

TORRES STRAIT HAND COLLECTABLES WORKING GROUP	Out of Session September 2019
HARVEST STRATEGY Proposed change to the draft Beche-de-mer Harvest Strategy Catch-based decision rule	Agenda Item 1 For ADVICE

RECOMMENDATIONS

1. That the Working Group
 - a. **PROVIDE ADVICE** on the proposed change to the low tier catch-based decision rule (**Attachment 1a**) under the draft Beche-de-mer Harvest Strategy to clarify how a small overcatch of up to 20% of the TAC is accounted for in setting catch limits in subsequent fishing seasons; and
 - b. **NOTE** that no other changes are being proposed to the draft harvest strategy.

KEY ISSUES

2. The draft Beche-de-mer Harvest Strategy (BDM HS) was recommended as a final draft at HCWG15, and is to be considered by the PZJA for approval and implementation in time for the commencement of the 2020 BDM fishing season.
3. In planning for implementation of the harvest strategy and understanding the administration of adjusting and setting TACs each season, AFMA is proposing some changes to one component of the low tier catch based decision rule.
4. Please note, accounting for overcatches of the TAC under the draft harvest strategy is separate to the requirements for fishers to not take more than the TAC limit once notified by AFMA.

Catch-based decision rule for managing a small TAC overcatch (up to 20%)

5. At present, the rule for managing a small over catch stipulates that if the TAC is exceeded by less than 20% of the TAC, then carry over the exceeded catch and deduct it from the following year's TAC. In developing this rule, it was agreed that an overcatch of less than 20% of the TAC does not pose an immediate sustainability risk (for the following season), however persistent and small overcatches over time can have an impact on the sustainability of a stock.
6. Due to the likely delays in understanding total catch from the preceding season, an overcatch of the TAC may not be understood until partway through the following season. To avoid making adjustments to TACs in-season (which is disruptive for industry and administratively onerous), and to ensure that any overcatch of the TAC is adequately accounted for, AFMA is proposing that if the cumulative reported catches over a three year period exceed the TAC by greater than 5% and less 20%, then the total overcatch should be deducted from the TAC in the next full fishing season.

7. This approach is consistent with scientific advice from the Principal Investigator of the Beche-de-mer Harvest Strategy project and HCWG scientific member that states if larger annual catches are followed by rest periods (with no fishing for 2-3 years), then the risks to the fishery are the same or lower than if the total catch over a three-year period was taken as a third of the total each year. In other words, a combined overcatch that is between 5% and 20% of the combined TAC over three years should be accounted for in the fourth year.
8. Further, given the administrative costs of time spent making very small changes to the TAC season to season, it is proposed that if the overcatch in a given season is very small (i.e. <5% of the TAC), then no adjustment to the TAC is required. This is because the risk to the stock is considered very low given that a level of precaution has already been factored in developing the new TACs under the harvest strategy.
9. A summary of the proposed changes to the catch-based decision rule for managing a small overcatch (up to 20%) is outlined in **Attachment 1a**.

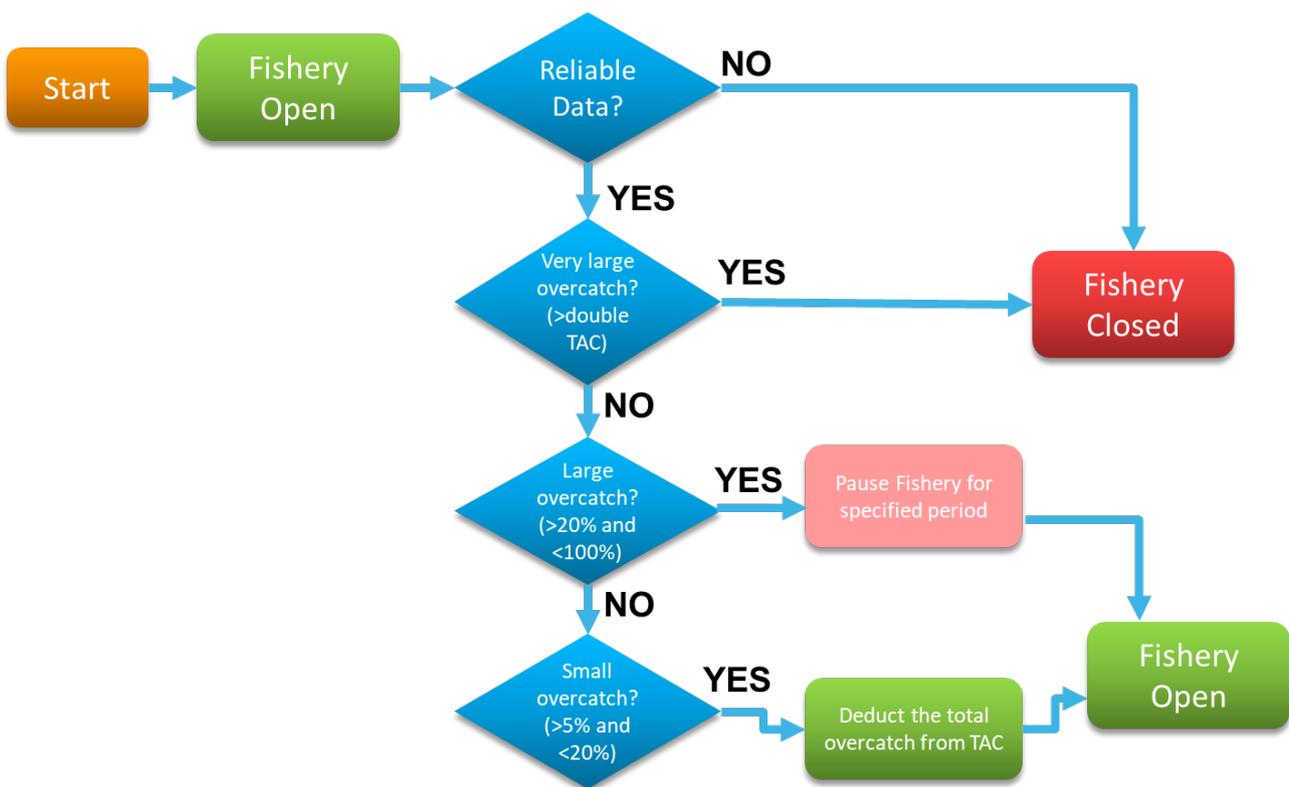
BACKGROUND

10. The draft Beche-de-mer harvest strategy specifies the data that are needed to effectively adjust TACs and manage the fishery to meet biological, social and economic objectives.
11. Setting sustainable TACs each season under the harvest strategy will depend critically on the provision of timely and reliable, species specific catch data through the Fish Receiver System, as well as fisher logbook data. HCWG15 acknowledged that instances of late data submission will have significant implications on the ability of the Working Group to advise the PZJA on appropriate catch limits.
12. The future growth and successful management of the BDM fishery will be greatly strengthened by a combination of reliable, and timely data collection and an agreed harvest strategy to guide the sustainable and optimal use of beche-de-mer in line with agreed objectives for the fishery.

Proposed Changes to the Low Tier Catch-Based Decision Rule

This is a low tier rule that is applied to all species in the absence of data other than total annual catch per species:

- 1. If no reliable catch-reported data, then TAC = 0;
- 2. If reported catches exceed the TAC by more than double, close the fishery;
- 3. If reported catches exceed the TAC by >20% and <100% (double), then pause fishing for one fishing season;
- 4. If the cumulative reported catches over a three year period exceed the TAC by >5% and <20%, then deduct the total overcatch ~~carry over the exceeded catch and subtract from the TAC in the next full fishing season~~ from the following year's TAC;



TORRES STRAIT HAND COLLECTABLES WORKING GROUP	Out of Session September 2019
HARVEST STRATEGY Update on Beche-de-mer Harvest Strategy Implementation	Agenda Item 2 For INFORMATION

RECOMMENDATIONS

1. That the Working Group **NOTE** that AFMA is continuing to work towards having the draft beche-de-mer harvest strategy considered the PZJA before the commencement of the 2020 BDM fishing season;
2. That the Working Group **NOTE** that due to resourcing constraints, the remaking of *Fisheries Management Instrument No. 15* (FMI 15) will not be complete in time for the commencement of the 2020 BDM fishing season
3. That the Working Group **NOTE** that until FMI 15 is remade the changes under the draft harvest strategy to:
 - a. TACs will continue to be given effect through licence conditions; and
 - b. minimum size limits of beche-de-mer will not be implemented. Minimum sizes will remain unchanged because minimum size limits are prescribed within the current Instrument.

KEY ISSUES

Changes to TACs under the draft BDM HS

1. Should the PZJA agree to the final BDM Harvest Strategy before the end of the year, the strategy will be implemented in time for the commencement of the 2020 fishing season.
2. At present, TACs for the beche-de-mer Fishery are prescribed within the conditions outlined on a BDM endorsed Traditional Inhabitant Boat (TIB) licence. In order to continue with BDM HS implementation, it is proposed that existing TIB licence conditions are varied to include the new starting TACs as per the BDM HS. This will require formal Native Title Notification under section 24HA (7) of the *Native Title Act 1993* for a period of six weeks.

Remaking FMI 15

3. Due to resourcing constraints within AFMA, the proposed remaking of Fisheries Management Instrument No. 15 (FMI 15) will not occur in time for the 2020 season.
4. AFMA will continue progressing the remaking of FMI 15, and will provide an exposure draft and explanatory statement for HCWG consideration when available. Following this, the PZJA will consider the draft instrument to release for public comment for a period of six weeks. Having regard to any public comments received and further HCWG advice, a final PZJA decision on remaking the Instrument is anticipated in early 2020.

Changes to minimum size limits under the draft BDM HS

5. Proposed changes to minimum size limits as prescribed in the draft harvest strategy will not be implemented for the 2020 fishing season. This is because minimum size limits are

prescribed within FMI 15, and in the absence of remaking the Instrument, existing minimum size limits will continue to apply until the new Instrument is remade.

Closing a fishery

6. Further, in the absence of the new Instrument, the mechanism to close a fishery will remain through licence conditions and formal notification to licence holders.
7. An overview of updated timelines for BDM HS implementation is outlined in **Table 1**.

BACKGROUND

Remaking the BDM Instrument

8. The BDM Fishery is currently regulated by the *Torres Strait Fisheries Management Instrument No. 15*, made under section 16 of the Act, in absence of a statutory management plan. Total Allowable Catch limits are provided for through licence conditions and other input controls are provided for in policy (e.g. the 7m boat length restriction).
9. Historically, existing management arrangements for the BDM Fishery have been largely sufficient to keep reported catch levels below the sustainable, yet relatively conservative, Total Allowable Catch limits.
10. Under the BDM HS, a number of new species with conservative starting TACs (e.g. 5 tonnes) will require the ability to effectively cease fishing if it is deemed the TAC is likely to be reached before the end of the fishing season. This also applies to an opening of black teatfish (or other closed species), where previous opening periods have demonstrated high catch rates resulting in the fishery exceeding the TAC within a short time.
11. In order to reduce the risk of overfishing and exceeding a TAC limit the proposed BDM Instrument will provide for the closure of an individual species or species basket prior to the end of the fishing season (31 December) in circumstances where the commercial catch of BDM is likely to exceed the TAC before the end of a fishing season. In the absence of a statutory management plan, implementing TACs through the Instrument is considered to be best administrative practice.
12. The fishing season will continue to operate annually from 1 January to 31 December however the season for particularly species will be able to be closed early if the CEO of AFMA determines that the TAC will be reached prior to 31 December.
13. The draft Instrument will also create provisions for determining a specific opening period for a closed species (to be called a “restrictive species”).
14. Any opening or closure will be given effect through a written notice issued by the AFMA CEO to licence holders specifying a date of opening and date the TAC would be reached, causing the early closure of the fishing season.
15. In remaking the Instrument, a number of other changes will be made to align with the recommendations under the HS, including updated minimum size limits and the streamlining of any legislative drafting inconsistencies.

Regulation of Traditional Fishing

16. The proposed amendments to the BDM Instrument include removing any regulation of Traditional Fishing. The current possession limits for traditional fishing are being removed to reflect that the PZJA jurisdiction does not extend to traditional fishing.

17. A further advice will be provided to the PZJA on this issue for the BDM Fishery, as well as other PZJA fisheries regulated under separate legislative instruments, in due course.

Table 1. Revised timeline for harvest strategy implementation and remaking of FMI 15.

Step		Timeframes
1	Initial consultation with HCWG on proposed making/amendment of a fishery management instrument	HCWG15 (1-2 August 2019)
2	Draft instrument/amendments to an existing fishery management instrument. a. Check that a fishery management instrument, under s 16 of the Act, is the appropriate mechanism (i.e. is there provision under s 16 of the Act to do what is proposed). b. Determine appropriate delegation for the making/amendment of the fishery management instrument.	In progress
3	Submit a preliminary assessment to the Office of Best Practice Regulations relating to whether a Regulatory Impact Statement is required	In progress
4	Send out Native Title Notification in relation to varying licence conditions to include new TACs under BDM HS	Late September (open for 6 weeks)
5	Native Title Notification period closes	Early November
6	PZJA consideration to: a. Agree to implement final BDM Harvest Strategy and new TACs for 2020 season b. Agree to recommended conversion ratios under the HS	Mid November 2019
7	Public comment period: a. All affected licence holders b. Relevant PZJA RAGs and WGs c. Relevant Native Title bodies and claimants	Late November/ December 2019
8	AFMA CEO to notify all licence holders of: a. new TACs ahead of 2020 season b. application of agreed conversion ratios	December 2019
1 January 2020 BDM season roll over with new TACs		
9	PZJA consideration to: a. Remake FMI 15 and release exposure draft of new Instrument for public comment for six weeks.	Late January 2020
10	HCWG 16 consideration of: a. advice received through public comment process on remaking FMI 15	HCWG16 (Early Feb - TBC)
11	PZJA agreement to: a. Execute the new Instrument including authorisation to publish and register on the Federal Register of Instruments.	April 2020

TORRES STRAIT HAND COLLECTABLES WORKING GROUP	Out of Session September 2019
HARVEST STRATEGY Update on Black teatfish opening	Agenda Item 3 For INFORMATION

RECOMMENDATIONS

1. That the Working Group **NOTE** the updated process in relation to opening the black teatfish fishery. In particular,
 - a. That the HCWG 15 recommended an opening occur on 1 February 2020;
 - b. However, based on the need for further HCWG advice on reporting requirements, an appropriate TAC, finalisation of management settings and time to inform industry and communities of the opening, prior to a PZJA decision, AFMA expects that the earliest opportunity for an opening is June 2020.

KEY ISSUES

2. At their meeting on 1-2 August 2019, HCWG15 recommended that the PZJA consider opening the black teatfish fishery on trial basis on 1 February 2020, contingent on the implementation of the beche-de-mer Harvest Strategy, and remaking of the *Fisheries Management Instrument No. 15* (FMI No. 15).
3. It was also recommended that that HCWG Traditional Inhabitant members undertake community consultation regarding constraining access of TIB licence holders to black teatfish resources through customary protocols and traditional lore, and collecting high resolution catch and effort data to complement the BDM stock survey and provide a CPUE baseline.
4. Prior to a PZJA decision to open the fishery, AFMA would require HCWG advice to make a number of other regulatory changes to facilitate a successful opening. This includes:
 - a. making the necessary changes to reporting requirements (i.e. daily) based on HCWG advice;
 - b. develop HCWG advice on an appropriate TAC for black teatfish as guided by the harvest strategy re-opening decision rule and updated information from the beche-de-mer stock survey;
 - c. finalise management settings for an opening based on further HCWG advice;
 - d. generate community awareness and education regarding the opening itself, the necessary changes to reporting requirements, and compliance expectations before, during and after the opening; and finally
 - e. have the new Instrument to come in to effect to provide the robust regulatory means for facilitating an opening.
5. AFMA does not expect each of the above activities to be able to occur prior to the HCWG recommended 1 February 2020 opening date.

6. Although AFMA is continuing work towards having the draft beche-de-mer harvest strategy is on track considered by the PZJA before the commencement of the 2020 fishing season, the remaking of *Fisheries Management Instrument No. 15* (FMI 15) is not expected to be complete until early 2020.
7. Having regard for the above AFMA expects that the earliest opportunity for a black teatfish opening is June 2020.

TORRES STRAIT HAND COLLECTABLES WORKING GROUP	Out of Session September 2019
Five Year Fishery Research Plan 2020/21 – 2024/25	Agenda Item 4 For ADVICE

RECOMMENDATIONS

1. That the Working Group:
 - a) **PROVIDE ADVICE** on the list of research priorities, recommended year to undertake the projects (project timings), and order of ranking as outlined in Table 1 of the Hand Collectables Five Year Research Plan 2020/21 - 2024/25 (**Attachment 4a**) as per discussions from HCWG15 (1-2 August 2019) for TSSAC consideration; and
 - b) **NOTE** that approximately \$365,000 of a possible \$411,000 of TSSAC research funds for the 2020-21 financial year is already committed. This leaves the TSSAC with approximately \$45,000 for urgent tactical research projects during the 2020-21 financial year.

KEY ISSUES

2. Under the various themes of the TSSAC Strategic Research Plan (SRP) (**Table 1**), each PZJA Working Group and Resource Assessment Group (RAG) is tasked with identifying research priorities for their respective fisheries and updating their five year fishery research plans each year.
3. Based on earlier Working Group discussions, HCWG15 identified a range of potential research priorities for Hand Collectable Fisheries over the next five years. These included:
 - a. Management Strategy Evaluation (MSE) of the BDM Harvest Strategy
 - b. Assessing of socio-economic value of beche-de-mer, trochus and pearl shell fisheries in the Torres Strait
 - c. Assessing the risks and impacts of discarded and wasted beche-de-mer product on the integrity of BDM TACs
 - d. Understanding critical conversion ratio uncertainties for boiled and salted weight to gutted weight of curryfish species
 - e. Understanding gaps in knowledge of biological parameters of BDM species including growth, mortality, size and breeding seasonality
 - f. Undertaking an Ecological Risk Assessment for the Torres Strait Pearl Shell Fishery
4. An excerpt of the discussion regarding research priorities from the draft HCWG15 meeting record is provided at **Attachment 4b**.
5. With \$45,000 available for any urgent tactical research projects in the 2020-21 financial year, the Working Group should review Table 1 of **Attachment 4a** in the five year research plan, noting in particular the project timings and prioritisation/ranking over the next five years.

6. Another opportunity to amend the research plan will be provided in 2020 before the 2021-22 call for research.

BACKGROUND

7. The Torres Strait Scientific Advisory Committee operates under a Five Year Strategic Research Plan. The SRP is the overarching document providing the TSSAC's strategic themes which guide priority setting for research in the Torres Strait fisheries over a five year period. The document identifies three research themes, and under these, strategies and possible research activities against these themes. The document also provides guidance to researchers on research application development and the TSSAC and PZJA forums in assessing applications through the assessment criteria in the SRPs appendices. The SRP was finalised by the TSSAC in mid-July 2018.
8. The TSSAC requires each fishery to develop a five year fisheries research plan, which fits into the themes identified in this SRP.

Torres Strait Fisheries Strategic Research Plan 2018-2023

9. The SRP specifies the research priorities and strategies that the PZJA intend to pursue in Torres Strait fisheries, and provides background to the processes used to call for, and assess, research proposals. The research priorities can be broad, covering all topics within the SRP, some of which may be funded by AFMA, and some of which may require funding from other funding bodies.
10. There are 3 research themes within the SRP, under which the HCWG could identify research priorities for the Beche-de-mer, trochus and pearl shell fisheries. There are several strategies under each theme and suggested ideas to help the Working Group to get thinking about the sorts of projects which may go under these themes and strategies.

Rolling Five Year Fishery Research Plans

11. In the past, fishery specific research planning was undertaken through fishery specific research priorities being included in the SRP and each Torres Strait fishery completing a list of annual research priorities, which fed into the TSSAC annual research statement. This process has now been simplified by combining individual fishery planning into one rolling five year research plan per fishery. The plans are written by the relevant Torres Strait forum (Working group, MAC or RAG) based on the themes and strategies identified in the 5 year SRP. These plans are then used by AFMA and the TSSAC to create an annual research statement (ARS), listing annual priorities for Torres Strait research across all fisheries. The new plan should simplify this process.
12. The rolling five year research plans will be updated annually, thus always having a five year projection for research. It is possible that these plans will not be finalised in time for the development of the TSSAC 2020-21 ARS. In this case, fisheries will be asked to submit a one year list of research priorities for 2019-20, and the rolling five year research plan will be applied to the following year (2020-2021 and beyond).

Table 1. Torres Strait fisheries strategic research themes, strategies and research activities

Theme 1: Protecting the Torres Strait marine environment for the benefit of Traditional Inhabitants	
Aim: Effective management of fishery stocks based on understanding species and their biology and ecological dependencies so it can support Traditional Inhabitant social and economic needs.	
Strategy 1a - Fishery stocks, biology and marine environment	Possible research activities under this theme may include: <ul style="list-style-type: none"> a. Stock assessment and fishery harvest strategies for key commercial species. b. Ecological risk assessments and management strategies for fisheries. c. Minimising marine debris in the Torres Strait. d. Addressing the effects of climate change on Torres Strait fisheries through adaptation pathways for management, the fishing industry and communities. e. Incorporating Traditional Ecological Knowledge into fisheries management. f. Methods for estimating traditional and recreational catch to improve fisheries sustainability.
Strategy 1b – Catch sharing with Papua New Guinea	Possible research activities under this theme may include: <ul style="list-style-type: none"> a. Status of commercial stocks and catches by all sectors within PNG jurisdiction of the TSPZ. b. Good cross-jurisdictional fisheries management through better monitoring and use of technology.
Theme 2: Social and Economic Benefits	
Aim: Increase social and economic benefits to Traditional Inhabitants from Torres Strait Fisheries.	
Strategy 2a - Promoting social benefits and economic development in the Torres Strait, including employment opportunities for Traditional Inhabitants	Possible research activities under this theme may include: <ul style="list-style-type: none"> a. Models for managing/administering Traditional Inhabitant quota b. Understanding what influences participation in commercial fishing by Traditional Inhabitants. c. Understanding the role and contribution of women in fisheries. d. Capacity building for the governance of industry representative bodies e. Methods for valuing social outcomes for participation in Torres Strait fisheries. f. Identifying opportunities and take-up strategies to increase economic benefits from Torres Strait fisheries.
Theme 3: Technology and Innovation	
Aim: To have policies and technology that promote economic, environmental and social benefits from the fishing sector.	
Strategy 3a – Develop technology to support the management of Torres Strait fisheries.	Possible research activities under this theme may include: <ul style="list-style-type: none"> a. Electronic reporting and monitoring in the Torres Strait, including for small craft. b. Technologies or systems that support more efficient and effective fisheries management and fishing industry operations.

Five Year Fishery Research Plan

(HCWG15 draft meeting record excerpt)

1. The Working Group discussed and advised on research priorities for hand collectable fisheries in line with the three research themes identified under the TSSAC Strategic Research Plan to support the Five Year Hand Collectable Fisheries Research Plan 2020/21 – 2023/24.
2. Noting a declared conflict of interest in the matter, CSIRO suggested that Management Strategy Evaluation (MSE) testing of the BDM HS be considered as a future research priority. The Working Group acknowledged that some components of the BDM HS are underpinned with MSE tested mechanisms, it would be best practice to undertake full MSE testing of the HS to ensure it is achieving its objectives. The outcomes of the testing are useful in helping understand the risk (if any) to the fishery. The Working Group further noted that it may take 3-5 years of harvest strategy implementation and time series of data before MSE testing is achievable, however should there be external pressure (e.g. from a CITES Appendix II listing) to demonstrate the HS is working, MSE can occur sooner.
3. The Maluilgal traditional inhabitant member reiterated the importance of the TIB sector upholding their responsibilities in providing timely and accurate catch data to support MSE testing of the BDM HS.
4. TSRA suggested assessing the longer term socio-economic value of beche-de-mer, trochus and pearl shell fishery and understanding where the maximum value lies in meeting the fishery objectives under the Torres Strait Fisheries Act 1984.
5. Given the anecdotal evidence of increased product wastage, particularly with curryfish species during handling processes, TSRA suggested undertaking an assessment of the risks and impacts of discarded and wasted product on the integrity of TAC limits. This could be coupled with understanding and improving industry processing methods to achieve higher market prices (particularly for lower value species).
6. Industry members agreed that it would be useful to understand more about market chains and trends in supply and demand for beche-de-mer, noting that some of this information is to be included in the TSRA Exporters Handbook.
7. The Working Group agreed that undertaking field sampling of BDM species to develop conversion ratios for boiled and salted weight to gutted weight, and understand critical uncertainties for Torres Strait species and processing methods should remain as an essential and high research priority. Although there are ongoing efforts by industry members to collect conversion ratio data in the field, there are significant benefits in undertaking a small, concise and targeted research project to collect the data in the short term.
8. The Working Group also agreed that identifying gaps in knowledge of biological parameters of BDM species including growth, mortality, size and breeding seasonality should remain as a desirable and lower research priority.

ACTION ITEM #4: AFMA to populate the Hand Collectable Fisheries Five Year Research Plan based on HCWG discussions and circulate back to HCWG members out of session for comment before submitting to the TSSAC for their consideration.

Five-year Research Plan 2020/21 – 2024/25

Torres Strait Hand Collectable Fisheries

Beche-de-mer
Pearl shell
Trochus



**COMPILED BY THE HAND COLLECTABLES WORKING GROUP
(HCWG15)**

September 2019

ABOUT THIS PLAN

The Torres Strait Scientific Advisory Committee (TSSAC) seeks input from each fishery advisory body (Resource Assessment Group (RAG), Management Advisory Committee (MAC) or Working Group (WG)) to identify research priorities over five year periods from 2020/21 to 2024/25. This template is to be used by the relevant advisory body to complete their five-year plan. The plans are to be developed in conjunction with the TSSAC Five-year Strategic Research Plan (SRP) with a focus on the three research themes and associated strategies within the SRP.

All fishery five-year plans will be assessed by the TSSAC using a set of criteria, and used to produce an Annual Research Statement for all Torres Strait fisheries.

The TSSAC then develop scopes for the highest ranking projects in order to publish its annual call for research proposals. There are likely to be more scopes that funding will provide for so TSSAC can consider a number of proposals before deciding where to commit funding.

The fishery five-year plans are to be reviewed and updated annually by the Torres Strait forums to add an additional year onto the end to ensure the plans maintain a five year projection for priority research. Priorities may also change during the review if needed.

DRAFT

Table 1. Research priorities for Torres Strait Hand Collectable Fisheries for 2020/21 – 2024/25.

Proposed Project	Objectives and component tasks	Year project to be carried out and indicative cost					Other funding bodies		Evaluation		
		2020/21	2021/22	2022/23	2023/24	2024/25	Notes on project timings		Priority essential /desirable	Priority ranking (1-5)	Theme
Stock Status Survey*	To undertake a stock survey of all Torres Strait beche-de-mer species with a focus on deeper water species	\$81,598					Endorsed by TSSAC – survey work expected to commence in early 2020	TSRA (primary) CSIRO (in-kind)	Essential	2	1
Ecological Risk Assessment (ERA)*	Conduct an ERA for the TSBDM Fishery						Nil	CSIRO (in-kind)	Desirable	3	1
Climate Change impacts and vulnerability*	Scoping study across all Torres Strait								Desirable	3	1
Understanding critical uncertainties for Torres Strait species and processing methods for all species	Undertake field sampling of BDM species to develop conversion ratios for boiled and salted weight to gutted weight.		\$12,000						Essential	1	1
Management Strategy Evaluation (MSE) of the Beche-de-mer Harvest Strategy	1. Collate all data and biological information; 2. Update and extend the spatial multispecies TS BDM operating model developed earlier (or construct a new model); 3. Use MSE to evaluate how well the HS achieves the pre-specified objectives; 4. In consultation with stakeholders, use the MSE framework to investigate ways to improve the current HS.				\$130k ^		Will require 3-5 years of BDM HS implementation before MSE testing is achievable. However, can be undertaken sooner if external pressure requires (e.g. CITES Appendix II listing)		Essential	2	1

Promoting social benefits and economic development of hand collectable fisheries	Assessing the socio-economic value of beche-de-mer, trochus and pearl shell fisheries & identifying opportunities to increase economic benefits.			Not costed					Essential	3	2
Improving best practice processing methods of beche-de-mer	Understanding and improving industry processing methods to achieve higher market prices (particularly for lower value species)	Not costed - advice pending					Subject to broader collaborative funding		Desirable	4	3
Ecological Risk Assessment (ERA)	Conduct an ERA for the Torres Strait Pearl Shell (TSPF) Fishery			\$20,400			Nil	CSIRO (in-kind)	Desirable	5	1
Understanding biological parameters of BDM species, including growth, mortality, size and breeding seasonality.	Identifying gaps in knowledge of biological parameters of BDM species and investigating options for collaborative research	Difficult to cost due to lack in feasible methodologies							Desirable	5	1

Notes

* Light blue shaded projects are underway, funded in 2019/20 financial year.

^ Advice from CSIRO: Rough costing takes into account time needed to collate all fishery-dependent and fishery-independent data, develop and refine existing operating model and MSE framework, costs of attending at least 2 meetings to consult with stakeholders