# 1 determining stock status

## 1.1 Stock Status Classifications

Table 3 provides the set of standard classifications used in this report to determine the status of each fish stock.

***Table 3.*** *Stock status classifications.*

| Stock classification | Description |
|---|---|
| Uncertain | There is limited quantitative information available to provide a reliable assessment of stock status. A fish stock that may be under fished, fully fished or over fished. |
| Under fished | Is underutilised and has the potential to sustain harvest levels higher than those currently being taken. |
| Fully fished | Harvest levels are at, or close to, optimum sustainable levels. Current fishing pressure is considered sustainable. Any increase in catch or fishing pressure may lead to over fishing in the long term. |
| Over fished or depleted | Harvest levels are not sustainable and/or yields may be higher in the long term if catch or effort levels are reduced in the short term, or the stock may still be recovering from previous excessive fishing pressure. Classification of a stock as over fished or depleted may be due to recruitment or growth over fishing and/or as a result of habitat degradation. Recovery strategies will be developed for all over fished stocks to reduce fishing pressure and ensure that stocks recover to acceptable levels within agreed timeframes. |
| Environmentally limited | Has reduced productivity due to external impacts associated with habitat modifications or environmental factors. Reduced stock levels are not primarily due to fishing, although fishing may be a contributing factor to ongoing concerns regarding low stock levels. |





## 1.2 Catch and Effort Trends

When determining the status of each fish stock, it is useful to know if any trends are evident in recent catch and effort levels. Formal fish stock assessment is far more complicated than simply looking at catch and effort trends, but understanding these does provide useful information to assist the assessment. The classifications used to describe fishery wide trends in catch and effort levels are described below.

***Increasing trend:*** Catch and/or effort levels display an increasing trend over a five-year period.

***Decreasing trend:*** Catch and/or effort levels display a decreasing trend over a five-year period.

***No trend:*** Catch and/or effort levels display no discernible trend over a five-year period.

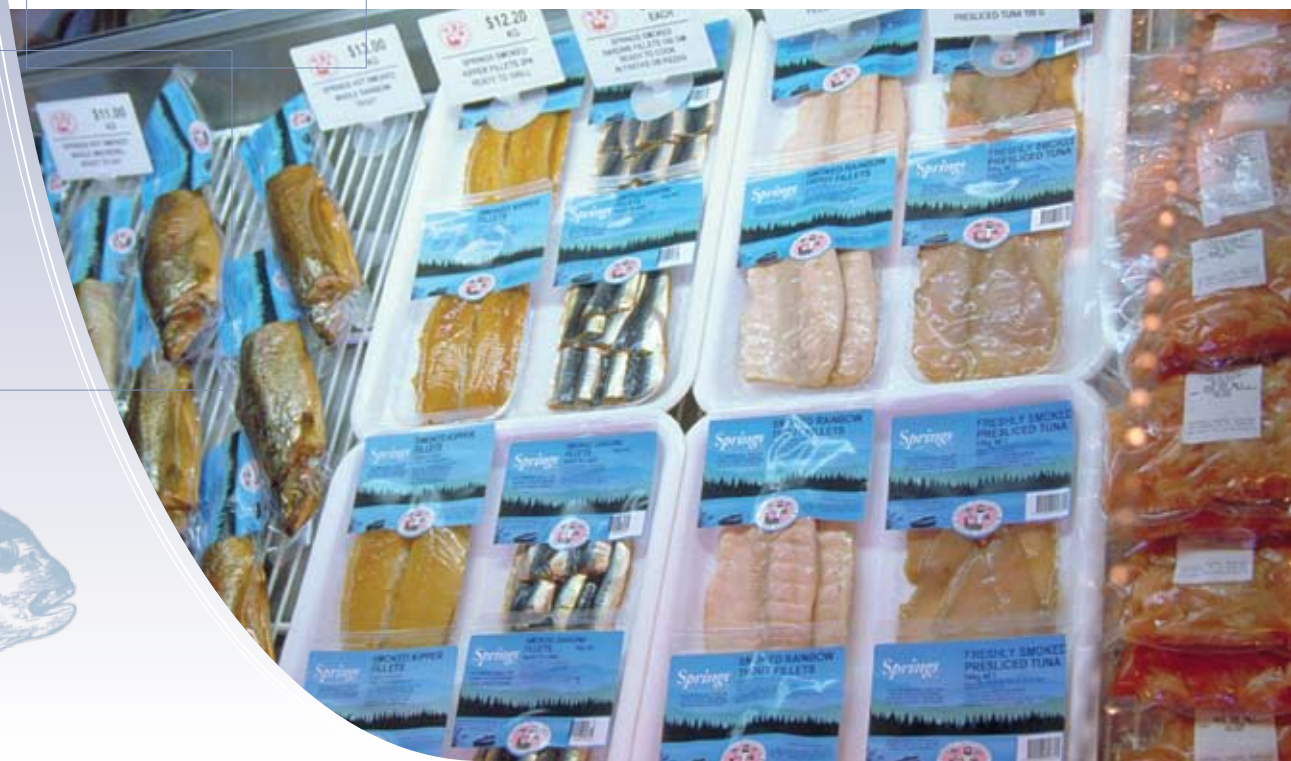
## 1.3 Stock Assessment Reliability

For most species in this report, some form of stock assessment has been undertaken, or is in the process of being undertaken or developed. The classification levels shown in Table 4 have been used to describe the robustness and reliability of the stock assessment used to form the basis of each status classification.

***Table 4.*** *Assessment rating robustness and reliability.*

| Assessment rating | Robustness and reliability |
|---|---|
| Highly reliable | The assessment incorporates: (i) syntheses and analyses of fishery dependent and fishery independent data; (ii) best-practice quantitative numerical modelling; and (iii) risk analyses. Data underpinning the assessment are considered reliable. Uncertainty in the assessment is clearly identified and its implications understood. The assessment process is reviewed internally on an annual basis and externally reviewed within a three-year cycle. |
| Reliable | The assessment incorporates: (i) syntheses and analyses of fishery dependent data; and (ii) quantitative numerical modelling. Model outputs are preliminary and derived from a model undergoing refinement. Data underpinning the assessment are considered reliable. Uncertainty in the assessment is clearly identified and its implications understood. The assessment process is reviewed internally on an annual basis and externally reviewed within a five-year cycle. |
| Indicative | The assessment incorporates syntheses and analyses of fishery-dependent data. A quantitative numerical modelling approach is being developed or undergoing substantial refinement. Uncertainty in the assessment is clearly identified. The assessment process is reviewed internally on an annual basis and externally reviewed within a five-year cycle. |
| Uncertain | The assessment may be limited to a stock status report, or the assessment is still under development and has only been completed at an elementary level. The quality of data used in the assessment may be unknown and assumptions may be made for a number of inputs to the assessment. |







## 1.4 Performance Indicators

A performance indicator is, by definition, a specific variable that can be monitored in a fishery to give a measure of the state of the fishery at any given time. Performance indicators can be general (e.g. catch and effort data), biological (e.g. egg production, recruitment, fishable biomass, etc.) or socio-economic (Gross Value of Production (GVP), economic rent, etc.). The suitability of performance indicators varies with different fisheries and often the biology of the fished species; for example, catch rates (which are an indicator of the stock's relative abundance) are relatively poor performance indicators for fisheries that target highly schooling species. The suitability of performance indicators is usually determined early in the stock status reporting process.

A series of limit reference points is defined for each performance indicator. Limit reference points specify the level at which there is an uncertain situation in the fishery and that a review may be required depending on the nature of the problem. These reference points may be positive or negative, and are set at a precautionary level relative to known levels of catch and effort, changes to management, recording systems, environmental changes, and the behaviour of fishers.

For the purposes of this report, performance indicators and their limit reference points are not specifically reported on. These data are assessed on an annual basis during the stock assessment process. More detail is provided in the relevant fishery management plan and stock assessment reports produced by SARDI (South Australian Research and Development Institute) Aquatic Sciences (www.sardi.sa.gov.au/dhtml/ss/section.php?sectID=248).