

CONSIDERATIONS FOR THE IMPLEMENTATION OF WESTERN ROCK LOBSTER SECTORAL ALLOCATIONS

*A Document Prepared by the
Integrated Fisheries Allocation Advisory Committee*

FISHERIES MANAGEMENT PAPER NO. 236

Published by
Department of Fisheries
168 St. Georges Terrace
Perth WA 6000

January 2010
ISSN 0819-4327

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Government of **Western Australia**
Department of **Fisheries**

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1.0 THE GENERIC IMPLEMENTATION PROCESS FOR IFM

The Sustainable Harvest Level (SHL) is based on the biologically acceptable catch that can be taken in a fishery. Actual or allowable catch levels may be set lower than the SHL due to a desire to have a larger biomass for the purposes of sustainability (rebuilding stocks), economic maximisation (commercial), or amenity optimisation (recreational).

An allocated share (based on proportions and usually expressed as a percentage) of a SHL does not automatically translate into a specific year-by-year catch level (or target) for a sector. For example, in the western rock lobster fishery the expected catch level for each year will vary depending on recruitment, which is estimated from annual puerulus surveys.

Recommended catch levels for each sector can therefore vary from year-to-year, although the proportions remain the same in the absence of reallocation. IFM principles require that the recommended annual catch levels for each sector be based on the proportional allocation for that sector of the recommended total catch level for that year.

The allowable catch each sector takes, or is later estimated to have taken, will naturally vary, based on a host of factors. IFM does not - and cannot - require absolute precision in hindsight, but merely requires that proportional allocations be respected when setting out sector catch levels for each forthcoming year¹.

It is important to realise that the IFM process does not expect to manage a sector's catches in a particular year to the targets, but will monitor the catches and, over time, progressively endeavour to manage them to the sustainable total harvest level and to the allocated proportions. Such a strategy is determined by the delay in getting catch information, particularly for the recreational sector, although the process could move towards real-time, as improved reporting and/or management processes for the sectors are developed.

1.1 Steps in the generic implementation process for IFM

IFM presupposes that proportional shares, normally expressed as percentages unless the proportion is less than one per cent, have already been set for the fishery. In Figure 1 the steps of a generic management process for a fishery have been set out diagrammatically.

1. For most fisheries a theoretical Maximum Sustainable Yield (MSY) will be stated.
2. The decision maker² takes into account 'whole of stock' biological, economic and community issues.
3. The decision maker sets³ an allowable harvest level for the forthcoming season, which may be equal to or less than the maximum sustainable yield, but based on current information and advice on the need for rebuilding stocks or economic or recreational amenity. This level is only the quantification of the predicted sensible catch, given the status of the stock.

¹ Although the reference is to each year, this does not preclude other time periods being selected – the principle remains the same.

² Within the general framework of IFM, the "decision maker" is considered to be the Chief Executive Officer (CEO), Department of Fisheries. However, under the regulations of fisheries' management plans the actual decision maker is commonly the Minister.

³ "Sets" in this process implies the decision maker makes a decision without consultation (but would take advice from research, etc).

4. The decision maker determines each sector's recommended catch level for the forthcoming season, based on the proportional shares of the allowable catch level for the season.
5. Consultation occurs with each sector on appropriate management arrangements to achieve the sector's catch level for that year. In relation to sectoral catch limits, if the fishery is quota-managed then the recommended catch is set as an actual weight of catch; or if the fishery is input-controlled then the effort level will be set appropriately to achieve a certain weight of catch (the allowable catch level). Finally the decision maker will determine the management arrangements (effort or quota) for each sector.
6. At this point there is an option that allows for the possibility of discussions within each sector to separately consider a reduced allowable catch level within their allocation to achieve particular sector aims. This does not preclude sectors requesting a lower sectoral allowable catch level.
7. This stage allows for one or both sectors to be managed at catch levels lower than those allocated, and this allocation should not be provided to the other sector.
8. This is the 'between season' review of each sector's performance and consideration of need for changes leading to 'inputs' to the following season.

2.0 WESTERN ROCK LOBSTER MANAGEMENT PROCESS

The Minister for Fisheries has determined that the allocation for sectors in the western rock lobster fishery after reserving one tonne for the customary sector shall be 95 per cent commercial and five per cent recreational.

The notional Sustainable Harvest Level (SHL) for rock lobster is expressed as a range, depending on the status of the stock rather than a specific quantitative limit.

2.1 IFM catch share setting process

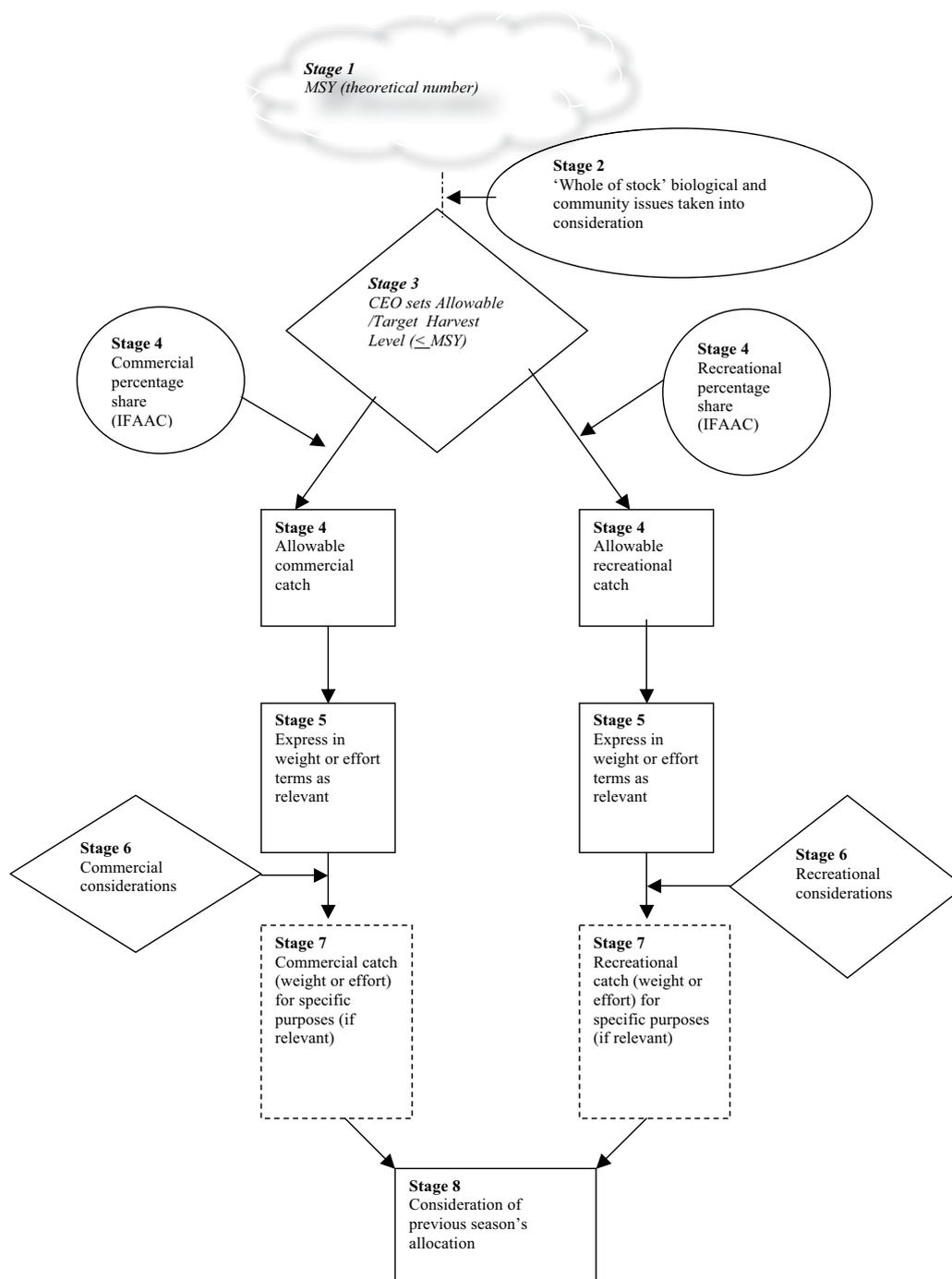


Figure 1. Generic Implementation Process.

Prior to the 2009-10 season beginning:

- The decision maker considers an overall catch level for the forthcoming season, less than or equal to the SHL but based on current information and advice.
- The decision maker sets allowable catch level.
- The decision maker allocates allowable catch levels of 95 per cent to the commercial sector and five per cent to the recreational sector of the allowable catch level for the forthcoming season.
- In relation to sectoral catch levels, if the fishery is quota-managed then the recommended catch limit is set as an actual weight of catch; or if the fishery is input-controlled then the effort level will be set appropriately to achieve the recommended weight of catch. In either case, the decision maker considers appropriate management arrangements to achieve the levels set with each sector.

During the season:

- Ongoing collection of catch and effort information by the Department of Fisheries.
- There may be progressive assessment of the catch against the sector allowable catch level (or other sector catch level, as decided) by the decision maker, including the application of any agreed 'decision rules' for in-season adjustment, where possible or appropriate. The capacity to do this will vary between fisheries, or between sectors within fisheries, according to the nature of the management arrangements. In most situations, in-season adjustment will not be appropriate or possible.

Between seasons:

- The decision maker updates progressive catch information. Up to now, recreational catch information has not been available from the last season in time to make management changes for the next season. For this reason, and to minimise the impact of aberrant data, it is likely that decision rules will require the use of trend information from moving averages (over about five years) to determine the need for management changes between seasons.
- The decision maker considers any necessary corrections to the forthcoming year's settings for each sector to maintain shares.
- The decision maker considers annual catch levels for the following season.

2.2 Consultation processes

The stages of the flowchart represented by a diamond in Figure 1 of The Generic Implementation Process indicate the stages at which the IFAAC would expect the decision maker to consult with stakeholders.

The IFAAC believes that advice to the decision maker or manager of the western rock lobster resource (the Minister or Chief Executive Officer of the Department of Fisheries, as relevant) should come from a single, integrated committee of advice, although sector-specific matters may need to be dealt with by sector-specific groups.

Consultation should include discussion around:

- Developing and implementing a 'decision rules' framework (performance and outcomes);
- The appropriate catch level (equal to or less than the SHL) for the following season;
- Any necessary corrections to catch shares or management arrangements for taking the catch shares for the following season; and
- The nature and magnitude of variations from the allocated shares that will trigger reviews or other actions.

3.0 WESTERN ROCK LOBSTER SCENARIOS

The IFAAC has provided some specific examples of how the process might work for western rock lobster for the next five or so years, and until more sophisticated mechanisms for changes in catch shares are developed and adopted.

Two specific aspects of the rock lobster fishery affect likely outcomes. Firstly, it is important to note that in the western rock lobster fishery the recreational take is a small proportion of the overall take and therefore relatively large changes to the recreational sector's catch have limited impact on the total catch and sustainability of the stock. Secondly, advice to the IFAAC is that recreational catch and effort appears to be sensitive to expected future catches, that is, it tends to drop disproportionately when predictions are for a low catch season, and increase when predictions are for a high catch season.

In considering these scenarios it is important to note that the overall sustainability of the stock (breeding stock level) is assumed (irrespective of the recreational sector exceeding its recommended catch share in scenario 2).

3.1 Scenario 1 – Catches below long-term average for consecutive years (low recruitment)

Likely result on current policy settings:

- Recreational take is less than allocated catch share (maybe up to 50 per cent less than its catch share).
- Commercial take is likely to be approximately at its allocated catch share.

Response:

- Review recreational input controls to:
 - Assess whether the recreational sector has had the opportunity to access its catch share (five per cent of SHL), IFM Policy 5 (ix);
 - Examine participation rate and licence numbers and assess whether changes in input controls are advisable;
- Review relationship between commercial and recreational fishing. For example, is the commercial sector responsible for the recreational sector not taking its harvest level or is some other factor responsible, such as a lack of boating facilities or 'recreational versus recreational' competition?

Management Result:

- The sum of estimated actual catches will be somewhat less than overall catch levels set for the fishery.
- If the commercial sector is not affecting recreational access to the resource, and there is a likelihood of returning to the long-term proportional relationship under average catches, then no change is necessary to commercial management arrangements, as recreational catch proportions should recover.
- If the commercial sector is affecting access to the resource then commercial management arrangements need to be modified.

3.2 Scenario 2 – Catches above long-term average for consecutive years (high recruitment)

Likely result on current policy settings:

- Recreational take is at or above its allocated catch share for several consecutive years; and
- Commercial catch is approximately at the level of its allocated catch share.

Response Options:

- Adjust input controls on recreational sector; or
- Effect re-allocation by:
 - Purchase catch entitlement from commercial sector under market re-allocation mechanism; or
 - Appropriate catch administratively from commercial sector (with or without compensation).
- If the increased recreational take is in the Metropolitan zone and reallocation to the recreational sector is effected by market mechanisms, then it will be necessary to ensure that the purchased reduction in commercial entitlement is from the zone of increasing recreational catch and the reduction in entitlement remains there. This may require establishment of a Metropolitan zone for each sector. If the remedy is to adjust input controls on the recreational sector to maintain their allocation, this should possibly be restricted to a Metropolitan Zone, which need only apply to the recreational sector.

3.3 Scenario 3 – Sustainability crisis - (minimum 50 per cent reduction required in SHL)

Likely result based on IFM Principles:

- Recreational take in absolute terms is likely to fall in any event, especially if lower catches are forecast.
- Commercial adjustment is likely to be severe if (new) Allowable Harvest Level is to be achieved.

Response Options:

- Notwithstanding that the recreational catch may fall without adjustment of input controls to this fishery, given the concept of shared responsibility some precautionary measures should be taken to change input controls for this sector.
- Significant changes to commercial fishery management.

Necessary Management Result:

- Effective implementation of new allowable harvest levels.

4.0 DECISION RULES FOR MANAGEMENT OF WESTERN ROCK LOBSTER ALLOCATIONS

These potential decision rules apply principally to managing the equity issues in western rock lobster allocations. There would be other decision rules involving the egg production index for dealing with sustainability issues.

It is important to note that the following decision rules, prepared for consultation purposes, apply to an input managed commercial fishery. It is expected that if the commercial sector moved to effective quota management, it should not exceed its catch level.

Failure to achieve a catch level under a commercial quota scheme should be less common and would typically be an indication of significant problems in the fishery, and/or problems with the understanding of the resource.

Quota management is not likely to be feasible in the near future for the recreational fishery because the cost of manufacturing and delivering between 500,000 and a million tags to 40,000 fishers would put a heavy burden on all concerned. The distribution system would have to be quite sophisticated to supply tags on an ‘as needed’ basis up to the level required because any arbitrary distribution would lead to under-catching.

The Freycinet Inlet pink snapper fishery catches only about one third of its allocated catch, presumably through the allocation of tags to fishers who subsequently fail to use them. However, there is no reason why allocations under IFM cannot be applied with the recreational sector input-managed and the commercial sector output-managed, although the outcome will not result in such strict ‘within-year’ catch controls within the recreational sector as would be achieved with a tag or other real-time catch control systems. Nevertheless, at least having the commercial sector with output controls would be simpler in some respects than the current arrangements.

4.1 Exceeding set catch levels

4.1.1 Short term management triggers

Short-term decision rules should be set with consideration to sustainability and equity. The actual percentage variation allowed before action probably needs to be decided in consultation with a group equally representing the commercial and recreational sectors (the customary sector does not have a percentage allocation). Setting percentages in terms of total catch gives proportionally more latitude to the recreational sector, but recreational catch estimates are very variable and using total catch percentage may be most practical.

4.1.2 Recreational sector ‘over catch’

The trigger could be exceeding the catch level for several years by a margin that would take into account the relatively small recreational catch and allow for the inevitable fluctuations in recreational catch and probably wouldn’t be triggered more than once in every ten years.

In the medium term the decision maker should have regard to the five-year moving average (five-year performance) whilst maintaining discretion on actions to be taken.

4.1.3 Commercial sector ‘over catch’

For the commercial catch, there is only a small difference between percentage of the total catch and percentage of the commercial catch. This means, in the rock lobster fishery, that over catch

by the commercial sector will always have sustainability implications, unless the allowable commercial catch is set very conservatively.

In the medium term, the decision maker should have regard to the five-year moving average (five-year performance) whilst maintaining discretion on actions to be taken.

4.2 ‘Under catching’ against catch levels

Whereas exceeding allocated catch levels may have sustainability implications, ‘under catching’ by one sector against its catch share should only involve equity considerations with respect to the other sector (provided aggregate annual catch levels are set correctly).

4.2.1 Recreational Sector ‘under catch’

If recreational catch is estimated to be less than its recommended level, in a season where catch is lower than the long term average (as a result of low recruitment), then an examination of licence numbers and participation rates should be undertaken to determine whether this may be responsible for the reduced catch.

The competition between the recreational and commercial sectors needs to be considered. If competition could be responsible for the reduced recreational catch, then a review of the commercial catch information should be undertaken. If the commercial catch is higher than its allocated catch level, and that higher catch level is an element of the recreational ‘under catch’, then commercial input controls should be adjusted. If there has been a notable change in the spatial distribution of commercial fishing, the impact of this should also be examined.

If there is no reason to believe that the lower recreational catch is the result of increased commercial competition and only due to lower recreational participation, then the only management action needed is to monitor long-term trends.

4.2.2 Commercial sector ‘under catch’

In the event that the commercial sector catches less than its set catch level, there should be a review of likely causal factors, including incorrect conversion factors relating to units of effort, economic considerations, and competition with the recreational sector. Typical factors might be beach price, fuel costs and labour shortages. Key measures might be the number of pot lifts in aggregate numbers, months and distribution.

In the event that the ‘under catch’ relates to short-term factors, then no management action need be initiated other than to monitor medium-to-long-term trends.

In the event that the under catch relates to long-term factors, there should be a review of management arrangements for the fishery.