

Final Share Linkage Recommendations

NSW Commercial Fisheries Reform

Structural Adjustment Review Committee

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Introduction

The problems facing NSW commercial fisheries as a result of over allocation, difficult economic circumstances and sustainability concerns for some species are not unique among small fisheries in Australia. Most states have moved, or are moving, to address viability issues in small fisheries. Where meaningful access rights and effective caps on catch and effort have been established, progress is being made. In South Australia, the pipi and Coorong gill net fisheries, and in Tasmania, the banded morwong and calamari fisheries are examples of this process. In these small-scale fisheries relatively large numbers of endorsements have been reduced and are managed using tradable rights and other measures to reduce fishing pressure and increase profitability and operational flexibility. Share linkage is fundamental to instilling greater value and security in shares and ensuring that NSW fisheries begin the shift towards contemporary, best practice fisheries management rather than being hamstrung with the same problems and issues that gave rise to the reform in the first place. When complete, the process will not have resulted in ‘buying jobs back’ since each fisher will have a known portion of access to the fishery, which, in the long term will result in increased profitability, sustainability and enhanced social licence.

The fisheries reform, including recommended share linkages and other suggested measures, offers the NSW Government an opportunity to foster sustainability of the resource and, as far as possible, ensure an ongoing and consistent supply of premium quality seafood produced by well-managed and viable fishing businesses, operating profitably and responsibly.

Part 1. Approach and Impact

1.1 Share Linkage Recommendations

Recommendations for share linkage have been made for 24 separate share class groups (including 91 regional share classes) and reflect careful consideration of feedback received following the release of the draft recommendations. Recommendations for each share class are provided in Part 4 of this document and a summary of the recommendations and implementation timeframe is provided at Attachment 1.

There are four types of linkage. In any share class more than one form of linkage may be recommended. The linkage types are ranked below from the strongest to the weakest form:

- a) New species catch quota shares. Catch quotas will facilitate management of species that are taken in more than one NSW fishery and/or in Commonwealth and Queensland fisheries
- b) Effort quota that will provide a direct cap on one or more components of effort
- c) Managing the number of operators by reducing endorsement numbers through increased minimum shareholdings
- d) Current arrangements – i.e. no link to a specific form of catch or fishing effort and continued use of numerous input controls to limit catch and effort (1 share class only).

Given that share allocation has already occurred in NSW fisheries the SARC was keen to rely on this allocation and use shares as the basis for its share linkage recommendations wherever possible. However, for some fisheries, it is recommended that new share classes be established. This involves the use of an independent allocation panel (IAP) to provide advice to Government on the criteria for allocation of these new shares. Historically, allocation processes, including those using an IAP process, have been both lengthy and costly, and created considerable uncertainty. Consequently in deciding if a new share class should be created, SARC gave careful consideration as to whether:

- the proposed new share class would have the strongest form of share linkage feasible (i.e. a catch quota or, if that is not feasible, a very tight effort quota);
- an allocation based on existing shares would place an unacceptable and unintended substantial financial burden on a relatively small number of fishing businesses who currently account for a high proportion of the catch (i.e. there is considerable distortion in the share class);
- the need existed to provide for quota management of species that are one of many species taken in a share class and/or across numerous share classes or jurisdictions; and
- the benefits of moving to a new share class involving an IAP process clearly outweighed the costs in terms of both financial costs and the period of additional uncertainty involved in running an IAP process.

As a result of the recommended move to stronger share linkages in most share classes, the SARC has also proposed some changes to management arrangements which will streamline management and provide industry with greater flexibility, increased operating efficiency and/or reduced administrative costs. Other changes as a result of the reform will require further discussion between Government, industry and other stakeholders.

1.2 Data Limitations

DPI, working group deliberations, submissions and feedback have acknowledged that existing data provided to the NSW Government through logbook returns have high, but unknown, levels of misreported catches and understate days fished. In the absence of any other comprehensive data set, the SARC has relied on the data provided by the Department, which reflects the information in official logbooks, in developing its advice on recommended share linkages. Industry has made claims to the effect that logbook completion instructions were unclear and that little effort had been made to ensure logbook data was correct. The most common claim was that the catch from several days fishing had been aggregated and reported as a single day's fishing on the day of landing. SARC is not in a position to make a call on the validity of these claims.

However, to address the potential impact on 'days quota' of under-reported days, ***the SARC recommends that DPI investigate the feasibility of undertaking a sampled verification exercise to assess the accuracy of the effort data prior to the linkage announcement.*** Furthermore, DPI has assured the SARC that the new reporting system planned for 2016 will greatly improve the accuracy of days reported and thus can be used to inform the setting of total allowable effort (TAE) limits in July 2018.

We draw attention to the risk that under-reported effort poses to stock sustainability. DPI's assessment of most NSW fish stocks is based on catch per unit effort (CPUE) data. If effort is understated, then CPUE figures will be inflated, possibly providing a false sense of security regarding stock status. In the face of concerns about the accuracy of catch and effort the Total Allowable Catch (TAC) Committee will have little choice but to take a precautionary approach in setting catch and effort limits.

1.3 Regional Differences

In preparing our draft and final recommendations, the SARC was very aware of regional differences within a share class or fishery and undertook an analysis of the operational implications and impact of recommended linkages at this level. We also gave in-depth consideration to feedback received following the release of our draft recommendations. However, we note that within region differences are beyond the scope of this reform.

Our final recommendations have addressed regional differences, wherever feasible. For example, we have changed the way interim total commercial access levels (ITCALs) are set in the Estuary General

Meshing share class to better reflect days fished in each region. In other share classes (e.g. Estuary General Category 1 and 2 Hauling), a regional approach leads to a worse outcome for active shareholders and we forfeited consistent methodology in favour of equity for active fishers.

1.4 Leasing

In 2014, the SARC recommended that unless there are clear reasons to the contrary, leasing of quota (catch or effort units) should not be permitted in the short term, potentially for two years. The SARC also advised that it would consider the timeframe for permitting leasing on a fishery by fishery basis. Feedback following the draft recommendations was generally supportive of leasing as soon as quota was implemented. In addition, our experience in other fisheries has shown that prohibitions on leasing are difficult to enforce.

After examining the implications on a share class, fishery and regional basis, the **SARC recommends that, on balance, leasing should be permitted as soon as quota is implemented, noting that there is a risk that adjustment may be impeded as some shareholders may hold on to shares in the hope of high lease returns.** However, we believe that this risk is relatively small given the generally low returns in most fisheries (and the likely low lease prices), the incentive provided by the exit grant in some share classes and the costs of management fees. Further we believe that the residual risk is outweighed by the need to provide an alternative mechanism for active fishers with insufficient capital to obtain the shares required under the share linkage recommendations.

1.5 Financial Assistance for the Transition to Share Linkage

The SARC received many submissions suggesting that the \$15.5m available to the reform should be used to fund a direct buy-out of shares and fishing businesses. Some fishers felt this would be sufficient in terms of reform, while others considered that a buy-out, prior to a move to share linkages, would be a better option.

In the SARC's view, the exit grant combines a buy-out with a simultaneous mechanism to enable share transfers and ease the financial impact of share linkage on those that wish to remain in the industry and do not currently hold sufficient shares to cover the level of activity they desire. The buy-out component is the proposed fixed price payment for an empty Fishing Business. SARC notes that the part of the exit grant funds comprising accumulated industry contributions could, at least nominally, be used to fund the buy-out of empty Fishing Businesses through the exit grant program (i.e. Fishing Businesses that remain after all attached shares have been sold).

The exit grant also provides an efficient and anonymous mechanism to enable the transfer of shares to those that need them and to mitigate the financial impacts through the provision of a share price subsidy. The market mechanism will not only deliver good value for money, but will provide a robust means of determining correct share prices and deliver equity through the uniform price approach.

The SARC believes that there may be particular Fishing Businesses that are unable to find adequate financing for share purchases due to their financial circumstances and the inherent risk of lending to the fisheries sector. **The SARC recommends that the Government consider the provision of low interest loans to help such businesses transition.** This position is supported by industry submissions.

1.6 Estimation of the Impact of the Share Linkage Recommendations

The likely relative financial impact of share linkage options has been taken into account in framing the recommendations. In doing so, trade-offs have been made between the optimal share linkage from a fisheries management perspective and the likely financial impact on active operators in the fishery. Care has been taken to consider the importance of diversity across share classes for fishers in assessing impacts.

Even taking into account the potential for the exit grant to mitigate those impacts, the implementation of significantly stronger share linkages in some share classes would, in the SARC's

view, have resulted in an unacceptably high financial impact on active operators. These predicted impacts have resulted in a number of changes to the draft recommendations.

The final recommendations (see Part 4) provide an indication of the expected outcome in terms of the reduction in Fishing Businesses or endorsements. However, they do not include an estimate of the financial impacts on fishers or share classes. It is considered that there are too many variables at play to provide a meaningful estimate. These variables include: the structure and diversity of Fishing Businesses; fishers' decisions about whether to stay or exit a share class in response to the recommendations; the paucity of reliable share price information; the impact of the exit grant; the IAP advice on allocation; and the TAC Committee's determinations on TACs/TAEs. The difficulty in estimating financial impacts have been raised by the independent economic study commissioned by the SARC¹, and acknowledged by recent analyses conducted on behalf of NSW Seafood Industry Council² and the Sydney Fish Markets.³ Further, industry submissions in response to the SARC's draft recommendations demonstrated that even owners of Fishing Businesses had difficulty in estimating the likely financial impact on their business in a meaningful way.

Part 2. Addressing Uncertainty

The scope of the reform of NSW fisheries has exacerbated an already uncertain and challenging operating environment for fishers and associated businesses, including cooperatives. There are two sources of uncertainty that affect the reform program. The first derives from the reform itself and can be addressed to some extent through the way in which the reform is implemented. The second derive from broader Government policy and are essentially outside the scope of the reform.

2.1 Reform Uncertainties

2.1.1 Access levels

a) Catch and effort limits

Many fishermen are concerned that their access, by way of either catch or effort, will be reduced as a result of the reform. This is a real concern for some, but an inevitable outcome as fishers will need to make decisions about which fisheries they wish to remain in, and therefore obtain sufficient access to, and those they wish to exit, by selling their shares. It should be noted that much of the opposition to reform has been based on claims of losses to potential access (e.g. days), rather than shortfalls in allocated effort when compared with actual access reported through logbooks. In many cases this shortfall is minimal, in the first instance, owing to the recommended levels of ITCALs.

While it is not the intention of the reform to reduce catch or effort, the setting of catch or effort limits is an integral part of many recommended share linkages. The extent to which these limits impose a restraint on current levels of catch or effort will depend on the limits set. Initially it is recommended that those fisheries where catch or effort is to be capped will operate against ITCALs. ITCALs are a total level of catch or effort that most share classes will use as the 'pie' from which allocation based on shares will occur. These have deliberately been set at maximum recent (up to 15 years) historical levels to ease the transition to robust, science-based TACs/TAEs. The ITCALs are, therefore, higher than recent reported catch levels in many cases.

Industry is concerned that when ITCALs are converted to TACs/TAEs, catch and effort levels will be reduced. While this is a valid concern, the SARC acknowledges that there is a trade-off between

¹ AgEconPlus (2015). Economic Analysis of NSW Commercial Fisheries Reform Package.

² Saul Chartered Accountants (2015). Independent Review of the Draft Structural Adjustment Recommendations for the NSW Commercial Fishing Industry as at 29 August 2015

³ McPhee, D. (2015). Sydney Fish Market Response to the Fisheries Reforms Proposed by SARC.

higher ITCALs for the purpose of easing the transition to share linkage and the need for further adjustment when the TAC Committee sets catch and effort limits in accordance with the requirements of the *Fisheries Management Act*. On balance, the SARC believes that this trade-off is justified, but notes that, setting catch or effort levels as required under the Act, is fundamental to the reform and to achieving economically and biologically sustainable fisheries. The benefits of appropriate catch and effort control can be seen in many fisheries, including the NSW abalone and rock lobster fisheries, where considerable support for the TAC process has been expressed.

b) Role and independence of the TAC Committee

The catch and effort settings, including numbers of endorsements where appropriate, will be the role of the TAC Committee. This committee has functioned for a number of years and has demonstrated an ability to resist political and stakeholder pressure to ignore best available scientific and other evidence-based material in favour of anecdotal information. The way in which both the rock lobster and abalone fisheries have increased in value as a result of TAC Committee decisions provides evidence of its effectiveness, function and independence.

The NSW TAC Committee is unique in Australia providing an independent (to the political process) means of setting total catch levels.

Another concern and source of uncertainty is the timing of the TAC Committee's determination. In the draft recommendations this was to occur by 2020. ***We recommend that the TAC Committee reports by 2018***, noting that the uncertainty about longer-term access levels will affect the capacity of the affected fishers to make informed decisions at the time when the exit grant is run in mid-2016.

2.1.2 Allocation of new species/effort shares

The recommendations state that the criteria for allocation of new species or effort share classes will be determined by an IAP. Many submissions show that fishers have two clear concerns about the use of an IAP: (i) that the IAP may not provide credible advice; and (ii) the uncertainty over the degree to which the IAP will weight allocation criteria e.g. historical activity (days, catch), the qualifying period to be used in considering historical activity and the current access rights (shares) held.

IAPs, while not used much in NSW to date, are used extensively in other jurisdictions. The processes, principles and operation are tried and tested and have shown to provide a high level of transparency, independence and expertise. It should be noted that IAPs are usually guided by terms of reference provided by Government on what factors to consider and only provide advice. The allocation decision remains with Government.

As noted above, the need for an IAP for some share classes is a direct reflection of the inability of the reform program and exit grant to deal with the level of distortion in those share classes. The use of existing shares as a basis for allocation would have resulted in unacceptable financial impacts on active operators. ***The SARC recommends that in developing the terms of reference for the IAP, mitigating impacts on active operators is clearly articulated to the Panel as a key objective of the allocation process.***

Another area of uncertainty for industry relates to the qualifying period that will be used by the IAP when determining eligible catch or effort history. While this period should be defined by the IAP, ***the SARC recommends that the Government announce the latest date that would be used for this purpose and recommends that this date should precede the initiation of the Working Groups in 2013.*** Such an action would send a signal that rushing to accumulate catch history now, will not affect allocation.

DPI has advised the SARC that an IAP will not be able to report until 2017. This exacerbates uncertainty for fishers in those fisheries that will require an IAP process to determine allocation criteria.

To deal with this uncertainty, and the uncertainty about TACs and TAEs, the SARC considered whether the exit grant should be split over two rounds, with a second round conducted around 2018, to cater for those share classes that will not have the benefit of advice on TACs/TAEs and/or the allocation criteria at the time the exit grant is run in 2016.

After careful consideration the SARC rejected the two stage approach to the exit grant. This decision reflects the interconnectedness of share class holdings and the need for fishers to plan and invest for future involvement in NSW fisheries by considering their full suite of shareholdings. The SARC formed the view that a second stage would not markedly improve the ability of fishers with diverse share packages to participate meaningfully, in relation to other share classes not affected by the TAC Committee and IAP processes in the first round.

In reaching this decision the SARC considered that (i) the IAP process will be directed, as recommended above, to address the 'distortion' in these fisheries (i.e. the disparity between shares held and activity levels) and to use exit grant funding to achieve the same end would, in essence be deriving assistance from two sources (over compensate) and (ii) around 60% of Fishing Businesses with shares to be considered under an IAP also hold shares in other share classes suggesting that all these Fishing Businesses would have to wait to participate in the second round. ***It is recommended, therefore, that there be only one exit grant process and that this be conducted in 2016.***

2.1.3 Exit grant process

The exit grant process appears complex to fishers and has created considerable uncertainty when compared to say, a fixed price buy-out as was the case with previous structural adjustments arising from marine protected areas (MPAs) and recreational fishing havens. As with any auction-type process, precise bidding outcomes are almost impossible to predict owing to unknown price expectations. Despite this, recent feedback has indicated that industry believes that the revised approach to the exit grant is preferable to the original proposal.

To reduce uncertainty about the operation of the exit grant and to maximise effective participation in the program, ***the SARC recommends that the Department:***

- i) make as much information as possible available to shareholders prior to the commencement of the process; and***
- ii) ensure a comprehensive process of communication is in place.***

2.1.4 Share availability in the exit grant

Feedback on the draft recommendations and proposed exit grant has demonstrated concern about availability of shares in some share classes for buyers. Given the extent of the over-allocation of shares, the SARC considers that the scale of this problem is likely to be small. However there may be some instances where this occurs.

The design of the exit grant is intended to stimulate interest in trading and improve share availability through the process of revisable bid rounds and the availability of a \$15.5 million subsidy. ***The SARC recommends that higher subsidy priority be given to share classes where there is likely to be a liquidity issue (analysis by the Department has already identified these share classes).*** If there are still issues after the exit grant has been run, the Government could consider extending the transition period to enable shareholders to accumulate shares over time.

Share availability may also be an issue if TAC/TAEs set in 2018 are more constraining than ITCALs. The scale of this problem is impossible to foresee as a number of people may have exited the

industry by then. Experience has shown that individual quota and constraining catch and effort caps change behaviour as fishers choose to maximise the value of their catch rather than volume. If shares are not available, then it is likely that fishers will work with their smaller allocation but maximise the value of their catch by producing premium quality fish.

2.2 Policy Level Uncertainty

SARC had hoped that some of the broader policy level uncertainty would have been resolved prior to the share linkage announcements to assist industry make informed decisions when participating in the exit grant. However a number of policy level uncertainties remain.

2.2.1 Resource sharing

It is clear that the recreational sector, both in NSW and other states, is seeking to gain an open ended and increasing share of the resource (catch). This push is being dealt with through resource sharing arrangements and NSW has a resource sharing policy awaiting release. Capping and more effectively managing the catch through the reform gives the commercial sector some leverage in the negotiations that are envisaged in the new policy.

Displacement of commercial fishing to create recreational fishing havens and MPAs is a form of resource sharing, in this case allocating towards the recreational sector and the environment respectively. As a result of these processes the fishing industry has lost a considerable area of fishing grounds and in some areas fishing effort has not been reduced accordingly. This has created additional fishing pressures and a high level of industry distrust of all forms of Government.

Decisions on resource sharing with other jurisdictions (Queensland and Commonwealth) in relation to shared stocks are long overdue, and will be facilitated by the share linkage recommendations to move to quota for many of these stocks. Finally, catches of some species need to be shared equitably between fisheries in NSW; again, the proposed allocation of catch across these fisheries contained in the share linkage recommendations seeks to address this uncertainty.

The public and political pressure to further displace commercial fishing is impacting on fishers' confidence to invest in the fishery and fuels demands for guarantees that further restrictions will not occur in the future. While resolution of resource sharing issues is beyond the scope of the reform, fisheries that are more viable, valuable and well managed will be easier to defend from a Government and industry perspective, and in a better position to adjust should further exclusions be deemed necessary.

2.2.2 Management costs and cost recovery policy

The inability to quantify the costs of management after implementation of the recommended share linkages, as well as the absence of a clear cost recovery policy covering management, compliance and scientific services and how it will be implemented, is understandably a key source of uncertainty for industry.

Fishers' uncertainty relates to both the level of total costs within a share class as well as the degree to which costs for individual shareholders will increase as consolidation (fewer Fishing Businesses) occurs.

The rationalisation in the number of Fishing Businesses that occurs as a result of the reform and exit grant will inevitably mean that management costs are shared between fewer operators. It is also the case that more sophisticated management regimes are likely to involve higher management costs, although there will be some trade-offs available through streamlining of management measures in those share classes where stronger share linkage regimes are implemented and through the utilisation of lower-cost monitoring technologies.

While the Ministerial Fisheries Advisory Council (MFAC) has commenced work on the cost recovery policy and provided advice to the Minister, it is highly unlikely this will be completed until the program has been determined.

In view of these uncertainties, ***the SARC recommends that consideration be given to a cap on management fees for an extended period to remove some of the uncertainty and allow for industry to adjust and be fully consulted on what services are necessary, who will pay and on what basis.*** If the Government were to announce at the time of the announcement of share linkages, that an underlying principle of the cost recovery policy would be the inclusion of a substantial overhead administrative charge as suggested by MFAC, combined with options for a basis of other charges (e.g. a fixed percentage of GVP), this would considerably reduce uncertainty. Such an announcement would also provide an incentive for some inactive shareholders to put their shares on the market during the exit grant.

2.2.3 Sustainability

In the early 2000s NSW fisheries were subject to an extensive Environmental Impact Statement (EIS) process, resulting in Fisheries Management Strategies (FMSs) which outlined a range of actions to address sustainability and other risks identified in the EISs. Most of the stated actions relating to dealing with excess effort, which are broadly in line with the SARC recommendations, have not been fully implemented to date. These include increases in minimum shareholdings to manage levels of active effort, capping endorsement numbers at (the then) currently active levels, reduction of latent effort to reduce risk of activation, and use of fishing days as a management tool. It is important that management actions, in the form of the recommended share linkages, now be progressed to address the excess effort problems in each fishery in order to deliver on the commitments made in the FMSs.

During the course of its work the SARC has become increasingly concerned that the widespread view that NSW fish stocks are fished sustainably is an overly simplistic interpretation of the DPI scientists' annual assessment of stock status⁴. The SARC is concerned about a number of aspects about the stock assessment reporting process which may be giving fishers and managers a false sense of security about the current and future sustainability of the stocks on which NSW fisheries rely.

Currently, DPI's assessment shows that of the 115 species/species complexes in the Department's Resource Assessment System:

- 5 are overfished (4.3%) and 5 are growth overfished (4.3%)
- 32 are fully fished (27.4%)
- 4 are moderately fished (3.4%)
- 71 are undefined or uncertain (60.6%).

In addition, DPI scientists have expressed concerns about trends in catch, catch rate or size taken of a number of species in the fully fished, undefined or uncertain categories. These concerns are yet to be formally published.

Concerns include the quality of the data underlying the assessments, worrying trends in a number of stocks that are currently classed as fully fished or uncertain/undefined, and the large proportion of stocks for which status is unknown. In the context of the reform this is concerning, since it may influence investment decisions made during the exit grant process. The reality of this situation may only become apparent to fishers when the scientifically based TACs and TAEs are set in the second

⁴ The latest report, Status of fisheries resources in NSW 2013-14 Summary, is available at http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0003/566652/status-fisheries-resources-NSW-2013-14-Final.pdf

stage of the reform process or when stocks decline unexpectedly and catch or effort needs to be reduced in response.

The reform process will require some fishers to make significant investment in the future of their industry. The SARC believes that fishers need to know as much as possible about the current and projected future status of stocks if management action is not commenced, including the concerns of scientists noted above. The SARC notes that a full assessment report is planned to be produced by the end of 2015. ***We recommend that the Department ensure that this assessment report is available to industry well in advance of the conduct of the exit grant and that it is explicit about the underlying concerns that the DPI scientists have about the rigor of the assessments and the quality of data, and specific concerns about any stocks that are currently classified as fully fished or uncertain/undefined.***

The SARC is of the view that the implementation of share linkages, even by way of the minimalist approach of increasing minimum shareholdings to reduce endorsement numbers, will make a significant contribution to the ability of NSW fisheries to respond to stock concerns as they arise. ***The SARC recommends that, in presenting the final share linkage recommendations to industry, the relationship between stronger access rights and the capacity to ensure long-term sustainability of stocks is highlighted.***

2.2.4 Aboriginal fishing

The SARC has previously sought guidance from the Government as to whether the reform program should make special provision for Aboriginal commercial fishers. The Government advised that: it is aware of the concerns raised by Aboriginal commercial fishers; it considers that these issues extend well beyond the scope of the reform program; and that it will be considering these issues under a separate process. As a result, the SARC's recommendations are not specifically aimed at addressing the concerns of Aboriginal commercial fishers.

However the SARC has identified a specific change to existing management arrangements that would acknowledge the particular characteristics of commercial and cultural Aboriginal fishing while not compromising the integrity of overall fisheries management. This change would allow Aboriginal fishers in the Ocean Hauling General Purpose Net share class to use the assistance of unlicensed crew. While commercial fishers generally have expressed a preference to retain the requirement for licensed crew the SARC has recommended that the need for this regulation, for all commercial fishers in this share class, be reconsidered once implementation of the share linkage has been bedded down. The SARC has been made aware however, that Aboriginal commercial fishers would value the ability to use unlicensed crew and ***the SARC recommends that the Department should, as a priority, consider relaxing the current regulations to provide for this.***

Part 3. Implementation Issues

3.1 Issues not Addressed by Linkage Recommendations

The fisheries reform program is focused on addressing the lack of a link between shares and meaningful access to the resource, expressed in terms of effort or catch.

The recommended share linkages go some way to addressing issues associated with sustainability concerns for certain species through the move to caps on catch or effort. However in those share classes where it has been feasible only to make a modest improvement to share linkage some species-specific issues remain. Further, there are species-specific issues that, regardless of the share linkage adopted, will need additional management through for example, the use of gear modifications or other controls on catch or effort. These issues will need to be dealt with outside the reform program as part of on-going management of NSW fisheries.

3.2 Protection of Access Rights

The stronger access rights delivered through the reform program will only justify the investment by fishers in additional shares and the taxpayer's contribution to the exit grant, if those rights are adequately protected. As noted above, ensuring the sustainability of fish stocks is critical to ensuring the long-term value of access rights in NSW fisheries. This involves setting catch or effort limits that reflect the status of stocks, taking a precautionary approach where needed. Further, once these limits are set, their integrity must be protected.

Monitoring, control and surveillance activities must be adequate to ensure that the risk of illegal and/or unreported fishing by both commercial and recreational fishers is minimised. The SARC has been made aware by both DPI and industry that there is currently non-compliance with regulations in some fisheries. In preparing its recommendations, the SARC gave considerable thought to the cost and complexity of future compliance arrangements. Of primary importance is the need to ensure that the financial investment fishers are being expected to make to gain a stronger and more valuable access right is not undermined by an ineffective and costly compliance and monitoring scheme. In this regard, SARC considers that consideration should be given to the use of vessel monitoring systems in ocean-based fisheries.

It is acknowledged that a significant level of illegal fishing is occurring in some fisheries, e.g. mud crab and eel fisheries. Further, the SARC received feedback from fishers that they were concerned that: Fishing Business owners needed to be more accountable for the actions of nominated fishers; the penalties for breaches of regulation were inadequate and that currently the benefits of fishing illegally outweighed the risk of being caught; and penalties should be increased, particularly for repeat offenders. ***The SARC recommends that the Government consider the need for improved accountability and increased penalties.***

As noted above the SARC appreciates the concern that commercial fishers have regarding the potential for their access right to be eroded by future decisions on resource sharing across NSW fisheries, across jurisdictions and across the recreational and commercial fishing sectors. Through the reform program some fishers will make significant investments to ensure their long-term future in the industry. Without some assurance that the NSW Government will recognise that investment and seek to minimise any future imposts on those rights by way of resource re-allocation, particularly to the recreational sector, there is little incentive to make such investment. ***The SARC recommends that the Government provides the commercial fishing industry with some reassurance on this issue.***

3.3 Trading/Positioning for Reform

Acceptance by the Government of the Steven's Review in 2012 sent a clear signal to industry that, as intended in the original introduction of share fisheries, shares would be the primary mechanism for determining access. Since that time, and particularly since mid-2013, there has been significant share trading. Between 12 November 2012, when the decision to proceed to share linkage was announced, and 22 September 2015, 133,392 shares have traded. The value of these trades, based on prices reported on the DPI transfer forms (including stamp duty) is \$8.33 million, noting that some trades did not report a price. However, if the maximum reported share value is applied to those trades that did not supply a value, then the potential value of all trades, including stamp duty, is \$17.09 million. This trading activity has changed the share/catch profile of some share classes. Much of this share trading is likely to reflect attempts by fishers to position their businesses to better deal with the implications, through investment in shares, in anticipation of share linkages.

Arguably, Government through its policy statements and commitment to the reform has created a reasonable expectation that share linkage will occur and people have made investments in reliance of those statements. Not proceeding with linking shares could therefore elicit legal challenges.

3.4 Consultation/Communication/Industry Relations

The environment for consultation with industry over proposed share linkages has been volatile, fueled by mistrust of Government, the absence of a unifying and effective industry body and a vocal group of stakeholders unwilling to accept the objectives of the reform. However since the release of the draft recommendations and the targeted consultation, the overall mood has appeared to have changed from one of open hostility to quiet resignation and in some cases, support for linkages.

The most effective outcomes from fisheries management are obtained when industry and Government can work collaboratively with a shared vision for the short- and long-term interests of a secure industry. Effective implementation of the reform is therefore contingent on the improvement in the relationship between Government and industry. SARC believes that rebuilding this relationship is likely to be a long-term process requiring commitment and investment from both sides.

The SARC believes that Government can start rebuilding relationships and regain trust by adhering to the share linkage implementation timelines and commitments. In this respect the SARC notes that there are extensive legal administrative processes associated with implementation of the reform. These include the passage of the *Fisheries Management Act* amendments to allow flexibility in the allocation of species shares and technology for online trading of shares and quota, and cost-effective monitoring of quota usage using mobile/smartphone applications.

Industry needs to commit to the development of a representative peak industry body which has its full support and confidence. Whilst the development of such a peak body is more likely to occur once the dust has settled and there is a clearer idea of the number of operators remaining in the fishery, the groundwork for such a peak body could be supported now. ***The recommendations made in the Steven's Review about industry representation report remain valid.***

3.5 Reform Implementation: Extension and Communication

Industry has managed to deal with a long history of complex fisheries management arrangements in NSW. Despite this, feedback on options papers, recommendations on linkage and the exit grant has shown a lack of comprehensive understanding of linkage options and the role of the exit grant. This has aggravated feelings of mistrust for DPI and generated further frustration with and antagonism towards the reform.

For the roll out of the next stages of the reform, ***the SARC recommends that a well-resourced, professional, clear communication and extension strategy focused on explaining the linkages and exit grant process be initiated as a matter of urgency.*** This will likely require utilization of different communication channels (print, in-person, telephone, web-based, audio-visual) in plain English delivered to all shareholders by professional, independent, communication and extension specialists.

As noted above, the SARC considers that a good communication and extension strategy is fundamental to the success of the exit grant, which is employing a tender method unfamiliar to many shareholders. At the time of linkage announcement, shareholders will need to know how the exit grant will work, how the subsidy is being applied and what share classes will have priority. This information will help reduce some of the uncertainty and associated stress around the reform and give them time to plan their future. Prior to and during the exit grant, there will be a need for ongoing extension support in the preparation, submission and revision of bids.

3.6 Other Implementation Risks

The history of fisheries management in NSW is not reassuring with respect to timely implementation of management initiatives. This has been driven by politicisation of management decision-making, a lack of a strategic approach to management, of cohesiveness within the industry and of trust between the industry and Government. The SARC believes that the current Government's

commitment to the reform program will ensure that these factors are not allowed to derail implementation of the reforms. However, the SARC wishes to emphasise the importance of meeting the implementation timeframe specified in the attached share linkage recommendations. Failure to do so will expose the reform to ongoing challenge and white-anting by industry as well as reinforce industry's lack of confidence in Government's ability to manage NSW fisheries in a professional manner. Central to meeting the implementation timeframe will be the provision of adequate resourcing to meet the heavy workload of the Department, the TAC Committee and the IAP during the 2016 to 2018 period.

Part 4. Share Linkage Recommendations

The recommended share linkages for each share class are provided below, along with an overview of each of the fisheries involved. Notes to assist in interpretation of the recommendations can be found at Attachment 2 and a map describing the regionalization of NSW fisheries is provided at Attachment 3.

Ocean Trawl Fishery - Overview

The Ocean Trawl Fishery consists of four share classes of relevant to the reform, these are:

- Ocean Trawl – Deepwater Prawn
- Ocean Trawl – Inshore Prawn
- Ocean Trawl – Offshore Prawn
- Ocean Trawl – Fish Northern Zone

These fisheries all use various forms of trawl gear to catch prawns and fish, and are differentiated primarily by mesh size, with: i) small mesh nets targeting prawns and also some targeted fish (school whiting) and by-product species; and ii) larger mesh nets to target a wide range of fish species.

In total, these fisheries are the most valuable in NSW and land around 1,900 tonnes of prawns and 1,100 tonnes of fish, worth approximately \$19 million p.a.

The Deepwater prawn fishery has limited interaction with the other three fisheries and uses larger (c. 15m) trawlers to catch deepwater royal red (and scarlet) prawns in waters between 360 and 650 metres. This fishery has been largely inactive in recent years due to the high costs of fishing and market competition from imported aquaculture prawns. There is now renewed interest in the fishery and some fishers are gearing up to expand their operation.

The three other fisheries have considerable species and spatial overlap and a number of fishing businesses hold endorsements in all fisheries:

- **Inshore and Offshore Prawn:** comprising i) the inshore prawn fishery (< 3miles from shore) targeting school prawns, school whiting and eastern king prawns and ii) the offshore prawn fishery (north of Sydney, outside 3 miles from the shore and in waters less than 280 metres) targeting eastern king prawns and school whiting.
- **Fish Trawl Northern Zone:** from Smoky Cape (South West Rocks) in the north and Barrenjoey Head (Sydney) in the south targeting a wide range of fish species, including silver trevally, tiger flathead, southern calamari and school whiting.

The fishery is currently managed by input controls including restrictions on the number of endorsements, the amount, design and dimensions of trawl gear, and the waters that may be worked.

Issues for further consideration by Government

- While noting some industry opposition, SARC strongly encourages consideration of removing the licence requirement for vessels <20m. Such deregulation should encourage investment in, and development of, the fishery.
- SARC does not support the industry suggestion that vessels in the fishery be unitised. To do so would create a second set of rights in the fishery, which would detract from the objective of making shares the main management tool.
- While industry is resistant to moves to introduce stronger (or indeed any) measures to reduce endorsement numbers and introduce individual transferable effort or catch quota-based management, if this fishery is to develop over time further management action to strengthen access rights and limit fishing effort will be required. Anecdotal information from industry is that in the 1990s a relatively small number of vessels, working what is the very narrow strip of continental slope where royal reds are present, were able to reduce abundance relatively quickly.

Background

A fishery for deepwater (360-640 metres) prawns using larger vessels, centred on the edge of the shelf, which has been largely inactive in recent years.

No. of FBs Endorsed	Active FBs	Total no. of shares	Reported annual catch (avg. tonnes)	Average GVP (\$m)	No. of FBs accounting for 80% of GVP	Main target species
16	4	656	3	0.018	2	Deepwater royal red and scarlet prawns

Ocean Trawl – Northern Fish Trawl

	Current Situation	Risk of inaction
Sustainability	<p>A mixed species fishery, some species of concern.</p> <p>Stock status of target species:</p> <p>Eastern school whiting Fully fished</p> <p>Tiger flathead Fully fished</p> <p>Bluespotted flathead Fully fished</p> <p>Ocean jacket Fully fished</p> <p>Short nosed ray Undefined</p> <p>Silver trevally Growth overfished</p> <p>Southern calamari Fully fished</p> <p>Gemfish Overfished</p> <p>Redfish Growth overfished – potentially recruitment overfished</p> <p>Considerable uncertainty exists concerning catch data and stock status of non-quota species that may come under pressure when quota is implemented for key species.</p>	
Commercial fishers	Risk of effort shift reducing profitability; uncertainty arising from future resource sharing (with other states, the Commonwealth, other NSW fisheries and the recreational sector). Around 64% by weight of landings in the fishery comprises species proposed to go to quota.	
Recreational fishers	Concern over shared species including bluespotted flathead, silver trevally and redfish.	
Social licence	General community concern about the impacts of trawling, including lack of caps on commercial catches of shared species and discarding.	

Share linkage recommendation

Increase the minimum shareholding from 40 to 50 shares to reduce endorsement numbers, with catch quotas applying to the selected species listed below.

Linkage	From July 2016	By July 2017	By July 2018	By December 2018
ENDORSEMENT NUMBERS	Increase minimum shareholding from 40 to 50 shares.			
CATCH QUOTA For eastern school and stout whiting (combined), tiger flathead, blue spotted flathead, silver trevally and gemfish.	IAP process commences to advise on the criteria for allocating new species shares.	IAP to report on the allocation of new species shares.	Allocate new species shares. TACs set for selected species following TAC Committee advice.	Allocate catch quota to shareholders proportional to the new species shares held.

Other proposed changes

- Removal of requirement for boats under 20m to be licensed, noting that some value is attributed to boat licenses, which the IAP process should consider when determining allocation criteria and relative weighting. Note that there is a need to retain licences in the fishery until the IAP process is complete and new rights (species shares) are issued.

Changes made to the draft recommendation as a result of feedback

- Reduction in the number of species recommended to be placed under quota (removal of ocean perch species), given they are not targeted, have no sustainability concerns and no major resource sharing issues. Quota leakage/compliance issues from Ocean Trap and Line – Line East where these species are recommended for quota management are not considered to be of concern.
- Separation of tiger flathead and bluespotted flathead given the spatial and depth differences in catches. This will also assist the process of resource sharing with the recreational sector and Commonwealth.
- A reduction in the proposed increase in the minimum shareholdings, given the strong industry feedback that the original draft recommendation for two increases in minimum shareholdings (44 and then 72 shares) would require a level of investment that would be substantially above the expected benefits.
- Further increases in minimum shareholdings may be necessary in future to manage effort directed towards non-quota species, using the TAC Committee, in consultation with industry, to provide determinations on future changes to endorsement numbers.

What is needed to ensure effective implementation?

- No additional requirements identified.

What does the recommendation deliver for NSW fisheries?

- Removal of some excess effort and additional protection for non-quota species through a requirement to hold increased minimum shareholdings.
- Improved prospects for long-term profitability and viability through creation of stronger access rights.
- More certainty that the management arrangements can address any future resource sharing or resource sustainability issues, which are crucial for the long-term viability of the fishery.
- A way to control the NSW catch of the main target species to ensure effective management of stocks shared with other jurisdictions (the Commonwealth), the recreational sector and other commercial fisheries within NSW.

Issues for further consideration by Government

- Gemfish remains overfished and has been listed as conservation dependent in the Commonwealth – it is also subject to a Commonwealth rebuilding strategy process. It is likely to be necessary to set a zero TAC and continue with existing trip limits until and when rebuilding is at a point where a TAC can be set and individually transferable quota issued.
- The issue of Danish seining is clearly of concern to industry. We observe that Danish seining appears to offer a cost effective, low impact method of fishing. Restricting this activity in favour of higher cost and less efficient trawl methods, while acknowledging the need to account for impacts on other trawl operators, is questionable.

Background

A relatively valuable trawl fishery targeting a wide range of fish species. Many of the operators are dual endorsed with the inshore and offshore prawn trawl fisheries. Sixty-one per cent of the endorsed FBs are active and 29% of these are responsible for 80% of the GVP.

No. of endorsed FBs	Active FBs	Total no. of shares	Reported annual catch (avg. tonnes)	Average GVP (\$m)	No. of FBs accounting for 80% of GVP	Main target species
38	20	2,169	1,100	4.2	11	A wide range of species including eastern school whiting, silver trevally, tiger and bluespotted flathead, and southern calamari.

Ocean Trawl – Inshore and Offshore Prawn

	Current Situation	Risk of inaction
Sustainability	<p><i>Stock status of target species:</i></p> <p><i>Eastern king prawn</i> <i>Growth overfished</i></p> <p><i>School prawn</i> <i>Fully fished</i></p> <p><i>Eastern school and stout whiting</i> <i>Fully fished</i></p> <p><i>Bluespotted flathead</i> <i>Fully fished</i></p>	
Commercial fishers	<i>Risk of increased effort reducing profitability; current management arrangements and a dual system (shares + licences) constraining efficiency; uncertainty arising from future resource sharing for three species.</i>	
Recreational fishers	<i>Concern over bluespotted flathead and bycatch of juvenile species of importance to the recreational sector, e.g. mulloway.</i>	
Social licence	<i>General community concern about the impacts of trawling, including bycatch. High visibility of inshore prawn trawl vessels.</i>	

Share linkage recommendation

Effort quota (hull unit days) as the main management method, with catch quotas applying to select species. Further, an increase in minimum shareholdings for inshore and offshore prawn trawl by 10 shares to reduce endorsement numbers.

Linkage	From July 2016	By July 2017	By July 2018	By December 2018
ENDORSEMENT NUMBERS	Increase minimum shareholdings from 40 to 50 shares in each share class (inshore prawn & offshore prawn)			
EFFORT QUOTA (hull unit days)	IAP process commences to advise allocation of new effort shares, in particular the weighting between existing shares and hull units. Unitisation commences for a small number of boats that are not already unitised. Require fishers to pre-report fishing to gain more accurate effort information.	IAP to report on the allocation of new effort shares.	Allocate new effort shares. TAC Committee to determine TAE.	Implement effort quota based on the TAE, with quota issued proportional to the new effort shares held.
CATCH QUOTA For eastern school and stout whiting (combined), tiger flathead and blue spotted flathead	IAP process commences, to advise on allocation of new species shares	IAP to report on the allocation of new species shares.	Allocate new species shares. TAC Committee to determine TACs for 2 species and 1 species group.	Implement catch quotas based on the TACs, with quota issued proportional to the new species shares held.

Other proposed measures

- Remove the current unenforceable engine power restrictions from July 2016.
- Replace current headline length limits applying to offshore prawn trawlers (based on hull units) and inshore prawn trawlers (maximum of 33m) with a standard maximum headline length of 55m once the new effort quota commences.
- Remove the requirement for boats under 20m to be licensed, noting that existing hull units will be accounted for under the allocation of effort shares/effort quota and upgrading will result in a commensurate reduction in days allocated, once the new effort quota commences.

Changes made to the draft recommendation as a result of feedback

- A smaller increase in minimum shareholdings has been introduced, based on feedback from submission and WG. This increase is also in line with the 10 year strategy adopted by this fishery and the linkage recommendations in Ocean Trawl – Northern Fish Trawl.
- Separation of tiger flathead and bluespotted flathead as quota species, given the spatial and depth differences in distribution and catches. This will also assist the process of resource sharing and long-term sustainability.

What is needed to ensure effective implementation?

- No additional requirements identified.

What does the recommendation deliver for NSW fisheries?

- A simplified management structure that will address the current restrictive and complex system of vessel replacement and promote efficiency.
- Improved prospects for long-term profitability and viability through creation of stronger access rights.
- More certainty that the management arrangements can address any future resource sharing or resource sustainability issues, which are crucial for a long-term viable fishery.
- A way to control the NSW catch of the main target species to ensure effective management of stocks shared with other jurisdictions (Queensland and the Commonwealth), the recreational sector (flathead) and other commercial fisheries within NSW.

Issues for further consideration by Government

- While it is noted that there is an intention to use mobile/smartphone applications for quota monitoring/compliance purposes, SARC recommends that VMS be introduced as a superior monitoring tool.
- Conduct poll of shareholders to consider the proposal to replace current inshore and offshore shares with new effort shares.

Background

The most valuable fishery in NSW, using trawls to target prawns and a range of fish and other byproduct species. Most operators are multi-endorsed for inshore, offshore prawn and northern fish trawl fisheries. Thirty-seven per cent of the endorsed FBs are responsible for 80% of the GVP.

No. of endorsed FBs	Active FBs (combined)	Total no. of shares	Reported annual catch (avg. tonnes)	Average GVP (\$m)	No. of FBs accounting for 80% of GVP (combined)	Main target species
Inshore -144 Offshore - 132	132	Inshore - 11,035 Offshore - 9,798	800 1,100	5.2 9.6	49	Eastern king prawns, school prawns, school whiting

Estuary Prawn Trawl (EPT) Fishery - Overview

The estuary prawn trawl fisheries feature small, often single-handed, trawlers using otter (board) trawls to catch mainly school prawns and some eastern king prawns in three NSW rivers/estuaries (the Clarence, Hawkesbury and Hunter). There is also a targeted squid fishery in the Hawkesbury. School prawns compete heavily with imported *vannamei* prawns, which have significantly reduced prices and profitability in the fishery. Large increases in diesel price in the early 2000's have also squeezed profits as the boats use a relatively high amount of fuel.

In the four years to 2013 the fishery produced an average of 366 tonnes of prawns worth \$2.61 million p.a.

The fishery is managed through a relatively complex set of input controls, including closed seasons, times and areas, the number of endorsements and gear/vessel restrictions. These measures seek to limit the amount of fish caught by indirectly controlling the fishing capacity of the fishery. With the exception of the Hawkesbury River the fishery operates for defined seasons (generally October to May), and within each estuary is confined to specific times and areas.

Estuary Prawn Trawl – Clarence River

	Current Situation	Risk of inaction
Sustainability	Stock status of target species: School prawn Fully fished	
Commercial fishers	At times, excess fishing capacity. Profitability can be improved by operational (gear) changes and reduced effort. Low share value relative to the other EPT share classes and many other fisheries.	
Recreational fishers	Not a major recreational fishery. Perception that prawn trawlers take unacceptable and unmanaged levels of juvenile species of recreational species remains. Mulloway catches of particular concern to the recreational sector, but are managed by triggers and closures.	
Social licence	Trawling in general, and in estuaries in particular is increasingly under pressure to be restricted.	

Share linkage recommendation

Increase the minimum shareholding from 150 to 250 shares to reduce endorsement numbers.

Linkage	From July 2016
ENDORSEMENT NUMBERS	Increase minimum shareholding by 100 shares, from 150 to 250 shares.

Other proposed changes

- Allow voluntary use of multiple gear (maximum headline length of 15m) and voluntary adoption of other modifications recently demonstrated to improve efficiency and reduce bycatch.
- Remove requirement for boats under 10m to be licenced from July 2016 but retain maximum boat length (and exemption code scheme) as specified in the share management plan.
- TAC Committee to establish subsequent changes to total effort (endorsement numbers), taking into account future biological, economic and social considerations as per the provisions of the Fisheries Management Act.

Changes made to the draft recommendation as a result of feedback

- Revised linkage recommendation from net length days to minimum shares. Decision based on feedback from submissions, and the working group and SARC concern over the ability to set an appropriate annual TAE for the EPT fishery, taking account of the large inter-annual variations in recruitment/catch.

What does the recommendation deliver for NSW fisheries?

- Reduces endorsement numbers from a current 74 to a theoretical maximum⁶ of 61.
- Seeks to increase profitability of active fishers by reducing the risk of excess fishing effort becoming active and allowing the use of more efficient gear.
- An enhanced access right, which will result in an improvement in asset value in the longer term.

⁶ Note that this is a theoretical maximum number of endorsements. However, the actual number of endorsements is highly likely to be less than this given that some shareholders will choose to hold greater (or less) than the minimum shareholding.

- Improve social licence and help deal with any future sustainability issues by removing some surplus capacity.

Issues for further consideration by Government

- Limiting endorsement numbers does not provide the operational flexibility that the former, more sophisticated net-length days linkage offered. Subject to the results of the exit grant, and as endorsement numbers reduce and communications with industry improve, consideration should be given to revisiting the net-length days linkage option. Benefits of a net-length days scheme include an ability to tailor investment and future fee liability to business needs, and a market based method for sharing access within the fishery. The use of a multi-year TAE to overcome the issue of inter-annual variability should also be explored.

Background

This is the largest of the three estuary prawn trawl fisheries with 73% of the endorsed FBs active and 44% of these responsible for 80% of the GVP.

No. of FBs endorsed	Active FBs	Total no. of shares	Reported annual catch (avg. tonnes)	Average annual GVP (\$m)	No. of FBs accounting for 80% of GVP	Main target species
74	54	15,430	145	1.0m	24	School prawns

Estuary Prawn Trawl – Hawkesbury River

	Current Situation	Risk of inaction
Sustainability	<p><i>Stock status of target species:</i></p> <p><i>School prawn</i> <i>Fully fished</i></p> <p><i>Loligo squid</i> <i>Undefined</i></p>	 
Commercial fishers	<i>At times, excess fishing capacity. Profitability can be improved by operational changes and reduced effort. Low share value relative to other fisheries.</i>	
Recreational fishers	<i>Not a recreational fishery. Perception that prawn trawlers take unacceptable and unmanaged levels of juvenile species of recreational species remains. Mulloway catches of particular concern to the recreational sector, but are managed by triggers and closures.</i>	
Social licence	<i>Trawling in general, and in estuaries in particular is increasingly under pressure to be restricted.</i>	

Share linkage recommendation

Increase the minimum shareholding from 150 to 200 shares to reduce endorsement numbers.

Linkage	From July 2016
ENDORSEMENT NUMBERS	Increase minimum shareholding by 50 shares from 150 to 200 shares.

Other proposed changes

- Allow voluntary use of multiple gear (maximum headline length of 11m in river and 22m in Broken Bay) and voluntary adoption of other modifications recently demonstrated to improve efficiency and reduce bycatch.
- Remove requirement for boats under 10m to be licenced from July 2016 but retain maximum boat length (and exemption code scheme) as specified in share management plan.
- TAC Committee to establish subsequent changes to total effort (endorsement numbers), taking into account future biological, economic and social considerations as per the provisions of the Fisheries Management Act.

Changes made to the draft recommendation as a result of feedback

- Revised linkage recommendation from net length days to minimum shares. Decision based on feedback from submissions, and the working group and SARC concern over the ability to set an appropriate annual TAE for the EPT fishery taking account of the large inter-annual variation in recruitment/catch.

What does the recommendation deliver for NSW fisheries?

- Reduces endorsement numbers from a current 52 to a theoretical maximum⁷ of 42.
- Seeks to increase profitability of active fishers by reducing the risk of excess fishing effort becoming active and allowing the use of more efficient gear.

⁷ Note that this is a theoretical maximum number of endorsements. However, the actual number of endorsements is highly likely to be less than this given that some shareholders will choose to hold greater (or less) than the minimum shareholding.

- An enhanced access right, which will result in an improvement in asset value in the longer term.
- Improve social licence and help deal with any future sustainability issues by removing some surplus capacity.

Issues for further consideration by Government

- Limiting endorsement numbers does not provide the operational flexibility that the former, more sophisticated net-length days linkage offered. Subject to the results of the exit grant, and as endorsement numbers reduce and communications with industry improve, DPI should consider revisiting the net-length days linkage option. Benefits of a net-length days scheme include an ability to tailor investment and future fee liability to business needs, and a market based method for sharing access within the fishery. The use of a multi-year TAE to overcome the issue of inter-annual variability should also be explored.

Background

One of three estuary prawn trawl fisheries with 83% the endorsed fishing business active and 46% of these are responsible for 80% of the GVP.

No. of FBs endorsed	Active FBs	Total no. of shares	Reported annual catch (avg. tonnes)	Average GVP (\$m)	No. of FBs accounting for 80% of GVP	Main target species
52	41	8,490	145	1.28m	19	School prawns; squid

Estuary Prawn Trawl – Hunter River

	Current Situation	Risk of inaction
Sustainability	<i>Stock status of target species: School prawn Fully fished</i>	
Commercial fishers	<i>At times, excess fishing capacity. Profitability can be improved by operational (gear) changes and reduced effort. Low share value relative to other fisheries.</i>	
Recreational fishers	<i>Not a major recreational fishery. Perception that prawn trawlers take unacceptable and unmanaged levels of juvenile species of recreational species remains. Mulloway catches of particular concern to the recreational sector, but are managed by triggers and closures.</i>	
Social licence	<i>Trawling in general, and in estuaries in particular is increasingly under pressure to be restricted.</i>	

Share linkage recommendation

Increase the minimum shareholding from 100 to 150 shares to reduce endorsement numbers.

Linkage	From July 2016
ENDORSEMENT NUMBERS	Increase current minimum shareholding by 50 shares, from 100 to 150 shares.

Other proposed changes

- Allow voluntary use of multiple gear (retain maximum headline length of 11m) and voluntary adoption of other modifications recently demonstrated to improve efficiency and reduce bycatch.
- Remove requirement for boats under 10m to be licenced from July 2016 but retain maximum boat length (and exemption code scheme) as specified in share management plan.
- TAC Committee to establish subsequent changes to total effort (endorsement numbers), taking into account future biological, economic and social considerations as per the provisions of the Fisheries Management Act.

Changes made to the draft recommendation as a result of feedback

- Revised linkage recommendation from net length days to minimum shares. Decision based on feedback from submissions, and working group and SARC concern over the ability to set an appropriate annual TAE for the EPT fishery, taking account of the large inter-annual variations in recruitment/catch.

What does the recommendation deliver for NSW fisheries?

- Reduces endorsement numbers from a current 24 to a theoretical maximum⁸ of 18.
- Seeks to increase profitability of active fishers by reducing the risk of excess fishing effort becoming active and allowing the use of more efficient gear.
- An enhanced access right, which will result in an improvement in asset value in the longer term.

⁸ Note that this is a theoretical maximum number of endorsements. However, the actual number of endorsements is highly likely to be less than this given that some shareholders will choose to hold greater (or less) than the minimum shareholding.

- Improve social licence and help deal with any future sustainability issues by removing some surplus capacity.

Issues for further consideration by Government

- Limiting endorsement numbers does not provide the operational flexibility that the former, more sophisticated net-length days linkage offered. Subject to the results of the exit grant, and as endorsement numbers reduce and communications with industry improve, DPI should consider revisiting the net-length days linkage option. Benefits of a net-length days scheme include an ability to tailor investment and future fee liability to business needs, and a market based method for sharing access within the fishery. The use of a multi-year TAE to overcome the issue of inter-annual variability should also be explored.

Background

This is the smallest of the three estuary prawn trawl fisheries with 83% of the endorsed FBs active and 45% of these responsible for 80% of the GVP.

No. of FBs endorsed	Active FBs	Total no. of shares	Reported annual catch (avg. tonnes)	Average annual GVP (\$m)	No. of FBs accounting for 80% of GVP	Main target species
24	20	2,800	51	0.33m	9	School prawns

Ocean Trap and Line Fishery - Overview

The Ocean Trap and Line Fishery is a multi-method, multi-species fishery targeting demersal and pelagic fish along the entire NSW coast, in continental shelf and slope waters. The fishery takes around 1700 t/year valued at around \$11.5 m. Snapper makes up around 12% of the annual catch and spanner crab accounts for around 11%. The methods used (and the key species taken) include:

- demersal fish trap (snapper, silver trevally, rubberlip morwong and leatherjackets);
- setlines/trotlines (snapper and sharks);
- driftlines (spotted and Spanish mackerel, yellowtail kingfish, and sharks);
- hand-held line (mulloway, yellowtail kingfish and bonito);
- dropline (blue-eye and hapuku);
- trolling/leadlining (yellowtail kingfish, mackerel and tuna);
- spanner crab nets, known as a 'dilly'.

The Ocean Trap and Line Fishery is a share management fishery and commercial fishers must hold sufficient shares to be eligible for an endorsement to operate in the fishery. There are six endorsements types that specify the methods that may be used and the waters that may be fished:

- Line fishing western zone endorsement: the holder may use a line to take fish from ocean waters that are west of the 183 metre (100 fathoms) depth contour.
- Line fishing eastern zone endorsement: the holder may use a line to take fish from ocean waters that are east of the 183 metre (100 fathoms) depth contour.
- Demersal fish trap endorsement: the holder may take fish from ocean waters by means of a fish trap set or used on the sea bed.
- School and gummy shark endorsement: the holder may take school and gummy sharks using a line from ocean waters south of a line drawn due east from the northern point of the entrance to Moruya River.
- Spanner crab northern zone endorsement: the holder may use a spanner crab net to take spanner crabs from ocean waters that are north of a line drawn due east from the southern break wall at Yamba.
- Spanner crab southern zone endorsement: the holder may use a spanner crab net to take spanner crabs from ocean waters between Yamba and Hat Head.

The fishery is currently managed by input controls including restrictions on the number of endorsements, the amount, design and dimensions of fishing gear, and waters that may be worked.

Ocean Trap and Line – Demersal Fish Trap

	Current situation	Risk of inaction
Sustainability	<p><i>Stock status of target species:</i></p> <p><i>Ocean jackets</i> <i>Fully fished</i></p> <p><i>Snapper</i> <i>Growth overfished and concern about recent decline in catch rate</i></p> <p><i>Leatherjackets</i> <i>Undefined</i></p> <p><i>Grey morwong</i> <i>Overfished</i></p> <p><i>Yellowfin bream</i> <i>Fully fished</i></p> <p><i>Silver trevally</i> <i>Growth overfished and concern about catch rates, landings and size of catch</i></p>	<p></p> <p></p> <p></p> <p></p> <p></p> <p></p>
Commercial fishers	<i>There is a high proportion of inactive FBs but risk of activation is considered to be low given the relatively high cost of shares and overall capital investment required to enter the share class. However the consequences of such activation would be significant with increased competition on existing grounds.</i>	
Recreational fishers	<i>Grey morwong is a key recreational species. The take of this species in the commercial sector is largely unavoidable while there remains scope to reduce the mortality associated with take of this species by line fishing in the recreational sector.</i>	
Social licence	<i>No issues identified.</i>	

Share linkage recommendation

An increase in the minimum shareholding from the current 40 shares to 50 shares to reduce endorsement numbers.

Linkage	From July 2016
ENDORSEMENT NUMBERS	Increase the minimum shareholding from 40 to 50 shares.

Other proposed measures

- From July 2016, allow the use of an additional 10 fish traps for every 20 shares held above the new minimum shareholding.

Changes made to the draft recommendation as a result of feedback

- No changes were made to the draft recommendation. Unlike the Ocean Trap and Line Fishery – Line West, the risk of activation of active effort or effort shift from other share classes in the Demersal Fish Trap is much lower as a result the high level of investment required in fishing gear and the necessary level of expertise and knowledge required to operate successfully in this share class.

Requirements for effective implementation

- No additional requirements identified.

What does the recommendation deliver for NSW fisheries?

The increase in minimum shareholdings is expected to:

- reduce the theoretical maximum number of endorsements⁹ from 204 to 163
- to reduce a small proportion of the excess fishing capacity that exists in the fishery and reduce the risk of that effort activating and eroding profitability of active fishers and affecting stock sustainability
- provide for some strengthening of the access right and may provide for some improvement in asset value in the longer term
- allow participation of the share class in the exit grant.

Allowing extra fish traps to be used for additional shares held in the same FB will improve business flexibility and efficiency.

Issues for further consideration by Government

- There are sustainability concerns for some target species. This is not an issue that can be addressed through the share linkage reform since it is neither feasible nor cost-effective to move to ITQs for these species given that traps are not species selective. The SARC notes, however that action is needed to limit the total mortality of grey morwong, in particular, across the recreational and commercial sectors.

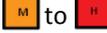
Background

This is an offshore fishery where less than 70% of the endorsed FBs are active and around 20% are responsible for 80% of the GVP.

No. of endorsed FBs	Active FBs	Total no. of shares	Reported annual catch (avg. tonnes)	Average GVP (\$)	No. of FBs accounting for 80% of GVP
176	121	8,180	592	\$4.0 m	34

⁹ Note that this is a theoretical maximum number of endorsements. However, the actual number of endorsements is highly likely to be less than this given that some shareholders do, or may choose to, hold more (or less) than the minimum shareholding.

Ocean Trap and Line – Line West

	Current situation	Risk of inaction
Sustainability	<p><i>Stock status of target species:</i></p> <p><i>Australian bonito</i> <i>Fully fished</i></p> <p><i>Yellowtail kingfish</i> <i>Growth overfished and flagged for closer consideration</i></p> <p><i>Snapper</i> <i>Growth overfished and concern over recent decline in catch rate in northern NSW</i></p> <p><i>Blue mackerel</i> <i>Moderately fished</i></p> <p><i>Spanish and spotted mackerel</i> <i>Fully fished</i></p> <p><i>Tailor</i> <i>Fully fished</i></p> <p><i>Teraglin</i> <i>Uncertain</i></p> <p><i>Sharks (various species)</i> <i>Undefined</i></p>	<p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p></p>
Commercial fishers	<p><i>There is some risk associated with activation of inactive effort since entry to the fishery (e.g. boats and gear) requires a relatively low level of investment. While specialised knowledge/fishing ability is required for long-term success, the potential for activation of effort has been demonstrated by past pulses in effort for yellowtail kingfish and sharks. It is relatively easy, for example for some Estuary General fishers to move into this share class.</i></p>	<p></p>
Recreational fishers	<p><i>Yellowtail kingfish, snapper and teraglin are key recreational species. The long-term sustainability of these species will depend in large part on agreement on resource sharing and species-specific management across the commercial and recreational sectors.</i></p>	<p></p>
Social licence	<p><i>No major issues identified.</i></p>	<p></p>

Share linkage recommendation

An increase in the minimum shareholding from the current 40 shares to 60 shares to reduce endorsement numbers.

Linkage	From July 2016
ENDORSEMENT NUMBERS	Increase in the minimum shareholding from 40 to 60 shares.

Other proposed measures

- No other measures are recommended.

Changes made to the draft recommendation as a result of feedback

- The proposed increase in minimum shares has been increased from a proposed minimum of 50 to a minimum of 60:
 - This is in response to feedback that the draft recommendation left the way open for effort shift from other share classes, e.g. Estuary General share classes, into Line West

- Consultation also identified that some fishers were concerned that an increase to 50 shares did not adequately strengthen the property right given the level of fishing capacity that would remain
- The SARC considered that these concerns were well-founded and that a higher increase was required in order to deter investment into currently inactive Line West entitlements.

Requirements for effective implementation

- No additional requirements identified.

What does the recommendation deliver for NSW fisheries?

The increase in minimum shareholdings to 60 is expected to:

- reduce the theoretical maximum number of endorsements¹⁰ from 337 to 225
- reduce the risk of excess fishing effort from becoming active and eroding profitability of active fishers and affecting stock sustainability
- deter effort shift into Line West from other share classes
- provide for limited strengthening of the access right and may provide for some improvement in asset value in the longer term
- allow participation of the share class in the exit grant.

Issues for further consideration by Government

- There is a high risk to sustainability, and hence viability, if some species-specific issues are not addressed. These cannot be addressed through share linkage reform alone. There is a need to expedite resolution of resource sharing issues, and implement effective measures to restrict mortality of yellowtail kingfish and snapper in particular, across commercial and recreational fishing sectors. This may include, for example further consideration of ITQs for species such as yellowtail kingfish.
- Consideration should be given to the need to cap the take of blue mackerel in this share class given the recommended move to ITQs for this species in Ocean Hauling – Purse Seine.

Background

This is an inshore hook and line fishery using a diverse range of line gear and taking a broad range of species. Nearly 90% of endorsed FBs are active but around 30% are responsible for 80% of the GVP.

No. of endorsed FBs	Active FBs	Total no. of shares	Reported annual catch (avg. tonnes)	Average GVP (\$)	No. of FBs accounting for 80% of GVP
301	266	13,515	820	\$5.4 m	84

¹⁰ Note that this is a theoretical maximum number of endorsements. However, the actual number of endorsements is highly likely to be less than this given that some shareholders do, or may choose to, hold more (or less) than the minimum shareholding.

Changes made to draft recommendation as a result of feedback

- The nature of the share linkage has not been amended.
- The SARC has agreed with feedback that quota be allocated as a 'basket' quota rather than as species-specific quota for the three perch species.

What does the recommendation deliver for NSW fisheries?

- The extent of any rationalisation of the fishery arising from the introduction of catch quota will depend on the level of the TAC relative to recent catch levels and the formula used to allocate ITQs.
- Catch quotas will:
 - provide the strongest form of access right and improve security for operators
 - remove the need for daily trip limits and increase efficiency
 - provide a way to control the NSW catch of the main target species to ensure effective management of stocks shared with the Commonwealth
 - provide more certainty that the management arrangements can address any future resource sharing or resource sustainability issues, which is crucial for a long-term viable fishery.
- Allowing an extra 1,200 hooks to be used when additional shares are held will improve business flexibility and efficiency.

Requirements for effective implementation

- A cost-effective quota monitoring regime, including effective compliance, to maintain the integrity of the TAC and protect access rights.

Issues for further consideration by Government

- Season start dates for the purposes of quota are yet to be determined.

Background

This is an ocean line fishery in which about 75% of endorsed FBs are active but only 18% are responsible for 80% of the GVP.

No. of endorsed FBs	Active FBs	Total no. of shares	Reported annual catch (avg. tonnes)	Average GVP (\$)	No. of FBs accounting for 80% of GVP
76	57	3220	152	\$1.12 m	14

Ocean Trap and Line – School and Gummy Shark

	Current situation	Risk of inaction
Sustainability	<p><i>Stock status of target species:</i></p> <p><i>Gummy shark Fully fished</i></p> <p><i>School shark Overfished*</i></p> <p><i>*While the stock is rated at high risk, the NSW component of total catch of this shared stock is less than 1 t/year so the risk posed by this fishery to the rebuilding of the stock is very small.</i></p>	<p></p> <p></p>
Commercial fishers	<p><i>While there is excess capacity the risk of activation of that effort is low given the relatively high level of investment required to participate. Given that the stocks are shared with the Commonwealth, and managed there under quota, there is a need for a mechanism that demonstrably controls NSW catch, particularly for gummy shark.</i></p>	<p></p>
Recreational fishers	<p><i>No issues identified</i></p>	<p></p>
Social licence	<p><i>No specific issues identified in this fishery, however general community concern about the impact of fishing on shark stocks is noted.</i></p>	<p></p>

Share linkage recommendation

No change to share linkage. Current management arrangements, based on enforced minimum shareholdings, should be maintained.

Linkage	Ongoing
ENDORSEMENT NUMBERS	Enforce a minimum shareholding of 40 as per current arrangements.

Other proposed changes

- No other measures are recommended.

Changes made to the draft recommendation as a result of feedback

- No changes were made.

What does the recommendation deliver for NSW fisheries?

- The recommendation acknowledges that, while there is a need for species-specific measures to control catch of gummy shark, the SARC believes that the small volume and value of catch does not justify the creation of new species share classes and an ongoing catch quota scheme.

Issues for further consideration by Government

- DPI should consider whether there is a need to introduce a competitive (unallocated) TAC for gummy shark, accompanied by trip limits if necessary, to ensure complementary management of the stock across NSW and Commonwealth jurisdictions.

Background

This is a small hook and line fishery targeting predominantly gummy shark on the south coast. Only just over half the FBs are active and 16% are responsible for 80% of the GVP.

No. of endorsed FBs	Active FBs	Total no. of shares	Reported annual catch (avg. tonnes)	Average GVP (\$)	No. of FBs accounting for 80% of GVP
18	13	765	36	\$193,000	3

Ocean Trap and Line – Spanner Crab Southern Zone

	Current situation	Risk of inaction
Sustainability	Stock status of target species: Spanner crab Fully fished	
Commercial fishers	The Northern Zone, which fishes the same stock, moved to ITQs in July 2015. There is a need to manage the take of spanner crab in the Southern Zone to ensure the integrity of the Northern Zone quota system and an efficient management system. The stock is also shared with Queensland which manages its fishery under ITQs.	
Recreational fishers	No issues identified.	
Social licence	No issues identified.	

Share linkage recommendation

A new state-wide spanner crab share class to be created as at July 2017. New shares to be allocated based on the Northern and Southern Zones' proportion of the total catch of the fishery (currently estimated at 97% and 3% respectively) and in proportion to existing shares held by fishers.

Linkage	From July 2017	By July 2018
ENDORSEMENT NUMBERS	Minimum shareholding as per current arrangements.	
CATCH QUOTA For spanner crabs	<p>The TAC committee determines a state-wide TAC for implementation when the Northern and Southern Zones are merged into a single fishery.</p> <p>New state-wide spanner crab shares allocated based on existing shares held (weighted in proportion to the relative catch of each Zone (97% Northern Zone and 3% Southern Zone)).</p>	<p>Implement state-wide catch quota based on new state-wide TAC, with quota issued proportional to the new species shares.</p> <p>The Northern and Southern Zones are merged into a single fishery.</p>

Other proposed changes

- Northern and southern zones to be merged to establish a single fishery following the implementation of the state wide catch quota, from July 2018.
- The number of dillies permitted to be used will be increased from 20 to 30 irrespective of whether or not the operator has the assistance of crew. This has already occurred in the Northern Zone and will apply across the fishery from July 2018.

Changes made to draft recommendation as a result feedback

- No changes were made.
- While one submission voiced concern about the level of allocation to Southern Zone operators, others were supportive of the creation of a state-wide share class. It is considered that quota remains the best share linkage option for the Southern Zone given the use of ITQs in both Queensland and the Northern Zone.

Requirements for effective implementation

- No additional requirements identified.

What does the recommendation deliver for NSW fisheries?

- A fishery-wide catch quota will:
 - provide the strongest form of access right and improve security for operators
 - allow shareholders to secure their portion of access to the stock
 - provide species-specific management of the whole spanner crab stock across NSW and Queensland jurisdictions through a TAC
 - provide more certainty that the management arrangements can address any future resource sharing or resource sustainability issues, which is crucial for a long-term viable fishery.
- Removal of zones will allow for the catching and trading of catch quota across the fishery, improving flexibility.
- Increasing the number of dillies that can be used will improve flexibility and efficiency.
- Using one management system, including the established quota monitoring system now in place for the Northern Zone, for spanner crab stock reduces complexity and future management costs.

Issues for further consideration by Government

- Consideration could be given to removing, or further increasing, the limit on dillies following implementation of quota.
- Consideration should be given to the need to retain existing shares following the implementation of new species shares.

Background (Southern Zone only)

An offshore fishery where less than 20% of the endorsed FBs are active and 25% are responsible for 80% of the GVP.

No. of endorsed FBs	Active FBs	Total no. of shares	Reported annual catch (avg. tonnes)	Average GVP (\$)	No. of FBs accounting for 80% of GVP
8	2	345	1.1	\$13,000	2

Estuary General Fishery - Overview

The Estuary General Fishery is a diverse multi-species multi-method fishery that may operate in 76 of the NSW's estuarine systems. Around 80 species are taken in the Estuary General Fishery with the main species targeted being sea mullet, luderick, bream and school prawns. The most commonly used estuarine fishing methods are meshing and hauling nets. Other methods include trapping for crabs, eels and finfish, and a small amount of hand lining and handgathering for pipis and beachworms on ocean beaches. Boats are generally small, under 6 metre in length.

The fishery comprises approximately 600 fishing businesses authorised to use 17 types of fishing gear under 9 different share classes broken down into 7 regions. Thus, there are 63 classes of share available in the fishery. It makes a significant contribution (\$15.4 million p.a. Gross Value of Production) to regional and state economies, providing local NSW seafood and recreational bait to the community.

The fishery is managed through a relatively complex set of input controls, including closed seasons, times and areas, the number of endorsements and gear restrictions. These measures seek to limit the fishing capacity of fishers by indirectly controlling the amount of fish caught.

Whilst operational diversity as a strategy to optimize fishing opportunities is clearly important in this fishery, the number of fishing businesses recording effort varies considerably by share class. Many of the share classes have a high proportion of fishing businesses which are inactive (have little or no fishing activity (effort) recorded (for the 2009/10 – 2012/13 period)).

Estuary General - Meshing

	Current Situation	Risk of inaction
Sustainability	<p><i>Stock status of target species:</i></p> <p><i>Luderick</i> Fully fished</p> <p><i>Yellowfin bream</i> Fully fished</p> <p><i>Sea mullet</i> Fully fished</p> <p><i>Dusky flathead</i> Uncertain</p>	<p></p> <p></p> <p></p> <p></p>
Commercial fishers	<i>Many FBs own this share class. Low barriers to entry (skills, capital) means that effort can be easily activated eroding the profitability of full-time fishers. Low returns at the fishery level.</i>	
Recreational fishers	<i>Competition over the same species and areas leads to conflict with the commercial sector. Commercial discards of juvenile high profile species such as mullet.</i>	
Social licence	<i>There have been many examples in past years of community and sector-based campaigns to remove commercial meshing from estuaries. Visibility of the activity gives negative perception of high impact.</i>	

Share linkage recommendation

An initial enforcement of the minimum shareholdings to reduce endorsement numbers. A subsequent introduction of a total allowable effort cap and individual transferable effort days issued to each region and allocated on shares held. Catch quotas for blue swimmer and mud crabs allocated proportional to shares held.

Linkage	From July 2016	By July 2017	By July 2018	By December 2018																																
ENDORSEMENT NUMBERS	Enforce the current minimum shareholding of 125 shares.																																			
EFFORT QUOTA Days		<p>Implement effort quota (days), with quota issued to individuals in proportion to the meshing shares held at the time, based on regional ITCALs:</p> <table border="1"> <thead> <tr> <th>Region</th> <th>Regional ITCAL</th> <th>Days per share</th> <th>Days per 125 shares</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1,815</td> <td>0.42</td> <td>52</td> </tr> <tr> <td>2</td> <td>6,981</td> <td>0.56</td> <td>69</td> </tr> <tr> <td>3</td> <td>4,405</td> <td>0.69</td> <td>86</td> </tr> <tr> <td>4</td> <td>13,743</td> <td>0.71</td> <td>88</td> </tr> <tr> <td>5</td> <td>2,482</td> <td>0.49</td> <td>61</td> </tr> <tr> <td>6</td> <td>3,319</td> <td>0.58</td> <td>72</td> </tr> <tr> <td>7</td> <td>2,291</td> <td>0.60</td> <td>75</td> </tr> </tbody> </table>	Region	Regional ITCAL	Days per share	Days per 125 shares	1	1,815	0.42	52	2	6,981	0.56	69	3	4,405	0.69	86	4	13,743	0.71	88	5	2,482	0.49	61	6	3,319	0.58	72	7	2,291	0.60	75		<p>Regional TAEs determined by TAC Committee (utilising two years of improved catch and effort reporting data).</p> <p>Implement effort quotas based on the regional TAEs, with quota issued proportional to the meshing shares held.</p>
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Linkage	From July 2016	By July 2017	By July 2018	By December 2018																																													
CATCH QUOTA For blue swimmer crab and mud crabs		Implement catch quota using new species shares allocated in proportion to the existing meshing shares held at the time. Total catch limits (ITCALs, for meshing) of 39,849 kg of blue swimmer and 7,646 kg of mud crabs resulting in kg allocations for meshing shares of:	TACs determined by TAC Committee.	Implement catch quotas based on the TAC, with quota issued proportional to the new species shares held.																																													
		<table border="1"> <thead> <tr> <th rowspan="2">Region</th> <th colspan="2">Blue swimmer crab</th> <th colspan="2">Mud crab</th> </tr> <tr> <th>Kg per share</th> <th>Kg per 125 shares</th> <th>Kg per share</th> <th>Kg per 125 shares</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> <td>0</td> <td>0.05</td> <td>6.4</td> </tr> <tr> <td>2</td> <td>0.02</td> <td>2.9</td> <td>0.05</td> <td>6.1</td> </tr> <tr> <td>3</td> <td>0.3</td> <td>31.5</td> <td>0.1</td> <td>14.3</td> </tr> <tr> <td>4</td> <td>1.2</td> <td>145.8</td> <td>0.2</td> <td>29.2</td> </tr> <tr> <td>5</td> <td>0.1</td> <td>18.1</td> <td>0.05</td> <td>6.0</td> </tr> <tr> <td>6</td> <td>2.1</td> <td>256.8</td> <td>0.1</td> <td>17.0</td> </tr> <tr> <td>7</td> <td>0.2</td> <td>24.9</td> <td>0.04</td> <td>4.5</td> </tr> </tbody> </table>			Region	Blue swimmer crab		Mud crab		Kg per share	Kg per 125 shares	Kg per share	Kg per 125 shares	1	0	0	0.05	6.4	2	0.02	2.9	0.05	6.1	3	0.3	31.5	0.1	14.3	4	1.2	145.8	0.2	29.2	5	0.1	18.1	0.05	6.0	6	2.1	256.8	0.1	17.0	7	0.2	24.9	0.04	4.5	
		Region				Blue swimmer crab		Mud crab																																									
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Species shares freely tradeable across the State.																																																	

Other proposed changes

- Provide for unendorsed assistance if the fishing business holds 250 shares or more by July 2017.
- Remove requirement for boats under 10m to be licenced from July 2016 but retain maximum boat length (and exemption code) as specified in the share management plan.
- Remove requirement for meshing nets to be registered with a mesh size below 4.5 inches, from July 2016.

Changes made to draft recommendation as a result of feedback

- Due to ITCALs not reflecting regional effort, ITCALs for effort days were revised based on the maximum total days fished in each region over the ten year period 2002/03-2012/13 (rather than a proportional allocation).
- To reduce uncertainty timing brought forward to July 2017 for quota implementation and to 2018 for TAC/TAE setting and the conversion of ITCALs to TAC/TAE.

Requirements for effective implementation

- Implementation of mandatory and robust reporting system on days fished from 2016.
- A cost-effective quota monitoring regime, including effective compliance of both the commercial and recreational sectors, to maintain the integrity of the TAC and protect access rights.

What does the recommendation deliver for NSW fisheries?

- The enforcement of minimum shareholdings will remove some of the excess capacity.
- Effort quota will:
 - provide a cap on total effort and a greater ability to manage effort regionally.

- provide a stronger, more secure form of access right which usually manifests in higher asset values.
- provide shareholders a secure portion of total effort which enables them to organise their business operations to fish this cost- effectively.
- reduce “race to fish” behaviour which has led to reduced profitability and conflict.
- Catch quotas will:
 - provide the strongest form of access right and improve security for operators.
 - allow shareholders to secure their portion of access to the stock.
 - provide species-specific management through a TAC.
 - provide more certainty that the management arrangements can address any future resource sharing or resource sustainability issues, which is crucial for a long-term viable fishery.
 - minimise “race to fish” behaviour which has led to reduced profitability and conflict.
- Greater operational flexibility by allowing unendorsed assistance which is an additional benefit for acquiring more shares.
- Social licence will be improved through reduced numbers of fishers and better control of catch.
- Some reduction in administrative costs by removing the requirement of boat licences and net registrations below 4.5.”

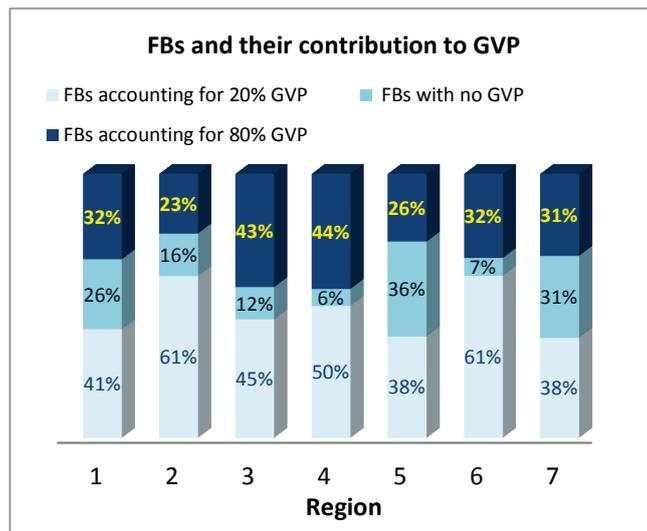
Issues for further consideration by Government

- Net length for all the larger lakes to be consistent across the State.
- Prioritisation of this share class in the exit grant process due to the number of shareholders impacted by linkage as meshing is the backbone of the Estuary General fishery.
- In response to concern that fishing days have been underreported, DPI should seek to undertake some verification of fishing days and review the ITCAL, prior to the linkage announcement by the Minister.

Background

An estuary fishery where 143 out of 444 FBs account for 80% of the GVP.

Region	Reported annual catch tonnes	Annual GVP '\$000	No. of endorsed FBs
1	99	351	34
2	518	1,800	93
3	185	658	49
4	839	3,700	156
5	69	361	39
6	184	901	44
7	81	469	29
TOTAL	1975	8,300	444



Estuary General - Prawning

	Current Situation	Risk of inaction
Sustainability	<p><i>Stock status of target species:</i></p> <p><i>School Prawns</i> <i>Fully fished</i></p> <p><i>Eastern king prawns</i> <i>Growth overfished</i></p> <p><i>Greasybacked/greentail prawns</i> <i>Undefined</i></p>	  
Commercial fishers	<i>Some barriers to entry of latent effort as higher capital investment (winches) and skills required. During high abundance and/or prices there is social conflict arising from additional fishers entering prawn set pocket net ballots.</i>	
Recreational fishers	<i>Target same species resulting in localised area and species conflicts.</i>	
Social licence	<i>There have been many examples in past years of community and sector-based campaigns to remove commercial fishing from estuaries.</i>	

Share linkage recommendation

Enforcement of minimum shareholdings and a further increase in minimum shareholdings to reduce endorsement numbers.

Linkage	From July 2016	By July 2017		
		Region	New minimum shareholding	Maximum no. of endorsements
ENDORSEMENT NUMBERS	Enforce the current minimum shareholding of 125 shares.			
		1	150	18
		2	195	63
		3	205	19
		4	165	114
		5	125	5
		6	170	28
		7	175	23

Other proposed changes

- Allow the use of unendorsed assistance if the fishing business holds 250 shares or more, from July 2017.
- Additional prawn set pocket or running net nominations for each additional 100 shares held by a fishing business above the new minimum shareholding, from July 2017.
- Remove requirement for boats under 10m to be licenced from July 2016 but retain maximum boat length (and exemption code) as specified in the share management plan.
- Remove the requirement for nets to be registered from July 2016.

Changes made to draft recommendation as a result of feedback

- To reduce uncertainty, timing of subsequent minimum shareholding increase brought forward to 2017.

- Additional prawn set pocket or running net nominations increased from an additional 50 to 100 shares held by a fishing business above the new minimum shareholding to encourage share aggregation for a known benefit.
- The new minimum shareholdings have been rounded down for practical purposes.

What does the recommendation deliver for NSW fisheries?

- The initial enforcement and increase in minimum shareholdings will:
 - reduce the theoretical maximum number of endorsements¹¹ from 361 to 270.
 - increase the number of shares available to purchase.
 - reduce the risk to existing operators of activation of inactive effort.
 - reduce conflict surrounding prawn ballots.
- A reduction in numbers of fishers will help gain/maintain social licence.
- A mechanism which allows operators to amalgamate shares to increase their chances in the prawn ballot.
- The ability to improve operational flexibility and efficiency by allowing for unendorsed assistance.
- A reduction in some administrative costs by removing the requirement of boat licences and net registrations.

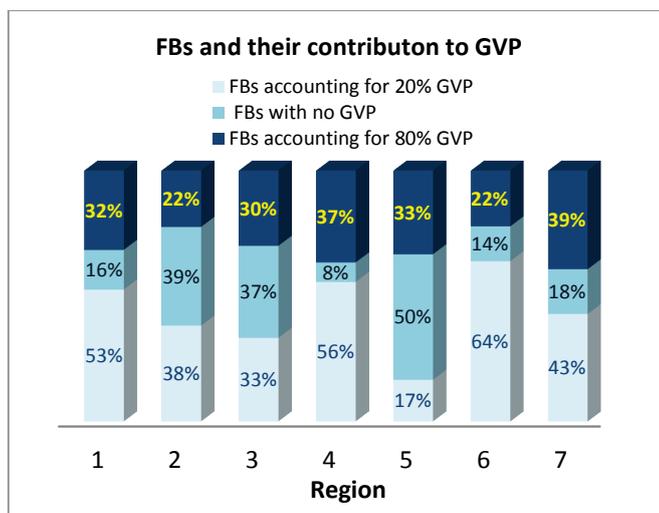
Issues for further consideration by Government

- No issues identified.

Background

An estuary fishery where 85 out of 350 FBs account for 80% of the GVP.

Region	Reported annual catch tonnes	Annual GVP '\$000	No. of endorsed FBs
1	8	66	19
2	32	245	89
3	5	38	30
4	20	1,600	142
5	0.3	2	6
6	64	504	36
7	6	120	28
TOTAL	314	2,550	350



¹¹ Note that this is a theoretical maximum number of endorsements. However, the actual number of endorsements is highly likely to be less than this given that some shareholders will choose to hold greater (or less) than the minimum shareholding.

- provide more certainty that the management arrangements can address any future resource sharing or resource sustainability issues, which is crucial for a long-term viable fishery.
 - minimise “race to fish” behaviour which has led to reduced profitability and conflict .
 - provide an incentive to maximise returns.
- Improve social licence through reduced numbers of fishers and better control of catch.

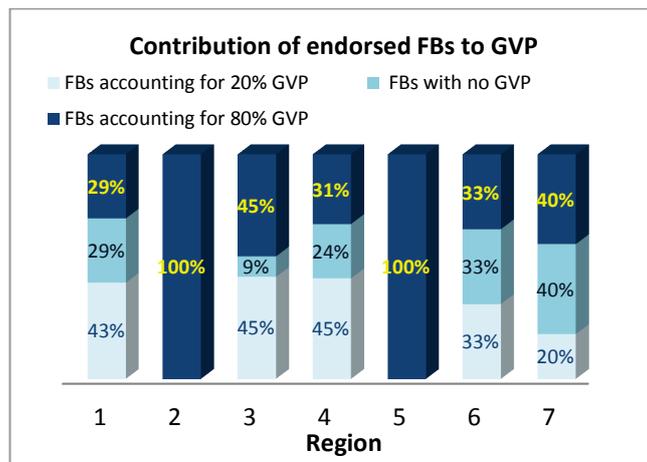
Issues for further consideration by Government

- Review existing input controls applying to pipi harvesting, such as the 40kg per day daily trip limit, once catch quota commences.

Background

An estuary and ocean beach based fishery where 25 out of 81 FBs account for 80% of the GVP.

Region	Reported annual catch tonnes	Annual GVP '\$000	No. of endorsed FBs
1	3	102	14
2	1	16	1
3	16	460	22
4	12	328	29
5	2	97	1
6	11	225	9
7	11	79	5
TOTAL	55	1,300	81



Other proposed changes

- Remove requirement for boats under 10m to be licenced from July 2016 but retain maximum boat length (and exemption code) as specified in share management plan.
- Allow mud crabs to be caught if caught in a fish trap and where mud crab quota is held from July 2017.
- Remove the hoop or lift net as a lawful method from July 2016.
- Increase the minimum landing size to 65mm to protect pre-spawning females from July 2016.

Changes made to draft recommendation as a result of feedback

- Timing brought forward to July 2017 for quota implementation and 2018 for TAC determination and implementation.
- Removed the requirement that Wallis Lakes and Port Stephens would have to reduce trap numbers as part of enforcement of minimum shareholding as this was inequitable.
- Removed an increase of 5 fish traps for fishers in all other waters based on feedback and given that there is an opportunity to increase trap numbers through the acquisition of extra shares.
- Increased the minimum landing size to 65mm as a stock protection measure given concern about pre-spawning females being caught and research which supported the benefit to the fishery of an increase in egg production.
- Consideration was given to the changing environmental conditions in Wallis Lake impacting the regional ITCAL allocations. Extending the ITCAL calculation date to 2013/14 had negligible impact on the allocation (increased by 1.3%) and did not address the main cause: distortion within the regional share class. Therefore no change was made.

Requirements for effective implementation

- Prioritise region 4 in the exit grant as this region is heavily distorted.
- A cost-effective quota monitoring regime, including effective compliance of both the commercial and recreational sectors, to maintain the integrity of the TAC and protect access rights.

What does the recommendation deliver for NSW fisheries?

- The enforcement of minimum shareholdings will remove some of the excess capacity.
- Catch quota will provide:
 - species-specific management through the setting of a TAC.
 - the strongest, most secure form of access right which usually manifests in higher asset values
 - shareholders a secure portion of the stock which enables them to organise their business operations to fish this cost-effectively.
 - more certainty that the management arrangements can address any future resource sharing or resource sustainability issues, which is crucial for a long-term viable fishery.
 - a management framework which minimises “race to fish” behaviour which has previously led to reduced profitability and conflict.
- Improve social licence through reduced numbers of fishers and better control of catch.
- Provides operational flexibility by allowing an increase in traps used for additional shares.
- Reduces some administrative costs by removing the requirement of boat licences.

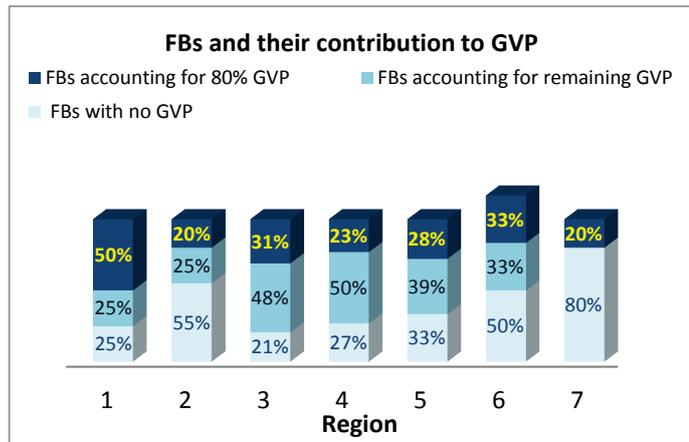
Issues for further consideration by Government

- Clarify which methods used in other share classes will allow blue swimmer crabs to be retained provided quota is held.

Background

An estuary fishery where 31 out of 157 FBs account for 80% of the GVP.

Region	Reported annual catch tonnes	Annual GVP '\$000	No. of endorsed FBs
1	0.5	6	4
2	4.9	49	20
3	7.4	75	29
4	53	517	78
5	10	128	18
6	0.9	8	3
7	2	24	5
TOTAL	113	808	157



Estuary General - Mud Crab Trapping

	Current Situation	Risk of inaction
Sustainability	Stock status of target species: <i>Mud crab</i> <i>Uncertain</i>	
Commercial fishers	<i>Low level of skill and capital investment is required so there is a risk of additional people entering the fishery eroding profits of regular trappers. High illegal activity including theft and interference with traps.</i>	
Recreational fishers	<i>Important recreational species. Some recreational fishers selling catches or to commercial fishers for onward sale. Commercial fishers accused of theft and interference with recreational traps.</i>	
Social licence	<i>There have been many examples in past years of community and sector-based campaigns to remove commercial fishing from the estuarine lakes estuaries where mud crabs are caught.</i>	

Share linkage recommendation

Enforcement of minimum shareholdings to reduce endorsement numbers. Allow additional traps for extra shares. Individual transferable catch quota issued proportionally to the numbers of shares held.

Linkage	From July 2016	By July 2017	By July 2018	By December 2018																								
ENDORSEMENT NUMBERS	Enforce the current minimum shareholdings of 125 shares (authorises the use of 10 crab traps).																											
EFFORT QUOTA Regional trap numbers	Each 10 shares held above 125 shares authorises the use of 1 additional crab trap.																											
CATCH QUOTA Mud crabs		Implement catch quota, with new species shares issued in proportion to the existing mud crab trapping shares held at the time. Species shares can be traded throughout the State from this time. Total catch limit (ITCAL, for mud crab trapping) of 136,955 kg:	TAC determined by TAC Committee.	Implement catch quotas based on the TAC, with quota issued proportional to the new species shares held.																								
		<table border="1"> <thead> <tr> <th>Region</th> <th>Kg per share</th> <th>Kg per 125 shares</th> </tr> </thead> <tbody> <tr><td>1</td><td>8.6</td><td>1,080.2</td></tr> <tr><td>2</td><td>4.3</td><td>541.0</td></tr> <tr><td>3</td><td>8.6</td><td>1,076.9</td></tr> <tr><td>4</td><td>3.9</td><td>489.8</td></tr> <tr><td>5</td><td>0.7</td><td>84.9</td></tr> <tr><td>6</td><td>0.04</td><td>5.0</td></tr> <tr><td>7</td><td>0.1</td><td>16.0</td></tr> </tbody> </table>	Region	Kg per share	Kg per 125 shares	1	8.6	1,080.2	2	4.3	541.0	3	8.6	1,076.9	4	3.9	489.8	5	0.7	84.9	6	0.04	5.0	7	0.1	16.0		
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7	0.1	16.0																										
		Species shares freely tradeable																										

Other proposed changes

- Remove requirement for boats under 10m to be licenced from July 2016 but retain maximum boat length (and exemption code) as specified in the share management plan.
- Allow fish to be kept in a crab trap from July 2017.
- Remove the hoop/lift net as a lawful method from July 2016.

Changes made to draft recommendation as a result of feedback

- No changes were made.

Requirements for effective implementation

- A cost-effective quota monitoring regime, including effective compliance of both the commercial and recreational sectors, to maintain the integrity of the TAC and protect access rights.

What does the recommendation deliver for NSW fisheries?

- The enforcement of minimum shareholdings will remove some of the excess capacity.
- Catch quota will provide:
 - species-specific management through the setting of a TAC
 - the strongest, most secure form of access right which usually manifests in higher asset values
 - shareholders a secure portion of the stock which enables them to organise their business operations to fish this cost-effectively
 - more certainty that the management arrangements can address any future resource sharing or resource sustainability issues, which is crucial for a long-term viable fishery
 - an incentive to optimise quota usage and maximise returns by retaining higher grade/value crabs
 - a method to reduce the illegal sale of recreational catch.
- Improve social licence through reduced numbers of fishers, better control of catch and removal of the use of hoop/lift nets
- Minimise “race to fish” behaviour which has led to reduced profitability and conflict
- Provides operational flexibility by allowing for increase traps for additional shares.
- Some reduction in administrative costs by removing the requirement of boat licences

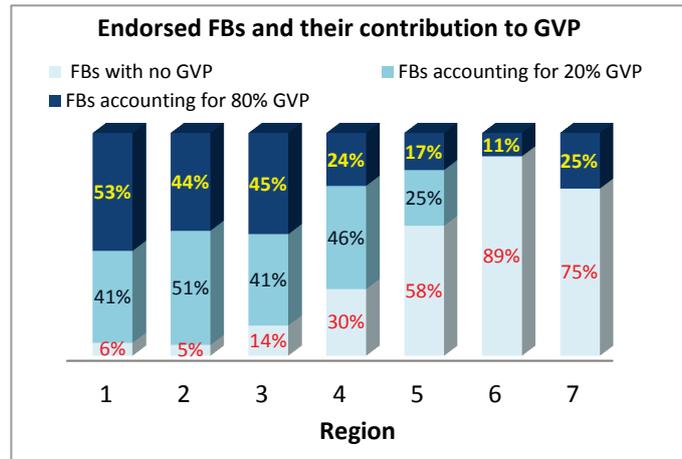
Issues for further consideration by Government

- Clarify the specific methods in other share classes which will allow mud crabs to be retained if mud crab catch quota is held to cover the catch.
- Review the need for ongoing restrictions on trap numbers over time.

Background

An estuary fishery where 63 out of 202 FBs account for 80% of the GVP.

Region	Reported annual catch tonnes	Annual GVP '\$000	No. of endorsed FBs
1	14	347	17
2	18	462	41
3	36	857	44
4	24	553	80
5	1	25	12
6	<0.1	<1	19
7	0.1	3	4
TOTAL	94	2,300	202



Changes made to draft recommendation as a result of feedback

- To reduce uncertainty timing brought forward to July 2017 for quota implementation and to 2018 for TAC determination and implementation.
- Consideration was given to concerns that the ITCAL should be higher to sustain the two exporters. As reported catches over the last nine years have been substantially lower than the proposed ITCAL, no change was made. Shareholders supplying these exporters will be able to obtain additional shares through the exit grant, or lease them in.

Requirements for effective implementation

- A cost-effective quota monitoring regime, including effective compliance, to maintain the integrity of the TAC and protect access rights.

What does the recommendation deliver for NSW fisheries?

- The enforcement of minimum shareholdings will remove some of the excess capacity.
- Catch quota will provide:
 - species-specific management through the setting of a TAC.
 - the strongest, most secure form of access right which usually manifests in higher asset values.
 - shareholders a secure portion of the stock which enables them to organise their business operations to fish this cost-effectively.
 - more certainty that the management arrangements can address any future resource sharing or resource sustainability issues, which is crucial for a long-term viable fishery.
- Improve social licence through some reduction in numbers of fishers and better control of catch.
- Operational flexibility improved by allowing for an increase in the number of traps.
- A reduction in some administrative costs by removing the requirement of boat licences.

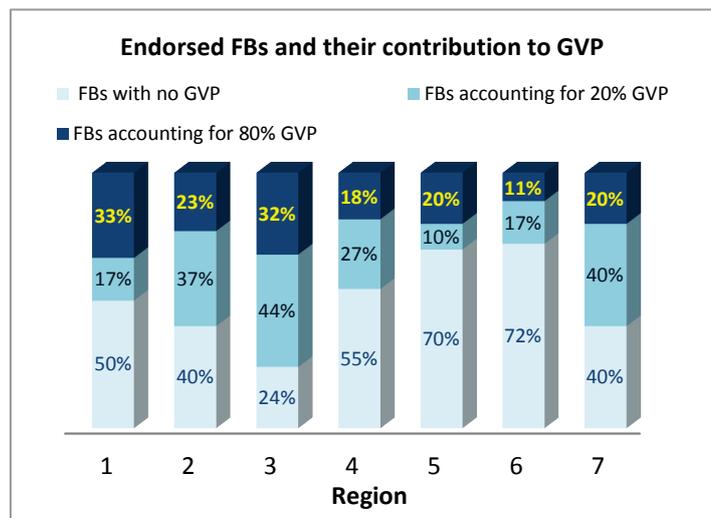
Issues for further consideration by Government

- Clarify the specific methods in other share classes which will allow eels to be retained if eel catch quota is held to cover the catch.

Background

A predominantly estuary fishery where 28 out of 153 FBs account for 80% of the GVP.

Region	Reported annual catch tonnes	Annual GVP '\$000	No. of endorsed FBs
1	1	13	6
2	18	182	35
3	13	126	25
4	21	209	44
5	4	48	10
6	6	65	18
7	4	41	15
TOTAL	125	682	153



Estuary General - Category 1 Hauling

	Current Situation	Risk of inaction
Sustainability	<p><i>Stock status of target species:</i></p> <p><i>Sand whiting Fully fished</i></p> <p><i>Yellowfin bream Fully fished</i></p> <p><i>Sea mullet Fully fished</i></p> <p><i>Trumpeter whiting Uncertain</i></p>	<p></p> <p></p> <p></p> <p></p>
Commercial fishers	<i>High levels of inactive effort means that effort can be easily activated eroding the profitability of full-time fishers. Regular haulers “farm” areas allowing areas to rest; additional effort in the area reduces the ability of these fishers to fish efficiently.</i>	
Recreational fishers	<i>Competition over the same species and areas leads to conflict with the commercial sector. “Travelling” commercial fishers in some regions has caused social conflict.</i>	
Social licence	<i>Hauling in estuaries is a highly visible activity and can be perceived negatively by the community.</i>	

Share linkage recommendation

Enforcement of the minimum shareholding to reduce endorsement numbers. A subsequent introduction of total allowable effort cap and individual transferable effort days allocated to each shareholder based on the shares held. Catch quotas for blue swimmer crab in regions where catches reported¹² allocated proportional to shares held.

Linkage	From July 2016	By July 2017	By July 2018	By December 2018																																
ENDORSEMENT NUMBERS	Enforce the current minimum shareholding of 125 shares.																																			
EFFORT QUOTA Days		<p>Implement effort quota (days) with quota issued to individuals based on category 1 hauling shares held at the time, with a total effort limit (ITCAL) of 6,613 days:</p> <table border="1"> <thead> <tr> <th>Region</th> <th>ITCAL</th> <th>Days per share</th> <th>Days per 125 shares</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>407</td> <td>0.41</td> <td>51</td> </tr> <tr> <td>2</td> <td>1,879</td> <td>0.58</td> <td>72</td> </tr> <tr> <td>3</td> <td>409</td> <td>0.33</td> <td>41</td> </tr> <tr> <td>4</td> <td>2,039</td> <td>0.33</td> <td>41</td> </tr> <tr> <td>5</td> <td>733</td> <td>0.41</td> <td>52</td> </tr> <tr> <td>6</td> <td>671</td> <td>0.33</td> <td>41</td> </tr> <tr> <td>7</td> <td>475</td> <td>0.33</td> <td>41</td> </tr> </tbody> </table>	Region	ITCAL	Days per share	Days per 125 shares	1	407	0.41	51	2	1,879	0.58	72	3	409	0.33	41	4	2,039	0.33	41	5	733	0.41	52	6	671	0.33	41	7	475	0.33	41		<p>A TAE is set following TAC Committee advice (utilising two years of improved catch and effort reporting data).</p> <p>Implement effort quotas based on the TAEs, with quota issued proportional to the category 1 shares held.</p>
Region	ITCAL	Days per share	Days per 125 shares																																	
1	407	0.41	51																																	
2	1,879	0.58	72																																	
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5	733	0.41	52																																	
6	671	0.33	41																																	
7	475	0.33	41																																	

¹²Not allocated to regions where catches are so low that allocations would be less than one kilo per 125 shares.

Linkage	From July 2016	By July 2017	By July 2018	By December 2018																								
CATCH QUOTA For blue swimmer crab		Implement catch quota, with new species shares issued in proportion to the existing category 1 shares held at the time, with a total catch limit (ITCAL) of 6,455 kg for category 1:	TAC determined by TAC Committee.	Implement catch quotas based on the TAC, with quota issued proportional to the new species shares held.																								
		<table border="1"> <thead> <tr> <th>Region</th> <th>kg per share</th> <th>Kg per 125 shares</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>2</td> <td>0</td> <td>0</td> </tr> <tr> <td>3</td> <td>0</td> <td>0</td> </tr> <tr> <td>4</td> <td>0.5</td> <td>56.1</td> </tr> <tr> <td>5</td> <td>0.1</td> <td>10.8</td> </tr> <tr> <td>6</td> <td>1.7</td> <td>212.8</td> </tr> <tr> <td>7</td> <td>0</td> <td>0</td> </tr> </tbody> </table>			Region	kg per share	Kg per 125 shares	1	0	0	2	0	0	3	0	0	4	0.5	56.1	5	0.1	10.8	6	1.7	212.8	7	0	0
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		6			1.7	212.8																						
7	0	0																										
Species shares freely tradeable across the State.																												

Other proposed changes

- Remove requirement for boats under 10m to be licenced by July 2016 but retain maximum boat length (and exemption codes) as specified in the share management plan.
- Remove requirement for net registrations, from July 2016.
- Allow for any unendorsed fisher to act as crew for category 1 endorsement holders, from the commencement of the effort quota (days) linkage scheme.

Changes made to draft recommendation as a result of feedback

- To reduce uncertainty timing brought forward to July 2017 for quota implementation and to 2018 for TAC/TAE setting and the conversion of ITCALS to TAC/TAE.
- Consideration was given to the application of regional ITCALS (based on the maximum recorded catch in each region) but as this led to lower allocations for active fishers in some regions, it resulted in a perverse outcome and was rejected.

Requirements for effective implementation

- Implementation of mandatory and robust reporting system on days fished from 2016.
- A cost-effective quota monitoring regime, including effective compliance of both the commercial and recreational sectors, to maintain the integrity of the TAC and protect access rights.

What does the recommendation deliver for NSW fisheries?

- The enforcement of minimum shareholdings will remove some excess capacity.
- Effort quota will:
 - provide a cap on total effort and a greater ability to manage effort regionally.
 - provide a consistent management framework with category 2 Hauling which operates in similar areas with similar gear.
 - provide a stronger, more secure form of access right which usually manifests in higher asset values.
 - provide shareholders a secure portion of total effort which enables them to organise their business operations to fish this cost- effectively.

- reduce “race to fish” behaviour which has led to reduced profitability and conflict.
- Catch quotas will:
 - provide the strongest form of access right and improve security for operators.
 - allow shareholders to secure their portion of access to the stock.
 - provide species-specific management through a TAC.
 - provide more certainty that the management arrangements can address any future resource sharing or resource sustainability issues, which is crucial for a long-term viable fishery.
 - minimise “race to fish” behaviour which has led to reduced profitability and conflict.
 - provide an incentive to optimise quota usage to maximise returns.
- Improve social licence through some reduction in the number of fishers and better control of catch.
- Removing the requirement of boat licences and net registrations reduces some administrative costs.

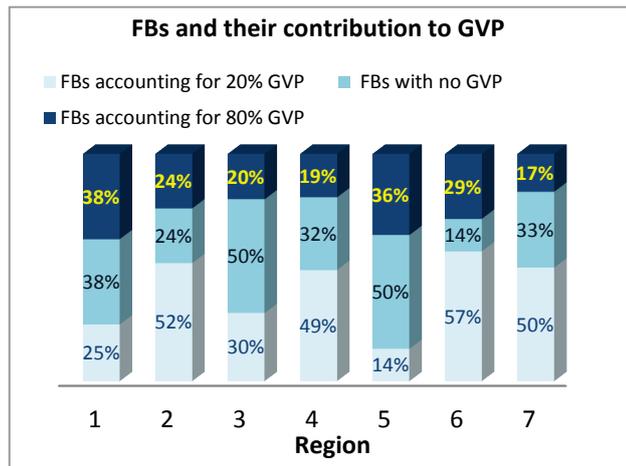
Issues for further consideration by Government

- In response to concern that fishing days have been underreported, DPI to undertake a verification of fishing days with compliance officers and review ITCAL prior to linkage announcement.

Background

An estuary fishery where 24 out of 130 FBs account for 80% of the GVP.

Region	Reported annual catch tonnes	Annual GVP '\$000	No. of endorsed FBs
1	15	41	8
2	131	450	25
3	8	34	10
4	230	1,100	47
5	174	480	14
6	56	390	14
7	15	88	12
TOTAL	630	2,600	130



Changes made to draft recommendation as a result of feedback

- To reduce uncertainty timing brought forward to July 2017 for quota implementation and to 2018 for TAC/TAE setting and the conversion of ITCALS to TAC/TAE.
- Consideration was given to the application of regional ITCALS (based on the maximum recorded catch in each region) but this led to lower allocations for active fishers in some regions and therefore a perverse outcome.

Requirements for effective implementation

- Implementation of mandatory and robust reporting system on days fished from 2016.
- A cost-effective quota monitoring regime, including effective compliance of both the commercial and recreational sectors, to maintain the integrity of the TAC and protect access rights.

What does the recommendation deliver for NSW fisheries?

- The enforcement of minimum shareholdings will remove some of the excess capacity.
- Effort quota will:
 - provide a cap on total effort and a greater ability to manage effort regionally.
 - provide a consistent management framework with category 1 Hauling which operates in similar areas with similar gear.
 - provide a stronger, more secure form of access right which usually manifests in higher asset values.
 - provide shareholders a secure portion of total effort which enables them to organise their business operations to fish this cost- effectively.
 - reduce “race to fish” behaviour which has led to reduced profitability and conflict.
- Improve social licence through some reduction in numbers of fishers and better control of catch
- Removing the requirement of boat licences and net registrations reduces some administrative costs.

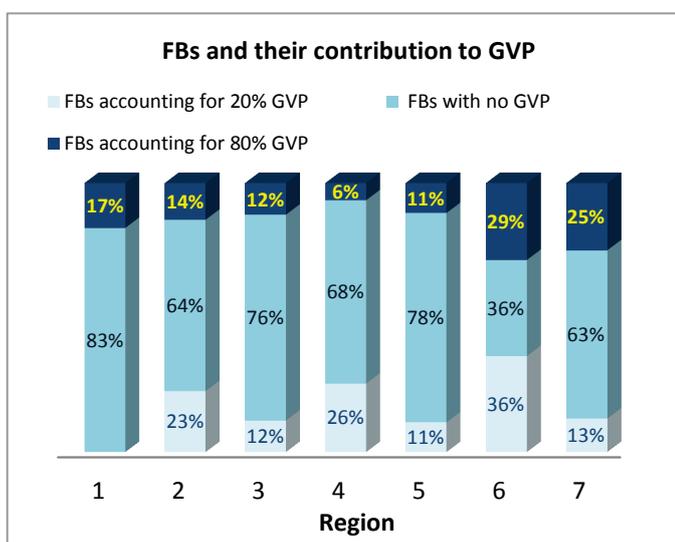
Issues for further consideration by Government

- In response to concern that fishing days have been underreported, DPI to undertake a verification of fishing days with compliance officers and review ITCAL prior to linkage announcement.
- Consideration may need to be given to capping catches of eastern sea garfish given the proposal to implement a catch quota in the Ocean Hauling – Garfish share class.

Background

An estuary fishery where 10 out of 123 FBs account for 80% of the GVP.

Region	Reported annual catch tonnes	Annual GVP '\$000	No. of endorsed FBs
1	0.05	0.4	6
2	2.34	17	22
3	0.85	6	17
4	30.4	115	47
5	10.5	37	9
6	3.9	26	14
7	1.07	8	8
TOTAL	49	209	123



Estuary General - Handline and Hauling Crew

	Current Situation	Risk of inaction
Sustainability	<p><i>Stock status of target species:</i></p> <p>Hairtail <i>Fully fished</i></p> <p>Bullshark <i>Undefined</i></p>	<div style="text-align: center;">   </div>
Commercial fishers	<i>Very high levels of inactive shares. Potential for effort to increase in handlining when certain species are in abundance.</i>	
Recreational fishers	<i>Localised conflict and competition.</i>	
Social licence	<i>Some concern about harvesting of sharks.</i>	

Share linkage recommendation

A reduction in endorsement numbers by the enforcement of minimum shareholdings and a later increase in minimum shareholdings.

Linkage	From July 2016	By July 2017																								
ENDORSEMENT NUMBERS	Enforce the current minimum shareholding of 125 shares.	Apply a new minimum shareholding as follows: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Region</th> <th>New minimum shareholding</th> <th>Maximum no. of endorsements</th> </tr> </thead> <tbody> <tr><td>1</td><td>375</td><td>12</td></tr> <tr><td>2</td><td>375</td><td>43</td></tr> <tr><td>3</td><td>375</td><td>21</td></tr> <tr><td>4</td><td>375</td><td>63</td></tr> <tr><td>5</td><td>375</td><td>17</td></tr> <tr><td>6</td><td>375</td><td>16</td></tr> <tr><td>7</td><td>375</td><td>12</td></tr> </tbody> </table>	Region	New minimum shareholding	Maximum no. of endorsements	1	375	12	2	375	43	3	375	21	4	375	63	5	375	17	6	375	16	7	375	12
Region	New minimum shareholding	Maximum no. of endorsements																								
1	375	12																								
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3	375	21																								
4	375	63																								
5	375	17																								
6	375	16																								
7	375	12																								

Other proposed changes

- Remove the hauling crew component from this share class and allow for any unendorsed fisher to act as crew for category 1 and category 2 endorsement holders upon the commencement of effort quota for category 1 and category 2 share classes.
- Remove requirement for boats under 10m to be licenced from July 2016 but retain maximum boat length (and exemption code) as specified in the share management plan.

Changes made to draft recommendation as a result of feedback

- Bring forward the removal of the hauling crew component to July 2017 from July 2018 to align with recommendations in the category 1 and 2 share classes.
- To reduce uncertainty, the increase in minimum shareholdings brought forward to 2017.
- The second minimum shareholding increase made consistent across the State to make it easier for operators to work with (equivalent to 3 share packages).

What does the recommendation deliver for NSW fisheries?

- The enforcement and subsequent increase in minimum shareholdings will:
 - reduce the theoretical maximum number of endorsements¹³ from 538 to 184
 - deter effort shift from other share classes with effort or catch caps.
- A reduction in administrative costs by removing the requirement for boat licences.

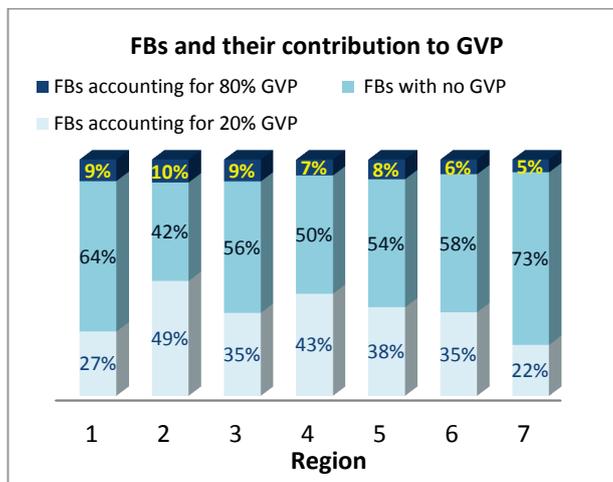
Issues for further consideration by Government

- In the longer term, further measures to restrain effort may be required.
- Consider whether unendorsed assistance should be available for line fishing.

Background

An estuary fishery where 31 out of 511 FBs account for 80% of the GVP.

Region	Reported annual catch tonnes	Annual GVP '\$000	No. of endorsed FBs
1	0.11	0.9	33
2	4.79	22	113
3	0.88	7	54
4	7.19	44	178
5	1.6	10	48
6	0.16	1	48
7	0.04	0.2	37
TOTAL	14	85	511



¹³ Note that this is a theoretical maximum number of endorsements. However, the actual number of endorsements is highly likely to be less than this given that some shareholders will choose to hold greater (or less) than the minimum shareholding.

Ocean Hauling Fishery - Overview

The Ocean Hauling Fishery is broken up into seven regions along the NSW coast and targets approximately 20 finfish species using commercial hauling and purse seine nets from sea beaches and in ocean waters within 3 nautical miles of the NSW coast. The fishery takes around 3000t of catch/ year valued at around \$7.5 million p.a. The catch is mainly made up of Australian sardine (34%), sea mullet (30%), Australian salmon (17%), blue mackerel (8%), yellowtail scad (5%) and yellowfin bream (2%).

The Fishery is a share management fishery and commercial fishers must hold sufficient shares to be eligible for an endorsement to operate in the fishery. There are five ocean hauling endorsement types that specify methods that may be used and the waters that may be fished:

- **Hauling net (general purpose) endorsement:** the holder may use a hauling net (general purpose) to take fish in the region of the fishery specified in the endorsement.
- **General ocean hauling endorsement (crew):** the holder may assist another person who holds an endorsement to take fish in the ocean hauling: general purpose hauling net; garfish net; and pilchard, anchovy and bait Net share classes.
- **Garfish net (hauling) endorsement:** the holder may use a garfish net (hauling) to take fish in the region of the fishery specified in the endorsement.
- **Pilchard, anchovy and bait net (hauling) endorsement:** the holder may use a pilchard, anchovy and bait net (hauling) to take fish in the region of the fishery specified in the endorsement.
- **Purse seine net endorsement:** the holder may use a purse seine net to take fish in any region of the fishery.

The fishery is managed by input controls which limit the fishing capacity of fishers by indirectly controlling the amount of fish caught. These controls include regulating the size and dimensions of fishing gear used, limiting the number of fishers who have access to each part of the fishery, entry criteria for new entrants, a range of closures including seasonal and weekend closures and size limits for some key species.

Ocean Haul - Garfish

	Current situation	Risk of inaction
Sustainability	Stock status of target species: Eastern sea garfish Fully fished (recently recovered from overfished)	
Commercial fishers	Eastern sea garfish has been under a recovery plan which has seen its status improve to fully fished. Strong management is required in order to ensure the ongoing sustainability of the species.	
Recreational fishers	Eastern sea garfish is commonly taken by recreational fishers.	 to 
Social licence	The presence of hauling crews on beaches attracts criticism from the community. Garfish hauling netting is conducted using boats both on beaches and in open waters.	

Share linkage recommendation

Current minimum shareholdings be enforced from July 2016 to reduce endorsement numbers. From July 2017 new species shares for eastern sea garfish will be allocated in proportion to the number of existing garfish hauling net shares held by each shareholder. These new species shares will be additional to the existing garfish hauling net shares so that the limit of the number of fishers per region will remain but the catch quota can be traded and used throughout the state.

Linkage	From July 2016	By July 2017	By July 2018				
ENDORSEMENT NUMBERS	Enforce the current minimum shareholding of 10 shares in Region 1 and 40 shares in Regions 3-7.						
CATCH QUOTA For eastern sea garfish		<p>New species shares for eastern sea garfish issued in proportion to the garfish hauling net shares held at the time</p> <p>Implement catch quota based on the ITCAL of 45,437 with quota allocated proportional to the new species shares held. The resulting kg allocations for garfish hauling net shares will be:</p> <table border="1" data-bbox="639 1458 1153 1581"> <thead> <tr> <th>Kg per garfish hauling net share</th> <th>Kg per 40 garfish hauling net shares</th> </tr> </thead> <tbody> <tr> <td>16.23</td> <td>649.1</td> </tr> </tbody> </table> <p>Species shares freely tradeable across the State.</p>	Kg per garfish hauling net share	Kg per 40 garfish hauling net shares	16.23	649.1	TAC Committee determines TAC for eastern sea garfish
Kg per garfish hauling net share	Kg per 40 garfish hauling net shares						
16.23	649.1						

Other proposed measures

From July 2016:

- Remove requirement for boats under 20m to be licensed and retain maximum boat length of 20m (and exemption code scheme) as specified in the share management plan.
- Remove requirement for nets to be registered from July 2016.

From time of the commencement of the catch quota scheme:

- Provide for the use of unendorsed assistance.

- Remove requirement for a minimum of 2 endorsement holders to operate the net (i.e. one person can operate the net).

Changes made to draft recommendation as a result of feedback

- In response to comments received, the SARC has reviewed the basis for the ITCAL and this has been increased from 31.6 t to 45.4 tonnes.

What does the recommendation deliver for NSW fisheries?

- Enforcing the current minimum shareholdings will force some reduction in endorsement numbers. However the major driver of rationalisation in this fishery will be the move to ITQs and the extent of this rationalisation will depend on the relative levels of the ITCAL and the TAC when it is set in 2018.
- Catch quotas will:
 - provide the strongest form of access right and improve security for operators
 - provide more certainty that the management arrangements can address any future resource sharing or resource sustainability issues, which is crucial for a long term viable fishery
 - encourage increased yield per recruit and therefore profitability in the fishery.
- Removing the need to use licensed boats and registered nets will take away an unnecessary ongoing burden on fishers.
- Relaxing crewing arrangements will increase operational flexibility.

Requirements for effective implementation

- A cost-effective quota monitoring regime, including effective compliance, to maintain the integrity of the TAC and protect access rights.

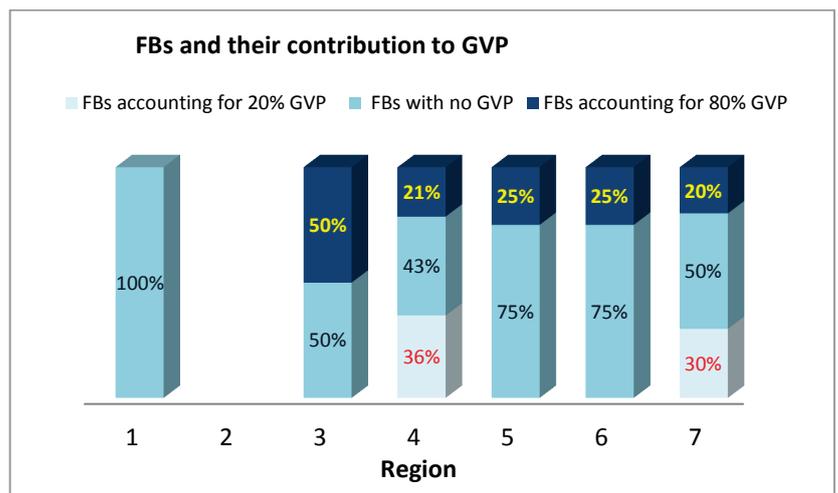
Issues for further consideration by Government

- The season start date for quota purposes is yet to be confirmed.
- Need to review standard net description for implementation when net registrations are removed.

Background

This is a small net fishery conducted primarily from boats targeting eastern sea garfish across six of the seven regions primarily from the central and southern coast. The proportion of active endorsed FBs ranges from 0-75% across the regions and between 20 and 50% of FBs are responsible for 80% of the GVP.

Region	Reported annual catch (tonnes)	Annual GVP '\$000	No. of endorsed FBs
1	0	0	1
2			
3	0.7	6	4
4	20	128	14
5	0.1	1	4
6	4.5	35	12
7	9.1	69	10
TOTAL	34.4	239	45



Ocean Haul – General Purpose Hauling Net and Crew

	Current situation	Risk of inaction
Sustainability	<p><i>Stock status of target species:</i></p> <p><i>Sea mullet</i> <i>Fully fished</i></p> <p><i>Eastern Australian salmon</i> <i>Fully fished but concern about lack of cross-jurisdictional management</i></p> <p><i>Luderick</i> <i>Fully fished</i></p> <p><i>Yellowfin bream</i> <i>Fully fished</i></p>	<p> M</p> <p> M</p> <p> L</p> <p> L</p>
Commercial fishers	<i>There is a high proportion of inactive shares and some prospect of excess fishing capacity activating in response to changing market conditions.</i>	 M
Recreational fishers	<i>Some inter-sectoral catch allocation issues exist. There is significant recreational take of Australian salmon and yellowfin bream.</i>	 M
Social licence	<i>The presence of hauling crews on beaches, particularly popular beaches, attracts criticism from the community and there has been ongoing conflict between beach haulers and other stakeholders.</i>	 H

Share linkage recommendation

From July 2016 enforce the current minimum shareholding of 40 shares and from July 2017 apply new higher minimum shareholdings for net shares on a regional basis to reduce endorsement numbers (see table below).

Linkage	From July 2016	By July 2017		
ENDORSEMENT NUMBERS	Enforce the current minimum shareholding for net shares of 40 shares in all regions.	Region	New minimum shareholding for net shares	New maximum number of endorsements
		1	80	4
		2	50	7
		3	120	14
		4	50	39
		5	70	2
		6	50	9
		7	160	11

Other proposed measures

From July 2016:

- Remove requirement for boats under 6 m to be licensed and retain maximum boat length of 6 m as specified in the share management plan.
- Remove requirement for nets to be registered.

From July 2017:

- Allow for the use of unendorsed crew and for such crew to contribute to meeting the minimum crew size rules and crew priority rules, with implementation linked to both crew and net shares.

Changes made to draft recommendation as a result of feedback

- The new minimum shareholdings have been rounded down for practical purposes.
- The increase in minimum shareholdings has been brought forward from July 2018 to July 2017. It is expected that most fishers will use the exit grant in 2016 to acquire shares required to meet the new minimum.
- The way in which the use of unendorsed crew will be operationalised will be subject to further discussion.

What does the recommendation deliver for NSW fisheries?

- The increase in minimum shareholdings is expected to:
 - reduce the theoretical maximum number of endorsements¹⁴ from 169 to 86
 - help address the risk posed to the fishery by compromised social licence to operate by reducing the potential number of hauling crews able to operate on NSW beaches and improving the public perception of the fishery
 - increase the efficiency of active operators by reducing competition between crews on the beach
 - remove some of the excess capacity in the fishery and reduce the risks of this capacity eroding profitability of active fishers and sustainability of stocks and provide for some improvement in asset value in the longer term.
- Changes to crewing, boat licensing and net registration requirements will provide business flexibility and take away an unnecessary and ongoing burden for fishers.

Requirements for effective implementation

- No additional requirements identified.

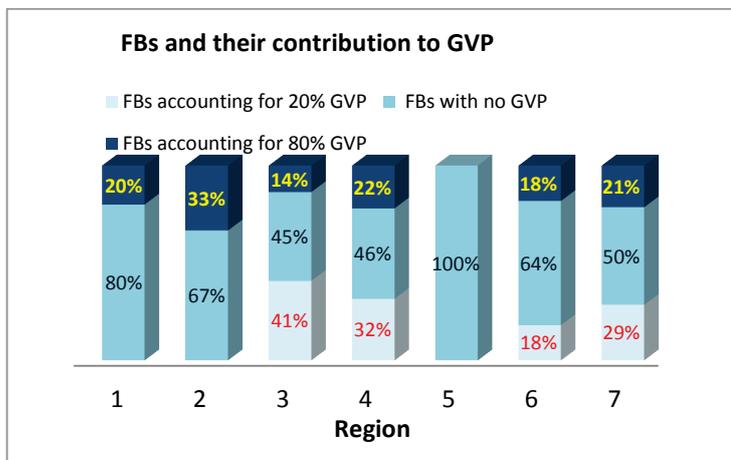
Issues for further consideration by Government

- Operationalising the use of unendorsed crew should be subject to further consideration and consultation with industry. Depending on the outcome consideration may also need to be given to whether there is merit in enforcing the minimum shareholding in the Ocean Hauling General (Crew) share class.
- The SARC considers that there could be merit in providing for the use of unlicensed crew and that further consideration could be given to this after the implementation of the share linkage recommendation.
- The need for cross-jurisdictional management of Australian salmon warrants consideration.
- Need to review standard net description for implementation when net registrations are removed.

Background

This is a haul net fishery operating mainly from beaches. Between 14% and 22% of the crews are responsible for 80% of the GVP, by region.

Region	Reported annual catch (tonnes)	Annual GVP '\$000	No. of endorsed FBs
1	81	225	5
2	10	33	9
3	134	351	21
4	302	853	40
5	0	0	6
6	98	182	11
7	375	560	14
TOTAL	1000	2204	106



¹⁴ Note that this is a theoretical maximum number of endorsements. However, the actual number of endorsements is highly likely to be less than this given that some shareholders do, or may choose to, hold more (or less) than the minimum shareholding.

Ocean Haul – Pilchard, Anchovy and Bait Net Hauling

	Current situation	Risk of inaction
Sustainability	<p><i>Stock status of target species:</i></p> <p><i>Australian sardine (pilchard)</i> <i>Uncertain</i></p> <p><i>Whitebait</i> <i>Undefined</i></p> <p><i>Blue mackerel</i> <i>Moderately fished</i></p> <p><i>Yellowtail scad</i> <i>Fully fished but concerns about decline in average size</i></p> <p><i>Australian anchovy</i> <i>Undefined</i></p>	
Commercial fishers	<i>There is and little prospect of excess fishing capacity activating. Nevertheless inactive shares pose a risk to profitability and access right values in some regions.</i>	
Recreational fishers	<i>Recreational fishers harvest blue mackerel and yellowtail scad for bait and this creates inter-sectoral issues occasionally.</i>	 to 
Social licence	<i>The presence of hauling crews on beaches, particularly popular swimming beaches attracts criticism from the community.</i>	

Share linkage recommendation

Improve share linkage by applying the minimum shareholdings for each region (see table below).

Linkage	From July 2016																
ENDORSEMENT NUMBERS	<p>Enforce the following minimum shareholdings (based on either existing minimum shareholding levels or a level which maintains the number of active fishers in the region, as appropriate):</p> <table border="1"> <thead> <tr> <th>Region</th> <th>New minimum shareholding</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>30</td> </tr> <tr> <td>2</td> <td>10</td> </tr> <tr> <td>3</td> <td>30</td> </tr> <tr> <td>4</td> <td>20</td> </tr> <tr> <td>5</td> <td>30</td> </tr> <tr> <td>6</td> <td>20</td> </tr> <tr> <td>7</td> <td>N/A</td> </tr> </tbody> </table>	Region	New minimum shareholding	1	30	2	10	3	30	4	20	5	30	6	20	7	N/A
Region	New minimum shareholding																
1	30																
2	10																
3	30																
4	20																
5	30																
6	20																
7	N/A																

Other proposed measures

- Remove requirement for nets to be registered, from July 2016.

Changes made to draft recommendation as a result of feedback

- The nature of the share linkage recommendation has not changed.
- An anomaly with the proposed increased number of net shares in Region 6 has been addressed and the minimum number of shares reduced from 25 to 20. This has no impact on the maximum number of endorsements.
- The proposal to remove boat licences for boats under 20 m has been deferred pending further consideration by the Department and consultation with industry.

What does the recommendation deliver for NSW fisheries?

- The enforcement of regional minimum shareholdings is expected to:
 - force some reduction in endorsement numbers
 - remove some of the excess capacity in the fishery and reduce the risks of activation of this capacity eroding profitability of active fishers and sustainability of stocks
 - adjusts some regional minimum shareholdings to better reflect the fishing activity in those regions
 - improves the asset value by ensuring that all fishers remaining have fully transferable endorsements i.e. hold the minimum shares
 - help to build a stronger social licence to operate.
- Removal of net registration requirements will remove an unnecessary and ongoing burden for fishers.

Requirements for effective implementation

- No additional requirements identified.

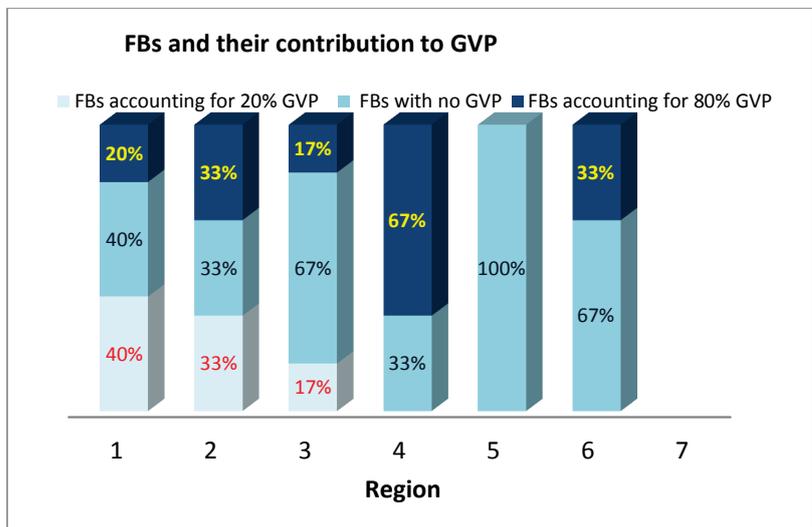
Issues for further consideration by Government

- The proposals to remove boat licenses for boats under 20 m requires further consideration by the Department and consultation with industry.
- Consideration should be given to allowing the use of unendorsed crew consistent with the arrangements to be developed in Ocean Hauling General Purpose Net and Crew with implementation linked only to crew shares.
- Need to review standard net description for implementation when net registrations are removed.

Background

This is a small net fishery operating from beaches and boats. The proportion of active fishers ranges from 0-80% across regions and the proportion of fishers responsible for 80% of the regional GVP varies from 17 to 67%.

Region	Reported annual catch (tonnes)	Annual GVP '\$000	No. of endorsed FBs
1	38	197	5
2	0.5	2	2
3	0.5	2	6
4	8	43	3
5	0	0	5
6	0.1	1	3
7	-	-	-
TOTAL	47	245	24



Ocean Haul – Purse Seine

	Current situation	Risk of inaction
Sustainability	<p><i>Stock status of target species:</i></p> <p><i>Australian sardine</i> <i>Uncertain</i></p> <p><i>Australian salmon</i> <i>Fully fished but concern about lack of cross-jurisdictional management</i></p> <p><i>Blue mackerel</i> <i>Moderately fished</i></p> <p><i>Yellowtail scad</i> <i>Fully fished and some concerns about decline in average size</i></p>	<p></p> <p></p> <p></p> <p></p>
Commercial fishers	<p><i>All 15 FBs are active but there remains scope for increased effort. Blue mackerel, yellowtail scad and Australian sardine are taken from stocks shared with Commonwealth fisheries. The Commonwealth manages blue mackerel and Australian sardine under ITQs. There is a need for consistent management across the NSW and Commonwealth and in particular for a mechanism in NSW that can demonstrably control catch.</i></p>	<p></p>
Recreational fishers	<p><i>Recreational fishers gather blue mackerel and yellowtail scad for bait and this is an issue occasionally in some areas. Australian salmon is used for sport fishing.</i></p>	<p> to </p>
Social licence	<p><i>No issues identified for this fishery specifically. However there is increasing community concern over the take of small pelagic species given their role in the ecosystem.</i></p>	<p> to </p>

Share linkage recommendation

Allocate new species shares, based on advice from an IAP, for Australian sardine, blue mackerel and yellowtail scad. Once this process is complete and the TAC Committee has determined catch quotas for these species a catch quota regime for those species will start.

Linkage	From July 2016	By July 2017	By July 2018	By December 2018
ENDORSEMENT NUMBERS	As per current arrangements.			
CATCH QUOTA For Australian sardine, blue mackerel and yellowtail scad	IAP process commences to advise on allocation of species shares.	IAP to report on the allocation of new species shares. TAC Committee determines TACs for three species.	Allocate new species shares.	Implement catch quotas based on the quota issued proportional to the new species shares held.

Other proposed measures

- Remove requirement for nets to be registered, from July 2016.

Changes made to draft recommendation as a result of feedback

- The nature of the share linkage has not been amended.
- The proposal to remove boat licensing requirements has been deferred pending further discussion with the industry following implementation of quota.

What does the recommendation deliver for NSW fisheries?

- Catch quotas will provide:
 - the strongest form of access right and improve security for operators
 - a way to control the NSW catch of the main target species to ensure effective management of stocks shared with the Commonwealth
 - more certainty that the management arrangements can address any future resource sharing or resource sustainability issues, which is crucial for a long term viable fishery.
- The extent of rationalisation of the fishery required by the introduction of catch quota will be determined by the TACs and the formula used to allocate ITQs.

Requirements for effective implementation

- A cost-effective quota monitoring regime, including effective compliance, to maintain the integrity of the TAC and protect access rights.

Issues for further consideration by Government

- The need to retain boat licences could be revisited by the Department and industry following implementation of quota.
- The need for cross jurisdictional management for Australian salmon warrants consideration.
- The season start date for quota is yet to be confirmed.
- Need to review standard net description for implementation when net registrations are removed.

Background

This is a small but valuable fishery conducted throughout NSW inshore ocean waters. All FBs are active however one-third of those are responsible for 80% of the GVP.

No. of endorsed FBs	Active FBs	Total no. of shares	Reported annual catch (avg. tonnes)	Average GVP (\$)	No. of FBs accounting for 80% of GVP
15	15	1980	1815	\$4.8m	5

Attachment 1: Summary of Share Linkage Recommendations and Implementation Timeframes

Table 1: Recommended linkages and implementation timeframes, by share class.

Share class group	From July 2016	By July 2017	By July 2018	By December 2018
SHARE CLASSES WHERE THE RECOMMENDED SHARE LINKAGE INCLUDES CATCH (ITQ) OR EFFORT QUOTAS				
ESTUARY GENERAL - CATEGORY 1				
Endorsement numbers	Enforce current minimum shareholding.			
Effort quota (days)		Implement effort quota issued in proportion to existing category 1 shares, using the ITCAL.		TAC Committee to determine TAE Implement effort quotas based on the TAEs, with quota issued proportional to the category 1 shares held.
ITQ for blue swimmer crab		New species shares for blue swimmer crab issued in proportion to existing category 1 shares held. Implement catch quota based on the ITCAL, with quota allocated proportional to the new species shares held.	TAC Committee to determine TAC.	Implement catch quotas based on the TAC, with quota issued proportional to the new species shares held.
ESTUARY GENERAL - CATEGORY 2				
Endorsement numbers	Enforce current minimum shareholding.			
Effort quota (days)		Implement effort quota issued in proportion to existing category 2 shares, using the ITCAL.		TAC Committee to determine TAE Implement effort quotas based on the TAEs, with quota issued proportional to the category 2 shares held.
ESTUARY GENERAL- EEL TRAPPING				
Endorsement numbers	Enforce current minimum shareholding.			
Effort quota (trap numbers)	Commence link between shares and eel trap numbers.			

Share class group	From July 2016	By July 2017	By July 2018	By December 2018
ITQ for eels		New species shares for eels issued in proportion to existing eel trapping shares held. Implement catch quota based on the ITCAL, with quota allocated proportional to the new species shares held.	TAC Committee to determine TAC.	Implement catch quotas based on the TAC, with quota issued proportional to the new species shares held.
ESTUARY GENERAL - HAND GATHERING				
ITQs for pipis, beachworms, cockles and nippers	IAP process commences to advise on allocation of new species shares.	IAP to report on the allocation of new species shares.	Allocate new species shares. TAC Committee to determine TACs for 4 species.	Implement catch quotas based on the TACs, with quota issued proportional to the new species shares held.
ESTUARY GENERAL – MESHING				
Endorsement numbers	Enforce current minimum shareholding.			
Effort quota (days)		Implement effort quota issued in proportion to existing meshing shares, using the regional ITCALs.		TAC Committee to determine regional TAEs. Implement effort quotas based on the regional TAEs, with quota issued proportional to the meshing shares held.
ITQ for blue swimmer crab and mud crab		New species shares for blue swimmer crab and mud crab issued in proportion to existing meshing shares held. Implement catch quota based on the ITCAL, with quota allocated proportional to the new species shares held.	TAC Committee to determine TACs.	Implement catch quotas based on the TAC, with quota issued proportional to the new species shares held.
ESTUARY GENERAL- MUD CRAB				
Endorsement numbers	Enforce current minimum shareholding.			
Effort quota (trap numbers)	Commence link between shares and trap numbers.			

Share class group	From July 2016	By July 2017	By July 2018	By December 2018
ITQ for mud crab		New species shares for mud crab issued in proportion to existing mud crab trapping shares held. Implement catch quota based on the ITCAL, with quota allocated proportional to the new species shares held.	TAC Committee to determine TAC.	Implement catch quotas based on the TAC, with quota issued proportional to the new species shares held.
ESTUARY GENERAL – TRAPPING				
Endorsement numbers	Enforce current minimum shareholding.			
Effort quota (trap numbers)	Commence link between shares and trap numbers.			
ITQ for blue swimmer crab		New species shares for blue swimmer crab issued in proportion to existing trapping shares held. Implement catch quota based on the ITCAL, with quota allocated proportional to the new species shares held.	TAC Committee to determine TAC.	Implement catch quotas based on the TAC, with quota issued proportional to the new species shares held.
OCEAN HAUL – GARFISH				
Endorsement numbers	Enforce current minimum shareholding.			
ITQ for garfish		New species shares for garfish issued in proportion to existing garfish shares held. Implement catch quota based on the ITCAL, with quota allocated proportional to the new species shares held.	TAC Committee determines TAC for garfish. Implement catch quota based on the TAC, with quota issued proportional to the new species shares held.	
OCEAN HAUL - PURSE SEINE				
ITQs for Australian sardine, blue mackerel and yellowtail scad	IAP process commences to advise on allocation of new species shares.	IAP to report on the allocation of new species shares. TAC Committee to determine TACs for 3 species.	Allocate new species shares.	Implement catch quotas based on the TACs, with quota issued proportional to the new species shares held.

Share class group	From July 2016	By July 2017	By July 2018	By December 2018
OCEAN TRAP AND LINE - LINE EAST				
ITQs for quota for bass groper, blue-eye trevalla, gemfish, hapuku and pink ling and perch species group (bigeye ocean perch, ocean reef perch and orange perch)	IAP process commences to advise on allocation of new species shares.	IAP to report on the allocation of new species shares.	TAC Committee to determine TACs for 5 species and 1 species group. Allocate new species shares.	Implement catch quotas based on the TACs, with quota issued proportional to the new species shares held.
OCEAN TRAP AND LINE - SPANNER CRAB				
ITQ for spanner crab		The TAC Committee determines a TAC for northern zone for implementation on 1 Jul 17, and a state-wide TAC for implementation when two zones merged into single fishery. Northern zone quota issued based on existing northern zone shares. New state-wide species shares allocated based on existing northern & southern zone shares held (weighted in proportion to the relative catch by zone).	Implement state-wide catch quota based on new state-wide TAC, with quota issued proportional to the new species shares held.	
OCEAN TRAWL - INSHORE AND OFFSHORE PRAWN				
Endorsement numbers	Increase minimum shareholding.			
Effort quota (hull unit days)	IAP process commences to advise allocation of new effort shares.	IAP to report on the allocation of new effort shares.	Allocate new effort shares. TAC Committee to determine TAE.	Implement effort quota based on the TAE, with quota issued proportional to the new effort shares held.
ITQs for eastern school and stout whiting (combined), and tiger flathead and bluespotted flathead	IAP process commences, to advise on allocation of new species shares.	IAP to report on the allocation of new species shares.	TAC Committee to determine TACs for 2 species and 1 species group. Allocate new species shares.	Implement catch quotas based on the TACs, with quota issued proportional to the new species shares held.

Share class group	From July 2016	By July 2017	By July 2018	By December 2018
OCEAN TRAWL NORTHERN FISH TRAWL				
Endorsement numbers	Increase minimum shareholding.			
ITQs for eastern school and stout whiting (combined), tiger flathead, bluespotted flathead, silver trevally and gemfish.	IAP process commences to advise on allocation of new species shares	IAP to report on the allocation of new species shares.	Allocate new species shares. TAC Committee to determine TACs for 4 species and 1 species group.	Implement catch quotas based on the TACs, with quota issued proportional to the new species shares held.
SHARE CLASSES WHERE THE RECOMMENDED SHARE LINKAGE RELIES ON REDUCING ENDORSEMENT NUMBERS				
ESTUARY GENERAL – HANDLINE AND HAULING CREW				
Endorsement numbers	Enforce current minimum shareholding.	Increase minimum shareholding.		
ESTUARY GENERAL – PRAWNING				
Endorsement numbers	Enforce current minimum shareholding.	Increase minimum shareholding.		
ESTUARY PRAWN TRAWL – CLARENCE				
Endorsement numbers	Increase minimum shareholding.			
ESTUARY PRAWN TRAWL – HUNTER				
Endorsement numbers	Increase minimum shareholding.			
ESTUARY PRAWN TRAWL – HAWKESBURY				
Endorsement numbers	Increase minimum shareholding.			

Share class group	From July 2016	By July 2017	By July 2018	By December 2018
OCEAN HAUL – GENERAL PURPOSE NET AND CREW				
Endorsement numbers	Enforce current minimum shares.	Increase minimum shares by region.		
OCEAN HAUL – PILCHARD, ANCHOVY AND BAIT				
Endorsement numbers	Enforce/apply new minimum shares variously by region.			
OCEAN TRAP AND LINE – DEMERSAL FISH TRAP				
Endorsement numbers	Increase minimum shares.			
OCEAN TRAP AND LINE – LINE WEST				
Endorsement numbers	Increase minimum shares.			
OCEAN TRAWL – DEEPWATER PRAWN				
Endorsement numbers	Increase minimum shares.			
SHARE CLASSES WITH NO CHANGE TO SHARE LINKAGE RECOMMENDED				
OCEAN TRAP AND LINE – SCHOOL AND GUMMY SHARK				

Table 2: Overview of recommended linkages and implementation timeframes, note that the primary linkage for each share class is bolded.

Share class group	ENDORSEMENT NUMBERS (Minimum shareholdings)		EFFORT QUOTA	CATCH QUOTA	
	Enforce existing	Increase		Based on existing shares	Independent allocation panel
Estuary General Fishery					
Meshing	July 2016	-	Days	Mud crab, Blue swimmer crab	-
Category 1 hauling	July 2016	-	Days	Blue swimmer crab	-
Category 2 hauling	July 2016	-	Days	-	-
Prawning	July 2016	July 2017	-	-	-
Eel trapping	July 2016	-	Trap numbers*	Eels	-
Trapping	July 2016	-	Trap numbers *	Blue swimmer crab	-
Mud crab trapping	July 2016	-	Trap numbers *	Mud crab	-
Hand gathering	-	-	-	-	Pipis, Nippers, Beachworms, Cockles
Handline & hauling crew	July 2016	July 2017	-	-	-
Estuary Prawn Trawl Fishery					
Clarence River	-	July 2016	-	-	-
Hawkesbury River	-	July 2016	-	-	-
Hunter River	-	July 2016	-	-	-

Ocean Hauling Fishery					
Garfish	July 2016	-	-	Eastern sea garfish	-
General purpose hauling net & crew	July 2016	July 2017	-	-	-
Pilchard, anchovy & bait net	July 2016	-	-	-	-
Purse seine	-	-	-	-	Sardine, Blue mackerel, Yellowtail scad
Ocean Trawl Fishery					
Deepwater prawn trawl	-	July 2016	-	-	-
Inshore & offshore prawn trawl	-	July 2016	Hull unit days (IAP)	-	School & Stout whiting (combined), Tiger flathead, Bluespotted flathead
Northern fish trawl	-	July 2016	-	-	School & Stout whiting (combined), Tiger flathead, Bluespotted flathead, Silver trevally, Gemfish
Ocean Trap & Line Fishery					
Demersal fish trap	-	July 2016	-	-	-
Line fishing eastern zone	-	-	-	-	Blue-eye trevalla, Bass grouper, Gemfish, Hapuku, Pink ling, Perch (species group)
Line fishing western zone	-	July 2016	-	-	-
School and gummy shark	-	-	-	-	-
Spanner crab southern zone	-	-	-	Spanner crab	-

* = not individually allocated

Attachment 2: Notes for Interpretation of Share Linkage Recommendations

Current Situation: Summarises the key factors that affect the ecological or economic viability of the fishery.

Sustainability:	The stock status (see exploitation status definitions overleaf) of the key target species is provided based on the latest advice from the assessment of DPI's Resource Assessment Workshop.
Commercial fishers:	The key factors affecting the viability of fishing operations are identified e.g. the potential for activation of inactive fishing effort, extent of illegal fishing activity, the need for complementary management of shared stocks across jurisdictions (i.e. with other States or the Commonwealth).
Recreational fishers:	The extent to which commercial and recreational fishers rely on the same stocks is identified.
Social licence:	Broader community concerns about the nature, impact or location of fishing operations are identified.

Risk of Inaction: An indication of the level of risk posed to the sustainability of the resource if no action is taken:

Low risk  Medium risk  High risk 

Note: these many of these risks cannot be mitigated or can be mitigated only in part through the implementation of share linkage. In some cases effective mitigation requires action across all harvest sectors.

Share Linkage Recommendation: The nature of the share linkage is described along with the timeframe for implementation.

Other proposed changes: The introduction of stronger share linkages, that provide more effective control on catch and/or effort, provide some capacity to streamline or remove some of the existing management measures. This will provide for more operational flexibility and efficiency, reduced administrative burden and/or reduced management costs.

Changes made to draft recommendation as a result of feedback: The nature and extent of any changes made to the draft recommendation in response to feedback received from fishery Working Groups, other targeted consultation with stakeholders or from submissions received is outlined.

Requirements for effective implementation: To be effective in the longer term, the SARC's recommendations will require supporting administrative, management and compliance systems. Likewise adherence to the implementation timeframe proposed will require that key milestones are met. These systems and milestones are identified.

What does the recommendation deliver for NSW fisheries? The expected benefits to the fishery of implementation of both the share linkage recommendation and other proposed changes are identified.

Issues to be resolved by Government: Management measures which complement the implementation of the linkage.

Background

Key characteristics of the fishery are described, on a regional basis where relevant:

- Number of endorsed fishing businesses (FBs) as at 30/4/2015.
- Active FBs - where active is defined as those FBs that have logged any effort during the period 2009/10 – 2012/13.
- Total number of shares issued.
- Reported annual average catch in tonnes over the period 2009/10 – 2012/13.
- Average annual Gross Value of Production (GVP) over the period 2009/10 – 2012/13.
- Number of FBs accounting for 80% of the GVP over the period 2009/10 – 2012/13.

EXPLOITATION STATUS DEFINITIONS

CATEGORY	CHARACTERISTIC
OVERFISHED	<ul style="list-style-type: none"> Recruitment is being significantly suppressed as a result of a small spawning biomass (as determined by a population model or measured stock-recruitment relationship) Fishing mortality rates are significantly greater than natural mortality rates Estimates of spawning biomass are less than 20-30% of the estimated unfished spawning stock The 'Spawning Potential Ratio' is less than 20-40% (depending on life history characteristics) Catch rates are less than 30% of the initial catch rates Length and age distributions unstable (excessively affected by recruitment, too few age or size classes in the exploitable population given a species' life history) Trends in length/age composition are evident which indicate increasing (and/or excessive) fishing mortality
GROWTH OVERFISHED	<ul style="list-style-type: none"> Yield per recruit would increase if length at first capture was increased or fishing mortality decreased A population model has determined that sustainable yield would increase if fishing mortality was decreased or size at first capture were increased
FULLY FISHED	<ul style="list-style-type: none"> Fishing mortality is approximately the same as natural mortality Estimates of the spawning biomass are greater than 30% of the estimated unfished spawning biomass Catch rates have been steady for 5-10 years and/or catch rates are greater than 30% of initial catch rates Length and age distributions are stable Species are fished throughout their entire geographic range
MODERATELY FISHED	<ul style="list-style-type: none"> Fishing mortality is less than half of natural mortality Estimates of the biomass are greater than 70% of the estimated unfished biomass Catch rates are greater than 70% of initial catch rates Species are fished in most of their geographic range but non-fishing areas are known to exist Markets may limit catch and effort
UNCERTAIN	<ul style="list-style-type: none"> A significant amount of evidence has been collected and considered but there are inconsistent or contradictory signals in the data that preclude determination of exploitation status
UNDEFINED	<ul style="list-style-type: none"> Commercial catch data are available but no reasonable attempt has been made to determine exploitation status Recreational species – some data are available but no reasonable attempt has been made to determine exploitation status

ACRONYMS USED IN RECOMMENDATIONS

FB	Fishing business
GVP	Gross value of production
IAP	Independent allocation panel
ITCAL	Interim total commercial access level
ITQ	Individual transferable quota
TAC	Total allowable catch
TAE	Total allowable effort
VMS	Vessel monitoring system

Attachment 3: Regional Fishery Boundaries

