NSW GOVERNMENT Department of Primary Industries

NSW COMMERCIAL FISHERIES REFORM PROGRAM

Share Linkage Options

Ocean Hauling – Purse Seine

NOTE: THIS DOCUMENT HAS BEEN PREPARED FOR DISCUSSION WITH THE OCEAN HAULING PURSE SEINE SHARE HOLDERS GROUP ONLY. IT IS NOT THE FINAL ANALYSIS AND DOESN'T REPRESENT THE INFORMATION THAT WILL BE SENT TO ALL SHAREHOLDERS FOR COMMENT

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Share Linkage Options – Ocean Hauling – Purse Seine

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More information

Joshua Foster / Commercial Fisheries Management / Coffs Harbour

www.dpi.nsw.gov.au

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Foreword

The purpose of this paper is to describe potential share linkage options for Ocean Haul Purse Seine Fishery (OHPS) for consideration by ocean purse seine shareholders during a 2nd meeting in February 2014.

The share linkage options presented in this paper were short-listed by the shareholders at its first meeting having regard to the following hierarchy of linkage options proposed by the independent review team in the *Independent Review of NSW Commercial Fisheries Policy, Management and Administration* (the Review):

1. Where catch quota is a feasible proposition for a species, it should be pursued as the preferred option for linking shares to resource access. In multi-species share classes where species specific catch quotas do not encompass the bulk of the catch taken, the alternative linkage options below may need to be pursued for non-quota species.
2. If species specific catch quotas are not a feasible proposition, shares in that sector should be linked to fishing effort in the form of transferable time/gear based quota.
3. In the event that the two approaches above are demonstrated to not be feasible for a share class (i.e. the financial and other costs heavily outweigh the benefits), shares should be linked to resource access at the endorsement level whereby eligibility for an endorsement is determined by holding a minimum number of the corresponding shares.

The share linkage options presented in this paper are not the only feasible share linkage options for this fishery. A hybrid or combination of the linkage options presented in this paper may also be feasible.

The number of available endorsements currently available in this fishery is thought to be at a level that does not require any further adjustment. Further, the original allocation of shares reflected productivity in the fishery at that time. In this context this fishery is already considered adjusted in terms of number of available endorsements and the distribution of shares.

Another important part of the reform program is the streamlining of current management arrangements to improve industry viability through, for example, increased business flexibility, improved operational efficiency and minimised management costs. The streamlining of current management arrangements will be influenced by the strength of the linkages pursued and whether the reasons for implementing the management arrangements can be met in other ways. Towards the end of this paper is detailed discussion on the management arrangements that may be able to be streamlined, for further consideration by the Working Group.

Depending on their feasibility, the share linkage options and ancillary reforms will be referred to shareholders for consideration and comment, and a public consultation phase will be needed given the interests of the other fishing sectors and some parts of the community in changes to the rules and regulations applying to the State's commercial fisheries. They will then be referred to the Structural Adjustment Review Committee (SARC) along with all submissions received for consideration and final recommendations to the Minister for Primary Industries.

The background and justification for the commercial fisheries reform program and the linking of shares to resource access is explained in detail in the *Independent Review of NSW Commercial Fisheries Policy, Management and Administration* (the Review), the Government's response to the Review, an Information Paper summarising the major findings of the Review and Commercial Fisheries Newsletters – all of which are available on the Commercial Fisheries Reform Homepage on the NSW DPI website.

The overarching objectives of the reform program are to:

- Provide shareholders improved flexibility to tailor their access (and management costs)
- Improve the overall viability of the NSW commercial fishing industry
- Improve the value of shareholders' property rights (i.e. shares)
- Improve investment confidence and support from financial institutions
- Improve management and the public's perception of the NSW commercial fishing industry

Contents

Major issues facing the NSW Ocean Haul Purse Seine Fishery

There are a number of major issues facing the NSW Ocean Haul Fisheries that can be addressed through the reform program (and the linking of shares to resource access) include:

- Limited opportunity to improve operational efficiency through, for example, the use of larger boats and nets.
- Exit grant program seems unlikely to drive share trading from OHPS shareholders due to the significant existing value of the shares, the low existing latency and the low availability of endorsements.

Original Share Allocation

The first shareholders meeting noted the independent review findings regarding the original share allocation issue as described in Appendix 4 of the Independent Review Report. The group noted that a quota allocation model may be able to address this issue, but would need careful consideration.

Interim Total Commercial Access Levels (ITCALs)

In this paper there are many references to Interim Total Commercial Access Levels (ITCALs). Understanding ITCALs is important because they are a key element of the catch and effort quota management options set out in this paper. As the term suggests, an “ITCAL” is a temporary limit set for the purpose, and during a period, of significant industry adjustment.

Once set, an ITCAL operates in the same way as a Total Allowable Catch (TAC), Total Allowable Commercial Catch (TACC) or a Total Allowable Effort (TAE), but it serves a different purpose and is set in a different way.

A TAC is the total amount of catch that can be taken in a specified period, usually a year. TACs are sometimes setup to apply across all, or a range of, stakeholder groups however they can also be setup to apply to a given sector only – for example, the TACC applying to the NSW Rock Lobster Fishery applies only to the commercial sector. A TAE is similar but relates to the total amount of effort that may be used in the specified period.

TACs are usually based on a stock assessment that takes into account a wide range of information from a variety of sources including logbooks and scientific surveys etc. TAEs, which act as a proxy for limiting total catch, are based on similar information.

Because of the time and resources required to establish biologically based TACs and TAEs that are scientifically robust, an alternative approach is being pursued for setting the initial total catch and effort levels where necessary. This alternative approach involves:

- Recognising the new total catch and effort levels as ITCALs given that they will not be biologically based as per the vast majority of TACs and TAEs; and,
- Setting the initial ITCALs at levels commensurate with current catch or effort levels in the sector(s) concerned.

This approach was referred to in the Independent Review report:

> ***"Catch and effort limits are likely to be set, at least initially, at levels commensurate with current levels. While these limits may need to be scaled back over time in some share classes to increase the productivity of the resource or deal with overfishing issues, the issues associated with doing so will be considerably easier once a meaningful linkage has been established."*** **(Independent Review of NSW Commercial Fisheries Policy, Management and Administration Report; pg 72).**

In recognition of the role of the ITCALs during the structural adjustment phase and to provide industry with some level of certainty, it is proposed to set the ITCALs for a three year period and only modify them within this period if there is a demonstrable sustainability problem that arises in a particular share class, or if the shareholders themselves request, and DPI agrees, for it to be modified. After that point, the ITCALs will progressively be turned into TAC/TAEs determined in accordance with the processes and requirements set out in the *Fisheries Management Act 1994 (Part 2, Division 4).*

Option 1: Effort Quota

Under this scenario catch is indirectly managed via a 'consumable' quota of days.

The major features of a day regime include:

- Opportunity to adjust or remove a range of controls that inhibit fishers' profitability and government efficiency (noting the scope for this would be greater than under Option 2 and 3 (catch/basket quota))
- Provides for autonomous (as opposed to forced) adjustment.
- Opportunity for shareholders to upscale or downscale their access (and associated management charges which would be proportional to the number of shares held).
- Improved control over total catches from the fishery, which can be beneficial from a range of perspectives including capacity to deliver sustainability and resource sharing objectives within the fishery and between the fishery and other sectors.
- Improved community confidence that the fishery is operating at sustainable levels and that total effort can be managed if a sustainability issue were to arise. This may lead to greater community and government support for proposed changes/streamlining to benefit fishers.

Total catches of major species would still need to be monitored under a day linkage program to ensure harvest levels do not exceed sustainable limits or levels that result in adverse resource sharing issues. If such a situation occurred, consideration would need to be given to reducing the ITCAL (i.e. the total number of days available to the fishery) to reduce the total fishing effort – noting that any reductions would apply on a pro-rata basis across all shareholders rather than using the historical approach of introducing an additional control that applies equally and constrains the efficiency/flexibility of active fishers.

Determining the ITCALs

Determining the ITCALs – i.e. the total number of days available to each sector – would be determined by analysis of the last 15 years of fisheries days effort data.

Averaging the total number of reported days fished in the OHPS sector over the last 15 financial years 1997/98 to 2011/12 the ITCAL comes to **1496 days**.

Note: DPI will present the data used to calculate the sector specific ITCALs above. These discussions and advice of the Working Group may result in changes to the above ITCALs and the day quota that would be available to shareholders as presented below.

Determining the quota of 'days' available to shareholders

If the ITCAL (days) was allocated amongst shareholders proportional to the number of shares held, the quota issued per share would be as follows:

Table 1 Calculation of quota per share (days) for OHPS. All values rounded up to displayed significant figure.

Sector	Potential ITCAL	Total Shares	Quota per share (days)	Quota (days) per 40 shares
Ocean Haul Purse Seine	1,496	1,980	0.76	31

If shares are surrendered for cancellation prior to implementing the quota system, for example during the exit grant process, the amount of quota per share available to those that remain will be greater than the estimates above.

Fishing period

An allocation of quota is available to be fished during what is known under the *Fisheries Management Act 1994* as a 'fishing period'. Fishing periods are generally defined as 'one year', however, they can also be longer or shorter.

Realistic options include a one or two year fishing period. Longer fishing periods can result in reduced total management costs and are a feasible proposition for stocks at low risk of overfishing. Stocks at greater risk of overfishing are best managed using shorter (one year) fishing periods. Shorter fishing periods also allow for ITCALs/TACs to be adjusted more readily to take advantage of 'a good run of years'.

Defining a 'day'

Two options for defining a day include:

- a 24 hour period from the time the endorsed fisher goes fishing, or more specifically from the time the fisher makes a pre-fishing report via the IVR or smart phone app systems, or
- a set 24 hour period (e.g. from midnight to midnight).

Monitoring quota usage

A day quota system requires effort to be monitored on a daily basis if the system is to have integrity. One way to do this is through the current paper-based log book system, however, there are several reasons why this would be inadequate including:

- Log books are used to capture a range of information (e.g. catch, effort and disposal information) some of which is not readily available for the purpose of submitting log books daily;
- Resource intensive for fishers and DPI;
- Inability to monitor and enforce effort quota in real time;
- The online log book system in FishOnline is not designed to deal with acquitting quota usage.

The most cost effective ways to closely monitor a 'consumable' day quota would be to utilise the Integrated Voice Response (IVR) System recently developed by DPI or the new smart phone app being built. The IVR system would require fishers to make a pre-fishing report only using a mobile phone or computer. It also provides for real-time monitoring of quota usage and real-time quota balances in FishOnline, which will be accessible by shareholders (and any 'agents' they appoint to access FishOnline on their behalf). Reporting other information could be done separately either online or by using a streamlined version of the current commercial log book.

FishOnline and the IVR system have been designed to deal with quota management regimes along the lines of that presented here. Consequently, it is envisaged that neither system would need to be enhanced unless the OHF decides that additional requirements are needed e.g. no quota transfers within a certain timeframe. However, complications may arise for fishers working fishing businesses with many share classes that are subject to 'consumable' catch or effort quotas.

Each time a fisher phones in on the IVR system, he or she would need to listen to the full range of quota regimes relevant to the fishing business concerned before choosing the quota regime to report against. Preliminary testing of the IVR system indicates that having more than 3 to 4 quota regimes linked to a fishing business may frustrate some users. There are, however, a number of potential solutions:

- Move the shares that are linked to a quota regime into a separate fishing business. This would alleviate the need for the fisher to listen to the full range of quota regimes relevant to the fishing business concerned each time he or she uses the IVR system.
- NSW DPI is developing new technology (i.e. a smart phone app) that will be much easier for fishers to use than the IVR system – much like using the internet where the user chooses the quota regime he or she is interested in without first having to listen to a list of quota regimes.

Acquiring additional quota

Acquiring additional day quota could be achieved by a fisher in two ways:

- By transferring relevant shares, which would result in the shareholder having an ongoing right to a greater portion of the ITCAL/TAC for future fishing periods; or
- By transferring quota from other relevant shareholders, which may be fished during the balance of the relevant fishing period only.

Share and quota transfers will be able to be done at minimal or no cost using FishOnline or for a fee if done via a paper-based application.

If all (or the last) share of the relevant class is transferred from a business, any quota remaining – quota that has not been used or not already transferred to another shareholder – would be transferred along with the last share to the new shareholder. This arrangement currently applies in the Abalone and Lobster fisheries and has been hardwired into FishOnline.

Reasons for allowing quota transfers:

- Helps those wanting to fish at a desired level but cannot afford to buy shares.
- Helps those who run out of quota and want to top up their allocation without buying shares.
- Helps those who want to transfer their quota to another fisher and use the proceeds for other purposes such as adjusting their business/purchasing more shares.
- Helps to ensure the entire ITCAL/TAC is used (i.e. such that there is little or no quota left over at the end of a fishing period).

Reasons for a temporary prohibition of quota transfers:

- Increase the rate of adjustment.
- Means that shares are more available to purchase for those fishing business owners who want the ongoing right/certainty to a greater portion of the ITCAL/TAC.
- May reduce chance of speculation by entities that purchase significant numbers of shares with the intent of selling quota to other fishers.

DPI's preliminary view is that the ability to transfer quota is an important component of any (catch or effort) quota management regime, and that the amount of quota that may be transferred to a shareholder during a fishing period should not be restricted unless there is a

compelling reason to do so. However, there may be reasons why the Working Group/industry considers that an interim limitation on quota transfers should be implemented.

Also important to note is that:

- FishOnline has been designed to allow quota transfers and this function cannot be turned on for one quota regime (or fishery) and at the same time be turned off for another – in other words because FishOnline has been set up to provide for quota transfers in the Rock Lobster, Abalone and Sea Urchin fisheries, any other fisheries that proceed to quota management and use FishOnline will need to provide for the transfer of quota unless significant cost to modify FishOnline is incurred; and,
- Modifying FishOnline to introduce limits on the amount of quota that may be transferred to a shareholder during a fishing period will impact the performance (i.e. speed) of FishOnline, come at a cost that will need to be borne by government or industry and may frustrate shareholders trying to acquire additional quota.

Attributing management charges to shareholders

Under a day quota system the cost of management is attributed to shareholders proportional to the number of shares held. In other words, a shareholder with a large package of shares (and greater access) will pay a larger share of the management costs than a shareholder with a smaller package of shares. Paying per share (or day quota) can be beneficial to fishers who are diversified and need only a small number of shares (or days) to compliment their other fishing activities – particularly when compared to a minimum shareholding system where all shareholders are charged the same regardless of how many shares they hold and how many days they fish or how much catch they may take.

Minimum shareholding requirements for new entrants

Any new entrant into this fishery will be required to either buy an existing fishing business or purchase an entire share package from an existing shareholder under the existing share transfer rules. The use of minimum shareholdings as an adjustment tool has limited application in this fishery as there is little latent effort to facilitate adjustment. Consultation with shareholders to date indicates that the current number of endorsements available at this time does not require any adjustment.

Discussion and advice required

The Working Group's advice is sought on the following:

- Are the ITCALs and how they've been determined appropriate?
- The feasibility of allocating days quota in proportion to existing shareholdings;
- A suitable 'fishing period' and when the fishing period should commence
- How a 'day' should be defined
- The use of the IVR or smart phone app system to monitor effort quota usage
- Whether minimum shareholding requirements should be used in conjunction with a day quota regime.
- Whether a temporary quota transfer prohibition should be considered.

Option 2: Species Catch Quota

Under this scenario selected species taken in the NSW Ocean Haul purse seine fishery are managed by species catch quota.

The major features of a catch quota system include:

- Optimum opportunity to remove a wide range of controls that inhibit fishers' profitability and efficiency.
- Provides for autonomous (as opposed to forced) adjustment.
- Opportunity for shareholders to upscale or downscale their access (and associated management charges which would be proportional to the number of shares held).
- Stronger security of investment in a fishers' share within the fishery relative to effort quota and minimum shareholding regimes.
- Tight control over each species' total catch from the fishery, which can be beneficial from a range of perspectives including capacity to deliver sustainability and resource sharing objectives within and between the fishery and other sectors.
- Increased confidence that the fishery is operating at sustainable levels. Confidence that catches are tightly controlled may lead to greater community and government support for proposed changes/streamlining to benefit fishers, including their fishing efficiency.

These major features must, however, be considered alongside the full range of issues sometimes associated with catch quota systems such as implementation/ongoing costs.

Models for Allocating Species Quota Shares

Shareholders have legal rights in their fisheries through the shares they hold in particular share classes. These shares give rise to endorsements that then authorise fishers to fish using specified gear and methods targeting a specific group of target species. The linking of resource access and/or quota to these shares is the cornerstone of this reform program.

However the manner in which the current shares are structured only partially reflects how fishing business owners operate their business. Ie: Fishing business owners do not generally take all of the target species available to them. This will result in some fishers having access to some species to which they have little commercial interest. This creates issues when seeking to link the existing shares directly to new species specific catch quotas. Any linkage scheme must recognise the legal rights that currently exist; otherwise the scheme is likely to be subject to challenge. This risk must be recognised when assessing different share linkage scenarios.

Direct Link to Existing Shares

A direct share linkage scheme would seek to link the existing shares directly to species catch quota:

Two examples of direct linkage could see existing shares used directly in one of 2 ways:

- issue of tradable species catch quota (kg) directly proportional to existing method based shareholdings or:
- issue of new classes of species shares directly proportional to existing shareholdings to which species catch quota (kg) would then be issued.

This scheme has several advantages being:

- Existing shares would be fully recognised.
- The simplicity of the scheme does not require development of additional criteria or rules which may disadvantage some shareholders.

The scheme would have several initial disadvantages:

- Fishing businesses owners would receive new shares proportional to their existing shareholding, which may not reflect their actual business needs: ie: (either receiving too many or not enough catch quota species shares for a particular species).
- Fishing business owners would have to trade these new catch quota species share classes to meet their businesses needs.

These disadvantages could be mitigated by allowing for a pre linkage share trading period. ie: allow trading of catch quota species shares prior to the commencement of the linkage. This would allow fishers to adjust the level of their shareholding prior to start of linkage date to reflect their business needs.

Indirect Link to Existing Shares

Under this scenario species identified for linking to quota would have a new class of species kg quota share issued. The allocation of new class of shares would however differ from the direct method. Under this alternative scheme shareholders would choose what proportion of their existing shares would be converted into new catch quota species shares. The final amount of relative access would be determined by a number of factors including:

- How many shares submitted for conversion, and;
- How many shares are submitted for conversion by other shareholders overall.

There are several possible advantages and risks associated with such as scheme which make it difficult to model and reliably predict outcomes.

Advantages and Risks

Some advantages of the scheme:

- Decision to convert existing shares is optional for the shareholder.
- Shareholders can choose to convert their shares into the species where they wish to focus their business operations.

Some risks of the scheme

- It is possible some shareholders may choose to speculate on the outcomes of the conversion scheme, leading to adverse outcomes. ie: shareholders converting shares based on speculation, rather than their operational business needs.
- Final share of the resource would be dependant on overall participation of all shareholders in the scheme. This would be very difficult to predict, and therefore it would be very difficult for shareholders to gauge what proportion of their existing shares they would need to convert to meet their business needs.
- Rules and criteria may need to be developed to reduce the risk of adverse share allocation outcomes being realised.
- Eligibility to participate in share conversion could be limited based on recent catch history criteria. This could disadvantage some shareholders.

Discussion and advice required

Advice is sought from shareholders regarding the above share conversion options including which options to purse further.

Determining the ITCALs

Step 1: The ITCALs for this option have been calculated using the 15 year data from (1997/98 to 2011/12) for each species. The most productive financial year in terms of reported catch weight from the last 15 years has been used as the basis for setting the ITCAL. In some instances using the most productive year may not be appropriate for a particular species dependant on the circumstances of that species and fishery. To determine the ITCAL, a set of simple criteria was developed to assess and if necessary adjust the ITCAL where issues have been identified. The criteria used for this assessment takes into account the species status, recent historical trends and commonwealth recommended biological catch considerations. Based on this approach the NSW industry wide ITCALs for each species under consideration for quota management are as determined below. Note that this data does not include fish taken under the authority of section 37 permits.

Table 2: NSW fisheries - Industry wide ITCAL for species quota and criteria.

Species	Overfished	Consistent with recent trends	Consistent Commonwealth RBC and recent historical share	Percentile of max value
Australian Salmon	No	Yes	NA	100%
Blue Mackerel	No	Yes	Yes	100%
Australian Sardine	No	Yes	No	80%
Yellowtail Scad	No	Yes	NA	100%

Table 3: All NSW fisheries Industry wide ITCAL for species quota.

Species	Industry wide ITCAL (kgs)
Australian Salmon	1,449,200
Blue Mackerel	583,200
Australian Sardine	1,626,780
Yellowtail Scad	504,900

Step 2: The industry wide ITCALs then needs to be apportioned to the Ocean Haul Fishery. This has been achieved by determining the proportion of the reported commercial landings for each species across all commercial fisheries (incl. EPTF, OTF, OHF etc) over the 15 year period 1997/98 to 2011/12.

Table 4: Ocean Haul Fishery ITCAL proportion and resultant ITCAL.

Species	% of Industry wide ITCAL	OHF ITCAL (kgs)
Australian Salmon	97.7%	1,416,062
Blue Mackerel	92.6%	539,761
Australian Sardine	98.9%	1,608,935
Yellowtail Scad	81.6%	412,000

Note: DPI will present the data used to calculate the industry wide ITCALs above. These discussions and advice of the Working Group may result in changes to the above ITCALs and the species quota that would be available to shareholders as presented below.

Step 3: The Ocean Haul Fishery (OHF ITCAL) then needs to be allocated to the ocean haul purse seine share class and to the other share classes within the ocean haul fishery. The proportion allocation to the ocean haul purse seine share class was determined using more recent catch and effort data from 2009/10 to 2011/12.

This OHPS share class proportion was then allocated to shareholders in ocean hauling purse seine shareholders based on their shareholding. There are 1980 shares in total in the ocean haul purse seine fishery.

Table 5: Ocean Haul Purse Seine species quota ITCAL in kgs.

Species	OHPS % of OHF ITCAL	OHPS ITCAL (kgs)	Kg per share	Kg per 40 shares
Australian Salmon	62.9%	890,703	450	17,994
Blue Mackerel	100.0%	539,761	273	10,904
Australian Sardine	98.3%	1,581,583	799	31,951
Yellowtail Scad	100.0%	412,000	208	8,323

Other issues to consider

Additional issues relevant to a species catch quota regime, include:

- Defining the fishing period (same as Option 1).
- Monitoring quota usage (modified for Option 2 – see below).
- Acquiring additional quota (same as Option 1).
- Attributing management charges to shareholders (same as Option 1).
- Minimum shareholding requirements for new entrants (same as Option 1).

Monitoring quota usage

With respect to monitoring catches, the IVR system has been designed to require endorsement holders to make a pre-fishing and post landing report using a mobile phone. A smart phone app is also being built which will have functionality covering these three types of reports.

Additional issues to note

Issues to note that are not covered above or in the share linkage options comparison table – Table 7 Appendix 1 – include:

1. If these species are taken in other share classes and are not considered for catch in those share class, consideration will need to be given as to how the integrity of the OHPS catch quota regime would be maintained. Options include, but are not limited to:

- Managing the species by quota across all share classes,
- Applying a catch cap in any other share class with additional trip limits etc if needed.

Resource Sharing Considerations

Some of the proposed quota species taken in NSW ocean haul purse seine fishery are also taken in other jurisdictions. In particular Australian Sardine and Blue Mackerel are managed under a species quota regime in commonwealth managed fisheries. Shareholders need to be aware that resource sharing discussions between NSW and the commonwealth could have implications such as:

- Changes to the overall quota available for NSW fishers.
- Sharing of costs for research and other measures that support the setting of a Recommended Biological Catch (RBC) and Total Allowable Catch (TAC).
- Cross jurisdictional quota transfer considerations.

Discussion and advice required

The Working Group's advice is sought on the following:

- Are the ITCALs and how they've been determined appropriate?
- The feasibility of allocating species catch quota in proportion to existing shareholdings;
- If some species are not managed through a quota regime, how should they be managed?
- Whether minimum shareholding requirements should be used in conjunction with a species catch quota regime;
- A suitable 'fishing period' and when the fishing period should commence;
- The use of the IVR or smart phone app system to monitor effort quota usage.

Option 3: Basket Quota

Under this scenario selected species taken in the NSW Ocean Haul purse seine fishery are managed by basket catch quota for all target species. Basket quota is where an allocated quota can be used to take any target species.

The major features of a catch quota system include:

- Opportunity to remove some controls that inhibit fishers' profitability and efficiency where present.
- Provides for autonomous (as opposed to forced) adjustment.
- Allows fishers to target a range of species.
- Opportunity for shareholders to upscale or downscale their access (and associated management charges which would be proportional to the number of shares held).
- Stronger security of investment in a fishers' share within the fishery relative to effort quota regime.
- Increased control over each species' total catch from the fishery, which can be beneficial from a range of perspectives including capacity to deliver sustainability and resource sharing objectives within and between the fishery and other sectors.
- Increased confidence that the fishery is operating at sustainable levels. Confidence that catches are controlled may lead to greater community and government support for proposed changes/streamlining to benefit fishers, including their fishing efficiency.

These major features must, however, be considered alongside the full range of issues sometimes associated with catch quota systems such as implementation/ongoing costs.

Determining the ITCALs

Step 1:

The ITCAL for this option was determined from the last 15 years of OHPS catch data (1997/98 to 2011/12). Each financial year basket weight was calculated by combining the reported catch weight for all species taken in the OHPS fishery for each financial year. The most productive financial year basket weight value was used to set the ITCAL.

Table 6: Ocean Hauling Purse Seine Basket Quota ITCAL.

Basket Quota	No of Shares	Kg per share
3,471,242	1,980	1,753

Note: DPI will present the data used to calculate the ITCALs above. These discussions and advice of the Working Group may result in changes to the above ITCALs and the quota that would be available to shareholders as presented.

Additional issues relevant to a basket catch quota regime, include:

- Defining the fishing period (same as Option 1).
- Monitoring quota usage (same as Option 2).
- Acquiring additional quota (same as Option 1).
- Attributing management charges to shareholders (same as Option 1).
- Minimum shareholding requirements for new entrants (same as Option 1).

Monitoring quota usage

With respect to monitoring catches, the IVR system has been designed to require endorsement holders to make a pre-fishing and post landing report using a mobile phone. A smart phone app is also being built which will have functionality covering these three types of reports.

Additional issues to note

Issues to note that are not covered above or in the share linkage options comparison table – Table 7 Appendix 1 – include:

Basket quota is not an output control on any one single species. Basket quotas manage a group of species and as such is not as an effective direct control as a single species quota. Ongoing monitoring would be required to be undertaken to ensure the exploitation of any one target species remains within a sectors species specific ITCAL.

Commonwealth fisheries for blue mackerel and sardine use catch quota to manage their fisheries. Basket quota and individual species quotas are not compatible, therefore there would be no ability to transfer quota between these jurisdictions. Note also that a basket quota system is likely to have unpredictable performance as the species in the "basket" diverge in value. Ie: Operators target more valuable species to maximise their return on quota. This could result adverse outcomes such as race to fish before nominal species ITCALS are exceeded.

Consideration will be required as to how multi fishery species will be managed across different share classes and fisheries. For example Australian Salmon is taken in more than one share class and fishery in NSW. If species quota is considered for this species, some thought will be required as to the complementary management arrangements in those sectors and how well they support the integrity of species quota regime in ocean hauling purse seine. Options include, but are not limited to:

- Managing the species by quota across all share classes,
- Applying a catch cap in any other share class with additional trip limits etc if needed.

Discussion and advice required

The Working Group's advice is sought on the following:

- Are the ITCALs and how they've been determined appropriate?
- The feasibility of allocating basket catch quota in proportion to existing shareholdings;
- If some species are not managed through a quota regime, how should they be managed?
- A suitable 'fishing period' and when the fishing period should commence;
- The timing of the implementation of various approaches;
- The use of the IVR or smart phone app system to monitor effort quota usage.

Comparison of share linkage options

The share linkage options investigated in this paper all have pros and cons and address, to different degrees, the various objectives of the reform program.

Changes to fishing rights can also be difficult for fishers. When linking property rights to resource access it is natural for those affected to focus on how much quota they will get and how the program may adversely affect their business – the negatives are easily speculated and advocated, and the longer term positives seem too far away to be tangible. There is no doubt that linking property rights to resource access will change the way shareholders manage their businesses and or operate.

The government has advised that the final decision on linkage will be based on merit (i.e. not a shareholder vote), so it is critical that consideration is given to not only the pros and cons of the various linkage options, but their effectiveness delivering on the full range of government and industry objectives of linking property rights to resource access.

Table 7 (Appendix 1) compares the three linkage options set out in this paper against a range of short and long term objectives – from government and industry perspectives – that are important to consider.

Costs associated with the share linkage options

A major consideration for shareholders will be the costs associated with the various linkage options, particularly given the proposed development and introduction of a new cost recovery framework. The cost of management is also an issue for government given current industry subsidies and the Act's [secondary] objective to promote a viability commercial fishing industry.

The costs associated with the various linkage options are, however, only one part of the overall picture in terms of shareholder profitability and the government's obligation to promote industry-wide viability. Some important points to note include:

- Individual shareholder profitability is influenced by a wide range of issues many of which are outside the direct control of the State government. Examples include: the cost of boats and

equipment; the price received for product harvested; and the fishing ability and business skills of the shareholder concerned.

- Promoting industry-wide viability is a longer term objective that is also influenced by a range of things including, pertinent to the reform program underway: the cost, complexity and flexibility afforded by the management frameworks put in place and the removal/relaxation of controls that inhibit the operational and business inefficiency of fishers.

Overall, these issues need to be considered alongside the range of social and economic benefits that arise from linking shares to resource access, including gaining a stronger 'social licence' to operate and increased asset (i.e. share) values etc.

The role of government is to establish a framework that promotes improved industry-wide viability in the medium to longer term – not to maintain or improve the profitability of individual shareholders.

While it would be ideal to have firm costings for each option, NSW DPI is unable to provide definitive advice on the actual costs that would be payable. This will be influenced by a wide range of things including: the final design of the linkage options; if a quota scheme is pursued, the number of shares held; the number of shareholders remaining; the adoption of technology (e.g. the IVR, smart phone apps and/or VMS etc) to reduce enforcement costs; streamlining current controls and the new cost recovery framework once implemented. Speculating on specific management costs payable by shareholders at this point in time would be misleading.

The best approach at this stage is to give a general indication of the relative costs of the various linkage options having regard to the likely future research, management and compliance needs associated with each.

Refining current management arrangements

A significant part of the reform program is to streamline current management arrangements.

Refining management arrangements dependent on share linkage

Scope to streamline current management arrangements is in some cases dependent on the form and strength of the management framework or linkage proposed to be pursued.

Table 8 (Appendix 2) shows the streamlining proposals for which the form and strength of share linkage is important. It also shows whether or not the proposal is supported by the various linkage options that have been short-listed by the Share Linkage Working Group to date.

Controls that may be refined regardless of share linkage

Streamlining the following current management arrangements is not so dependent on the form and strength of the management framework or linkage proposed to be pursued.

Maximum shareholdings: The current default maximum shareholding of 40% of the shareholding in the fishery is ineffective and proposed to be removed on the basis that there is negligible to nil risk of a monopoly in the relatively small scale fisheries in NSW. This will streamline administration and reduce the longer term management costs. A new maximum shareholding could be introduced in the future if an unacceptable consolidation of shares becomes evident.

Net Registrations: Under the current management controls all nets used in the ocean hauling fishery must be registered. The net registration freeze is a barrier to entry to the fishery (or parts thereof). If net registrations were removed, more descriptive net descriptions may be required in regulation to ensure the gear being used in the fishery is suitable.

Foreign ownership restrictions: It is proposed that the restrictions on foreign ownership of shares be removed on the basis that there is negligible to nil risk of a significant foreign ownership of the relatively small scale fisheries in NSW. Foreign ownership is also an issue managed by the Commonwealth, not the States. This will streamline administration and reduce the longer term management costs.

Registering 'eligible fishers': The requirement to register 'eligible fishers' against fishing businesses is being removed as part of the development of FishOnline, which will automatically check that nominated fishers are already licensed. This will streamline the nomination process.

Boat licences: Under a species catch quota regime boat licences would no longer be required to [indirectly] manage catch, except if there were many other non-quota species taken in the fishery that would otherwise be subject to unacceptable increases in fishing pressure if the general size of boats increased over time. The same principle applies under an effort control regime (days etc.) if there is a regime that establishes a strong relationship between effort and catch. Removing boat licences presents a range of administrative and business efficiencies, including reduced paperwork and ongoing licensing costs for fishers.

The main issue to consider is whether there will be an ongoing need to cap boat capacity in the fishery. Given that boats can already be upgraded to 20 metres for ocean hauling purse seine (by acquiring a suitable boat licence), the main issue requiring consideration is the future use of boats greater than these lengths in the fishery.

OG1 notations on boat licences: OG1s play little part in the management of the Ocean Hauling Fishery and, as such, could be considered for removal (along with boat licences).

Discussion required: The Working Group's view is sought on the option of removing the requirement for boats under 20 metres to be licensed.

Appendix 1

Preliminary comparison of share linkage options.

Table 7 Preliminary comparison of share linkage options

Issue	Days Quota	Catch quota	Basket Quota
Government interests			
Within powers of Act	Yes	Yes	Yes
Can be administered	Yes	Yes	Yes
Can be enforced	Yes	Yes	Yes
FishOnline compliant	Yes	Yes	Yes
IVR compliant	Yes	Yes	Yes
Promotes voluntary compliance	Yes	Yes	Yes
Manages catch	Indirectly	Directly, for quota species only	Indirectly
Can be used to respond to sustainabilty or resource sharing issues	Indirectly	Directly, for quota species only	Indirectly
Shareholder interests			
Secure share of catch	Moderate security	Highest security	Moderate security
Investment confidence	Moderate confidence	Highest confidence	Moderate confidence
Scope to tailor access	Yes	Yes	Yes
Scope to tailor fees	Yes: pay per share	Yes: pay per share	Yes: pay per share
Fish more efficiently	Subject to days allocated and relaxation of input/effort controls	Yes	Subject to quota allocated and relaxation of input/effort controls
Value of rights	Moderate value	Highest value	Moderate value
Remove input controls	Moderate scope	Maximum scope	Moderate scope
Addresses public perception issues	Generally yes, depending on the issue	Yes	Generally yes, depending on the issue
Ongoing adjustment (for viabilty)	Yes: autonomous and can be stimulated on as needs basis	Yes: autonomous and can be stimulated on as needs basis	Yes: autonomous and can be stimulated on as needs basis
Estimated relative cost of scheme	TBD	TBD	TBD
Cost per shareholder	Decided by shareholder: costs proportional to shares held	Decided by shareholder: costs proportional to shares held	Decided by shareholder: costs proportional to shares held

Discussion required: Opportunity will be provided for the Working Group to review the comparison table above, which will be an important part of the paperwork to be put to shareholders for comment.

Appendix 2

Whilst some linkage options may provide for the removal of a control, this will in some cases be dependent on:

- How conservative the ITCAL is; and,
- Whether catches are monitored and strategies exist to offset any unsustainable increases in catch (e.g. reducing the ITCAL).

The following symbol has been used to denote where this is an issue: 

Table 8 Streamlining proposals and whether the linkage options short-listed to date support their removal or relaxation

Current control	Days Quota	Basket Quota	Catch quota
Remove fishing businesses as an effort control (if it identified by industry to be an objective that more endorsements are required).	Yes 	Yes 	Yes
Allow shares to be transferred to any person.	Yes 	Yes 	Yes
Remove minimum shareholding requirements	Yes, but suggested they be retained to stimulate adjustment should the number of endorsements in a sector need to be reduced to maintain/improve viabilty		
Remove 48 hour restriction applying to nominations[1]	Yes	Yes	Yes
Remove boat capacity restrictions	Yes 	Yes	Yes

Discussion required: Opportunity will be provided for the Working Group to discuss the streamlining proposals above and where necessary firm up the details of any such proposals to be put to shareholders for comment.

[1] This change is occurring as part of the development of FishOnline.