

# Framework for Measuring Performance in Queensland- managed Fisheries

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April 2006

## INTRODUCTION

This framework has been developed to provide guidance to DPI&F fisheries managers in developing performance measurement systems for Queensland fisheries. It provides background on the need to develop such systems and outlines a process by which they should be developed and implemented.

## TERMINOLOGY

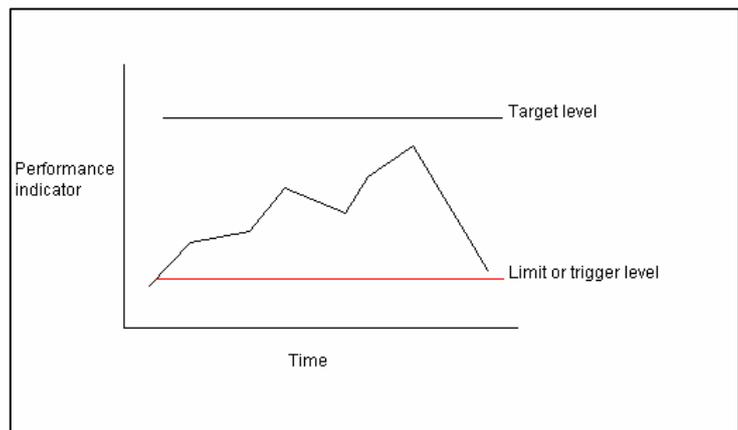
A range of different terms are used to describe quantitative and qualitative methods designed to measure the performance of fisheries management arrangements. These include, but are not limited to: performance indicators, review events, sustainability indicators, performance measures, sustainability development reference systems, trigger points, reference points, limits, targets, thresholds, and triggers.

To ensure common understanding among all fisheries stakeholders, it is important to clarify what terminology should be used, and ensure that it is used consistently across fisheries. The following definitions are proposed and are based on the broadest use and best practice across Australia:

*Operational objective:* A fishery objective to measure performance against (may be an ecological, economic or social objective). The operational objective should link appropriately with strategic objectives found in fisheries legislation.

*Performance indicator:* Quantitative information used to track changes with respect to an operational objective. The information is not necessarily restricted to numerical values. For example, categorical values may be used. Indicators should be simple, meaningful and relatively easily monitored. It is ineffective to identify indicators that require a costly new monitoring regime which cannot be financed or that industry will not accept.

*Performance measure:* A function that converts the value of an indicator to a measure of management performance with respect to the operational objective (can be a limit, a target, a trend, etc.).



*Management response:*

The prescribed management response that should occur if a performance measure is triggered. They should not be prescribed in a way as to restrict the capacity of fishery managers and industry to deal with the issue. However, they should ensure that appropriate management action is taken when a performance measure is triggered.

Note that review events currently in fisheries subordinate legislation (including the

*Fisheries Regulations 1995* and a number of fisheries management plans) tend to be a mixture of performance indicators, performance measures and management responses.

For the purposes of this framework, the range of objectives, performance indicators, performance measures and management responses are more generally referred to as *performance measurement systems (PMS)*.

## **BACKGROUND**

### **Legislative obligations**

For those fisheries that have either:

- an export component, or
- operate in a World Heritage Area,
- or may have interactions with protected species,

DPI&F is required under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to demonstrate that they are being managed in a sustainable manner. Once the Australian Government is satisfied that a fishery management regime meets sustainability guidelines, export approval is granted. These approvals are subject to a number of recommendations which have been agreed to by the DPI&F and the Department of the Environment and Heritage (DEH) at Ministerial level.

The development of performance management systems for target, bycatch, protected species and ecosystem impacts is a recommendation made by DEH for a number of fisheries approvals under the *EPBC Act*. Appendix 1 sets out the full list of recommendations made by DEH that specifically relate to development of performance management systems.

The development of performance measurement systems for Queensland fisheries represents one of a number of audit processes that are currently in place to ensure the appropriate management of Queensland fisheries resources. Overlaying this is the need to demonstrate ecologically sustainable fisheries to the Australian Government, under the EPBC Act. The development of performance measurement systems may represent progress towards eventual self-monitoring of management performance as opposed to regular assessment and intervention by the Australian Government.

### **Effectiveness of management**

Aside from the need to deliver on a Ministerial agreement between DEH and DPI&F to develop performance management systems for a range of Queensland fisheries, DPI&F also has a responsibility to the community to ensure the management arrangements in place to protect fisheries resources are effective. Performance measurement systems provide a useful monitoring and auditing tool that can be developed in collaboration with stakeholders, to ensure effective and efficient management.

## DEVELOPMENT OF PERFORMANCE MEASUREMENT SYSTEMS

A number of jurisdictions in Australia have had significant experience in developing performance measures. A comprehensive review of sustainability reference systems (i.e. performance measurement systems) by Garcia and Staples (2000) suggested that performance of fisheries management arrangements should be measured, in the interest of practicality, at the fishery level where management plans can be developed and analyses can be undertaken more easily. Fletcher *et al.* (2003) assessed Australian fisheries for their application of performance management systems and developed a process for the systematic assessment of ecological, socio-economic and governance issues at a fishery-by-fishery level (Fletcher *et al.* 2005).

This information has been drawn upon to develop a set of principles for developing performance measurement systems in Queensland. The characteristics of Queensland's fisheries and the way in which they are managed has also been taken into consideration. These principles have been developed as a guide and may provide a starting point for further discussions.

Performance management systems should:

- Be capable of measuring fishery performance against a range of operational objectives, within the broad objectives set out in the *Fisheries Act 1994* (including ecological, economic and social considerations).
- Encourage transparency in fisheries management, by measuring and publicly reporting on the performance of the fishery against clear operational objectives.
- Have the capacity to deal effectively with multi-species, multi-sectoral fisheries, byproduct species, bycatch and impacts of the fishery on the ecosystem;
- Be relatively consistent across fisheries;
- Take into account the need to regularly monitor and assess the performance measures. Costs and resourcing needs associated with this monitoring will need to be minimised.
- Take into consideration the significant work that has been done elsewhere (see 'Further reading'). The *National ESD Reporting Framework for Australian Fisheries: The ESD Assessment Manual for Wild Capture Fisheries* provides best practice information related to the development of performance measures.
- Where a performance measure is to be linked to a review event in any fisheries subordinate legislation, the timing and frequency of the review, and linkages with any other reviews should be taken into account.
- Where appropriate, incorporate the results of relevant fisheries research into the development and review of fishery performance measures.
- Involve stakeholders as much as possible during the development of performance measurement systems (particular in setting operational objectives

for fisheries), to foster ownership of the final system and ensure an open and transparent process.

## **IMPLEMENTATION OF PERFORMANCE MEASUREMENT SYSTEMS**

### ***Non-Regulatory Approach***

DPI&F is considering ways of moving towards more non-regulatory approaches to fisheries management, which have the benefits of:

- lower cost to Government
- reduced complexity of management
- increased flexibility
- consistency across management plans
- shorter time frames for implementation
- ability to respond to changing management needs

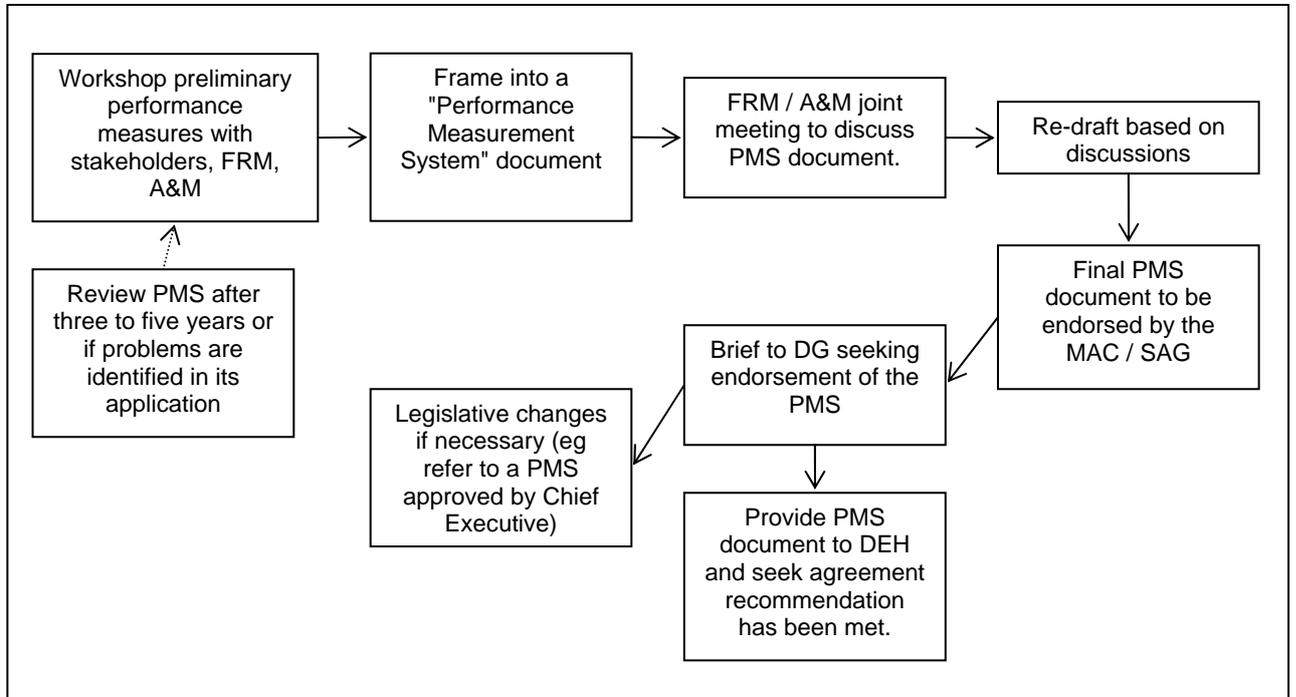
As an alternative to inclusion in subordinate legislation, this framework recommends the development of a Performance Measurement System (PMS) document for each fishery, referenced in legislation where appropriate, to explain the operational objectives, indicators and performance measures that have been developed. Each PMS document will also provide details of the assessment and monitoring requirements, as well as how performance measures will be reported upon. A template will be used to ensure consistent information is developed for each fishery.

The PMS document for each fishery will be approved by the Director-General and made available to the public on the DPI&F website.

Future legislative amendments may be required to progressively replace current review events, and provide reference to “a performance measurement system that has been approved by the Chief Executive”. There is no urgency to make these amendments, which may be deferred until an appropriate opportunity arises in the legislative timetable, such as when management plans are reviewed. The PMS will operate alongside review events contained in legislation until such time that they are removed or revised.

## DEVELOPMENT AND IMPLEMENTATION OVERVIEW

The following figure provides a conceptual overview of the process to be followed during development and implementation of performance measurement systems.



Note:

FRM = Fisheries Resource Management group  
 A&M = Assessment and Monitoring Unit, Fisheries Policy and Sustainability Group  
 MAC = Management Advisory Committee  
 SAG = Scientific Advisory Group to the MAC

## **FURTHER READING**

Fletcher WJ, Chesson J, Fisher M, Sainsbury KJ, Hundloe T, Smith ADM Whitworth B. 2002. *National ESD reporting framework for Australian fisheries: the 'how to' guide for wild capture fisheries*. FRDC Project 2000/145. Fisheries Research and Development Corporation, Canberra.

Fletcher, WJ, Chesson, J, Sainsbury, KJ, Hundloe, T, and Fisher M. 2003. *The ESD Assessment Manual for Wild capture Fisheries. Version 1*. October 2003. FRDC Project 2002/086. Fisheries Research and Development Corporation, Canberra.

Fletcher, WJ, Chesson, J, Sainsbury, KJ, Hundloe, T, and Fisher M. 2005. A flexible and practical framework for reporting on ecologically sustainable development for wild capture fisheries. *Fisheries Research*, 71, 175-83.

Garcia, SM. and Staples, DJ. 2000. Sustainability reference systems and indicators for responsible marine capture fisheries: a review of concepts and elements for a set of guidelines. *Marine and Freshwater Research*, 51, 385-426.

## Appendix 1: Performance indicators / review events required under EPBC Act approvals

Fishery	Recommendation	Due Date
Gulf of Carpentaria Developmental Finfish Trawl Fishery	By the end of 2006 DPI&F to develop fishery specific objectives, performance indicators and precautionary performance measures for target, byproduct, bycatch, protected species and impacts on the ecosystem. Data collection programs appropriate to monitor the performance measures to be implemented.	31/12/2006
Gulf of Carpentaria Inshore Finfish Fishery	Currently, Review Events are imprecisely defined and may not be adequate to ensure sustainability. Within 18 months DPI&F to develop fishery specific objectives linked to performance indicators and Review Events for target, byproduct, bycatch, protected species and impacts on the ecosystem.*	27/02/2006
Gulf of Carpentaria Line Fishery	By the end of 2006 DPI&F to develop fishery specific objectives linked to performance indicators and Review Events for target, byproduct, bycatch, protected species and impacts on the ecosystem.	31/12/2006
Moreton Bay Developmental Beche de Mer Fishery	DPI&F to develop fishery specific objectives for each of the target species and for fishery impacts on the ecosystem. DPI&F to ensure that the target species objectives are linked to performance indicators and performance measures.	16/11/2007
Queensland Blue Swimmer Crab Fishery	As part of the management planning process or no later than December 2006, DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for target, bycatch, protected species and impacts on the ecosystem.	1/12/2006
Queensland Coral Reef Finfish Fishery	DPI&F to reassess the review events in the Management Plan to ensure their appropriateness, that they are quantitative where possible and they are consistent with the application of operational objectives for the fishery. By December 2006, DPI&F is to establish revised objectives, performance measures and indicators for bycatch, protected species and impacts on the ecosystem.	1/12/2006
Queensland Deep Water Demersal Finfish Fishery	By the end of 2006 DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for target species, bycatch, protected species and impacts on the ecosystem.	31/12/2006
Queensland East Coast Beche de Mer Fishery	DPI&F to develop and implement a precautionary recovery strategy for overfished species, that specifies reference points linked to management actions, within 2 years.	6/12/2006
Queensland East Coast Beche de Mer Fishery	DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for all beche de mer species and for fishery impacts on the ecosystem within 2 years. Within three months of becoming aware that a performance measure has not been met, DPI&F to finalize a clear timetable for the implementation of appropriate management responses.	6/12/2006
Queensland East Coast Pearl Fishery	By the end of 2006, DPI&F develop fishery specific objectives linked to performance indicators and performance measures for target species and impacts on the ecosystem.	31/12/2006
Queensland East Coast Spanish Mackerel Fishery	As part of the biennial review of the ECSMF, DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for target, bycatch, protected species and impacts on the ecosystem.	31/03/2006

Queensland East Coast Trawl Fishery	As part of the Review of the Trawl Plan (to be completed and changes implemented before November 2006) the DPI&F to revise current review events and develop appropriate limit and target reference points for principal and permitted species by the end of 2005.	31/12/2005
Queensland East Coast Trawl Fishery	The DPI&F to develop sustainability risk indicators for bycatch based on the Seabed Biodiversity Mapping Project (FRDC Project number 2003/021). In the interim the DPI&F to, by the end of 2005, implement precautionary performance measures related to bycatch	31/12/2005
Queensland East Coast Trawl Fishery	The DPI&F to manage effort in the ECOTF at ecologically sustainable levels. The DPI&F to identify appropriate management issues and options flowing from the GER, make the findings publicly available, and implement any necessary management changes before the end of 2005	31/12/2005
Queensland East Coast Trochus Fishery	DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for the target species.	3/6/2010
Queensland Eel Fishery	By the end of 2006, DPI&F to revise fishery specific objectives for the adult and juvenile eel fisheries to ensure that they specifically recognise the need to manage impacts on bycatch, protected species and the ecosystem. DPI&F to also develop performance indicators and performance measures for target, bycatch, protected species and impacts on the ecosystem.	31/12/2006
Queensland Finfish Trawl Fishery (Stout whiting)	By December 2006, DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for target, byproduct, bycatch, protected species and impacts on the ecosystem.	1/12/2006
Queensland Marine Aquarium Fishery	DPI&F will develop precautionary harvest limits for CITES and EPBC Act species within 12 months.	27/11/2006
Queensland Marine Aquarium Fishery	Within 3 years, DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for target stocks, protected species and impacts on the ecosystem. DPI&F will develop precautionary harvest limits for CITES and EPBC Act species within 12 months.	25/11/2008
Queensland Marine Specimen Shell Collection Fishery	By December 2005, DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for species representative of those listed in Groups 1-3 (Table 2 of the report Ecological Assessment of Queensland's Marine Specimen Shell Collection Fishery July 2004) including, but not necessarily limited to, most commonly caught species in the fishery.	1/12/2005
Queensland Mud Crab Fishery	As part of the management planning process, DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for target, bycatch, protected species and impacts on the ecosystem (by end 2007).	31/12/2006 13/08/06
Queensland Rocky Reef Finfish Fishery	By the end of 2006, DPI&F to develop fishery specific objectives linked to interim performance indicators and performance measures for target, by-product, bycatch, protected species and impacts on the ecosystem. Within three months of becoming aware that a performance measure has not been met, the DPI&F to finalise a clear timetable for the implementation of appropriate management responses.	31/12/2006
Queensland Slipper Lobster Developmental Fishery	DPI&F to develop and implement an appropriate management regime, inclusive of specific performance measures, performance indicators and reference points, within 1 year of the fishery's recommencement.	

Queensland Tropical Rock Lobster Fishery	By the end of 2006, DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for target species and for fishery impacts on the ecosystem.	31/12/2006
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