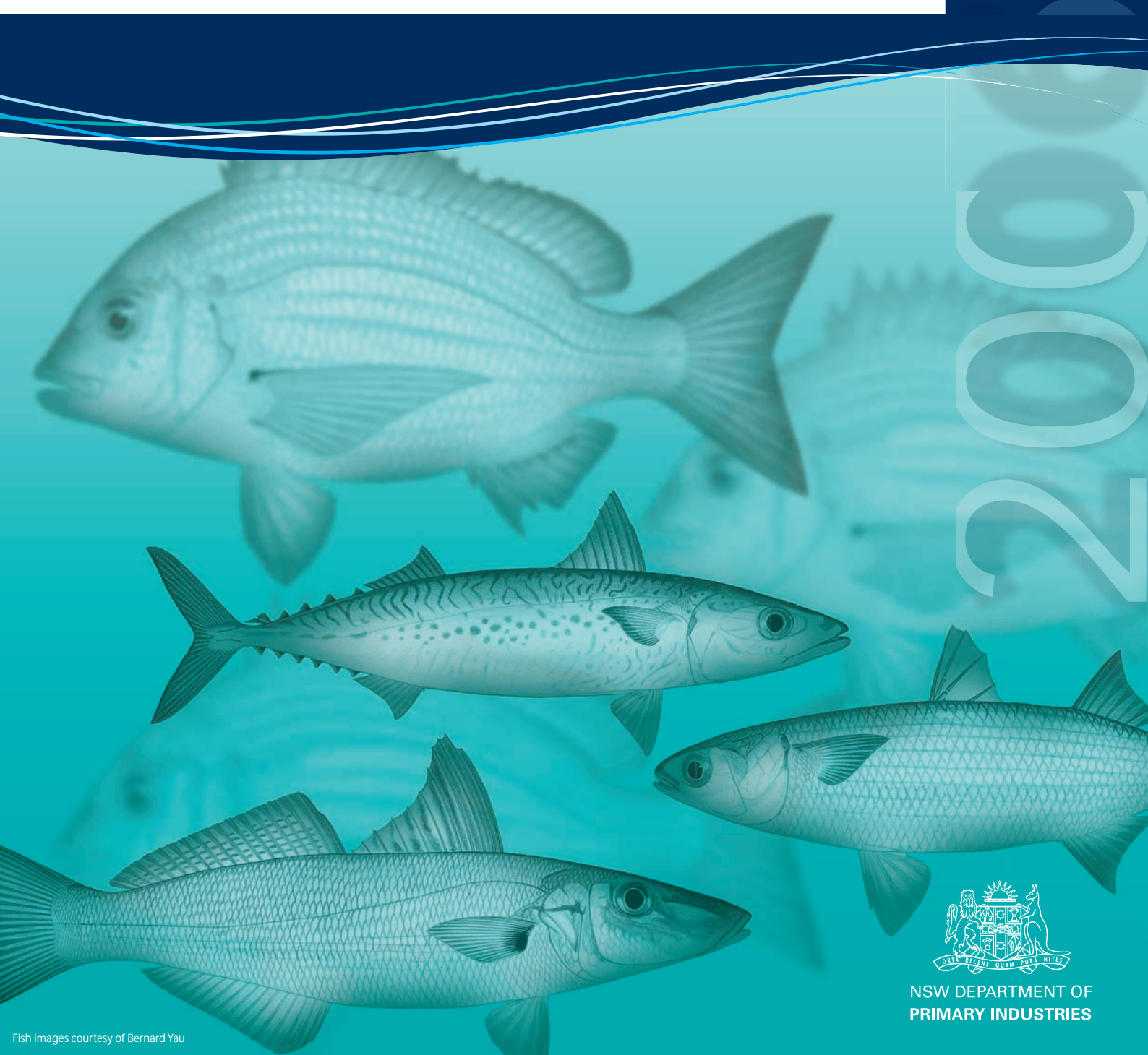


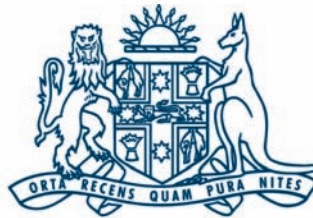
Status of Fisheries Resources in NSW 2006/07



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NSW DEPARTMENT OF PRIMARY INDUSTRIES

Edited by James Scandol, Kevin Rowling
and Ken Graham



**NSW DEPARTMENT OF
PRIMARY INDUSTRIES**

Postal Address
Wild Fisheries Research Program
Cronulla Fisheries Research Centre of Excellence
PO Box 21
Cronulla NSW 2230

Ph: 02 9527 8411, +61 2 9527 8411 (international)
Fax: 02 9527 8576
Email: cronulla.occ@dpi.nsw.gov.au

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Exploitation Status - Defined

The NSW Department of Primary Industries has adopted the following scheme to classify the exploitation status of key species. At the annual Resource Assessment Workshop (held in the second quarter of each year), departmental scientists review the information available on all key species and determine an exploitation status for each species (or group of closely related species). Scientific representatives from the Commonwealth and Queensland governments are also invited. Additional information on the assessment process is available in the report: [NSW Department of Primary Industries, 2006. *Determining the biological sustainability of wild fisheries in NSW: Concepts and definitions. An information paper by the Systems Research, Wild Fisheries Program. 27 pp.*](#)

CATEGORY	CHARACTERISTIC
RECRUITMENT OVERFISHED	<ul style="list-style-type: none"> Recruitment is being significantly or measurably suppressed as a result of a small spawning biomass Other characteristics of an 'over shed' stock (see below) are likely to be evident Unequivocal determination will require a well-calibrated population model or stock-recruitment relationship
OVERFISHED	<ul style="list-style-type: none"> Fishing mortality rates are more than double natural mortality rates Estimates of biomass are less than 30% of the estimated unshed stock Catch rates are less than 30% of the initial catch rates Length and age distributions unstable (excessively affected by recruitment, too few age or size classes in the exploitable population given a species' life history) Trends in length/age compositions are evident which indicate increasing (and/or excessive) fishing mortality The 'Spawning Potential Ratio' is less than 20%
GROWTH OVERFISHED	<ul style="list-style-type: none"> Yield per recruit would increase if length at first capture was increased or fishing mortality decreased
FULLY FISHED	<ul style="list-style-type: none"> Fishing mortality is approximately the same as natural mortality Estimates of the biomass are greater than 30% of the estimated unshed biomass Catch rates have been steady for 5-10 years and/or catch rates are greater than 30% of initial catch rates. Length and age distributions are stable Species are shed throughout their entire geographic range
MODERATELY FISHED	<ul style="list-style-type: none"> Fishing mortality is less than half of natural mortality Estimates of the biomass are greater than 70% of the estimated unshed biomass Catch rates are greater than 70% of initial catch rates Species are shed in most of their geographic range but non-fishing areas are known to exist
LIGHTLY FISHED	<ul style="list-style-type: none"> Fishing mortality less than 25% of natural mortality Estimates of the biomass are greater than 90% of the estimated unshed biomass Catch rates are greater than 90% of initial catch rates Only small proportions of the geographic range are shed Markets would likely limit catch and effort
UNCERTAIN	<ul style="list-style-type: none"> A significant amount of evidence has been collected and considered, but there are inconsistent or contradictory signals in the data that preclude determination of exploitation status
UNDEFINED	<ul style="list-style-type: none"> Commercial catch data are available but no reasonable attempt has been made to determine exploitation status

Resource Assessment Classes - Defined

There are a range of socioeconomic values associated with harvested species in NSW. A species harvested in the thousands of tonnes by commercial and recreational fishers cannot be given the same priority for assessment as other species harvested in much smaller quantities. In addition to this, the conservation values associated with some species (such as sharks) are more acute than those of others (such as some invertebrates), therefore additional prioritisation is justified. To manage this situation, each key species is associated with a target and current (2005/06) Resource Assessment Class. The attributes of these classes are defined in the table below. The difference between the current and target assessment class is used in the management of the assessment program and is also a performance indicator within the Fishery Management Strategy for each of the multi-species commercial fisheries.

Attribute	Class of Resource Assessment				
	One	Two	Three	Four	Five
Time series estimate of biomass from dynamic models	●				
Time series estimate of total, natural and fishing mortality from dynamic models	●				
Quantitative risk analysis of future harvesting using dynamic models	●				
Biological reference points	●	●			
Estimates of total, natural and fishing mortality (from catch-curves)	●	●			
Credible indicator of abundance	●	●			
Representative time-series of commercial catch	●	●	●	●	
Credible estimate of recreational catch	●	●			
Time series of age composition data (fish only)	●	●			
Local (NSW) information for growth, mortality, selectivity and maturity	●	●	●		
Time series of length-composition data	●	●	●		
Non-local (not NSW) information for growth, mortality, selectivity and maturity				●	●
Single biological species or stock	●	●	●	●	●
Complex of related species			●	●	●