 2. The recognition of the traditional customary rights is stipulated under Article 12 of the Treaty which is as follow: "where the traditional inhabitants of one Party enjoy traditional customary rights of access to and usage of areas of land, seabed, seas, estuaries and coastal tidal areas that are in or in the vicinity of the Protected Zone and that are under the jurisdiction of the other Party, and those rights are acknowledged by the traditional inhabitants living in or in proximity to those areas to be in accordance with local tradition, the other Party shall permit the continued exercise of those rights on conditions not less favourable than those applying to like rights of its own traditional inhabitants". The TRL fishery management system therefore, has a mechanism in place to formally commit to the legal rights established by custom of people depending on fishing for food and livelihood.

It is therefore, at the PZJA level, the **SG60, SG,80 and SG100 are met**.

In PNG, the Fisheries Management Act 1998 specifically recognizes the right of customary community, as stipulated in the Article 26: "The rights of the customary owners of fisheries resources and fishing rights shall be fully recognised and respected in all transactions affecting the resource or the area in which the right operates. This is further translated into the TRL Fishery Management Plan as one of the management measures that recognized the customary ownership of the 'home reef'. "The home reefs and other fringing reefs are reserved for traditional and subsistence uses only. Licensed commercial vessels shall not be allowed. The home reefs are: Otamabu, Potomaza, Wamero, Gimini and Parama".

It is therefore, **SG60, SG,80 and SG100 are met**.

References

- Australian Torres Strait Fisheries Act No. 23, 1984
- Baker, R. 2018. Torres Strait fishers raise racial discrimination in dispute with regulator. Available on-line at: https://www.smh.com.au/environment/sustainability/torres-strait-fishers-raise-racial-discrimination-in-dispute-with-regulator-20181207-p50kux.html.
- PNG Fisheries (Torres Strait Protected Zone) Act 1984
- PNG Fisheries Management Act No.48, 1998.
- Treaty between Australia and the Independent State of Papua New Guinea concerning Sovereignty and Maritime Boundaries in the area between the two Countries, including the area known as Torres Strait, and Related Matters. Entry into force: 15 February 1985.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	95
Condition number (if relevant)	

PI 3.1.2 – Consultation, roles and responsibilities

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties		
Scoring Issue		SG 60	SG 80	SG 100
a	**Roles and responsibilities**			
	Guide post	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction.
	Met?	**PZJA: Yes** **PNG:Yes**	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: No**

Rationale

At the TSPZ level, the organizations and individuals involved in the management process have been established through the Consultative Structure of the PZJA. This Consultative Structure consists of a Standing Committee and four advisory bodies namely: TS TRL Resource Assessment Group (TSTRLRAG), TS Scientific Advisory Committee (TSSAC), TS Tropical Rock Lobster Working Group (TSTRLWG) and TS Fisheries Management Advisory Committee (TSFMAC). However, TSFMAC has not met since 2012 and it has apparently been replaced by the Working Group. . The Standing Committee is responsible for delivering strategic and operational advice to the PZJA. In delivering its advice, the Committee is informed by the works of the four advisory bodies above. The role of TRLWG is to discuss issues, identify concerns and develop solutions and provide advice to the PZJA on a range of management matters, whereas the TRLRAG is responsible to provide advice on the status of fish stocks and on the impact of fishing on the marine environment that equally consider the biological, economic and wider ecological factors affecting the fishery. The role of TSSAC is to lead the determination of research priorities and assess proposals for Torres Strait Fisheries related research each year. The representatives from PNG sit within the TSTRL Resources Assessment Group and TS Scientific Advisory Committee. In addition, starting in July 2018, the government institution responsible to ensure the day-to-day management of the commercial fisheries compliance in the Torres Strait has been handed over from the Queensland Department of Agriculture and Fisheries (QDAF) to AFMA. In conclusion, the roles and responsibilities of various institutions in relation to TRL fishery management are explicitly defined and well understood for all areas of responsibility. Therefore, at the PZJA level, **SG60, SG80 and SG100 are all met**.

At the national, PNG level, the National Fisheries Authority (NFA) is the agency responsible for the management and development of the fisheries sector in accordance with the provisions of the Fisheries Management Act 1998, under the overall policy direction of the Minister. The work of the NFA is supported by the Provincial Management Advisory Committee (PMAC). The PMAC responsibility is to solicit and capture stakeholder input/advice in the management of the fishery, including to first evaluate and endorse the proposed new TRL fishery license for the vessels and dinghies prior to submission and approval by the NFA. However, this PMAC

has recently been made redundant by the Fishery Manager and the evaluation and endorsement of the TRL fishery licensing is taken over by the NFA through its Boards and the Licensing Advisory Committee. The members of the Licensing Advisory Committee consisted of the business unit within the NFA, fisheries management unit, license and data management unit, industry support development and enforcement and certification unit. Also, the Managing Director of the NFA is a member of the Licensing Advisory Committee.

The enforcement of the Fishery Act in PNG is undertaken by the Fishery Officer appointed by the NFA Managing Director. Article 48(3) of the Fishery Management Act 1998 also deemed the Police Force and Defence Force to be the Fishery Officers for the purpose of fisheries enforcement. Based on the interview during field audit, there was a strong indication that the TRL fishery surveillance and enforcement have mainly (if not only) been done by the NFA officials stationed in Daru and no indication of the participation of Police and Defence forces. Anecdotal information collected during this field audit also, revealed that the NFA still heavily rely on the voluntary information (report) from the community members on any indicated breach of the fishing rules as stipulated in the fishery management plan.

Therefore, **SG60 and SG80 are met**. **SG100 is not met** because, the lack of active participation of police and defence forces in the TRL fishery enforcement indicated that not all areas of responsibility and interaction have been well understood.

B	**Consultation processes**			
	Guide post	The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: No**

Rationale

At the PZJA level, the consultation process for the TRL fishery is facilitated through the existing Consultative Structure mechanism and regularly seek and receive relevant information, including local knowledge. As described earlier, this Structure consists of Standing Committee and four advisory bodies namely: TSTRLRAG, TSSAC, TSTRLWG, and TSFMAC. Through the meetings of the Committee and advisory bodies, consultation processes are taken place and informed by the knowledges of the wide-ranges of stakeholders, member of the Committee and advisory bodies, that include: the islander representative, non-indigenous industry representative (fishers or processors), Australian and Queensland government officials, scientist (mostly from CSIRO), and PNG representative. These consultations processes for example through the meetings of the TSTRLRAG, occurs regularly, several times in a year. In 2018 for example, the TSTRLRAG meetings took place 4 times; in 2019, the meetings were held twice; in 2020, the meetings were held three times; and in 2021 the meetings were held twice, namely in October and December. Similarly, the TSTRLWG also regularly undertaken their consultation meetings several times in a year. Based on the meeting records of the TSTRLRAG and TSTRLWG meetings, we found consistent cross referencing and consideration of the results of the meetings between one advisory bodies with the others, especially on data inputs and harvest control rule. Further

explanations were provided on how an advisory bodies have considered the inputs from others bodies and took into account and/or incorporated into its views and/or decision-making process. This demonstrated that the system has considered the information collected from consultation process and explain how it used or not used. It is therefore, at the PZJA level, **SG60, SG80 and SG100 are all met**.

At the PNG level, the fisheries (including the TRL fishery) consultations processes are led by the NFA. Historically, the TRL fishery within the TSPZ in both PNG and Australian sides have been traditionally harvested by the traditional communities living within the TSPZ areas. Therefore, especially from the PNG side, the consultation processes that involves the traditional (tribal) communities and their leaders are critical. An example of important consultation process within this TRL fishery is that that leads to the Bilateral Fisheries Meeting between PNG and Australia. This Bilateral Meeting is a high-level meeting where both parties (PNG and Australia) discussed and agreed on measures in relation to the implementation of the Torres Strait Treaty, including on the management of the TRL fishery within the TSPZ. The NFA has regularly seek and accept relevant information from the TRL fishery stakeholders, especially the tribal leaders who traditionally own the resources in the reefs. Based on an interview with one of the tribal leaders during the field visit to Daru indicated that he along with his other tribal leaders' colleagues, have been actively participating in various NFA in-country fisheries meetings and the Bilateral Fisheries Meeting with the Australian government as members of the PNG delegation. He mentioned that their concerns have been heard by the government authorities and captured in the minutes of the Bilateral Meetings. In addition, the local stakeholders (including tribal leaders) have also been closely consulted by the NFA during the development of the TRL Fishery Management Plan. Their proposal to designate some of the reefs such as Otamabu, Gimini, etc., as 'home reefs' where commercial TRL fishing activities are not allowed have been adopted and incorporated into the management plan.

We therefore concluded that **SG60 and SG80 are met**. **SG100 is not met** because it is not clear (no evidence provided) on how the information obtained from stakeholders been used or not used.

C	**Participation**			
	Guide post		The consultation process provides opportunity for all interested and affected parties to be involved.	The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement.
	Met?		**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**

Rationale

At the PZJA level, the consultations, especially on the determination of the TRL Total Allowable Catch, including its management measures as informed by the results of the stock assessment are regularly taken place. As described earlier, this process is extensive and taken place through the established Consultative Structure mechanism consisting of Standing Committee and four advisory bodies namely: TSTRLRAG, TSSAC, TSTRLWG, and TSFMAC, as mentioned earlier. Members of the Committee and Advisory Bodies include: the islander representative, non-indigenous industry representative (fishers or processors), Australian and Queensland government officials, scientist (mostly from CSIRO), and PNG government representative. The meetings of these consultative groups have a clearly defined agenda, meetings information and materials are made available to participants, and most -if not all- of the meeting results are available to all participants and published in the PZJA website. The participation of the members of the Committee and Advisory Bodies is financially facilitated/ paid by their affiliating institutions.

We therefore conclude that at the PZJA level, **SG60, SG80, and SG100 are met**.

At the PNG level, as stated above that the participation of the relevant NFA staff in the various meetings of TSPZ Advisory bodies (i.e., at the TSTRLRAG and TRLSAC) is facilitated and financed by the PNG government. In-country PNG, the NFA also provides opportunities and encouragement to relevant stakeholders, including customary/tribal communities and local government to take part in meetings, workshops on fisheries management. The NFA encouraged the participation of these stakeholders, including through provision of financial support to facilitate their participation.

Therefore, **SG60, SG80 and SG100 are met.**

References

- Lalancette, A., and Mulrennan, M. 2022. Competing voices: Indigenous rights in the shadow of conventional fisheries management in the tropical rock lobster fishery in Torres Strait, Australia. *Maritime Studies*, 21: 255–277.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	>80
Information gap indicator	More information sought to score PI 3.1.2 SI(b) dan SI(c). The type of information sought under SI(b) includes whether the management system has considered all information obtained and whether the system has explained how they are used or not used. The type of information sought for SI(c) includes whether the participation of all affected parties have been facilitated by the management system.
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	95
Condition number (if relevant)	

PI 3.1.3 – Long term objectives

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Fisheries Standard, and incorporates the precautionary approach		
Scoring Issue		SG 60	SG 80	SG 100
a	**Objectives**			
	Guide post	Long-term objectives to guide decision-making, consistent with the MSC Fisheries Standard and the precautionary approach, are implicit within management policy.	Clear long-term objectives that guide decision-making, consistent with MSC Fisheries Standard and the precautionary approach are explicit within management policy.	Clear long-term objectives that guide decision-making, consistent with MSC Fisheries Standard and the precautionary approach, are explicit within and required by management policy.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**

Rationale

The long-term objectives of the TSPZ and the management of fisheries resources in it, are described in the Torres Strait Treaty and in the Australian Torres Strait Fisheries Act No. 23, 1984 and PNG Fisheries (Torres Strait Protected Zone) Act 1984 and PNG Fisheries Management Act 1998.

The TSPZ objectives as described under the Torres Strait Treaty, Article 10 includes:

1. to acknowledge and protect the traditional way of life and livelihood of the traditional inhabitants including their traditional fishing and free movement.
2. to protect and preserve the marine environment and indigenous fauna and flora in and in the vicinity of the Protected Zone.

The Australian Torres Strait Fisheries Act No. 23, 1984 stated the following long-term objectives:

1. to acknowledge and protect the traditional way of life and livelihood of traditional inhabitants, including their rights in relation to traditional fishing;
2. to protect and preserve the marine environment and indigenous fauna and flora in and in the vicinity of the Protected Zone;
3. to adopt conservation measures necessary for the conservation of a species in such a way as to minimise any restrictive effects of the measures on traditional fishing;
4. to administer the provisions of Part 5 of the Torres Strait Treaty (relating to commercial fisheries) so as not to prejudice the achievement of the purposes of Part 4 of the Torres Strait Treaty in regard to traditional fishing;
5. to manage commercial fisheries for optimum utilisation;
6. to share the allowable catch of relevant Protected Zone commercial fisheries with Papua New Guinea in accordance with the Torres Strait Treaty;

7. to have regard, in developing and implementing licensing policy, to the desirability of promoting economic development in the Torres Strait area and employment opportunities for traditional inhabitants.

In summary, there are clear long-term objectives for the establishment and management of the fishery resources within the TSPZ, consistent with the MSC Principles 1 and 2 and that the precautionary approach is explicit and required by the management policy.

Therefore, **SG60, SG80 and SG100 are met.**

In addition, the PNG Fisheries Management Act 1998, stated the following objectives:

1. promote the objective of optimum utilisation and long-term sustainable development of living resources and the need to utilise living resources to achieve economic growth, human resource development and employment creation and a sound ecological balance;
2. conserve the living resources for both present and future generations;
3. ensure management measures are based on the best scientific evidence available, and are designed to maintain or restore stocks at levels capable of producing maximum sustainable yield, as qualified by relevant environmental and economic factors including fishing patterns, the interdependence of stocks and generally recommended international minimum standards;
4. apply a precautionary approach to the management and development of aquatic living resources;

Similar to that at the TSPZ PZJA level, in PNG, there are clear long-term objectives for the establishment and management of the fishery resources, consistent with the MSC Principles 1 and 2 and that the precautionary approach is explicit and required by the management policy.

It is therefore, SG60, SG80 and SG100 are met.

References

- Australian Torres Strait Fisheries Act No. 23, 1984
- PNG Fisheries (Torres Strait Protected Zone) Act 1984
- PNG Fisheries Management Act No.48, 1998.
- Treaty between Australia and the Independent State of Papua New Guinea concerning Sovereignty and Maritime Boundaries in the area between the two Countries, including the area known as Torres Strait, and Related Matters. Entry into force: 15 February 1985.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	100
Condition number (if relevant)	

PI 3.2.1 – Fishery-specific objectives

PI 3.2.1		The fishery-specific management system has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2		
Scoring Issue		SG 60	SG 80	SG 100
a	**Objectives**			
	Guide post	Objectives, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are implicit within the fishery-specific management system.	Short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery-specific management system.	Well defined and measurable short and long-term objectives, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery-specific management system.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**

Rationale

At the TSPZ level, the TRL fishery management objectives as stated in the PNG Torres Strait tropical rock lobster fishery Management Plan, 2015 are as follow:

a) In accordance with the Torres Strait Treaty, to protect the traditional way of life and livelihood of traditional inhabitants, in particular in relation to their traditional fishing for Tropical Rock Lobster;

b) To maintain the spawning stock at levels that meet or exceed the level required to produce the maximum sustainable yield;

c) To provide for the optimal utilisation, co-operative management with Queensland and Papua New Guinea and for catch sharing to occur with Papua New Guinea;

d) To maintain appropriate controls on fishing gear allowed in the fishery so as to minimise impacts on the environment;

e) To promote economic development in the Torres Strait area with an emphasis on providing opportunities for traditional inhabitants and ensuring that commercial opportunities available to all stakeholders are socially and culturally appropriate;

f) Optimise the value of the fishery, ensure cooperative, efficient and cost-effective management of the Fishery.

In addition, detailed TRL fishery-specific objectives is stated within the TRL Harvest Strategy Reference Points which are:

1. The unfished biomass B0 is the model-estimate of spawning stock biomass in 1973 (start of the Fishery). B0 = B1973.
2. The target biomass BTARG is the spawning biomass level equal to recent levels (2005-2015) that take account of the fact that the resource is shared and important for the traditional way of life and livelihood of

traditional inhabitants and is biologically and economically acceptable. **BTARG is the proxy for BMEY, BTARG = 0.65 B0**.

3. The limit biomass BLIM is the spawning biomass level below which the risk to the stock is unacceptably high and the stock is defined as 'overfished'. **BLIM is agreed to be half of BTARG, BLIM = 0.32 B0**.
4. If the limit reference point (BLIM) is triggered in two successive years then the Fishery is closed.
5. The target fishing mortality rate FTARG is the estimated level of fishing mortality rate that maintains the spawning biomass around BTARG. **FTARG = 0.15**.

The MSC Fisheries Standard SA4.7.2 stated that "measurable" at SG100 is interpreted as that in addition to setting fishery-specific objectives that make broad statements objectives are operationally defined in such a way that the performance against the objective can be measured. The fishery-specific management objectives above are well-defined, measurable and time-bound.

Therefore, at the PZJA level, **SG60, SG80 and SG100 are met**.

The TRL fishery-specific management objectives in PNG is described in Torres Strait and Western Province Tropical Rock Lobster Fishery Management Plan, which are as follow:

a) To manage the fishery to ensure that the stock size would be maintained annually at a level that will give maximum sustainable economic yield;

b) To ensure that the development of the tropical rock lobster fishery benefits the traditional users, particularly the traditional inhabitants of the TSPZ;

c) To maximize the opportunities for traditional inhabitants to participate by implementing policies that include managing the fishery as a dive fishery; and

d) To manage the fishery with a precautionary approach.

In addition, the TRL Harvest Strategy Reference Points described earlier is also applicable to PNG, considering that it has been the basis used for the determination of the TRL stock status and its management measures, within the TSPZ that is agreed by Australia and PNG.

We therefore conclude that at PNG level, **SG60, SG80 and SG100** are all met.

References

- Colbeck, R. 2015. Draft Torres Strait Tropical Rock Lobster Fishery Management Plan.
- National Fisheries Authority of PNG. 2022. Torres Strait and Western Province tropical rock lobster Management Plan.
- Plagányi, ÉE, Dennis, D, Deng, R, Campbell, R, Hutton, T, & Tonks, M. 2019a. Torres Strait Tropical Rock Lobster Fishery Harvest Strategy. November 2019a. Australian Fisheries Management Authority. Canberra.23 pp.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	100
Condition number (if relevant)	

PI 3.2.2 – Decision-making processes

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery		
Scoring Issue		SG 60	SG 80	SG 100
a	**Decision-making processes**			
	Guide post	There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.	
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**	
Rationale				
At the TSPZ level, the decision-making process has been established through the Consultative structure of the Protected Zone Joint Authority (PZJA). For example, decision-making process to determine the TRL fishery stock status takes place within the TRLRAG as informed by the work of the stock assessment scientists, members of the TRLRAG. The TRLRAG produced scientific advice on the stock status and delivered it to the Standing Committee who then advised the PZJA to make the final decision. These processes have resulted in measures and strategies to sustainably managed the fishery, including for example, the decision on the catch quota allocation available for the TRL fishery. At the PZJA level, **SG60 and SG80 are met**. In Papua New Guinea, the National Fisheries Authority (NFA), a semi-commercial statutory authority, is the agency responsible for the management and development of the fisheries sector in accordance with the provisions of the Fisheries Management Act 1998, under the overall policy direction of the Minister. For the management of the TRL fishery, the work of the NFA is supported by the Provincial Management Advisory Committee (PMAC), established to solicit and capture stakeholder input/advice in the management of the fishery, including to first evaluate and endorse the proposed new TRL fishery license for the vessels and dinghies prior to submission and approval by the NFA. However, this PMAC has recently been made redundant by the Fishery Manager and its function has been taken over by the NFA through its Boards and the Licensing Advisory Committee (LAC). The members of this LAC consisted of: business unit within the NFA, fisheries management unit, license and data management unit, industry support development and enforcement and certification unit. In summary, in PNG, there is established decision-making process in place that result in measure to achieve the fishery objectives. Therefore, **SG60 and SG80 are met**.			
B	**Responsiveness of decision-making processes**			
	Guide post	Decision-making processes respond to serious issues identified in relevant research, monitoring,	Decision-making processes respond to serious and other important issues identified in relevant research,	Decision-making processes respond to all issues identified in relevant research, monitoring,

		evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.	monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: No**
Rationale				
At the TSPZ PZJA level, decision making processes respond to all issues identified in relevant research, monitoring, and consultation in a transparent manner. As described earlier, the decision-making process at the PZJA level is supported by and taken place within the various established consultative mechanisms including different working groups whom their recommendations are used to inform the decision making by the Standing Committee responsible for delivering strategic and operational advice to the PZJA. Issues around determination of research priorities within the TSPZ is addressed by the TS Scientific Advisory Committee (TSSAC). The role of TRLWG is to discuss issues, identify concerns and develop solutions and provide advice to the PZJA on a range of management matters, whereas the TRLRAG is responsible to provide advice on the status of fish stocks and on the impact of fishing on the marine environment that equally consider the biological, economic and wider ecological factors affecting the fishery. Different issues discussed and/or addressed in various established consultative mechanisms above are informed by the recent development and/or matters obtained from the results of research, monitoring, evaluation and consultation with stakeholders. Therefore, at the PZJA level, **SG60, SG80 and SG100 are all met**. From PNG side, the NFA has been responsive to serious and other important issues within the fishery under assessment, by regularly providing data and information on the catch of the TRL fishery from PNG waters to inform the fishery stock assessment undertaken at the TSPZ level. NFA has also been responsive in adjusting the Total Allowable Catch allocated for the TRL fishery within the PNG waters following the fluctuation of the TAC determined for the overall TRL fishery within the TSPZ level. NFA is also currently revising the TRL Fishery Management Plan to adapt it with the recent development of the fishery including that of the interest from private sector to enter the fishery. Therefore, at PNG level, **SG60 and SG80 are met**. However, **SG100 is not met** because not all issues have been addressed including the potential impact of mining pollution for the TRL fishery. Mining pollution has been one of the key environmental challenges faced by the South Fly District where the TRL fishery is located (Butler *et al*., 2015). This is confirmed from a visual observation in Daru, where it appeared that the sea waters and coastline of Daru have been impacted by the mining pollution.				
C	**Use of precautionary approach**			
	Guide post		Decision-making processes use the precautionary approach and are based on best available information.	
	Met?		**PZJA: Yes** **PNG: Yes**	
Rationale				

At the TSPZ PZJA level, the development of the TRL fishery management has been closely guided by the precautionary approach. These can be found in many formal meetings documents of the relevant working groups especially those of the TRLWG and TRLRAG. For example, in the Report of the TRLRAG group meeting No.32, dated 15 December 2021, the working group stated the following concerning the application of the HCR: "the RAG noted that the TRL eHCR has been MSE-tested and is shown to be robust and precautionary".

We therefore concluded that at the PZJA level, **SG80 is met**.

Similarly in PNG, the development and implementation of the TRL Fishery Management Plan has been guided by the precautionary approach. The application of the precautionary approach is also required by the law, as stated in PNG Fisheries Management Act 1998, at one of its objectives, namely "apply a precautionary approach to the management and development of aquatic living resources".

It is therefore, **SG80 is met**.

D	**Accountability and transparency of management system and decision-making process**			
	Guide post	Some information on the fishery's performance and management action is generally available on request to stakeholders.	Information on the fishery's performance and management action is available on request, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	Formal reporting to all interested stakeholders provides comprehensive information on the fishery's performance and management actions and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: No**

Rationale

The decision-making process for the TRL fishery at the TSPZ PZJA is transparent and recorded in the formalized minutes of the meetings, available to fishery stakeholders and public as they are accessible online through the PZJA website. The information provided through the above-mentioned website are very extensive and includes the fishery performance over the years and the management measures and actions taken accordingly. Comprehensive information of the TRL fishery that includes the background of the fishery, fishery rules, quota and TAC determination, monitoring is regularly updated and available in the form of a Fishery Management Arrangements Booklet, published by AFMA.

In conclusion, at the PZJA level, **SG60, SG80 and SG100 are all met**.

In PNG, the information on the TRL fishery's performance and management actions are available and maintained by the NFA. NFA organizes stakeholder meetings as a mean of information dissemination concerning fisheries management, including that of the TRL fishery. In this meetings, wide ranges of stakeholders were invited, including the leaders of the Treaty villages and representative of the Local Level Government (LLG). These tribal and local leaders are then the persons who convey the information concerning the TRL fishery management to the wider tribal/local communities in the villages through the village chamber meetings held at least once every month throughout the year. Also, based on the anecdotal information collected during the field

audit, it appeared that the local tribal and leaders also asked for the TRL management information from the NFA which was then responded by the NFA with the needed information. In the context of the TRL fishery under assessment, the above mean of information dissemination is sufficient to inform the stakeholders on the actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity of the fishery.

It is therefore, in PNG, **SG60 and SG80 are met**. Meanwhile, **SG100 is not met** because of the limitation of the information dissemination mechanism as describe above could limit the information comprehensiveness including lack of description on how the management system has responded to findings and relevant recommendations emerging from research, monitoring etc., that could be made available to public.

E	**Approach to disputes**			
	Guide post	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery.	The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**	**PZJA: No** **PNG: No**

Rationale

As mentioned earlier, at the TSPZ level, a legal dispute was registered at the Australian Federal Court, concerning the AFMA's requirement that the Torres Strait's traditional-owner TRL licence holders can only employ Indigenous crews from the Torres Strait region to work on their boats (Baker, 2018). The AFMA position on this issue had been to maintain that requirement. As a result, the Federal Court has ordered the parties to get into mediation to solicit solution. A third party was involved to mediate the case. It indicates that the management system is attempting to comply with the court order in a timely fashion.

Hence, **SG60 and SG80 are met**. Nevertheless, **SG100 is not met** because the fact that the legal case has been filed to court indicated that the management system failed to avoid legal disputes.

In PNG, The Fisheries Management Act 1998, regulates the process to make an appeal to the Minister in case of a person whose application for a license was refused by the NFA Board. The appeal should be made in writing within 30 days of the date of the license application refusal. The Minister then could create a License Appeal Committee who received and made decision on the appeal and presented to the Minister for consideration and decision. So far, there have not been any legal cases, including that for example on license application refusal, made in writing to challenge the decision of the fishery-specific management system (i.e., NFA Board). Also, no evidence provided on whether NFA has sought to proactively deal with specific management issues to avoid legal dispute.

It is therefore, in PNG, **SG60 and SG80 are met**. However, **SG100 is not met** because there is no evidence that the NFA has proactively deal with specific management issues to avoid legal dispute.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	>80
Information gap indicator	
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	85
Condition number (if relevant)	

PI 3.2.3 – Compliance and enforcement

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with		
Scoring Issue		SG 60	SG 80	SG 100
a	**MCS implementation**			
	Guide post	Monitoring, control and surveillance mechanisms exist, and are implemented in the fishery and there is a reasonable expectation that they are effective.	A monitoring, control and surveillance system has been implemented in the fishery and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.	A comprehensive monitoring, control and surveillance system has been implemented in the fishery and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: No**
Rationale				
AT TSPZ level, a comprehensive MCS system especially that within the waters of Australian territory that makes up the largest proportion of the TSPZ area is in place, consistently implemented and has demonstrated ability to enforce relevant management measures in the TRL fishery. This is also acknowledged by the PNG licensed TRL fishers (divers) visited in the Matumabu Reef during the field audit. The Matumabu reef is located very close to the border line of PNG and Australia. PNG has also been benefitted from the border patrols undertaken by the Australian government. For example, during the period of August 2015-August 2021, there were 24 recorded infringements in the fishery in the PNG waters, that are mostly apprehensions conducted by Australian Fisheries Management Authority (AFMA) during their border patrols. Following these, evidence was provided back to NFA for potential examinations under the treaty agreement between PNG and Australia. It is therefore, at the PZJA level, **SG60, SG80 and SG100 are all met**. In PNG, the MCS activities are carried out when there is sufficient and reliable information available on potential infringements. The first responders are the Provincial and District-based fisheries officers who provide relevant information for joint operation with the relevant national government agencies such as the NFA, the Police Force, and Customs and Immigration if necessary. Most of the violations are border infringements in which fishermen with no proper authorization or endorsement cross over to the Australian waters to catch lobster. There was also reported infringement related to the use of hookah compressor during the period of hookah ban. Also, there was a reported breach in which new shore-based company trying to set up operations (i.e., facility on reef) which was then removed by the NFA. We therefore concluded that at PNG level, **SG60 and SG80 are met**. However, **SG100 is not met** because the surveillance and enforcement activities are not regularly performed. As a result, it could not demonstrate the consistent ability to enforce the relevant management measures.				
B	**Sanctions**			

	Guide post	Sanctions to deal with non-compliance exist and there is some evidence that they are applied.	Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence.	Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide effective deterrence.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**

Rationale

At the TSPZ PZJA level, sanction to deal with non-compliance exists, consistently applied and demonstrable provide effective deterrence. As stated above, a common infringement reported at the PZJA level is on border crossing in which PNG fishers with no proper authorization or endorsement cross over to the Australian waters to catch lobster. However, these reported infringements have significantly decreased in the recent years, as described earlier. AFMA uses a range of approaches to enforce fisheries regulation within the Australian waters, including vessel monitoring, catch tracking and cooperating with other countries to protect shared fish stocks. Penalties and sanctions are clear that could include: fines on the spot, suspension of fishing licences, seizure of the catch and prosecution at courts.

It is therefore at the TSPZ level, **SG60, SG80 and SG100 are all met**.

In PNG, based on the infringement data during the period of 2015-2021, of the 24 reported total infringements, most of them (19) occurred in 2015. There was a significant decrease in the following years with only 1 infringement case reported in 2016, none in 2017 and 2018, 3 cases in 2019, none in 2020, and 1 case in 2021. Almost all cases have been completed by Court Action and a few of them are still pending for further review. The latest reported case in 2021 is currently being further investigated. This indicates that the sanctions to deal with non-compliance have been consistently applied and resulted in effective deterrence as indicated by the significant decreases of the infringements in the following years.

Therefore, at the PNG level, **SG60, SG80 and SG100 are all met**.

C	**Compliance**			
	Guide post	Fishers are generally thought to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery.	Some evidence exists to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.	There is a high degree of confidence that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: No**	**PZJA: No** **PNG: Not scored**

Rationale

At the PZJA level, there is some evidence that demonstrates fishers comply with the management measures applied in the TRL fishery. The fact that fishers who consider themselves to be negatively affected by the TRL regulations have chosen to take a legal action in the court rather than breaching the regulations is an indication of this evidence of compliance. As described earlier, the solicitor representing the traditional owners of the TRL

license holders filed a case in the court concerning a regulation that limit their ability to employ fishing crews from other regions than the TS region. That regulation has caused several licensed boats underused or lying idle due to their inability to secure enough crews available from the TS region. To increase compliance, enforcements programs have been regularly implemented in the Torres Strait, including through education and deterrence program, where AFMA maintain its continuous presence in the targeted areas (waters) within the TSPZ. The recent report on AFMA Compliance and Enforcement Program 2022-2023 indicated that AFMA continuously increasing its staffing resources in Thursday Island to improve capability in the management and compliance of TS Fisheries. AFMA also indicates in the Compliance report above that the compliance on catch reporting by the traditional inhabitant sector is one thing that still need to be improved.

We therefore concluded that at the PZJA level, **SG60 and SG80 are met**. However, **SG100 is not** met because there is not a high degree of confidence in place on fisher compliance, especially on the TRL catch reporting by the traditional inhabitant sector.

In PNG, the TRL management measures and fishing rules are set within the TRL Fishery Management Plan. Various measures are included which are: (a) Licensing, (b) Size Limits and Restriction on Egg-bearing Females, (c) Gear Restrictions, (d) Home Reefs, (e) Total Allowable Catch (TAC), (f) Export, and (g) Reporting. Under the licensing measures, licensing conditions are set including among others the prohibition of the taking of turtles and dugongs by licensed vessels and dinghies while fishing for tropical rock lobster. In addition, under the size limit and restriction of egg-bearing female measure, it is prohibited to capture and export undersize TRL with a tail length of less than 115mm and berried (egg-bearing) female. The fishing licensed operator is also required to submit to NFA every 21st day of each month, the catch and effort data on the standard lobster logbook provided by NFA or the operator's record. During the field audit, it was found that the capture of the undersize and berried female lobster is still occurring by the fishers (divers) of the licensed fishing operators. These undersize lobsters are mainly sold in the local market or for the household consumption. In addition, there is anecdotal information that the divers also capture dugongs and turtles during the time of their fishing operation. Anecdotal information, however, also indicated that the capture of dugong and/or turtles might have not been done at the time of the divers looking (fishing) for lobster because lobster fishing take place during low tide, whereas dugong and turtle usually surface up in the reefs during high tide. Although requested, we were unable to obtain verified evidence that dugong or turtles had been captured during fishing operations.

We conclude that at PNG level, **SG60 is met**. Nevertheless, **SG80 is not met** because of the continuous capture of the undersize lobster (less than 115mm tail length) and berried female that are prohibited under the TRL Fishery Management Plan. **SG100 is not scored** because the PNG management system does not met SG80 (MSC FCP v2.2 §7.17.7.4).

D	**Systematic non-compliance**			
	Guide post		There is no evidence of systematic non-compliance.	
	Met?		**PZJA: Yes** **PNG: No**	

Rationale

At the PZJA level, there is no evidence of systematic non-compliance. The low degree confidence on the catch reporting by the traditional inhabitants as stated above is not considered as systematic non-compliance because that reporting is not yet mandatory. In the near future and subject to stakeholder consultations and agreement, the PZJA (AFMA) is looking into introducing a mandatory catch reporting requirement for this traditional inhabitant sector within the TSPZ (AFMA 2023).

We therefore concluded that **SG80 is met**.

In PNG, the TRL fishery is among the oldest fisheries, that since the early 80s has applied logbooks as a means to record the TRL catch. That logbook has gone through several revisions and the version that is currently being used was developed in 2002 by the NFA, soon as the NFA was established and designated as the PNG fishery management authority. Nevertheless, the NFA official recognizes that so far, the logbook has not been regularly and properly filled in by the fishing boat skippers/captains nor submitted by the licensed TRL fishing operators timely to NFA as required by the measures stipulated in the TRL Fishery Management Plan. This was also confirmed during the field audit when the auditors visited a licensed fishing boat used as the fishing base at sea, in Matumabu Reef, and found no evidence of a logbook onboard the vessel. The boat captain also admitted that he did not fill in the required logbook and only fill in the purchase record as required by the company. The NFA official confirmed that it is the obligation of the boat captain to properly fill in the logbook at sea. We note that the catch was being accurately recorded in the catch documents for each diver, and these were subsequently used for the completion of the logbooks, but this process did not comply with the specific requirements of the Fishery Management Plan. We therefore concluded that at PNG level, **SG80 is not met**, because there is a systematic non-compliance on the completion of the TRL logbooks by the boat captain and their timely submission to the NFA.
References
• AFMA 2023. National Compliance and Enforcement Program 2022–2023. 37 p.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report	
Draft scoring range	
Information gap indicator	
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	70
Condition number (if relevant)	Condition 3-1 PI 3.2.3 – Compliance and Enforcement SI c and Condition 3-2 PI 3.2.3 – Compliance and Enforcement SI d

PI 3.2.4 – Monitoring and management performance evaluation

PI 3.2.4		There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives There is effective and timely review of the fishery-specific management system		
Scoring Issue		SG 60	SG 80	SG 100
a	**Evaluation coverage**			
	Guide post	There are mechanisms in place to evaluate some parts of the fishery-specific management system.	There are mechanisms in place to evaluate key parts of the fishery-specific management system.	There are mechanisms in place to evaluate all parts of the fishery-specific management system.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: Yes**	**PZJA: No** **PNG: No**

Rationale

AT the TSPZ level, the mechanisms are in place to evaluate key parts of the fishery-specific management system, that includes: decision making processes to respond to wider management issues of regional and local-wide stakeholders concerns, data collection, scientific research, annual meeting to determine quota allocation and quota sharing between Australia and PNG, and MCS regular undertaking. These are organized / accommodated through various TSPZ advisory bodies and Standing Committee consultations, meetings, and workshops, as well as various bilateral meeting between Australia and PNG. However, since the TS Fisheries Management Advisory Committee (TSFMAC) was in hiatus in 2012, its functions to serve as consultation body that considers matters relevant to all Torres Strait Fisheries is no longer performed at the TSPZ level. This could have reduced the functioning and effectiveness of the TSPZ to timely respond to stakeholders' feedback and response on matters relating to all fisheries (including TRL) in the Torres Strait.

Therefore, at the TSPZ level, **SG60 and SG80 are met**. However, **SG100 is not met** because one mechanism (TSFMAC), a consultation body that considers matters relevant to all Torres Strait Fisheries is no longer in operation.

At PNG level, the management system has also been benefitting from the presence of all consultative mechanisms under the TSPZ mentioned above, considering that the evaluation of most of the key parts of the TRL fisheries under assessment, such as data collection, stock status determination, TAC, number of licenses, compliance and enforcement (MCS) and scientific research are mostly evaluated at the PZJA level. The PNG (i.e., the NFA) representatives also sit within the various advisory bodies of the TSPZ mentioned above, therefore directly involved in the evaluation processes. Under the Torres Strait Treaty, both PNG and Australia have also established a mechanism where both parties meet to evaluate any issues including those relating to TRL fishery management within the TSPZ known as Fisheries Bilateral Meetings and Joint Advisory Committee meetings. In addition, during the field audit in Daru, there were some aspirations from the PNG LLG leaders on the needs to improve the surveillance and monitoring activities from PNG side to minimize and/or prevent PNG TRL fishers from crossing to Australian waters. It was not clear during the field audit as to whether the NFA has established a mechanism to evaluate its MCS program that could guide its decision-making process to improve its MCS program, especially in the TRL fishery.

We therefore concluded that at the PNG level, **SG60 and SG80 are met**. However, **SG100 is not met** because the evaluation mechanism is not established for all parts of TRL fishery-specific management system, especially on the surveillance and enforcement (MCS) program.

B	**Internal and/or external review**			
	Guide post	The fishery-specific management system is subject to occasional internal review.	The fishery-specific management system is subject to regular internal and occasional external review.	The fishery-specific management system is subject to regular internal and external review.
	Met?	**PZJA: Yes** **PNG: Yes**	**PZJA: Yes** **PNG: No**	**PZJA: Yes** **PNG: Not scored**
Rationale				
At the TSPZ level, the management system (PZJA) is subject to regular internal and external review. As observed from the available notes of the various meetings of the relevant committee, assessment group and working group advising the PZJA, the internal and external review of the relevant part of the management system have been incorporated as part of their regular meeting agendas. For example, evaluation of the scientific research is regularly conducted through the meeting mechanisms of the TS Scientific Advisory Committee (TSSAC), whereas the evaluation of parts relating to data collection, stock assessment and TAC determination, and evaluation of management measures are conducted through the meeting mechanisms of both TSTRLWG and TSTRLRAG as well as Fisheries Bilateral Meetings and Joint Advisory Committee meetings involving Australia and PNG. As described earlier the member of these various committees and working groups consisted of different institutions including for example federal government institutions such as AFMA, state government institutions of Queensland, CSIRO, representative of PNG government, representative of indigenous communities etc., which are all considered as external to the PZJA. We therefore concluded at the PZJA level, **SG60, SG80 and SG100 are all met**. PNG does not have a formal system to conduct regular internal reviews of its fishery specific management system. Nevertheless, there are legal obligations – as mandated by the Fisheries Management Act 1988 and the TRL Fishery Management Plan- requiring the review of key parts of its management systems. During the field audit we learned that the review of the parts of the management system, such as the fishery management plan is determined by the Fishery Manager in charge. Currently, the TRL Fishery Management Plan for example, is being reviewed after a long while, that involves close consultations with the stakeholders. The current manager in charge, has seen the urgent needs to equally accommodate the new interest from industry/investors to get involved in the fishery that are currently not well captured in the management plan. We therefore concluded that **SG60 is met**. However, **SG80 is not met** because the review is only occasionally internally conducted. Also, there is no evidence provided to auditors, including during the field audit that could indicate any external review process undertaken to the parts of the fishery-specific management system. **SG100 is not scored** because the PNG fishery-specific management system does not met SG80 (MSC FCP v2.2 §7.17.7.4).			
References				
Draft scoring range and information gap indicator added at Announcement Comment Draft Report				
Draft scoring range	60-79			

Information gap indicator	More information sought to score PI 3.2.4 SI(b) on whether the specific management system is subject to regular internal and external review.
Overall Performance Indicator scores added from Client and Peer Review Draft Report	
Overall Performance Indicator score	70
	Condition 3-3 PI 3.2.4 – Monitoring & management performance evaluation

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6 Appendices

6.1 Assessment information

6.1.1 Previous assessments

There have been no previous assessments of this fishery.

6.1.2 Small-scale fisheries

This fishery consists of divers hand collecting lobster on local reefs by free diving or with hookah gear from small dinghies and delivering to larger motherships and is considered a small-scale fishery.

6.2 Evaluation processes and techniques

6.2.1 Site visit

- Reference(s): FCP v2.2 Section 7.16

The assessment team selected visit sites and interviewees based on information needed to assess management operations of the unit of assessment. The client group and other relevant stakeholders helped identify and contact fisheries management, research, compliance, and habitat protection personnel and agency representatives. Before the site visit and meetings were conducted, an audit plan was provided to the client and relevant stakeholders. The on-site meetings took place in Port Moresby and Daru, PNG between February 13 and 17. 2023. The assessment team met with agency officials at the hotel and conference center in Port Moresby and visited the product holding facility and other sites in Daru. The full list of stakeholders and client representatives the team met with and the site visit agenda are presented on the following pages.

Meeting Attendees		
Name	**Role**	**Affiliation**
Mr. Alexander (Sandy) Morison	Team Lead, Principle 1	contractor for SCS Global Services
Ms. Jessica Melgey	Team Member, Principle 2	SCS Global Services
Dr. Abdul Halim	Team Member, Principle 3	contractor for SCS Global Services
Mr. Donald Papaol	Client Representative	Fishing Industry Association, PNG
Mr. Joseph Posu	Manager TSPZ/TRL	National Fishing Authority, PNG
Mr. Bonny Koke	TSPZ/TRL Officer	
Mr. Sylvester Pokajam	Client Representative	Fishing Industry Association, PNG
Ms. Clare Tutana	Client Representative	Fishing Industry Association, PNG
Ms. Nialangis Posanau	Client Sustainability Coordinator	Fishing Industry Association, PNG

Mr. Marcel Hidalgo	Fisheries Consultant	Seafoodmatter
Theresa Gizoria	Senior Program Manager	Australian High Commission
Stephanie Pokajam	VMS & Traceability Officer	Fishing Industry Association, PNG
Pahia Patterson	Director	United Seafoods
Vagi Rei	Manager	Conservation and Environment Protection Authority
Rebecca Samual	Coastal Marine Program Manager	World Wildlife Fund
Jane Wia	PNG Marine Program Manager	The Nature Conservancy
Miku Baduame	Compliance Officer	NFA Compliance Unit, Daru
Kiram Parr	Fisheries Officer	Western Provincial Fisheries
Edwin Woriwo	Fisheries Officer	Western Provincial Fisheries
Nathan Timothy	Fisheries Officer	Western Provincial Fisheries
Hon. Biza Gera	Council Deputy President	Forecoast Kiwai LLG
Hon. Murray Dimia	LLG President	Forecoast Kiwai LLG
Hon. Kebei Salee	Councillor Chairman - Treaty	Forecoast Kiwai LLG
Baera Nawia	Officer	NFA Compliance
Loraine Tangora	Admin/Office Data Entry	Aquila Enterprise, LTD
Mukawa Arona	Supervisor	Aquila Enterprise, LTD
Tamara Sosoa	Caretaker	Maru United Seafood
Jimmy Wanu	Processor	Maru United Seafood
Opeta Namuri	Lobster Diver	Independent

Day 1 – Monday, 13 February 2023; Port Moresby			
Time	Session	Relevant Participants	Location
8:30am – 10:30am	Client Opening Meeting SCS's opening meeting with client and introduction to the MSC assessment process Assessment team Responds to any questions from the client	- FIA/NFA	Stanley Hotel
10:30 – 11:00 am	*Morning tea break*		
11:00am – 12:00	Consultation with United Seafood Limited (USL)	- USL	Stanley Hotel
12:00 – 1:30 pm	***Lunch***		
1:30 – 2:30pm	Consultation with Conservation Environment Protection Authority (CEPA)	- CEPA/Vagi Rei	Stanley Hotel
2:30 – 3:00pm	*Afternoon tea break*		
3:00 – 4:30pm	Consultation with World Wide Fund for Nature (WWF)	- WWF	Stanley Hotel

Day 2 – Tuesday, 14 February 2023; Port Moresby			
Time	Session	Relevant Participants	Location
8:30 – 10:00am	Consultation with Department of Foreign Affairs and Trade (DFAT)	- Simon Kaumi	Stanley Hotel
10:00 – 10:30am	***Morning tea break***		
10:30 – 12:00pm	Consultation with The Nature Conservancy (TNC)	- Ms Jane Wia	Stanley Hotel
12:00 – 1:00pm	***Lunch***		
1:30 – 3:00pm	Consultation with University of Papua New Guinea (UPNG)	- UPNG/Alfred Ko'ou	Stanley Hotel
3:30 – 4:00pm	***Afternoon tea break***		
End of Port Moresby consultations			

Day 3 – Wednesday, 15 February 2023; Daru			
Assessment team departs Pom Px 800 06:20 – 07:30			
Time	Session	Relevant Participants	Location
9:30am – 12:00	Consultation with National Fisheries Authority/Western Provincial Administration/Provincial and District Fisheries Offices/Local Level Governments	- NFA/WPA/Provincial and District Officers/LLGs representatives	New Century Hotel
12:00 – 1:30	***Lunch***		
1:30-2:30pm	Resource owners/Fishermen	- Village representatives/Fishermen	New Century Hotel
2: 30 – 3:00pm	***Tea break***		
3:00 – 5:00pm	Maru Marine Ltd/Aquila Enterprise Ltd	- Company representatives	New Century Hotel

Day 4 – Thursday, 16 February 2023; Daru			
Time	Session	Relevant Participants	Location
8:30-10:00am	Consultation with Western Province Sustainable Development Programme Ltd (WPSDP)	- Selma Pamolak	New Century Hotel
10:00 – 10:30am	***Morning tea break***		
10:30-12:00pm	Consultation with OK Tedi Development Foundation	- Havini Vira	New Century Hotel
12:00 – 1:00pm	***Lunch***		
1:30 – 3:00pm	Consultation with Fore Coast Treaty	- Representative	New Century Hotel
3:00- 3:30pm	***Afternoon tea break***		

Day 5 – Friday, 17 February 2023; Port Moresby			
Time	Session	Relevant Participants	Location
9:00 – 11:00am	Closing meeting Closing Meeting with the client – summary of preliminary findings, document requests, next steps.	- FIA/NFA	Daru
12:00 – 1:00pm *Lunch*			
	Assessment Team Travels from Daru to Port Moresby		Stanley Hotel
End of Consultation Schedule			

6.2.2 Stakeholder Participation

In addition to the meetings and attendees list above (Section 6.2.1), a number of key organizations were contacted in advance of the fishery's formal entry into public full assessment by the team leader or project manager. SCS also worked with MSC outreach in advance of the fishery entering full assessment, to compile an extensive stakeholder list used for emailing announcements and assessment progress to stakeholders. This list contained over 100 individuals from approximately 20 organizations spanning the government, private, and non-profit sectors.

No written stakeholder comments were received. The assessment team held informative sessions with several stakeholders during the site visit, but no official comments were submitted. In general the team found stakeholders to be pleased that the fishery was in assessment for MSC certification with some concerns regarding the sustainable management of the resource in remote areas.

6.2.3 Evaluation techniques

Documentation and Information Gathering

One of the most critical aspects of the MSC certification process is ensuring that the assessment team gets a complete and thorough grounding in all aspects of the fishery under evaluation. In even the smallest fishery, the assessment team typically needs documentation in all areas of the fishery from the status of stocks, to ecosystem impacts, through management processes and procedures.

Under the MSC program, it is the responsibility of the applying organizations or individuals to provide the information required proving the fishery or fisheries comply with the MSC standards. It is also the responsibility of the applicants to ensure that the assessment team has access to any and all scientists, managers, and fishers that the assessment team identifies as necessary to interview in its effort to properly understand the functions associated with the management of the fishery. Last, it is the responsibility of the assessment team to make contact with stakeholders that are known to be interested or actively engaged in issues associated with fisheries in the same geographic location.

Information for the assessed was gathered from stakeholder comments prior to the onsite visit (and after), and via phone conversations and web searches.

The NFA was key in providing much of the data as well as operational and regulatory information, and in Daru fishers were also engaged and forthcoming regarding their practices. All involved were helpful and cooperative throughout the process.

Scoring and Report Development Process

ACDR: The Announcement Comment Draft Report was completed on 24 November 2022. The client decided to continue with the full assessment.

Publication of ACDR: Publication of the Announcement Comment Draft Report was on 24 November 2022.

Onsite Visit: Scoring was initiated during the 5-day site visit and completed iteratively through phone calls, emails and skype teleconferences between January and April 2023.

Additional Document Submission: Following the onsite visit, the team compiled a list of requested documents for the client for submission within 2 weeks.

Client and Peer Review Draft: Rationales and associated background were developed by respectively assigned assessment team members, and then cross read by team members and SCS staff for production of the client draft report. Scoring was completed by consensus through this review process and team meetings by phone and email. The fishery received a total of 3 scoring-issue level conditions within 3 performance indicators and proposed milestones for these conditions were established. The team

finalized scoring and submitted the Client Draft in April 2023. Following the initial receipt of the client draft of the report, updates to the traceability process were submitted by the client group. Considering the evidence presented, the team made relevant updates. From May through early July 2023, the client fishery worked with SCS to generate an acceptable client action plan, which was structured at the level of scoring issues (versus performance indicators).

Peer Review: At the same time as submission to the Client, the CPRDR was submitted to the MSC Peer Review College. Two peer reviewers provided helpful comments on several PIs and conditions. Based on comments from peer reviewers, the team modified content related to Principle(s) 1,2, and 3 making minor increases to scores under PI 2.1, and adding further information to strengthen rationales elsewhere. The Public Comment Draft Report was prepared to address the PR concerns and incorporate the completed CAP and other minor changes. The PCDR was published on July 22, 2023, and subject to a 30-day stakeholder comment period that terminated on August 22, 2023.

Scoring Methodology

The assessment team followed guidelines in MSC FCP v2.2 Section 7.17 "Scoring the fishery". Scoring in the MSC system occurs via an Analytical Hierarchy Process and uses decision rules and weighted averages to produce Principle Level scores. There are 28 Performance Indicators (PIs), each with one or more Scoring Issues (SIs). Each of the scoring issues is considered at the 60, 80, and 100 scoring guidepost levels. The decision rule described in Table 12 determines the Performance Indicator score, which must always be in an increment of 5. If there are multiple 'elements[3]' under consideration (e.g., multiple main primary species), each element is scored individually for each relevant PI, then a single PI score is generated using the same set of decision rules described in Table 12.

Table 12. Decision Rule for Calculating Performance Indicator Scores based on Scoring Issues, and for Calculating Performance Indicator Scores in Cases of Multiple Scoring Elements. (Adapted from MSC FCPV2.2 Table 4)

Score	Combination of individual SIs at the PI level, and/or combining multiple element PI scores into a single PI score.
<60	Any scoring element/SI within a PI which fails to reach SG60 shall not be assigned a score as this is a pre-condition to certification.
60	All elements (as scored at the PI level) or SIs meet SG60 and only SG60.
65	All elements/SIs meet SG60; a few achieve higher performance, at or exceeding SG80, but most do not meet SG80.
70	All elements/SIs meet SG60; half* achieve higher performance, at or exceeding SG80, but some do not meet SG80 and require intervention action to make sure they get there.
75	All elements/SIs meet SG60; most achieve higher performance, at or exceeding SG80; only a few fail to achieve SG80 and require intervention action.

3 MSC FCPV2.1 7.10.7: In Principle 1 or 2, the team shall score PIs comprised of differing scoring elements (species or habitats) that comprise part of a component affected by the UoA.

80	All elements/SIs meet SG80, and only SG80.
85	All elements/SIs meet SG80; a few achieve higher performance, but most do not meet SG100.
90	All elements/SIs meet SG80; half achieve higher performance at SG100, but some do not.
95	All elements/SIs meet SG80; most achieve higher performance at SG100, and only a few fail to achieve SG100.
100	All elements/SIs meet SG100.

**MSC FCPV2.2 uses the word 'some' instead of half. SCS considers 'half' a clearer description of the methodology utilized.*

When calculating the Principle Indicator scores based on the results of the Scoring Issues (SI), SCS interprets the terms in Table 2 as follows:

- **Few:** Less than half. Ex: if there are a total of three SIs, one SI out of 3 is considered few.
- **Some:** Equal to half. Ex: if there are a total of four SIs, two SIs out of 4 is considered some.
- **Most:** More than half. Ex: if there are a total of three SIs, two SIs out of 3 is considered most.

6.3 Peer Review reports

6.3.1 PR A

General Comments

Question	Yes/No	Peer Reviewer Justification (as given at initial Peer Review stage). Peer Reviewers should provide brief explanations for their 'Yes' or 'No' answers in this table, summarising the detailed comments made in the PI / RBF tables (first row) and conditions (second row).	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Is the scoring of the fishery consistent with the MSC standard, and clearly based on the evidence presented in the assessment report?	Yes	The assessment scoring is suitable. The report was very clear and the information provided was detailed for assessment purposes.	Thank you; no response required.
Are the condition(s) raised appropriately written to clearly identify relevant scoring issues and scoring elements and define any milestones, consistent with the MSC process requirements? [Reference: FCP v3.0 Section 7.16]	Yes	The conditions are targeted at improvements for PNG NFA. They are rational and easily understandable and acheivable in the time frames that has been allocated, though these could be shortened to two or three years given that NFA has been aware since 2018 that there is shortcomings in the data collection processes and management activities.	Thank you; no response required.

PI Comments

PI	PR comment code	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
1.1.1	No comments (scoring agreed)			NA (No response needed)
1.1.2	NA (PI not scored)			NA (No response needed)
1.2.1	No comments (scoring agreed)			NA (No response needed)
1.2.2	No comments (scoring agreed)			NA (No response needed)
1.2.3	No comments (scoring agreed)			NA (No response needed)
1.2.4	No comments (scoring agreed)			NA (No response needed)
2.1.1	No comments (scoring agreed)			NA (No response needed)
2.1.2	No comments (scoring agreed)			NA (No response needed)
2.1.3	No comments (scoring agreed)			NA (No response needed)
2.2.1	No comments (scoring agreed)			NA (No response needed)
2.2.2	No comments (scoring agreed)			NA (No response needed)
2.2.3	No comments (scoring agreed)			NA (No response needed)

2.3.1	Change to rationale or evidence expected, not to scoring	Experiences elsewhere in PNG (e.g., Milne Bay Province), show that when hookah gear has been used in the past (albeit illegally), sea cucumbers are targeted. The sea cucumber fishery and the beche-de-mer trade is currently closed at present in PNG, but it is possible that when it is open, divers targeting lobster c/would also take sea cucumbers and pearl shell when encountered (as they do when targeting any of these species). Black and white teatfish species (*Holothuria whitmaei* and *H. fuscogilva*) as well as the species in the Thelenota genus (*T. ananas, anax* and *rubralineata*) were listed on CITES in 2019 and 2022 respectively.	Thank you for this comment. The assessment team did not receive any information about sea cucumber or pearl shell harvest during lobster diving. Because these species occupy different habitats, it is unlikely that any harvest of these species would be incidental to targeted lobster fishing, e.g., the CITES listed Holothurians would not be incidentally taken while reaching for a lobster. The assessment team only considers impacts to species that are directly related to the removal of the target catch. We have clarified the rationale and the UoA throughout the assessment report for consistency and completeness.	No score change, change to rationale
2.3.2	Change to rationale or evidence expected, not to scoring	See above comment for PI 2.3.1	See above response.	No score change, change to rationale
2.3.3	Change to rationale or evidence expected, not to scoring	See above comment for PI 2.3.1	See above response.	No score change, change to rationale
2.4.1	No comments (scoring agreed)			NA (No response needed)
2.4.2	Change to rationale or evidence expected, not to scoring	Last year, there was concerns raised of one of the licensed prawn (and fish) trawling companies' operating in the Gulf Province taking a large catch of lobster and this was widely reported [https://postcourier.com.pg/mp-disappointed-over-nfas-delay-on-fishing-issue/] with film footage circulating on social media of the lobster coming up in trawl nets.	Thank you for the comment. While this illegal fishing is concerning, the prawn and fish trawlers are not part of the UoA and therefore their impact to the habitat and lobster population are not something assessed under Principle 2. Additionally, this topic is touched on by the MSE testing of the HCR which considers components impacting the population outside the UoA (hand collection fishery).	No change made
2.4.3	No comments (scoring agreed)			NA (No response needed)
2.5.1	No comments (scoring agreed)			NA (No response needed)

2.5.2	No comments (scoring agreed)			NA (No response needed)
2.5.3	No comments (scoring agreed)			NA (No response needed)
3.1.1	No comments (scoring agreed)			NA (No response needed)
3.1.2	No comments (scoring agreed)			NA (No response needed)
3.1.3	No comments (scoring agreed)			NA (No response needed)
3.2.1	No comments (scoring agreed)			NA (No response needed)
3.2.2	No comments (scoring agreed)			NA (No response needed)
3.2.3	No comments (scoring agreed)			NA (No response needed)
3.2.4	No comments (scoring agreed)			NA (No response needed)

Condition Comments

Perfor-mance Indica-tor (PI)	Condition number as currently used in the CAB report	Is the condition fully and clearly defined?	Peer reviewers (PRs) justification. .	CAB response.	See codes page for response options
1.2.3	1.1	Yes			No change made
3.2.3	3.1	Yes			No change made

3.2.3	3.2	Yes			No change made
3.2.4	3.3	Yes			No change made

6.3.2 PR B

General Comments

Question	Yes/No	Peer Reviewer Justification (as given at initial Peer Review stage).	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)
Is the scoring of the fishery consistent with the MSC standard, and clearly based on the evidence presented in the assessment report?	Yes	The report is well written and comprehensive. It is generally consistent with the MSC standard and clearly based on the presented evidence. However I have identified some issues which largely relate to ambiguity about the definition of the UoA/UoC and apparent inconsistent application across many rationales. A clearer definition of the UoA/UoC would be very helpful, including the gear types present on the UoC vessels as the management plan is not restrictive (e.g. allows for "traditional methods"), but rationales rely on differing assumptions about the nature of the UoA. Other key issues discussed against relevant PIs include: - The lack of data collected by UoC fishers with the site visit having found no evidence of a logbook on one of the UoC vessels. - Whether P. versicolor should be treated as main secondary - The age and regularity of the stock assessment	Thank you. Please see responses under PI comments and Condition comments tabs.

Are the condition(s) raised appropriately written to clearly identify relevant scoring issues and scoring elements and define any milestones, consistent with the MSC process requirements? [Reference: FCP v3.0 Section 7.16]	Yes	Some minor changes have been suggested to ensure that satisfactory completion of the milestones and closing of the condition will result in the fishery meeting SG80 for the relevant scoring issues. In addition the CAB has set two conditions for a single PI (for different scoring issues) which should be combined. Additional conditions or revision of existing conditions may be necessary as a result of scoring changes that may arise from comments on the PIs.	Thank you. Please see responses under PI comments and Condition comments tabs.
Enhanced fisheries only: Does the report clearly evaluate any additional impacts that might arise from enhancement activities?		not applicable	not applicable.
Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary). Add extra rows if needed below.	NA	The UoA definition is unclear on two fronts: Firstly it is unclear whether the gear is hand collection only or also includes spears. Rationales for different PIs are contradictory in this regard. For example PI 2.3.1 states "T*he UoA consists of fishermen hand collecting lobster using hookah equipment or free diving, though sometimes spears may be used*", however a key component of many other rationales is that the fishery is hand collection only. Secondly, the UoA definition and P1 background don't make it entirely clear what elements of "the fishery" are part of the UoA. The clearest definition is provided on page 64 in P2 which states "The analysis for P2 is made considering that the UoA and the UoC (**to be determined**) are the same and composed of the PNG fleet with permits to land tropical rock lobster harvested using hookah or free diving gear." In this definition it still remains unclear what is "to be determined" (and the concerns about what gear is used are not addressed). This is made more confusing as in places some of the material seems to refer to aspects outside of the UoA (e.g. fishery weaknesses discusses an issue that appears specific to an Australian component of the fishery and PI	We have revised the UoA definition to state that the fishing gear/method type is considered "Diving via “hookah gear” and free diving; lobsters hand collected or aided by scoop net and spear". This is consistent with the FMP regulations. Our audit team notes that several times during the site visit we were told that spears are used very infrequently because live lobsters fetch a much better price. The 'to be determined' text was leftover from the ACDR when it was pending verification and has been removed. The UoA = UoC and consists of PNG permitted lobster fishing by divers in the TSPZ. Please see additional PI-specific updates in the PI comments tab.

		1.2.3 the rationales consider Australian TIB and TBH removals under the UoA SI.) A clear definition of the UoA/UoC and consistent use in forming rationales would be very helpful.	
Optional: General Comments (continued)	NA	Section 3.4: Panulirus are "presumed to be readily distinguishable" because they are reported separately in the logbooks. This is still reported as an issue to explore at the site visit -- has any additional information become available?	We have updated this text, thank you for pointing out the error. P. ornatus and P. versicolor are not considered IPI and can be distinguished fairly easily. We did not find evidence of any formal training to distinguish species and assume some small amount of identification error exists.
Optional: General Comments (continued)	NA	Several notes left by the authors to "check" things remain: Page 27: "[check]" trawler bycatch Page 43: Note to check QLD TAC needs to be updated Page 51: PI 1.2.1 SI b "check year")	These have been checked and edited; thank you.
Optional: General Comments (continued)	NA	Page 45, Table 10: Why is the most recent TAC and catch for 2020? I understand there are catch reporting issues, but presumably the TAC has been set?	The table has been updated with data for the most recent year for which both catch and TAC data are available.
Optional: General Comments (continued)	NA	Section 4.2.1.5 - this section is very brief and seems to contradict other sections in part (e.g. elsewhere spearing lobster is described as part of the UoA but here it is stated "hand collecting by hookah or free diving only")	Updated this section for consistency and correctness and added information.
Optional: General Comments (continued)	NA	Some FCP v2.2 reference numbers are incorrect. e.g. page 17, 7.4.5.1 and 7.5.14. do not exist, references to 7.5.x do not make sense	These have been corrected; thank you.

PI Comments

PI	PR comment code	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Res-ponse Code
Perfor-mance Indica-tor (PI)	Enter code below to summarise the comment and any expected score change	Peer reviewers (PRs) should provide support for the codes used in the left column by referring to specific scoring issues and/or scoring elements, and any relevant documentation as appropriate. Additional rows should be inserted for any PIs where two or more discrete comments are raised, e.g. for different scoring issues, allowing CABs to give a different answer in each case. Paragraph breaks may also be made within cells using the Alt-return keyboard shortcut. Detailed justifications are only required where the PR is suggesting some change is needed. In other cases, either confirm 'scoring agreed' or identify any places where weak rationales could be strengthened (using the 'Change suggested to increase clarity' code).	CABs should summarise their response to the Peer Reviewer comments in the CAB Response Code column and provide justification for their response in this column. Where multiple comments are raised by Peer Reviewers with more than one row for a single PI, the CAB response should relate to each of the specific issues raised in each row. CAB responses should include details of where different changes have been made in the report (which section #, table etc).	See codes page for response options

1.1.1	Minor score reduction expected	Consideration should be given to the age of the stock assessment (2019) and the uncertainty in the biomass estimate of that assessment. This is particularly important for such a short lived species which has had high fluctuations in biomass (see Figure 3). The secondary line of evidence consists of the surveys. The nature of these have been described in detail in the rationale but the most recent values and what they imply about the stock status is not mentioned, thus they currently provide no support for the scoring. As it stands it is unclear to me whether the evidence meets the high degree of certainty required for both scoring issues at the SG100 level.	The full integrated stock assessment is now mainly used as a periodic check on the performance of the e-HCR which is based on annual surveys as indicators of abundance. The rationale has been revised to more clearly refer to the latest indications of stock status from the surveys as provided in the background. Although surveys are used as the primary evidence of stock status for the application of the eHCR, the integrated assessment is source of probabilistic statements about stock status. The 90% CI for 2019 (0.67-1.19) has been added to the background and rationale. As the review has noted, this is from several years ago, but the combination of recruitment being maintained since then and the gap between the lower CI bound and the MSY proxy, is sufficient to determine that the high degree of certainty threshold would still be met.	No score change, change to rationale
1.1.2	No comments (scoring agreed)			NA (No response needed)
1.2.1	Minor change suggested to increase clarity	SI d: The column widths have been changed so it appears that a single "Yes" is for SG100 and the non-existent SG80.	Noted. Column widths now adjusted to show correct attribution of score.	No score change, change to rationale

1.2.1	Change to rationale or evidence expected, not to scoring	This is an international fishery with potential political complexities and challenges in catch monitoring, fisheries dependent data collection and compliance. I would have liked to see elements of the HS (as defined in GSA 2.4) that address these issues discussed throughout this PI (the current rationale focusses primarily on the HCR). For example, given the limited catch data collected (and evidence of non-use of logbooks) how is the TAC enforced?	The reviewer is correct to note the complexities and challenges of this multinational fishery. The potential for a range of such factors to undermine the operation of the harvest strategy was explicitly modelled as implementation error in the MSE testing of the harvest strategy. This has been mentioned in the rationale for PI 1.2.2b but more detail has now been added to this to more fully describe the various sources of uncertainty (which include the potential for TAC overruns) that were evaluated.	No score change, change to rationale
1.2.1	Scoring implications unknown	SI f: Are undersize lobster that are returned by fishers likely to be damaged and/or have non-negligible post release mortality (as is the case in hand collection lobster fisheries for some other species)? Are spears part of the UoA gear (there is contradictory information throughout) presumably this would also negate the possibility of returning undersize lobster. If either of these are significant factors, scoring this SI may be necessary.	We obtained additional information at the site visit which included a study which provided an estimate of the % of undersized animals (<1%). This had been mentioned under PI 1.2.3c but is now also cited under 1.2.1f in support of there being negligible unwanted catch. Spears are a permitted capture method but we were advised that they are seldom if ever used because of the greater value obtained from live product. We acknowledge that there is the potential for discard mortality under quota managment and this was one of the potential sources of implementation error that was modelled. But SA3.1.6 defines unwanted catch as that which a fisher did not intend to catch but could not avoid. Discards under quota, such as high grading, do not comply with this definition of unwanted catch and therefore cannot be considered under this PI.	No score change, change to rationale

1.2.2	Scoring implications unknown	SI b: Does the HCR take into account the uncertainty in the catch data?	As noted above, additional information has now been added about the sources of uncertainty that were evaluated in the MSE testing of the eHCR.	No score change, additional evidence presented
1.2.3	Scoring implications unknown	SI a: There are missing references and the rationale text indicates it was to be updated after the site visit. Given the uncertainty about UoA catches (and without knowing what information was obtained at the site visit) I wonder whether enough is known about the fleet (composition, catch etc.) to achieve SG80	Missing refs have now been added. There is not much uncertainty about UoA catches but there have been delays in reporting as described (noting that the expected timeframes are tight and require data exchanges between countries which are not always straightforward).	No score change, change to rationale
1.2.3	Score reduction expected to <80, condition needed	SI b: As described in the rationale there are significant issues in monitoring the UoA removals also: * the rationale for SI a also states that it cannot be said "that there is good information on all UoA removals"). * as outlined in condition 3-2, during the site visit there was "no evidence of the presence of logbook" onboard one of the licensed fishing boats. The mean catch from the previous five years contributes to the TAC set by the eHCR. The missing data has been extrapolated to enable calculation of a TAC, but this appears to be a stopgap measure created by necessity - from reading the P1 background, extrapolating catches to fill in missing catch data is not part of the HCR. Hence I do not believe SG80 is met (UoA removals are not "regularly monitored at a level of accuracy and coverage consistent with the harvest control rule"). Alternatively if this extrapolation is a formal part of the the HCR (and was included in the MSE testing used to	The comment about there not being good information on all UoA removals and more work being needed was legacy text from the ACDR stage and should have been revised but was overlooked. The issue of logbooks not being present on a vessel was a problem about the forms used for reporting not a lack of reporting. The MSE testing done did include implementation uncertainty and additional information on this has been added to the background and rationales.	No score change, change to rationale

		support the scoring of PI 1.2.1 and 1.2.2) then the rationale should be clear about this and it may be helpful to include this in the P1 background as it is an integral part of the HCR for the UoA.		
1.2.3	Change to rationale or evidence expected, not to scoring	SI b: The most recent stock assessment appears to be from 2019, however the harvest control rule suggests that a stock assessment should have been conducted in 2022. Clarification on the regularity of the stock assessment and whether this meets the SG80 requirement to "support the harvest control rule" would be beneficial.	As noted above, the role and regularity of the integrated stock assessment in the overall Harvest Strategy has been clarified. The harvest control rule is an empirical one that relies on the survey results and commercial CPUE. An update to the stock assessment was scheduled to start in December 2022 but results have not yet been presented or adopted.	No score change, change to rationale
1.2.3	Change to rationale or evidence expected, not to scoring	SI b and c: UoA removals are evaluated in SI b and other removals in SI c, hence removal by TIB and TVH sectors should be considered against SI c.	Agreed. References to removals by these other sectors has been moved from SI b to SI c.	No score change, change to rationale
1.2.4	Change to rationale or evidence expected, not to scoring	SI b: Some background as to the suitability of 1973 for an unfished fishery state would be helpful	Agreed but this seems to be a choice based on availability of documented catch information associated with the initiation of a commercial fishery. TRL have been fished by local peoples for millenia for local trade and subsistence.	No change made
1.2.4	Minor score reduction expected	SI c: An assessment of stock status relative to the reference points in a probabilistic way has not been presented in the background and is not described in the rationale. (This was also part of my concern in PI 1.1.1; whilst the most recent biomass estimate may have been high there is no indication that it exceeded the reference points with a high degree of certainty (now or at the time of assessment)). This is particularly important when considering how short	Additional information on the stock assessment is now presented in the background and referenced in the rationale, giving the confidence intervals obtained from the integrated assessment.	No score change, additional evidence presented

		lived the species is and how rapidly the biomass estimate fluctuates.		
2.1.1	No comments (scoring agreed)			NA (No response needed)
2.1.2	No comments (scoring agreed)			NA (No response needed)
2.1.3	No comments (scoring agreed)			NA (No response needed)
2.2.1	Score reduction expected to <80, condition needed	Was there really 0kg of P. versicolor catch in 2018? Without any additional knowledge, given the consistent proportion in later years it would appear that the 2018 P. versicolor catch is more likely to be missing data. In this case the average proportion of P. versicolor catch in 2019-2021 is 5.6% and it should be considered main secondary. If this definition is changed the existing rationale from SI b indicates that SI a would not meet SG80. In further support of treating P. versicolor as main secondary I'd also note that in PI 2.2.2 SI b, it is indicated that "There is some question about total catch of P. versicolor". Given the concerns about catch reporting and logbooks (PI 1.2.3 SI b; and my comment on this) it seems a precautionary approach here would be desirable. Also, in PI 2.2.3 SI c, P. versicolor is already treated as a main secondary species	Thank you for the comment. The assessment team must work from the information provided, and questioning regarding catches of P. versicolor at the site visit routinely returned responses of "it is an insignificant portion of the catch." We have no other information regarding 2018 and using this value the catch characterizes the species as secondary minor. The assessment team will continue to monitor reported catches of P. versicolor and any other TRL species during surveillance audits and make changes to species categorization if warranted. PI 2.2.3c was corrected to treat p. versicolor as secondary minor.	No score change, change to rationale

2.2.2	Minor change suggested to increase clarity	The SG80 level relates only to main secondary, of which there are either none or P versicolor. If the latter there is presumably no unwanted catch. This might simplify the rationale.	Thank you; we have clarified this scoring and rationale based on your comment and increased the score.	Score increased
2.2.3	Score reduction expected to <80, condition needed	There is insufficient information to assess the implications to scoring if P. versicolor is treated as main secondary (see comment on PI 2.2.1) but I suspect SI a may be difficult to meet at the SG80 level.	See response above under 2.2.1 to explain decision to keep P. versicolor as secondary minor.	No score change, change to rationale
2.3.1	Scoring implications unknown	SI b: spears are noted as UoA gear, but spears are also used for dugong and sea turtle harvesting so more detail is required to support the rationale that: "the harvest is not incidental to the UoA gear" Also, the current rationales appear to support a score of 95 instead of 85	Updates were made throughout the report to clarify the UoA. The assessment team still concludes that any ETP "takes" are outside the scope of the UoA because they are not incidental to the directed harvest of rock lobster. Taking of dugong or turtle involves pursuing those animals away from crevices in the reefs where lobster are found and would be considered a different target/pursuit outside of the UoA.	No score change, change to rationale
2.3.2	Scoring implications unknown	SI b: The limitation to being a hand-collection only fishery is used in the rationale, but elsewhere (e.g. PI 2.3.1 SI b) spears are noted as being part of the UoA, hence it is unclear what the management strategy is (does it prohibit use of spears?) and if it is in place (if it does prohibit use of spears is this actually enforced?). For the latter part of the rationale, "taking of turtles and dugongs ... is prohibited", elsewhere (PI 2.3.1 SI b) evidence has been presented that this occurs and may be "regular, if infrequent", hence this part of the strategy would not appear to be "in place". SI c, d, e: Some elements of the above may be more appropriate to consider in SI c, d or e instead	The management strategy specific to ETP is the prohibition of taking of turtles or dugongs by licensed vessels and dinghies while fishing for tropical rock lobster or other related activities. Spears are permitted gear for pursuing lobster, but there is no way to incidentally spear a turtle or dugong while spearing a lobster, so the team considers spear fishing for ETP species (as anecdotally noted) to be out of scope for P2. The anecdotal suggestion that this part of the FMP may be violated is assessed and assigned a condition under P3 (condition 3-1). We maintain that the management strategy is in place (explicit in FMP regulations) but that it appears systematic noncompliance with this regulation occurs.	No score change, change to rationale

		depending on information available to the CAB that is not presented in the report.		
2.3.3	Score reduction expected to <80, condition needed	SI a: As reported in PI 2.3.1 SI b, spears are part of the UoA. Hence the rationale needs to be reworded to incorporate this (or the UoA definition clarified). PI 2.3.1 SI b reported that taking of dugongs and turtles occurs and may be "regular, if infrequent". Information on these harvests appears to be unavailable beyond this qualitative statement, hence SG80 is unlikely to be met for SI a.	Re-worded this and other sections to clarify that it is the pursuit of the target species that characterizes the UoA and not necessarily the use of spears. While it is correct that quantitative information about number of animals affected by noncompliance with the dugong/turtle measure, we believe this should be addressed under P3 instead of P2 as takes are out of scope as previously mentioned.	No score change, change to rationale
2.3.3	Score reduction expected to <80, condition needed	SI b: Given the comment on SI a, information to measure trends does not appear to be available. It is also unclear what "enlist appropriate action" in the rationale refers to.	Following that we believe any lethal ETP species impacts are out of scope, information to measure trends is not required. Reworded this rationale.	No score change, change to rationale
2.4.1	No comments (scoring agreed)			NA (No response needed)
2.4.2	No comments (scoring agreed)			NA (No response needed)
2.4.3	No comments (scoring agreed)			NA (No response needed)
2.5.1	No comments (scoring agreed)			NA (No response needed)
2.5.2	No comments (scoring agreed)			NA (No response needed)
2.5.3	No comments (scoring agreed)			NA (No response needed)

3.1.1	No comments (scoring agreed)			NA (No response needed)
3.1.2	No comments (scoring agreed)			NA (No response needed)
3.1.3	No comments (scoring agreed)			NA (No response needed)
3.2.1	No comments (scoring agreed)			NA (No response needed)
3.2.2	No comments (scoring agreed)			NA (No response needed)
3.2.3	No comments (scoring agreed)			NA (No response needed)
3.2.4	No comments (scoring agreed)			NA (No response needed)

Condition Comments

PI	Condition number	Condition code	Peer Reviewer Justification (as given at initial Peer Review stage)	CAB Response to Peer Reviewer's comments (as included in the Public Comment Draft Report - PCDR)	CAB Response Code
1.2.3	1-1	No	The condition justification states that it is for "Other fishery removals means those outside the UoA". As detailed in the PI comments there is ambiguity about the nature of the UoA. The UoA definition states it is the same as the UoC, so the Australian fishers including the TIB sector are included in other fishery removals and should be discussed in the justification.	Agreed. Reference to the other commercial sectors are now included in the rationale considering other fishery removals.	Condition changed
3.2.3	3-1	No	My understanding of FCP v2.2 7.18.1.1 is that a PI should only have a single condition. Thus I think 3-1 and 3-2 should be combined to cover both aspects. Also from the information provided it would seem that the resulting score if conditions 3-1 and 3-2 are closed out would be higher than 80 (likely 90). There is a typo in the year 3 milestone that makes the intent unclear. The condition as well as the final year 4 milestone requires that "fishers (and operators) have improved their compliance". I don't think this is sufficient to guarantee meeting SG80. For example a small increase in compliance from a very low baseline would satisfy the milestone but not ensure that SG80 is met for SI c. I suggest rewording this in line with the SI narrative at SG80.	The FCP v2.2 7.18.1.1 stated that "the CAB shall ensure that every PI that receives a score of less than 80 has its own distinct condition associated with it". It does not explicitly mention to have a single (consolidated) condition for two or more SIs belonging to the same PI that do not met SG 80. Although SI c and SI d are basically adressing the compliance issue, both SIs are different in which SI d emphaiszed that that is 'systematic'. It might be that to address the 'systematic' compliance, the fishery management system might need to undergo more fundamental changes of its procedures. The typo in year 3 milestone (... has share...) has been corrected to (... has shared...). The condition has been revised accordingly as: By the fourth surveillance audit, evidence exist to show that fishers have complied with the management system including fishing regulations on the size limit, egg-bearing females and ETP species.	Condition changed

3.2.3	3-2	No	As above, my understanding of FCP v2.2 7.18.1.1 is that a PI should only have a single condition. Thus I think 3-1 and 3-2 should be combined to cover both aspects. Also from the information provided it would seem that the resulting score if conditions 3-1 and 3-2 are closed out would be higher than 80 (likely 90). In contrast to 3-1, the condition uses the narrative of the PI ("such that there is no evidence of systematic non-compliance") thereby ensuring that completion of the milestones and condition would result in a score of SG80 for SI d. Thus the only concern I have with this condition is whether it should be combined with 3-1.	See also the CAB response above. The FCP v2.2 7.18.1.1 stated that "the CAB shall ensure that every PI that receives a score of less than 80 has its own distinct condition associated with it". It does not explicitly mention to have a single (consolidated) condition for two or more SIs belonging to the same PI that do not met SG 80. Although SI c and SI d are basically adressing the compliance issue, both SIs are different in which SI d emphaiszed that that is 'systematic'. It might be that to address the 'systematic' compliance, the fishery management system might need to undergo more fundamental changes of its procedures.	No change made
3.2.4	3-3	Yes	The condition and milestones are succinct and clear. The timeline is appropriate given the complexities involved. One minor comment: from the information provided it would seem that the expected score if condition 3-3 is closed out would be 85 (not 80 as indicated).	Agree that if conditiion 3-3 is closed then the score would be 85.	Condition changed

Second Round Responses (received from PR B only)

Peer Reviewer comments at Public Comment Draft Report stage List here any issues not covered in the PI comments table (following sheet) that you feel have not been adequately addressed in the CAB response and would make a material difference to the scoring of the fishery. Add additional rows as needed.	CAB response to Peer Reviewer's Public Comment Draft Report stage comments (as included in Final Draft Report)
The method of capture in Table 1 is listed as "*Hand collection by diving via "hookah" gear or free diving*" for full disclosure it would be beneficial to add the "*aided by scoop net and spear"* as stated in Table 3 and 4.	Thank you; we have updated this table to make consistent and appreciate you pointing out the omission.

PI	PR Comment Code	Peer Reviewer Justification (as given at Public Comment Draft Report (PCDR) stage)	CAB response to Peer Reviewer's comments (as included in the Final Draft Report)	CAB Response Code
Performance Indicator (PI)	Is the CAB response to the PR's initial comments adequate?	Peer reviewers (PRs) should describe any concerns with the CAB's responses to their initial comments, on either PI scoring (including the RBF) or conditions. Comments at this stage should summarise any initial comments made by the PR at the previous PRDR stage, and detail those responses of the CAB (as provided in the PCDR) which are regarded as either incomplete or inconsistent with the MSC requirements. The comments in this column should be summarised in the PR Comment Code Column H. Additional rows should be inserted for any PIs where two or more discrete comments are raised, e.g. for different scoring issues, allowing CABs to give a different answer in each case. Paragraph breaks may also be made within cells where useful, using the Alt-return key combination. Detailed justifications are only required at this stage where answers given are one of the 'No' code options and the CAB responses are regarded as insufficient to address the PR's previous concerns. In other (Yes) cases, either confirm 'scoring agreed' here or identify any places where weak rationales could still be further strengthened (without any implications for the PI scores).	CAB response to the PR's PCDR stage comments (as included in the Final Draft Report). CABs should summarise their response to the Peer Reviewer comments in the CAB Response code column (to right) and provide justification for their response in this column.	See codes page for response options

PI	PR Comm-ent Code	Peer Reviewer Justification (as given at Public Comment Draft Report (PCDR) stage)	CAB response to Peer Reviewer's comments (as included in the Final Draft Report)	CAB Res-ponse Code
1.1.1	No (change to rationale or evidence expected, not to scoring)	Thank you for clarifying the rationale. For SI a it may be beneficial to discuss that two of the three lowest age 0+ values have been recorded in the last two years (2021 and 2022) and the implications (if any) for the stock noting that there was also a decrease in the age 1 index value in 2022. It would also be good to provide references to more recent survey reports than the 2019 report listed.	The reports figures have been updated to show the results of the 2022 survey. The values for the 1+ index (which has most weight in the eHCR) shows fluctuations around the long-term average but no signs of any decline.	No score change, change to rationale
1.1.1		I think the use of "unfished biomass B(1973)" is a little confusing. As clarified by the CAB the biomass estimate is relative to 1973 levels, the CAB stated at this point local fishing was well established. Hence some context around the (presumably low) level of depletion that had taken place by 1973 and hence the conservative nature of the RPs would be useful. This same issue is discussed in my comment in PI 1.2.4 and any it may be easiest to refer to any changes made in that PI here.	The 1973 value is referred to as equivalent to 'pristine' levels in the stock assessment report. So any prior fishing is considered to have had negligible impact on the stock. We appreciate the references to the early work on the species but consider that these would have already been factored into the RAG's view about stock status in 1973 and we do not see the benefit in attempting to review these old accounts.	No change made
1.1.1		I also wonder about the choice of reference points reported in the table as these are 4 years old (a generation of the target species), will only be infrequently updated (about once per generation) and are not the reference points used on an annual basis by the HCR.	Ideally there would be a more recent value to cite here but they are considered to be the most relevant to cite in the table. The rationales for this PI also reflect the 1+ survey index values which are important especially for evaluating status relative to PRI. The eHCR uses a weighted combination of four inputs, which are all slopes of 5 year trends in their natural logs, to adjust previous catch levels; they are not matched to any specific reference levels. So both collectively and individually the input indices are values which are not comparable to any reference point that could be considered to be a proxy for PRI or MSY and hence do not fit the intention of this table.	No change made

PI	PR Comm-ent Code	Peer Reviewer Justification (as given at Public Comment Draft Report (PCDR) stage)	CAB response to Peer Reviewer's comments (as included in the Final Draft Report)	CAB Res-ponse Code
1.2.4	No (minor score reduction expected)	As has been clarified by the CAB, the assessment consists of the model based assessment carried out ~3-4 years as well as the intervening surveys: "*The full integrated stock assessment is now mainly used as a periodic check on the performance of the eHCR which is based on annual surveys as indicators of abundance*" I agree that together this approach is appropriate HCR (SI a). However the rationales for SI b and c is almost entirely focussed on the model-based assessment. Given that the annual survey is the primary assessment used by the HCR this should be considered in detail in this PI. The suitability of the survey based reference points used in the HCR should be considered in SI b. For SI c it appears that the way the survey is used in the assessment is **not** "*evaluating stock status relative to reference points in a probabilistic way*" (SG 100) as the estimated value is simply compared against the RP with no consideration for uncertainty.	The focus is put on the model-based assessment as the inputs to the eHCR are not used as a comparison against any specific reference points (with or without uncertainty). Nevertheless, the rationale has been amended to add some discussion around this point and to clarify the basis for the assigned score. In doing so we have been explicit that we have considered that the 'assessment' for this stock is the combination of the periodic model-based assessment and the annual index-based eHCR and that it is only necessary for one of these components to meet the PI's requirements to achieve the designated score.	No score change, change to rationale
1.2.4	No (scoring implications unknown)	Regarding the model based reference points: My initial concern was about the assumption that 1973 represents an unfished state. This is particularly relevant as biomass and reference levels are discussed as percentage unfished throughout the report and compare favourably against 1973 levels. However if 1973 was already a substantially depleted state then this favourable assessment and RPs would be flawed. As stated in my comment in PI 1.1.1 this is probably not the case, however some context to support this would be beneficial. At present I feel the comment : "*this seems to be a choice based on availability of documented catch information associated with the initiation of a commercial fishery. TRL have been fished by local peoples for millenia for local trade and subsistence*" does not address my concern and the current rationale does not support SG80 for SI b.	As noted above, the assessment itself refers to the biomass in 1973 being 'pristine'.	No change made
2.2.1	No (scoring implications unknown)	I stand by my view that *P. versicolor* should be treated as main secondary. There is one 0kg catch year (2018) and subsequent years (2019-2021) have *P. versicolor* catch overall at 5.6%. The likelihood of having had a true 0kg catch of *P. versicolor* in 2018 when catch in subsequent	We hear the PR's concern but feel that with small, variable catch of a non-less resilient species the current approach is sufficiently precautionary. Additionally, we have added a recommendation that the client require	No score change, change to rationale

PI	PR Comm-ent Code	Peer Reviewer Justification (as given at Public Comment Draft Report (PCDR) stage)	CAB response to Peer Reviewer's comments (as included in the Final Draft Report)	CAB Res-ponse Code
		years is >5% seems so low that relying on this 0kg to avoid classifying *P. versicolor* as main secondary seems contrary to the intent for this classification to be conducted with precaution (GSA 3.4.2). The only evidence to support the legitimacy of the 0kg data point, is that the CAB stated stakeholders at site visits reported "it is an insignificant portion of the catch.". However since the site visits were conducted recently they would seem to imply that the more recent 5.6% of *P. versicolor* catch is considered insignificant by the those attending the site visits and this provides no information regarding the reliability of the 0kg data point. Furthermore it may be expected that *P. versicolor* catches in future years (during the certificate lifetime) may be more similar to 2019-2021 than 2018. In further support of treating *P. versicolor* as main secondary I'd also note that in PI 2.2.2 SI b, it is indicated that "T*here is some question about total catch of P. versicolor*". This lack of information is part of the reason that SG100 is not met for PI 2.2.2 SI b and lends further support to taking a precautionary approach and classifying P. versicolor as main secondary. GSA 3.4.2 notes that **-** "*teams may choose a different length of the time series*" (in fact the team is already choosing a different length of time series for unspecified reasons; presumably due to lack of data, which would itself raise further questions about the reliability of the 2018 data point) **-** that they should "*use a precautionary approach to determine whether species shall count as 'main'"* **-** *and that "teams are confident that the species compositions, as well as their respective catch volumes, are unlikely to change over the lifetime of the certificate".* In light of the discussion above I do not believe the current approach follows this guidance. If available 2022 catch of *P. versicolor* would provide an interesting additional datapoint to strengthen the choice one way or the other.	accurate reporting of non-target species and provide updated landings for nontarget catch during each surveillance, where we will re-score this element if the data suggests it is warranted. The statement that "there is some question about the total catch of P versicolor" should have been deleted after the site visit and has been removed now. We believe the catch data is complete because 100% logbook reporting of all catch is required. Additionally, there are plausible arguments to a zero-catch year including that versicolor prefers different habitat which may have not been targeted that year or that certain fishers or fishing companies were not active that year and they are generally responsible for harvesting the P. versicolor that is reported. We conducted interviews with resource assessors and reviewed the available literature to support our species characterization and believe it follows the guidance while being supported by best professional judgement.	

PI	PR Comm-ent Code	Peer Reviewer Justification (as given at Public Comment Draft Report (PCDR) stage)	CAB response to Peer Reviewer's comments (as included in the Final Draft Report)	CAB Res-ponse Code
2.2.2	No (scoring implications unknown)	Review required if *P. versicolor* is treated as main secondary (see comment on PI 2.2.1)	See above.	
2.2.3	No (scoring implications unknown)	There is insufficient information to assess the implications to scoring if P. versicolor is treated as main secondary (see comment on PI 2.2.1)	See above.	
2.3.1	No (scoring implications unknown)	The CAB's response to my initial query was that "*The assessment team still concludes that any ETP "takes" are outside the scope of the UoA because they are not incidental to the directed harvest of rock lobster.*". I do not object to the very specific statement made by the CAB that "*a fisher would never spear a dugong or turtle while in the act of spearing a lobster*", however I am concerned about dugong and turtle catches taken opportunistically whilst travelling from/to the lobster fishing ground. This may not be well documented, but as the assessment team noted in the ACDR (now removed) they found catches to be "regular, if infrequent" (2.3.1.b in the ACDR). Hence I don't agree that these catches can be entirely dismissed. They are opportunistic bycatch on lobster fishing trips and the existence of this fishery increases pressure on these species. The quantity may be small and it may pose negligible risk to the species, but this should be addressed in the rationales rather than dismissing this as being unrelated to the UoA.	We do not believe the catches have been entirely dismissed by this assessment and we are also concerned about opportunistic catches. Condition 3-1 placed on PI 3.2.3 requires that evidence be provided that illustrates compliance with the management measures prohibiting catch of dugong and sea turtles on lobster trips. We maintain that take of these species is out of scope of the UoA as defined by FCP v2.2 7.4 and that assessing them under the outcome PI 2.3.1 is not warranted.	No change made
2.3.2	No (scoring implications unknown)	See comment on PI 2.3.1	See response on 2.3.1, but relevant to the management measures PI.	No change made

PI	PR Comment Code	Peer Reviewer Justification (as given at Public Comment Draft Report (PCDR) stage)	CAB response to Peer Reviewer's comments (as included in the Final Draft Report)	CAB Response Code
2.3.3	No (score reduction expected to <80, condition needed)	See the issue as discussed at 2.3.1. Given the limited information available, I do not believe either SI meets SG80. In my view the current rationale which relies on the UoA "*cannot impact ETP species*" is flawed and it is only possible to make this claim due to the lack of information on actual catches of these species.	We believe the rationale for this PI relies on the fact that pursuit of sea turtles or dugong is out of scope, the same way FAD sets would be out of scope for a fishery only attempting to certify free school sets. The gear and fishing techniques are entirely different and the species targeted out of scope is largely not active or present during the tidal phase during which most diving occurs. While we understand the reviewer's concerns, we believe we have handled these SIs consistent with the intent of the MSC standard and dealt with the systematic noncompliance indicated by anecdotal ETP harvest under the condition for 3.2.3.c.	No change made

6.4 MSC Technical Oversight

SubID	PageReference	Grade	RequirementVersion	OversightDescription	Pi	CABComment
36048	83	Minor	SA-3.6.3.2 v2.01	PI 2.1.3 SI (a), PI 2.2.3 SI (a): When assessing the adequacy of quantitative information for primary and secondary species, it is unclear whether the assessment team considered the potential bias in catch estimates coming from logbooks, as per SA3.6.3.2.c and GSA3.6.3.1.	2.1.3, 2.2.3	The assessment team considers bias from logbooks to be minimized based on the 100% reporting requirement and ability to triangulate with reports from the processing facilities.

SubID	PageReference	Grade	RequirementVersion	OversightDescription	Pi	CABComment
36049	99	Minor	FCP-7.17.9.1 v2.2	PI 2.4.1 SI (a) and (b): It is unclear what evidence is available to support the conclusion that SG100 is met.	2.4.1	Having observed dive operations during the site visit, the assessment team can see no way in which the fishery could have significant habitat impacts and thus awarded SG100 with high certainty. In addition to firsthand knowledge of how fishing operations work, we note that annual pre-season surveys of the resource also include habitat data so changes can be detected, and ecological risk assessments have deemed the fishery to present low risk/insignificant impact to habitat. We have updated rationale to ensure this evidence is presented.
36073	22	Guidance	FCP-7.8.2 v2.2	As per FCP 7.8.2, if the eligibility date is set before the certification date, the CAB shall inform the fishery that any fish harvested after the eligibility date and sold/ stored as under-assessment fish shall be handled in conformity with the relevant requirements. It is unclear if the client is aware and familiar with the MSC 'Under-Assessment Product' requirements.		Client has been notified of 'Under-Assessment Product' Requirements stipulated under FCP clause 7.8.2. Report has been revised to reflect this.
36074	23-24	Guidance	FCP-7.9.1.4 v2.2	As per FCP 7.9.1.4, for each risk factor identified, the CAB shall describe the risk present and details of the mitigation or management of risk. In table 7 row 3, it is stated that "Any such product is held separately to certified product within the processing facilities and is tracked under newly implemented CoC systems", it is unclear what these CoC systems are, and how risk of non-certified product mixed with certified is mitigated. Further table 7 row 3 paragraph 2 reference of 'non-certified product (P. ornatus)' is in correct as P.ornatus is a UoC product.		This fishery certificate covers up to the point of the platforms moored in the fishing grounds. From the platforms, additional CoC systems have been implemented to fulfill MSC CoC Standard requirements and will be subject to an MSC CoC Audit. The fishery client group has conducted workshops with the processors based in Daru, who will be pursing MSC CoC certification very soon. We note the error in table 7 which has now been revised.

SubID	PageReference	Grade	RequirementVersion	OversightDescription	Pi	CABComment
36075	22-23	Minor	FCP 7.20.1 v2.2	As per FCP 7.20.1, the CAB shall use the 'MSC Reporting Template' to create the PCDR, where within the template section 6.2 requires the CAB to include description of the fishery client's tracking, tracing and segregation systems and how the systems will allow certified products to be traced back to the UoC. 'Newly implemented COC systems' and tools are referenced but the report omit description of what these systems entail, traceability of the stages involved (e.g. movement of products from catch via dinghies to the motherships then via dinghies to holding facilities), and how they allow traceability back to the UoC and any identified traceability risks to be mitigated.		Thank you for this comment. The systems in place have been described in greater detail on pages 21-24. System describes process from fishers, to dinghy, to platform, at which time the supply chain activities will be subject to and covered under an MSC CoC Certificate (owned by the Daru processor(s) on land. Documentation and records at each key node at the fishery level and early supply chain have been well described and detailed on pages 21-24, including traceability type records available to the MSC CoC Auditor.
36076	22,24	Minor	FCP-7.9.2.1 v2.2	As per FCP 7.9.2.1 the CAB shall determine and document the scope of the fishery certificate, including the parties and categories of parties eligible to use the certificate and the point(s) at which Chain of Custody is needed. P. 24 determined CoC should begin at the first change of ownership of product from processors to exporters, but on p. 22 bullet 6 first change of ownership is when lobsters are sold from the holding facilities in Daru. It is unclear if the 'processors' referred to here are the processing step with the motherships? Further p.22 final paragraph reference lobster processors and divers are implementing MSC CoC, while CoC is not required until first sale. It is unclear ultimately who are the parties eligible to use the certificate and the determined point where CoC is required.		Thank you for requesting this clarification. As now stated in the report, the first change of ownership occurs at the platforms located at the fishing grounds on the reef. Though some processing does occur at the platforms (removing of tails, grading), those are distinctly separate from the processing facilities located on the mainland in Daru. The only parties eligible to operate under the fishery certificate are members of the Fishing Industry Association. The processors based on land in Daru are not covered under this fishery certificate nor are they members of the fishery client group. PNG Fishing Industry Association is the only entity that is authorized to handle eligible product covered in the fishery certificate. The processors in Daru are pursuing MSC CoC certification, which will provide systems for CoC from the platform, the transport to mainland via dinghies, and presumably the processing and storage infrastructure on land. See

SubID	PageReference	Grade	RequirementVersion	OversightDescription	Pi	CABComment
						report revisions which make this clarification.

6.5 Stakeholder input

No written or verbal stakeholder submissions were received during consultation opportunities listed in FCP v2.2. §7.15.

6.6 Conditions

6.6.1 Conditions & Client Action Plan

This is the initial assessment for this fishery and all conditions are new. The fishery received 1 condition in P1, zero conditions in P2, and two conditions in P3. The following tables present each condition and the client action plan activities associated with it.

6.6.2 Condition 1-1 PI 1.2.3 – Information and monitoring

Performance Indicator	**PI 1.2.3 (Scoring issue c) Comprehensiveness of information**
Score	60
Justification	PI 1.2.3 – Information and monitoring Other fishery removals means those outside the UoA. For this fishery, this means the other commercial sectors (TVH and TIB), customary and subsistence catch by indigenous groups, catch by recreational fishers, and bycatch in prawn trawl fisheries. Removals by the TVH and TIB sectors are reported regularly to the PZJA and are used by the science provider in the calculation of CPUE indices. These are the largest catches from the stock. After the site visit the team were provided with a copy of a report that contained data on the species composition and quantity of catch taken by traditional fisheries in the Torres Strait (Busilacchi et al. 2014). This study included both commercial and subsistence take of lobsters and found that about 85% of the total catch was for the export market with the remainder consumed domestically. This component also included a negligible proportion (<1%) of undersized animals. Although now somewhat dated, this study does provide good information on these removals and provides evidence that the catch levels were small compared to the known commercial catches. No additional information was obtained about the bycatch in prawn trawl fisheries although we were advised that a project involving onboard observers was underway and would report soon. This is potentially a source of unreported mortality and until the results of this study are provided we consider that there remains a gap in the information available on other removals. This does not meet the requirements of the SG 80 level.
Condition	By the fourth surveillance audit provide evidence that there is good information on all other fishery removals from the stock.
Condition start	Immediately after the certificate is granted
Condition deadline	*Fourth surveillance audit.*

<table>
<tr><td>Verification with other entities</td><td colspan="2">NFA is the agency that would be able to provide the information necessary to close this condition.</td></tr>
<tr><td>Milestone Year 1</td><td colspan="2">Surveillance (YEAR 1): Milestone Year 1
Develop a plan to improve the information available on other removals from the stock.
Expected score: 60</td></tr>
<tr><td rowspan="3">Client Action Plan</td><td>Activities:</td><td>FIA PNG and The National Fisheries Authority (NFA) to evaluate all current sources of information concerning unreported fishing amounts in the Torres Strait Reef (UoA) including:
a. Initial desktop review of reports, independent research projects, and consumption surveys. Later NFA design a process aimed to filling gaps in data collection. TRL exporters, and the Fishing Industry Association (FIA PNG) also will search data in this desktop to have a comprehensive research plan for drafting a “data collection plan” (NFA)
b. Consultation meetings with Daru divers, licensed operators, Villagers, recreational fisheries, and trawlers representatives. This meeting will include:
• Send invitation letters to each stakeholder.
• Search from primary and second sources (google) of literature for the desktop (a)
• Write a draft a plan to data collection (a + b)
• FIA and NFA will coordinate and organise at least one (1) consultation meeting for agreeing in the way forward before sharing a plan.</td></tr>
<tr><td>Expected outcome:</td><td>• A comprehensive NFA data collection plan for TRL (DCP – TSRL) - draft, aiming for:
a. Improved frequency of data collection
b. Improved Monitoring and Reporting
• A Technical Working Group to support the MSC lobster process should be created (TWG). WG products would be published in the FIA PNG website
Evidenced by:
• Meeting minutes (attendance list, photo)
• emails exchanged with stakeholders and TWG members
• Draft of the initial documented plan for TRL</td></tr>
<tr><td></td><td>Responsible parties: FIA with NFA</td></tr>
</table>

<table>
<tr><td>Milestone Year 2</td><td colspan="2">Surveillance (YEAR 2): Milestone Year 2
Implement the plan to improve the information available on all other removals from the stock.
Expected score: 60</td></tr>
<tr><td rowspan="3">Client Action Plan</td><td>Activities:</td><td>The DCP – TSRL has initiated with trials and pilots. The FIA PNG TWG and the NFA officers to evaluate preliminary results of data collected and revise the project as necessary. We expect at the annual surveillance audit, NFA and/or FIA PNG (exporters) to present preliminary results of research and data collection</td></tr>
<tr><td rowspan="2">Expected outcome:</td><td>1. A revised NFA data collection plan for TRL is implemented
Evidenced by:
• Preliminary results and process
• Photos, forms, reports
• A report that verifies the level of implementation of the plan for TRL</td></tr>
<tr><td>Responsible parties: FIA with NFA</td></tr>
<tr><td>Milestone Year 3</td><td colspan="2">Surveillance (YEAR 3): Milestone Year 3
Review the information obtained from the plan and revise plan if necessary.
Expected score: 60</td></tr>
<tr><td rowspan="3">Client Action Plan</td><td>Activities:</td><td>Continue pilots, monitoring and improving of the DCP – TSRL. NFA and/or FIA will update the results</td></tr>
<tr><td rowspan="2">Expected outcome:</td><td>1. Updated report and results of the DCP with decision to adopt or revise – TSRL
2. Evaluation Report of the level of implementation of the plan for TSRL based on the initial trials and data collected</td></tr>
<tr><td>NFA and FIA</td></tr>
<tr><td>Milestone Year 4</td><td colspan="2">Surveillance (YEAR 4): Milestone Year 4
Provide evidence that there is now good information available on all other removals from the stock.
Expected score: 80</td></tr>
<tr><td>Client Action Plan</td><td>Activities:</td><td>NFA, TWG, and FIA to complete the final plan and complete any gaps in the data collected. NFA to present results to relevant enforcement and compliance NFA business units and other stakeholders such as the Lobster operators, as well as the Certification Assessment Body (CAB) at the annual surveillance assessment.</td></tr>
</table>

	Expected outcome:	Evidenced by: • Final report to demonstrate the control of other removals from the stock • Letters of support from NFA in relation to the action plan • Consultation meetings (minutes, photos, emails, communication)
		NFA and FIA PNG
Consultation on condition	Letters of support from NFA in relation to the action plan	

6.6.3 Condition 3-1 PI 3.2.3 – Compliance and Enforcement

Performance Indicator	**PI 3.2.3 (Scoring issue: c) Compliance, PNG System**	
Score	70	
Justification	PI 3.2.3 – Compliance and enforcement In PNG, the TRL management measures include: (a) Licensing, (b) Size Limits and Restriction on Egg-bearing Females, (c) Gear Restrictions, (d) Home Reefs, (e) Total Allowable Catch (TAC), (f) Export, and (g) Reporting. Under the licensing measures, licensing conditions are set including among others the prohibition of the taking of turtles and dugongs by licensed vessels and dinghies while fishing for tropical rock lobster. In addition, under the size limit and restriction of egg-bearing female measure, it is prohibited to capture and export undersize TRL with a tail length of less than 115mm and berried (egg-bearing) female. The fishing licensed operator is also required to submit to NFA every 21st day of each month, the catch and effort data on the standard lobster logbook provided by NFA or the operator's record. During the field audit, it was found that the capture of the undersize and berried female lobster is still occurring by the fishers (divers) of the licensed fishing operators. These undersize lobsters are mainly sold in the local market or for the household consumption. In addition, there is anecdotal information that the divers also capture dugongs and turtles during the time of their fishing operation, although it might have not been done at the same time as when they are fishing for lobsters. Lobster fishing mainly take place during low tide, meanwhile dugong and turtles usually surface up in the reefs during high tide.	
Condition	By the fourth surveillance audit, evidence exist to show that fishers have complied with the management system including fishing regulations on the size limit, egg-bearing females and ETP species.	
Condition start	Immediately after the certificate is granted	
Condition deadline	*Fourth surveillance audit*	
Verification with other entities	*N/A*	
Milestone Year 1	Surveillance (YEAR 1): Milestone Year 1: Evidence that fishers (divers) and the licensed operators have been informed of the prohibitions to catch and sale undersized and egg-bearing female lobsters as well as the ETP species, such as dugong and turtles. Expected score: 70	
Client Action Plan	**Activities:**	NFA and (CEPA) to assess the ETP swimming in the reef, together with FIA develop material with photos and guidance for awareness to be placed onboard each vessel's platform moored in the reef. Continue to improve dialogue and collaboration between enforcement agencies concerning IUU detection and sanction options, including consideration of systematic non-compliance risks. Continue efforts to

		have the revised Fisheries Act finalized which includes measures to increase fines for various aspects of fishery management Develop a series of workshop (education awareness) with divers, and lobster operators to explained them about the importance of ETP in the ocean ecosystem, why should avoid catching and consequences of a non-compliance. Develop a series of workshop with divers, and lobster operators to explained them about the importance of undersized and egg-bearing female lobsters in the ocean ecosystem, why should avoid catching and consequences of a non-compliance. These programs will be revised, will be established for any diver or Lobster operations, annually assessment of outcomes to increase awareness about fees and non-compliance. Review TRL Management Plan to have conditions for the fishery to include ETP's protection
	Expected outcome:	Fishers are trained in the relevant prohibitions to catch and sale undersized and egg-bearing female lobsters as well as the ETP species, such as dugong and turtles Evidenced by: • Clipboards to place on board • PPT training material for workshop – awareness • Workshops (list of attendances, photos, workshop content) • NFA legislation for compliance and penalty's fees. • A report year # 1 with the non- compliance found during the trial period and recommendation to avoid the re-occurrence.
		NFA, TWG, FIA, and CEPA
Milestone Year 2	Surveillance (YEAR 2): Milestone Year 2: A compliance report is presented to the team to prove that divers and fishing operators have been informed of the relevant TRL fishery rules and regulations and as a result compliance is improved. Expected score: 70	
Client Action Plan	**Activities:**	Continue collaboration between divers and NFA enforcement department, detection and sanction options already in place. Development of a document or agreement to be signed by parties (divers, lobster operators and NFA) on appropriated enforcement and sanctions for non-compliance efforts respecting undersized and egg-bearing female lobsters and ETP. Including the commitment to support the MSC fishery standard requirements and the NFA fishery management plan and penalties. Monitoring results from NFA compliance unit – report. On-going enforcement efforts and improvements achieved will be presented to the CAB at the annual surveillance audit.
		• NFA Compliance report updated including data

	Expected outcome:	• Agreements signed by divers, and operations • Follow up report year # 2 to assess level of compliance against the report of year # 1.
		NFA, TWG and FIA
Milestone Year 3	Surveillance (YEAR 3): Milestone Year 3: An updated compliance report is provided to demonstrate compliance with TRL fishery rules and regulations and that fishers and operators have shared information importance to the management of the fishery. Expected score: 70	
Client Action Plan	**Activities:**	Evidence that agreed sanctions are being implemented. On-going at-sea enforcement efforts against non-compliance control. Coordination and control both at Sea and landing sites. On-going consultation to discuss options for alignment of regulations, monitoring, sanctions and practice On-going data collection for compliance.
	Expected outcome:	Current efforts of enforcement will be presented to the Certification Assessment Body (NFA compliance report) • Any sanctions raised, documented, and follow up • Consultation minutes (photos, attendances, discussion points) • Agreement about involved parties to respect and committed to the current fishery management plan • Report comparing Year # 1, Year # 2 and Year # 3 progress to track non-compliance
		NFA, TWG and FIA
Milestone Year 4	Surveillance (YEAR 4): Milestone Year 4: By the fourth surveillance audit, evidence exist to show that fishers have complied with the management system including fishing regulations on the size limit, egg-bearing females and ETP species. Expected score: 80	
Client Action Plan	**Activities:**	We will evaluate results and implications of the current NFA compliance and enforcement plan, including three-year assessment and data indicators. NFA and/ or FIA comparison assessment shows improvement compared to baseline data establish in certification year (2023). A management system in place that include NFA compliance report, monitoring program, officers responsible, frequency of monitoring, data collection sheet or electronic reports
		• Signed agreement (divers, lobster operators and NFA)

	Expected outcome:	• NFA and or FIA annual assessment comparison of non-compliance from 2023 (baseline), 2024 – 2027 • Report include the level of compliance or implementation of the management measures ensuring no juveniles and bearing-eggs were captured and other ETP species • NFA compliance management system documents
		NFA and FIA
Consultation on condition		

6.6.4 Condition 3-2 PI 3.2.3 – Compliance and Enforcement

Performance Indicator	**PI 3.2.3 (Scoring issue d) and Systematic non-compliance, PNG System**	
Score	70	
Justification	PI 3.2.3 – Compliance and enforcement In PNG, the TRL fishery is among the oldest fisheries, that since the early 80s has applied logbook as a mean to record the TRL catch. That logbook has gone through several revisions and the version that is currently being used was developed in 2002 by the NFA, soon as the NFA was established and designated as the PNG fishery management authority. Nevertheless, the NFA official recognizes that so far, the logbook has not been regularly and properly filled in by the fishing boat skippers/captains nor submitted by the licensed TRL fishing operators timely to NFA as required by the measures stipulated in the TRL Fishery Management Plan. This is also confirmed during the field audit when the auditors visited a licensed fishing boat used as the fishing base at sea, in Otamabu Reef, that there is no evidence of the presence of logbook onboard of the fishing base. The boat captain also admitted that he did not fill in the required logbook and only fill in the purchase record as required by the company. The NFA official confirmed that it is the obligation of the boat captain to properly fill in the logbook at sea. All the above have leaded the auditors to conclude that within the PNG system, there is a systematic non-compliance in the fishery.	
Condition	By the fourth surveillance audit, an updated compliance report is produced to demonstrate improved compliance with reporting regulation, including completion and maintenance of logbooks by the boat captain, first officer or company representative such that there is no evidence of systematic non-compliance.	
Condition start	Immediately after the certificate is granted.	
Condition deadline	*Fourth surveillance audit.*	
Verification with other entities	*N/A*	
Milestone Year 1	Surveillance (YEAR 1): Milestone Year 1: Evidence that the fishing operators and vessels owners and their vessels captains, have been informed of the requirement to carry log books, or other reporting methods to comply with NFA reporting requirements, on all vessels and for them to be completed by the Captain or an appointed person by the company and reports provided to the NFA. Expected score: 70	
Client Action Plan	**Activities:**	NFA to assess the current process of filling log-books and why fishing vessel captains are not filling it, and not reporting it to NFA officers. Together with FIA develop material with photos and guidance step by step for recording, accurate reporting, filling of the logbook in regular basis; and submitting in an agreed period of the data to the NFA

		Continue to improve dialogue and collaboration between Lobster's operators, NFA officers and Captains. If necessary; continue efforts to have the revised Fisheries Management Plan finalised which includes measures to increase fines for various aspects of fishery management. Develop a series of workshop (education awareness) with Captains, and lobster operators to explained them about the importance of continuously report in a regular basis the data collected: Recording, accurate reporting, filling logbooks and sending of data collected to NFA. The education awareness also will inform Lobster operators that FIA PNG office is the certificate holder with the responsibility of oversees the fishery improvement and reporting, having said that, FIA PNG office, also shall receive the data collected when it comes to landed lobster. These programs will be revised, will be established for any Captain/Sea based operations manager, and/ or Lobster operations, annually assessment of outcomes to increase awareness about fees and non-compliance. Awareness on License conditions and Management Plan to emphasize timely catch and effort data collection and submissions/reporting. Introduce and provide all the forms and types of data collection forms for submission.
	Expected outcome:	• Clipboards to place on board to informed Captains/ Sea based operations Manager and Lobster operations – Logbook process and frequency of reporting • Issue updated copies of License Conditions to each fishing vessels including copies of TRL Fishery Management Plan • PPT training material for workshop – awareness – NFA requirements • Workshops (list of attendances, photos, workshop content) • NFA legislation for compliance and penalty's fees. • A plan for awareness, training, monitoring, and implementation level per company and their divers.
		NFA, TWG and FIA
Milestone Year 2	Surveillance (YEAR 2): Milestone Year 2: A compliance report be presented to demonstrate that vessel owners and captains have been informed of the relevant regulations (including that on fishing logbook) and that compliance is improved as a result. Expected score: 70	
Client Action Plan	**Activities:**	Continue collaboration between Captains, operations managers and NFA enforcement department, detection, follow up and sanction options already in place. Development of a document or agreement to be signed by parties (Sea based-Operations Manager, lobster operators and NFA) on

		appropriated enforcement and sanctions for non-compliance efforts respecting regular logbook reporting and data collection; including the commitment to support the MSC fishery standard requirements and the NFA fishery management plan and penalties. Monitoring results of the forts year of implementation from NFA compliance department – report. On-going enforcement efforts and improvements achieved will be presented to the CAB at the annual surveillance audit. Reviewing the license conditions and ensure it captures updated and new information or developments in the fishery.
	Expected outcome:	• Signed agreements by Captains, and Lobster's operators (NFA and/or FIA) • NFA Compliance report, that vessel owners and captains have been informed of the relevant regulations (including that on fishing logbook) and that compliance is improved as a result. • FIA PNG annual Lobster volumes control report • Updated license conditions provided • A report year # 2 of implementation level of the NFA recommendation for reporting data
		NFA, TWG and FIA
Milestone Year 3	Surveillance (YEAR 3): Milestone Year 3: A compliance report be presented to demonstrate that vessel owners and captains have been informed of the relevant regulations (including that on fishing logbook) and as a result, compliance is significantly improved from the previous years. Expected score: 70	
Client Action Plan	**Activities:**	Continuous evidence collection that agreed sanctions are being implemented. On-going at- sea enforcement efforts against non-compliance control. Coordination and control both at Sea and landing sites in reporting and sending information. On- going consultation to discuss reporting process improvement (paper base or electronic) of monitoring, sanctions and practice. On-going data collection and reporting for compliance.
	Expected outcome:	• NFA Compliance report updated, that vessel owners and captains have been informed of the relevant regulations (including that on fishing logbook) and that compliance is improved as a result. • Sanctions raised (non-compliance) in the previous years for non-compliance. • Stakeholder and TWG meetings (emails, minutes, photos) • FIA PNG annual Lobster volumes control report

		• A documented report year # 3 comparing implementation level
		NFA, TWG and FIA
Milestone Year 4	Surveillance (YEAR 4): Milestone Year 4: An updated compliance report should be produced to show that compliance with reporting regulations (including completion and maintenance of logbooks) is significantly improved, such that there is no evidence of systematic non-compliance. Expected score: 80	
Client Action Plan	**Activities:**	NFA, TWG and FIA will evaluate compliance and enforcement plan, including three-year assessment and data indicators of recording and reporting. NFA and/ or FIA comparison assessment shows improvement compared to baseline data establish in certification year (2023) and possible no non-compliance in the last years (2027) A robust awareness system in place that include NFA monitoring program, officers responsible, frequency of monitoring, data collection sheet or electronic reports, and logbook information submitting to NFA and FIA PNG offices
	Expected outcome:	• A comprehensive report comparing the monitoring, recording and reporting (logbook) in the certification period, including sanctions (non-compliance) to be shared with the Certification assessment body (CAB) • A target in level (monitoring, recording and reporting) is expected with a significant increase of compliance on NFA reporting regulations • Update signed agreement among parties involved
		NFA, FIA PNG, and TWG
Consultation on condition		

6.6.5 Condition 3-3 PI 3.2.4 – Monitoring & management performance evaluation

Performance Indicator	**PI 3.2.4 (Scoring issue b) Internal and/or external review, PNG System**	
Score	70	
Justification	PI 3.2.4 – Monitoring and management performance evaluation PNG does not have a formal system to conduct regular internal reviews of its fishery-specific management system. Nevertheless, there are legal obligations – as mandated by the Fisheries Management Act 1988 and the TRL Fishery Management Plan- requiring the review of key parts of its management systems. During the field audit, we learned that the review of the parts of the management system, such as the fishery management plan is determined by the Fishery Manager in charge. Currently, the TRL Fishery Management Plan, for example, is being reviewed after a long while, that involves close consultations with the stakeholders. The current manager in charge has seen the urgent need to equally accommodate the new interest from industry/investors to get involved in the fishery that is currently not well captured in the management plan.	
Condition	By the fourth surveillance audit, evidence provided to show that the fishery-specific management system has functioning review mechanisms in place and its management system is subject to internal and external reviews.	
Condition start	Immediately after the certificate is granted.	
Condition deadline	*Fourth surveillance audit*	
Verification with other entities	*N/A*	
Milestone Year 1	Surveillance (YEAR 1): Milestone Year 1: Evidence that a process to have the review mechanism in place within the management system is provided. Expected score: 70	
Client Action Plan	**Activities:**	Mapping the stakeholders of the TSR Lobster involved in this fishery and developed a list of them. Consultation with local stakeholders in order to determine and agree in information to be reviewed in annual basis by the internal management system team. Assigned a TSR Lobster fishery management team for reviewing internal fishery management plan and write the outcomes. Write a procedure for a formal management review including topics to be reviewed, frequency, scope, and methodology. NFA will review the external organizations and frequency of reviewing the fishery management plan in order to formalise the process in a procedure and engaging all parties.

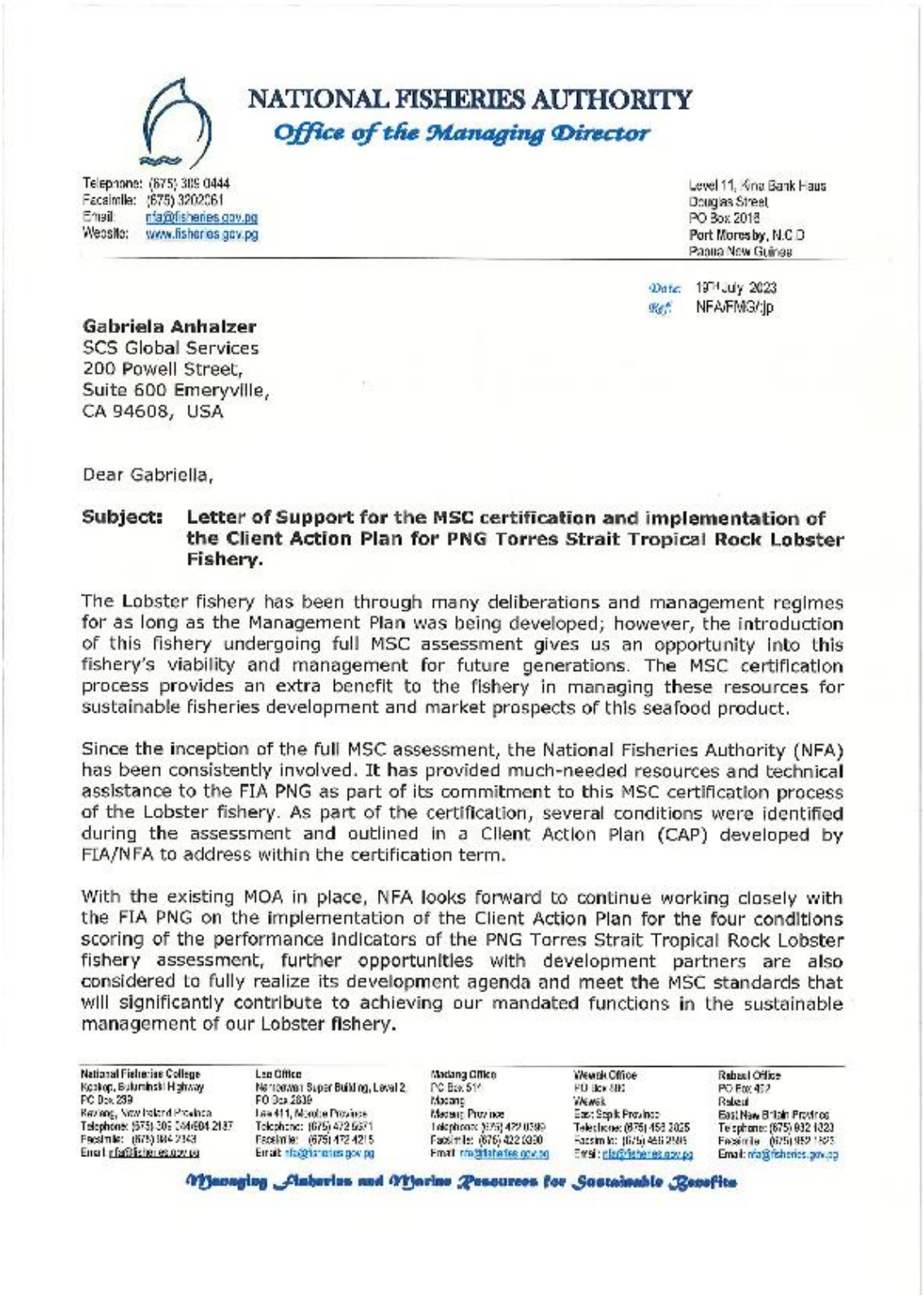
	Expected outcome:	A plan for the coming 5 years to implement the mechanism described below: Mechanism in place: procedure that describe the fishery management plan review both internal and external, including scope, responsible, methodology, and frequency. Meeting minutes of meeting with stakeholders. NFA draft of the fishery management plan review
		NFA, TWG and FIA PNG
Milestone Year 2	Surveillance (YEAR 2): Milestone Year 2: Evidence demonstrated that the process to establish review mechanism within the management system is advanced and supported by stakeholders. Expected score: 70	
Client Action Plan	**Activities:**	MoU or agreement with parties to commit and support the fishery management plan review, frequency and reporting. Initial draft of the internal and external fishery management review, based on stakeholder feedback taking by emails or meetings.
	Expected outcome:	• Signed MoU of stakeholders • Draft of the internal and externa fishery management plan and outcomes • A documented list of operators engaged. It is also included an analysis how our initial plan is implemented in the year # 1 after the initial creation.
		NFA, TWG and FIA PNG
Milestone Year 3	Surveillance (YEAR 3): Milestone Year 3: Evidence be presented to demonstrate that the review mechanism is supported (institutionalized), and functioning within the fishery-specific management system. Expected score: 70	
Client Action Plan	**Activities:**	Proposal to NFA to implement the Fishery management plan as part of the updated fisheries management Act 1998 and prepare a draft for gazzetta publication.
	Expected outcome:	• NFA formal proposal of formal implementation as part of the fisheries management Act 1998 • A documented proposal plan to be implemented and added in the PNG fishery legislation as a normal procedure for the TS Lobster fishery (fisheries management Act 1998)

		• A report that includes the recommendations and the implementation process of the previous three (3) years
		NFA
Milestone Year 4	Surveillance (YEAR 4): Milestone Year 4: Evidence provided to show that the fishery-specific management system has a functioning review mechanism in place and its management system is subject to internal and external reviews. Expected score: 85	
Client Action Plan	**Activities:**	After several years of reviewing and revising the fisheries management plan of TS Lobster, NFA will set up a fishery-specific management system with a review mechanism in place and its management system reviews for internal and external stakeholders. NFA – FIA PNG MoU supporting the MSC certification process and continuous fishery specific management system review
	Expected outcome:	• MoU (supporting letter) from NFA to FIA PNG and Lobster fishery operators supporting the Client Action Plan (CAP) implementation • NFA Lobster fishery management plan including the process or procedure of the management plan review. • A documented report verifying that the mechanism are in place and working according to the plan set up in year # 1
		NFA and FIA PNG
Consultation on condition		

6.7 Client Action Plan

Please see Section 6.6.1 where Client Action Plan is included in the tables of conditions in the PCDR and later versions of the report.

6.7.1 Letters of support



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Papua New Guinea

Date: 19th July 2023
Ref: NFA/FMG/jp

Gabriela Anhalzer
SCS Global Services
200 Powell Street,
Suite 600 Emeryville,
CA 94608, USA

Dear Gabriella,

Subject: Letter of Support for the MSC certification and implementation of the Client Action Plan for PNG Torres Strait Tropical Rock Lobster Fishery.

The Lobster fishery has been through many deliberations and management regimes for as long as the Management Plan was being developed; however, the introduction of this fishery undergoing full MSC assessment gives us an opportunity into this fishery's viability and management for future generations. The MSC certification process provides an extra benefit to the fishery in managing these resources for sustainable fisheries development and market prospects of this seafood product.

Since the inception of the full MSC assessment, the National Fisheries Authority (NFA) has been consistently involved. It has provided much-needed resources and technical assistance to the FIA PNG as part of its commitment to this MSC certification process of the Lobster fishery. As part of the certification, several conditions were identified during the assessment and outlined in a Client Action Plan (CAP) developed by FIA/NFA to address within the certification term.

With the existing MOA in place, NFA looks forward to continue working closely with the FIA PNG on the implementation of the Client Action Plan for the four conditions scoring of the performance indicators of the PNG Torres Strait Tropical Rock Lobster fishery assessment, further opportunities with development partners are also considered to fully realize its development agenda and meet the MSC standards that will significantly contribute to achieving our mandated functions in the sustainable management of our Lobster fishery.

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Managing Fisheries and Marine Resources for Sustainable Benefits

6.8 Surveillance

Table 13. Fishery surveillance audit

Surveillance Level	Year 1	Year 2	Year 3	Year 4
Level 4	Off-site surveillance audit	On-site surveillance audit	Off-site surveillance audit	On-site surveillance audit & re-certification site visit

Table 14. Timing of surveillance audit

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale
1	September 2024	October 2025	within 30 days of certificate anniversary per MSC FCP v2.2 §7.28.8

Table 15. Surveillance level rationale

Year	Surveillance activity	Number of auditors	Rationale
1	Off-site	2 auditors remote	Information needed to verify progress towards conditions can be provided remotely in year 1.

6.9 Harmonised fishery assessments

6.9.1 Principle 1 Harmonisation

There are no other certified fisheries on this stock or this species.

6.9.2 Principle 2 Harmonisation

There are no other MSC certified fishery that has a spatial overlap with the Unit of Assessment. Therefore, there is no need for any consideration under Principle 2 of cumulative impacts.

6.9.3 Principle 3 Harmonisation

There is one other PNG fishery that is MSC certified (the FIA purse seine skipjack and yellowfin fishery) but this operates under the management of the WCPFC as implemented by PNG using the Tuna Fishery Management and Development Plan. The TRL fishery is managed under a different international body (the PZJA) and the PNG aspects of management are implemented using a different management plan. This different combination of management organisations and arrangements means that harmonization is not considered to be appropriate or required.

6.10 Objection Procedure

No objections were received in response to the Final Draft Report and Determination announcement.

7 Template information and copyright

This document was drafted using the 'MSC Reporting Template v1.2'.

A controlled document list of MSC program documents is available on the MSC website (msc.org).

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