



Department of  
Primary Industries

# Fisheries Harvest Strategies in NSW





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## Minister's foreword

NSW has some of the best fishing locations, and commercial and recreational fisheries, across the world, and as a result our fishing industries are a critical part of the NSW economy.

The NSW Fisheries Harvest Strategy Policy will provide the commercial, recreational and aboriginal cultural fishing sectors with greater certainty and transparency in fisheries management decisions, through the development of tailored harvest strategies in direct partnership with commercial, recreational and Aboriginal fishers.

The NSW Government is committed to partnering with the recreational and commercial fishing industries, Aboriginal fishers and the wider community to manage the State's fisheries to provide a more secure and productive operating environment and to work towards better, more adaptive, management approaches for our fisheries in the future.

Because of the diverse and dynamic nature of fisheries management, one size does not fit all and there will always be situations that require a tailored approach and adaptive management.

So, for the first time in NSW, commercial, recreational and Aboriginal fishers will participate in developing the harvest strategies, ensuring long-term sustainability and productivity of the shared fisheries resource

Harvest strategies offer an effective tool to integrate the ecological, social and economic dimensions of fisheries management into a single framework for decision making. Harvest strategies represent a best-practice approach to fisheries management decision making, as demonstrated by their wide use internationally and throughout Australian jurisdictions.

We all have a common goal and that is the sustainability of our fisheries resources and maximising benefits to the sectors that rely on them. I'm confident that working together, we'll have a system that enables everyone to have access to local, sustainable seafood from our commercial fisheries, while providing quality fishing opportunities for the one million recreational fishers in our State and supporting the tackle and charter sectors and providing for cultural fishing access for Aboriginal communities.

I look forward to stakeholders having their say in the development of the NSW Fisheries Harvest Strategy Policy.



A handwritten signature in black ink that reads "Adam Marshall".

The Hon. Adam Marshall, MP

Minister for Agriculture and  
Western New South Wales

## What is a harvest strategy?

The NSW Department of Primary Industries is partnering with commercial, recreational and Aboriginal cultural fisheries across NSW to develop tailored harvest strategies.

Harvest strategies are used all over the world and have been adopted in most Australian fisheries jurisdictions to improve fisheries management and the outcomes for fish species and fisheries.

A harvest strategy brings together the key scientific monitoring, assessment and management measures used to make decisions to achieve defined objectives, including those related to the intensity of fishing activity to be applied to a species or catch to be removed from a fishery.

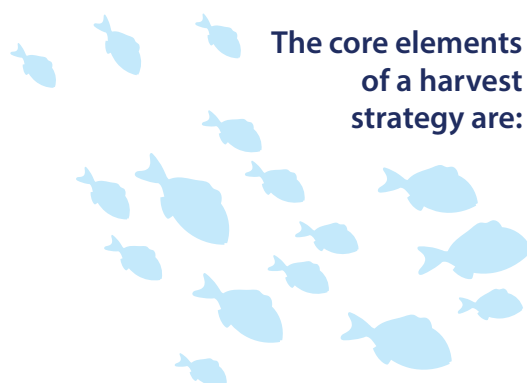
A harvest strategy is a transparent and consistent decision-making framework that specifies the pre-determined management actions necessary to achieve the agreed ecological, economic and/or social and Aboriginal cultural management objectives.

A harvest strategy can be developed at the species or fishery level to bring together commercial, recreational and Aboriginal fishing in an integrated fishery or stock management approach.

The development and implementation of harvest strategies will be governed by the NSW Fisheries Harvest Strategy Policy and Guidelines in accordance with the *Fisheries Management Act 1994*.

Fishery or species-specific harvest strategy working groups will be established to help develop harvest strategies for each fishery or species and to ensure stakeholder engagement, input and ownership in the process. The working groups will bring together members with relevant skills and expertise for each fishery or species.





The core elements  
of a harvest  
strategy are:

-  1 Ecologically sustainable development risk assessment
-  2 Defined operational objectives
-  3 Fishery indicators
-  4 Reference points for indicators
-  5 Monitoring strategy
-  6 Assessing fishery performance
-  7 Decision rules

## Core elements of a Harvest Strategy

The following core elements must be addressed when a harvest strategy is developed for a fishery or species.

### 1 Ecologically sustainable development (ESD) risk assessment

An ecologically sustainable development (ESD) risk assessment ensures all major risks posed by the fishery, and risks posed to the fishery, are considered and promotes an overall ecosystem approach to fisheries management.

### 2 Defined operational objectives

The establishment of a set of clear and concise operational objectives for a fishery or species define where we want the fishery to be (ie. targets) and where we don't want the fishery to be (ie. limits). The objectives chosen will vary depending on the individual fishery or species and must link to the reference points and decision rules.

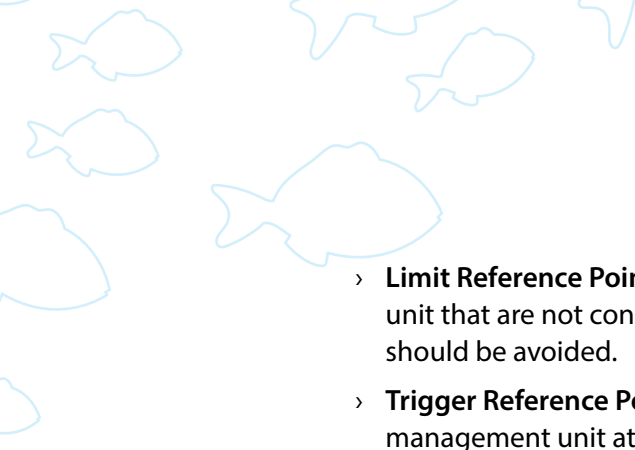
### 3 Fishery indicators

Fishery indicators are established for each operational objective and are used to measure fishery performance with respect to achieving the objectives.

### 4 Reference points for indicators

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



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- › **Limit Reference Points** define the value of an indicator for a stock or management unit that are not considered acceptable, representing fishery conditions that should be avoided.
  - › **Trigger Reference Points** define the value of an indicator for a stock or management unit at which a change in the level of monitoring or management is considered or adopted.
  - › **Target Reference Points** define the value of an indicator for a stock or management unit that are desirable or ideal and at which fisheries management should aim.

## 5 Monitoring strategy

A monitoring strategy ensures that the relevant ecological, economic and/or social, cultural and environmental data are collected to inform how the indicators are tracking, relative to the operational objectives and reference points, to assess performance.

## 6 Assessing fishery performance

An assessment of fishery performance against objectives is done by comparing the value of indicators to reference points and the extent to which the objectives are being achieved.

## 7 Decision rules

Decision rules are designed to achieve the operational objectives by specifying pre-agreed actions that will be taken to control the intensity of fishing activity or catch levels. Decision rules provide certainty, ensure good governance and enable all participating stakeholders to adopt consistent decisions using an agreed framework.



## How will NSW benefit from harvest strategies?

Harvest strategies are a best-practice approach to fisheries management decision making, and an effective way to balance the ecological, social, economic and Aboriginal cultural outcomes of fisheries management across all sectors into a single framework for better decision making.

They provide increased certainty to all stakeholders about how a fishery will be managed over time. This allows planning for the future and reduces the likelihood of uncertainties and changes that will impact on the profitability and sustainability of the fishery.

A harvest strategy provides certainty and transparency for all fishery stakeholders, particularly about how decisions are made in fisheries management.

Creating improved certainty and transparency has benefits for a fishery:

- › It contributes to creating a climate of trust between fishery stakeholders
- › It reduces tensions between stakeholder groups
- › It allows fishery managers and fishers to operate with greater confidence and efficiency
- › It allows for greater business planning by commercial fishers as the fishery management responses to various levels of fishery performance are documented and more predictable.

A well-constructed harvest strategy allows for more efficient and proactive decision making even with the uncertainties that are inherent to fisheries management.

### KEY BENEFITS:

- ▶ *Greater certainty and transparency in fisheries management decisions*
- ▶ *Partnership with commercial, recreational and Aboriginal fishers and other key stakeholders including the conservation sector.*



## COMMERCIAL FISHERIES STAKEHOLDER QUOTE

*"The development of harvest strategies in NSW through real stakeholder engagement ensures knowledge based and practical decisions are made that consider the ecological, economic, social and cultural values of our marine environment.*

*A harvest strategy done well will assist in securing fish stocks, make fishing better and provide confidence to invest in our fishing future."*

Greg Finn - Abalone Fishery

## Where does a harvest strategy fit within the broader fisheries management framework in NSW?

To understand the role of harvest strategies in fishery management in NSW, it is important to consider how they fit within the broader fisheries management framework which is guided by:

- › The *Fisheries Management Act 1994* and the *Marine Estate Management Act 2014*
- › *The Native Title Act 1984*
- › Fishery management strategies
- › Commonwealth and State environmental legislation including the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* and *NSW Environmental Planning and Assessment Act 1979*
- › Broad policy frameworks directed at addressing issues such as ecologically sustainable development (ESD), by-catch reduction and ecosystem-based fisheries management.
- › The Policy and Guidelines for *Fish Habitat conservation and Mgt (2013)*
- › The policy on *Resource Sharing in NSW (2015)*

Each fishery also has a specific management framework, such as catch and effort quota management regimes. These provide a set of management controls, which are usually described in fisheries management regulations, including commercial fishery share management plans. These regulations are the broader set of controls necessary to manage a fishery or species and provide a high level of certainty and accountability for all stakeholders.





## RECREATIONAL FISHERIES STAKEHOLDER QUOTE

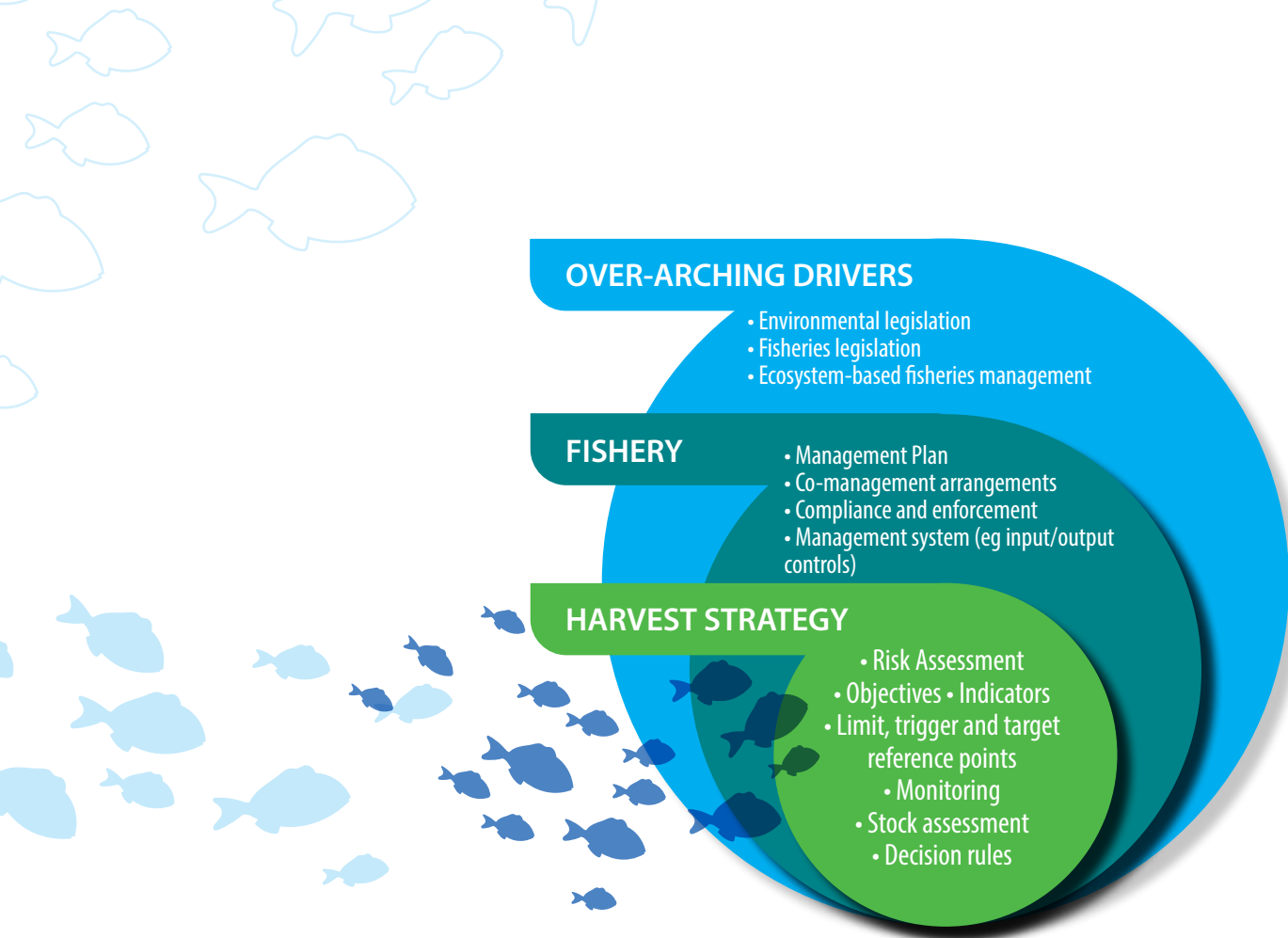
*"The recreational fishing industry supports the Government's plans to work collaboratively with all fishing sectors to design best-practice harvest strategies.*

*"This approach towards managing more abundant fish stocks is a positive step towards ensuring quality fishing opportunities and experiences for grassroots anglers and their families, which in turn maintains the significant flow-on benefits for the tackle, charter and regional tourism industries.*

*"AFTA is very pleased that the NSW Government has recognised the importance of including the recreational fishing industry during the development of these plans. We look forward to playing a constructive role in working with the Government and the other fisheries sectors to maximise the potential of our shared fisheries resources."*

**Chair of the Australian Fishing Trade Association (AFTA), the Hon Bob Baldwin**





## What principles should be applied when developing a harvest strategy?

Because of the diverse and dynamic nature of fisheries management, one size does not fit all. There will always be situations within a fishery that require a tailored approach and adaptive management.

To promote a pragmatic and common-sense approach to developing harvest strategies, the following principles will be followed:

### a. Consistent with legislative objectives including the principles of Ecologically Sustainable Development (ESD)

ESD is a common legislative objective across Australian fishery management jurisdictions and is included in 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 should integrate the ecological, economic and social dimensions of fisheries management.

### b. Dealing with uncertainty and risk

Fishery exploitation levels should reduce as fish stock status declines or uncertainty around biological stock status increases. More caution being used when uncertainty about fish stock status increases ensures that fisheries are managed at an acceptable

level of risk, given the status of stocks and the level of available knowledge. The level of acceptable risk combines with operational objectives, indicators, reference points and decision rules to form an integrated package.

#### **c. Fishing is to be conducted in a manner that avoids overfishing**

Harvest strategies are designed to ensure fishing is conducted in a manner that does not lead to overfishing or depletion of fish stocks. Where overfishing or fish stock depletion is identified, action is taken to halt overfishing and promote stock recovery within defined timeframes.

#### **d. Transparent, inclusive and easy to understand**

To be effective and accepted by fishers and key stakeholders a harvest strategy must be easy to understand. It must also be adapted to the fishery including considering the data and information available to monitor and assess the fishery and the performance of the harvest strategy. Development of harvest strategies and the steps involved in their implementation and ongoing application should involve fishers and key stakeholders.

#### **e. Cost-effective and feasible**

Analysis of the costs and benefits of alternative approaches and the recognition of the data and monitoring requirements associated with a particular approach to a harvest strategy is important during harvest strategy development. It allows choices to be made about the level of required investment in monitoring and assessment and the degree to which fishers can assist in data collection and monitoring activities.

#### **f. Unambiguous and adaptive**

Harvest strategies must avoid being ambiguous, particularly when it comes to the development of operational objectives and decision rules. A balance must be struck between the harvest strategy being too rigid and providing for a level of flexibility necessary to allow for adaptation to issues that are not anticipated and for new information to be considered.

#### **g. Multiple jurisdictions**

Where stocks are shared with other jurisdictions, effort will be made to cooperate with other jurisdictions to ensure harvest strategies in other jurisdictions are harmonised and consistent with New South Wales fishery harvest strategies.

#### **h. Multiple Sectors**

Harvest strategies offer a mechanism to focus on the overall extraction by all sectors by integrating all sectors in the management of fish stocks, rather than separate sector specific processes.





## ABORIGINAL FISHER STAKEHOLDER QUOTE

*"Aboriginal communities welcome strategies that aim to prevent overfishing and deliver sustainable fish populations from which a cultural catch can be maintained. Such an outcome goes a long way to ensuring that cultural fishing practices are preserved along with access to valuable food sources."*

*"Aboriginal people want to be engaged during all phases of the development of harvest strategies. This is especially so in the initial phases where decisions should be made relating to the allocation of rightful share of the fishable biomass to Aboriginal communities."*

Associate Professor Stephan Schnierer, NSW Aboriginal Fishing Advisory Council



## Key steps to develop and implement a harvest strategy

These are suggested steps to develop a harvest strategy and are described in detail in the *Guidelines to implement the NSW Fisheries Harvest Strategy Policy*.

### 1 Define the fishery to which the harvest strategy applies

Clearly defining the fishery to which the harvest strategy will apply is a critical initial step in determining the scope of the harvest strategy. Having an agreed and clear definition of the fishery makes it easier to identify which objectives are most relevant to the individual fishery and its characteristics. It involves compiling and reviewing available information on the fishery such as characteristics of the fishery species, existing management arrangements, fishing methods and locations, sources of mortality, jurisdictions and user groups.

### 2 Establish a mechanism to engage stakeholders in the process

Another important step is to decide on a suitable way to engage fishers and relevant key stakeholders in the process. This should be done on a case by case basis and will be influenced by the type, scope and scale of the fishery, the resources available and the existing arrangements.

### 3 Identify relevant legislation and policy objectives

At the beginning of the process, it is important to identify any high-level overarching legislative and policy objectives that will influence the harvest strategy. These may vary between fishery and should be considered when developing the defined objectives for the harvest strategy.


### 4 Develop defined operational fishery management objectives

Operational objectives should be clearly defined for individual species in the fishery. These operational objectives should be explicit, measurable, and linked to the indicators, reference points, and decision rules of a harvest strategy. The operational objectives should clearly identify the fish stock or fisheries management unit to which they apply. These are suggested steps to develop a harvest strategy. Some steps may not be necessary, or may vary, if comprehensive management arrangements exist.

### 5 ESD considerations for the fishery

To enable a harvest strategy to incorporate all aspects of ESD (and not just focus on the ecological aspects), the economic, social and Aboriginal cultural dimensions of each fishery should also be considered where appropriate.





Ensuring these dimensions are considered together enables trade-offs or conflicts to be identified and agreement on how to prioritise issues across different objectives. It is possible to balance biological/ecological, economic, social and Aboriginal cultural objectives, but objectives for sustainability should take priority over other objectives.

## **6 Build the technical elements of the harvest strategy**

Building an integrated fisheries harvest strategy requires each of the core elements listed in the Policy to be considered as a package.

Harvest decision rules are pre-determined management actions linked directly to the ecological, economic, social and Aboriginal cultural performance of the fishery relative to reference points.

Harvest decision rules should work so that a pre-determined management action is implemented promptly when an identified reference point is being approached and/or reached. Decision rules may link to a range of management responses including for example, increased monitoring or data collection.

## **7 Test the robustness of the harvest strategy**

An evaluation of whether the proposed harvest strategy is likely to work should be done before it is implemented. Testing shows whether a harvest strategy can achieve its intended objectives despite the inherent uncertainties of fish stocks or fisheries and the future levels of harvest and productivity. Testing is particularly important when information is incomplete and imprecise and when the relationship between the harvest decision rules and management outcomes is complex.

## **8 Periodic review and update the harvest strategy**

All harvest strategies should be periodically reviewed to ensure they are up to date and take into account the best available information. Periodic amendments to harvest strategies will ensure the best decisions are likely to be made.







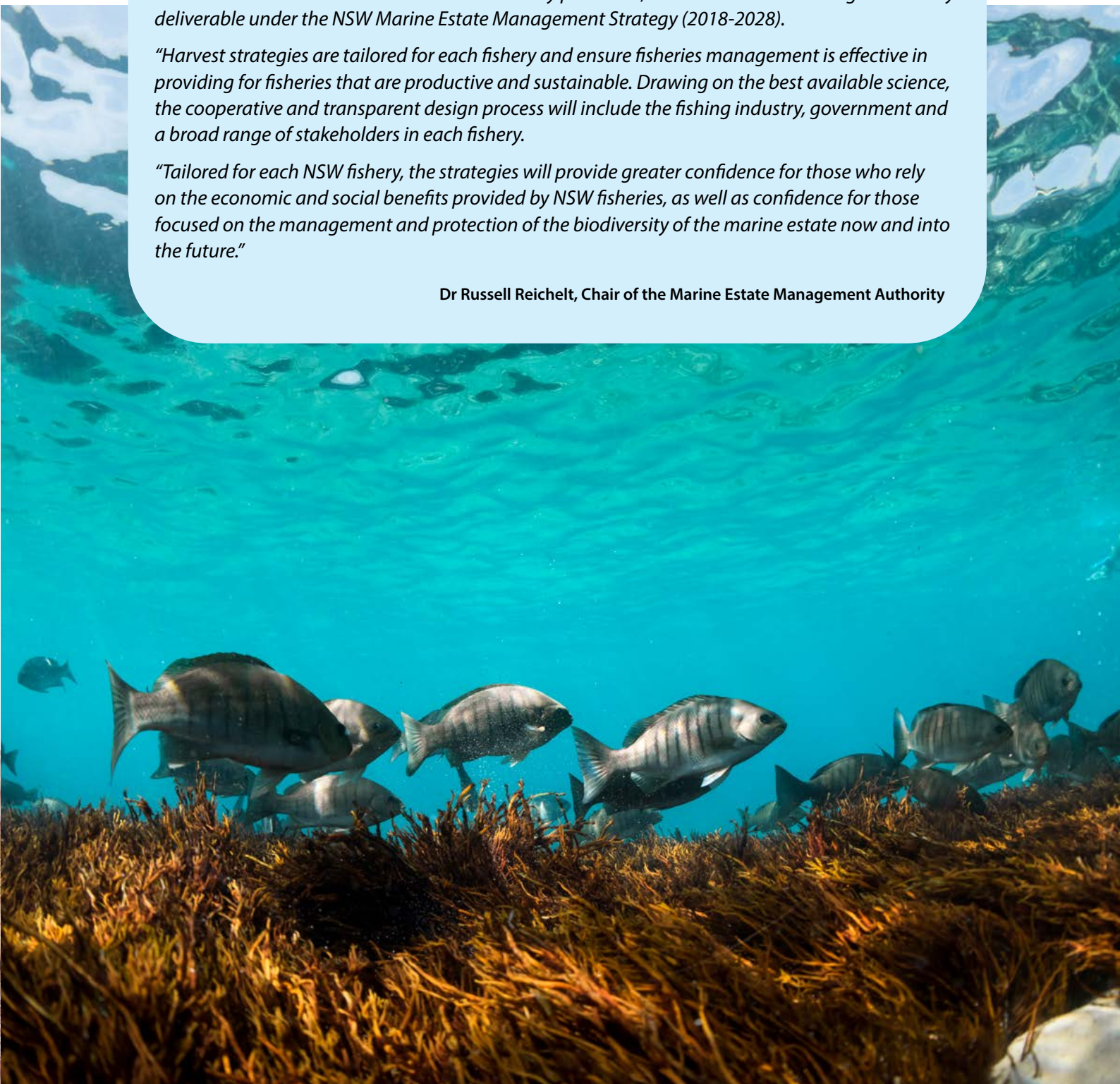
## MEMA STAKEHOLDER QUOTE

*"The NSW Marine Estate Management Strategy is leading world's best practice in securing healthy coasts and waterways. It operates by assessing threats and risks of all activities to coastal waters, harbours and estuaries in an integrated process of assessment, policy development and actions. The threat and risk assessment is already published, and these harvest strategies are a key deliverable under the NSW Marine Estate Management Strategy (2018-2028)."*

*"Harvest strategies are tailored for each fishery and ensure fisheries management is effective in providing for fisheries that are productive and sustainable. Drawing on the best available science, the cooperative and transparent design process will include the fishing industry, government and a broad range of stakeholders in each fishery."*

*"Tailored for each NSW fishery, the strategies will provide greater confidence for those who rely on the economic and social benefits provided by NSW fisheries, as well as confidence for those focused on the management and protection of the biodiversity of the marine estate now and into the future."*

**Dr Russell Reichelt, Chair of the Marine Estate Management Authority**





Department of  
Primary Industries

### **Further information**

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