ESD Assessment for WA Fisheries

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Introduction

The current initiatives in the reporting and auditing of ESD in some Australian fishery jurisdictions are being followed with interest by the Conservation Sector, as are the Commonwealth's environmental assessment processes. The WA Department of Fisheries far sighted, systematic and consultative approach in developing processes for ESD accountability has been welcomed by the Conservation Sector. In many ways WA Fisheries is in the vanguard of incorporating ESD reporting into renewable natural resource management and the techniques being developed for fisheries may well have applications in land & soil management, water management, forests and nature-based tourism.

The Conservation Sector understands that the processes being developed for ESD assessment will continue to evolve over time and as such we have chosen not to 'die in a ditch' over what we see as the current deficiencies. Many of the problems may only be solved when other agencies and economic sectors catch up, or better mechanisms are established to provide for a 'whole of government' and ecosystem-based approach to ESD.

The Conservation Sector has identified two major problem areas with respect to the current SCFA ESD reporting and EA Environmental Assessment processes. These are;

a) fisheries environmental assessment and ESD reporting in the context of ecosystem-based management, and
b) the use of Risk Assessment to cover the ecological knowledge gap.

Ecosystem-Based Management

The National response to the emergence of ESD principles was organised on the basis of nine economic sectors. This was a mistake because it mitigates against a systems approach to the problem. It is difficult to set ESD objectives for fisheries in the absence of over-arching ecological objectives for marine bio-regions or aquatic/ estuarine catchments. Fisheries are a significant pressure on marine ecosystems but there are cumulative impacts from many others. The objective setting process for ESD needs to address a range of questions that extend well beyond the historical domain of fisheries management.

a) What are the limits of acceptable anthropogenic change in the marine/aquatic ecosystem? i.e. What are the ecosystem-level objectives?
b) To what extent should fisheries be permitted to contribute to that change?
c) What are the ecological objectives for fisheries? How are the acceptable levels of impact to be allocated between the sectors?
d) How do the various Sectors/Agencies share the responsibility/cost for ecosystem-based management? How do fisheries engage with other users?

The concept of ecosystem-based management underpins ESD but at this stage there has been no serious attempt to introduce it. An ecosystem-based approach to fisheries management might be reflected by the following characteristics:

1. the point of reference for fisheries management performance has shifted from the fishing operation to the key interdependent components of fished ecosystem.
2. fisheries management is conducted on a bio-regional (not-stock distribution) basis under a high level (multi-sectoral) set of objectives that address the cumulative impact of all human activities on the ecosystem. (The definition of individual fisheries may have to change from management units based on attributes such as target species, zone , and gear/ fishing method to units defined by the ecosystem components eg. the food chains or benthic habitats in which the fishery is operating)
3. Performance measures will include indicators of ecosystem condition as well as of operational outcomes. This will often require the existence of un-fished reference areas within fishing grounds.
4. Research and monitoring projects will encompass interdependent ecosystem components that are not harvested or directly affected by fishing operations. In most cases a component at a trophic level above and below the target species level will be monitored. Monitoring designs that allow for the discrimination of fishery induced changes from natural variations, and from the impacts of other human activities (eg.climate change and land-based pollution) will also need to be developed.
5. Data on ecosystem state will be collected using a range of fishery and fishery — independent sampling methods. (The current reliance on 'research by autopsy' would not be acceptable in an ecosystem-based management regimen).
6. Decision rules will be constructed to provide for early and precautionary responses to unacceptable levels of ecosystem change.
7. Whilst remedial measures will involve operational factors in the fishery the point of reference for measuring performance will remain the ecological response. (eg. the KPI for albatross mortality in Tuna & Billfish is the recovery of affected albatross populations not just the bycatch statistics).
8. The fishery is managed to facilitate benefits to the

fishing and non-fishing sectors. For example marine no-take areas may have limited application for stock conservation in the Australian context but may be established by Fisheries managers in order to meet wider community biodiversity conservation, scientific reference and other objectives.

Clearly these characteristics of ecosystem-based management are not currently within the scope of fisheries agencies. Fisheries Management will not be able to 'go it alone' in moving to this sort of approach. In the mean time fisheries environmental assessment will occur without a viable planning framework and fisheries management will be based on essentially operational objectives with unknown and unspecified ecological outcomes.

Environmental Assessment processes generally have two great failings:

1. they are project/activity focussed and do not account for cumulative, impacts on ecosystems, and
2. they place the onus of proof on the respondents rather than the proponents/operators.

The latter has become a matter of concern in the Risk Assessment processes that have been adopted to deal with the lack of information on the ecological effects of fishing.

Risk Assessment

Both the SCFA (ESD) reporting and EA (Environmental Assessment) processes are utilizing Risk Assessment to deal with questions about the environmental / ecological impacts of fishing. There are two perspectives on the purpose of Risk Assessment:

1. a rigorous discipline used to of identify and prioritise the important issues requiring management action, or
2. a rhetorical device used to argue that there is no problem or need for management action.

The outcomes may be largely determined by the underlying motivation. In the Conservation Sector we frequently encounter the latter when being smoothed or 'issue-managed' by proponents.

From the Conservation Sector's point of view the credibility of any particular Risk Assessment will depend on how well the risks can be estimated from the monitored history of the activity. In most Australian fisheries there is little or no information on the structure of biotic communities prior to the introduction of intensive fishing or on how systems have responded to different levels of fishing effort in the past. It's a bit like looking at apparently intact stands of native terrestrial vegetation today without the knowledge of what has been lost due to subtle changes in fire patterns. Without historical information it would be easy to draw the wrong conclusions about the condition of the ecosystem and the ongoing impacts or to set ecological objectives.

The Conservation Sector is also concerned that the range of expertise around the table in conducting the Ecological Risk Assessments has been too narrow. Fisheries biologists dominate the working groups and have been making judgements about a variety of wildlife conservation and ecological process issues that lie outside their training and experience. Where ecosystem interactions have been identified in this 'data free zone' the onus of proof has clearly resided with the 'non-fishery' respondents. As a consequence the existence of uncertainty has not always weighted issues towards the higher level of risk.

The lack of engagement with both State and Commonwealth wildlife conservation researchers and practitioners has been of concern and yet another example of the absence of a 'whole of government' approach to ESD and ecosystem-based management. It is recognized that the non-fisheries agencies may not have seen engagement in these processes as core business or have been willing to allocate resources to them.

The Conservation Sector is generally uncomfortable with the use of the Risk Assessment methodology to hurdle the current gaps in ecosystem-based information on the impacts of fisheries. We would prefer to see an explicit acknowledgement that these are 'black box' issues and that future research and operational data gathering will be moving towards a better understanding of fished ecosystems. In particular we would like to see the development of a multi-agency/sector, bioregional, marine monitoring system capable of assessing the ecological impacts of fisheries and all other sources of anthropogenic change. The performance indicator for fisheries management would be its proportionate contribution to such a monitoring system and commensurate management response to ecosystem change. ■