



Department of
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NSW Fisheries Harvest Strategy Policy

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1. TITLE

NSW Fisheries Harvest Strategy Policy.

2. PURPOSE

The purpose of this Policy is to provide an overarching framework for the development of consistent harvest strategies for NSW fisheries, to help support conservation and ecologically sustainable development of fisheries resources and further the objectives of the *Fisheries Management Act 1994*.

3. INTRODUCTION

Harvest strategies are a key component of modern fisheries management across Australia and in other parts of the world. Introduction of harvest strategies for NSW fisheries will provide a robust and transparent framework for future decision making, including the determination of total allowable catch and effort levels.

The NSW Fisheries Harvest Strategy Policy and Guidelines are consistent with the national guidelines for fisheries harvest strategies in Australia (Sloan et al. 2014, Final report 2010-061-DLD National Guidelines to Develop Fishery Harvest Strategies, FRDC, Canberra). They provide a framework within which harvest strategies can be developed and implemented for individual NSW fisheries by the NSW Department of Primary Industries, in close collaboration with fishery stakeholders and based on the best available information.

The development of harvest strategies for NSW fisheries is a key priority under the NSW Marine Estate Management Strategy and will build on existing fisheries management measures by improving:

- clarity of fisheries management objectives,
- connectivity between fisheries monitoring, stock assessment and management,
- engagement with and among stakeholders, and
- transparency in decision making.

Under this Policy, harvest strategies will be developed using a tailored approach to suit the scope, scale and individual characteristics of each species and/or fishery. Harvest strategies will be used to bring together all the relevant stakeholder groups for each fishery (e.g. commercial fishing, recreational fishing, Aboriginal cultural fishing and the conservation sector) as part of an integrated fishery or stock management approach.

3.1. What is a harvest strategy?

A harvest strategy is a framework that specifies pre-determined actions in a fishery for defined species (at the stock or management unit level) necessary to achieve the agreed ecological, economic and social management objectives (Sloan et al. 2014).

Harvest strategy development requires fishery managers and scientists to work together with fishers and other stakeholders to evaluate, determine and document appropriate responses to

various fishery conditions (desirable and undesirable), ideally before they occur. This promotes transparent, proactive and precautionary management that avoids ad hoc, reactionary or delayed decisions. Benefits include:

- more transparent, predictable and timely decisions on harvest levels
- longer term thinking and planning by fishers
- a stronger role for stakeholders in decisions, therefore more responsible fishing
- improved community confidence in fishing
- responsiveness to the individual ecological, economic, social and cultural characteristics of each fishery
- improved transparency in fisheries status reporting

Harvest strategies are considered to represent a best-practice approach to fisheries management, as demonstrated by their wide use nationally and internationally.

3.2. Where do harvest strategies fit in the management of NSW fisheries?

To understand the role of harvest strategies in fishery management, it is important to consider how they fit within the legislative and policy framework for management of fisheries resources in NSW.

3.2.1 *Fisheries Management Act 1994*

The primary legislation that regulates harvest of fisheries resources in NSW is the *Fisheries Management Act 1994*, and regulations under this Act. Harvest strategies will be implemented under relevant provisions of the Act.

The purpose of the *Fisheries Management Act 1994* is to conserve, develop and share the fishery resources of the State for the benefit of present and future generations.

The specific objects of the Act are:

- a) to conserve fish stocks and key fish habitats, and
- b) to conserve threatened species, populations and ecological communities of fish and marine vegetation, and
- c) to promote ecologically sustainable development, including the conservation of biological diversity,

and, consistently with those objects—

- d) to promote viable commercial fishing and aquaculture industries, and
- e) to promote quality recreational fishing opportunities, and
- f) to appropriately share fisheries resources between the users of those resources, and
- g) to provide social and economic benefits for the wider community of New South Wales, and
- h) to recognise the spiritual, social and customary significance to Aboriginal persons of fisheries resources and to protect, and promote the continuation of, Aboriginal cultural fishing.

Under Part 1A of the Act, a Fishery Management Strategy (FMS) is required for each commercial share management fishery, as the basis for environmental assessment under the *Environmental Planning & Assessment Act 1979*. FMSs were completed and approved between 2003-2007. In addition, Share Management Plans developed in accordance with Part 3 provide a legislative structure for the class or classes of shares and the rights of shareholders in a share management fishery, and formalise (in regulation) a range of fishery specific controls – including controls identified in the FMS. Other controls (including for restricted fisheries) are given effect by other regulations made under the Act.

Recreational fishing is managed by various controls including bag, size and possession limits and area, gear, or seasonal closures.

Aboriginal cultural fisheries management is an area that requires ongoing engagement with Aboriginal communities to enable cultural fishing to be protected and supported.

Threatened and protected species rules apply across all sectors.

Harvest strategies provide a policy approach for all relevant sectors to guide decision making on fishing catch and/or effort levels and help achieve the objects of the *Fisheries Management Act 1994*.

3.2.2 Marine Estate Management Act 2014

The NSW *Marine Estate Management Act 2014* and the Marine Estate Management Strategy 2018-2028 (MEMS) set the over-arching framework and strategy for the State government to co-ordinate the management of the NSW marine estate. MEMS has nine initiatives:

1. Improving water quality and reducing litter
2. Delivering healthy coastal habitats with sustainable use and development
3. Planning for climate change
4. Protecting the Aboriginal cultural values of the marine estate
5. Reducing impacts on threatened and protected species
6. Ensuring sustainable fishing and aquaculture
7. Enabling safe and sustainable boating
8. Enhancing social, cultural and economic benefits
9. Delivering effective governance

The *Marine Estate Management Act 2014* also provides for an assessment of the threats and risks to the marine estate to be carried out. The purpose of the threat and risk assessment is to identify threats to the environmental, economic, social and cultural values of the marine estate, and to assess the risks associated with those identified threats, and to inform marine estate management decisions by prioritising those threats and risks according to the level of impact on the values derived from the marine estate.

Initiative six of MEMS relates to sustainable fishing and aquaculture. Introduction of harvest strategies and assessment of ecological risk reflect modern, best practice fisheries management practice in Australia and are key deliverables under initiative six of MEMS.

3.2.3 Other legislation and policy

Other important NSW legislation and policy that influence the way NSW fisheries are managed include:

- *Environmental Planning and Assessment Act 1979*
- Policy and Guidelines for Fish Habitat Conservation and Management (2013)
- Policy on Fisheries Resource Sharing in NSW 2015
- Policies on Aboriginal cultural fishing and fisheries co-management (under development).

Commonwealth legislation and policy can also be relevant to NSW fisheries, including the *Environment Protection and Biodiversity Conservation Act 1999*, the *Native Title Act 1984*, the National Strategy for Ecologically Sustainable Development 1992. The United Nations declaration on the rights of indigenous peoples (UN General Assembly 2007) and the National Native Title Tribunal 2004 Fishing Principles to Guide Indigenous Involvement in Marine Management also set out important information to be taken into account when managing natural resources such as fisheries.

To ensure their effectiveness at achieving the wider objectives that relate to ecologically sustainable development (ESD) and other legislative objectives, harvest strategies should, as far as possible and over time as data and information improves, integrate the full set of biological, economic, social and Aboriginal cultural objectives relevant to the fishery or species, where they relate to harvest.

In the context of ESD this harvest strategy policy requires that primacy is given to the objective of conserving fish stocks. Economic, social and Aboriginal cultural objectives will be pursued to the extent that fishery stock conservation objectives are being achieved.

A representation of how a harvest strategy fits in the broader context is given in Figure 1.

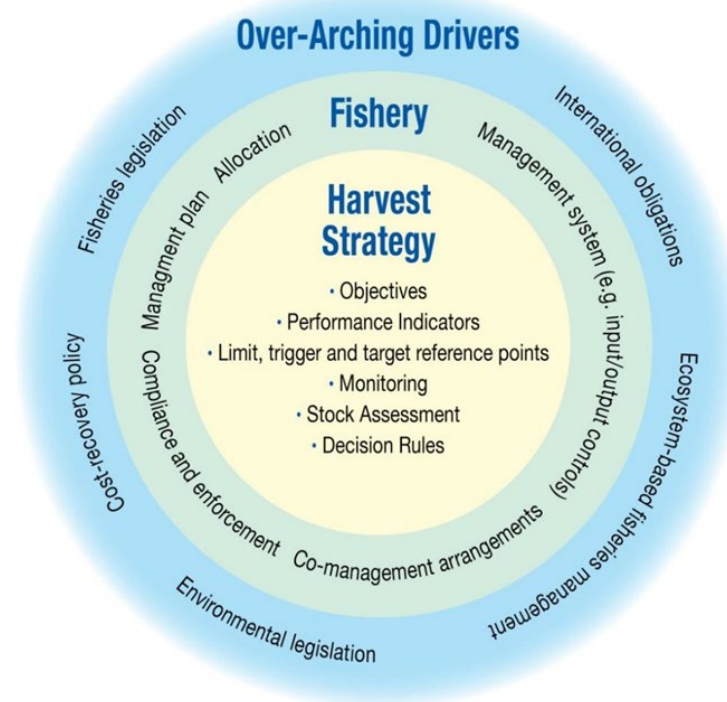


Figure 1. How a harvest strategy fits into the fisheries management process (Sloan et al. 2014)

4. CORE POLICY PRINCIPLES

Harvest strategies must be developed and tailored to suit the scope, scale, and individual characteristics of each fishery or species. To ensure consistency, this policy outlines a number of core principles to be considered in each case when a harvest strategy is developed.

4.1 Ecologically sustainable development

Ecologically Sustainable Development (ESD) is a key legislative objective in the NSW *Fisheries Management Act 1994* and across other Australian jurisdictions. ESD is the basis of the *Guidelines for the Ecologically Sustainable Management of Fisheries* to support fishery assessment for export under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. In this context, NSW harvest strategies will – as far as possible and over time as data and information improves – seek to integrate the ecological, economic, social and cultural dimensions of fisheries management.

4.2 Dealing with uncertainty and risk

This Policy provides for a risk management approach, whereby fishery exploitation levels should reduce as biological indicators of stock status decline to established reference levels or uncertainty around biological stock status increases. This is an explicit recognition of the need for precaution in the face of uncertainty. In simple terms, more caution will be used when uncertainty about fish stock status increases.

Similarly, fishery exploitation levels can increase as biological indicators of stock status increase to established target levels or uncertainty around biological stock status decreases. This will ensure fisheries are managed at an acceptable level of risk, given the status of stocks and the level of available knowledge.

Regardless of the level of uncertainty in fish stock assessments, all harvest strategies must ensure there is a high likelihood that biological objectives for the stocks will be achieved, particularly those to avoid a stock becoming classified as overfished or depleted, or to promote recovery to target levels. In practice, this means there should be a 'high likelihood' that a stock or management unit will not fall below its biological limit reference point.

Under this policy, the term 'high likelihood' is used to allow for either qualitative or quantitative evaluation and means greater than or equal to a 90% probability that the stock or management unit will be above its limit reference point over a period of time. This generally translates to no more than 1 year in 10 that it would fall below this limit under application of the harvest strategy.

For any stock or management unit that is classified as depleted, the decision rules should implement serious management actions including appropriate reductions in fishing intensity or catch levels, and possible fishery closure, to ensure there is a high probability of rebuilding stocks to levels above the biological limit reference point, within specified timeframes.

Depending on the data available, the probability of achieving objectives can be determined by various methods to evaluate whether a harvest strategy will meet the risk criterion. The level of acceptable risk combines with operational management objectives, indicators, reference points and decision rules to form an integrated package.

4.3 Fishing is to be conducted in a manner that avoids overfishing

Harvest strategies will be designed to ensure fishing does not lead to depletion of fish stocks. Overfishing refers to a fishing mortality rate that would result in a stock or management unit being consistently below its biological limit reference level and where the ability of the stock to replenish itself is impaired. Where overfishing is identified, action will be taken to reverse the trend and promote stock rebuilding within defined timeframes.

Harvest strategies will be designed to maintain stocks, on average, at a target biological reference level that maximises long-term, sustainable yield from each fishery. Natural variability, recreational fishing and other economic, social and cultural issues, should also be considered when choosing target reference levels, and may be given different weighting in specific circumstances. For example, in some fisheries economic outcomes may have more importance while in others, a desire for high strike rates may drive a need to create a higher stock abundance.

Harvest strategies will be designed to maintain fish stocks above their biological limit reference point (where the risk to the stock is regarded as unacceptable). Where information to support selection of a suitable stock specific biological limit reference point is not available, the default should be 20% of the unfished biomass. In cases where there are currently no reliable estimates of biomass, a suitable proxy may be used.

4.4 Multi-species fisheries

There are many multi-species fisheries in NSW and it may not be possible for all species to be simultaneously at or above their 'optimum' target biological reference points.

Thus in multi-species fisheries, it may be necessary to manage individual stocks to different target reference levels to avoid limit reference points for all species and enable the benefits from the multi-species fishery to be maximised over the longer term.

4.5 Transparent, inclusive and easy to understand

For a harvest strategy to be effective and accepted by fishers and key stakeholders it must be easy to understand. It must also be adapted to the scope, scale and context of a fishery including the data and information available to monitor and assess the fishery and the performance of the harvest strategy.

The process used to develop harvest strategies and the steps involved in their implementation and ongoing application must involve fishers and other key stakeholders, either through working groups, committees or other robust forms of consultation. Having a transparent and inclusive process to inform the development, implementation and application of a harvest strategy will give all stakeholders better understanding and ownership of the harvest strategy and decisions made under it. This is likely to result in harvest strategies that are respected and complied with willingly, leading to improved trust between stakeholders and efficiency in decision making.

4.6 Cost-effective and feasible

A simple analysis of costs and benefits of alternative approaches and explicit recognition of data and monitoring requirements for particular aspects of the harvest strategy (i.e. catch/cost/risk trade-offs) should be considered during development. This process can be qualitative and informed by expert stakeholder assessment and does not necessarily need to involve formal quantitative cost-benefit analysis. Stakeholders should be involved in this as choices must be made about level of investment in monitoring and assessment, including the mix of fishery-independent and fishery-dependent monitoring and the degree to which fishers themselves can provide on-ground support and possibly the delivery of the required data collection and monitoring activities.

In general, higher investment in monitoring and assessment activities, including fishery-independent monitoring, will help to reduce risk. It may also allow higher fishing intensity or catch levels to be maintained if the status of the stock and its response to changes will be monitored and known with greater confidence and precision. Conversely, where there is less investment in monitoring and assessment and consequently reduced confidence and precision in the status of the stock, fishing intensity and/or catch should be more conservative.

4.7 Unambiguous and adaptive

Harvest strategies must avoid being ambiguous, particularly when it comes to development of operational objectives and decision rules. A balance must be struck between the harvest strategy being clear about what it is trying to achieve, while providing some flexibility for adjustments to improve its effectiveness. The flexibility required to accommodate improved information or to deal with particular circumstances should not be confused with flexibility in interpreting the results of stock assessments and applying the harvest decision rules.

Once a harvest strategy is operational, if circumstances change significantly or there are substantiated reasons to doubt the accuracy of data inputs, then 'break-out rules' may be used. The harvest strategy itself should define the specific exceptional circumstances where this would apply, to avoid harvest strategies being changed for minor or erroneous reasons and any actions taken should explicitly address any data deficiencies.

4.8 Multiple jurisdictions

Where stocks are shared with other jurisdictions NSW will cooperate with those jurisdictions so that harvest strategies for shared stocks are to the greatest extent possible compatible across jurisdictions.

4.9 Multiple Sectors

Where stocks are shared among sectors (e.g. commercial, recreational, Aboriginal cultural fishing) this should be explicitly recognised in the management approach. Harvest strategies offer a mechanism to manage the overall extraction by all sectors, rather than having separate sector-specific processes. However, Aboriginal cultural fishing necessitates separate consideration in any discussion about extraction.

5. CORE ELEMENTS OF A HARVEST STRATEGY

To ensure consistency in NSW fisheries harvest strategies and in acknowledgement that one size does not fit all, this policy outlines several core elements that must be addressed.

5.1 Ecologically sustainable development (ESD) risk assessment

An Ecologically Sustainable Development (ESD) risk assessment will be done as part of each fishery harvest strategy. This will ensure that all major risks posed by – and to – the fishery are taken into account, thus promoting an ecosystem approach to fisheries management. The ESD risk assessment can be completed concurrently with the harvest strategy, where required and existing Environmental Impact Statements can be used as a starting point.

Considering the ecological, economic, social, cultural and environmental objectives together enables identification of any trade-offs or conflicts, and agreement on how to manage issues across any competing objectives. Biological objectives that protect aquatic resources from over-exploitation take precedence over other objectives.

Conducting an ESD risk assessment will allow for issues such as by-catch, by-product and broader ecosystem impacts, including impacts on threatened, endangered and protected (TEPS) species and Aboriginal cultural interests (including access to biological resources and the maintenance of Traditional Ecological Fishing Knowledge), to be taken into account. While these issues may influence harvest strategy design, there are many ways in which they can be managed, including under by-catch policies, observer programs, fishing gear modifications, etc., so they may not need to be managed under the harvest strategy itself.

5.2 Conceptual objectives

Conceptual objectives are high-level objectives for the stock or fishery which are consistent with the objects of the *Fisheries Management Act 1994*. Development of conceptual objectives is described in more detail in the *NSW Fisheries Harvest Strategy Guidelines*.

5.3 Defined operational objectives

The harvest strategy must establish a set of clear and concise operational objectives linked to the conceptual objectives. These should define where we want the fishery to be (i.e. targets) and where we don't want the fishery to be (i.e. limits). Ecological objectives for the stock must be specified.

Depending on the fishery or species, economic, social, cultural and/or environmental objectives – and trade-offs – should also be considered. Operational objectives must be formulated to allow fishery performance to be measured. All objectives must be achievable to some specified degree.

5.4 Fishery indicators

Fishery indicators must be established for each operational objective. These indicators will be used to measure fishery performance against the objectives by comparing the value of an indicator in relation to a reference point (see Figure 2).

5.5 Reference points for indicators

Fishery indicators are used in conjunction with three types of reference points to assess the performance for a fishery:

1. **Limit Reference Points** define the value of an indicator for a stock or management unit that is unacceptable because the stock or management unit has become depleted or recruitment-overfished. Limit reference points are generally defined for biological indicators. Where information to support selection of a suitable stock specific limit reference point is not available, the default should be 20% of the unfished biomass. In cases where biomass levels are not currently estimated, a suitable proxy may be used.

A limit reference point should link to decision rules requiring serious corrective action and development of a stock rebuilding strategy. Measures may include substantially reducing fishing intensity or catch, or even fishing closures.

Depending on the species and fishery, it may be appropriate to set two limit reference points – one to define the point at which the fishery reaches a depleted status, requiring serious corrective action, and one to define the point at which the fishery must be closed completely, to protect the remaining biomass.
2. **Trigger Reference Points** define the value of an indicator for a fish stock or fisheries management unit at which a change in the level of monitoring or management is considered or adopted. Trigger reference points may be used to stage management responses to different stock levels or to define when a stock or management unit moves into a 'depleting' status or is transitioning towards being 'depleted'. A trigger reference point could also be used when a stock is transitioning from 'depleted' to 'recovering' and to stage gradual increases in catch or fishing intensity as recovery occurs.
3. **Target Reference Points** define values of an indicator that are desirable or ideal and at which fisheries management should aim. Harvest strategies will be designed to maintain fish stocks, on average, at the required target biomass to maximise sustainable yield (MSY) from each stock or fishery management unit, or in certain fisheries, to maximise economic yield (MEY). There may also be circumstances in which higher catch rates or strike rates are the overall objective and in these instances, targets may be chosen to achieve higher biomasses.

An appropriate limit, trigger and target reference point should be considered for each fishery indicator, to ensure there are appropriate management responses in the event of changes in stock abundance or key economic, social, cultural or environmental conditions.

Table 1. The framework used to define fish stock status in NSW is consistent with the national reporting framework developed collaboratively by fisheries scientists across Australia

Stock status	Description	Potential implications for management
Sustainable	Biomass (or proxy) is at a level sufficient to ensure that, on average, future levels of recruitment are adequate (recruitment is not impaired) and for which fishing mortality (or proxy) is adequately controlled to avoid the stock becoming recruitment impaired (overfishing is not occurring).	Appropriate management is in place.
Depleting	Biomass (or proxy) is not yet depleted and recruitment is not yet impaired, but fishing mortality (or proxy) is too high (overfishing is occurring) and moving the stock in the direction of becoming recruitment impaired.	Management is needed to reduce fishing mortality and ensure that the biomass does not become depleted.
Recovering	Biomass (or proxy) is depleted and recruitment is impaired, but management measures are in place to promote stock recovery, and recovery is occurring.	Appropriate management is in place, and there is evidence that the biomass is recovering.
Depleted	Biomass (or proxy) has been reduced through catch and/or non-fishing effects, such that recruitment is impaired.	Depleted
Undefined	Not enough information exists to determine stock status.	Data required to assess stock status are needed.
Negligible	Catches are so low as to be considered negligible and inadequate information exists to determine stock status.	Assessment will not be conducted unless catches and information increase.

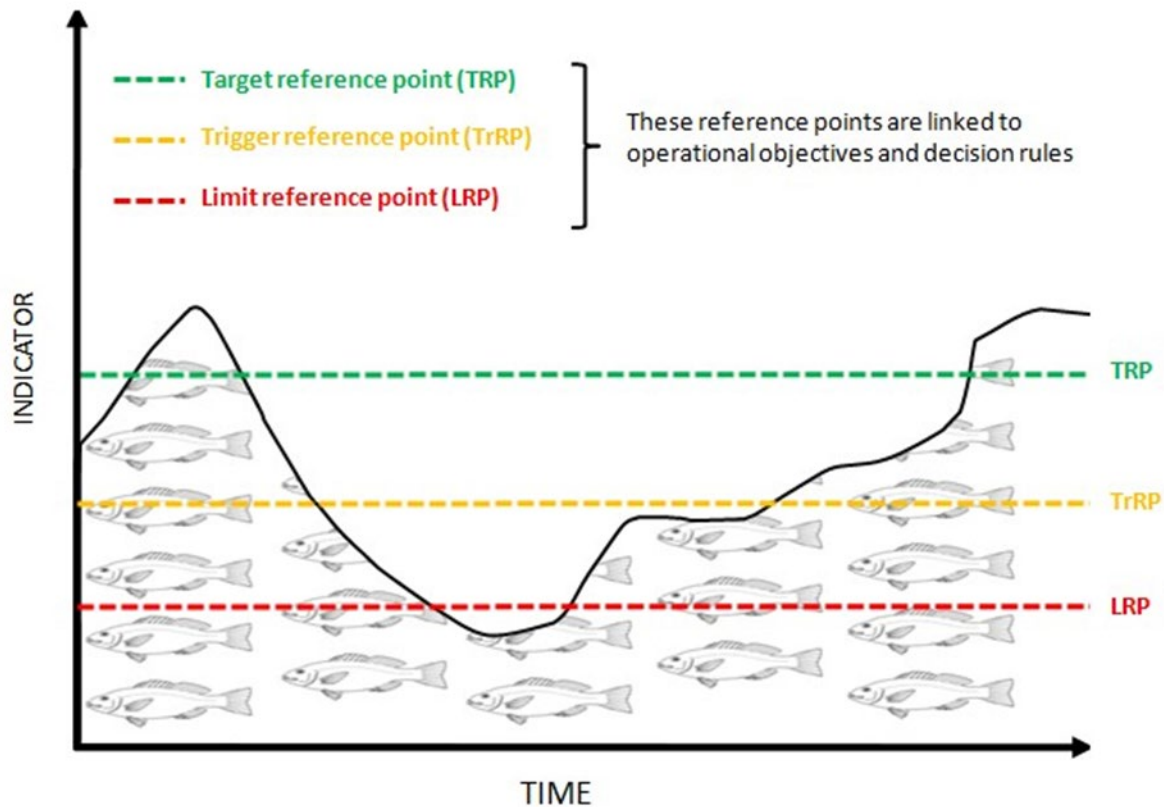


Figure 2. The relationship between an indicator (shown as dark grey line), the different types of reference points, operational objectives and decision rules (Sloan et al. 2014)

5.6 Monitoring strategy

A monitoring strategy must be developed to collect the relevant ecological, economic, social, cultural and/or environmental data necessary to inform how the indicators are tracking, relative to the operational objectives and reference points. The form of monitoring required will depend on the choice of indicators and reference points, as well as the scope, scale and intensity of the fishery.

The costs of different monitoring strategies will be relevant to the choice of indicators, reference points and decision rules. The level of acceptable risk, in relation to breaching reference points, will also influence the extent of monitoring and data required.

5.7 Assessing fishery performance

An assessment is required to assess fishery performance against defined fishery management objectives. Fishery performance is measured by comparing the value of indicators to reference points and the extent to which operational management objectives are being achieved. Stock assessments have different levels of precision and accuracy, which should be factored into the selection of indicators and reference points used for limits, triggers and targets. It is also important for an assessment to estimate or describe the level of uncertainty, to inform the decisions made. The more uncertain the stock status, the more precautionary the biological reference points and decision rules should be.

5.8 Decision rules

All harvest strategies must contain decision rules designed to achieve the objectives by specifying pre-agreed actions that will be taken to control intensity of fishing or catch. Decision rules are intended to provide certainty, ensure good governance and enable all stakeholders to adopt consistent decisions using an agreed framework. These decision rules must be clearly linked to the established objectives, indicators and reference points.

When a stock or management unit is classified as:

- 'depleted' or 'recovering': the decision rules must enable it to recover towards an agreed target (at least to 'sustainable' stock status) within a specified timeframe.
- 'depleting': the decision rules need to be determined in a way that considers an appropriate balance between short term losses and longer-term gains.
- 'sustainable' and at or above specified target reference levels: the decision rules should allow for increased fishing intensity or catch and economic development.

The decision rules need to clearly specify the circumstances in which fishing or catch can increase. For example, a stock may need to be above the target for a set number of years.

In some circumstances, a graded management response may be appropriate as a stock reduces or increases. This graded approach can be established through the use of continuous trigger points and decision rules. When a stock is decreasing, this may set off a series of progressively more stringent actions; when a stock is increasing, harvest may be gradually increased. The intent of a graded response is to ensure that actions/adjustments are taken in an orderly way and avoid the need for more substantial intervention.

6. IMPLEMENTATION

6.1 Harvest strategy development

DPI Fisheries is responsible for implementing this policy, in partnership with Fisheries Advisory Councils and key stakeholders. Harvest strategies will be developed by Harvest Strategy Working Groups established for particular species or fisheries. These groups will comprise DPI Fisheries managers and scientists, independent experts and key stakeholders, including active fishers.

6.2 Technical evaluation of harvest strategies

All harvest strategies should be tested for their robustness prior to implementation in order to demonstrate that they are likely to meet the specific fisheries management objectives.

Methods such as management strategy evaluation can be used to test both model-based and empirical harvest strategies. This is particularly important if information is uncertain and when the relationship between decision rules and management arrangements is complex.

6.3 Review of individual harvest strategies

Individual harvest strategies should be periodically reviewed, particularly in their early implementation, to ensure they are up to date and take into account the best available information. The review period should be specified in the harvest strategy. There should also be scope to conduct a review should unforeseen circumstances arise.

6.4 Stakeholder engagement

The Ministerial Fisheries Advisory Council (MFAC), Commercial Fishing NSW Advisory Council (CommFish), Recreational Fishing NSW Advisory Council (RFNSW) and the Aboriginal Fishing Advisory Council (AFAC) will have a role in advising the Minister on high level policy issues surrounding harvest strategy development. Harvest Strategy Working Groups and/or co-management forums will be established to engage stakeholders in the harvest strategy design and development process for particular species or fisheries, thus promoting stakeholder input and ownership of harvest strategies.

6.5 Setting total allowable catch or effort levels

The harvest strategies developed under this policy will be used to inform setting of total allowable catch and/or effort levels for NSW fisheries. Therefore, harvest strategies will be used to structure the advice provided to the NSW Total Allowable Fishing (TAF) Committee, or the Secretary, and will provide clear guidance to their statutory determinations.

6.6 Harvest strategy guidelines

The NSW Fisheries Harvest Strategy Guidelines provide practical guidance for applying this Policy.

7. REVIEW OF POLICY AND GUIDELINES

A review of the NSW Fisheries Harvest Strategy Policy will be undertaken after five years of its adoption. NSW Ministerial Fisheries Advisory Councils will be involved in any such review process and other stakeholders will be engaged as required.

The guidelines are a living document and may be updated by DPI Fisheries at any time, to provide expanded explanation of key concepts and illustrate any lessons learned during harvest strategy development and implementation.

8. GLOSSARY

Biomass: Total weight or volume of a stock or of a component of a stock.

Biomass limit reference point: The point below which risk to the stock is unacceptably high.

Biomass at maximum economic yield: The average biomass which corresponds to maximum economic yield. See also 'maximum economic yield'.

Biomass at maximum sustainable yield: The average biomass which corresponds to maximum sustainable yield. See also 'maximum sustainable yield'.

Biomass target: The desired biomass of the stock.

Break-out rules: Agreed procedures for recommending management action when the prevailing fishery conditions move outside the range considered when first establishing the harvest strategy.

Decision rule: Pre-determined rules to control fishing intensity or to require additional data collection, monitoring or research activities, under given biological / economic conditions.

Depletion: The level of depletion is the biomass level relative to its unfished state. A stock is classified as depleted if the biomass level (depletion level) is below its limit reference point.

Fishery: A class of fishing activity as defined under the Fisheries Management Act 1994.

Fishing mortality: proportion of a population harvested, or instantaneous rate of removal.

Indicator: a quantity that can be measured and used to track changes in relation to an operational objective.

Maximum Economic Yield: The level of annual catch that provides the maximum net economic return from a fishery.

Maximum Sustainable Yield: The maximum average annual catch that can be removed from a stock over an indefinite period under prevailing environmental conditions.

Overfishing: The level of fishing mortality is too high, specifically, above the level that would achieve the management target over time.

Proxy: a more easily estimated figure used to represent the value of a reference point.

Recruitment: amount of fish added to the exploitable stock each year.

Reference point: specified level of an indicator against which fishery performance is measured. A reference point can specify a limit, trigger or target level of an indicator.

Share Management Plan: a regulation made under the *Fisheries Management Act 1994* which describes a particular fishery and outlines objectives, minimum/maximum shareholdings, endorsement conditions, species, areas and time of operation, and other general requirements.

Stakeholder: a person with responsibilities for an activity and an interest in / influence on its success.