Fisheries and ESD: A Short Guide

Introduction

Within Australia, all fisheries agencies and industry sectors are committed to the process of implementing ecologically sustainable development (ESD). However, the general public is largely unaware that these principles are already being applied by fisheries agencies and many stakeholder groups. In addition, even some key fishery stakeholders still do not clearly understand how this concept applies, in a practical sense. Consequently, this guide seeks to summarise what 'ESD' for fisheries means, and outline how the activities of different stakeholder groups may be affected.

What is ESD?

ESD, or Sustainable Development as it is known outside of Australia, is a concept that was first coined back in 1987 within a report by the World Commission on Environment and Development called *Our Common Future.* Despite the length of time since it's inception, ESD is still not well understood.

At its core, ESD requires governments, industry and even individuals to consider the economic, social and environmental implications of their activities and decisions. Whilst this may still sound difficult, there are now a number of systems and tools available that can assist a fishery do this in a practical and efficient manner.

The basis of ESD emerged during the 1980's following concerns about the impacts that unrestrained economic growth and development were having on the environment. Australia's formal response in 1992 was to develop a national strategy which stated that we should be *'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future (intergenerational), can be increased'*. Since this time there has been a major shift in public attitudes about what are acceptable development and environmental practices, which has resulted in increased scrutiny of government decisions and the operations of many industries. It has also led to a large number of related initiatives such as triple bottom line reporting (TBL), socially responsible investment, environmental management systems (EMS) and more recently, ecosystem based fisheries management (EBFM), to name just a few.

Such a multitude of terms and initiatives has caused considerable confusion about how they are related and if one is 'better' than another. Unfortunately, this has not helped the acceptance or implementation of any sustainable development system. These concepts are all, however, just variations on the same theme. Each includes the recognition that management must deal with the full set of ecological risks and

consequences of an activity and, to some degree, include an understanding of the social and economic implications of the activity. To assist clarify these terms, the National ESD Reference Group for Fisheries proposed that ESD should be considered the overall goal for government and the other terms (e.g. EBFM) describe strategies that can be used by various sectors/agencies to work towards this overall goal.

What is the process for the ESD assessment of a fishery?

It is important to recognize that undertaking an ESD assessment is not a process that is designed to show that an industry/sector **is** sustainable. Instead, it should be trying to determine the following - How does my fishery/industry/sector/vessel **contribute to** sustainable development?

Essentially the process asks four questions–

- *What impacts are my activities having on the 'assets[1]' that I manage?*
- *What impacts am I having on the 'assets' that someone else manages?*
- *What are the economic/social benefits and costs generated by my activities*?
- *What activities by others affect my 'assets'?*

Because it covers both the positive and negative outcomes of the industry, answering these questions may in some cases suggest that the fishery is highly valuable to the community. In other cases, however, it may conclude that, overall, the fishery is not contributing positively to ESD and it should be reviewed or even closed.

In answering any questions on the impacts, costs and benefits, it needs to be understood that what is considered acceptable performance is highly dependant upon societal values. For example, the acceptable level of harvesting can range from "do not harvest at all" (whales) to "fish them at highest long-term levels of exploitation" (prawns). Furthermore, not all issues are 'equal' and an overall negative ESD outcome may be generated from significantly poor 'performance' in just a single ecological, economic or social issue. The same outcome could also be from a series of negative scores across many ESD assessment categories (see Figure 1). The critical element is that having acceptable or even good performance in one ESD category will not automatically ensure that the community will agree that the activity should continue.

Finally, what society thinks is acceptable performance can change; community values are always subject to an ongoing process of evolution. For example, whales used to

[1] In the fisheries context an 'Asset' would include various fish species, habitats, water quality etc.

be considered a highly appropriate species to harvest, but now the reverse is true. In this respect, ESD should be seen as an ongoing process, there is no end point.

The Process

To assist implement ESD, a framework for wild capture fisheries was developed by the national ESD Reference Group (Fletcher et al., 2002; 2004)*. This framework includes a four step, risk based process that identifies all relevant ESD issues for a particular fishery; including impacts on target species and the broader ecosystem, the social and economic outcomes and the relevant governance and administrative systems. For each of these issues it determines the level and form of direct management required to generate acceptable performance across all the issues.

Example

To help explain how ESD becomes operational, the following example uses a hypothetical commercial line fishery. The main types of ESD issues for this fishery are displayed in the component tree (see below). The specific activities to be undertaken to generate acceptable performance for each of these issues will vary greatly depending upon whether you from the fisheries management agency, one of the commercial fishers, or someone involved in marine planning within this region. To summarise the potential differences, the key activities that would be undertaken from each of these three perspectives are outlined.

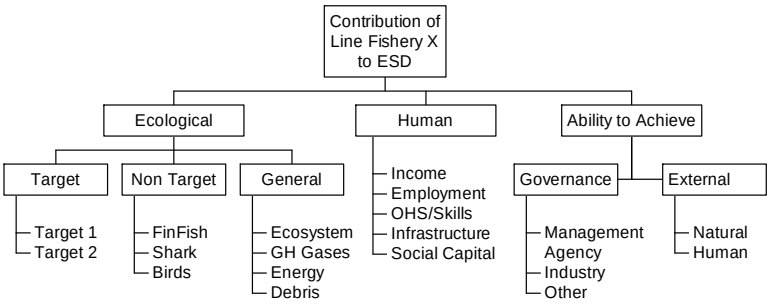

Figure 1: ESD assessment component tree

From the perspective of a fisheries management agency

The **fisheries agency** would need to (possibly within a fishery management plan):

- establish restrictions on the effort and/or catch by the fishery on each of the target species to a predetermined level. Monitor these levels, plus the capture of these species by any other sector (e.g. recreational fishers) and regularly assess the status of each of these stocks to ensure they remain at, or return to acceptable levels.

- ensure the levels of catch of the key non target species by this fishery were acceptable, plus mandate the gear types and methods of fishing to help achieve this.
- determine if the total catch of all species, plus other indirect fishing impacts, are not affecting the broader ecosystem to an unacceptable level.
- develop appropriate governance arrangements including access levels of each sector, licensing and transfer systems, compliance, monitoring and reporting systems.
- develop consultation mechanisms with industry and other stakeholders to promote a co-management approach to assist optimize the social and economic benefits to the community.

From the perspective of the individual fisher

Each **commercial fisher** in this fishery would need to (possibly through an EMS):

- maintain their catch & or effort on the target species to their specific level of entitlement.
- ensure that they use the correct fishing gear and methods to minimize their capture of non target species.
- use their vessels efficiently to minimize energy use and optimize the income generated from the fish caught.
- comply with any codes of practice for rubbish disposal at sea.
- ensure their crew and staff are well trained and employed on fair terms.
- comply with any OHS requirements.
- keep their vessels and other equipment appropriately maintained.
- participate in industry association and management consultation processes.
- assist in identifying any external impacts on their operations.

From the perspective of a marine management planning process

Marine Planners may require that (possibly within a regional marine plan):

- the combined catch of all target and non-target species taken by this fishery, and all other sectors, is consistent with the agreed regional limits.
- the levels of access to resources by participants in this fishery, compared to other competing sectors, is optimal for the community.
- the level of all non-fishing impacts (e.g. coastal development) on key fish stocks and the general environment (e.g. water quality) is kept at acceptable levels; and
- there is maintenance of major infrastructure facilities to enable this fishery (and others) to operate.

* All publications are available at the website www.ebfm.com.au

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