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## **Final Report**

# **Informing effective policies for responsible marine fisheries in South Africa. A report prepared for WWF: South Africa and the Responsible Fisheries Alliance**

**by**

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## Abstract

The 1998 Marine Living Resources Act (MLRA) is the primary legislation addressing South Africa's marine fisheries. An unintended consequence of the MLRA was that it effectively excluded many small-scale fishers from access to resources. This omission led to the development and adoption of the policy for the Small Scale Fisheries Sector (SSFP) in South Africa in June 2012. In May 2014, the Marine Living Resources Amendment Act, Act no. 5 of 2014, was passed to allow for the implementation of the SSFP.

This report assesses the MLRA, together with relevant aspects of the SSFP, in relation to modern best practices internationally, and in particular the extent to which it is consistent with and provides adequate legal support for the implementation of an ecosystem approach to fisheries (EAF). Implementation of an ecosystem approach requires that the impacts of fisheries on other sectors using or active in the same ecosystem and the impacts of those other sectors on fisheries should be taken into account in planning and management.

The assessment of the MLRA and aspects of the SSFP included analyses from two different perspectives: a legal perspective from an analysis by a legal expert who had no direct experience of the fisheries sector in South Africa; and a scientific perspective resulting from an analysis by three fisheries scientists with extensive experience in South African fisheries. Both of these perspectives established sets of criteria reflecting topics that should be included in modern fisheries legislation and scoring the MLRA against each of those criteria. In addition, the general and representative examples of fisheries-specific rights allocation policies and the conditions that are specified in the fisheries-specific permits required for fishing were examined to assess whether they reinforced the primary legislation and policy in implementation of EAF. The study also consulted stakeholders, including members of the fishing industry, members of NGOs working with the small-scale sector, and government scientists and managers.

The FAO Code of Conduct for Responsible Fisheries provided the primary benchmark of international best-practice for the purposes of this study. In addition, the primary fisheries legislation of Australia, Namibia and the United States of America provided examples of approaches used in other countries.

The two sets of assessment showed similar but not identical results, with a strong predominance of criteria that were considered to be only partially or inadequately covered by the MLRA and those that were not considered to be covered at all. The only criterion that was considered in both assessments to be fully addressed dealt with the coverage of regulation of effort and catch in the Act.

The study noted that the performance of South Africa in implementation of an ecosystem approach has, in general, been moderate to good, at least in the bigger fisheries, and recognized the good

intention of the state and stakeholders to work towards sustainable fisheries including ensuring that impacts of fisheries on the ecosystem as a whole are also sustainable. Nevertheless, this analysis has demonstrated some serious gaps and shortcomings in the MLRA that are not covered or are insufficiently covered in subsidiary policies and regulations. These shortcomings need to be addressed to ensure that the MLRA provides a comprehensive framework and the necessary authority and guidance to ensure that all of the elements of an EAF are required and supported in fisheries management and operations.

Some of the issues that are considered the most urgent and important to address include incorporation of mandatory requirements that all aspects of management and governance are open and transparent; that the principles of co-management emphasised in the SSFP are entrenched for all scales of fisheries in a revised MLRA; ensuring the use of best scientific evidence, complemented by stakeholder knowledge, in decision-making; and the need to include a mandatory requirement for detailed management plans to be developed and implemented for all fisheries. Other important areas for improvement are also described in the report.

The report concludes with the following recommendations:

1. A comprehensive revision of the MLRA to address the shortcomings identified in Table 1. The revision should be undertaken through a process that includes thorough consultation with stakeholders and input from local and international experts in fisheries policy and law.
2. The introduction of sector specific Fishery Management Manuals as referred to in the Rights Allocation Policies, or some equivalent form of management plan for each fishery-type that provides the information and guidance described above, and that requires regular review of performance and revision of the plan as required.
3. The MLRA does not give sufficient attention to the need for governance and management to be open and transparent. A revised act should include the requirement for a suitable consultative advisory forum of key stakeholders and formal endorsement of the role of fisheries-specific consultative bodies, such as the Management and Scientific Working Groups. Attention should also be given to ensuring that these, particularly the Management Working Groups, are open and accessible to representatives of all genuine stakeholder groups.
4. The MLRA is weak in terms of legislating for management decisions to be based on the best scientific evidence available while also taking into account other validated stakeholder knowledge. These principles are recognized in the more recent SSFP and need to be included in the country's primary fisheries legislation.
5. The fisheries legislation should also include requirements to ensure the implementation of coordinated sectoral planning of human uses of and impacts on the marine resources and environment

and that gives due priority to the importance and contributions of marine fisheries. Initiatives in this direction should recognize and complement as far as possible the current progress being made towards adoption of an oceans policy, as reflected in the DEA White Paper.

6. The MLRA does not go into detail in relation to addressing human well-being in fisheries, other than within the Objectives and principles. This is probably inevitable because the detailed objectives on human well-being can vary substantially from fishery to fishery and across scales. The SSFP goes into more detail, focusing specifically on the small scale sector, and similar details on human-oriented objectives for other fisheries could be included in fisheries-specific regulations such as the fisheries management plans proposed here.

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## 1. Introduction

South Africa's marine fisheries sector provides an important source of food, jobs and livelihoods for tens of thousands of people living in the coastal areas, also providing direct employment for about 26 000 people through both sea-going and land-based jobs. More than 442 000 tonnes of fish with a total value of approximately ZAR 4.2 billion (about USD 540 million at that time) was caught by the full commercial rights holders, who account for the major part of the total national catch, in 2008 (DAFF, 2012). While the sector makes a relatively small contribution to the national economy, less than 1% of the national GDP, it is important for the coastal regions and many coastal communities outside the main coastal cities are very dependent on fisheries for their livelihoods. The country's fisheries range from subsistence to large-scale commercial, with small-scale traditional fishers making up a significant proportion of the total number of people dependent on the sector.

In 1994, following the first democratic elections in South Africa, the country embarked on a drastic revision of its policies and legislation to begin to undo the legacy of apartheid and to achieve equality in all aspects of South African life. The first major development in this regard was the entry into force in 1996 of a new constitution for the country. This includes a Bill of Rights against which all the measures and actions of government must be measured. According to Witbooi (2006) the Bill of Rights had an important influence on the reform of environmental law in general, including that of the fisheries law. She reported that the environmental right within the Bill of Rights, which guarantees everyone the right to an environment that is not harmful to their health or well-being, is especially relevant to the fisheries law. It also requires government to protect the environment for the benefit of present and future generations, which must include the prevention of pollution and environmental degradation, promotion of conservation and securing ecologically sustainable development and use of natural resources, while at the same time promoting justifiable economic and social development (South Africa Constitution, 1996). While the enactment of South Africa's constitution pre-dates any formal, global recognition of the importance of an ecosystem approach to fisheries, these constitutional requirements for environmental rights effectively encompass the dimensions and goals of an ecosystem approach.

In 1997, after widespread public consultation, a White Paper on marine fisheries was published (DEAT, 1997; Witbooi, 2006). This was followed by the Marine Living Resources Act (MLRA), which was passed in 1998. Section 2 of the MLRA lays out a set of objectives and principles for the Act as a whole, which echo those of the White Paper (Witbooi, 2006). Witbooi suggested that the principles and objectives of the MLRA incorporate the main goals of the FAO Code of Conduct (FAO, 1995) and that the Act and the regulations based on the Act include many of the specific stipulations of the Code. She also stated that 'Overall, South African law adequately reflects the key fisheries management principles promoted by the international legal order.'

This generally positive opinion of the MLRA is not shared by all, however. Sowman (2011) wrote that a large number of traditional and small-scale fishers were marginalized by the MLRA because of its narrow interpretation of what constituted subsistence fishers. She reported that there are inconsistencies between the objectives listed in the Act and that government would need further guidance on how to interpret the MLRA in accordance with a suite of wider requirements of the constitution and other policy frameworks. Sowman (2011) highlighted requirements related to human rights, food security, equity and other human-dimensions of the constitution, which must also include the environmental rights enshrined in the Constitution.

The problem of the unintended exclusion of many small-scale fishers because of weaknesses in the MLRA was finally recognized and the ground set for redressing the consequences with the adoption of the policy for the Small Scale Fisheries Sector (SSFP) in South Africa in June 2012. The scope of the Policy, as described therein, refers to the recognition that traditional small-scale (artisanal) fishers had previously been excluded from receiving long-term rights, with serious implications for small-scale fishing communities, and that the Policy is intended to allow for such fishers and the communities to which they belong to receive rights in the future and to ensure their equitable access to South Africa's marine living resources. This is considered to be a constitutional obligation (SSFP, 2012, Section 1).

In May 2014, the Marine Living Resources Amendment Act, Act no. 5 of 2014, was passed to allow for the implementation of the SSFP. The MLRA Amendment Act (DAFF, 2014) included changes to some definitions in the MLRA, expansion of the objectives and principles (Section 2) to incorporate the objectives of the SSFP; and introduction of measures related to small-scale fishing and the relevant powers and duties of the Minister in this regard.

Up until 2010, the mandate for fisheries and for implementation of the MLRA was held largely by Marine and Coastal Management (MCM) in the Department of Environmental Affairs and Tourism (DEAT) and, subsequently, the Department of Water and Environmental Affairs (DWEA). In February 2010, through Proclamation No. 1 of 10 February 2010, the functions and powers for fisheries under the MLRA were transferred to the Department of Agriculture, Forestry and Fisheries (DAFF), apart from those dealing with marine protected areas, whale watching and white shark cage diving that remained with DWEA. This resulted in the break-up of MCM, with some staff being transferred to the Branch Fisheries Management, DAFF and others remaining with DWEA.

In 2013, Proclamation No. 16, 31 May 2013 by the President of South Africa transferred administration and powers for Section 43 Marine protected areas (MPAs) of the MLRA, together with all the other powers contained within the MLRA that could apply to an MPA from DAFF to the, then, Minister of Water and Environmental Affairs (and subsequently to the Minister of Environment

Affairs when that Department (DEA) was created in 2014). At the same time, a number of regulations on whales, dolphins and white sharks were listed in the proclamation and designated as being under the mandate of the same Minister. The Minister of DAFF was, however, still given responsibility for keeping a register of permits issued in respect of fishing within marine protected areas (Section 12) and for issuing rights for fishing within a MPA (Section 13 (2) (a)). Further, Act No. 21: National Environmental Management: Protected Areas Amendment Act, 2014, gives the Minister of Environmental Affairs [and Tourism] the authority to declare an MPA (Section 22A) but requires consultation with the Cabinet member responsible for fisheries before an area can be declared an MPA and in relation to any zoning that may be being considered within an MPA.

## **2. An ecosystem approach to fisheries**

The FAO Code of Conduct was developed by the member countries of the Food and Agriculture Organization of the United Nations (FAO) and adopted on 31 October 1995 by the FAO Conference (FAO, 1995). The development and adoption of the Code occurred in the years immediately following the 1992 Rio Declaration on Environment and Development. The Declaration included Chapter 17 of Agenda 21 (UNCED, 1992), which, it has been argued, is the origin of the concept of an ecosystem approach to fisheries. Given the sequence of these events, it is perhaps surprising that the Code does not refer to an ecosystem approach to fisheries, or any of the other equivalent or near-equivalent terms for an EAF, but the core elements of the approach can nevertheless be found in the Code (Cochrane et al., 2004).

The first formal acknowledgement at a global scale of the need to implement an ecosystem approach to fisheries came in the Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem, which was developed and adopted by 47 countries in October 2001 at the Reykjavík Conference of the same name. The Declaration includes the commitment "... that, in an effort to reinforce responsible and sustainable fisheries in the marine ecosystem, we will individually and collectively work on incorporating ecosystem considerations into that management..." (FAO 2001, p. 106).

This declaration was reinforced through the Plan of Implementation adopted at the World Summit for Sustainable Development in Johannesburg in 2002, in which paragraph 29 includes the call to "Encourage the application by 2010 of the ecosystem approach, noting the Reykjavík Declaration on Responsible Fisheries in the Marine Ecosystem and decision 5/6 of the Conference of Parties to the Convention on Biological Diversity" (para. 30 (d), WSSD, 2002).

The Reykjavik Declaration included a request to FAO to develop 'guidelines for best practices with regard to introducing ecosystem considerations into fisheries management'. In response the FAO Secretariat convened a workshop of some of the leading fisheries scientists from around the world. At this workshop the best available knowledge and experience in the emerging concept of an ecosystem approach was used to develop a framework for the guidelines. That framework was subsequently used

as the basis of comprehensive guidelines that were published in 2003 (FAO, 2003). While there are many other guidelines and published papers on ecosystem approaches, the FAO Guidelines provide a basic and widely used reference for defining what EAF is and how to go about implementing it.

The rationale for implementing EAF is given by FAO (2003) as:

“The purpose of an ecosystem approach to fisheries is to plan, develop and manage fisheries in a manner that addresses the multiplicity of societal needs and desires, without jeopardizing the options for future generations to benefit from the full range of goods and services provided by marine ecosystems.”

and the definition as:

“An Ecosystem Approach to Fisheries strives to balance diverse societal objectives, by taking account of the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries.”

While EAF, by definition, focuses on fisheries, implementation of an ecosystem approach requires that the impacts of fisheries on other sectors using or active in the same ecosystem and the impacts of those other sectors on fisheries should be taken into account in planning and management (FAO, 2003).

### **3. Methods**

#### **a) Criteria to evaluate extent to which EAF is addressed in the MLRA**

The detailed analysis of the MLRA in this study was approached through two largely independent analyses, one from a scientific and applied perspective and the second from a legal perspective. The concept of an ecosystem approach to fisheries is broad and the details of an approach will differ widely from one fishery to another, even when operating in the same ecosystem. It is therefore difficult to provide universal characteristics that could be used to determine whether or not a specific fishery is fully implementing EAF, or whether or not a specific policy or piece of legislation has given due attention to ensuring that EAF will be properly implemented in the national or regional fisheries sector. Two approaches were taken in this study to identify such a set of characteristics or criteria that could be used to assess the extent to which a policy, in this instance the MLRA, was consistent with and supportive of EAF. The two sets of criteria were then compared and combined into a single set.

As referred to above, the FAO Code of Conduct includes the main features of EAF and work that has been done on evaluating progress in implementation of the Code (Pitcher, 1999; Pitcher and Preikshot, 2001) provides useful insights into the features of an EAF. Those studies summarised the requirements of the Code into three fields addressing the intentions of a fisheries plan or system

(Objectives; Framework; and Precaution) and three fields addressing the outcomes (or performance) being achieved from the fishery system (Stocks, Fleets and Gear; Social and Economic; and Monitoring, Control and Surveillance or MCS). Each of those six fields was broken down into between five (for MCS) and nine (for Objectives and Precautionary Approach) attributes to give a total of 25 attributes for intentions and 18 for outcomes.

The first approach used in this study, the scientific and applied perspective was based mainly on the Pitcher (1999) and Pitcher and Preikshot (2001) attributes. In 2013, in a preliminary assessment of the MLRA and the SSFP in relation to implementation of EAF, three of the authors of this paper (Joyner, Cochrane and Sauer) aggregated the Pitcher (1999) attributes into 23 criteria (listed in Appendix 1, from Joyner, 2013). That analysis also included four attributes that were consistent with EAF but referred directly to relevant requirements of the South African Constitution and National Development Plan, including the extent to which the policies gave support to transformation to address the inequities that had resulted from apartheid (Joyner, 2013). This first approach, undertaken by natural scientists with, collectively, considerable experience in fisheries science and management in South Africa and internationally, centred on a scientific perspective of the policy requirements of an EAF. Twenty seven criteria were developed (Appendix 1).

The second approach that was followed was for an international expert in fisheries law and policy (Swan, also an author of this paper) to undertake an analysis of the MLRA independently of the scientific interpretation. In her assessment, hereinafter referred to as the legal perspective, Swan considered the FAO Code of Conduct (FAO, 1995), the FAO Guidelines on EAF (FAO, 2003) and some scientific papers including Garcia and Cochrane (2005) and Caddy and Griffiths (1995). This assessment generated 28 basic criteria (Appendix 1).

As they were, inevitably, using similar sources, the two approaches were not truly independent but did allow for differences in interpretation of the available information. Examination of the results of the two interpretations of EAF (Appendix 1) shows that there was a high degree of similarity in the two interpretations but also some differences. The legal perspective gave greater attention to fundamentals such as the definitions included in the policy, statements on the jurisdiction, and the application of the law to specified areas. It also raised globally important issues that were not picked up in the science perspective, or were assumed by the scientists to be addressed in other national policy instruments, such as the need to consider genetic resources and regulation of the introduction of alien species and the import or export of live fish. The scientific perspective broke down the human dimensions of EAF into more than one category, considered the use of reference points to be important, raised the issue of considering target resources throughout their life cycle and other criteria that collectively appear to reflect a greater emphasis on the specifically local context and on biological and ecological aspects of EAF.

The authors of this paper considered that the two approaches were complementary and that the best approach for assessing how well the MLRA addressed EAF was to combine the two into a single set of criteria. This was done by merging the two where both were addressing very similar issues. In cases where this was done, the wording from the legal perspective was used as the default wording unless there were particular reasons for including or using wording from the science perspective. The attributes referring to the Constitution and NDP were included as being locally relevant considerations within an EAF framework. Combining the two sets of attributes resulted in a total of 37 attributes that were grouped into six fields. These were, with the number of attributes in each shown in parentheses:

- General (7);
- Fisheries Management, Conservation and Development, that is divided into two sub-fields a) Management plans and measures (10), and b) Issues to be considered (9);
- Data, information and research (2);
- Access, licensing, control (5); and
- Human well-being and equity (4).

In most of the cases in which a particular criterion had been identified by only one of the two perspectives, the other group opted not to give a score against those criteria because it did not consider it could add value to the original assessment. Those scores are left blank in Table 1. In a few cases, for example genetic considerations and mechanisms for coordination with other sectors and countries, the other group recognized the importance of the criterion and opted to add comment and score. Most of these instances were through the scientific perspective incorporating criteria that had been identified by the legal perspective into its own assessment.

#### **b) Evaluation of the contribution of the SSFP and regulations subsidiary to the MLRA**

This analysis focuses on the MLRA as the primary legislation controlling marine fisheries in South Africa. The MLRA is not, however, the only legislation or policy that influences fisheries and there is, in fact, a large number of other acts that are relevant (see Section 4c below). The most significant of these is the SSFP but there are also other, more specific policies and regulations that have been developed to support implementation of the MLRA. The most directly relevant of these are the general and fisheries-specific rights allocation policies and the conditions that are specified in the fisheries-specific permits required for fishing. These various instruments were not examined with the same rigour or against the criteria used for the MLRA but were examined, after the assessment of the MLRA, to see whether they complement or compensate for gaps and weaknesses identified in the Act.

#### **c) Consultation with selected stakeholders**

In the preliminary assessment of the MLRA and supporting instruments undertaken in 2013, the criteria referred to here as the scientific perspective were sent out in the form of a questionnaire to 35

fisheries stakeholders who had been closely involved with the MLRA. The stakeholders included members of the fishing industry, members of NGOs working with the small-scale sector, and government scientists and managers. The recipients of the questionnaires were asked to score the MLRA against those criteria on a scale from 1 (not addressed or poorly addressed) to 5 (comprehensively addressed). They were asked to do the same for the SSFP and a White Paper on a new national oceans policy (DEA, 2014) but as this study focuses on the MLRA, their responses on those two are not reported here. Their collective assessment of the MLRA is summarised here by reporting all issues for which 50% or more of the responses were either favourable (a score of 4 or 5) or critical (a score of one or 2).

In addition, in 2013, interviews were conducted with a fishery lawyer, a representative from DAFF and an NGO representative using a set of questions that were based partly on the scientific perspective criteria and partly on the area of expertise for each interviewee. The interviews were used to help fill in some weak spots in the questionnaires as well as to clarify information that is lacking in the literature.

## 4. Results

### a) Extent to which EAF is addressed in the MLRA

Table 1 summarises the results of the assessment of the extent to which EAF is addressed and supported by the MLRA, providing scores on a scale of one (red) to 3 (green) against each criterion. As a result of the intentionally separated assessment processes, not all of the criteria were assessed by both groups but twenty three of the 38 criteria were. The legal perspective assessment provided a rating for Human well-being and equity as a whole, while the scientific perspective broke that category down into four criteria, taking the local context into account. Explanations for the rating given for each criterion by each perspective are provided in Appendix 2.

The two analyses showed similar but not identical results, with a strong predominance of orange (partial or inadequate provision) and red (no provision) across the criteria (Table 1). The only criterion that was considered in both assessments to be fully addressed was criterion 12: *coverage of regulation of effort and catch* in the legislation, but the scientific group also evaluated 29: *licensing requirements* (considered by the legal assessment to be only partially covered), and 26: *adequate consideration of small-scale fishers* as being fully covered. The assessment of criterion 26 as being fully covered is a consequence of amendments made to the MLRA in 2014.

Under the heading of ‘General’, criteria that were judged not to be addressed (red) by both assessments or by the only assessment in cases where only one of the assessments addressed it, were 2: *jurisdiction* and 6: *openness and transparency*. Category 5. *Stakeholder consultations/body* was

assessed as being ‘partial or inadequate provision’ in the legal perspective assessment but as having no provision in the scientific perspective assessment. The difference is because the scientific perspective took into account that the only formal body for consultation established by the MLRA, the Consultative Advisory Forum (CAF) has not been constituted for many years.

Within the category of ‘Fisheries Management, Conservation and Development a) Management plans and measures’, the absence of any requirement for *management plans* was noted by both assessments and the scientific perspective judged that the MLRA did not address criteria 13: *the need to regulate capacity as well as fishing effort* or 14: *contingency plans for emergencies*. Under b) ‘Issues to be considered’, the majority of criteria were judged by both or the only assessment as being given no provision by the MLRA. These included 20: *genetic resources*, 21: *influences of environmental factors on fisheries*, 25: *maintaining ecological relationships*, and others. Under the remaining headings, criteria 27 and 28: *data and information requirements and research priorities*, 30: *mechanisms for inter-sectoral and international cooperation*, and 31: *conflict resolution and prevention* were judged not to be covered.

Overall, these assessments indicate a strong need for the MLRA to be revisited, more than 15 years after it was initially put into effect, to address the many important weaknesses.

**Table 1. Comparative assessment of the adequacy of the MLRA by the independent legal expert (Ind. Legal) and Local Fisheries Scientists (Local Scientists) against a number of key indicative summary provisions’. The colour coding is: Red - No provision; Orange -Partial or inadequate provision; Green - Full provision.**

Criterion	Scores	
	Ind. Legal	Local Scientist
<b>General</b>		
1. Definitions	Orange	
2. Jurisdiction	Red	
3. Management objectives and principles	Orange	Orange
4. Application of the law to specified areas	Orange	
5. Stakeholder consultations/body	Orange	Red
6. The Act ensures that all aspects of management and governance are open and transparent.		Red
7. The Act emphasises the role of scientific evidence in the development of the management measures and practices.		Orange
<b>Fisheries Management, Conservation and Development</b>		
<i>a) Management plans and measures</i>		
8. Fisheries management plans	Red	Red
9. Fisheries impact assessments on the ecosystem	Red	Orange
10. Fisheries conservation and management measures	Orange	Orange
11. Precautionary approach	Orange	Orange
12. Effort and catch	Green	Green
13. The Act aims not only to regulate total effort but also to		Red

control overall fleet capacity.		
14. There are sufficient contingency plans to restrict fishing in the event of an environmental emergency or an unforeseen emergency caused by excess fishing.		
15. Spatial and temporal controls		
16. Fishing gear and methods, including stowage of gear and use of fish aggregating devices		
17. Declaration of protected areas or reserves		

<b>Fisheries Management, Conservation and Development</b>		
<i>b) Issues to be considered</i>		
18. The Act ensures that depleted stocks are rebuilt.		
19. Bycatch and discards		
20. Genetic resources		
21. The influences of environmental factors on fisheries are identified and addressed.		
22. Pollution of the fishery waters		
23. Introduction of alien species/import or export of live fish		
24. Abandoning objects in the fishery waters		
25. Maintain ecological relationship between harvested, dependent and associated species		
26. Compatible measures across the entire distribution of the resource (across jurisdictions and management plans)		

<b>Data, information and research</b>		
27. A range of data and information requirements, including monitoring and exchange		
28. Research priorities		
<b>Access, licensing, control</b>		
29. Relevant licensing requirements		
30. Mechanisms or coordination, cooperation and integration with other sectors and countries, and within the region and international community		
31. Conflict resolution and prevention		
32. MCS, including in areas beyond national jurisdiction		
33. Implementation of international conservation and management measures		
<b>34. Human well-being and equity</b>		
35. The interests of all the key stakeholders (large-scale industry, small scale fishers, local communities, conservationists, recreational groups and public groups) are addressed in the Act.		
36. Small scale fishers are adequately considered in the Act.		
37. The Act benefits all races and genders equally.		
38. The needs of the local fishing communities are met by the Act.		

**b) Evaluation of the contribution of the SSFP and regulations subsidiary to the MLRA**

The conditions attached to permits for fishing in South Africa provide a list of the main laws to which the permit is subject. This list gives a good reflection of the large number of national legal instruments that are of relevance to fisheries. In addition to the MLRA, they include:

- The National Environmental Management Act, 1998 (Act No.107 of 1998) (NEMA);
- The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEMBA);
- The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) (NEMPA);
- The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No.24 of 2008) (NEM: ICMA) and regulations promulgated thereunder;
- National Environmental Management Waste Act (Act No. 59 of 2008) (NEMWA);
- The Sea Birds and Seals Protection Act, 1973 (Act No. 46 of 1973) (SBSPA);
- The International Convention for the Prevention of Pollution from Ships Act, 1986 (Act No. 2 of 1986) (ICPPSA);
- National Ports Authority Act, 2005 (Act No. 12 of 2005) (NPAA); and others, each of which also has regulations that have been promulgated under it.

The relevance of Act No. 21: National Environmental Management: Protected Areas Amendment Act, 2014 (which amended Act No. 57 in the list above) to marine protected areas was described briefly in the previous sub-section of the results. It was not possible, though, to examine each of the rest of these laws in order to gain an overview of the suite of laws and regulations governing fisheries and the extent to which they embrace EAF. This study therefore focuses on the SSFP, a policy that falls under the MLRA, and other subsidiary policies and regulations of the MLRA.

#### Policy for the Small Scale Fisheries Sector in South Africa

The Policy for the Small Scale Fisheries Sector in South Africa (SSFP) was adopted in June 2012. As stated earlier, the primary purpose of the SSFP was to redress the previous marginalization of the small scale fisher communities and to recognize and promote the rights of small scale fishers. The Policy was developed within the framework of the MLRA and is bound by it. The SSFP is a policy and therefore cannot be compared directly to the MLRA. Nevertheless, it was developed nearly 15 years after the MLRA and it does reflect to some extent the international evolution of attitudes and approaches to fisheries and fisheries management in the intervening period. Recognition of the importance of an ecosystem approach is one example. Section 1.3 of the Policy states that ‘The Department recognizes that the ecosystems approach is central to the fisheries management system. Small scale fisheries resources will be managed in terms of a community-based co-management approach that must ensure that harvesting and utilisation of the resource occurs in a sustainable manner in line with the ecosystems approach.’ This statement implies that the ecosystem approach is

accepted by DAFF as being fundamental to its approach to fisheries management and implementation of the MLRA. A number of other statements in the Policy reinforce the general importance of ecosystem considerations including:

- This policy will establish an effective basis for determining which marine living resources are applicable to the Small scale fisheries sector. This will include: .....d) that the integrity of ecosystems and sustainability of the resource is not compromised. (Section 2.1 Relevance); and
- In adopting an approach that is community-based and supports a community orientation, the policy further recognizes the need to balance consideration of human rights while ensuring the ecological sustainability of the resource. (Section 4.1.1 Community orientation and community-based approach).

An additional strength of the SSFP compared to the MLRA is the strong emphasis placed on co-management in the Policy, as in Section 1.3, quoted above. The SSFP explains co-management as: “Co-management of marine resources means that affected stakeholders, especially fishers from fishing communities, are empowered to participate with Government in developing, implementing and evaluating fishery policies and management plans.” (Section 4.3.1 Co-management of fisheries). The policy also goes further than the MLRA in recognizing the importance of scientific advice and requires that “Conservation and management decisions officially should be based on scientific evidence available, also taking into account additional knowledge of the resources and their habitat as well as relevant environmental, economic and social factors.” (Section 4.4.3 Research for ecosystems approach to fisheries management).

Despite the fact that the SSFP does reflect these and some other aspects of modern practice more strongly than the MLRA, it does not ameliorate the weaknesses in the MLRA. This is because it is focused only on one group of fishers and scale of fishing but also because it sets out broad principles, as with the MLRA it does not give sufficient guidance on how they are to be implemented in practice.

### Rights Allocation Policies

In 2005, DEAT (then still with the mandate for fisheries) issued a series of policies related to the allocation of rights. The umbrella policy was the ‘General Policy on the Allocation and Management of Long Term Commercial Fishing Rights’ (DEAT, 2005a), but which has to be read in conjunction with a suite of fishery specific policies. The purpose of the General Policy (Section 3) is to provide guidance for the Department’s long term rights allocation process and, ‘for the benefit of applicants, to set out some of the Department’s management objectives for the immediate future.’

The General Policy demonstrates that, by then, the Department had recognized the importance of an ecosystem approach as a package, rather than as the sum of a number of independent, specific actions and objectives as provided by the MLRA. In Section 4.1 of the General Policy ‘International obligations pertaining to sustainable resource use’ it is stated that ‘In terms of the Reykjavik Declaration of 2001 and Johannesburg Plan of Implementation emanating from the WSSD, South Africa has committed itself to introducing such an Ecosystem Approach to Fisheries (“EAF”) management by 2010’ and goes on to describe the FAO Code of Conduct for Responsible Fisheries as setting ‘out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity’ and declaring that ‘As a state party [to FAO], South Africa has undertaken and is committed to apply the Code’ (DEAT, 2005a).

These commitments are carried through into the fisheries specific policies. For example, in the Policy on the allocation and management of commercial fishing rights in the hake deep-sea trawl fishery, Section 11.1 ‘Ecosystem approach to fisheries management’ declares that the fishery will be managed in accordance with the ecosystem approach to fisheries and that South Africa is committed to the implementation of an EAF in the commercial fisheries by the WSSD target date of 2010’ (DEAT, 2005b) The policy does not provide detailed guidance on what an EAF would involve for the deep-sea trawl fishery but refers to a Fishery Management Manual for the hake deep-sea trawl fishery and reports that it will be given in greater detail there. Almost identical statements are found in other fisheries specific policies from 2005 including those for traditional linefish and the small pelagics purse-seine fishery for anchovy and sardine. New fishery specific allocation policies were issued in 2013 for those fisheries for which rights expired in that year, for example the traditional line fishery and the squid fishery (DAFF, 2013a, 2013b). The policies issued at that time retained the declaration that the fisheries would be managed in accordance with EAF, that South Africa remained committed to implementing EAF by 2010 and that details on what an EAF requires in that fishery will be provided in management manuals.

As far as has been established, none of the fisheries specific Management Manuals had been written up to the time of preparing this report.

### Permits

Another opportunity for promoting or enforcing an ecosystem approach is through the system of permits that are granted to rights holders in South Africa to allow them to fish. These permits include conditions that provide a means of enforcing specific regulations intended to achieve the objectives of

DAFF and therefore the relevant policy or policies. Some examples of conditions that are relevant to EAF include the following<sup>3</sup>.

- In squid permits for 2014, under 3: Fishing areas and restricted areas, Section 3.2 stipulates ‘The Permit Holder or any of its employees or agents shall not undertake fishing, or take or destroy any fauna or flora, or in any way disturb, alter or destroy the natural environment, or carry out any activity which may adversely impact on the ecosystems in Marine Protected Areas (MPA’s) except where so permitted by the legislation.’
- The 2014 fishing permit conditions for hake, sole, horse mackerel and demersal shark (all covered by the same conditions) require the permit holder to ‘take cognisance of sustainable fishing practices and of the impacts of its fishing method on the ecosystem. In this regard steps shall be taken to minimize seabird mortality, to minimise damage to the seabed; and to minimise the incidental mortality of non-commercial species’.
- Conditions for holders of permits for nearshore fishing on West Coast rock lobster include restrictions to specific zones, specification of the gear type (ring nets), ban on transshipments, instruction for the immediate return of undersized lobster, a requirement for a VMS on the fishing vessel (larger vessels), specification of allowed landing sites, a requirement to report on octopus bycatch, and others.

The specific conditions associated with each type of permit are intended to control identified problems and areas of concern in each of the fisheries. The examples examined by the authors of this paper do not, however, provide a comprehensive or structured set of conditions that cover the gaps identified in the MLRA. Further, while in some of the instances the conditions are well-specified and easy to understand and monitor, in others such as the permit for hake, sole and other trawled species the conditions are vague and it would be difficult to determine when they are being transgressed. At what point, for example, is seabird mortality and damage to the seabed being ‘minimized’? While many of the specific permit conditions are important regulations, they do not compensate for the weaknesses in the MLRA.

### **c) Consultation with selected stakeholders**

The opinions of the 14 respondents to the questionnaire on assessment of the MLRA varied considerably. There were no criteria on which all respondents had the same view or on which all respondents were critical (scores of 1 or 2) or positive (scores of 4 or 5). The following criteria were

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<sup>3</sup> These and other permits are found on the DAFF website at [http://www.nda.agric.za/doaDev/sideMenu/fisheries/21\\_HotIssues/April2010/FishingPermitConditions2010.html](http://www.nda.agric.za/doaDev/sideMenu/fisheries/21_HotIssues/April2010/FishingPermitConditions2010.html), accessed 24 October 2014.

scored critically by a half (7) or more of the respondents (total number giving a score of 1 or 2 shown in brackets):

- Small scale fishers are adequately considered in the Act (10)
- The needs of the local fishing communities are met by the Act (8)
- The Act highlights any contingency plans for uncertainty or lack of information (9)
- The Act ensures that suitable reference points (e.g. target and limit points) are used to monitor the objectives (7)
- The Act plans are all accompanied by realistic implementation plans (7)
- The Act plans for improved disaster preparedness for extreme climate events (9).

It needs to be taken into account that in 2013, the amendments to the MLRA allowing for implementation of the SSFP had not yet been adopted. This explains the common view that the MLRA did not give sufficient attention to small scale fisheries and local communities. The other criticisms are generally consistent with the assessments undertaken from legal and scientific perspectives.

The following criteria were scored positively by a half (7) or more of the respondents (total number giving a score of 4 or 5 shown in brackets):

- The Act emphasises the role of scientific evidence in the development of the management measures and practices (9)
- The Act aims not only to regulate total effort but also to control overall fleet capacity (8)
- The objectives mentioned in the Act define the long term objectives clearly (10)
- The Act addresses the need to take the precautionary approach (8)
- There are sufficient contingency plans to restrict fishing in the event of an environmental emergency or an unforeseen emergency caused by excess fishing (9)
- The Act ensures effective monitoring, control and surveillance (10)
- The Act aims at broadening the ownership of assets of historically disadvantaged groups (13)
- The Act provides for secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development (8).

Several of these favourable assessments are at odds with the assessments from the legal and scientific perspectives. The confidence in the policy's emphasis on scientific evidence, that it requires capacity management and that it requires contingency plans for emergencies are not borne out by scrutiny of the Act itself (Appendix 2). The most likely explanation for these discrepancies is that the respondents were basing their assessments on their experiences in implementation of these issues in practice,

rather than on the extent to which they are required by law. In these and some other criteria against which the MLRA is weak, implementation in practice considerably exceeds the legal requirements.

The insights obtained from the scored questionnaires were supplemented by the three interviews, which provided explanation or background in some instances. The fisheries lawyer who was interviewed in 2013 commented on the relationship between the MLRA and SSFP, affirming that the amendments to the MLRA that were passed in 2014 had resolved key inconsistencies between the two. He reported that there were some inconsistencies between the SSFP and the National Development Plan but that parliament was attempting to rectify those. As far as the authors of this paper are aware, that is still work in progress. The lawyer also referred to the likelihood of problems in the implementation of the SSFP, expressing the view that it read more like an academic article than a policy document. In the opinion of this interviewee, the key areas in which improvements to the MLRA are required are on practical issues such as the mechanism for issuing permits; and regulating fishing through permit conditions.

The senior official from the Fisheries Branch at DAFF advised the interviewers that a legal expert, a professor at a South African university, had recently reviewed all the legislation falling under DAFF and had identified a number of weaknesses, some of which had emerged through practice in the years since the MLRA was implemented in 1998. DAFF recognized that it would be impractical to attempt to make all the required improvements in a hurry and had therefore opted initially to make only those amendments necessary for the implementation of the SSFP, with the aim of putting the other amendments through in the future. The official stated that there was a need for regular fishery performance reviews to be included in the MLRA and for some of the definitions to be adjusted and clarified. In relation to the implementation of the SSFP, the DAFF official stated that, at that time, DAFF was working within the communities to set up the legal entities required by the SSFP for allocation of fishing rights, but that the process should be phased and not rushed.

The member of a development NGO who was interviewed expressed concern that the aim to implement the SSFP was being rushed, particularly as there is currently a lack of skills and infrastructure for the small-scale fisheries. Nevertheless, the policy was important from this interviewee's perspective, with the main benefits being an anticipated increase in allocations for small-scale fishers, including in the number of species available to them. A further positive aspect was that the SSFP required a co-management approach that would need to include greater co-operation between compliance officers and fishers than had been the case under the original MLRA. This could be expected to lead to greater compliance and self-regulation.

## 5. Selected International Examples of Practices in Addressing EAF in National Legislation

As described in the introductory sections of this paper, the importance of an ecosystem approach to fisheries (or ecosystem-based fisheries management) has been recognized at the global level for the last two decades and its implementation was formally agreed as a target of the World Summit on Sustainable Development in 2002, more than a decade ago (WSSD, 2002). Policies and national legislation are typically updated on time scales of a decade or more, which would mean that some progress in incorporation of the concept of EAF could be expected in at least some other national legal instruments. Three examples, considered to be from amongst the countries most likely to have made good progress, were selected for examination in this study.

### a) Australia

Australia has been committed to the implementation of ecologically sustainable development (ESD) since the World Commission on Environment and Development in 1987. In 1992 a National Strategy for Ecologically Sustainable Development was adopted at all political levels of Australian government (Cochrane et al., 2014). Under this framework many sectors implemented policies and practices that were consistent with ESD. A Marine and Coastal Committee (MACC) was established with responsibility for coordinating policy development across all governmental bodies that addressed marine and coastal areas. In 2009, MACC was given the task of developing a national framework for a multi-sectoral ecosystem based management (EBM). Of potential relevance to future improvements of the MLRA, the key principles of EBM were identified as management that addresses ecological, social, economic and cultural objectives, is adaptive and that takes account of uncertainty. It requires ensuring that the cumulative impacts of all human activities affecting the oceans do not lead to unacceptably high threats to marine ecosystems or inter-generational equity. In 2011, however, a restructuring of some government agencies led to the closure of MACC and, up to the time of writing, there had been little progress in overall development of EBM at national level (Cochrane et al., 2014).

Within the fisheries sector, the primary legislation in Australia is the Fisheries Management Act 1991, which includes amendments that, at the time of writing this paper, included up to June 2014 (Office of Parliamentary Counsel, 2014). Despite these amendments, the current version of the Act does not include reference to EAF. It does, however, adhere to the principles of ESD that, as stated in the Act, include the application of the precautionary 'principle' and taking account of fishing impacts on non-target species and on the sustainability of the marine environment (Section 3 Objectives, Office of Parliamentary Counsel, 2014).

The principles of ESD are elucidated in Section 3A. They include decision-making processes that integrate economic, environmental, social and equity considerations in the long- and short-term; the principle of inter-generational equity; and that the conservation of biological diversity and ecological integrity should be a primary factor in decision-making. As a means of achieving the objective of ESD, promotion of greater use of valuation, pricing and incentive mechanisms is included as a principle.

Of particular relevance to the MLRA and one of the key gaps identified there, Section 17 of the Act requires the Australian Fisheries Management Authority (AFMA) to establish 'plans of management' for all fisheries, unless the Authority deem a plan as being unnecessary in particular cases. Plans must be developed in a prescribed transparent and participatory manner and 'may' include the objectives of the plan, the management measures to be used to achieve the objectives, and performance criteria and time frames for determining whether the measures are having the desired effects. Section 17 also provides a comprehensive list of the types of measures than can be used.

Since 2007, implementation of the Australian Fisheries Management Act has been guided by the Commonwealth Fisheries Harvest Strategy Policy and Guidelines (Australia DAFF). The purpose of the Guidelines is given as 'to maximise the net economic returns to the Australian community and at the same time ensure fish stocks remain at safe and productive levels'. It reaffirms the Australian Government's commitment to world's best practice fisheries management'. It is reported in the Guidelines that AFMA recognizes ecosystem based fisheries management (EBFM) as the appropriate framework for fisheries management in Australia's Commonwealth waters. The Guidelines also clarify that a harvest strategy is only one component of implementation of EBFM and that there are also other processes in place that also contribute to this goal: efforts to reduce bycatch, fishery independent monitoring and spatial management are specifically referred to.

The Harvest Strategy Policy and Guidelines can be considered as being more or less equivalent to the Fishery Management Manuals anticipated in the South African rights allocation policies but not yet developed. The Guidelines provide important detail and practical guidance on how to achieve those aspects of the Act that can be realised or partially realised through management of the harvesting component of fisheries.

## **b) Namibia**

Namibia's Marine Resources Act was promulgated in 2000, at about the time that EAF was emerging as the preferred approach for fisheries (Marine Resources Act, 2000). It therefore predates much of the work at global level, in particular through FAO, elaborating on the interpretation and application of EAF. Nevertheless, the Act was awarded a silver medal at the 2012 Future Policy Awards, which

considered policies addressing sustainable management of oceans and coastal resources (World Future Council, 2012). In announcing the awards, mention was made of Namibia's success in establishing an ecologically and economically viable fishing industry through a scientific- and rights-based system. Success in combating illegal fishing and regulating bycatch and harmful fishing gear were also referred to.

The preamble to the Act records that it was promulgated to 'provide for the conservation of the marine ecosystem and the responsible utilization, conservation, protection and promotion of marine resources on a sustainable basis'. This is complemented in Section 2 where it is stated that the Minister may set general policy on the conservation and utilization of marine resources for the purposes of achieving the greatest benefit for all Namibians, at present and in the future.

Despite these ecosystem intentions stated in the preamble, which is the only time in which the word is used in the Act. Nevertheless, the Act includes a number of important provisions related to an ecosystem approach to fisheries. An important aspect of the Act was the establishment of a Fisheries Observer Agency that is responsible for the appointment and deployment of fisheries observers. The functions of observers include observing and recording the harvesting and processing of marine resources, collection and recording biological and other information relevant to the scope of the act, and collection of samples.

The Act also established a Marine Resources Advisory Council in order to advise the Minister on a number of matters, as specified in the Act. One such matter is the determination of the total allowable catches for specified resources, which the Minister is required to base on the best scientific information available and to set after requesting advice from the Advisory Council (Section 38 (2)). The Minister may also prescribe other measures for the conservation or protection of resources and the environment and for control of harvesting. Section 48 (3) provides a list of standard measures that includes time and space controls, size and gear regulations, and capacity limitation. Section 51 empowers the Minister to establish marine reserves to fulfil objectives.

In many respects the Namibian Marine Resources Act is comparable to the MLRA and, as a policy, it does not really stand out from other national policies as being more comprehensive or effective in terms of its consistency with implementation of EAF. It is perhaps reasonable to conclude that the award from the World Future Council was, justifiably, at least as much a reflection of the success of Namibia in implementing the spirit and letter of the policy as it was of the detailed structure and contents of the policy itself.

### c) The United States of America

The United States of America (USA) has a much larger population and coastline than South Africa, a more complex political arrangement with its 50 states, and considerably greater diversity in marine ecosystems. It could therefore be expected that management of marine fisheries and other human activities on the seas and oceans within the country's EEZ would also be more complex than in South Africa. The reality meets the expectation: the USA has more than 140 statutes that are managed by more than 20 federal agencies (DeLauer et al., 2014), which results in a fragmented and sector-based approach to ocean policy (Cochrane et al. 2014).

The USA has designated eight regional ecosystems that are considered to represent, approximately, large scale ecosystems. This provides a foundation for EAF and an ecosystem approach to managing human activities in general but needs to be applied in a flexible manner at multiple spatial and ecosystem scales and under the very different contexts that apply across the national EEZ. Despite the complexities of the ecosystems and the fragmented legal and policy framework, progress is being made in achieving an ecosystem approach to ocean management, including EAF. It has been argued that the sum of all the laws that are aimed at environmental protection provides a reasonable legal framework for supporting an ecosystem approach. (Cochrane et al., 2014).

In the case of fisheries, the most important piece of legislation, the Magnuson Stevens Act, does not require an ecosystem approach but it was reported in the May 2007 version of the Act, as amended through January 12 2007 (NOAA, 2007), that several of the Fishery Management Councils had made significant progress under the Act in assimilating ecosystem considerations into the management of fisheries (Section 2 (a) (11)). Even though the Act does not explicitly state that an ecosystem approach is required, Section 303 Contents of Fishery Management Plans includes a number of requirements directly related to EAF. These include:

- Identification of essential fish habitat for the fishery and minimization 'to the extent practicable' of harmful impacts of fishing on the habitat and other actions likely to improve conservation and enhancement of these habitats ((a) (7));
- A standardized reporting methodology to assess bycatches taken by the fishery and implementation of measures to minimize bycatch and any associated mortality ((a) (11));
- Where reductions in harvest are required, the allocation of harvest restrictions and recovery benefits fairly and equitably amongst the different stakeholders in the fishery ((a) (14));
- A discretionary provision that the plan should include measures 'to conserve target and non-target species and habitats, considering the variety of ecological factors affecting fishery populations' ((b) (12)).

These detailed requirements are relevant to future improvements of the MLRA but, as with the Australian Act, more important is the requirement of the Magnuson Stevens Act for management plans (Section 302 Regional Fishery Management Councils (h) (1)). An additional point of relevance is the requirement that the conservation and management measures included in a plan are to be based on the best scientific information available (Section 301 (a) (2)).

In 2010, an Executive Order on Stewardship of the Oceans, Our Coasts, and the Great Lakes was brought into effect in the USA (Executive Order, 2010). It established ‘a national policy to ensure the protection, maintenance, and restoration of the health of ocean, coastal, and Great Lakes ecosystems and resources, enhance the sustainability of ocean and coastal economies, preserve our maritime heritage, support sustainable uses and access, provide for adaptive management to enhance our understanding of and capacity to respond to climate change and ocean acidification, and coordinate with our national security and foreign policy interests.’ It provided for the development of coastal and marine spatial plans to ‘enable a more integrated, comprehensive, ecosystem-based, flexible, and proactive approach to planning and managing sustainable multiple uses across sectors and improve the conservation’ of the zones covered by the Order. It established a National Ocean Council made up of designated officials from 10 cabinet level departments.

An implementation plan for the Executive Order, the National Ocean Policy Implementation Plan, was adopted in 2013 (National Ocean Council, 2013). The implementation plan is a broad and generic document that does not go into practical detail but reinforces the importance of an ecosystem approach throughout. Under the heading Recovering and Sustaining Ocean Health, it stresses the importance of integrated, ecosystem-based management as an improvement to the previous single species approaches. Some of the actions closely linked to EAF that are listed, under different headings, in the Plan include:

- Provide jobs and economic value by protecting and restoring coastal wetlands, coral reefs, and other natural systems;
- Prevent lost employment opportunities and economic losses associated with environmental degradation;
- Develop human capacity and the skilled workforce necessary to conduct ocean research and manage ocean resources;
- Protect, conserve and restore coastal and ocean habitats;
- Determine the impacts of interacting stressors on ecological systems, economies, and communities;

- Assess the vulnerability of coastal communities and ocean environments to climate change and ocean acidification and, in partnership with tribes, coastal communities and States, design and implement adaptation strategies to reduce vulnerabilities;
- Establish a framework for collaboration and a shared set of goals to promote ecosystem based management;
- Improve coastal and estuarine restoration efforts through better monitoring, coordination, and planning;
- Improve the science framework to support decision-making;
- Provide the high-quality data and tools necessary to support science-based decision-making and ecosystem-based management.

The Magnuson Stevens Act (NOAA, 2007) goes considerably further than the MLRA in requiring and supporting responsible fisheries management and operation that is consistent with an EAF and provides a useful reference instrument for revision of the MLRA. The more recent developments of the Ocean Policy and its implementation plan are not directly comparable to a legal act but the broad directions and emphases that they contain also provide a number of useful, globally accepted standards and requirements for fisheries management that should be included in a new MLRA.

## 6. Discussion

The performance to date of South Africa in implementation of an ecosystem approach has, in general, been moderate to good, at least in the bigger fisheries in the country. A study concluded in 2006 reported that there had not, at that time, been a rigorous attempt in any of the three countries of the Benguela Current ecosystem, Angola, Namibia and South Africa, to assess the effectiveness of fisheries management. As far as the authors of this paper are aware, that is still the case today. That study concluded, however, that in South Africa the status of target species varied from healthy to over-exploited, that progress was being made in implementation of EAF but that greater attention needed to be given to wider ecosystem concerns including bycatch and the impacts of fisheries on the ecosystem as a whole (Cochrane et al., 2009). More recent information indicates that that assessment remains valid today.

The DAFF 2012 report on the status of stocks showed that, while the status of some inshore resources, including abalone, West Coast rock lobster and some linefish species is poor, most of the offshore stocks, such as sole, hakes, Cape horse mackerel, anchovy, sardine and round-herring were in a healthy condition or, if over-exploited, were recovering (DAFF, 2012). The Southern African Sustainable Seafood Initiative (SASSI<sup>4</sup>), which includes ecosystem considerations in its assessment of the sustainability of fishing for specific species, has included on its green list anchovy, sardine, a

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<sup>4</sup> <http://www.wwfsassi.co.za/?m=1>, accessed on 24 October 2014.

number of demersal species including the deepwater hake caught by trawl, Cape horse mackerel, snoek, squid and others. The shallow-water hake and a number of other demersal and linefish species are listed as orange. An orange listing means that there are causes for concern about the status of the species or impacts of the fishery on the environment but that these are not considered sufficiently serious to assess the fishery as being unsustainable. Species that are assessed either as being unsustainably harvested or illegal are placed on the red list, which in addition to a number of species for which sale is banned, includes mainly species caught by the line fishery or the inshore trawl fishery<sup>4</sup>.

The progress that has been made can be seen as an indication of the general intention of the state and stakeholders to work towards sustainable fisheries and, within the context of the sometimes limited understanding of EAF by many stakeholders, sustainable impacts of fisheries on the ecosystem as a whole. This analysis of the MLRA and the policies and regulations falling under the mandate of the MLRA indicates that they have been developed with similarly good intentions, notwithstanding the many weaknesses that have been identified. As far as the authors of this paper have been able to discern, the Act, policies and regulations have been developed in good faith and represent a sincere attempt to provide a policy and regulatory framework that is consistent with the Constitution, including environmental rights, and best understanding of what constitutes responsible and sustainable fisheries management. Nevertheless, this analysis has demonstrated some serious gaps and shortcomings in the MLRA that are not covered or are insufficiently covered in subsidiary policies and regulations.

The areas of concern are those highlighted as red or orange in Table 1, whether by one or both of the assessments (there are no instances in which one assessment method scored an attribute as being green while the other scored it as being orange or red). The authors of this paper do not attempt to prescribe at what levels the improvements need to be made, whether at the level of the Act or in subsidiary instruments, but the MLRA must provide a comprehensive framework and the necessary authorities and guidance to ensure that all of the elements of an EAF are required and supported in fisheries management and operations.

Some of the problem areas identified in Table 1 should be able to be addressed relatively simply, for example improving the definitions and clarifying the jurisdiction of the MLRA, while others will be more challenging and will require expert input, both legal and in relation to the issue being considered, and consultation with stakeholders. Issues that are considered the most urgent and important to address include incorporation of mandatory requirements that all aspects of management and governance are open and transparent. This is globally recognized as a principle of good governance (e.g. FAO Code of Conduct 6.13, 7.1.2) and as being essential not only for facilitating

good decision-making but also for encouraging compliance with rules and regulations. An integral part of openness and transparency must be formal requirements and processes for stakeholder consultations. The MLRA requires the constitution of a Consultative Advisory Forum but this has not been constituted for many years. The Management and Scientific Working Groups established by DAFF do provide important forums for consultation in management of the major fisheries in the country and DAFF is to be commended for implementing them at its own discretion. However, the existence and efficient functioning of such consultative bodies should be a mandatory requirement, not at the discretion of the administration. There have also been concerns expressed about the limited representation of stakeholders on at least one of the sector-specific Management Working Groups (Hara, 2014), an issue that should be addressed by clear requirements in the primary legislation. The strong emphasis placed on co-management in the SSFP is an encouraging sign that government recognizes the importance of consultation and participation in fisheries management. While the SSFP explicitly links co-management to small-scale fisheries and communities, it could be expected that the same principles will be applied to medium and large-scale fisheries as well and that a future revision of the MLRA will entrench the same principles.

The MLRA is also very weak in terms of requiring the use of best scientific evidence, complemented by stakeholder knowledge, in decision-making. It is significant that Australia, Namibia and the USA include the requirement for use of the best-available science in their policies and regulatory frameworks. The positive response by nine respondents to the questionnaire on the emphasis on the role of scientific evidence in the MLRA is inconsistent with the policy itself. As mentioned previously the likely reason for this is that the respondents were actually basing their answer on what happens in practice rather than what is included in the policy. Other examples of where practice exceeds the policy requirements and has influenced the questionnaire respondents are on the control of fleet capacity and the definition of long term objectives.

A fundamental gap in the MLRA, which has led to a similar gap in practice, is the absence of a requirement for management plans to be developed and implemented for all fisheries. Operational management procedures (OMPs) are referred to in the MLRA (Section 6) and have played an important, possibly crucial, role in setting sustainable TACs and other management measures in most the commercially important fisheries in South Africa over the last two decades and more (e.g. Butterworth et al., 1997; Plaganyi et al., 2007). OMPs should remain a core component of management plans but they do not replace or substitute for a management plan.

A management plan is substantially wider than an OMP and provides details on how the fishery is to be managed and who is responsible for different tasks. It should include long-term objectives (biological, ecological, economic and social), identify the partners in the fishery, and other relevant

details (Die, 2009). FAO (2003) also provides a list of elements that should be addressed in a management plan under EAF, including the objectives, management measures and decision-rules, nature of the access rights and holders of those rights, indicators and performance measures for evaluating the success of the management measures, details on monitoring, control and surveillance, and the process and timing for regular reviews and audits of management performance. A management plan should include a full description of the types of user rights in the fishery, how they are allocated, how they can be transferred in the case of transferable rights, and the obligations of rights holders (Die, 2009). The factors and circumstances relevant to a fisheries management plan change with time and lessons are learned through experience. Therefore a fisheries management plan should be regularly reviewed and revised as necessary, and the frequency and process of reviews should be included in the plan itself (Die, 2009). This would be consistent with the view expressed by the DAFF official interviewed as part of the study that a requirement for regular fishery performance reviews should be included in the MLRA (Section 4 c)

The USA Magnuson Steven's Act dedicates nearly 5 pages to the Required and Discretionary Provisions of a Fishery Management Plan, demonstrating the importance ascribed to management plans by the regulatory agents in that country. A revised MLRA should specify the requirements for management plans and the mandated authorities, DAFF, should ensure that the management plans referred to in the Rights Allocation Policies are produced with some urgency. Addressing the need for management plans could also help to address some of the other existing weaknesses listed in Table 1 under the heading Fisheries Management, Conservation and Development. Specifying the requirements for a management plan would have to address, for example, conservation and management measures (the diverse management measures that are available should be considered for and justified on the basis of their contribution to achieving specific objectives), regulation of capacity, and greater emphasis on the need to manage bycatch. An important benefit of a management plan is that it increases transparency in management, thereby contributing to addressing another weakness identified in this study. Strengthening the need for application of the precautionary approach and providing greater detail on what is required for fisheries impact assessments and how they will be done are other weaknesses that also need to be addressed.

Some of the concerns that are raised here in relation to the MLRA are probably already addressed by other policies and Acts: for example, the management of genetic resources, the introduction of alien species and the pollution of fishery waters. In such cases, it will be unnecessary to repeat the provisions in the MLRA but it is important that fishery stakeholders are made aware of the contents of those other instruments and their implications for fisheries. This could be done in the MLRA or in subsidiary instruments as long as a comprehensive overview of all laws and regulations applying to fisheries or that are likely to influence fisheries is developed and readily available to stakeholders.

Scores in this study on criteria related to data, information and research were low. This is an area that is given emphasis by the FAO Code of Conduct (Sections 7.4 and 12), by the Magnuson Stevens Act (Fishery Monitoring and Research, Sections 401-406) and in the Australian Harvest Strategy Policy and Guidelines, again demonstrating the importance of legislation that provides a solid framework for ensuring the data and information necessary for fisheries governance and management are collected, analysed and recorded timeously and effectively, along with supporting research.

Another area in which there is a clear need for improvements to the existing MLRA is in relation to inter-sectoral and international cooperation. In the case of international cooperation, practice is far ahead of the policy requirements. South Africa is an active member of a number of regional and international bodies and arrangements addressing fisheries including, for example, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the United Nations Convention on Biological Diversity (CBD), the Southern Africa Development Community (SADC), the Commission for the Conservation of Antarctic Living Marine Resources (CCAMLR), International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Benguela Current Commission (BCC). While it may seem superfluous, it is important to include provisions in the MLRA to ensure that this cooperative approach is wisely and appropriately pursued in the future, in the event of the establishment of new bodies or arrangements or significant changes to existing ones.

In contrast, the current situation in relation to inter-sectoral coordination and cooperation on fisheries-related issues is inadequate not only in the Act and but also in practice. Act No. 21: National Environmental Management: Protected Areas Amendment Act, 2014, requires consultation between the Minister of Environmental Affairs and the Minister responsible for fisheries prior to declaration of an MPA but there are no requirements for coordination and cooperation between other Departments or sectors in planning or implementation of activities that could have cross-sectoral implications. This problem is not limited to fisheries. The White Paper on National Environmental Management of the Ocean (DEA, 2014) acknowledges that in the past the approach in South Africa has been to follow sectoral approaches, albeit under environmental guidelines, but that it is now realised that this is insufficient. The implications for fisheries of the current and likely expansion of coastal zone development, offshore mining, and exploration and extraction of offshore oil and gas in South Africa's EEZ highlight this problem and the urgent need for coordinated and cooperative planning and development. The White Paper points out that through the experiences of other states it has been found that a coordinated approach to sectoral management helps to serve both economic and environmental goals. The Paper presents an approach for progressive adoption of coordinated sectoral planning within the existing legal framework. DAFF and the fisheries sector need to consider whether the approach proposed in the White Paper will serve the needs of the fisheries sector. If it will, then a

revision to the MLRA should include the guidance and mandate required for DAFF and the fisheries sector to function effectively within the proposed approach. If the coordinating approach proposed in the White Paper is found not to be adequately suited to the fisheries sector, consideration should be given as to whether the best approach for fisheries is to promote modifications to the White Paper approach, address the shortcomings through revisions to the MLRA, or a combination of the two.

In terms of the human benefits of fisheries and the related goals of the Constitution and National Development Plan, the combination of the MLRA and the SSFP provide a sound and comprehensive legal framework. The challenge, which has not yet been seriously addressed, will be how to implement the SSFP. The future of South Africa's fisheries, at least the inshore fisheries and resources they depend on, will depend on wise, science-based and equitable implementation within the framework of an ecosystem approach. For this to be achieved, while at the same time ensuring productive offshore medium and large-scale fisheries, the amendments made to the MLRA in 2014 to accommodate the SSFP should be seen as only the start and the concerns and recommendations described in this paper should be given serious consideration.

## 7. Conclusions

Whilst recognising both the limited scope of this review, which focused only on the core instruments directed specifically at fisheries, and the authors' understanding of the current challenges faced by DAFF and government in general, we suggest the following interventions for urgent and immediate attention;

1. A comprehensive revision of the MLRA to address the shortcomings identified in Table 1. The revision should be undertaken through a process that includes thorough consultation with stakeholders and input from local and international experts in fisheries policy and law.
2. The introduction of sector specific Fishery Management Manuals as referred to in the Rights Allocation Policies, or some equivalent form of management plan for each fishery-type that provides the information and guidance described above, and that requires regular review of performance and revision of the plan as required.
3. The MLRA does not give sufficient attention to the need for governance and management to be open and transparent. A revised act should include the requirement for a suitable consultative advisory forum of key stakeholders and formal endorsement of the role of fisheries-specific consultative bodies, such as the Management and Scientific Working Groups. Attention should also be given to ensuring that these, particularly the Management Working Groups, are open and accessible to representatives of all genuine stakeholder groups.
4. The MLRA is weak in terms of legislating for management decisions to be based on the best scientific evidence available while also taking into account other validated stakeholder

knowledge. These principles are recognized in the more recent SSFP and need to be included in the country's primary fisheries legislation.

5. The fisheries legislation should also include requirements to ensure the implementation of coordinated sectoral planning of human uses of and impacts on the marine resources and environment and that gives due priority to the importance and contributions of marine fisheries. Initiatives in this direction should recognize and complement as far as possible the current progress being made towards adoption of an oceans policy, as reflected in the DEA White Paper.
6. The MLRA does not go into detail in relation to addressing human well-being in fisheries, other than within the Objectives and principles. This is probably inevitable because the detailed objectives on human well-being can vary substantially from fishery to fishery and across scales. The SSFP goes into more detail, focusing specifically on the small scale sector, and similar details on human-oriented objectives for other fisheries could be included in fisheries-specific regulations such as the fisheries management plans proposed here.

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## Appendix 1: Criteria for assessing coverage of an ecosystem approach.

The criteria, or attributes that should be expected to be covered in a fisheries policy that is consistent with and promoting an ecosystem approach to fisheries as developed by i) an international fisheries lawyer and ii) a small group of fisheries scientists. The criteria are shown in the order presented in the original analyses and cannot be compared across rows. For the science perspective, criteria marked with an \* are based on the South African constitution and the National Development Plan rather than on a generic understanding of the requirements of EAF.

<b>Legal Perspective</b>	<b>Science Perspective</b>
Definitions	The Act emphasises the role of scientific evidence in the development of the management measures and practices.
Jurisdiction	The Act aims not only to regulate total effort but also to control overall fleet capacity.
Management objectives and principles	Small scale fishers are adequately considered in the Act.
Application of the law to specified areas	The Act benefits all races and genders equally.
Stakeholder consultations/body	The needs of the local fishing communities are met by the Act.
Fisheries management plans	The Act adequately addresses the impacts of multiple fisheries on biodiversity.
Pollution of the fishery waters	The Act aims to minimise human impacts such as pollution and waste.
Fisheries impact assessments on the ecosystem	The role of the ecosystem approach is sufficiently emphasised in the Act.
A range of data and information requirements, including monitoring and exchange	The influences of environmental factors on fisheries are identified and addressed.
Research priorities	All sources of fishing mortality on a stock throughout its area of distribution and over the whole life cycle of the stock are accounted for in the Act.
Fisheries conservation and management measures	The objectives mentioned in the Act define the long term objectives clearly.
Precautionary approach	The interests of all the key stakeholders (Large-scale industry, small scale fishers, local communities, conservationists, recreational groups and public groups) are addressed in the Act.
Effort and catch	The Act ensures that all aspects of management and governance are open and transparent.
Spatial and temporal controls	The Act is monitored and amended regularly and adequately.
Fishing gear and methods, including stowage of gear and use of fish aggregating devices	The Act addresses the need to take the precautionary approach.
Bycatch and discards	The Act highlights any contingency plans for uncertainty or lack of information.
Genetic resources	There are sufficient contingency plans to restrict fishing in the event of an environmental emergency or an unforeseen emergency caused by excess fishing.
Introduction of alien species/import or export of live fish	The Act ensures that suitable reference points (e.g. target and limit points) are used to monitor the objectives.

Abandoning objects in the fishery waters	The Act ensures that fishing methods and fishing mortality on target and bycatch-species and impacts on habitat are maintained at sustainable levels.
Maintain ecological relationship between harvested, dependent and associated species	The Act plans are all accompanied by realistic implementation plans.
Compatible measures across the entire distribution of the resource (across jurisdictions and management plans)	The Act ensures that depleted stocks are rebuilt.
Declaration of protected areas or reserves	The Act ensures effective monitoring, control and surveillance.
Relevant licensing requirements	Illegal, unregulated and unreported fishing is controlled by the Act.
Mechanisms or coordination, cooperation and integration with other sectors and countries, and within the region and international community	The Act aims to increase employment.*
Conflict resolution and prevention	The Act aims at broadening the ownership of assets of historically disadvantaged groups.*
MCS, including in areas beyond national jurisdiction	The Act plans for improved disaster preparedness for extreme climate events.*
Implementation of international conservation and management measures	The Act provides for secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.*
Governance should ensure human and ecosystem well-being and equity	

## Appendix 2: Justifications of the scores awarded against the different criteria.

The justifications for the scores provided in the assessments of the MLRA done from the Legal and Scientific Perspectives.

Indicative Provision	Legal Perspective Assessment		Scientific Perspective Assessment	
	Score	Justification	Score	Justification
<b>General</b>				
1. Definitions	2	S1. Following need review: person, right of access, South African waters, small-scale fisheries	-	Not addressed
2. Jurisdiction	1	- Definition of South African waters needs review, does not refer to Marine Zones Act.	-	Not addressed
3. Management objectives and principles	2	S.2. Recognizes “need to protect the ecosystem as a whole”, as an objective. It is badly stated, because an objective should be “Protection of the ecosystem as a whole”, a “need” is not an objective or a principle. Three new principles added by 2014 Amendment are compatible with EAF.	2	2. The objectives of the Act are provided in Section 2 but are broad and potentially conflicting so of limited direct application to management. There is no requirement in the Act for setting fisheries specific objectives or principles.
4. Application of the law to specified areas	2	S.2. Major loophole, as the Act applies only to SA waters, and not to any land-based activities.	-	Not addressed
5. Stakeholder consultations/body	2	Apart from the 5-person Consultative Advisory Forum (CAF) for Marine Living Resources, with a limited	1	Section 2 refers to the need for ‘broad and accountable participation in the decision-making processes’. There are some references to the need for the Minister to

	Legal Perspective Assessment		Scientific Perspective Assessment	
		mandate as described elsewhere, there is no mention of stakeholder consultations/body		consult with the CAF (e.g. 19 (1), 43 (3) but these irrelevant given the dormant state of the Forum.
6. The Act ensures that all aspects of management and governance are open and transparent.	-		1	Section 15 (1) specifies the need to inform the public by notice in the <i>Gazette</i> of any declaration of fisheries management areas. There are no other requirements for openness or transparency.
7. The Act emphasises the role of scientific evidence in the development of the management measures and practices.	-	The “best scientific evidence” should be used as a basis for fisheries management – but it should be balanced with social, economic, cultural, environmental and other factors.	2	1 (xvi), 1 (xli). Although the definitions refer to scientific evidence, there is very limited and inadequate reference to a role for scientific advice and research (Sections 6 (iv); 50 (4); and 83).
<b>Fisheries Management, Conservation and Development</b>				
<i>a) Management plans and measures</i>				
8. Fisheries management plans	1	The Act refers to “Fisheries Planning” (Chapter 3, Part 1) but there is no reference in this Part to fisheries management plans, or any process or legal authority. Planning is unduly limited by reference to two management tools only: total allowable catch or effort, or a combination. Stakeholder consultations are not mentioned, nor are monitoring/evaluation.	1	Part 1 of Chapter 3 is titled ‘Fisheries Planning’ but does not address or require the formulation of management plans. 15 (1) allows the Minister to approve a plan for fisheries in a fisheries management area. 38 (1) prohibits international agreements for access to fish in South African waters from exceeding an applicable management plan. However, there are no stipulations that a plan is required for managing a fishery in these paragraphs or anywhere else in the Act.

	<b>Legal Perspective Assessment</b>		<b>Scientific Perspective Assessment</b>	
9. Fisheries impact assessments on the ecosystem	1	<p>The Minister may require an environmental impact assessment together with an application for a right to undertake commercial or subsistence fishing, mariculture or fish processing.</p> <p>However, the legislation does not provide for:</p> <ul style="list-style-type: none"> <li>• standards/criteria for such assessment;</li> <li>• fisheries impact assessments as such;</li> <li>• payment for assessment and other responsibilities of applicant;</li> <li>• denial of a right based on an unsatisfactory assessment;</li> <li>• denial of a right where the assessment is not done in accordance with standards/criteria or within a stated period of time;</li> </ul>	2	<p>Paragraph 18 (3) stipulates that the Minister ‘may’ require an environmental impact assessment before granting a right to engage in fishing, mariculture or fish processing.</p>
10. Fisheries conservation and management measures	2	<p>S.14, 18. The implementation of RBM is provided for, but not the EAF.</p> <p>There is only reference to total allowable catch (TAC) and total allowable effort</p>	2	<p>Sections 14 and 21 (3) address total allowable catches and total allowable effort, which are the only measures seriously addressed in the Act. Section 77 (2) (e) lists a range of management measures that can be prescribed by the Minister. 18 (7) refers to sustainable</p>

	Legal Perspective Assessment		Scientific Perspective Assessment	
		(TAE) or a combination of both in the text of the Act, but not to other management tools although some are referenced in the Regulations.		conservation measures, specifically reference to vessel and gear types and fishing areas. Section 44 lists a number of prohibited fishing methods. Section 21 (3) (e) refers to by-catch, although only in relation to bycatch rights.
11. Precautionary approach	2	There is a “need” to apply the precautionary approach, but no obligation; it is only a principle. To have teeth, the Act should state that management measures “shall be based” on the precautionary approach, or alternatively on principles that are stated as principles and not “needs”.	2	Section 2 (c) states the need to apply precautionary approaches however, this is the only place in the act which refers to the approach.
12. Effort and catch	3	The Act focuses on catch and effort as the basis for management, and as such is reasonably well covered. However, there is a wide range of other management tools that are omitted.	3	The use of catch (particularly total allowable catch) and effort controls are the subject of Section 14 and are also addressed in Sections 21 (3) (c); and 24.
13. The Act aims not only to regulate total effort but also to control overall fleet capacity.	-		1	21 (3) (a). The Act only mentions the control of vessels and does not explicitly say how; there is no mention of controlling the fishing capacity. Fleet capacity refers to the total ability of the vessels to catch, whilst effort will refer to the numbers of vessels, time spent fishing and mesh size.
14. There are sufficient contingency plans to restrict fishing in the event of an	-	There are no plans in the Act	1	Section 16 gives the Minister certain powers if an emergency occurs that endangers or could endanger fish or

	Legal Perspective Assessment		Scientific Perspective Assessment	
environmental emergency or an unforeseen emergency caused by excess fishing.				aquatic life. It does not cater for disaster prevention or mitigation. It only gives the Minister authority to suspend or restrict fishing and does not deal with the wider implications of ecosystem management of fisheries. is in place to counteract any unforeseen emergency
15. Spatial and temporal controls	2	Although the Act provides for the establishment of Marine Protected Areas, it does not require criteria for a framework for such establishment, e.g. objective, components, mandate, management measures, monitoring, conflict resolution.	2	Chapter 4, Section 43 provides for the establishment of marine protected areas, the reasons for establishing a protected area and actions that can be prohibited in them. Section 77 (2) (e) lists management measures that can be prescribed by the Minister. These include closed seasons and closed areas.
16. Fishing gear and methods, including stowage of gear and use of fish aggregating devices	2	S.49. There are loopholes because the section requires gear to be stowed “in the prescribed manner”, meaning a regulation must be adopted. It would be more direct to require that it not be readily available for use.  The MLRA applies this to foreign vessels only, and not to all vessels.	2	Section 18 addresses granting of rights, within which paragraph (7) allows the Minister to determine conservation and management measures, including particular vessels and gears. Chapter 5 (Sections 44 to 49) cover prohibited activities and stowage of gear. Section 48 requires a permit for the use of fish aggregating devices.
17. Declaration of protected areas or reserves	2	S.15, 43. Fisheries management areas and marine protected areas are provided respectively.	2	Section 43 addresses marine protected areas. It provides the reasons for which a marine protected area may be established, which includes to facilitate fisheries management (43 (1) (b)). Administration

	Legal Perspective Assessment		Scientific Perspective Assessment	
		No framework is provided for their establishment.		of and powers for Section 43 were transferred from DAFF to the, then, Minister of Water and Environmental Affairs through Proclamation No. 16, 31 May 2013
<i>b) Issues to be considered</i>				
18. The Act ensures that depleted stocks are rebuilt.	-	.	2	43 (1) (a) allows Marine Protected Areas to be declared on the basis of allowing stock recovery. There are no other explicit measures aimed at recovery of depleted stocks.
19. Bycatch and discards	2	The Act does not specifically refer to controlling bycatch and discards as a management tool. FAO has adopted International Guidelines on bycatch and discards, and the essence of the instrument should be included in fisheries laws.	1	The Section 2 objectives and principles, refers to (e) the need to protect species that are not targeted and (f) the need to preserve marine biodiversity, but does not refer specifically to managing bycatch; Section 44 mentions prohibited fishing methods but does not mention minimising bycatch species. Section 21 (3) (e) is the only section that refers to by-catch, although this is only in relation to bycatch rights.
20. Genetic resources	1	There is no reference in the Act to the management of fish genetic resources, <i>inter alia</i> by requiring a permit for the introduction of genetically modified fish into the fishery waters.	1	There is no reference in the Act to genetic resources, or implications that they need to be managed or conserved.
21. The influences of environmental factors on fisheries are identified and addressed.	-	There are no mechanisms for coordination with other sectors of government (e.g. environment, agriculture) to promote a healthy	1	All the sections referring to environment are talking about the effect the fishery has on the environment and not the other way around. The Act does not give serious attention to the broad basis on which

	Legal Perspective Assessment		Scientific Perspective Assessment	
		environment for the fisheries resource.		management decisions should be made.
22. Pollution of the fishery waters	2	S. 2, 77(w). Minimisation of pollution is an objective of the Act, and regulations may be made to prevent marine pollution. Otherwise there is no substantive provision prohibiting pollution.	2	The objectives (2 (g)) highlight the need to minimise pollution. 77 (w) empowers the Minister to make regulations to prevent marine pollution and 39 (3) refers to insurance related to pollution for foreign vessels, but there are no detailed requirements or regulations on the subject.
23. Introduction of alien species/import or export of live fish	1	No provisions to control the introduction of alien species or assess their impact on the ecosystem where they may have been introduced (legally or illegally).	1	There are no references to or provisions for controls on introduction of alien species.
24. Abandoning objects in the fishery waters	1	No prohibition on the dumping of gear, moorings and other objects into the fishery waters or abandoning them if they may adversely affect fish or related notification requirements.	1	There are no references to or provisions related to lost or abandoned objects.
25. Maintain ecological relationship between harvested, dependent and associated species	1	No reference to ecological relationship between harvested, dependent and associated species, which forms part of management in regional fisheries organizations such as the IOTC and in international instruments such as the UN Fish Stocks Agreement.	1	There are no references to or provisions related to the maintenance of ecological relationships in South Africa's marine ecosystems.
26. Compatible measures across the entire distribution of the	2	The Act does not implement requirements of international	1	It may be implicit in Section 2, but there are no explicit requirements that measures

	<b>Legal Perspective Assessment</b>		<b>Scientific Perspective Assessment</b>	
resource (across jurisdictions and management plans)		<p>fisheries instruments and regional organizations (see note in previous cell) to take compatible measures for stocks across their range,</p> <p>This would include, for example, authorizing South African flagged vessels to comply with IOTC measures on the high seas.</p>		<p>should be compatible across the entire area of distribution of a stock. Such a requirement could have been expected in Part 1 Determination of allowable catches and applied effort, Sections 14 – 17, but there are no implied or explicit references there to this matter.</p>
<b>Data, information and research</b>				
27. A range of data and information requirements, including monitoring and exchange	1	<p>There is only one substantive provision on information: Section 12 requires the Director-General to keep a register of all rights of access, other rights, permits and licences granted or issued in terms of this Act, which shall be available for inspection by the public at prescribed places and times.</p> <p>Where the holder of a right or license has given information which is not true, it may be cancelled.</p> <p>Otherwise, the Act has no dedicated provisions relating to data and information, a serious omission. For example, there is no</p>	1	<p>The only reference to data and information requirements is found in Section 50 (3) on Observers, where it is stated an observer shall exercise scientific, compliance, monitoring and other functions.</p>

	<b>Legal Perspective Assessment</b>		<b>Scientific Perspective Assessment</b>	
		<p>requirement for information required to be given under the Act to be true, complete and correct, and nothing about confidential information.</p> <p>Section 77(2)(u) allows for regulations to be made requiring the provision of statistical and other information related to fisheries, including fishing log books, and the format in which the information shall be recorded. However this does not require persons to provide statistical and other information relating to fisheries management where required, for example, by the Director-General under a fisheries management plan.</p>		
28. Research priorities	1	The 5-person Consultative Advisory Forum for Marine Living Resources is empowered to make recommendations and directives on areas of research, including multi-disciplinary research, but there is no responsibility on the administration.	1	Section 6 prescribes advice on areas of research, including multi-disciplinary research to the Consultative Advisory Forum, but this body has not been operative for many years. Section 50 (3) refers to observers exercising scientific functions and Section 83, under General Provisions, enables the Minister to permit scientific research or experiments. There is therefore no guidance or provisions to ensure supply and application of the

	Legal Perspective Assessment		Scientific Perspective Assessment	
				research and scientific advice necessary for effective management.
<b>Access, licensing, control</b>				
29. Relevant licensing requirements	2	<p>The licensing requirements are not very extensive. Although the Act provides for specific cases of licensing (e.g. of vessels, leasing of rights etc.) it does not provide, in accordance with best legal practices:</p> <ul style="list-style-type: none"> <li>• transparent and accountable procedure established for application, consideration, denial, appeal etc. (E.g. a licensing committee, its membership and criteria for licence issuance, as well as requirements for licence denial).</li> <li>• a clear statement of the licenses that are required under the Act (e.g. no person may undertake the following activities without a license or right...)</li> <li>• Scope to issue different categories of licence in the future.</li> </ul>	2	Licensing requirements are generally well covered in the Act, including Section 13 on Permits, Sections 18, 19 and 20 (as amended by Act No. 5 of 2014: Marine Living Resources Amendment Act, 2014) on Granting of rights and Section 28 on Cancellation and suspension of rights, licences and permits.
30. Mechanisms or coordination, cooperation and integration	1	Provisions for cooperation and coordination with other	1	Very little provision is made for international cooperation and is limited to

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with other sectors and countries, and within the region and international community		sectors/agencies could take several forms, such as: requirements for consultations at stated levels (e.g. The Minister/Permanent Secretary may, in consultation with XXX, declare/regulate XXX) noted below; establishment of an interagency advisory body; and as appropriate, designation of areas where the Fisheries authority has primary responsibility to avoid future turf battles.		Section 42 on implementation of international conservation and management measures, which addresses only exchange of information and actions to be taken if a foreign vessel is suspected of contravening such measures.
31. Conflict resolution and prevention	1	-This is generally not included, best legal practices may provide for a designated process, official, body or panel to prevent or resolve disputes.	1	The only place in which conflict resolution is addressed is in Section 43 (1) (c), which makes allowance for the declaration of marine protected areas in order to reduce conflicts between competing users.
32. MCS, including in areas beyond national jurisdiction	2	There is no provision for control over South African nationals and vessels in areas beyond national jurisdiction, including the high seas and waters of other countries. This is inconsistent with responsibilities under international fisheries instruments (e.g. UN Fish Stocks Agreement) and regional fishery bodies.	2	Chapters 5 (Prohibited Activities...), 6 (Law Enforcement) and 7 (Judicial Matters) provide reasonably comprehensive coverage on MCS. However, the Act is weak on what MCS entails within an EAF.
33. Implementation of international	2	S.42. This is an exceptionally	2	Limited to Section 42 on implementation

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conservation and management measures	<p>weak provision and a serious loophole. It is restricted to the discretionary provision and exchange of information and notification of evidence to the flag State where a foreign fishing vessel was involved in contravention of measures.</p> <p>Although the Minister and others must have regard to “any relevant obligation of the national government or the Republic in terms of any international agreement or applicable rule of international law “ as a general principle of the Act, this section does not provide, in accordance with international law:</p> <ul style="list-style-type: none"> <li>• that the measures are the legally binding there is a clear duty and obligation to implement them, as opposed to a discretionary authority relating only to the exchange of information and notification of evidence to a flag State;</li> <li>• South African sovereignty or sovereign rights over its maritime areas,</li> </ul>	<p>of international conservation and management measures, which addresses only exchange of information and actions to be taken if a foreign vessels is suspected of contravening such measures.</p>

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		and right to take action where it has implemented a measure that was violated by a foreign vessel.		
34. <b>Human well-being and equity</b>	2	There is no specific part, outside general Objectives and Principles, giving teeth to the responsibilities of Ministers, Director-General or other type of governance that ensure human (and ecosystem) well-being and equity. Some Councils and other bodies are established, but do not appear – on paper – to have the necessary authority and processes.		
35. The interests of all the key stakeholders (Large-scale industry, small scale fishers, local communities, conservationists, recreational groups and public groups) are addressed in the Act.			2	Section 14 (2)of the Act (as amended in May 2014) requires the Minister to determine allocations of total allowable catch, effort or both between small-scale, recreational, local commercial and foreign fishing, respectively. No mention is made about the interests of other stakeholders such as the public or NGOs.
36. Small scale fishers are adequately considered in the Act.			3	While neglected in the original Act of 1998, the amendments introduced in May 2014 and their links to the 2012 Policy for the Small Scale Fisheries Sector in South Africa provide good consideration of small-scale fishers, notwithstanding uncertainties in how the 2012 policy will be implemented
37. The Act benefits all races and			2	Section 2 (j) includes within the objectives

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genders equally.				and principles the need address historical imbalances and to achieve equity while 2 (k) of the 2014 Amended Act refers to the need to promote equitable access to and involvement, particularly in relation to women, the youth and people with disabilities. Section 18(5) requires the Minister to give particular regard to the historically disadvantaged when granting rights. This can be taken to refer directly to Sections 2 (j) and (k).
38. The needs of the local fishing communities are met by the Act.			2	The 2014 Amended Act gives high prominence to fishing communities (which are defined in the Act in terms of being small-scale fishing communities). Section 19 empowers the Minister to, amongst other actions, recognize a community to be a small-scale fishing community subject to meeting specific criteria, establish areas or zones where small-scale fishers can fish, procedures to be applied for allocation of rights to small-scale fishers within communities, The Minister should also consider incorporation of a community-based approach in allocation of rights within small-scale fisheries. The greatest weakness in this area is the lack of sufficient guidance on and plans for application of these stipulations.

