

<b>TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE</b>	<b>Meeting No. 16 May 2015</b>
<b>MANAGEMENT Future operating environment of the TSPF – where to from here</b>	<b>Agenda Item No. 4.1 FOR DISCUSSION</b>

### RECOMMENDATION

That the Torres Strait Prawn Management Advisory Committee (TSPMAC):

1. **NOTES** the history of TSPMAC discussions on management options for the Torres Strait Prawn Fishery (TSPF) focussed on providing a less restrictive fishing environment (detailed in [Attachment 4.1A](#));
2. **ACKNOWLEDGES** the research and consultation conducted over the last 3 years relating to management options in the TSPF; and
3. **AGREES** on a prioritised list of management options focussed on increasing the viability of the TSPF for consideration by the Standing Committee.

### BACKGROUND

Although the Australian fleet is annually entitled to 6,867 nights in the fishery effort has stabilised at around 2,200 nights since 2011 (Table 1). Options to improve effort and profitability levels in the TSPF have been discussed by the TSPMAC since December 2009. During this period, the TSPMAC noted that the only option they think is likely to have a significant impact on the fishery would be relaxing boat and gear restrictions (see [Attachment 4.1A](#) for a detailed history of discussions). A brief timeline of discussions is in Table 2.

Despite the decrease in effort, catches remain high (Table 1) indicating a healthy prawn stock.

**Table 1.** Catch and effort in the TSPF for 1991-2003 and 2010-2014.

Species	Average catch (t) and effort (days) 1991-01	MSY (t)	2011 catch (t) and effort (days)	2012 catch (t) and effort (days)	2013 catch (t) and effort (days)	*2014 catch (t) and effort (days)
Tiger prawn	659	676	240	398	420	286
Endeavour	1097	1105	74	115	103	70
No. boats operating	NA	NA	20	23	25	24
Effort	9781	NA	1663	2310	2240	2203

**Table 2.** Timeline of key discussions around TSPF profitability and future management.

Milestone	Date	Action
The TSPMAC discussed the TSPF Harvest Strategy and the need to find ways to improve the profitability of the TSPF alongside implementation of the fisheries harvest strategy.	December 2009	PZJA agencies developed an options paper looking at ideas for implementing changes to management arrangements.
TSPMAC recommended a trial of larger boats and gear for the TSPF to the PZJA Standing Committee. The recommendation including specific rules around the trial ( <a href="#">Attachment 4.1B</a> ).	2 June 2011	Paper went to PZJA SC.
PZJA Standing Committee noted the TSPMAC recommendation and asked that further consultation be undertaken with communities before a trial would be agreed to. The PZJA SC agreed to support the trial depending on the outcomes of consultation.	20 June 2011	A private consultant was engage to undertake consultation about the views Torres Strait community members have on a trial of larger boats and gear in the TSPF.
Torres Strait community consultation was undertaken by Anthony Defries. Results of the consultation indicated that communities were not supportive of a trial of larger boats and gear at the moment, as they see there is communities hold all the risk of the fishery operating in their backyard while there is no flow of benefits from the fishery to communities.	2012-2013	The results of the consultation went back to the TSPMAC in July 2013.
Native Title ruling for the Torres Strait Regional Sea Claim	February 2013	The ruling acknowledges non-exclusive native title rights in an area of the TSPZ.
The TSPMAC AGREED that the PZJA Standing Committee should consider both the previous TSPMAC recommendation, as	July 2013	

well as the outcomes of the community consultation on boat and gear trials when making a decision on whether a trial of larger boats and gear in the TSPF should occur.		
The PZJA Standing Committee agreed to delay consideration of a trial of larger boats and gear in the Torres Strait Prawn Fishery (TSPF) until further information on the flow of benefits to the traditional sector is known, given the findings of the consultation and outcomes of the 14 <sup>th</sup> meeting of the Torres Strait Prawn Fishery Management Advisory Committee (TSPMAC).	December 2013	The TSSAC funded a private consultant to undertake a project exploring TSPF profitability and flow of benefits to communities.
Private consultant engaged for a project to explore mechanisms to develop cost effective ways to transfer benefits from the TSPF back to traditional owners, while improving profitability of the fishery.	Late 2014 – June 2015	

Discussions with the TSPMAC, as well as AFMA and ABARES economists indicated that the decline in effort is linked to:

- a higher fuel / freight cost;
- reduced supporting infrastructure in the region (flights and mother shipping);
- static product prices; and
- value of the Australian dollar.

Managing the TSPF is a complex balance between acknowledging and protecting the traditional way of life and livelihood of traditional inhabitants, while ensuring environmental sustainability, optimum utilisation and economic efficiency. While the TSPF has fully transferable entitlements (both boat licences and units of fishing capacity) the current management arrangements and conditions do not appear to be driving autonomous restructure of the fishery. Despite significant latent effort, each licence holders unit holdings have remained quite static. In addition, advancing any further options for freeing up restrictions in the TSPF has failed. This is due primarily to differing stakeholder views, and sometimes these views even fall outside of the scope of the legislated objectives for the fishery.

During discussions since 2009, it became apparent that some of the concern from communities was that they hold all the risk associated with a fishery operating in their backyard, while they currently feel they have no benefits from this TSPF. As a means of negotiating this obstacle, AFMA (with the endorsement of Traditional Inhabitants) funded a research project which aimed to investigate the flow of benefits from the TSPF to communities, and improve the profitability of the fishery in general, thus creating an increased flow on effect to communities (If the flow of benefits to

communities is improved, there may be more business opportunities. This may give rise to greater interest in discussing mechanisms to improve the fishery profitability).

As this research project has now been completed the TSPMAC should reconsider management options for the TSPF considering the outcomes of the project discussed at agenda item 3.7.

## **DISCUSSION**

The management of the TSPF must occur with regard to the objectives of the Torres Strait Fishery Act, and the TSPF Management Plan. These objectives were designed in consultation with all stakeholder groups to guide management in the directions seen to be most important by the PZJA (Attachment C).

In discussing the management options provided below the TSPMAC should give consideration to the capacity of each option to meet the legislated objectives for the fishery and also their potential impact on the current blockages to autonomous restructure in the fishery (e.g. unit value, too many units/ fishing days).

### **Future management options for the TSPF may include:**

1. Changes to the target reference points under the TSPF Harvest Strategy 2015 (i.e. adopting an MEY target or a sliding target to adopt MEY over a number of years) - To be presented by Robert Cototti (ABARES);
2. Temporal changes (season dates) – To be presented by Marshall Betzell (TSPF Industry);
3. Changes to boat and gear restrictions – to be presented by Lisa Cocking (AFMA);
4. A hybrid trade off where the TAE may be reduced in response to a loosening of boat/gear restrictions, spatial closures, or temporal closures (or combination of) – Discussion to be facilitated by the TSPMAC Chair.

Each of these management options is discussed in agenda items 4.1.1-4.1.3.

## **FINANCIAL IMPLICATIONS**

There are likely to be costs associated with management changes depending on which options are considered or recommended by the TSPMAC. Any recommendations would need to be considered by the PZJA.

## TSPMAC #16 - Attachment 4.1A

Effort has declined in the Torres Strait Prawn Fishery (TSPF) from 2001, reaching a low of 1,663 days in 2011 (around 24%) and restabilising at just over 2,200 days throughout 2012-2014 (around 30% of the TAE -Table 1). There were between 20 and 25 boats fishing during the season in 2011-2014 (Table 1). Some of these boats only fished for a short period while others fished a full season (Table 2). Despite the decrease in effort, catch remains high (Table 1) indicating a healthy prawn stock. The decline in effort is reported to be most likely associated with a decline in profitability linked to higher fuel / freight costs, static product prices and reduced supporting infrastructure in the region (flights and mother shipping).

**Table 1.** Catch and effort in the TSPF for 1991-2003 and 2010-2014.

Species	Average catch (t) and effort (days) 1991-01	MSY (t)	2011 catch (t) and effort (days)	2012 catch (t) and effort (days)	2013 catch (t) and effort (days)	*2014 catch (t) and effort (days)
Tiger prawn	659	676	240	398	420	286
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No. boats operating	NA	NA	20	23	25	24
Effort	9781	NA	1663	2310	2240	2203

**Table 2.** Effort by boat for 2012-2014 fishing seasons.

Boat	2012 Days fished	2013 Days fished	2014 Days fished
1			14
2		64	
3	109	134	115
4	22	25	23
5	153	160	149
6	76	44	
7			87
8	88	19	
9	209	193	198
10	52	19	26
11		28	
12	24	9	21
13	182	147	42
14	152	85	42
15	14	13	13

## TSPMAC 16 Attachment 4.1B – TSPMAC 12 paper on 20m boat trials

<b>TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE</b>	<b>Meeting No. 12 1-2 June 2011</b>
<b>MANAGEMENT 20 metre boat limit and gear trial</b>	Agenda Item No. 3.1

### RECOMMENDATIONS

#### 3.1.1 The TSPMAC **NOTES** and **DISCUSSES**

- (a) the proposal for the 20 metre boat and gear trial in the TSPF;
- (b) the draft developmental permit conditions;
- (c) the number of boats over 20 metres that should be permitted to undertake the trial;
- (d) the minimum unit holding required for boats undertaking the two trials;
- (e) a recommended maximum boat size of 28 metres for the trial;
- (f) a recommended maximum combined headrope/ bottomrope length across all nets of 184 metres (as in QLD ECOTF);
- (g) the recommended additional permit condition relating to completion of gear sheets for existing operators; and
- (h) the process that will be undertaken to decide on which boats exceeding 20 metres in length will take part in the trials.

**3.1.2** The TSPMAC **RECOMMENDS** the implementation of the 20 metre boat and gear trial to the PZJA Standing Committee for consideration.

### BACKGROUND

The TSPF is regulated through input controls which include limited entry (61 licences) and a 9,200 unit Total Allowable Effort (TAE) cap based on the maximum sustainable yield of tiger prawns. Fisheries Management Notice (FMN) 71 also regulates fishing power in the TSPF by restricting operators to a combined headrope/ bottomrope length of 88 metres across all nets (including the try net) and FMN 47 restricts boat length to no more than 20 metres. No restrictions apply to hull capacity or horsepower in the TSPF.

Effort in the TSPF has declined progressively since 2001 with approximately 2,300 units of fishing effort used in the 2010 season (Table 1). While this can be partially attributed to the number of licences in no-boat (16), the declines in effort can be mostly attributed to ancillary factors including high fuel prices, low prawn prices and a lack of

## Objectives under the TSF Act 1984 and TSPF Management Plan 2009

### TSF Act objectives

In the administration of this Act, regard shall be had to the rights and obligations conferred on Australia by the Torres Strait Treaty and in particular to the following management priorities:

- (a) to acknowledge and protect the traditional way of life and livelihood of traditional inhabitants, including their rights in relation to traditional fishing;
- (b) to protect and preserve the marine environment and indigenous fauna and flora in and in the vicinity of the Protected Zone;
- (c) 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;
- (d) 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;
- (e) to manage commercial fisheries for optimum utilisation;
- (f) to share the allowable catch of relevant Protected Zone commercial fisheries with Papua New Guinea in accordance with the Torres Strait Treaty;
- (g) 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.

### TSPF Management Plan objectives (S1.5 Plan)

The PZJA is to have regard to the following objectives for the TSPF, so far as they are not inconsistent with the objectives in section 8 of the Act:

**Objective 1** Ensure the optimum utilisation of the fishery resources within the TSPF is consistent with the principles of ecologically sustainable development and the exercise of the precautionary principle.

**Objective 2** Promote economic efficiency in the utilisation of the fisheries resources within the TSPF.

**Objective 3** Ensure cooperative, efficient and cost effective management of the Fishery.

**Objective 4** Manage the fishery's interaction with the marine environment including the incidental capture of non-target species and impacts on demersal habitats.

supporting infrastructure. Despite this, catch rates for tiger and endeavour prawn in the TSPF have remained high (Table 1).

**Table 1.** Catch and effort in the TSPF for the years 2007-10

Year	Effort (days fished based on VMS)	Tiger prawn catch rate (kg/d)	Total Prawn catch rate (kg/d)
2007	5,218	127	235
2008	4,111	138	262
2009	2,599	165	252
2010	2,309	~187	~248

Over the past two years, there has been ongoing discussion at TSPMAC regarding ways to increase participation in the TSPF. At TSPMAC 10 it was agreed that the best avenue for this would be considering changing the restrictions to boat size (currently 20 metres) and gear restrictions relating to maximum combined headrope/bottomrope length (currently 88 metres).

At TSPMAC 11, the TSPMAC discussed the potential benefits and concerns related to a proposal to amend the 20 metre boat rule and associated effort restrictions in the TSPF (**Attachment 3.1A**). The TSPMAC also discussed four possible options for the management of the fishery regarding the 20 metre boat rule and gear restrictions (see **Attachment 3.1A** for full description of options):

Option 1 – remove the 20 metre boat rule and amend associated gear restrictions.

Option 2 – remove the 20 metre boat rule and maintain gear restrictions.

Option 3 – issue permits to allow for a limited number of boats exceeding 20m in length, with relaxed gear restrictions for one season.

Option 4 – Status quo management arrangements.

Following these discussions, the TSPMAC made the following recommendations:

- (a) gear restrictions in the TSPF should be amended to allow the use of larger gear in an aim to facilitate less restrictive and more efficient fishing operations amongst current TSPF licence holders; and
- (b) undertake a 12 month trial allowing a small number of boats greater than 20 metres in length to operate in the fishery using larger gear to gauge the changes in fishing efficiency and the realised benefits to the TSPF;
- (c) PZJA agencies to determine the best processes to implement recommendation (a) and (b) above, including fishing power conversions and present at the next meeting of the TSPMAC.

## DISCUSSION

Following TSPMAC 11, officers from Fisheries Queensland and AFMA held a teleconference to discuss the best way to implement the above recommendations. Subsequently, the following recommendations were developed regarding the implementation of the trial for the TSPF:

- One trial should be undertaken using developmental permits attached to a TSPF licence, which provide permit holders with an exemption from the current gear restrictions and/or boat length restrictions. This will allow the trials to be regulated through permit conditions without requiring changes to management arrangements (see draft conditions at **Attachment 3.1B**);



- An expression of interest to take part in the trial will be sent to current licence holders as well as advertised through the QLD Seafood Industry Association, the PZJA website and the Cairns Post.
- All boats undertaking the trial must hold a TSPF boat licence. Pending the implementation of an external leasing policy, a licence can be leased from an existing operator if an interested party does not currently hold one.
- All TSPF licence holders will be allowed to trial gear exceeding the current 88 metre restriction upon obtaining a developmental permit (if desired).
- Up to five boats between 20 and 28 metres in length will be permitted to operate in the TSPF upon obtaining a developmental permit. If more than five boats apply, a selection process will be undertaken by AFMA and Fisheries Queensland to determine which boats will be issued permits.
- The developmental permits for boats exceeding 20 metres and licence holders operating larger gear will specify a *minimum unit holding* for each individual boat. The minimum holding will be calculated based on the length of gear exceeding the current 88 metre restriction (**Attachment 3.1C**). The minimum holding will ensure total allowable effort is regulated to incorporate the increased fishing efficiencies for larger gear. Permit holders will also be required to complete a gear sheet. It is also suggested that a new TSPF license condition be added that requires all TSPF license holders to complete this gear sheet (**Attachment 3.1D**).

Undertaking the trial will assist PZJA agencies to assess the benefits achieved by allowing larger gear/boats to be used in the TSPF. An assessment of gear sheet and catch and effort data will be undertaken to ensure the total allowable effort is adjusted appropriately to incorporate the increased efficiencies if permanent changes are made to the restrictions in the future.

By using developmental permits attached to a TSPF fishing licence, no amendments to the legislation would be required to undertake the trials (the Plan or FMN 71). This minimises risks of using fishery expenditure through amending management arrangements before there is a better understanding of the changes and benefits that may be realised in the fishery. Once the proposal has been considered by the TSPMAC, it will be presented to the PZJA Standing Committee for consideration.

### ***Project timing***

The trial will be undertaken for one season (1 March to 1 December) with PZJA agencies aiming to commence the trial in 2012. On completion, the TSPMAC will review and discuss the trial and its overall impact on effort uptake and catch rates. PZJA agencies, in consultation with the TSPMAC, will make recommendations for future management *i.e.* if the trial should be continued or if the 20 metre boat rule and/or headrope/bottomrope restrictions should be amended and formalise the fishing power conversions for larger gear.

Results of the trials will be presented to the PZJA Standing Committee and any recommendations for amendments to management arrangements will need to be considered by the PZJA.

### **FINANCIAL IMPLICATIONS**

Costs associated with issuing developmental permits will be on a user paid basis. If a decision is made to amend the 20 metre boat rule or gear restrictions in the future, there will be costs associated with amending the legislation, and verifying conversion

rates for larger gear. Any costs associated with these changes would need to be recovered through the levy base.

## Attachment 3.1A to TSPMAC 12 paper 3.1

<b>TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE</b>	<b>TSPMAC 11 24 November 2011</b>
<b>Fisheries Management 20m boat rule and associated restrictions</b>	Agenda Item No. 3.1 <b>FOR DECISION</b>

### RECOMMENDATIONS

#### 3.1.1 The TSPMAC **DISCUSSES**:

- a) the information regarding the pros and cons and possible methods for changing the 20m boat rule in the Torres Strait Prawn Fishery (TSPF).
- b) whether it is appropriate to regulate the TSPF through gear rather than boat length and possible conversion rates for gear length if the 20m boat rule is removed.
- c) whether there should be an upper cap on boat length to allow access for larger boats.

#### 3.1.2 The TSPMAC **RECOMMENDS** one of the options to the PZJA through the PZJA Standing Committee.

### BACKGROUND

The TSPF is regulated through a limited entry policy (61 licenses available in the fishery) and effort restrictions based on the effort associated with maximum sustainable yield of tiger prawns for the fishery. This level is currently set at 9,200 days (total allowable effort limit – TAE). In addition to the above, Fisheries Management Notice (FMN) 71 regulates fishing power in the fishery through restrictions limiting operators to 88m of net across all nets used on a boat in the TSPF. There are currently no other restrictions on trawl gear, hull capacity or horsepower in the TSPF. Boat length however is restricted to 20 m under FMN 47.

Since 2001, effort in the Torres Strait Prawn Fishery (TSPF) has steadily declined, reaching 2,599 days in the 2009 fishing season (Table 1). Further to this, of the 61 licenses available in the fishery, 16 are currently in a no boat status. Fishing effort has decreased although individual tiger and endeavour catch rates in the TSPF have remained high (Table 1). Given this, the reduction in effort is considered to be associated with high fuel prices, low prawn prices and a lack of supporting infrastructure. This combination of factors has meant many operators have made business decisions not to work the fishery.

**Table 1.** Catch and effort for the years 2007-2010

Year	Effort (days fished)	Tiger prawn catch rate (kg/d)	Prawn catch rate (kg/d)
<b>2007</b>	<b>5,218</b>	<b>127</b>	<b>235</b>
<b>2008</b>	<b>4,111</b>	<b>138</b>	<b>262</b>
<b>2009</b>	<b>2,599</b>	<b>163</b>	<b>250</b>
<b>2010</b>	<b>Effort as of 22 Sept</b>	<b>-</b>	<b>-</b>

	was 1785 days		
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In March 2010 a letter from a TSPF license holder was sent to Mr Glenn Hurry requesting that the PZJA consider lifting the 20 m boat limit and associated restrictions in the TSPF (Attachment A). The letter argued that this would facilitate increased effort in the fishery by allowing larger boats such as those in the NPF to fish the TSPF. Further, by allowing vessels to fish multiple fisheries in combination it facilitates increased economic efficiency across these fisheries allowing the PZJA and Commonwealth to better meet its economic efficiency objectives.

NPF boats have an average length of 22 – 22.9 m, 2 – 3 m longer than the current TSPF boats length restriction on average. There are currently 2 boats sized 20.1 m in the TSPF from before the 20m boat rule was introduced. The range of boat sizes in the NPF is 17 m to 27 m. The boats however the boats that has expressed interest in entering the fishery are 22-26m in length.

The letter to the TSPMAC Chair was tabled at TSPMAC 10 where the MAC discussed the option of removing the 20 m boat rule to facilitate full utilisation of the fishery resource within the sustainability and economic guidelines of the harvest strategy. The MAC also discussed that the benefits to the fishery would likely be limited if related management arrangements such as gear restrictions weren't also reviewed. A range of perceived positive and negative effects of changing the 20 m boat rule were discussed. It was agreed that a discussion paper should be developed and discussed by the TSPMAC OOS before being presented to the PZJA standing committee. This paper was to include methods for controlling fishing power and effective effort with changes to vessels and gear restrictions.

## DISCUSSION

To follow are discussions regarding the perceived benefits and concerns with removing the 20m boat rule which were determined at TSPMAC 10. This section also includes other important information that needs to be considered if vessel and gear restrictions are removed from the fishery. Options are also discussed for how changes in fishery restrictions could be dealt with in order to facilitate an update of effort and vessel efficiency in the TSPF.

***Important considerations for allowing larger boats into the fishery (note these issues are discussed in more details under the pros and cons section below).***

- FMN 47 which limits boats to 20 m in length relates to all Torres Strait Fisheries not just the TSPF. In addition, boat replacement policies are in place for a number of Torres Strait fisheries including the Tropical Rock Lobster fishery .
- Boat length is limited to 20 m by section 3.7 (5) of the *Torres Strait Prawn Fishery Management Plan 2009*.
- Lifting the 20m boat restriction without considering changes to associated gear restrictions would likely have little benefit to increase boat efficiencies.
- Boat length is not thought to be as accurate a guide of fishing power as hull size of a boat and gear type. This is because the fishing power of a boat is dependant on how many prawns a net can catch and how much product and

fuel a boat can hold *i.e.* long boats can have a small hull capacity and be running smaller nets (less fishing power) than short boats and vice versa;

- New 20 m boats in the fishery generally have larger hull capacities than older 20 m vessels. This means increased efficiency of boats through increased capacity is growing despite boat length restrictions;
- Changes to gear restrictions in concert with boat restriction will benefit current license holders, as well as allowing new license holders into the fishery, by allowing increased efficiencies through utilising larger nets;
- Concerns have been raised regarding how removing the 20 m boat rule will:
  - a) impact on the sustainability of stocks,
  - b) effect fishers currently operating in the Torres Strait,
  - c) impact / compound ancillary problems including bycatch of other commercially important species and;
  - d) will it increase the risk of broader environmental degradation and harm e.g. more severe marine incidences.

PZJA agencies through consultation with the TSPMAC, will need to consider if these changes are going to be made and the best way of managing fishing power given these considerations.

### ***Managing fishing power in the TSPF***

The TSPF is currently managed by setting a total allowable effort (TAE) in the form of fishing days under the target of the TSPF Harvest Strategy (currently  $B_{MSY}$ ; the biomass which is associated with the maximum sustainable yield of the Tiger Prawn stock).

$B_{MSY}$  is calculated taking into consideration the average yield which is taken each day, and is dependant on the fishing power of the vessels operating in the fishery. The TAE for the TSPF is currently set at 9,200 days based on fishing power for boats less than 20 m using a maximum of 88 m of net across all nets on a boat across the time series of 1989 – 2004. If fishing power increases, the TAE would need to decrease to keep the effective fishing effort the same.

If current restrictions in the fishery are changed and boats have significant variation in fishing power, it may be most equitable to consider using a conversion rate of days of effort taking fishing power into consideration. This will mean overall fishing effort will maintain a fishing level consistent with the targets under the Harvest Strategy. One option for regulating fishing power for gear would be through headrope length conversions. The increase in effort with larger nets is estimated to be 5% for each 1 fathom increase in headrope length over 20 fathoms. Meaning a boat using 21 fathoms of net would be charged 1.05 days per day (see attachment B).

The TSPMAC needs to discuss the options for regulating fishing power equitably across boats with different fishing power and whether this can simply be through gear or also other fishing power regulators such as hull capacity. The TSPMAC should also

consider whether there should be an upper cap (i.e. 30m) on boats or if the boat restriction be completely removed.

With the current low level of effort in the TSPF, there is likely to be little risk to overfishing even with increased fishing power in the short term. However, if effort was to increase rapidly and the PZJA was not aware of fishing power from larger boats, it has the potential to deplete the stock and deviate from the harvest strategy.

### ***Potential benefits to changing boat restrictions in the TSPF***

1. **Increased demand for, and value of licenses/ units** – there may be some increased demand for licenses and/ or units if larger boats are allowed to operate in the fishery. Some operators from other fisheries have already shown interest in entering the TSPF if larger boats were permitted.
2. **Compliments current proposals / recommendations by the TSPMAC** – last year the TSPMAC made a recommendation to the PZJA to formalise external leasing arrangements for the TSPF. This recommendation has passed through the PZJA Standing Committee and is due to be discussed at the next PZJA meeting. While external leasing will help facilitate uptake of effort in the TSPF, its overall benefits are considered to be minimal. The primary reason for this is that the majority of interested boats (such as those in the NPF) will not be able to lease TSPF licences while the 20 m boat rule is in place.
3. **Larger boats may be able to operate more cost effectively** – profitability of larger boats may be greater however it is likely this will only be apparent with complimentary changes to gear restrictions. Changes in gear restrictions will also increase the profitability of smaller boats if they choose to change the gear they use.
4. **Value adding through onboard processing** – larger boats may be able to undertake additional tasks such as onboard processing. This would provide another revenue form.
5. **Maximising economic efficiency through cross fishery endorsements for boats**– if boats are able to fish a number of fisheries using the same boat, it allows skippers/ owners to fish in adjacent fisheries when one fishery is closed or in a low profit time. Increased boat profitability associated with more efficient fishing strategies such as this increases the profitability of the associated fisheries, allowing Government to better meet its economic efficiency objectives.
6. **Increased employment inclusive of traditional inhabitants** – new boats in the fishery may provide employment opportunities for traditional inhabitants.
7. **Potential to share resources such as the CMO program** – allowing NPF boats to operate in the TSPF may facilitate greater opportunities to share resources such as the crew member observer program. This program collects additional data on species of interest to compliment the observer program. This could provide additional information on species of interest to the traditional sector.

### **Potential concerns of changing boat restrictions in the TSPF**

1. **Potential pulse fishing** - it is uncertain whether vessels operating in multiple fisheries will operate in the TSPF for the whole fishing season, or just at the beginning of the season before the Gulf fishery opens.

Some TSPF operators have concern that this could cause pulse fishing at the commencement of the season which may lead to reduced catch rates later in the season through effecting the catch of smaller prawns. Preliminary analysis of trends in catch rates show that seasons with higher catches do result in lower catch rates in general. However no significant trends can be found at this point regarding increased catch (pulse fishing) at the start of the season specifically.

It is unlikely that pulse fishing would have an effect on small prawns, as there are already closures in place in West and East Warrior reef to protect these smaller prawns. Extending these closures to include the areas around Rennell and Arden Islands as suggested at the Industry alternative management workshop in 2005 would add additional protection for small prawns.

2. **Accelerated fish down events** – the NPF is currently in the process of moving to an output control system. Once implemented this may allow operators with multiple NPF licence holders to split their quota amongst a smaller number of boats to dedicate more effort in the TSPF. If for example a NPF operator holds 5 licences they may chose to divide their NPF quota between three vessels and have two work full time in the TSPF.

This in itself would provide benefits for the fishery with increased boats potentially encouraging more infrastructure etc to frequent the Torres Strait. It may however result in a more rapid fish-down of stocks through the year; therefore resulting in smaller catch rates for licence holders currently operating in the TSPF. However the harvest strategy will safe guard against this as the harvest strategy provides for the fishery to move to  $B_{MEY}$  once effort triggers are reached.

3. **Impacts on the environment** – there are community perceptions around larger boats and the impacts they have on the environment. Some of these concerns may be unfounded (i.e. the concern that larger boats will sink more than smaller ones, as larger boats are generally more stable than smaller ones) and education would reduce concern about larger boats.
4. **Sunken boats** – there are environmental concerns amongst local communities that if larger boats do sink, they will be more difficult to salvage etc and there will be more gear and fuel sitting in the water. It was noted at the MAC that as a general rule, as profits decrease, safety and environmental safety decrease before anything else. As larger boats are generally more profitable, this will mean there are more funds to put into boat safety, hopefully further reducing the risk of vessels sinking.
5. **Ghost nets** – If there are changes to gear, increased net sizes may make them more dangerous to turtle and dugong if nets are lost as there will be more net on the bottom;
6. **Ability to monitor gear use and associated effort in the fishery** – There has been some concern from compliance officers that having different gear types would increase compliance costs through requiring headrope lengths to be measured on vessels to offset the risk of non-compliance. The NPF easily

manages this issue through the use of net tags. When nets are made, the SFR holder or Authorised person is required to secure a tag through the eye of the headrope stating the net measurements and submit a complimentary form to AFMA. A compliance officer must be present when nets are initially being measured. If nets are changed, they must be remeasured in the presence of a compliance officer.

Managing fishing effort in this manner is not used on the east coast of Queensland. As such, this would be a new mechanism for domestic compliance to implement. Monitoring fishing power for use in TAE calculations would need to be undertaken through conversion rates by the licensing department.

7. **Legislative amendments / management** – Hull units are used in Queensland to manage fishing effort between smaller and larger boats. These provisions however are implemented via the East Coast Trawl Fishery Management Plan. These arrangements do not currently exist in the Torres Strait Prawn Fishery Management Plan. Legislation / FMN dealing with the boat length and / or gear restrictions would also need to be amended if changes are made.

As noted, boat length for the TSPF is also limited by section 3.7 (5) of the management plan which states *A nominated boat must not be longer than 20 meters*. As such, any permanent alteration to the 20m rule would need to be reflected in a plan amendment.

8. **Unfair advantages to new larger boats** - allowing larger boats in gives advantage to these operators, as license holders who have been in the fishery for a long period and were restricted may not be able to afford larger vessels at this point. This concern is limited by the fact that boat size isn't the crucial factor in boat efficiency, and previous license holders would also be allowed to use new gear which would increase their efficiencies along with the new larger boats.

### ***Options for changing the 20m boat rule and associated restrictions***

To follow are three possible options regarding the 20m boat rule and associated gear restrictions, including the pros and cons of each option.

#### **Option 1 - remove the 20m boat restrictions and associated gear restrictions**

This would facilitate the uptake of latent effort in the fishery and potentially provide an increase in demand for infrastructure in Torres Strait. If this option is agreed to, PZJA agencies through consultation with the TSPMAC will need to determine how fishing power will be regulated to ensure the fishery is operating in line with the TSPF Harvest Strategy. For example, a conversion rate for gear would be required. They will also need to decide if a new boat limit should be introduced or completely eliminated.

#### **Option 2 – remove the 20m boat rule however maintain gear restrictions**

Changing the boat restriction alone would make management less complex as fishing power is more greatly affected by gear restrictions than vessel size. However there would likely be limited benefits to removing the 20m boat rule without also changing gear restrictions.

#### **Option 3 – issue scientific permits to allow a limited number of larger boats with different gear in under a scientific permit for one season.**

This option would allow PZJA agencies and interested investors to enter the fishery for a season and determine whether it is cost effective to fish using larger vessels, and the



effect on catch rates and fishing power for these different gear types. A license holder would obtain a scientific permit to undertake a trial for the 2011 fishing season allowing larger boats and different gear into the fishery. During this season these boats would be able to determine whether it is economically viable to fish as a larger boat with larger gear. PZJA agencies could consider if they would only let this option occur if one boat use their usual nets and the other use nets within the current TSPF gear restrictions in order to allow catch rates between boats compared.

#### **Option 4 – Status quo management arrangements**

This option will leave the boat and gear restrictions as they are. This would not facilitate an increase in the uptake of latent effort in the fishery or allowing license holders to have older methods of making revenue from their access right.

#### **FINANCIAL IMPLICATIONS**

There will be some costs associated with any consultation which occurs regarding changes to management arrangements. AFMA has budgeted for port meetings in the 2010/11 budget if they are required.

#### **Estimation of possible effect of changing net lengths on fishing power in the TSPF.**

Ratio of headline length to sweep width (distance between outside boards) is 0.3.

Headline length	% increase in HL	Sweep Width (m)	% increase in swept area	Day to unit ratio
20	0%	6	0%	
21	5%	6.3	5%	1.05
22	10%	6.6	10%	1.10
23	15%	6.9	15%	1.15
24	20%	7.2	20%	1.20
25	25%	7.5	25%	1.25
26	30%	7.8	30%	1.30
27	35%	8.1	35%	1.35
28	40%	8.4	40%	1.40
29	45%	8.7	45%	1.45
30	50%	9	50%	1.50
31	55%	9.3	55%	1.55
32	60%	9.6	60%	1.60

### Attachment 3.1B to TSPMAC 12 paper 3.1

1. The "Holder" refers to the holder of this Permit, or a commercial fisher or assistant fisher acting under the direction of the Holder.
2. "Torres Strait Prawn Fishery" means the area defined under Schedule 2 of the *Torres Strait Fisheries Regulations 1985* as the "area of the prawn fishery".
3. "Primary boat" refers to the principal fishing boat operating in conjunction with a tender boat/s, identified as XXXXX and Commercial Fishing Boat licence number XXX.

#### AUTHORISED ACTIVITIES

1. The Holder is permitted to use a vessel of XX.X metres in length in the Torres Strait Prawn Fishery;
2. When only one net is used or in possession on board the primary boat or attached to the primary boat, the holder is permitted to use a net of length greater than 88 metres up to a total of X metres.
3. When more than one net, including a try-net, is rigged for fishing, the Holder is permitted to have a combined length of the nets greater than 88 metres but less than X metres.
4. When more than one net is rigged for fishing, and a try-net is in possession on board the boat but not rigged for fishing, the Holder is permitted to have a combined total length greater than 88 metres but less than X metres for the nets rigged for fishing and the largest try-net in possession on board the boat.

#### CONDITIONS

1. The permanent allocation of Torres Strait Prawn Fishery Units of Fishing Capacity allocation associated with this permit is zero (0) units.
2. Commercial fishing access entitlements *i.e.* commercial fishery symbols / endorsements **cannot** be attached to this permit.
3. The Holder is required to hold a Torres Strait Prawn Fishery endorsement (PR) when actively fishing in the Torres Strait Prawn Fishery area.
4. The Holder is required to hold a minimum of X Units of Fishing Capacity at the commencement of the Torres Strait Prawn Fishing season, and only units in excess of X can be leased or sold.
5. The Holder may a) use a Torres Strait Prawn Fishery endorsement (PR) and b) use Torres Strait Prawn Fishery Units of Fishing Capacity associated with any other licence held in the same client name as this permit. This can be done providing the total number of effort units used does not exceed the total number of units held by of Units of Fishing Capacity associated with licences held by the client.

**ATTACHMENT 3.1C – CONVERSION RATIO FOR TPSF GEAR GREATER THAN 88 METRES**

Table 1 shows the minimum holding required as total headline length increases. It is based on a full season allocation (265 days) plus the percentage increase in headline length multiplied by the number of days in the season (265). This model is based on a linear swept area model of the relationship between catch rate and headline length. It assumes that as headline length increases, catch rates will increase in proportion to the increase in headline length. It also assumes that if vessels use a larger headline length, that the vessels size, engine, reduction, propeller and gear configuration can provide the maximum spread of the nets and the average trawl speed does not change. This model is more conservative than the Venables et al (2007) model for the NPF therefore should ensure a sustainable total allowable effort as headline lengths increase.

**Table 1 Minimum holding for increasing total headline length of main nets**

<i>Headline length of the main nets (Fathoms)</i>	<i>Percentage increase in headline length of the main nets</i>	<i>Minimum holding (Days)</i>
20	0%	NA
21	5%	278
22	10%	291
23	15%	304
24	20%	318
25	25%	331
26	30%	344
27	35%	357
28	40%	371
29	45%	384
30	50%	397
31	55%	410
32	60%	424

## Torres Strait Prawn Fishery GEAR DESCRIPTION FORM

<i>Vessel Details</i>	
<b>Boat Mark</b>	
<b>Boat Name</b>	
<b>Engine Power</b>	HP <input type="checkbox"/> KW <input type="checkbox"/>
<b>Reduction</b>	: 1
<b>Kortz Nozzle</b>	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>Prop Pitch</b>	Inches
<b>Prop Diameter</b>	Inches
<b>Fuel Capacity</b>	.....litres
<b>Fuel Consumption</b>	.....litres/night (avg)
<b>Fuel Consumption when trawling</b> (from flow meter if fitted on vessel)	.....litres/.....
<b>GPS</b>	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>Brand of computer mapping system</b> (e.g. CPLOT)	
<b>Sonar</b>	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>Try gear Length</b>	Yes <input type="checkbox"/> No <input type="checkbox"/> .....
<b>Start Date</b> (Date sheet submitted or that you changed a vessel or gear configuration)	/ /
<b>Name</b>	
<b>Signature</b>	
<b>Please Read Before Completing</b> This gear sheet has been prepared to obtain detailed and accurate trawl gear information. Please complete all the questions for the trawl gear that you use in the Torres Strait Prawn Fishery. If you have any queries please phone: (02) XXXXXXXX	

Trawl Gear Details	Torres Strait Tiger / Endeavour
<b>Average trawl speed (knots)</b>	
<b>BRD's:</b> (tick box) Square mesh cod end..... Fisheye..... Bigeye..... Square mesh panel..... Radial escape section..... V-Cut and bell codend..... Popeye fish excluder..... Others (please specify).....	..... <input type="checkbox"/> ..... <input type="checkbox"/> ..... <input type="checkbox"/> ..... <input type="checkbox"/> ..... <input type="checkbox"/> ..... <input type="checkbox"/> ..... <input type="checkbox"/>
<b>TED's:</b> Opening (please circle) Bar Spacing.....	Bottom / Top .....(cm)
<b>Net Configuration</b> (Please tick one box)  Double..... Triple..... Quad.....  Five.....  Beam.....	..... <input type="checkbox"/> ..... <input type="checkbox"/> ..... <input type="checkbox"/> ..... <input type="checkbox"/>  ..... <input type="checkbox"/>  ..... <input type="checkbox"/>
<b>Total Net Head Rope Length of the Main Nets</b> (exclude try net)	.....(fm)
<b>Net mesh size (inches)</b>	.....(in)
<b>Net Type</b> (tick box) 2 seam..... 4 seam.....  <i>Design (please specify)</i> .....	..... <input type="checkbox"/> ..... <input type="checkbox"/>  ..... .....
<b>Ground Gear Type</b> (tick box)  Drop chain..... Drop mud rope..... Danglers or Christmas-tree drops... Looped ground chain..... Drop rope with chain..... Other (please specify).....	..... <input type="checkbox"/> ..... <input type="checkbox"/> ..... <input type="checkbox"/> ..... <input type="checkbox"/> ..... <input type="checkbox"/> .....
<b>Ground chain specification</b> Maximum gauge of chain (mm)  Chain link (please circle one style)	.....(mm) Short/regular/long
<b>Otter-board types</b> (tick box) Bison.....  Louvre..... Flat Timber-steel ....  Kilfoil..... Collins..... Other (please specify).....	..... <input type="checkbox"/> ..... <input type="checkbox"/> ..... <input type="checkbox"/> ..... <input type="checkbox"/>  ..... ..... .....
<b>Otter-board dimensions (or Bison #)</b>  Length (feet)..... Height (feet).....	Bison #..... .....(ft) .....(ft)

Please enter the vessel details and trawl gear configuration that you use when fishing in Torres Strait.  
Return a copy of this sheet to the AFMA logbook section: (a) at the end of January each year **AND** (b) whenever you change any gear configuration for any trawl fishery or change vessel details.

16	171	159	
17	189	215	224
18	86	21	110
19		85	167
20			114
21	83	54	17
22	28		
23	22	24	21
24	181	173	83
25	12	20	11
26	41	59	35
27	28	169	206
28	91	55	6
29	70	19	29

Boat (20m length restriction) and gear restrictions (88m head/ bottom rope restriction) were identified as an impediment to increasing production and profitability in the TSPF. This was originally discussed at TSPMAC 9 in December 2009). The TSPMAC identified changes to management arrangements (Box 1) that may be able to improve the profitability of a fishery. Although nine different options were identified, the TSPMAC noted that only relaxing boat and gear restrictions were likely to have a significant effect on profitability in the TSPF. The other options were either outside of the PZJA's control, were already being used in the fishery or be less likely to provide economic benefit.

**Box 1.** Management arrangements that could be amended to improve profitability in the TSPF.

- |   |
|---|
| <ol style="list-style-type: none"> <li>1. gear restrictions (max headrope length, minimum mesh size, BRDs, TEDs)</li> <li>2. closures – seasonal and spatial</li> <li>3. 20 metre boat rule</li> <li>4. formal external leasing arrangements</li> <li>5. regulated waste/permitted species/ utilisation of bycatch species</li> <li>6. Fishing in PNG</li> <li>7. removing penalty on transfer of the “T” (the MAC questioned if this is still in force)</li> <li>8. infrastructure (mother ships, flights for parts and servicing)</li> <li>9. public image of the fishery – industry image of the TSPF</li> </ol> |
|---|

During 2009-10 the TSPMAC discussed the boat and gear restrictions on several occasions (see [Attachment 4.1B](#) for a history of the detailed MAC discussions, including the TSPMAC recommendation about the format a the trail that could be undertaken). This included perceived benefits and concerns of changing rules and the administrative processes that would need to be considered to ensure ongoing sustainability of the fishery.

Given the range of views from commercial fishers, community members and the different PZJA agencies, in 2011 the TSPMAC agreed (Annexe 1 to Attachment A) that the best option would be to undertake a trial of increased boat and gear length for one fishing season (max 28m boat and 184m headrope length). This would allow the TSPMAC to see whether the profitability benefits and/ or the concerns from communities about larger boats and gear were realised during the trial.

The PZJA SC considered this recommendation from the TSPMAC and agreed to support the trial, pending additional community consultation being undertaken and showing general support for the trial.

The community consultation was undertaken in 2012-13 and found that Torres Strait communities had little support for a trial of larger boats and gear while there are no benefits flowing from the fishery back to communities. This was because communities see a high risk associated with the fishery operating so close to their communities and with little flow of benefits. The flow of benefits project was undertaken in response to this PZJA SC request.