Department of Primary Industries

NSW COMMERCIAL FISHERIES REFORM PROGRAM

Draft share linkage options

Estuary General Netting Sector

NOTE: THIS DOCUMENT HAS BEEN PREPARED FOR DISCUSSION WITH THE ESTUARY GENERAL TRAPPING SHARE LINKAGE WORKING 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 - Estuary General Netting Fishery

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More information

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Foreword

The purpose of this paper is to describe potential share linkage options for the netting component of the NSW Estuary General Fishery for consideration by the Estuary General Netting Share Linkage Working Group (the Working Group) at its second meeting in 2013.

The share linkage options presented in this paper were short-listed by the Working Group 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 alternate 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 may not necessarily be the only feasible share linkage options for this fishery. A hybrid or combination of the linkage options may also be feasible.

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 reduced management costs. The streamlining of current management arrangements will be influenced by the strength of the linkages pursued (i.e. the strongest form of linkage provides the best opportunity to amend or remove current restrictions). Towards the end of this paper is discussion on some of the management arrangements that may be able to be amended or removed, 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 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 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). This, in addition to the Government's response to the Review, an Information Paper summarising the major findings of the Review and Commercial Fisheries Newsletters 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);
- Assist to improve investment confidence and support from financial institutions; and
- Improve management and the public's perception of the NSW commercial fishing industry.

Contents

Major issues facing the NSW Estuary General Netting Fishery

Some of the major issues facing the trapping component of the NSW Estuary General Fishery can be addressed through the reform program (and the linking of shares to resource access) while others cannot. Irrespective, all of the issues must be considered when contemplating the possible share linkage options. Some important issues are listed below.

- Surplus fishing capacity that can be activated at any time which poses a risk to the viability of active participants in the fishery and overall sustainability of the fish stocks. Although variable between the regions, there is significant capacity in all three sectors of the fishery.
- Limited opportunity to improve operational efficiency.
- Multitude of temporal and spatial fishing closures that apply to the use of nets.
- The requirement for nets to be registered.
- Different types of nets and configurations permitted to be used within and between regions.
- Significant public perception issues, including lack of public confidence that catches can be actively managed in such a way that they do not exceed sustainable levels.
- Continual and ongoing campaigns initiated by various interest groups to prohibit the commercial use of nets in estuaries.
- Competition for access to fish within the fishery and between the fishery and other sectors (e.g. recreational fishery).
- Competition for market access within the fishery.
- Restriction on the species that may be retained in some gears.
- Overall complexity of the current arrangements.

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 of 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 alternate approach is being pursued for setting the initial total catch and effort levels where necessary. This alternate 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, 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).*

If shares are surrendered for cancellation prior to implementing the linkages, for example during the exit grant process, the amount of the ITCAL allocated per share available to those shareholders that remain in the industry will be greater than that estimated in the tables in this paper.

Option 1: Limiting endorsement numbers (minimum shareholdings)

Two separate minimum shareholding regimes were identified by the Working Group for further consideration (i.e. mandatory and tiered regime). Under each, catches are indirectly managed by managing the maximum number of endorsement holders in each share class. This is achieved by setting the minimum shareholding requirement for each share class. This is then used to determine each shareholders' eligibility to an endorsement. The difference between the two regimes is that a tiered regime allows shareholders to gain additional access by holding more shares.

Mandatory minimum shareholding regime

Under a mandatory minimum share holding regime a shareholder must have enough shares to satisfy the minimum shareholding requirement to be able to operate in the fishery. If a shareholder does not hold enough shares to satisfy the minimum shareholding requirement, that shareholder does not get an endorsement (i.e. irrespective of how many shares a shareholder has, if they do not hold at least the minimum number of shares they shareholder cannot participate in the fishery).

The major features (some of which are dependent upon the adjustment targets adopted) of a mandatory minimum shareholding regime include:

- Forced (as opposed to autonomous) adjustment.
- A very direct and effective mechanism to determine the maximum number of endorsements in the fishery.
- Limited control over total catch and effort in the fishery.
- Limited opportunity to remove or amend current controls that inhibit fishers' efficiency and profitability.
- Management charges are shared amongst shareholders equally, irrespective of the number of shares held.
- The security of investment is not as strong as a catch or effort linkage regime – endorsement holders continue to compete for their share of the available resource.

Determining the adjustment targets

Determining a target maximum number of endorsements for each share class is the first step. This has been done below using the estimated Gross Value of Product (GVP) of each share class over the three year period 2009/10 to 2011/12. The GVP was calculated using the average monthly prices of fish sold through the Sydney Fish Market.

Determining the minimum shareholding requirements

The maximum numbers of endorsements are then used to determine the minimum shareholding that would apply for each share class. This is done by dividing the total number of shares in each share class by the maximum number of endorsements. The following tables show the numbers of fishing businesses that accounted for the various percentages of the total GVP (90 through to 99%) over the three year period 2009/10 to 2011/12 and the corresponding minimum shareholding that would apply for each share class.

It is important to note that for some share classes in the following tables the level of reported activity is very low (e.g. category 2 hauling – region 5). This means that the maximum number of endorsements under the various GVP percentages is low. As a consequence, the corresponding minimum shareholdings are very high. In these instances it would be appropriate to consider an

alternative way of setting the adjustment targets. The Working Group's advice is sought in this regard.

Table 1: Meshing (484 FBs – 60,275 shares) Numbers of fishing businesses that account for the various percentages of estimated total GVP by region

Region			Percentage of estimated GVP			
			90	95	97	99
1	Total shareholders (36)	No. of Shareholders	15	18	22	27
	Total shares (4,550)	Minimum shares	303	253	207	169
2	Total shareholders (104)	No. of Shareholders	33	43	51	66
	Total shares (13,200)	Minimum shares	400	307	259	200
3	Total shareholders (54)	No. of Shareholders	27	32	36	40
	Total shares (6,725)	Minimum shares	249	210	187	169
4	Total shareholders (166)	No. of Shareholders	91	105	114	129
	Total shares (20,425)	Minimum shares	224	195	179	158
5	Total shareholders (44)	No. of Shareholders	16	19	21	26
	Total shares (5,300)	Minimum shares	331	279	252	204
6	Total shareholders (47)	No. of Shareholders	19	25	28	35
	Total shares (6,050)	Minimum shares	318	242	216	173
7	Total shareholders (33)	No. of Shareholders	12	15	16	19
	Total shares (4,025)	Minimum shares	335	268	252	212

Table 2: Category 1 Hauling (140 FBs – 17,000 shares) Numbers of fishing businesses that account for the various percentages of estimated total GVP by region

Region			Percentage of estimated GVP			
			90	95	97	99
1	Total shareholders (8)	No. of Shareholders	4	5	6	7
	Total shares (1,000)	Minimum shares	250	200	167	143
2	Total shareholders (26)	No. of Shareholders	9	11	13	15
	Total shares (3,250)	Minimum shares	361	295	250	217
3	Total shareholders (10)	No. of Shareholders	2	3	4	5
	Total shares (1,250)	Minimum shares	625	417	313	250
4	Total shareholders (51)	No. of Shareholders	16	21	24	29
	Total shares (6,225)	Minimum shares	389	296	259	215
5	Total shareholders (15)	No. of Shareholders	7	8	8	8
	Total shares (1,775)	Minimum shares	254	222	222	222
6	Total shareholders (17)	No. of Shareholders	5	5	7	9
	Total shares (2,050)	Minimum shares	410	410	293	228
7	Total shareholders (13)	No. of Shareholders	3	4	4	5
	Total shares (1,450)	Minimum shares	483	363	363	290

Table 3: Category 2 Hauling (137 FBs – 16,825 shares) Numbers of fishing businesses that account for the various percentages of estimated total GVP by region

Region			Percentage of estimated GVP			
			90	95	97	99
1	Total shareholders (8)	No. of Shareholders	2	2	2	2
	Total shares (975)	Minimum shares	488	488	488	488
2	Total shareholders (26)	No. of Shareholders	5	6	7	7
	Total shares (3,200)	Minimum shares	640	533	457	457
3	Total shareholders (19)	No. of Shareholders	3	3	3	5
	Total shares (2,275)	Minimum shares	758	758	758	455
4	Total shareholders (51)	No. of Shareholders	5	7	9	11
	Total shares (6,200)	Minimum shares	1,240	886	689	564
5	Total shareholders (10)	No. of Shareholders	1	1	1	1
	Total shares (1,125)	Minimum shares	1,125	1,125	1,125	1,125
6	Total shareholders (14)	No. of Shareholders	7	8	9	12
	Total shares (1,925)	Minimum shares	275	241	214	160
7	Total shareholders (9)	No. of Shareholders	4	4	4	4
	Total shares (1,125)	Minimum shares	281	281	281	281

Table 4: Prawning (378 FBs – 47,450 shares) Numbers of fishing businesses that account for the various percentages of estimated total GVP by region

Region			Percentage of estimated GVP			
			90	95	97	99
1	Total shareholders (21)	No. of Shareholders	12	14	16	18
	Total shares (2,725)	Minimum shares	227	195	170	151
2	Total shareholders (98)	No. of Shareholders	30	36	39	44
	Total shares (12,350)	Minimum shares	412	343	317	281
3	Total shareholders (31)	No. of Shareholders	12	15	16	19
	Total shares (3,900)	Minimum shares	325	260	244	205
4	Total shareholders (151)	No. of Shareholders	65	78	87	105
	Total shares (18,950)	Minimum shares	292	243	218	180
5	Total shareholders (6)	No. of Shareholders	3	4	4	5
	Total shares (650)	Minimum shares	217	163	163	130
6	Total shareholders (39)	No. of Shareholders	11	17	20	23
	Total shares (4,825)	Minimum shares	439	284	241	210
7	Total shareholders (32)	No. of Shareholders	15	17	19	20
	Total shares (4,050)	Minimum shares	270	238	213	203

Table 5: Handline & Hauling Crew (569 FBs – 70,925 shares) Numbers of fishing businesses that account for the various percentages of estimated total GVP by region

Region			Percentage of estimated GVP			
			90	95	97	99
1	Total shareholders (38)	No. of Shareholders	5	5	5	6
	Total shares (4,800)	Minimum shares	960	960	960	800
2	Total shareholders (132)	No. of Shareholders	17	22	26	31
	Total shares (16,475)	Minimum shares	969	749	634	531
3	Total shareholders (65)	No. of Shareholders	10	12	13	15
	Total shares (8,125)	Minimum shares	813	677	325	542
4	Total shareholders (190)	No. of Shareholders	13	20	23	28
	Total shares (23,800)	Minimum shares	1,831	1,190	1,035	850
5	Total shareholders (54)	No. of Shareholders	7	9	10	14
	Total shares (6,600)	Minimum shares	943	733	660	471
6	Total shareholders (50)	No. of Shareholders	6	6	6	7
	Total shares (6,300)	Minimum shares	1,050	1,050	1,050	900
7	Total shareholders (40)	No. of Shareholders	1	1	1	1
	Total shares (4,825)	Minimum shares	4,825	4,825	4,825	4,825

It is important to note that the GVP estimates for handline and hauling crew above were determined using reported catch by line methods only. A linkage option regarding 'crewing' arrangements for this share class that could be used in conjunction with a minimum shareholding regime is detailed on page 26.

Determining the timeframe by which the minimum shareholding requirements must be satisfied in order to remain endorsed

Under a minimum shareholding regime it is important to determine the timeframe by which shareholders must satisfy the minimum shareholding requirements in order to be eligible for an endorsement to participate in the fishery. Options range from requiring shareholders to satisfy the minimum shareholding requirements in a once-off increase in the short-term or progressively increasing the minimum shareholdings over a longer time period. Issues for consideration include:

- Government assistance, in the form of exit grant payments, will only be available in the short term (i.e. throughout 2014) – supporting the concept of a once-off increase in the short term.
- For sectors requiring significant adjustment and significant investment in shares, one of the few strategies that could be adopted is to extend the timeframe to satisfy the minimum shareholding requirements.

Regardless of whether a short term or long term approach is adopted, to streamline administration DPI seeks to align the minimum shareholding periods across fisheries. In other words, the minimum shareholding requirements would need to be satisfied by a set date that coincides with dates applying in other fisheries. This will reduce the administration associated with issuing new fishing business cards etc each time an endorsement is added or removed from a fishing business card.

DPI's preferred position on this issue is to pursue a once-off increase in the short term (e.g. all fishers must satisfy the relevant minimum shareholding requirements by mid 2015 to remain endorsed). However, it may be appropriate to progressively increase the minimum shareholding

requirements over two periods if that is what shareholders would prefer (e.g. a reasonable increase by mid 2015 and the balance by mid 2016).

Tiered minimum shareholding regime

A tiered regime allows shareholders to gain additional access by holding more shares over the mandatory minimum shareholding required to be eligible for an endorsement. Given the vast differences in the numbers of shares and overcapacity in each of the share classes (i.e. between regions), different shareholding requirements would exist in different regions. Also each share class in a region may be able to have it's own specific arrangements. The Working Group's advice on what specific advantages could be modelled into this type of regime is sought. Some examples suggested by shareholders of what could be gained by holding additional shares include:

1. Ability to be assisted by unendorsed crew;
2. Number of hauling shots in a day;
3. Additional nominations in the prawn ballot; and
4. Additional lengths of net.

Attributing management charges to shareholders

If managing endorsement numbers under a mandatory minimum shareholding scheme, the cost of management is attributed to shareholders equally. In other words, all shareholders pay the same regardless of how many shares are held or how much fish the shareholder takes. If some kind of tiered regime is implemented management charges would likely be attributed to shareholders proportional to the number of shares held.

Discussion and advice required

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

- Should a minimum shareholding regime be considered as an option (to be put to shareholders for comment) for any or all of the netting components of the EGF?
- What are appropriate adjustment targets (i.e. maximum number of endorsements) for each share class?
- If a mandatory minimum shareholding regime should be considered as an option, what are there efficiencies that could be implemented that benefit all fishers that meet the minimum shareholding requirement (e.g. would it be appropriate to increase the maximum length of a meshing net that a meshing endorsement holder could use?)
- If a tiered minimum regime should be considered for any of the netting share classes what are fishers entitled to with each given incremental increase in shares held?
- An appropriate timeframe for shareholders to satisfy the minimum shareholding requirements in order to remain endorsed to participate in the fishery.

Option 2: Effort quota (day regime)

Under a day regime, effort is managed via a consumable quota of days allocated to fishing businesses proportional to the number of shares held. A day regime is an indirect way of managing catch.

The major features of a day regime include:

- Provides for autonomous (as opposed to forced) adjustment.

- Improved opportunity to remove or amend current restrictions that inhibit fishers' efficiency and profitability.
- Improved control over total catches of species from the fishery, which is 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 Government, industry and community confidence that the fishery is operating at sustainable levels.
- Management charges are attributed to shareholders proportional to the number of shares held.
- The security of investment is not as strong as a catch quota regime. Endorsement holders continue to compete for their share of the resource (noting that a catch quota regime may not be appropriate for some or all of the EGF netting share classes).

Determining the ITCALs and the quota of 'days' available to shareholders

Determining the ITCAL (i.e. the total number of days available to each share class of the fishery) and the quota of days that would be allocated to each shareholder requires a number of steps. This has been done below in two ways, on a state-wide and regional basis, over the three year period 2009/10 to 2011/12. This time period was used as the new catch and effort reporting arrangements implemented in 2009 provided for a method to be linked to a share class and a day. Only days where lawful methods for the specific share class have been reported were used in the allocation.

Step 1: The first step involves determining the ITCAL for each sector (i.e. share class group) or share class.

State-wide ITCAL

The state-wide ITCAL is the total number of days allocated to each of the share class groups (e.g. meshing regions 1, 2, 3, 4, 5, 6 and 7 as a whole). This is determined by calculating an annual average total number of days for each share class over the three year period 2009/10 to 2011/12. This is done by using the total number of days fishers have reported fishing under the authority of each of a meshing, category 1 hauling, category 2 hauling, prawning and handline and hauling crew endorsement in those years and dividing by the total by 3.

Table 6: State wide ITCAL of days for the meshing, category 1 and 2 hauling, prawning and handline & hauling crew sectors (* = based on line methods only)

Sector	ITCAL (days)
Meshing	19,055
Category 1 hauling	2,335
Category 2 hauling	326
Prawning	4,335
Handline & hauling crew	617*

Regional ITCAL

The regional ITCAL is the total number of days allocated to each share class of a region. This is determined by calculating an annual average number of days for each share class (i.e. for each region) over the three year period 2009/10 to 2011/12. This is done by using the total number of days fishers have reported fishing under the authority of a meshing, category 1 hauling, category 2 hauling, prawning and handline and hauling crew endorsement in those years and dividing by the total by 3.

Table 7: Regional ITCAL of days for the meshing share classes

Region	ITCAL (days)
1	1,165
2	2,692
3	1,692
4	9,688
5	875
6	2,072
7	871

Table 8: Regional ITCAL of days for the category 1 hauling share classes

Region	ITCAL (days)
1	94
2	492
3	34
4	809
5	170
6	663
7	73

Table 9: Regional ITCAL of days for the category 2 hauling share classes

Region	ITCAL (days)
1	6
2	60
3	22
4	98
5	12
6	113
7	17

Table 10: Regional ITCAL of days for the prawning share classes

Region	ITCAL (days)
1	150
2	329
3	77
4	2,930
5	10
6	681
7	168

Table 11: Regional ITCAL of days for the handline & hauling crew share classes

Region	ITCAL (days)
1	5
2	253

Region	ITCAL (days)
3	58
4	249
5	47
6	4
7	0.3

Step 2: The ITCAL available to each sector then needs to be allocated amongst the shareholders in each sector or share class proportional to the number of shares held. This has been done below in two ways (i.e. state-wide and regional basis) over the three year period 2009/10 to 2011/12.

State-wide allocation

Table 12: State-wide allocation of the ITCAL of days to meshing, category 1 and 2 hauling, prawning and handline & hauling crew shareholders

Sector	Total No. shares	ITCAL (days)	Days per share	Days per 125 shares
Meshing	60,275	19,055	0.3	40
Category 1 hauling	17,000	2,335	0.1	17
Category 2 hauling	16,825	326	0.02	2
Prawning	47,450	4,335	0.1	11
Handline & hauling crew	70,925	617	0.01	1

Table 13: Regional allocation of the ITCAL of days to meshing shareholders

Region	Total No. shares	ITCAL (days)	Days per share	Days per 125 shares
1	4,550	1,165	0.3	32
2	13,200	2,692	0.2	26
3	6,725	1,692	0.3	31
4	20,425	9,688	0.5	59
5	5,300	875	0.2	21
6	6,050	2,072	0.3	43
7	4,025	871	0.2	27

Table 14: Regional allocation of the ITCAL of days to category 1 hauling shareholders

Region	Total No. shares	ITCAL (days)	Days per share	Days per 125 shares
1	1,000	94	0.1	12
2	3,250	492	0.2	19
3	1,250	34	0.03	3
4	6,225	809	0.1	16
5	1,775	170	0.1	12
6	2,050	663	0.3	40
7	1,450	73	0.1	6

Table 15: Regional allocation of the ITCAL of days to category 2 hauling shareholders

Region	Total No. shares	ITCAL (days)	Days per share	Days per 125 shares
1	975	6	0.01	1
2	3,200	60	0.02	2
3	2,275	22	0.1	1
4	6,200	98	0.02	2
5	1,125	12	0.01	1
6	1,925	113	0.1	7
7	1,125	17	0.02	2

Table 16: Regional allocation of the ITCAL of days to prawning shareholders

Region	Total No. shares	ITCAL	Days per share	Days per 125 shares
1	2,725	150	0.03	4
2	12,350	329	0.03	3
3	3,900	77	0.01	1
4	18,950	2,930	0.1	18
5	650	10	0.002	0.3
6	4,825	681	0.1	14
7	4,050	168	0.04	5

Table 17: Regional allocation of the ITCAL of days to handline & hauling crew shareholders (line methods only)

Region	Total No. shares	ITCAL	Days per share	Days per 125 shares
1	4,800	5	0.001	0.1
2	16,475	253	0.02	2
3	8,125	58	0.01	1
4	23,800	249	0.01	1
5	6,600	47	0.01	1
6	6,300	4	0.001	0.1
7	4,825	0.3	0.0001	0.01

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 Integrated Voice Response (IVR) system (if the IVR system is the preferred technology); or
- A set 24 hour period (e.g. midnight to midnight).

Minimum Shareholding requirements

Minimum shareholding requirements (i.e. the minimum number of shares that a shareholder must hold to be eligible for an endorsement) can be used in conjunction with a days regime to assist with adjustment in each share class. Given that the total number of shares of each share class (i.e. in each region) is variable, different minimum shareholding requirements can apply in each region.

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. DPI suggests that a one year fishing period commencing on 1 July each year would be suitable for the netting component of the EG Fishery initially.

Acquiring additional quota

Acquiring additional quota (i.e. days) 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/TAE 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 (i.e. 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, Lobster and SUTS fisheries and has been hardwired into FishOnline.

Reasons for allowing leasing:

- Helps fishers wanting to fish at a desired level but cannot buy shares;
- Helps fishers that need more 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; and
- Helps to ensure the entire ITCAL/TAE is used (i.e. such that there is little or no quota left over at the end of a fishing period).

Reasons against allowing leasing:

- May slow the rate of adjustment; and
- May stimulate 'quota barons' (i.e. people who purchase significant numbers of shares with the intent of leasing 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.

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.

Transferability of effort quota

If any of the netting share classes are to be managed using a days regime consideration has to be given to providing for the transferability of effort quota (i.e. days) between regions or having the total amount of effort quota capped or 'locked into' each region. The current shares would be used to authorise access in a region (as is the case now) and the effort quota used to dictate how many days could be worked in a region.

If the total amount of effort quota is capped in each region shareholders have the certainty and security that they hold a set proportion of the effort quota that can be used in the waters of the fishery in the region they hold shares. However, for regions where only a limited number of shares exist, and as a consequence a limited amount of effort quota would be allocated, there may be limited amount of scope for shareholders to acquire additional effort quota.

In contrast, if there was full transferability of effort quota between regions, shareholders could acquire effort quota from other regions to upscale their operation (or vice versa). In this case the amount of effort quota that could be used in the waters of a region is not capped. As a consequence, shareholders would not have the security of knowing how much effort quota could be used in each region, however would have the flexibility to transfer effort quota into or out of a region, e.g. in response to variations in abundance of fish, environmental conditions etc.

Monitoring quota usage

A days regime requires the effort quota (days) to be monitored on a daily basis if the regime is to have integrity. One way to do this is through the current paper-based log book system, however, there is a range of reasons why this is inappropriate including:

- Log books are used to capture a range of information (e.g. catch, effort and disposal information) some of which may not be readily available for the purpose of submitting log sheets daily;
- Resource intensive for fishers and DPI;
- Inability to monitor and enforce effort quota in real time; and
- 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 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. 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 would be done separately either online or by using the log book.

FishOnline and the IVR system have been designed to deal with quota management regimes. As a consequence, neither system should need to be enhanced. However, complications may arise for fishers working fishing businesses with numerous 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 a number of potential solutions to this problem:

- 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 should be 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.

Attributing management charges to shareholders

Under a days regime the cost of management is attributed to shareholders proportional to the number of shares held. Specifically, a shareholder with a large holding of shares (and greater access) will pay a larger share of the management costs than a shareholder with a smaller holding 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.

Discussion and advice required

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

- Should a days regime be considered as an option (to be put to shareholders for comment) for the future management of any or all of the netting components of the EGF?
- Should state-wide or regional allocations be used?
- Are the ITCALs and how they have been determined appropriate?
- How should a 'day' be defined?
- Whether minimum shareholding requirements should be used in conjunction with a days regime.
- A suitable 'fishing period' and when the fishing period should commence.
- The transferability of effort quota between the regions.
- The use of the IVR or smart phone app systems to monitor effort quota usage.

Option 3: Effort quota (net length day regime)

Given the vast array of different types and lengths of nets used for of each of the EGF netting share classes, the modelling of a 'net length day regime' across all of the share classes, net types and regions is difficult, and as such, requires considerable Working Group advice. Further, there are likely certain net types (e.g. some prawning nets) used in certain waters where having additional net length may not be warranted (or wanted) because the current gear efficiently catches fish and/or prawns in those waters. Notwithstanding the above, there are certain net types (e.g. some meshing and hauling nets) where having additional net length would likely benefit a fisher.

Under a net length day regime, effort is managed by a consumable effort quota. The effort quota is consumed by fishers depending upon the length of a net that they choose to use on a day. If a net length day regime was to be considered as an option for the future management of any of the EGF netting share classes, the following would have to be determined initially:

1. the 'standard' maximum net length of each of the following nets;

Meshing nets meshing and flathead

Hauling nets hauling (general purpose), trumpeter whiting, bait, garfish – bullringing, garfish – hauling and pilchard, anchovy & bait

Prawning nets hauling, seine, running, set pocket, hand-hauled, dip and scissor

2. the number of days allocated to each net type (using the days listed in Tables 6 – 17).

From this you can then calculate how many net length days (consumable effort quota) are available to use. The consumption of this will then depend on the length of net used by the fisher each day.

Following is an example that has been done for meshing. The end result of the calculations (in Tables 18 – 20) is the number of net length days available to a shareholder. In the example below 125 meshing shares gives you 28,650 net length days. These are consumed depending on the length of net used on each day. For example, if you use a 725 metre net on a day, you consume 725 net length days leaving a balance of 27,925 remaining. Based on a 28,650 net length day allocation, if you wanted to use a 725 metre net all the time, you could work 40 days; using a 375 metre net all the time, you could work 76 days.

The underlying assumptions in the example below are:

1. The starting point maximum net length is 725 metres; and
2. The ITCAL of 19,055 days are from the state-wide allocation in Table 6.

Table 18: Determination of the total number of net length days available to use a meshing net for the share class of meshing

A	B	C
ITCAL (days)	Standard Net Length (m)	Net Length days (A x B)
19,055	725	13,814,875

Table 19: Determination of the number of net length days per meshing share

C	D	E
Net Length days	Total No. shares	Net length days per share (C ÷ D)
13,814,875	60,275	229

Table 20: Determination of the number of days available to use a 375 and 725 metre meshing net

E	F	Days to use different lengths of net (F ÷ net length)	
Net length days per share	Net length days per 125 shares (E x 125)	375	725
229	28,650	76	40

Important issues to consider

If a net length day regime was to be considered as an option for the future management of any of the EGF netting share classes, the following needs to be considered:

1. The reality of how the netting fishery (especially meshing) operates now with fishers being able to use multiple nets of various lengths on any given day;
2. The overall complexity and subsequent costs and benefits of a net length days regime in comparison to alternatives; and
3. How a net length day regime would be practically enforced and monitored?

Discussion and advice required

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

- Should a net length day regime be considered as an option for the future management of any or all the netting components of the EGF?
- Whether a minimum shareholding requirement should be used in conjunction with a net length day regime.

Option 4: Catch quota

Under a catch quota regime fish taken in the relevant share classes are managed by catch quota. The Working Group suggested catch quota models be done for sea mullet, mulloway, tailor, Australian salmon and river garfish.

Generally, the major features of a catch quota system include:

- It provides for autonomous (as opposed to forced) adjustment;
- Good opportunity to remove controls that inhibit fishers' profitability and efficiency (*Note: this is dependent upon the fishing method*);
- Tighter control over total catches of quota species from the fishery, which is beneficial from a range of perspectives including capacity to deliver sustainability and resource sharing objectives within and between the fishery and other sectors, respectively;
- Sound Government, industry and community confidence that the fishery on quota species is operating at sustainable levels;
- Management charges are attributed to shareholders proportional to the number of shares held; and
- Stronger security of investment relative to effort quota and minimum shareholding regimes.

Important issues to note

Under a catch quota regime for the multi-species netting methods of meshing and hauling only the catch of the species that have a quota set on them is controlled. There is limited control on any of the other species either targeted or caught incidentally in these gears. As a consequence, following are some issues that must be given careful consideration when assessing whether a catch quota regime is appropriate for the relevant netting share classes:

- How the catch or fishing effort on non-quota species is managed;
- The potential discarding of quota species that are caught in gears but the fisher does not hold the quota to retain the fish;
- If catch quota is transferable, the ability to transfer kgs of quota species to another fisher while continuing to use meshing and/or hauling nets to catch all other species; and
- The ability to remove certain controls applying currently to the use of certain gears given that the catch and fishing effort applying to the majority of permitted species that are caught in these gears are not as actively managed as that applying to the quota species.

Determining the catch quota available to shareholders

Determining the ITCALs (i.e. total sea mullet, mulloway, tailor, Australian salmon and river garfish quota available to the relevant fishery) and the quota that would be allocated to each shareholder requires a number of steps.

Step 1: The first step involves determining industry wide ITCALs for sea mullet, mulloway, tailor, Australian salmon and river garfish. This has been done by averaging the reported commercial landings over the 15 year period 1997/98 to 2011/12.

Note: The mulloway model has only been done as an example of how an ITCAL could be allocated for the species. Given that the species is classified as overfished, is subject to a

recovery program and new mulloway fishing arrangements were implemented in 2013, if a catch quota regime is pursued as an option, the ITCAL and subsequent allocations are likely to be significantly lower than those presented below. Additional analyses would need to be done in this regard.

Table 21: Industry-wide ITCAL of kgs for sea mullet, mulloway, tailor, Australian salmon and river garfish

Species	Industry wide ITCAL (kgs)
Sea mullet	3,566,887
Mulloway	67,980
Tailor	61,873
Australian salmon	961,853
River garfish	27,360

Step 2: The industry wide ITCAL for sea mullet, mulloway, tailor, Australian salmon and river garfish then needs to be apportioned to the Estuary General Fishery. This has been done by averaging the reported commercial landings for each species across all commercial fisheries (incl. OH, OTL, etc) over the 15 year period 1997/98 to 2011/12.

Table 22: Estuary General Fishery ITCAL of kgs for sea mullet, mulloway, tailor, Australian salmon and river garfish

Species	% of Industry wide ITCAL	EGF ITCAL (kgs)
Sea mullet	49.5	1,764,445
Mulloway	58.5	40,437
Tailor	39.1	24,199
Australian salmon	16	15,654
River garfish	100	27,360

Step 3: The Estuary General Fishery ITCAL (EGF ITCAL) then needs to be allocated amongst relevant shareholders proportional to the number of shares held. This has been done below in two ways (i.e. state-wide and regional basis) using the three year period 2009/10 to 2011/12. This time period was used as the new catch and effort reporting arrangements implemented in 2009 provided for the catch to be attributed to an endorsement, a method and a day. Catch reported as being taken by lawful methods was used in the allocation. For ease of interpretation, numbers have been rounded to the nearest decimal point.

State-wide allocation

Table 23: State-wide allocation of the EGF ITCAL of sea mullet to the relevant shareholders

Share class group	% of EGF ITCAL	kgs	Shares	Kg per share	Kg per 125 shares
Meshing	73.2	1,291,800	60,275	21.4	2,679
Category 1 hauling	26.8	472,645	17,000	27.8	3,475

Table 24: State-wide allocation of the EGF ITCAL of mulloway to the relevant shareholders

Share class group	% of EGF ITCAL	kgs	Shares	Kg per share	Kg per 125 shares
Meshing	93.9	37,991	60,275	0.6	78.8
Category 1 hauling	3.7	1,481	17,000	0.1	10.9
Handline & hauling crew	2.4	965	70,925	0.01	1.7

Table 25: State-wide allocation of the EGF ITCAL of tailor to the relevant shareholders

Share class group	% of EGF ITCAL	kgs	Shares	Kg per share	Kg per 125 shares
Meshing	70.7	17,103	60,275	0.3	35.5
Category 1 hauling	24.9	6,029	17,000	0.4	44.3
Handline & hauling crew	4.4	1,067	70,925	0.02	1.9

Table 26: State-wide allocation of the EGF ITCAL of Australian salmon to the relevant shareholders

Share class group	% of EGF ITCAL	kgs	Shares	Kg per share	Kg per 125 shares
Meshing	74	11,583	60,275	0.2	24
Category 1 hauling	23	3,650	17,000	0.2	26.8
Handline & hauling crew	3	312	70,925	0.004	0.5

Table 27: State-wide allocation of the EGF ITCAL of river garfish to the relevant shareholders

Share class group	% of EGF ITCAL	kgs	Shares	Kg per share	Kg per 125 shares
Category 2 hauling	67.9	18,566	16,825	1.1	137.9
Category 1 hauling	32.1	8,794	17,000	0.5	64.7

Regional allocation

Table 28: Regional allocation of the EGF ITCAL of sea mullet to the relevant shareholders

Region	Meshing				Category 1 Hauling			
	Shares	Kgs	Kg per share	Kg per 125 shares	Shares	Kgs	Kg per share	Kg per 125 shares
1	4,550	88,714	19.5	2,437	1,000	9,856	9.9	1,232
2	13,200	471,538	35.7	4,465	3,250	124,941	38.4	4,805
3	6,725	137,837	20.5	2,562	1,250	3,473	2.8	347
4	20,425	447,330	21.9	2,738	6,225	121,848	19.6	2,447
5	5,300	39,784	7.5	938	1,775	210,707	118.7	14,839
6	6,050	86,328	14.3	1,784	2,050	1,482	0.7	90
7	4,025	20,270	5.0	630	1,450	336	0.2	29

Table 29: Regional allocation of the EGF ITCAL of mulloway to the relevant shareholders

Region	Meshing				Category 1 Hauling				Handline & hauling crew			
	Shares	Kgs	Kg per share	Kg per 125 shares	Shares	Kgs	Kg per share	Kg per 125 shares	Shares	Kgs	Kg per share	Kg per 125 shares
1	4,550	3,218	0.7	88.4	1,000	2	0.002	0.3	4,800	31	0.01	0.8
2	13,200	6,018	0.5	57	3,250	404	0.1	15.5	16,475	92	0.01	0.7
3	6,725	3,500	0.5	65.1	1,250	35	0.03	3.6	8,125	292	0.04	4.5
4	20,425	12,683	0.6	77.6	6,225	493	0.08	9.9	23,800	172	0.01	0.9
5	5,300	7,822	1.5	184.5	1,775	43	0.02	3.0	6,600	377	0.1	7.1
6	6,050	4,400	0.7	90.9	2,050	503	0.2	30.7	6,300	2	0.0002	0.03
7	4,025	349	0.1	10.9	1,450	1	0.001	0.1	4,825	31	0.001	0.8

Table 30: Regional allocation of the EGF ITCAL of tailor to the relevant shareholders

Region	Meshing				Category 1 Hauling				Handline & hauling crew			
	Shares	Kgs	Kg per share	Kg per 125 shares	Shares	Kgs	Kg per share	Kg per 125 shares	Shares	Kgs	Kg per share	Kg per 125 shares
1	4,550	951	0.2	26.1	1,000	2	0.002	0.2	4,800	73.	0.02	1.9
2	13,200	891	0.1	8.4	3,250	47	0.02	1.8	16,475	291	0.02	2.2
3	6,725	806	0.1	15	1,250	1	0.001	0.1	8,125	139	0.02	2.1
4	20,425	9439	0.5	57.8	6,225	3829	0.6	76.9	23,800	114	0.01	0.6
5	5,300	1229	0.2	29	1,775	204	0.1	14.3	6,600	403	0.1	7.6
6	6,050	1133	0.2	23.4	2,050	1515	0.7	92.4	6,300	47	0.01	0.9
7	4,025	2655	0.7	82.5	1,450	432	0.3	37.3	4,825	73	0.02	1.9

Table 31: Regional allocation of the EGF ITCAL of Australian salmon to the relevant shareholders

Region	Meshing				Category 1 Hauling				Handline & hauling crew			
	Shares	Kgs	Kg per share	Kg per 125 shares	Shares	Kgs	Kg per share	Kg per 125 shares	Shares	Kgs	Kg per share	Kg per 125 shares
1	4,550	12	0.003	0.3	1,000	0	0	0	4,800	0	0	0
2	13,200	156	0.01	1.5	3,250	2	0.001	0.1	16,475	0	0	0
3	6,725	185	0.03	3.4	1,250	39	0.03	3.9	8,125	50	0.003	0.4
4	20,425	6199	0.3	37.9	6,225	2803	0.5	56.3	23,800	72	0.01	1.1
5	5,300	2437	0.5	57.4	1,775	172	0.1	12.1	6,600	190	0.01	1.0
6	6,050	901	0.1	18.6	2,050	475	0.2	28.9	6,300	0	0	0
7	4,025	1693	0.4	52.6	1,450	158	0.1	13.6	4,825	0	0	0

Table 32: Regional allocation of the EGF ITCAL of river garfish to the relevant shareholders

Region	Category 2 hauling				Category 1 Hauling			
	Shares	Kgs	Kg per share	Kg per 125 shares	Shares	Kgs	Kg per share	Kg per 125 shares
1	975	92	0.1	11.8	1,000	6	0.01	0.7
2	3200	4916	1.5	192.0	3,250	35	0.01	1.4
3	2275	1394	0.6	76.6	1,250	54	0.04	5.4
4	6200	1544	0.2	31.1	6,225	3851	0.6	77.3
5	1125	89	0.1	9.9	1,775	586	0.3	41.3
6	1925	7404	3.8	480.8	2,050	3644	1.8	222.2
7	1125	3128	2.8	347.6	1,450	617	0.4	53.2

Minimum shareholding requirements

Minimum shareholding requirements (i.e. the minimum number of shares that a shareholder must hold to be eligible for an endorsement) can be used in conjunction with a catch quota regime to assist with adjustment in each share class. Given that the total number of shares of each share class (i.e. in each region) is variable, different minimum shareholding requirements can apply in each region.

Transferability of catch quota

If any of the netting share classes are to be managed by a catch quota regime consideration has to be given to providing for the transferability of catch quota (i.e. kgs) between (i) different share classes within a region (e.g. between region 4 meshing and region 4 category 1 hauling) or (ii) different share classes between regions (e.g. between region 4 category 1 hauling and region 5 category 1 hauling) or (iii) both. Alternatively, the total amount of catch quota could be capped or 'locked into' each region.

The current shares would be used to authorise access in a region (as is the case now) and the catch quota used to dictate how many kgs could be taken in a region. If the total amount of catch quota is capped in each region shareholders have the certainty and security that they hold a set proportion of the potential catch that can be taken in the waters of the fishery in the region they hold shares. However, for regions where only a limited number of shares exist, and as a consequence a limited amount of catch quota would be allocated, there may be limited amount of scope for shareholders to acquire additional catch quota (or vice versa).

In contrast, if there was full transferability of catch quota between regions, shareholders could acquire catch quota from other regions to upscale their operation. In this case the amount of catch quota that could be used in the waters of a region is not capped. As a consequence, shareholders would not have the security of knowing how much catch could be taken in each region, however would have the flexibility to transfer catch quota into or out of a region, e.g. in response to variations in abundance of fish, environmental conditions etc.

Monitoring quota usage

Similar to a days regime, a catch quota regime requires the catch quota (kgs) to be monitored on a daily basis if the regime is to have integrity. However, as opposed to fishers only having to make a pre-fishing report under a days regime, monitoring catches using the IVR system would require endorsement holders to make a pre-fishing, pre-landing and post-landing report using a mobile phone or via the new smart phone app being developed by DPI.

It should be noted that the same IVR system complications mentioned in the days regime option regarding multiple catch and effort quotas would exist under a catch quota regime.

Attributing management charges to shareholders

Under a catch quota regime the cost of management is attributed to shareholders proportional to the number of shares held. Specifically, a shareholder with a large holding of shares (and greater access) will pay a larger share of the management costs than a shareholder with a smaller holding of shares. Paying per share (or kgs) can be beneficial to fishers who are diversified and need only a small number of shares (or kgs) 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.

Harvest limits for other sectors

If any of the netting share classes are to be managed by a catch quota regime consideration should to be given to setting total limits (notional ITCALs) on sea mullet, mulloway, tailor and

Australian salmon catches in other fisheries (i.e. Ocean Hauling and Ocean Trap and Line fisheries).

Discussion and advice required

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

- Should a catch quota regime be considered as an option (to be put to shareholders for comment) for any or all of the netting components of the EGF?
- Are the ITCALs and how they have been determined and allocated appropriate (i.e. should specific share classes not be allocated catch quota)?
- Where the calculated catch quota per share in the tables above is low, should that be allocated to those share classes or allocated elsewhere?
- Whether the use of minimum shareholding requirements should be used in conjunction with a catch quota regime (NB. a starting point for discussion is the adjustment targets mentioned under the minimum shareholding regime - Option 1).
- The use of limits on the amount of gear and species restrictions that could be used in conjunction with a catch quota regime.
- The transferability of catch quota between share classes/regions.
- The use of the IVR or smart phone app systems to monitor catch quota usage.
- How the catch of these species in other fisheries/sectors should be dealt with.

Crewing arrangements in the Estuary General Fishery

The Working Group suggested that the opportunity for fishers to be able to use crew under different arrangements than those that apply currently be investigated. DPI also received submissions from shareholders suggesting that shares in the EGF could be linked to the ability to use 'unendorsed crew'. The Working Group's advice on the following options is sought, noting that it could be used in conjunction any of the other linkage options discussed in this paper:

1. A shareholder who holds a certain number of handline and hauling crew shares (how many?) could be assisted by an unendorsed crew member;
2. A shareholder that holds a certain number of net shares (e.g. category 1 hauling, meshing, prawning etc) shares could be assisted by an unendorsed crew member; or
3. Both.

Important things to consider include:

1. How the ability for fishers to use crew under these arrangements could influence overall fishing power/capacity in the relevant share class (e.g. potential for effort increases with more fishers working);
2. What methods should this arrangement be considered for (i.e. currently handline and hauling crew endorsement holders may only assist in the use of hauling nets only);
3. The strength of the linkage being pursued level of excess shares/capacity will influence the minimum shareholding requirements that should apply under each scenario.

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 viable commercial fishing industry.

The costs associated with the various linkage options are 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 of the reform program that is also influenced by a range of things including: 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 linkage 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 system) 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.

Reforming current management arrangements

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

Reforming management arrangements dependent on share linkage

Scope to streamline current management arrangements is generally dependent on the form and strength of the management framework or linkage proposed to be pursued. Some of the restrictions that currently apply (e.g. net lengths, crew arrangements etc) have been mentioned previously in this paper. There are likely to be others that need to be identified.

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.

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 catch or effort quota regime boat licences would no longer be required to [indirectly] manage catch if the regime establishes a strong link to catch levels and is actively used to manage catch – by increasing or decreasing the ITCAL on an as needs basis. Removing boat licences presents a range of administrative and business efficiencies, including reduced paperwork and ongoing costs for fishers.

Net registrations: The net registration requirement has been a source of ongoing debate for years. It is likely that the net registration requirement is not needed for the majority of nets. Consideration needs to be given to whether the requirement should remain for some nets (e.g. meshing nets with a mesh size of 4.5" and greater).

Species restrictions: Different gear types restrict the species that may be taken in them, some for good reason. However, some restrictions apply that result in the requirement to discard certain fish irrespective of whether they are alive or dead (e.g. sand whiting and bream from a flathead net). Consideration needs to be given to amending such restrictions.

Conditions of use: Some gear types have very prescriptive conditions of use (e.g. Wallis Lake and Manning River prawn hauling nets). Consideration needs to be given to amending such restrictions.

Restrictions on the use of various gears in various waters: Generally, the waters where the use of specific types of gears are authorised reflects the historical use of those gears in those waters. There are likely certain gears that would be suitable for use in certain waters, but under the current regulations their use in those waters is not permitted (e.g. prawn set pocket nets). Consideration needs to be given to identifying the specific gears and waters where it may be appropriate to authorise their use.

Fishing closures: Numerous fishing closures exist in the EGF. A comprehensive list of these closures has been with DPI for review for some time. DPI needs to finalise the fishing closures review (noting that the ability to amend or revoke any specific fishing closure will likely depend on the final form of linkage adopted for each share class).

Discussion and advice required

The Working Group's advice is required on identifying a full list of current restrictions (e.g. any further specific fishing closures, other than Recreational Fishing Havens and Marine Park zoning arrangements which are beyond the scope of this specific reform program) for review and potential amendment.

Preliminary comparison of share linkage options

Table 33 Preliminary comparison of share linkage options

Issue	Minimum shareholdings	Days	Net length days	Catch quota (for quota species only)
Government interests				
Within powers of Act	Yes	Yes	Yes	Yes
Can be administered	Yes	Yes	Questionable	Yes
Can be enforced	Yes	Yes	Questionable	Yes
FishOnline compliant	Yes	Yes	Depends on approach to the variable consumption of quota – refer Option 3	Yes
IVR compliant	Not applicable.	Yes	Yes	Yes
Manages catch	Indirect (weak)	Indirectly (stronger)	Indirectly	Directly
Can be used to respond to sustainabilty or resource sharing issues	Indirectly (weak)	Indirectly (stronger)	Indirectly (strong)	Directly
Shareholder interests				
Secure share of catch	Minimal security	Moderate security	Moderate security	Most security
Investment confidence	Less	Moderate	Moderate	High
Scope to tailor access	Possible under tiered regime	Yes	Yes	Yes
Scope to tailor fees	Possible under tiered regime	Yes: pay per share	Yes: pay per share	Yes: pay per share
Fish more efficiently	Subject to adjustment target and relaxation of input/effort controls	Subject to days allocated and relaxation of input/effort controls	Possible	Yes
Value of rights	Lowest value	Moderate value	Moderate value	Highest value
Remove input controls	Some scope	Moderate scope	Moderate scope	Maximum scope
Addresses public perception issues	Generally yes, depending on the issue	Generally yes, depending on the issue	Generally yes, depending on the issue	Yes
Ongoing adjustment (for viabilty)	Yes: forced on an as needs basis	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
Cost per shareholder	No choice: all shareholders pay the same	Decided by shareholder: costs proportional to shares held	Decided by shareholder: costs proportional to shares held	Decided by shareholder: costs proportional to shares held