

NSW Trawl Whiting 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 the NSW Trawl Whiting Fishery?

Harvest strategies are a best-practice approach to fisheries management. The harvest strategy describes how Eastern School and Stout Whiting will be monitored and managed, delivering transparency and certainty for stakeholders. Harvest strategies provide an effective way to balance ecological, economic, social, and Aboriginal cultural considerations in a single framework.

What species and fisheries does the NSW Trawl Whiting Harvest Strategy encompass?

The NSW Trawl Whiting Harvest Strategy applies to the NSW components of stocks of Eastern School Whiting (*Sillago flindersi*), which NSW shares with the Commonwealth, and Stout Whiting (*Sillago robusta*), which NSW shares with Queensland. These species are collectively referred to as 'Trawl Whiting'.

How was the NSW Trawl Whiting Harvest Strategy developed?

The NSW Trawl Whiting Harvest Strategy was developed by an expert working group that included independent, Aboriginal, commercial, recreational, and NSW Government members.

Public consultation was also completed during the development process, inviting submissions from key stakeholders and the community on the draft strategy before final review and implementation.



The Goal of the NSW Trawl Whiting Harvest Strategy is:
'To contribute, in cooperation with other jurisdictions, to maintaining robust, sustainable stocks of Eastern School Whiting and Stout Whiting to support a profitable commercial fishery, with social, cultural and economic benefits to the community.'

What is the policy basis for the NSW Trawl Whiting Harvest Strategy?

The harvest strategy has been developed under the NSW Fisheries Harvest Strategy Policy and Guidelines to further the objectives of the *Fisheries Management Act 1994* and the *Marine Estate Management Act 2014*.

What are the core elements of the NSW Trawl Whiting Harvest Strategy?

The NSW Trawl Whiting Harvest Strategy includes the following core elements:

Ecologically sustainable development

Ecologically Sustainable Development (ESD) risk assessment ensures major risks to, and from, the fishery are considered. The NSW Trawl Whiting Harvest Strategy recognises risk assessments already undertaken and will consider any new assessments or risks identified in the future.

Defined operational objectives

The NSW Trawl Whiting Harvest Strategy defines management objectives for these stocks through its goal, strategic objectives, and operational objectives.

The objectives aim to keep Trawl Whiting stocks at sustainable levels by linking fishery indicators and reference points to decision rules, which define management responses to change catch levels in accordance with changes in fishery performance.

Fishery indicators

Fishery indicators are used to track the performance of the fishery against the harvest strategy objectives. The primary indicator for Trawl Whiting is the current spawning biomass as a proportion of the unfished spawning biomass.

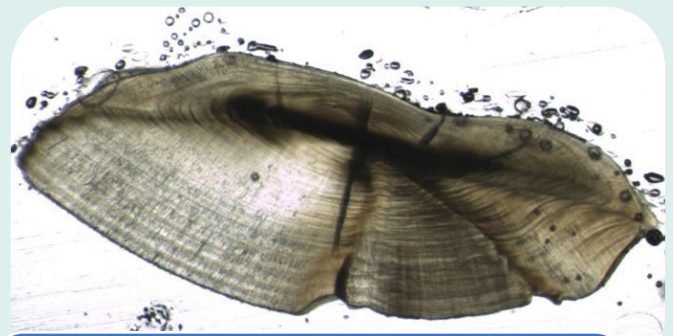
Biomass estimates are determined through full stock assessments prepared every 3-5 years in collaboration with the Commonwealth and Queensland governments. Stock assessments

What is Unfished Spawning Biomass?

The unfished spawning biomass is the amount of Eastern School Whiting and Stout Whiting that would have been in the fishery if no fishing or harvesting had been undertaken.

also provide estimates and projections of recommended catch and fishery performance into the future (including catch rates and estimates of fishing mortality), determined through fisheries modelling.

In years between full stock assessments, secondary indicators are used to monitor and assess stock health, including catch rate, fishing mortality and the age and size structure of the catch. These indicators are monitored through annual assessments for changes to predicted performance from model projections.



How do we determine the age of a fish?

Fish have earbones called "otoliths" and they are used to determine the age of fish. Similar to the growth rings of a tree, lines can be determined for each year the fish has been alive, which can then be used to calculate the age.

Reference points

Reference points are established to provide a management target, trigger and limit for indicators used in the operational objectives, defined as:

1. A target to maintain spawning biomass of whiting stocks at a level of 48% of the unfished spawning biomass (a similar proxy for maximising economic yield),
2. A trigger level at and below 35% of unfished biomass where management response (i.e. harvest reduction) is strengthened for Eastern School Whiting, and performance of the harvest strategy is reviewed,
3. A limit level of spawning biomass at 20% of the unfished biomass, below which targeted fishing ceases and a rebuilding strategy is implemented.

Monitoring strategy

A monitoring strategy is defined to ensure appropriate data are available to assess fishery performance against objectives, indicators and reference points.

Why is fisheries data important?

Fisheries data are used to monitor how fish population sizes and composition (e.g. number of adults of each sex and new recruits) change over time in response to management changes and harvest levels.

Assessing fishery performance

Assessments of fishery performance are undertaken as part of the process for setting Total Allowable Catch (TAC).

Separate stock assessments are completed for both whiting species and then separate decision rules are applied to determine preliminary TAC for each species. These are summed to give a combined Trawl Whiting TAC (See Figure 1).

What is Total Allowable Catch (TAC)?

TAC is the total catch of Eastern School and Stout Whiting (combined) that can be taken in each annual fishing period.

Decision rules

Decision rules are established to specify pre-agreed management actions to be undertaken in accordance with current levels of fishery performance.

Decision rules are designed to maintain stocks around the target level, by changing harvest levels (TAC) should stock biomass increase or decrease. TAC change will increase the further biomass or other indicator levels are from target or predicted levels.

How do the reference points and decision rules work together?

Reference points are used by decision rules to determine management actions to be undertaken according to different levels of fishery

performance against the operational objectives of the harvest strategy (See Figure 2).

When spawning biomass is around the target reference point, the decision rules provide adjustment to TAC to maintain stock biomass around the target level.

Management response to change TAC will increase as (and if) distance of biomass from the target increases, and for Eastern School Whiting, with increasing strength if below the trigger reference point. A rebuilding strategy will be developed if biomass falls below the trigger, and targeted fishing will cease (and the rebuilding strategy implemented) should biomass breach the limit reference point.

In between full assessment years, secondary indicators will be monitored and TAC may be adjusted if these fall above or below projected performance.

Figure 1: Stock assessments and decision rules for recommending Trawl Whiting TAC

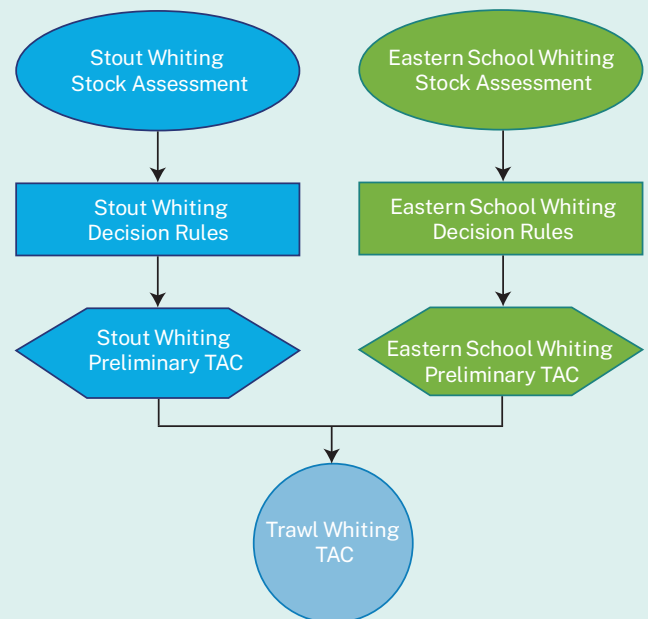
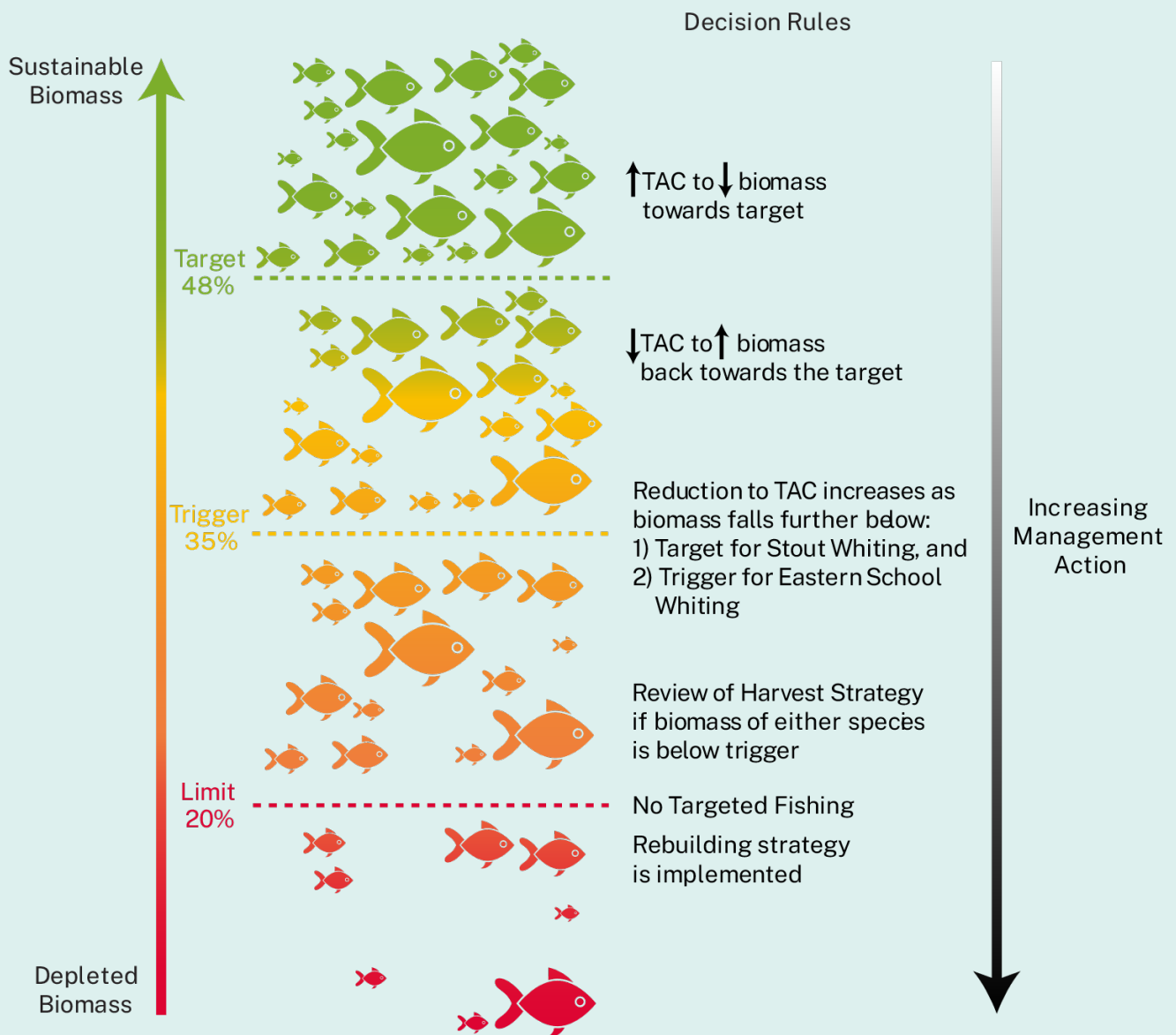


Figure 2: Harvest Strategy reference points and decision rule summary (full assessment years)



Where can I find more information on Harvest Strategies?

You can find general and specific information about this and other Harvest Strategies on the DPI website, as well as a few other useful links:

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

<https://www.fish.gov.au/report/342-Eastern-School-Whiting-2020>

<https://www.fish.gov.au/report/339-Stout-Whiting-2020>

<https://www.dpi.nsw.gov.au/fishing/commercial/fisheries/ocean-trawl>

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