

Draft NSW Mulloway Harvest Strategy

Fact Sheet



What is a Harvest Strategy?

A harvest strategy provides a transparent decision-making framework that defines agreed management objectives for a fishery or species, and actions necessary to achieve the objectives.

Why do we need a Harvest Strategy for Mulloway in NSW?

Harvest strategies are a best-practice approach to fisheries management, and provide an effective way to balance ecological, economic, social, and Aboriginal cultural considerations in a single framework.

The NSW Mulloway Harvest Strategy provides an overarching framework that describes how harvest levels will be monitored and managed by specific decision rules, delivering transparency and certainty for stakeholders.

What species and fisheries does the NSW Mulloway Harvest Strategy encompass?

This harvest strategy applies to the NSW stock of Mulloway (*Argyrosomus japonicus*).

Mulloway are harvested by commercial, recreational and Aboriginal fishers in NSW waters.

The three major NSW commercial harvest sectors are the Estuary General, Ocean Trap and Line and Ocean Hauling fisheries.



The Goal of the NSW Mulloway Harvest Strategy is:
'To rebuild the NSW Mulloway stock biomass to levels supporting ongoing community benefits including sustainable seafood supply, profitable commercial fishing, quality recreational and charter fishing opportunities, and ongoing protection for the continuation of Aboriginal cultural fishing'

How was the NSW Mulloway Harvest Strategy developed?

The NSW Mulloway Harvest Strategy was developed by an expert working group that included independent, commercial, recreational, Aboriginal representative and NSW DPIRD Fisheries members.

What is the policy basis for the NSW Mulloway Harvest Strategy?

The harvest strategy has been developed in accordance with the NSW Fisheries Harvest Strategy Policy to further the objectives of the *Fisheries Management Act 1994* and the *Marine Estate Management Act 2014*, the Fisheries Management (Share Management Plan Regulations), and objectives established under the strategy.

How big do Mulloway grow?

Mulloway grow to approximately 180 cm in length and about 75 kg and can live for more than 30 years.

What are the core elements of the NSW Mulloway Harvest Strategy?

The NSW Mulloway Harvest Strategy includes the following core elements:

Ecologically sustainable development

Risk assessments are undertaken to ensure major risks to the fishery and from the fishery are considered. The NSW Mulloway Harvest Strategy recognises risk assessments already undertaken and will consider any new environmental, social, cultural and economic assessments or risks identified as data and information improves in the future.

Defined operational objectives

The NSW Mulloway Harvest Strategy defines management objectives for the Mulloway stock through its goal, strategic objectives, and operational objectives.

The initial focus of the harvest strategy is on rebuilding the stock biomass to sustainable target levels, with subsequent progress to longer-term management targets, sharing the responsibilities and benefits across fishing sectors.

Fishery indicators

Fishery indicators track the performance of the fishery against the operational and strategic objectives of the harvest strategy.

The Mulloway Harvest Strategy utilises a primary indicator and three secondary monitoring indicators.

The primary indicator is an estimate of current biomass as a proportion of unfished biomass as a measure of the current level of biomass depletion.

Secondary monitoring indicators include:

1. Estimates of regional biomass relative to unfished regional biomass which monitors biomass at a finer (regional) scale,
2. A proportion of fish above lengths of 100 cm and 130 cm which provides an indication of opportunities to encounter larger Mulloway, and
3. Tag recapture rates which is a percentage of recreational game tagged fish recaptured which provides a measure of fishing pressure, abundance and spatial movement patterns.



Reference points

Reference points are provided as target, trigger and limit biomass levels that fishery performance can be measured against.

Target and limit reference levels are determined as proxies for desirable and undesirable biomass levels, respectively.

Trigger reference points assist in determining when review needs to be undertaken or when predetermined management plans and actions are to be implemented to keep biomass towards target levels and away from the limit reference point.

Reference points for the Mulloway Harvest Strategy are defined as:

1. **Rebuilding Targets:** Rebuild biomass to 30% of unfished biomass within two generations (11 years) with an interim target of 25% within 5 years. The interim rebuilding target also acts like a trigger to review the constant harvest limit if rebuilding is not likely to achieve the rebuilding target of 30% within 11 years.
2. **Target:** Once the rebuilding targets have been achieved, maintain biomass (on average) at 50% of unfished biomass.
3. **Trigger:** Once the rebuilding targets have been achieved, if biomass breaches 30% of unfished biomass, this triggers a review of the harvest strategy.
4. **Limit:** Once the rebuilding targets have been achieved, if biomass declines to, or below 20% of unfished biomass, this results in zero take for all fishing sectors to allow the fishery to recover.

Monitoring strategy

A monitoring strategy ensures that appropriate data are available to assess fishery performance against the strategy objectives, indicators and reference points.



Assessing fishery performance

Scientific assessments monitor fishery performance by analysing available data and calculating measures of fishery indicators against the defined reference levels.

Assessments present information beyond just fishery indicators and may provide considerations on the performance of the harvest strategy and any uncertainty in the assessment outputs from available data and the analyses.

What is a constant harvest limit under the Mulloway Harvest Strategy?

The constant harvest limit is the maximum level of annual harvest applied for the duration of the rebuilding phase of the harvest strategy. The constant harvest limit may only be adjusted (i.e. reduced) in accordance with the decision rules of the harvest strategy if it becomes evident the rebuilding objectives will not be met.

Decision rules

Decision rules specify pre-agreed management actions designed to achieve the operational objectives of the harvest strategy by managing retained harvest levels.

During the rebuilding phase of the Mulloway Harvest Strategy, the decision rules are designed to apply a constant harvest limit to be shared by the commercial and recreational fishing sectors to support rebuilding within the rebuilding objective timeframe.

Once the rebuilding objective is achieved, the decision rules apply harvest limits dynamically adjusted in accordance with changes in biomass and the relationship of biomass against the target, trigger and limit reference levels.

How do the reference points and decision rules work together?

Reference points and decision rules work together to determine the strength of management actions to be undertaken as fishery performance changes against performance levels defined in the operational objectives of the harvest strategy.

Decision rules specify pre-agreed management actions (primarily changing harvest levels) to be taken in accordance with current levels of fishery biomass.

Decision rules aim to maintain biomass around target levels by changing the amount of annual harvest as indicators used to assess current biomass levels increase or decrease.

For the rebuilding phase of the Mulloway Harvest Strategy, decision rules will only change the level of annual harvest if the rebuilding objectives will not be achieved within the rebuilding objective timeframe (Figure 1).

Once the rebuilding target biomass has been achieved, harvest may either increase or decrease as a decision rule response to maintain biomass at the target level (Figure 2).



Figure 1: Reference points summary – Rebuilding phase

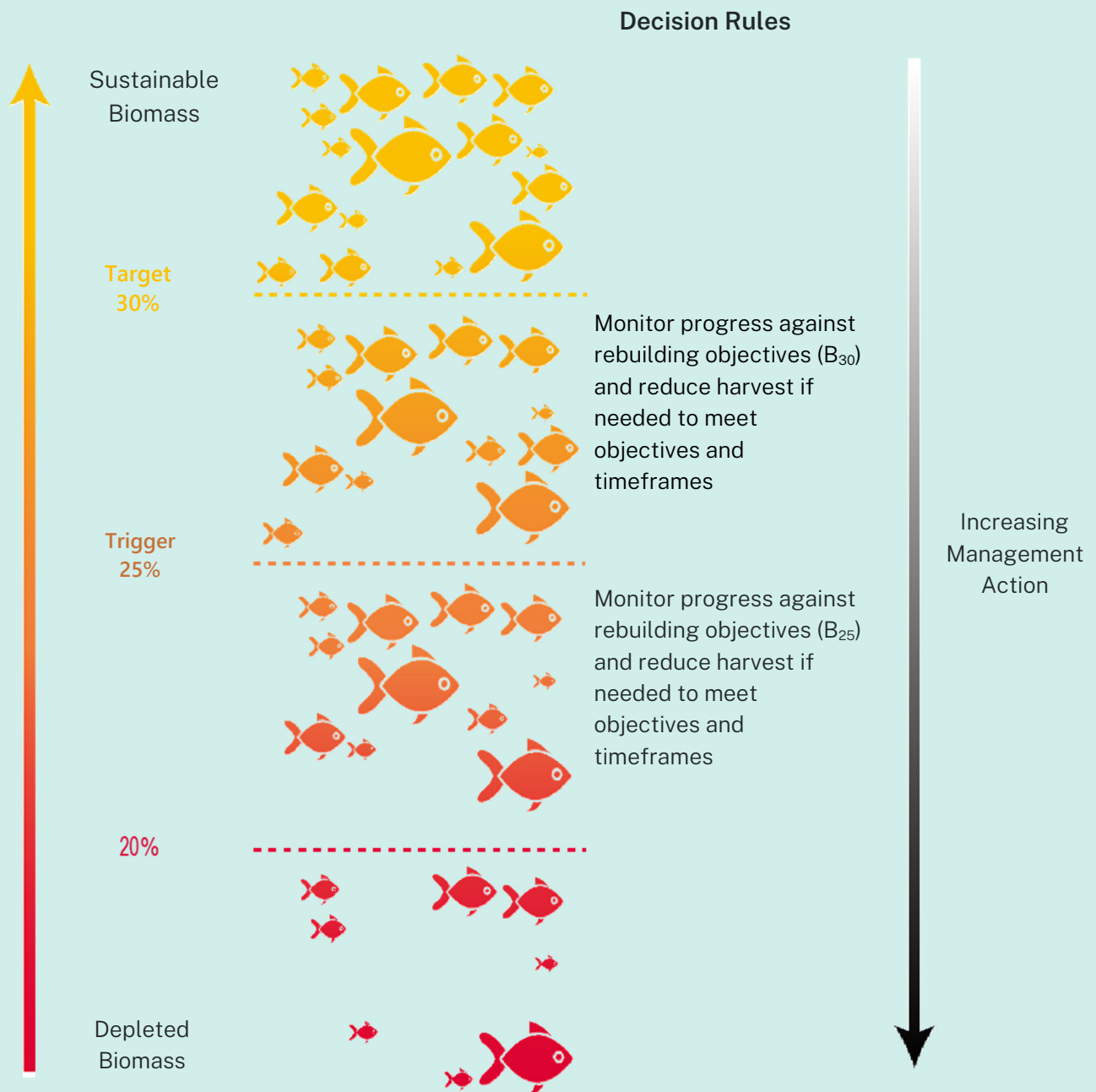
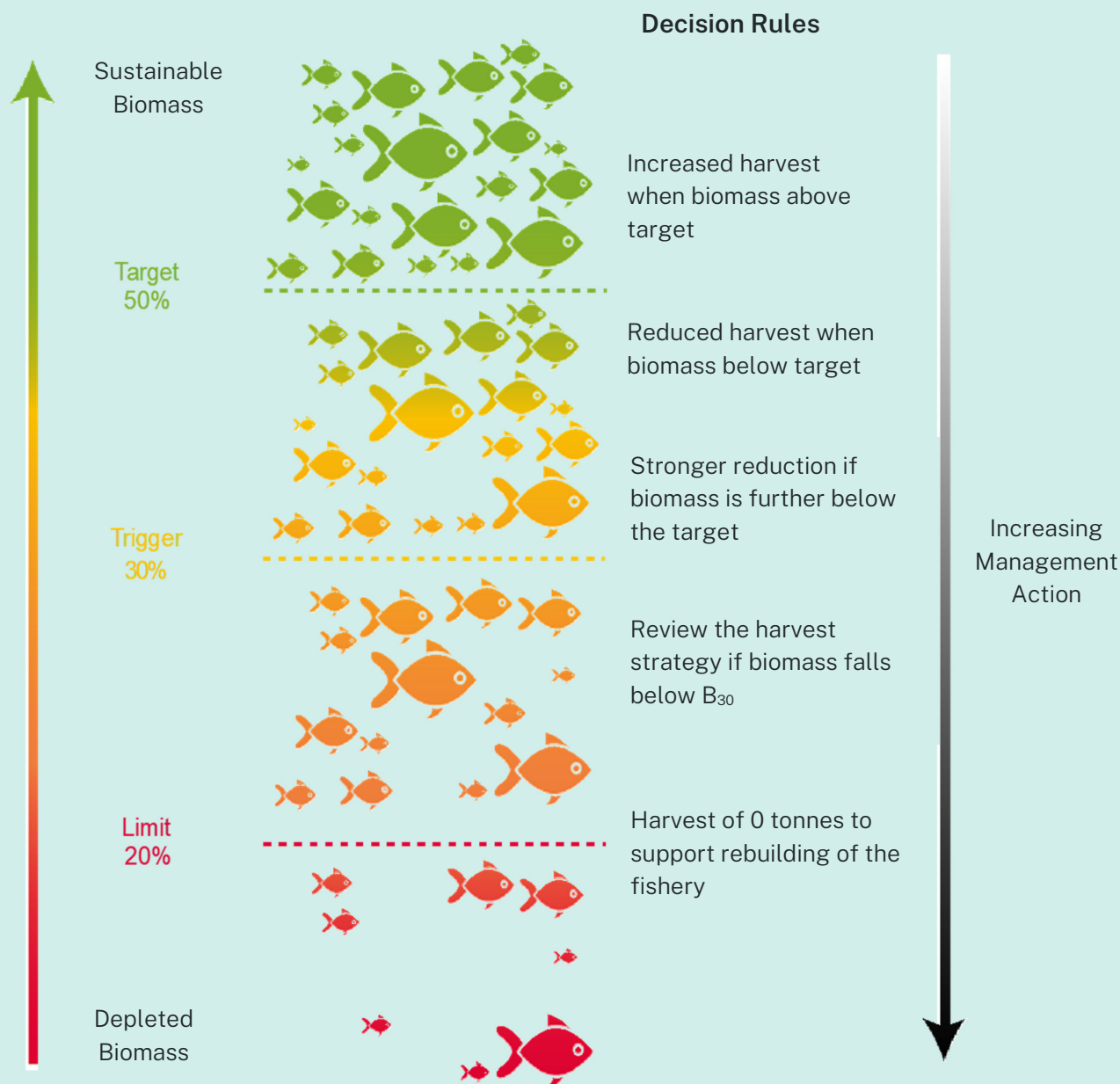


Figure 2: Reference points summary – Post rebuilding phase



Where can I find more information on Harvest strategies?

More information can be found on the DPI website using the web address below.

www.dpi.nsw.gov.au/fishing/harvest-strategies

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