AN ANALYSIS OF WETLANDS RELATED POLICY AND LEGISLATIVE FRAMEWORK:

EXPLORING POLICY INTERPLAY ACROSS ENVIRONMENT, AGRICULTURE AND WATER SECTORS IN SOUTH AFRICA AGAINST THE RAMSAR CONVENTION FRAMEWORK

by

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DECLARATION

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ABSTRACT

Wetlands are multifaceted and dynamic ecosystems that offer essential services to both the environment and societies globally. South Africa has recognised this value by committing to the Convention on Wetlands of International Importance, especially as Waterfowl Habitat, also known as the Ramsar Convention and its principles of wise use of wetlands, amongst others, as a Contracting Party in 1975. In the present trajectory of declining wetland ecosystems, South Africa has honored its commitment to wetland protection, conservation and wise use by building a solid legal foundation. A variety of legal measures and instruments have been formulated to ensure the realization of the environmental right in the new democratic dispensation. However, the array of legislation governing wetland management has resulted in unintended fragmented approaches to wetland management which has weakened the effectiveness of the legal framework. This study explores the interplay across the environment, agriculture and water sectors by analyzing the South African wetland related policy and legislative framework, with a focus on the legal regime. Through employing a qualitative analysis and purposefully selecting nine national laws which have provisions relating to wetland management from the identified sectors, this study revealed that the South African legal regime which is relevant to wetlands generally supports the implementation of the selected Ramsar Convention measures. The study further revealed a strong cohesion in the national laws governing wetlands with respect to the legal protection and conservation of wetlands as can been seen on the objectives of the various legislation that were analysed. This cohesion in the national laws is also a result of environmental protection being one of the constitutional rights, which makes it a guaranteed right in South Africa. The thesis recommends a review of the national legislation to ensure a more coordinated approach across all sectors in the planning requirements, cooperative governance and inconsistent approaches to regulating declaration of different types of wetlands and related areas as protected areas. The study recommendations can be systematically implemented through the proposed national wetland policy that is being initiated in South Africa, once it is in place.

OPSOMMING

Vleilande is veelsydige en dinamiese ekostelsels wat wêreldwyd noodsaaklike dienste aan die omgewing, sowel as die samelewing bied. Suid-Afrika het hierdie waarde erken deur hom as kontrakterende party in 1975 aan die Konvensie van Vleilande van Internasionale Belang, veral as watervoëlhabitat, ook bekend as die Ramsar-konvensie, en sy beginsels van onder meer die wyse gebruik van vleilande, te verbind. Met die huidige agteruitgang in vleiland-ekostelsels, het Suid-Afrika sy verbintenis tot die beskerming, bewaring en wyse gebruik van vleilande gestand gedoen deur ’n stewige regsgrondslag te bou. ’n Verskeidenheid wetlike maatreëls en instrumente is saamgestel om die verwesenliking van hierdie omgewingsreg in die nuwe demokratise bedeling te verseker. Hierdie verskeidenheid van wetgewing rakende die bestuur van vleilande het egter aanleiding gegee tot onbedoelde gefragmenteerde benaderings tot die bestuur van vleilande en dié het die doeltreffendheid van die wetlike raamwerk verswak. Hierdie studie ondersoek die wisselwerking tussen die omgewing-, landbou- en watersektore deur die Suid-Afrikaanse vleilandverwante beleid en wetgewende raamwerk te ontleed, met die klem op die regsregime. Deur ’n kwalitatiewe ontleding toe te pas en doelbewus nege nasionale wette uit die bovermelde sektore, met bepalings rakende vleilande, te selekteer, toon hierdie studie dat die relevante Suid-Afrikaanse regsregime vir vleilande oor die algemeen die uitvoering van die geselekteerde Ramsar-verdragsmaatreëls ondersteun. Hierdie studie het voorts ’n stewige samehang in nasionale wetgewing getoon wat betref die wetlike beskerming en bewaring van vleilande – dié blyk ook uit die oogmerke van die verskeidenheid wetgewing wat van naderby bekyk is. Dit word ook toegeskryf aan die feit dat omgewingsbeskerming een van die grondwetlike regte is en derhalwe ’n gewaarborgde reg in Suid-Afrika is. Die tesis vra dat die nasionale wetgewing hersien word om ’n meer gekoördineerde benadering te verseker in alle sektore wat betref die beplanningsvereistes, samewerkende bestuur en teenstrydige benaderings rakende die regulering van die verklaring van verskillende soorte vleilande en relevante gebiede tot beskermde gebiede. Die aanbevelings van hierdie studie kan stelselmatig geïmplementeer word wanneer die voorgestelde nasionale vleilandbeleid, wat op die oomblik in Suid-Afrika geïnisieer word, in plek is.

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ABBREVIATIONS AND ACRONYMS

ARC-ISCW	Agricultural Research Council – Institute for Soil, Climate and Water
BLG	Biodiversity Liaison Group
CARA	Conservation of Agricultural Resources Act 43 of 1983
CBD	Convention on Biological Diversity
CEPA	Convention's Programme on Communication, Education, Participation and Public Awareness
CITES	Convention on the International Trade in Endangered Species
CMA	Catchment Management Agency
COP	Conference of Parties
CSAB	Chairs of Scientific Advisory Bodies
DAFF	Department of Agriculture, Fisheries and Forestry
DALRRD	Departments of Agriculture, Land Reform and Rural Development
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
DEFF	Department of Environment, Forestry and Fisheries
DMR	Department of Mineral Resources
DoA	Department of Agriculture
DWA	Department of Water Affairs
DWAF	Department of Water Affairs and Forestry
DWS	Department of Water and Sanitation
ECA	Environment Conservation Act 73 of 1989
ESA	European Space Agency
GLTP	Great Limpopo Transfrontier Park
GTOS	Global Terrestrial Observing System
ICBP	International Council for Bird Preservation
IDP	Integrated Development Plan
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

IPCC	Intergovernmental Panel on Climate Change
IPPC	International Plant Protection Convention
IWRM	Integrated Water Resource Management
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IUCN	International Union for the Conservation of Nature and Natural Resources
IWRB	International Waterfowl Research Bureau
JLG	Joint Liaison Group
MEA	Multilateral Environmental Agreement
MEC	Member of Executive Council
MoU	Memorandum of Understanding
NEMA	National Environmental Management Act 107 of 1998
NEMBA	National Environmental Management: Biodiversity Act 10 of 2004
NEMICMA	National Environmental Management: Integrated Coastal Management Act 24 of 2008
NEMPAA	National Environmental Management: Protected Areas Act 57 of 2003
NWA	National Water Act 36 of 1998
NWRS	National Water Resource Strategy
PAIA	Promotion of Access to Information Act 2 of 2000
RSA	Republic of South Africa
SA	South Africa
SANBI	South African National Biodiversity Institute
SDG	Sustainable Development Goals
SEMA	Specific Environmental Management Act
SPLUMA	Spatial Planning and Land Use Management Act
TFCA	Transfrontier Conservation Area
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNEP	United Nations Environment Programme

UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
USFWS	United States Fish and Wildlife Service
WCHC	Western Cape High Court
WCMC	World Conservation Monitoring Centre
WHCA	World Heritage Convention Act 49 of 1999
WRC	Water Research Commission
WRM	Water Resource Management

CHAPTER 1: INTRODUCTION

1.1 Introduction

Wetland ecosystems have historically been afforded extremely limited protection globally and in South Africa alike (Bellamy & Dugan 1993). This was exacerbated by the absence of a framework for multilateral agreements to guide the global community on how to protect, conserve and manage these important wetland ecosystems (Scanlon & Iza 2006). The Convention on Wetlands of International Importance, especially as Waterfowl Habitat that is also known as the Ramsar Convention, was adopted in Ramsar, Iran, on 2 February 1971. It is one of the first global conservation treaties to recognise the significant role that wetland ecosystems play for the benefit of both the environment and humanity (Bowman 2002). Through this treaty, the need to integrate the management of wetland ecosystems into a number of relevant areas of public policy making has been established (Ramsar Convention Secretariat 2010a).

This Chapter provides an introduction of the study. It commences by providing contextual background to the research and proceeds to provide a rationale behind the need to analyse wetlands related policy and legislative framework by exploring the policy interplay across the three chosen sectors of environment, agriculture and water in South Africa, and then benchmarking the national legislative framework against the Ramsar Convention framework. It then concludes by outlining the aim and objectives of the study.

1.2 Contextual background

Wetlands are an integral part of human survival (Ramsar Convention Secretariat 2018). Their ecosystem functions, services and values lead to innumerable benefits which directly support large populations and provide services beyond their natural environment (MEAB 2005). Their ecological functions have been proven to be of scientific, social and economic importance hence their relationship with humans

needs to be carefully managed and their ecological character protected (Cowan 1999).

In the 1950s, ecologists such as Garreth Hardin started intensifying the awareness on wise use of natural resources, driven by observing the increase in overexploitation of these natural resources at the time (Su, Liu & Christensen 2010). Such natural resources include ecosystems, which the Millennium Ecosystem Assessment Board (MEAB) defines as "dynamic complex of plant, animal and microorganism communities and the non-living environment interacting as a functional unit" (MEAB 2005: v). The assessment which was carried out by the MEAB synthesised existing scientific literature and reiterated the earlier concerns about increasing loss and degradation of wetlands due to their overexploitation (MEAB 2005).

The concept of wise use emerged and gained recognition in the Ramsar Convention community through the conceptual framework that was developed by the MEAB following their ecosystem assessment. The conceptual framework indicates that "wise use" refers to the "maintenance of ecosystem benefits/services to ensure long term maintenance of biodiversity as well as human well-being and poverty alleviation" (Ramsar Convention Secretariat 2010a). This paradigm shift occurred during the era in which the Ramsar Convention was adopted, to reverse the overexploitation of natural resources including wetlands and informed by the increased recognition for rapid degradation and loss of wetland ecosystems (Matthews 2013).

The paradigm shift lead to, amongst others, the adoption of a definition of wise use by the Conference of Parties in its third meeting that took place in 1987 in Regina, Canada (Ramsar Convention Secretariat 2016). Article 3 of the Ramsar Convention advocates for the wise use of wetlands (Ramsar Convention Secretariat 1994[1]). Further to this, the paradigm shift resulted in a call for coordination and support of current and future policies and regulations relating to the conservation of wetlands

[1] The Convention on Wetlands of International Importance, especially as Waterfowl Habitat that is also known as the Ramsar Convention, was adopted in Ramsar, Iran, on 2 February 1971 and certified by the UNESCO with amendments in 1994.

and their ecological character by the Ramsar Convention (Ramsar Convention Secretariat 1994). A direct consequence of this call has been an emergence of global wetland related policies which adopt a conservation approach that is fundamentally informed by human interest for maximum sustainable yield; hence there is a specific focus on wise and sustainable use of wetlands in the treaty (Ramsar Convention Secretariat 2010b).

However, the need for absolute protection of certain wetland ecosystems from consumptive utilisation is also recognised and accommodated in the Ramsar Convention to ensure their preservation (Ramsar Convention Secretariat 2018). Article 2.1 of the Ramsar Convention calls for the designation of suitable wetlands and their inclusion in a "List of Wetlands of International Importance" by Contracting Parties as one of the strict conservation measures (Ramsar Convention Secretariat 1994, Article 2.1). Such wetlands and other wetlands that may not be included in the Ramsar List but located in legally protected areas are protected from consumptive use (Ramsar Convention Secretariat 2018). The resulting legal instruments currently regulating wetland management globally are then informed by this policy environment.

In further explaining the relationship between policy and legislation, Taljaard and Venter (2006) identify a specific need as a trigger for a policy position. This need is transformed to a public policy statement by expressing the desired outcome whilst outlining the principles to be followed in achieving the desired outcome. In this regard, policies are then not laws, but an articulation of the will of the State, whereas laws are designed to execute such policies (Lowi 2003).

The Ramsar Convention – to which South Africa is a Contracting Party – highlights the intention for global coordination of policies to ensure that wetland ecosystems are protected, conserved and used wisely in recognising the enormous contribution they make towards a safe and healthy environment, as well as on the well-being of humanity (Ramsar Convention Secretariat 2010b). As a result, particular resolutions have been adopted by the Conference of Parties (COP), which is a decision-making body of the Ramsar Convention, to ensure that wetlands are protected, conserved

and used wisely through the development of supportive national policies. Resolution X.24, which was taken at the 10th meeting of the COP in 2008, is one such resolution which reaffirms Article 5 of the Ramsar Convention by encouraging Contracting Parties to ensure that their national policies and related policy instruments uphold the ecological character of wetlands (Ramsar Convention Secretariat 2008).

The South African government has developed a policy and legislative framework in the new democratic dispensation which upholds environmental protection as one of the constitutional imperatives, where wetlands are concerned (Rossouw & Wiseman 2004). The constitutional clause that explicitly refers to a right to an environment that is protected is section 24, which creates a fundamental duty for the state to preserve the environment by preventing pollution and ecological degradation, protect, and conserving the environment, which includes wetlands. Through this clause, all three spheres of government, nationally, provincially and locally are responsible for environmental management and are required to fulfil the above-mentioned duties (RSA 1996). However, despite comprehensive policy and legislative protection, an assessment report produced by the South African National Biodiversity Institute (SANBI) in 2011 declared wetlands as being extremely vulnerable and placed them at the top of South Africa's critically endangered ecosystems (SANBI 2018).

The declining trends in the state of wetlands in South Africa have been used to support the arguments made by researchers that there has been an inadequate attention to the protection, conservation and wise use of wetlands in South Africa despite all-inclusive policy and legislative frameworks in the country (Booys 2011). This failure to protect, conserve and manage wetlands can be attributed to an abundance of legislation that remains fragmented amongst the different sectors, including water, environment and agriculture (Kidd 2008).

1.3 Rationale for the study

The South African policy and legislative framework for environmental management – and particularly wetlands – remains fragmented post-1994. This fragmentation feeds to the various sectors which include and are not limited to the environment, water

and agricultural sectors, resulting in poor protection, conservation and management of wetlands in the country. In view of the fragmented environmental system, it is necessary to establish areas of interplay in the policy and legislative framework between the three chosen sectors to strengthen the protection, conservation and wise use of wetlands. It is also necessary to ensure that the national legislation is consistent with the requirements of the Ramsar Convention framework.

1.4 Research aim and objectives

1.4.1 Research aim

The study aims to investigate and analyse the policy and legislative framework on wetlands protection, conservation and management in South Africa, investigating areas of policy and legislative interplay across the three identified sectors of water, environment and agriculture. Moreover, it assesses the compliance of the national legal responses against the selected Ramsar Convention measures for wetland laws.

1.4.2 Research objectives

Premised on the research aim, the objectives of the study are as follows:

- To establish the extent to which South Africa incorporated the Ramsar Convention provisions into its domestic policies and legislation given that South Africa is a Contracting Party to the treaty.
- To analyse the South African policy and legislative framework to determine the level of protection that is offered to wetlands and highlight the areas of interplay across the three chosen sectors.
- To evaluate the level of national compliance with the Ramsar Convention by conducting a comparative analysis between national legislation and the recommended set of indicators from the 1999 Ramsar Convention Guidelines for Reviewing Laws and Institutions to promote the conservation and wise use of wetlands.

- To make recommendations for improving wetland protection in the South African legal regime.

1.5 Overview of chapters

The study comprises of eight chapters as follows:

Chapter 2 sets out on the methodology of the study. It details the research design, data collection, analysis and legal interpretation approaches whilst maintaining trustworthiness of the study.

Chapter 3 discusses wetlands in South Africa. It explores the legal South African definition and benchmarks it against the international definition that is adopted by the Ramsar Convention. This comparative assessment is important as it seeks to demonstrate that the South African understanding of wetlands is aligned to international thinking. It then examines the importance and current state of wetlands. The need for a supportive policy and legislative framework is explored in relation to ensuring wetland sustainability.

Chapter 4 considers the current international regime on wetlands. It examines the obligations of the Ramsar Convention on the signatories of the treaty against South Africa's compliance to these obligations.

In chapter 5 a critical analysis of South Africa's policy and legislative framework on wetland management is presented. This includes a review of the historical account on how the policy and legislative framework of the three chosen sectors have evolved over time until the present day. It further determines how the current policy and legislative framework provides for the protection, conservation and management of wetlands whilst highlighting the interplay between the three sectors.

After analysing the relevant prescripts of the South African policy and legislative framework for wetlands, chapter 6 evaluates the level of compliance of the national policy and legislative framework against the framework of the Ramsar Convention.

Chapter 7 concludes by providing responses to the study objectives including the areas of interplay in the South African policy and legislative framework and the extent to which this national framework responds to international objectives. Recommendations of main adjustments that are required in the South African policy and legislative framework are then provided.

CHAPTER 2: METHODOLOGY

2.1 introduction

This chapter discusses the research methodology that was employed in the study. The chapter begins by providing a brief description of the overall research design that was adopted. It then explains the methods employed for data collation and synthesis in the study. In relation to the synthesis of the gathered information through literature search, this research applies two methods of analysis. The first one is the document analysis, which is basically an interpretation of information to give meaning to it. When undertaking this analysis, content analysis becomes a feeder for analysing and identifying patterns of data information.

The second method of analysis is the teleological analysis, which is simply translated as a purposeful legal interpretation. This approach is applied when interpreting relevant pieces of legislation that have been identified through a literature search. The chapter goes on to provide a detailed explanation on how rigour, in terms of accuracy or thoroughness, as well as trustworthiness, is ensured in this study before concluding with ethical considerations.

2.2 Qualitative research design

The research utilises a non-empirical qualitative research design in order to interpret and understand the wetlands context. It does this by appreciating different perspectives that may be of utmost importance in understanding policy and legislative analysis. The qualitative research design can be defined as a method that seeks to understand processes and behaviours in their natural settings, through which the researcher tries to make sense of phenomena and the meanings that people attribute to them (Denzin & Lincoln 2000).

It is against this background that the research seeks to exploit the benefits of qualitative research design. This enables the researcher to interpret and understand the phenomena of wetlands management in the context of policy and legislation.

During the process of interpreting and analysing the policy and legislative frameworks governing wetland management across the three chosen sectors of environment, agriculture and water, the institutional and organisational contexts are also taken into consideration. This helps to tease out the complexity, depth, and richness of the wetlands settings being studied (Parker 2004).

Shank (2002) highlights the fundamental goals of qualitative research as insight, enlightenment and illumination. In particular regard to this study, the importance of integrating the management of wetlands into the provisions of relevant national policies and pieces of legislation is assessed. This results in the study that allows for an extensive analysis of wetlands-related policy and legislative framework. During this analysis, the policy interplay is also explored across the environment, agriculture and water sectors in South Africa against the Ramsar Convention policy and legislative frameworks. In doing so, the study attempts to probe the complexity, ambiguity, and variability of wetlands that is often ignored by researchers and policy-makers (Shank 2002).

The qualitative research design further enables the researcher to recognise and appreciate diversity, differences, and uniqueness of South Africa's policy and legislative framework on wetland management. In essence, the qualitative research design is a tool which enables the researcher to contribute to a deepened understanding of wetlands, coherence of policy and legislation governing them in South Africa, and offering a new perspective in contributing to policy debate and formulation (Flick 2002).

2.3 Data collection

The study identifies, selects, appraises and synthesises evidence that is related to the analysis of wetlands-related policy and legislative framework in South Africa. It then benchmarks the South African framework against the framework of the Ramsar Convention. With regard to identifying literature that forms part of this process, it is imperative to note that this is done through a comprehensive literature search. The aim of this literature search is to identify all available evidence which is relevant for

the analysis of wetlands-related policy and legislative framework – in South Africa and globally through the framework of the Ramsar Convention.

Policies and pieces of legislation that have been identified through the literature search for the purposes of the study are as follows:

Constitutional Regime: The Constitution of the Republic of South Africa (RSA), 1996.

Environmental Regime: Mountain Catchment Areas Act 63 of 1970; Environment Conservation Act 73 of 1989 (ECA); National Environmental Management Act 107 of 1998 (NEMA); World Heritage Convention Act 49 of 1999 (WHCA); National Environmental Management: Protected Areas Act 57 of 2003 (NEMPAA); National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA) and National Environmental Management: Integrated Coastal Management Act 24 of 2008 (NEMICMA).

Agricultural Regime: Conservation of Agricultural Resources Act 43 of 1983 (CARA); Forest Act 122 of 1984; National Forests Act 84 of 1998 and Discussion Paper: Wetlands in Agriculture, 2007.

Water Regime: The Water Act 54 of 1956; White Paper on National Water Policy, 1997 and National Water Act 36 of 1998 (NWA).

Various policies legislative and academic sources have been searched using six strategies as follows:

(1) the library: books, e-journals, catalogues and databases;
(2) the State's archives: old government documents, files, policies, and legislation;
(3) the Ramsar Convention archives: handbooks and background information;
(4) the computer: internet;
(5) literature using keywords associated with wetlands and their management;
(6) an informal search using different snowballing techniques, such as searching for literature that has been referenced by different journal articles that are of

utmost relevance to the topic that needs to be addressed (Langer, Tripney, Erasmus, Tannous, Chisoro, Opondo, Zigana, Obuku, Van Rooyen & Stewart 2017).

2.4 Document analysis

Document analysis is the method of acquiring information from the data that was attained through a literature search. Many researchers understand document analysis as a form of qualitative research in which documents are interpreted by the researcher to give voice and meaning around an assessment topic (Bowen 2009). However, the widely accepted definition of document analysis is foregrounded by Corbin and Strauss (2008), who describe document analysis as a systematic procedure which allows for the review or evaluation of documents. Moreover, they assert that similar to other analytical methods that are applied in qualitative research, document analysis requires that information must be examined and interpreted in order to bring forth meaning, gain more understanding, as well as develop empirical knowledge (Corbin & Strauss 2008).

Given the above-mentioned background, document analysis is chosen for this study for the following reasons:

(a) Documents can provide data on the context within which wetlands are protected, conserved and used wisely, nationally and internationally through the Ramsar Convention archives. This has helped the researcher to understand the historical roots of specific issues from within the country and from an international perspective;
(b) Information contained in documents can suggest some questions that require probing and situations that require observation as part of the research. These include questions around the need for the national policy and legislative framework to ensure that wetlands are protected, conserved and wisely used;
(c) Documents provide supplementary research data;
(d) Documents provide a means of tracking change and development; and
(e) Documents can be analysed as a way to verify findings or corroborate evidence from other sources (Yin 1989).

The document analysis approach is therefore more of a data selection exercise. The formulation of search strings and identification of search sources that are over-inclusive is then critical in not only increasing the number of studies that go through the screening process, but also in reducing the risk of missing relevant studies (Langer *et al.* 2017). The procedure that is followed includes reading through, analysing and systematically sorting literature in order to examine, interpret and classify the various documents according to their relevance and various themes relating to the protection, conservation and wise use of wetlands.

Within the overarching methodology of document analysis, content analysis is used as a feeder for the actual identification and establishment of patterns (Federay & Muir-Cochrane 2006). After the patterns are established, areas of shared positions on wetlands conservation and wise use are then recognised and categorised into different themes. This occurs as the content is being analysed during the synthesis process. Therefore new themes and sub-themes begin to emerge from the text as the researcher proceeds with the literature review. Content analysis is done through the careful, focused reading and re-reading of data, as well as coding and category construction (Bowen 2009). This translates to the use of content analysis being an instrument for data collection. It further enables systematic analysis of policy content, relevant literature and legislative provisions in the three sectors.

The analysis is done per individual sector, through a comparison against the frameworks of the Ramsar Convention and highlighting areas of interplay. The data are then colour coded using an Excel spread sheet to enable the understanding and processing of the substantial amount of data that has been selected (Richards 2005). This research method enables the study to produce rich descriptions of wetlands as a resource and unpack policy and legislative challenges that the country is currently faced with in the sustainable management of this natural resource. The overall aim is to support and strengthen existing research (Stake 2000).

The above-mentioned form of feeder analysis has been chosen to evaluate documents in such a way that empirical knowledge is produced and understanding is developed. Content analysis is not just a process of lining up a collection of

quotations that convey whatever the researcher desires. In this research, there is maintenance of a high level of objectivity and sensitivity in order for the overall document analysis results to be credible and valid (Labuschagne 2003).

The analysis of the above-mentioned documents aids the researcher to apply logical reasoning in exploring the relations between articles rather than the quantity relationship. This translates to the analysis assisting the researcher to do the following: (a) classify information contained in various kinds of literature; (b) select typical examples; (c) compare the similarities and differences between previous study findings, policies and legislation through reasoning; and (d) re-organise and come to conclusion on the basis of qualitative description (Lin 2009).

2.5 Legal interpretation

The earlier sections of the chapter have already alluded to the qualitative nature of this study as requiring interpretation of literature. Various pieces of legislation constitute a large portion of literature that is reviewed and interpreted. However, the study does not provide a broad analysis of the statutes that have been identified as key to the management of wetlands in the country. It focuses on the specific provisions in the legislation that deal specifically with the themes of protection, conservation and wise use of wetlands. This approach does not imply that the researcher is taking individual provisions out of context as they are still reviewed and interpreted in the context of the entire legislation.

These three main themes are chosen based on the assertion by the Ramsar Convention in Articles 3 and 4 of the treaty. These Articles provide for the promotion of the conservation of wetlands, their wise use, and protection of their habitat on the conviction that this is essential in sustaining the environmental, economic, scientific, and social benefits to mankind (Ramsar Convention Secretariat 1994).

The abovementioned thematic areas are purposefully interpreted through the teleological approach. This entails an examination of legislative measures for wetland protection, conservation and sustainable management, in line with the

objectives and purposes of the various pieces of legislation as expressed in the preambles of the respective statutes. Relevant provisions of the statutes from the environment, agricultural and water sectors are thus purposefully interpreted to ascertain whether these provisions sufficiently provide for wetland protection, conservation and wise use in relation to their own objectives. Du Plessis (2008) describes teleological interpretation as a method which "aspires in the interpretation of individual constitutional and statutory provisions, to realise the 'scheme of values' on which the constitutional and statutory order is premised". This translates to the examination of the legislative responses to the particular constitutional value that underpins section 24(b) of the Constitution (RSA 1996) and the related rights when it comes to wetlands. Further to this, statutory interpretation can be done according to its own purposes and goals as outlined in the preamble.

With section 39(1) of the RSA Constitution (1996) recognising the significant role of constitutional values when interpreting the Bill of Rights, such values which include equality and human dignity will be taken into consideration during the legal interpretation of the national laws relating to wetlands. The author regards these two as fundamental values which resonate with the protection of the environment by preventing "pollution and ecological degradation" (RSA 1996, s24b). This is informed by one of the possible purposes of section 24(b) which refers to a right to have the environment protected for the benefit of present and future generations (RSA 1996). This is also interpreted as being "the promotion of substantive equality through equitable distribution of environmental impacts, pollution and waste, and of natural resources as well as the prevention of discrimination against certain individuals through unjustifiable exposure to detrimental environmental factors" (Donald 2014: 43).

When read purposefully in the context of the study, the equality value will highlight the possible impact of a specific constitutional rule of preventing "pollution and ecological degradation" on the socio-economic status of humans. It does this by articulating the nature of the relationship between wetlands and humanity in terms of benefits that directly influence equality. This is linked to the right of environmental

protection for “justifiable economic and social development” in section 24(b)(iii) (RSA 1996, s24b).

On the value of human dignity, Glazewski (2013) highlights this value, which is also a fundamental right as one of the major areas of impact where environmental injustice has been imposed. This relates to the possible harm to human health and well-being due to inadequate environmental protection, for current and future generations and the related negative impacts impeding socio-economic development.

In addition to the above, the legal interpretation is conducted through the application of the following approaches:

a) considering the ordinary linguistic meaning of the words of the legislation,
b) interpreting the South African legislation by looking at international law concepts, particularly considering how the Ramsar Convention has defined them since the benchmarking will be against the framework of the Ramsar Convention.

The Constitution itself provides more guidance on how the Bill of Rights should be interpreted in section 39, which supports the chosen above-mentioned approach. In section 39(2), the Constitution provides for the interpretation of any legislation in line with the objectives of the Bill of Rights (RSA 1996). For this study, the identified statutes will be interpreted against the constitutional mandate enshrined in section 24.

2.6 Rigour and trustworthiness

Using document analysis as a method is on its own a method of enhancing rigour or validity. Documents are usually found in the common academic databases and come in a variety of forms, making documents an easily accessible and reliable source of data. They are also stable sources of data, in that they can be read and reviewed multiple times and remain unchanged by the researcher’s influence or research process that ensures the validity of the research. Documents can provide

supplementary research data, making document analysis a useful and beneficial method for most research (Diefenbach 2008).

As a researcher, there is awareness of the fact that documents are not created with data research agendas and therefore require some investigative skills. The researcher is also aware that the documents will not perfectly provide all of the necessary information required to answer the research question of this study. Some documents may be incomplete, or their data may be inaccurate or inconsistent, and some documents may not be available or easily accessible (Bowen 2009). Therefore the researcher will ensure that the quality of the documents will be evaluated through analysing their publisher, and relevance to the topic.

Another concern that the researcher encounters in document analysis during literature review in particular, is the potential presence of biases, both in a document and from the researcher. However, by outlining a clear process of how the documents are selected, screened and synthesised the researcher attempts to eliminate bias and ensure the trustworthiness of the study. O'Leary (2014) concurs with the statement by asserting that as long as a researcher begins document analysis knowing what the method entails and has a clear process planned, the advantages of document analysis are likely to far outweigh the number of issues that may arise.

To ensure trustworthiness, triangulation is used. In its essence, triangulation involves using multiple data sources to produce greater depth and breadth of understanding. This effort supports findings and/or builds a more holistic picture of the wetlands management phenomenon. The purpose of triangulating is to provide a confluence of evidence that breeds credibility and eliminates biases (Bowen 2009).

2.7 Ethical consideration

During this research, the researcher was guided by the Stellenbosch University research ethics code. Due to the nature of the study which does not include direct contact with people, the researcher acknowledges the data that are freely available on the Internet, books and other public forums, as they are there for analysis.

However, for all the data that are not freely available, the researcher has sought the necessary permission to use the data from the owners of such information. The researcher was also aware that the data were not collected to answer the current research question, therefore such data will be evaluated for certain criteria such as methodology of data collection, accuracy and the purpose for which the data were collected. To ensure that information is stored safely, data in the form of hard copies will be kept in locked cabinets while soft copies will be kept as encrypted files (Tripathy 2013).

2.8 Conclusion

This chapter justifies the choice of study areas and elaborates on the appropriate research design and tools employed. Further discussions on the applied data collection methods were linked to document analysis to determine the relationship between wetlands and humans, as well as the context within which wetlands are protected. This linkage extended to the legal interpretation when analysing the South African legal framework relating to wetlands, and providing a basis for the comparative assessment of the national laws against the 1999 Ramsar Convention Guidelines.

CHAPTER 3: WETLANDS IN SOUTH AFRICA

3.1 Introduction

According to the Water Research Commission (WRC) (2016), wetlands are multifaceted and dynamic ecosystems that offer essential services to both the environment and society in South Africa. The Ramsar Convention Secretariat (2018) also recognises their centrality to human survival. Hay, Kotze and Breen (2014) have noted the substantial research that has been conducted over time to improve the understanding of how people relate with wetlands.

This chapter provides a synthesis of the relevant literature that has been reviewed on wetlands. The primary objective is to present the body of knowledge on how wetlands are defined, highlighting their importance, current state and the role of a policy and legislative framework in ensuring their sustainability. It does this by firstly exploring the definition of wetlands as expressed in the South African legal regime. This is done with a view to establish if there is a common national definition in South Africa. It then compares the national definition to the recognised international definition as adopted by the Ramsar Convention to establish correlation between the two definitions. This justifies the assessment of the South African legal regime against the requirements of the Ramsar Convention later on in the study. In addition to this, the relevant existing national policies and legislation governing wetland management across the three chosen sectors will be briefly analysed to highlight the areas of interface.

The second part of the chapter examines the socio-economic benefits offered by wetlands to the three chosen sectors. By unpacking wetlands' uses this section will then be able to identify the cause and effect relationship between humans and wetlands. This focuses on how the overall use of wetlands is a key contributor to their degradation and loss over time and resulting in the current declining state of wetlands in the country.

In the last subsection of the chapter the researcher examines the need for a supportive policy and legislative framework to ensure effective wetland management.

This is done by considering the international law position on wetland management. The researcher further highlights the lessons from a few experiences where wetland related policies and legislation being implemented in other African countries have evolved to specifically focus on sustainable management of wetlands.

3.2 The importance and current state of wetland ecosystems

Wetlands are widely considered to be among the most diverse and productive ecosystems that are an important ecological infrastructure. They provide a number of essential services, including the supply of fresh water (WRC 2017). In order to determine the state of wetlands in South Africa, it is necessary to have a clear outlook of their uses and benefits globally and in South Africa alike.

The WRC (2017) outlines a multiple value system that wetland ecosystems directly benefit. This multiple value system suggests that the uses and benefits derived from wetlands are not confined in any one economic sector of society but multiple sectors (WRC 2017). Moreover, the multiple value system recognises the important and diverse values of wetlands from the environmental, scientific, social (which consists of cultural and recreational aspects) and economic perspectives. This system is deemed essential to ensure wise use of wetlands and further ensures that their functions are featured in global policy agendas such as the Sustainable Development Goals (SDGs), the Paris Agreement on Climate Change and many other international instruments (Ramsar Convention Secretariat 2017). The preamble of the Ramsar Convention further reaffirms wetlands as a resource of these values, and recognises that any damage to such values would be irreparable (Ramsar Convention Secretariat 1994).

The **environmental value** of wetlands is derived from the large productivity of the environment (Ramsar Convention Secretariat 2013b). This is attributed to the character of wetlands as being the pillars of biological diversity from which water is provided. These pillars support primary productivity which numerous plant and animal species depend on for survival (Cronk & Fennessy 2001). For the animal kingdom, the flourishing wetland plants become the base of the food chain, as well as critical home

structure for fish and other wetland animal species (Sabu & Ambat 2007). In the plant kingdom they contribute as critical storehouses of plant genetic material (Ramsar Convention Secretariat 2013b).

The WRC (2017) further argues that one of the critical roles of wetlands is to assist as barriers in controlling flood waters during disasters, operating as basins that store and release water over time and contribute to water security. This flood attenuation quality is attributed to the type of vegetation and the landscape wetlands normally occupy (Collins 2005). They are also regarded as a critical role player in the reversal of land degradation and desertification (DEA 2017).

In addition to the above, wetlands are estimated to constitute approximately 6% of the world's land surfaces and contain approximately 12% of the global carbon pool which is regarded as a critical factor in the global carbon cycle (Erwin 2008). The International Union for Conservation of Nature (IUCN) reaffirms this by further endorsing the International Panel on Climate Change (IPCC) assertion that coastal wetlands, in particular, are blue carbon ecosystems which are extremely efficient carbon sinks, with an ability to store carbon at a proportion that is more than 10 times per area when compared to terrestrial forests (IPCC 1996; IUCN 2017). Collins (2005) refers to this process of managing carbon repossession and storage as chemical cycling. It entails the slowing down of the decomposition of organic matter by the anaerobic conditions of the wetland, resulting in a wetland entrapping carbon in a form of soil organic matter as opposed to releasing it as carbon dioxide into the atmosphere (Collins 2005).

The **scientific value** of wetlands is derived from the strong influence they have on the water chemistry. This value benefits the environment greatly as wetlands have a proven natural ability to purify water resulting in improved water quality (Peverly, Surface & Wang 1995). This ability to ensure good water quality where water is purified and sediments are filtered, is critical in mitigating against waterborne diseases (WRC 2017). Wetland plants are further used in environmental portfolios and research initiatives, hence they contribute to the research and development agenda for wetland management (Brinson 1993).

The **social value** of wetlands is drawn from the livelihoods they provide to mankind. Due to their rich soils they are often said to support the subsistence food requirements of the rural and urban poor, in the forms of agricultural products such as staple crop, water, fish and a number of other daily necessities (Sabu & Ambat 2007). This makes them not only significant in attaining water and food security, but also significant as ecologically sensitive areas (DEA 2017). The critical role that wetlands play in sustainable livelihoods has earned their recognition as social-ecological systems as opposed to being referred to as ecological systems (Hay, Kotze & Breen 2014).

The **cultural aspect of the social value** is attributed to the unique and rare species they are, and harbour in terms of biodiversity. This combination provides opportunities for cultural activities, heritage, spiritual and religious activities for various communities across the globe (Hay *et al.* 2014). COP 8, which took place in Spain in 2002, acknowledged these specific physical characteristics of wetlands and their contribution in the management of traditional practices (Ramsar Convention Secretariat 2002). COP 9, which followed in Uganda in 2005, reaffirmed this value by acknowledging wetlands as focal points for communities and nations, and where local communities had fostered deep cultural connections, as well as sustainable use practices (Ramsar Convention Secretariat 2005a).

During COP 9, the Ramsar Convention continued to further identify the cultural features which are applicable in the designation of the Ramsar sites as follows:

“i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland;

ii) sites which have exceptional cultural traditions or records of former civilisations that have influenced the ecological character of the wetland;

iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples;

iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland;” (Ramsar Convention Secretariat 2005a:2).

The above-mentioned features demonstrate the mutual benefits between wetlands and humanity, where the application of traditional knowledge and cultural traditions during human interaction with wetlands contributes to wise use of wetlands and maintenance of their ecological character.

On the **recreational aspect of social values**, wetlands have fundamental features that are valued by societies for their passive and active recreational interests. The passive recreational opportunities include the viewing of the wide spectrum of species such as fish, other biological diversity and wildlife habitat that live in wetlands. Active recreational opportunities include game hunting and fishing, all of which contribute to creating these recreational values for the public (Nevada Division of State Water Planning 1992).

The commercialisation of the above-mentioned values facilitates economic development for sustainable livelihoods. For instance agricultural production is not limited to domestic production but extends to small scale commercial farming (Hay *et al.* 2014). Other wetlands are located in game reserves where people pay entrance fees to enjoy the scenery and other recreational benefits such wetlands offer. The generated revenue from visitations supports the maintenance of such areas and boosts ecotourism initiatives (Chapman, 2000). This strengthens the **economic value** of wetlands. The Ramsar Convention Secretariat (2008) further asserts that wise use and rehabilitation of wetlands opens a window of opportunity for bettering the economic status of the wetland dependant people.

The above-mentioned attributes already highlight the three chosen sectors of environment and agriculture as well as water as part of the main beneficiaries of wetlands globally and in South Africa alike. While it is evident that the identified sectors are not the only benefitting sectors, the choice of identifying them for the purpose of the study is informed by their current pieces of legislation in the country. The different statutes are considered as authoritative due to the manner in which they identify and list activities that require authorisations before being undertaken. This is done with a main aim of regulating the protection, conservation and sustainable

management of wetlands (Lizamore 2005). The legislative framework is dealt with in more detail in Chapter 5.

The Millennium Ecosystem Assessment Board (2005) also highlights a wide range of benefits that are derived from wetland ecosystems in their ecosystem assessment report. However, there is a common message of concern that emerges from a number of scientific assessments on wetlands globally. This message highlights the fact that despite the enormous benefits derived from wetland ecosystems, they continue to be degraded and lost much more rapidly when compared to other ecosystems (MEAB 2005). This trend is identified in South Africa as well. In the 2nd South Africa Environment Outlook, DEA reported that despite the high resilience of wetlands compared to other ecosystems, they remain the most threatened ecosystem in the country (DEA 2016).

In addition to this, studies conducted by the WRC (2017) in collaboration with SANBI from 2011 have identified wetlands in South Africa to be mainly impacted by the very same sectors that benefit from them. The identified causes of wetland degradation and loss include unsustainable social and economic pressures such as agriculture and poor land management (cultivation, unsatisfactory grazing management and alien invasive species), urban development (dam construction, water abstraction and waste water discharge), mining, and catchment wide impacts (WRC 2017). According to DEA (2017), the increasing inappropriate land use practices and poor land management over time has resulted in dramatic changes in South Africa's landscapes, resulting in significant impacts on the wetland ecosystems.

The changing climate globally and in South Africa is posing additional risk, which directly leads to significant depletion and increased pollution of wetland ecosystems. This increased pollution results in crucial parameters of wetland ecosystems being shifted from their normal range and culminating in adverse changes to the ecological character of wetlands (Gell, Finlayson & Davidson 2016). The gradual temperature increase in the atmosphere is reportedly melting the polar ice and causing a rise in sea levels. The effect of this on wetlands is flooding which drowns the species that live and thrive in wetlands. The opposite extreme climate conditions have the same

effect where wetlands are severely affected by droughts (DEA 2017). It can be established from these effects that the changing climate further aggravates the degradation and loss of wetlands, their services to humans and the species that live in them (SANBI 2018).

South Africa identified a need to adopt the international model of establishing a systematic assessment approach for wetlands. This resulted in South Africa establishing a wetland inventory for the first time in 2011, with an objective of assessing the state of wetland ecosystems nationally (Herbst 2015). This assessment confirmed the findings of the much earlier global reports that wetlands are indeed the most threatened ecosystems compared to all other ecosystems of South Africa. This assessment was repeated in 2018 and it identifies 79% of inland wetland ecosystem types (107 of 135) and 86% of estuarine ecosystem types as being threatened. These figures are disaggregated to 61% of inland wetland ecosystem types being classified as critically endangered, 9% being classified as endangered and 9% being classified as vulnerable (SANBI 2018). For estuarine ecosystem types, 10% are classified as critically endangered, 45% being classified as endangered and 32% classified as vulnerable. When comparing the findings of the 2018 assessment to the 2011 findings, the trends of the ecological conditions of wetlands in South Africa are negative, indicating increased threats and poor protection of wetlands (SANBI 2018)

The 2018 SANBI assessment further concurs with the 2017 WRC report on the estimated wetland loss. It estimates 50% wetland loss globally and between 35% and 50% wetlands in South Africa to be either lost or degraded severely. It is becoming increasingly evident at this point in time that natural disturbances and human activities in wetland ecosystems have a negative impact on this resource. This continued decline in wetlands is however a global trend as the 2018 Global Wetland Outlook also reports a continuous progressive decline of wetlands globally, citing a 87% loss of global wetlands since the 17th century (Ramsar Convention Secretariat 2018).

In its 2018 assessment, SANBI further reported that when it comes to resource protection, only 6% of wetland ecosystem types are well protected compared to 11% in 2011, and 61% are not protected at all, indicating that wetland ecosystems have not

been systematically considered in the establishment and expansion of land-based protected areas. This is one finding that establishes a need for the protected area networks to extend their scope and become more involved in the protection and conservation of South Africa's wetlands (DEA 2017).

A number of research and technical assessment findings clearly indicate that whilst wetlands offer much benefit to humanity, their protection, conservation and management is not sufficient and sustainable at this point in time.

3.3 Definition of wetlands across the three chosen sectors

Booys (2011) argues that the complex nature of wetlands makes it difficult to have one common definition of wetlands. He qualifies his argument by citing the existence of more than 50 different definitions of wetlands in operation globally. This was earlier highlighted by Dugan (1990:9) who attributed this difficulty to wetlands being regarded as clustering together a comprehensive range of "inland, coastal and marine habitats which share a number of common features". This wetland complexity is further unpacked by Malherbe, Ferreira, Van Vuren, Wepener and Smit (2017) by identifying a number of different aquatic ecosystems that are referred to as wetlands, which include riverine floodplains, rivers, rain pools of high altitude, swamps, saline lakes, ponds, marshes, or any areas that are shallow, open and either occasionally covered or fully soaked with water (Malherbe *et al.* 2017).

However, despite the varying complexities, Shine and De Klemm (1999) point out that the Ramsar Convention provides an internationally agreed common point of reference through its adopted definition. In Article 1 of the Ramsar Convention, defines wetlands as "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas or marine water depth of which a low tide does not exceed six metres".

The Ramsar Convention's broad definition has made it possible for different countries to modify their definitions to suit their own specific conditions, which differ from country to country (Shine & De Klemm 1999). South Africa, in its suite of legislation,

has incorporated the definition of the Ramsar Convention into the country's national legislation with some modification.

Before exploring the national policy and legislative framework, it is critical to establish whether there is a common national definition of wetlands from the statutes that have been promulgated from the three chosen sectors. These sectors are all involved in the protection, conservation, management and sustainable use of wetlands in varying degrees. As a result, South Africa has a number of pieces of legislation that preside over wetland management and related activities.

The effects of the enacted pieces of legislation also vary according to their aim and application (Booys 2011). Whilst the national legislation governing the three chosen sectors for the study are mainly enacted to protect and conserve the natural resources, including wetlands, there are other sectors that are viewed as enablers for the regulatory legislation. These statutes (such as the Spatial Planning and Land Use Management Act 16 of 2013, National Heritage Resources Act 25 of 1999, Promotion of Access to Information Act 2 of 2000 and Provincial Ordinances) may require further authorisations for particular activities or guide the implementation of the regulatory legislation. This heightens the requirement for effective co-operative governance across all spheres of government when it comes to wetland management (Lizamore 2005). It must be noted that all the pieces of legislation subscribe to the same definition of wetlands as discussed below.

Section 1(xxix) of the National Water Act 36 of 1998 (NWA), defines a wetland as "land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil" (RSA 1998d, s1:xxix). According to Breedt and Dippenaar (2013), this legal definition was adapted by South Africa from Wetlands and Deepwater Habitats Classification System of the United States Fish and Wildlife Service (USFWS). The Conservation of Agricultural Resources Act 43 of 1983 (CARA) (RSA 1983) recognises and adopts the definition of wetlands as outlined in the National Water Act 36 of 1998 through regulations published by Government

Notice No.R.1048 of 25 May 1984. The National Environmental Management Act 107 of 2008 (NEMA) also recognises this definition through the Environmental Impact Assessment (EIA) Regulations, Listing Notice 324 of 7 April 2017 (RSA 2017). It must however be noted that the NEMA does not distinguish between artificial and natural wetlands.

From the above-mentioned South African legal definition of wetlands, habitats are not explicitly spelled out but implied in section 1(xxix) of the National Water Act 36 of 1998 as a broad function of support to vegetation that is "typically adapted to life in saturated soil" (RSA 1998d, s1:xxix). From this analysis it can therefore be established that there is a common national definition across the three chosen sectors.

Following the adoption of a national wetland definition in the late 1990s, a 'Classification System for Wetlands and other Aquatic Ecosystems in South Africa' was developed by the South African National Biodiversity Institute (SANBI) in 2013. The classification system is a culmination of work that was initiated by the Water Research Commission (WRC) and SANBI in 2005 and refined over the years until it was finalised in 2013 (SANBI 2013). It drew from the South African legal definition of wetlands and categorised wetland ecosystem types according to inland, estuarine or marine ecosystems to align them with the Ramsar Convention definition (SANBI 2013). The different categories are determined by the extent to which the wetland connects with the ocean, where inland systems have no connection, marine systems form part of the ocean and estuarine systems are in between inland and marine systems (Malherbe *et al.* 2017).

The clustering of wetland ecosystems by the 'Classification System for Wetlands and other Aquatic Ecosystems in South Africa' into inland, estuarine and marine systems and its alignment with the Ramsar Convention are depicted in Table 3.1 below.

Table 3.1: Comparison of the RSA Wetland Classification System against the Ramsar Convention wetland types (Author's own)

CLASSIFICATION SYSTEM FOR WETLANDS AS ADAPTED FROM SANBI 2013: 13		RECOGNISED WETLAND TYPES AS ADAPTED FROM THE RAMSAR CONVENTION SECRETARIAT 2013a: 7
Marine System – a part of the open ocean overlying the continental shelf and/or its associated coastline, up to a depth of ten metres at low tide	⇨	**Marine** - coastal wetlands including coastal lagoons, rocky shores and coral reefs
Estuarine System - a body of surface water (a) that is part of a water course that is permanently or periodically open to the sea; (b) in which a rise and fall of the water level as a result of the tides is measurable at springtides when the water course is open to the sea; **or** (c) in respect of which the salinity is measurably higher as a result of the influence of the sea (after the National Environmental Management: Integrated Coastal Management Act No. 24 of 2008).	⇨	**Estuarine** - including deltas, tidal marshes and mangrove swamps
An **Inland System** is defined as an aquatic ecosystem with no **existing** connection to the ocean. These ecosystems are characterised by the complete absence of marine exchange and/or tidal influence	⇨	**Lacustrine** - wetlands associated with lakes
		Riverine - wetlands along rivers and streams
		Palustrine - meaning "marshy" – marshes, swamps and bogs

Table 3.1 above reaffirms the assertion that South Africa's national legal definition of wetlands, having been expanded through the SANBI classification system, is aligned with the broad definition provided by the Ramsar Convention which serves as an international point of reference in this field (Booys 2011). Having established the definitions that point to wetlands being integrated with ecosystems – regarding both structure and function – the terms 'wetland' and 'wetland ecosystem' will be used interchangeably in the document from this point onwards.

3.4 The need for a supportive policy framework

As discussed above, wetland ecosystems make an enormous contribution to the well-being of humanity. They mainly provide water and food security, and play an important role in the global carbon cycle. Their degradation and loss thus results in a direct negative impact on human well-being and the environment (Ramsar Convention Secretariat 2013a). This direct correlation indicates a strong utilitarian rationale for the benefit of human beings (Kidd 2008).

The utilitarian approach advocates the utilisation of natural resources for the greater good of humanity (Pinchot 1947). However, it emphasises resource utilisation with minimal interference as possible, in a controlled manner to avoid degradation. When the conservation concept was formulated in the 1940s, the associated risks were also identified as we experience them in the present day. These risks include wasteful and inefficient use of resources which could lead to resource degradation (Pinchot 1947). This is evident from the current studies and scientific assessments by the MEAB globally and SANBI in South Africa, which indicate an increase in wetland degradation and loss, resulting mainly from human interference and uses.

The Ramsar Convention has recognised and acknowledged these risks in relation to wetlands. Through this recognition, it has embedded the requirement of wise use in Article 3(1) of the Convention's agreement. In this Article, Contracting Parties are required to "formulate and implement their planning so as to promote the conservation of the wetlands included in the list, and as far as possible, the wise use of wetlands in their territory" (Ramsar Convention Secretariat 1994, Article 3.1) To further clarify the meaning of Article 3 of the Ramsar Convention, the 1980 Conference held in Cagliari, Italy, by the Conference of Parties (COP), recommended through Recommendation 1.5 that comprehensive national policies should be adopted by Contracting Parties to benefit the wise use of wetlands (De Klemm & Créteaux 1995).

Additional resolutions have been further adopted by the COP to reinforce the wise use of wetlands through the development of supportive national policies. Resolution X.24 which was taken at the 10th meeting of the COP in 2008, is one such resolution which

strengthens the call for wise or sustainable use of wetlands. This resolution encourages Contracting Parties to ensure that their national policies and related policy instruments support the upholding of the wetland ecological character. This is to be done with a view to ensure the protection of wetlands from being compromised by direct impacts, which include societal responses to climate change amongst the main drivers (Ramsar Convention Secretariat 2008).

Finlayson, Davies, Moomaw, Chmura, Natali, Perry, Roulet and Sutton-Grier (2018) further concur with the above-mentioned resolution by stating that a coordinated policy approach increases the likelihood of preventing more wetland degradation. They also assert that this coordinated policy approach supports wetlands that are resilient to continue providing benefits to both the ecosystem and humans (Finlayson *et al.* 2018).

Given this call for supportive national policies by the Ramsar Convention, and in light of the reported deteriorating status of South Africa's wetlands, it is important to assess the extent to which the country's policy and legislative framework supports the overall government objective of the protection, conservation and sustainable management of wetlands. The loss and deterioration over time appears to be continuing despite the fundamental shift in the country's policy and legislative framework since 1994. This shift changed the environmental agenda by proclaiming environmental rights in the country's Constitution (Rossouw & Wiseman 2004). The intended policy and legislative assessment will then ascertain if there is a need for a more supportive policy and legislative framework.

The protection, conservation and sustainable management of wetlands in South Africa is a cross cutting function across three chosen sectors of environment, agriculture as well as water and sanitation, as stated earlier. This means that the national Departments of Environment, Forestry and Fisheries (DEFF); Agriculture, Land Reform and Rural Development (DALRRD) and Water and Sanitation (DWS) and their related public entities, are directly and indirectly involved in wetlands management, protection and conservation. A suite of environmental policies and various pieces of legislation have been developed by the three national departments to support and

regulate wetlands protection, conservation and sustainable management amongst other environmental resources. However, some researchers argue that there is inadequate protection and conservation afforded to wetlands within the South African policy and legislative framework (Booys, 2011).

The arguments presented to support the above assertion include weak institutional capacity at national and provincial spheres of government despite the existence of numerous institutions with a legal mandate on wetlands (Glazewski 2013). This lack of capacity hinders appropriate and effective implementation of legislation, resulting in non-compliance with legislative requirements (Herbst 2015). For instance, NEMA regulations requiring environmental impact assessment for any activity which may adversely impact the environment have been promulgated (RSA 2017). The effective implementation of these regulations further require certain conditions to be met, such as water use authorisations and compliance monitoring by the relevant sectors. Weak institutional capacity to implement such legal requirements would compromise the protection and conservation of wetlands (Herbst 2015).

Cooperative governance is another contributing factor towards weak institutional capacity for wetlands management. This is due to the roles and responsibilities of the various institutions that have legal jurisdiction on wetlands being laid out in the different pieces of legislation. Each one of the statutes require establishment of decision making forums and committees which may all be governing the same resource (Paterson & Kotze 2010). For instance, in order to improve planning for wetlands, integrated decision making by relevant institutions is essential. These include (1) coordination of water resource management in a water management area by a Catchment Management Agency (CMA) established through the NWA (RSA 1998d), (2) development of an environmental management plan by a competent authority established through the NEMA (RSA 1998a), (3) reference to the National Biodiversity Framework that is informed by the SANBI biodiversity assessments, and (4) coordination of other planning tools provided in the Spatial Planning and Land Use Management Act (SPLUMA) such as the Integrated Development Plans (IDPs) which was promulgated in 2015.

Another contributing factor towards inadequate legal protection and conservation of wetlands is

It is important to note that with this suite of policies and pieces of legislation supporting and regulating the protection, conservation and sustainable management of wetlands in the country, there is no specific and dedicated national wetland policy. The current pieces of legislation obtain their mandate directly from the South African Constitution, supported by their individual sectoral policies. These sectoral policies integrate the objectives relating to the protection, conservation and sustainable management of wetlands into their broader objectives.

For example, the mandate of the NWA is supported by the 1997 White Paper on National Water Policy. The key policy proposals guiding the management water in the country include a guaranteed right to water to maintain the sustainability of the environment, and allocation of water uses that encourage optimal use for the realisation of “equitable and sustainable economic and social development” (RSA 1997:4).

To further elaborate on this example, one of the key policy proposals from the same White Paper states that “all water in the water cycle whether on land, underground or in surface channels, falling on, flowing through or infiltrating between such systems, will be treated as part of the common resource and to the extent required to meet the broad objectives of water resource management, will be subject to common approaches” (RSA 1997:4). This policy proposal suggests that common approaches will be applied to manage water resources in whatever form or systems to meet the broad objectives of water resource management. These broad water management objectives are articulated in Principle 7 of the National Water Policy as management of the quantity and quality, as well as reliability of the nation’s water resources “to achieve optimum, long term, environmentally sustainable social and economic benefit for society from their use” (RSA 1997: 19). The conclusion arrived at is that the focus of the National Water Policy is on water resource management, where wetland management is implied, with no detailed attention afforded it. This conclusion clearly demonstrates how sectoral policies integrate the objectives of protecting, conserving

and sustainably managing wetlands into their broader objectives where wetlands are implied.

The approach of integrating the objectives relating to the protection, conservation and sustainable management of wetlands into broader policy objectives as opposed to developing wetland-specific policy and legislation may have been viewed as appropriate at the time of policy development. However, lessons from the implementation of such policies over time suggest that wetland protection, conservation and sustainable management have somehow lost the attention they require due to the competing demands against other areas of focus that the existing sectoral policies address (Funke, De Klerk & De Klerk 2015).

From the examples extracted from the above-mentioned National Water Policy, the reality is that the promotion of equitable access to water for basic human needs to address the past legacy of unequal social development has somehow ended up superseding the realisation of environmental rights in terms of priorities (Rossouw & Wiseman 2004). This priority shift in the policy environment is natural considering the number of factors that determine policy decisions. Such factors include the political tone of the existing government and the leading political ideologies, coupled with economic, social and cultural conditions. Whilst environmental challenges are an integral part of these factors, human needs always take precedence to environmental needs despite the glaring dependency of humans on the environment (Attfield 1983).

As much as authoritative pieces of legislation have been enacted to support policy implementation over the years, the continuing decline in wetlands attests to the inadequacy of these statutes to protect them. The direct involvement of different sectors – in their capacities as regulatory authorities – is also viewed as one of the contributing factors resulting in this inadequate protection and conservation of wetlands (Siyaya 2015). This inadequacy is attributed to factors such as fragmented environmental management across the different government departments, lack of capacity in terms of skilled personnel, as well as inadequate funding (Allanson & Baird 2009). Over and above sectoral fragmentation, Siyaya (2015) cites a competing

relationship between the three spheres of government over the control and management of wetlands.

In addition to other researchers finding the current policy and legislative framework to be inadequate, Kidd (2008) has expressed a concern on the fragmentation of the various sectoral statutes that provide for the protection, conservation and management of wetlands and other freshwater ecosystems which renders them ineffective in terms of enforcement. It is against this background that a call for wetland focused legislation was previously made in South Africa (Glazewski 2013). This informed the enacting of a number of additional environmental pieces of legislation which expanded the scope of environmental governance through NEMA. This is in line with the provisions of section 24(b) of the South African Constitution. The Constitution is explicit on the right to an environment that is “protected for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development” (RSA 1996).

The opposing views on the national policy and legislative framework argue that the existing framework provides clear guidance and support towards wetland management and rehabilitation. This is despite the challenges of managing the complex nature of wetland ecosystems due to their relationship with humans, which varies according to use and benefits (WRC 2017). In the 2015 National Report submitted to the Ramsar Convention Secretariat, South Africa put forward a national position on this matter by indicating that the country has opted not to have a stand-alone policy on wetlands, and would continue to incorporate objectives that are related to the conservation and wise use of wetlands into relevant sectoral policies, including water, environment and agriculture. This approach was justified as best practice by the view that ‘mainstreaming’ of wetlands into the different sectors would have a high potential to impact on wetlands as it would result in wetlands being made part of the business of each of these sectors. The risk of adopting a stand-alone policy was identified as unintentionally creating a separate sector on wetlands, where

ownership and accountability would end up residing with a traditional wetland champion such as the environmental sector (DEA 2014).

The author's view is that although clear guidance and support towards wetland management and rehabilitation is acknowledged, it does not outweigh the concerns raised over inadequate protection of wetlands in the country's policy and legislative framework, and the recorded evidence of increase in wetland loss and degradation. The previous concerns have since been revisited with the position stated in the 2014 national report reviewed in the 2018 national report to adopt the development of a national wetland policy.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has endorsed the notion of focused policy options. These policy options have been found to be effective in protecting and rehabilitating wetlands as part of the biodiversity and nature's benefits to humans (IPBES 2018). Countries such as Uganda and Kenya on the African continent have adopted the approach of developing wetlands-focused policies. These policies provide national frameworks that guide the mitigation and address various challenges that impact on wetland protection, conservation and sustainable use and management. An advantage of having a focused policy on wetlands is that the policy considerations still take into cognisance other sectoral policies and strengthen inter-linkages to avoid any conflicts and contradictions (Njagi 2016). For instance, Uganda's wise use of a wetland programme is regarded as extremely successful and has strengthened national and local government capacity to effectively administer the wise use of wetlands in the country since the adoption of a national wetlands policy (Swanepoel & Barnard 2007).

The research that has been conducted points to similar conclusions that wetland management is carried out in a number of sectors due to its multiple value system which cuts across such sectors. A supportive policy framework is therefore necessary to draw the required attention on wetland related issues. This would be fundamental in enabling adequate protection, conservation and sustainable use of wetlands whilst strengthening inter-linkages across all sectors.

3.5 Conclusion

Local and global researchers recognise and acknowledge the benefit of wetlands on human lives based on their multiple value system that cut across various economic and social sectors. And yet more concerning is the fact that such benefits result in wetlands being highly susceptible to degradation and loss by water-development, land-surface-development and landscape-management practices that modify their ecological character. The negative trend on wetland protection, degradation and loss globally and over the years due to exploitation and the changing climate raises serious concerns on how to best manage the relationship between humans and wetland ecosystems.

Further to this, it has been established that there is a suite of policies and various pieces of legislation in South Africa that provide various levels of protection, conservation and sustainable use of wetlands across different sectors based on the environmental right that is entrenched in the Constitution. This is an advantage for South Africa as it creates an enabling environment for environmental protection whilst securing ecological sustainable development. The alignment of a national legal definition of wetlands also enables South Africa to respond to its Ramsar Convention obligations and contribute to the global knowledge pool through research and exchange of wetlands related publications and data as a Contracting Party.

However, the current policy and legal regime is considered inadequate to protect, conserve and ensure sustainable management of wetlands due to the gaps that remain in the system. As demonstrated in this chapter, this inadequate protection of wetlands will result in loss of the benefits to society from wetland ecosystems. This further provides a strong indication of a policy gap in the expression of a common vision for wetland protection, conservation and sustainable management in the country. This could be a more appropriate policy option to ensure that there are coherent policy tools from all sectors that contribute towards the achievement of a common goal for the country.

CHAPTER 4: THE RAMSAR CONVENTION ON WETLANDS OF INTERNATIONAL IMPORTANCE, ESPECIALLY AS WATERFOWL HABITAT

4.1 Introduction

The Ramsar Convention is the only international treaty which is specifically dedicated to the protection, conservation and wise use of wetlands (Timoshenko 1988). It is regarded as the first progressive international nature conservation convention, which is not only devoted to the protection of wetlands but also considers the biodiversity that depends on them for survival (Booys 2011). This chapter provides a synthesis of the relevant literature that has been reviewed on the Ramsar Convention. This is done with a view to present the body of knowledge around what the treaty represents.

This chapter also seeks to provide some insight on how the Ramsar Convention processes are structured to ensure an effective contribution in International Environmental Law (IEL). This is explored in the context of the protection, conservation and sustainable management, or wise use of wetlands globally. The convention's obligations and South Africa's existing national responses as a Contracting Party will then be unpacked. Lastly, the researcher examines the support that the Ramsar Convention provides to its member states and related control measures in terms of reporting and compliance monitoring, whilst outlining the gaps in the system before concluding.

4.2 The history and need for the Ramsar Convention

The importance of ensuring and facilitating the protection, conservation and wise use of wetlands globally is coordinated through the Ramsar Convention. This is an intergovernmental treaty to which South Africa is a Contracting Party (Malherbe *et al* 2017). It is one of the first modern international conservation treaties, which was adopted in Ramsar, Iran, on 2 February 1971 as indicated earlier in the introduction (Scanlon & Iza 2006). The Ramsar Convention's constitution is significant in

international environmental law as Wensley (1994: 4) suggests that “modern IEL” came into effect in 1972 when the Stockholm Conference was held, just a year after the Ramsar Convention was adopted. By implication, the convention would have taken into consideration the main principles of IEL as the deliberations were occurring in parallel (Wensley 1994). In fact, Bowman (1995) suggests that the Ramsar Convention appears to be an uncomplicated international legal instrument when appraised by the standards of modern-day conservation treaties. This critical point of departure for IEL does not disregard the foundational work and discussions that had been initiated long before the finalisation of the treaty– dating back to 1962 – as such work provides a baseline for the resultant international environmental laws (Booys 2011).

Treaties are agreements entered into by different states to address challenges of common concern, thereby fostering a universal character of objectives (Maffei, Pineschi, Scovazzi & Treves 1996). Participation in international treaties by any state does not repeal its independence and control over its national decisions, therefore a state retains its sovereignty whilst complying with the treaty’s obligations (Wensley 1994). This principle of sovereignty is a UN adopted resolution 1803 (XVII) of 1962 which recognises the right of people and nations to permanent sovereignty over their natural wealth and resources as an international legal right. The application of this right is said to be for the benefit of the national development and the well-being of the people of the state in question (Sands *et al.* 2012).

The process leading to the adoption of the Ramsar Convention was the culmination of a series of conferences, meetings and workshops that commenced from 1962 through the first recorded collaboration between the International Union for the Conservation of Nature and Natural Resources (IUCN), the International Waterfowl Research Bureau (IWRB) and the International Council for Bird Preservation (ICBP) on the subject of wetlands (Matthews 2013).This collaboration between the IUCN, IWRB and the ICBP was brought about by a shared concern over the rapid degradation of wetlands and marshlands initially in Europe, leading to the formulation of an awareness programme, called Project MAR, a term adopted from the word “marshes”. The name MAR emanates from these three letters being widely

used when referring to wetlands in a number of languages, such as MARecages in French and MARismas in Spanish (Matthews 2013; Ramsar Convention Secretariat 2016). Project MAR advocated the importance of wetlands to humanity with the purpose of elevating the call for their conservation and protection (De Klemm & Créteaux 1995).

The first milestone of these engagements was recorded in November 1962 when one of the international conferences convened in France under the banner of Project MAR. A list of wetlands of international importance was to be drawn up for Europe and North Africa to provide the baseline information for an international wetlands convention (De Klemm & Créteaux 1995). From this time, a number of conferences were held under the auspices of different global players who had an interest in wetlands. A detailed account on the various engagements and their convenors is discussed below. This historical account highlights the outcomes of these conferences as they provided a build up to the content of the draft Convention which was originally designed for waterfowl habitat (Dupuy & Viñuales 2015). This account includes the development of the text leading to the signing of the Ramsar Convention in 1971, and is explained in detail below through the timeline of events as reported by Matthews (2013).

1962, French Camargue: A project MAR conference was held at Stes-Maries-de-la-Mer, French Camargue, from 12 to 16 November 1962. This conference was convened by the International Waterfowl Research Bureau (IWRB), specifically by L. Hoffmann, Honorary Director of IWRB to the IUCN, following approval to organise by the IUCN with the aim of making a call for an “international programme on the conservation and management of marshes, bogs and other wetlands” (Matthews 2013: 9). The main outcome of this conference was a detailed list of European and North African wetlands of international importance according to the internationally agreed classification compiled and made available to conservationists and developers. This list was to be considered as the basis underpinning the international convention on wetlands (Ramsar Convention Secretariat 2016).

1964, St Andrews: A first European meeting on Wildfowl Conservation was convened by the Nature Conservancy of Great Britain, specifically by E. M. Nicholson, Director General of the Nature Conservancy of Great Britain, at St Andrews, United Kingdom, from 16 to 18 October 1964. The meeting called for "effective international cooperation" through direct involvement of governments in conferences, together with experts and international organisations' representatives, giving the Council of Europe and IUCN a mandate to approach these institutions and seek their agreement to establish a network of European wildfowl refuges in accordance with MAR recommendations, as well as the conclusion of a Convention to ensure that the operation and maintenance of this network is well coordinated and effective (Matthews 2013).

1965, IWRB Proposals: The IWRB circulated the first draft text of the Ramsar Convention to 45 countries in August 1965. The draft text had 6 articles and proposed an international convention for the conservation of wetland habitats. The articles proposed wetlands that the convention would cover in relation to their description, requirements for listing and requirements for artificial wetlands (Bowman 1995).

1965, IWRB Revised Text: IWRB circulated a revised draft text on proposed subjects for an international agreement, or convention, on Wetlands in October 1965. This was done to streamline the thinking on wetland habitat conservation in the 45 participating countries. The scope of the initial draft had increased in the revised version to emphasise the safeguarding and management of wetlands during their designation and utilisation, establishment of reserves for their maintenance, commitment by governments to ensure ecological character and consult ecologists when planning for artificial wetlands amongst others (De Klemm & Créteaux 1995).

1966, Noordwijk: The IWRB coordinated a second meeting on Wildfowl Conservation for European countries in collaboration with the relevant Dutch bodies, namely the State Institute for Nature Conservation Research (RIVON) and the Ministry of Cultural Affairs, Recreation and Social Welfare. This meeting took place at Noordwijk aan Zee in the Netherlands, from 9 to 14 May 1966, to review the IWRB

proposal, as well as wetland status in each of the participating country. The proposal was generally accepted with an insistence to lay down general principles which are positive in the text, as opposed to prescribing negative restrictions (Ramsar Convention Secretariat 2016). There was recognition of a need for a permanent secretariat to the Convention to convene meetings and monitor the implementation of the treaty. There was further acknowledgement of the difficulty that would be faced when finalising the Convention. This acknowledgement informed a recommendation for the Netherlands Government to consider drafting the Convention, and consulting other governments in the drafting process. This was accepted by the Government of Netherlands, resulting in the Dutch Ministry of Culture, Education and Social Welfare developing the first draft of a "Wetlands Convention" which had 21 Articles (Matthews 2013).

1967, Morges: This meeting was coordinated by the IWRB and took place in Morges, Switzerland, at the then headquarters of IUCN, on 4 November 1967. It aimed to present the recommendations on the proposal received from the Dutch Ministry of Culture, Education and Social Welfare to the IWRB Executive Board. The recommendations included the comments received from the Technical Meeting on Wetland Conservation which was jointly organised by the IWRB and the Commission on Ecology of the IUCN with 14 countries a month before the Morges meeting (Ramsar Convention Secretariat 2016). Amongst the concerns highlighted were a number of legal challenges on the wording of the draft. However, the Board made minor amendments on the draft that was presented to them, and approved it for further circulation before submitting it back to the Dutch Ministry of Culture, Education and Social Welfare. This was in preparation for the following European Meeting on Wildfowl Conservation that was scheduled for 1968 (De Klemm & Créteaux 1995).

1968, Leningrad: The Third International Regional Meeting on the Conservation of Wildfowl Resources was coordinated by the Soviet authorities through the Soviet Steering Committee and IWRB from 25 September to 1 October 1968. This meeting aimed to finalise the Convention for signing at a diplomatic conference in 1969. However, due to a political uprising in the then Czechoslovakia, the Dutch

Government cancelled its official participation despite it being the drafter (Bowman 1995). The unrest lead to the meeting being postponed by the IWRB – however, the Soviet Steering Committee insisted that the meeting proceed on the basis of non-consultation by the IWRB, which was said to be unfounded. The conflicting messages led to some countries not participating at all and in the end only some 12 countries showed up. Moreover, there was no record of discussion on the Wetlands Convention except a resolution that was taken to "consider it expedient to hasten adoption of a convention concerning wetlands conservation, and to provide for a strict protection of those wetlands that have an international importance" (Matthews 2013: 19).

As demonstrated in the timeline of events, between the period of 1967 and 1971 a number of contributions and amendments were made by different states, organisations, experts and agencies to refine the draft Convention. This sequence of discussions and negotiations ultimately resulted in the Ramsar Convention's entry into force on 21 December 1975 following its adoption in 1971. Further amendments were made in 1987 in Articles 6 and 7 relating to the establishment and functioning of the Conference of Parties. These were only effected on 1 May 1994 and the amended Ramsar Convention was certified by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) on 14 July 1994 (Maffei *et al.* 1996).

The Ramsar Convention has an essential role in formulating conditions for co-operation, specifically for wetlands management (Connelly & Smith 1999). It has twelve articles, four of which articulate the fundamental obligations; another four articulate institutional arrangements and means of implementation, and the final four refer to the conditions governing participation by Contracting Parties (Bowman 1995). Nations that opt to become Contracting Parties to this treaty are essentially expressing their readiness to commit to reversing wetland degradation and loss (Ramsar Convention Secretariat 2016).

The era in which this treaty was adopted is significant in terms of greater global environmental awareness that was occurring at the time. The need for this treaty was a result of increased recognition of rapid degradation and loss of wetland

ecosystems (Matthews 2013). All these developments occurred at the time when ecologists such as Garreth Hardin were heightening the awareness on wise use of natural resources, fuelled by observing the overexploitation of common resources in particular and framing this problem a “tragedy of the commons” (Su *et al.* 2010: 1777). Adverse impacts on natural resources necessitated this global systematic approach to facilitate a coordinated world-view and efficient management of the full range of benefits that wetland ecosystems provide to society and the environment. The global approach was also necessary due to the transboundary nature of wetlands, as a number of wetland ecosystems were identified as cutting across national boundaries (Ramsar Convention Secretariat 2016).

The Ramsar Convention’s membership is reported to have grown from 18 to 169 Contracting Parties by January of 2016, with more than 2,220 designated wetlands added to the List of Wetlands of International Importance (Ramsar Convention Secretariat 2016). This increase in the membership of the convention indicates the growth of the territory of wetlands that is protected according to the criteria of the Listed Sites of International Importance. The expanded landscape of protected wetlands alludes to the significant value that the treaty brings to the environment and its integrity (Booys 2011).

This global approach in the form of the Ramsar Convention primarily aims to improve wetland management, protection and conservation with a view to maintain the wetland ecological character (Gell *et al.* 2016). It essentially means that the Ramsar Convention was established as a mechanism to focus and elevate international attention to the extent to which wetland ecosystems were disappearing. The approach was therefore necessitated by the lack of understanding of the important functions, values, goods and services of wetlands (Matthews 2013).

In the certified treaty, the Contracting Parties “recognise the interdependence of Man and his environment” whilst expressing a desire to “stem the progressive encroachment on and loss of wetlands now and in the future” (Ramsar Convention Secretariat 1994: Preamble). This demonstrates the need of the Ramsar Convention

in advancing the wetland agenda for current and future generations and in the context of international environmental law.

4.3 The composition and objectives of the Ramsar Convention

4.3.1 Institutional arrangements

In relation to the institutional arrangements, the governance structure for the Ramsar Convention is organised according to the on-going independent partnership between the Contracting Parties through the Ramsar Convention Secretariat which is also referred to as the Convention Bureau and the Standing Committee (Ramsar Convention Secretariat 2016). The Ramsar Convention Secretariat operates from Gland, Switzerland, where it is hosted by the IUCN. The role of the secretariat is to keep record of all matters relating to the Ramsar Convention. The IUCN has, however, retained the responsibility of providing legal expertise to the Conference of the Contracting Parties. These include financial, staff and contract management related issues (Matthews 2013).

The partnership of the Contracting Parties is technically supported by a subsidiary expert body, the Scientific and Technical Review Panel (STRP), as well as the International Organisation Partners (IOPs), and it is funded from the contributions of its Contracting Parties. The policy-making structure of the Ramsar Convention which has the power to take and amend decisions, is the Conference of the Contracting Parties (COP) (Ramsar Convention Secretariat 2016). It is established in terms of Article 6(1) of the treaty (Ramsar Convention Secretariat 1994). The Standing Committee is the executive body of the COP which is inter-sessional and meets between the COPs triennial meetings as guided by the COP decisions (Ramsar Convention Secretariat 2016).

One of the benefits for the Contracting Parties is the advantage the Ramsar Convention has in coordinating and collaborating with other environment-related conventions and international organisations which have gained recognition over time (Hails 2000). The Ramsar Convention Secretariat has assigned a significant effort in

developing synergies with other biodiversity-related conventions through the Biodiversity Liaison Group (BLG), as well as other conventions which advance the wetland agenda such as the Convention of Biological Diversity (Ramsar Convention Secretariat 2016).

Some of the coordinating structures that the Ramsar Convention Secretariat participates in to strengthen the wetland agenda include the following:

(a) the Joint Liaison Group (JLG) of the "Rio Conventions", the UN Framework Convention on Climate Change (UNFCCC), and the UN Convention to Combat Desertification (UNCCD) as an observer; and
(b) the Biodiversity Liaison Group as a full member with voting rights.

All of the above-mentioned coordinating structures are part of the UN system. The significance of the BLG, in particular, is that it is structured to accommodate seven conventions that are biodiversity-related. These conventions include the Convention on the International Trade in Endangered Species (CITES), International Plant Protection Convention (IPPC) and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) (Ramsar Convention Secretariat 2016).

In addition to this, the Chair of Ramsar Scientific and Technical Review Panel often participates in the Chairs of Scientific Advisory Bodies (CSAB) group. The Chair further participates in the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) together with the Secretary General (Ramsar Convention Secretariat 2016). This demonstrates the continuous relevance of the Ramsar Convention in the present day.

4.3.2 The objectives and obligations of the Ramsar Convention

The Ramsar Convention is recognised as the cornerstone of the theory and practice of sustainable wetland management. This is due to its mainstreaming of wetland management in the environmental conversations (Ferrajolo 2011). This mainstreaming is largely viewed as having succeeded to advance the formulation of

a wide ranging institutional framework for wetland management globally (Hettiarachchi, Morrison & McAlpine 2015).

Developed with a progressive vision, the Ramsar Convention provides the basis for international, national and local responses that seek to achieve sustainable wetland conservation. It does this by offering advice and specific principles, or guidelines, for the sustainable management and wise use of wetlands (Ferrajolo 2011). Moreover, it outlines a framework for international cooperation towards the protection, conservation and wise use of wetlands and their related resources (Matthews 2013). The framework for international cooperation is critical and regarded as a foundation for all international environmental laws according to Koester (1989).

Based on the framework it provides, the Ramsar Convention is further considered to be one of the main sources of international environmental law that provides a foundation to its signatories for the control of wetland pollution and degradation within the sustainable development framework. Due to the recognition of wetlands' main functions of sustaining key ecological processes for the benefit of both the environment and humanity, the overall objectives of the Ramsar Convention are to ensure that wetlands are conserved, protected and used wisely (Ramsar Convention Secretariat 2018).

As pointed out earlier, the treaty has evolved over time from the period in which it was adopted, and modified twice by a Paris protocol which was adopted in December 1982 and subsequent amendments to the original treaty in 1997, known as the Regina amendments (Matthews 2013). These modifications have not changed the fundamental principles of the Ramsar Convention in any way concerning wetland conservation and wise use, but only expanded the operational frameworks (Ramsar Convention Secretariat 2016).

The Ramsar Convention is further considered to have played a significant role in the development of wetlands and nature conservation policies by Contracting Parties, while maintaining the principle of exclusive national sovereignty over natural resources of Contracting Parties (Wensley 1994). The resulting national wetlands

and nature conservation policies have greatly contributed towards preventing the loss and degradation of wetlands whilst giving particular attention to the conservation and wise use of wetlands in some instances (Enemark 1998). They have done this through the adoption of the three pillars of action which are outlined by Okuno, Gardener, Beaulieu and Archabal (2016) as the principle of wise use for the management of wetlands; the identification, labelling and management of wetlands as Wetlands of International Importance; and international cooperation with regard to their conservation and wise use.

States that decide to become Contracting Parties to the Ramsar Convention bind themselves to four main obligations which are directly aligned to the three Ramsar Convention pillars. These obligations and related pillars include the following:

(a) the first obligation of listed sites, responds to the first pillar of the List of Wetlands of International Importance;
(b) the second obligation of wise use of wetlands, responds to the second pillar of wise use of wetlands;
(c) the third obligation of establishment of nature reserves whilst building human resource capacity through training and strengthening of international cooperation with neighbouring states, also responds to the second pillar of wise use of wetlands; and
(d) the fourth obligation of international cooperation, responds to the third pillar of international cooperation (Ramsar Convention Secretariat 2016).

Some practitioners view the obligations of the Contracting Parties as extremely limited, which is considered to be a weakness. However, the actual operations of the Ramsar Convention are considered to be successful despite the limitations. This success is attributed to a series of proposals, or recommendations, that contain clear principles on issues that have been identified as central to sustainable wetland management (Scanlon & Iza 2006). The obligations are further explained and contextualised to the South African environment below.

4.4 South Africa's obligations as a signatory to the Ramsar Convention

One of the important factors in the protection and conservation of South Africa's wetlands is the country's participation as part of a founding member of the Ramsar Convention on Wetlands of International Importance (2018). South Africa was the fifth country to commit to the Ramsar Convention as a Contracting Party in 1975. The Department of Environmental Affairs is responsible for coordinating the implementation and reporting on the requirements of the Ramsar Convention at national level (Malherbe *et al.* 2017, Bowman 2002). By joining the Convention, South Africa committed itself to the principles of wise use of wetlands amongst others (Booys 2011). The four obligations or commitments arising from the three pillars of the Ramsar Convention are discussed below.

4.4.1 **First obligation of listed sites** – Article 2 of the Ramsar Convention:

This obligation refers to the implementation of the first pillar of the List of Wetlands of International Importance in the Ramsar Convention. Article 2.4 of the Ramsar Convention requires each Contracting Party to designate at least one wetland to be included in the List of Wetlands of International Importance (also referred to as the Ramsar list) when signing the treaty (Ramsar Convention Secretariat 1994). This is a first obligation of the Ramsar Convention which is a specific binding requirement. This obligation essentially requires such a wetland to meet certain qualifying criteria for inclusion in the list, where its well-being is assured through constant monitoring and peer review by other Contracting Parties (Matthews 2013).

Specifications have been developed by Contracting Parties, with nine criteria for the site selection process. At least one of the nine criteria must be met for a site to be deemed eligible for inclusion in the Ramsar list. The Ramsar Convention Secretariat reported in its 2018 Global Wetland Outlook over 2300 Ramsar Sites that are listed globally, with each site meeting at least one of the nine criteria (Ramsar Convention Secretariat 2018). Initially there was a tenth criterion which required Contracting Parties to clearly define the boundaries of a listed wetland. The UNESCO had interpreted this criterion as an obligation which required compliance during the

process of listing a site. However, a number of countries considered it adequate to limit this obligation to the designation of one or more sites, postponing the exact boundary definition of the listed site to a later date (De Klemm & Créteaux 1995). This does not mean that the requirement of the provision of an exact description and a map outlining the boundaries of the wetland, or wetlands, which are to be included on the Ramsar list has been waived. On the contrary, this is still an obligation which must be fulfilled as soon as possible, even after the state has ratified the Ramsar Convention (Matthews 2013).

Moreover, the obligation of listed sites requires the Contracting Party to promote the conservation of the designated site whilst continuing to "designate suitable wetlands within its territory" for the Ramsar list (Ramsar Convention Secretariat 2016: 14). This obligation is a good example of the principle of state sovereignty in international law. In the process of designating a wetland of international importance, the listing is without prejudice to the exclusive sovereign rights of the state in which such a wetland is located (Sands *et al.* 2012). This simply means that the listing of the site does not give the Ramsar Convention any rights over the listed Ramsar site, outside the national rights of the particular state in which the wetland is located. This is in line with IEL principles, which the Ramsar Convention subscribes to.

On this particular obligation, it is worth noting that some of the sites in the Ramsar list are also listed as World Heritage sites through collaboration between the Ramsar Convention and the World Heritage Convention. This collaboration is informed by the recognition by both Conventions of the benefit of better governance and improved protection of wetlands through community involvement (McInnes, Ali & Pritchard 2017). The recognition of cultural aspects of wetlands is officially endorsed by the Ramsar Convention through Resolution IX.21 of the Conference of Parties, which is titled "Taking into account the cultural values of wetlands" (Ramsar Convention Secretariat 2005a: 1).

In meeting the obligations of the Ramsar Convention, South Africa aims to promote the conservation of wetlands throughout Southern Africa. According to DEA (2016), it aims to do this by implementing the South African Wetlands Conservation

Programme. To date, South Africa has 24 designated sites, with the 24th site which is listed as the Bot-Kleinmond Estuarine System (Ramsar Site no. 2291), designated in 2017 (Ramsar Convention Secretariat 2017). These sites are located across the country, in eight provinces, excluding the Eastern Cape (Malherbe *et al.* 2017). From the World Heritage Site perspective, South Africa became a signatory in the World Heritage Convention in 1997 and had iSimangaliso Wetland Park as its first recognised World Heritage site in 1999 (Isimangaliso Wetland Park 2017).

4.4.2 **Second obligation of wise use** – Article 4 of the Ramsar Convention

This obligation is the first aspect of the second pillar of the Ramsar Convention on wise use. It requires Contracting Parties to consider wetland conservation in their national planning. Article 4.1 states that "The Contracting Parties shall formulate and implement their planning so as to promote the conservation of the wetlands included in the List, and as far as possible the wise use of wetlands in their territory" (Ramsar Convention 1994: Article 4.1). This means that during land use planning, development planning, or water resource planning, wetland conservation needs to be integrated. The obligation thus commits the Contracting Parties to formulate and implement various plans as far as possible to promote wise use of wetlands (Ramsar Convention Secretariat 2016). This obligation is a basic requirement to uphold the preservation of the ecological character of wetlands (Dupuy & Viñuales 2015).

In the South African context this is implemented through the principle of cooperative governance, which is a requirement in terms of section 40(2) of the Constitution of the Republic of South Africa (RSA 1996). Section 24(b) imposes a duty on the state, which includes all three spheres of the government, to take collective responsibility in securing environmental protection and conservation. This means that the different spheres of government and related government institutions that are responsible for various authorisations of listed activities through their enacted legislated measures, are compelled to make sure that the requirements of other laws that are considered to be supportive, are met before a listed activity is authorised (Lizamore 2005). These listed activities are legislated in all three sectors. For instance, Section 37(2) of the National Water Act 36 of 1998 provides for the authorisation of controlled

activities, which the Act refers to as activities that have a “detrimental impact on water resources” (RSA 1998d, s37:2). Since the Act recognises a wetland as a water resource, this provision applies to wetlands as well.

Section 6(2)(e) of the CARA empowers the Minister of Agriculture to prescribe control measures for relevant land users concerning the “utilisation and protection of vleis, marshes, water sponges, water courses and water sources” (RSA 1983, s6:2). From the environment sector perspective, chapter three of the NEMA outlines procedures for cooperative governance. This includes implementation requirements of environmental implementation plans and management plans by the relevant spheres of government, including organs of state (RSA 1998a). The Act makes it clear that the intention of this requirement is to achieve coordinated, integrated and informed decision making in sections 12, 13 and 14.

4.4.3 Third obligation of reserves and training - Article 4 of the Ramsar Convention:

The second aspect of the wise use pillar is expressed in Article 4.1 as the obligation to promote wetland conservation by specifically setting up nature reserves on wetlands and sufficiently providing for their stewardship irrespective of whether such wetlands are considered as internationally important through inclusion in the Ramsar list (Ramsar Convention Secretariat 1994).

In the 2018 national biodiversity assessment report, SANBI reported an increase in the percentage of South Africa’s overall land area which is included in the network of protected areas from 8% reported in 2010 to 9% in 2018. Such network of protected areas is constituted of a complete range of ecosystem types, including wetlands (SANBI 2018). The report further highlighted that most of this protected area growth has occurred in ecosystem types that are under-protected, resulting in a steady increase in the quantity of ecosystems that are well protected, from 22% in 1990 to 24% in 2010 to 26% in 2018 of the 1,220,813 km^2 total land areas (SANBI 2018).
The above figures indicate an improvement in the magnitude in which the land-based area networks are protected in the country. This reported improvement is

encouraging, given that South Africa is considered as a country that is rich in biodiversity, with the 5th ranking in the African continent in the number of endemic species, and the global rank of 24. In addition to its great terrestrial biodiversity, South Africa has a high profile on marine biodiversity. It is reported to have more than 11 000 species in its waters, which is equivalent to approximately 15% of international species. However, this promising picture does not mean South Africa is without challenges (SANBI 2018). The decline in the number of well protected inland wetland ecosystems from 11% in 2011 to 6% in 2018 for instance implies that more interventions are required in the areas of planning and wise use of wetlands (SANBI 2018).

Contracting Parties to the Ramsar Convention also commit to promote training in the fields of wetland research and wetland management so as to build specialised human resource capacity in the field of wetland management (Ramsar Convention Secretariat 2016). With regard to this commitment, South Africa through the Department of Environmental Affairs has established a South African National Biodiversity Institute (SANBI). The Institute was established on 1 September 2004 by former President Thabo Mbeki, through section 10(1) of the National Environmental Management: Biodiversity Act 10 of 2004 (SANBI 2013). Section 11 of the Act provides the functions of SANBI, which include a range of responsibilities around reporting, monitoring, advising, acting as a consultative body, coordinating and promoting the full diversity of South Africa's fauna and flora. It is further tasked with the responsibilities of developing capacity through environmental education, research and the broader knowledge management around the full diversity of South Africa's fauna and flora (RSA 2004).

4.4.4 Fourth obligation of international cooperation - Article 5 of the Ramsar Convention:

In this final obligation, Contracting Parties commit to consult with other states, which are Contracting Parties, on the implementation of the obligations of the Ramsar Convention. This is particularly relevant in instances of transboundary wetlands,

shared watercourses and conservation of wetland species (Ramsar Convention Secretariat 1994).

This obligation is regarded as a form of modification of the sovereignty of states where cooperation may take place in a number of ways, such as establishing bilateral or regional arrangements (Dupuy & Viñuales 2015). The obligation is based on the principle of 'good neighbourliness' or 'duty to cooperate' in IEL, and may restrict states' freedom to do as they please with their own natural resources because they sign up to co-manage/conserve them with their neighbouring states, hence modifying their sovereignty (Nanda & Pring 2014: 21). This principle simply highlights that no one state exists in isolation with closed off boundaries. Cooperation is viewed as means to then maintain global peace and security (Nanda & Pring 2014). To date, the Ramsar Convention Secretariat has a record of 15 networks that have been established for regional cooperation (Ramsar Convention Secretariat 2018).

A good example of compliance by South Africa on this commitment is the case of the Makuleke Wetland. This wetland is located in Limpopo province and was listed on 22 May 2007. According to DEA (2016), it provides an excellent example of a floodplain "vlei" type, which mostly lies within the South African Kruger National Park, but it is bordered by Zimbabwe and Mozambique to the north and east. The declaration of the Great Limpopo Transfrontier Park (GLTP) in 2002 through an international treaty between South Africa, Mozambique, and Zimbabwe has been instrumental in facilitating a joint management of the bordering National Parks and conservation areas by communities and governments of the three countries, whilst ensuring that the Ramsar site continues to benefit from that protection status.

One of the South African legislative responses to this obligation is provided in section 102 of the NWA. In this section the NWA provides for regional cooperation on water resource issues by empowering the Minister, in consultation with the Cabinet, to establish bodies to implement international agreements. This provision recognises that water resources know no boundaries (RSA, National Water Act, 1998).

From a regional perspective, the Southern African Development Community (SADC) has introduced Transfrontier Conservation Areas (TFCA) (originally known as Peace Parks) to facilitate regional cooperation on protected areas, which include wetlands (Hanks 2003). It has done this through a Protocol on Wildlife Conservation and Law Enforcement, which was passed on 18 August 1999 with a view to create a common framework for conservation and sustainable use of wildlife in the SADC region. SADC defines these TFCAs in Article 1 of the Protocol on Wildlife Conservation and Law Enforcement as "the area or a component of a large ecological region that straddles the boundaries of two or more countries, encompassing one or more protected areas as well as multiple resources use areas" (SADC 1999:3). One of the benefits of establishing TFCAs is that they broaden far beyond the designated protected area to incorporate biosphere reserves and different approaches to community based management of natural resources (World Bank 1996). As reported by the DEA in 2016, 18 TFCAs existed in the SADC region and in different stages of development. Of these, six directly involved South Africa as presented in Table 4.1 below: Kgalagadi Transfrontier Park (KTP).

Table 4.1: TFCAs involving South Africa (DEA 2016)

TFCA	COUNTRIES	STATUS
Kgalagadi Transfrontier Park (KTP)	Botswana; South Africa	Agreement Signed 1999
Great Limpopo Transfrontier Park (GLTP)	Mozambique; South Africa; Zimbabwe	MoU Signed 2000 – Ministers of Environment Treaty Signed 2002
/Ai /Ais-Richtersveld Transfrontier Park (ARTP)	Namibia; South Africa	MoU Signed 2000 – Ministers of Environment Treaty Signed 2003
Maloti-Drakensberg Transfrontier Conservation and Development Area (MDTP)	Lesotho; South Africa	MoU Signed 2001 and updated in 2008 – Ministers of Environment
Lubombo Transfrontier Conservation Area (LTFCA)	Mozambique; Swaziland; South Africa	Protocol Signed 2002 - Ministers of Environment
Greater Mapungubwe Transfrontier Conservation Area (GM TFCA)	Botswana; South Africa; Zimbabwe	MoU Signed 2006 – Ministers of Environment Draft Treaty awaiting signing by the Head of States

4.5 Support to member states

A large number of resolutions, handbooks and guidelines have been developed and adopted by the Ramsar Convention's Conference of Parties since 1971. These are packaged in a so-called "Ramsar Toolkit", which is a set of more than 20 handbooks. These handbooks define the general provisions of the Ramsar Convention and provide guiding material from various decisions that were adopted by the Contracting Parties since the adoption of the Ramsar Convention, and arranging them in the core three pillars of the convention, namely wise use, Ramsar sites designation and management and international cooperation (Ramsar Convention Secretariat. 2010b).

The Ramsar Convention Secretariat coordinates the compilation of these handbooks to assist practitioners to implement the globally adopted best practices in a way that suits their national conditions. The handbooks are organised according to the three pillars of the Ramsar Convention, namely wise use, designated Ramsar sites and international cooperation. They are further organised into different themes, providing guidance and support to Contracting Parties based on the decision adopted in the three yearly meetings of the COP. Each individual handbook draws together the different resolutions, complemented by extra material from COP information manuscripts, publications and case studies to demonstrate key messages of the handbooks (Pritchard 2010).

With these handbooks as the primary support mechanism in place, there are still challenges that relate to the effective implementation of the Ramsar Convention. Scanlon and Iza (2006) have identified these as follows:

- Strengthening in building synergies and linkages with other multilateral environmental agreements, which is on the increase;
- improving linkages of the Ramsar Convention with mainstream issues;
- strengthening the support to Contracting Parties by encouraging them to consider wetlands within the broader context of integrated water resources management. This requires a consideration of wetlands in a broader context, and linking their management to integrated water resources management;
- building of effective legislative and institutional frameworks; and

- effective engagement of communities during the planning and implementation process.

With all the scientific evidence that is being produced locally in South Africa and internationally pointing to the continued loss and degradation of wetlands, the success of the Ramsar Convention remains questionable. Whilst the Ramsar Convention has provided much guidance to its Contracting Parties on how to implement the Articles of the Convention, the results in terms of maintaining the ecological character of wetlands suggest that this support may not be adequate.

4.6 Reporting system and compliance monitoring for member states

As a principle source to IEL, treaties require ongoing surveillance and monitoring coupled with swift legal action and execution that are responsive to continuous and fairly rapid changes in the scientific facts and information, as well as the resultant conclusions (Birnie, Boyle & Redgwell 2009). Given this background on international regimes, the same level of reporting and compliance monitoring is expected from the Ramsar Convention. In fact Rose (2011) asserts that the inter-linkages between multilateral environmental agreements (MEA) and compliance systems enable the institutional cooperation to reinforce the implementation of such agreements.

In the Ramsar Convention, the Contracting Parties are required to report on their progress in implementing the commitments of the Convention. This is done through submissions of national reports by individual countries to the Conference of the Contracting Parties on a three year basis in an adopted reporting framework (Ramsar Convention Secretariat 2016). This framework enables Contracting Parties to submit data and information on how they are implementing the Ramsar Convention in their countries, outlining their national planning tools and sharing their achievements towards honoring their commitments, lessons challenges and emerging issues for the attention of the COP (Ramsar Convention Secretariat 2018). The responsibilities that are suggested for Contracting Parties to the Ramsar Convention include reporting progress in the execution of their commitments to the Convention as articulated in Article 6 (Ramsar Convention Secretariat 1994). This

reporting should be within the Contracting Parties national boundaries through a national reporting system. This reporting is prepared in an adopted format that is guided by the Conventions' Strategic Plan which is in the public domain (Ramsar Convention Secretariat 2016). In this regard, the obligations of the Contracting Parties are considered to be extremely broad in nature with the guidelines from which these obligations are sourced also considered to be vague expressions from a legal point of view (Koester 1989). The vague expressions are said to have created a number of challenges when it comes to interpretation by Contracting Parties, resulting in conceptual disadvantages that weaken the effectiveness of the Convention (Ferrajolo 2011).

The reporting system and compliance monitoring of Contracting Parties do not sufficiently recognise the national political dynamics of the policy processes coupled with the deficient perspective with regard to environmental justice. This is one of the factors that weaken the effectiveness of the Ramsar Convention when it comes to compliance monitoring (Hettiarachchi, Morrison & McAlpine 2015). This simply means that the effective implementation of the objectives of the Ramsar Convention is highly dependent on a successful merging and weighing of scales between national and international objectives (Booys 2011).

The compliance monitoring by the Ramsar Convention has worked well where states have adopted the obligations of the Ramsar Convention in their national laws and/or policies. This adoption makes it possible to enforce the obligations through the national judicial systems (Ramsar Convention Secretariat 2016). While tools have been developed to guide Contracting Parties on how to develop their policies, the determination of the effectiveness of such policies remains a challenge (Booys 2011).

The benefits of effective national policies are articulated in the preamble of the Ramsar Convention as providing assurance of the conservation of wetland ecosystems and maintaining their ecological character (Ramsar Convention Secretariat 1994). In this regard, the Ramsar Convention is applauded for providing a clear explanation of what constitutes a change in the ecological character of a

wetland. There are requirements for Contracting Parties to report any changes in the ecological character of any wetland within their national boundaries, specified in Article 4 (2). However, the Ramsar Convention is said to have failed in providing clarity with regards to setting limits or parameters for an appropriate change that would be recognised as acceptable in the ecological character of wetlands (Gell *et al*. 2016). This has resulted in Contracting Parties to the treaty being encouraged to implement a precautionary approach which fundamentally requires the implementation of preventative measures where there is scientific uncertainty on certain actions that may result in adverse environmental impacts (Kidd 2008).

This raises serious concern given the fact that the notion of wise use of wetlands and sound maintenance of their ecological character are the cornerstone of the Ramsar Convention since its establishment, and yet it appears to be given very little attention (Farrier & Tucker 2000). This is supported by Booys' (2011) view that the Ramsar Convention is more of a benchmark for ascertaining wetlands as multiple value systems, and is inadequate in completely protecting wetlands.

When it comes to the listing of Wetlands of International Importance, there are stringent monitoring and reporting obligations as articulated in articles 4(2) and 8(2) of the Ramsar Convention, which may result in a wetland site being delisted if not complied with (Dupuy & Viñuales 2015). This monitoring and reporting is done through the Montreux Record, which is a "register of wetland sites on the List of Wetlands of International Importance where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference" (Ramsar Convention Secretariat 2016: 48). The Ramsar Convention Secretariat collects this data from Contracting Parties through the use of wetland inventories, where such data is also required to be published in national reports as from 2018 (Ramsar Convention Secretariat 2018).

According to Malherbe *et al.* (2017), the Blesbokspruit wetland was removed from the Ramsar List in 1996 and placed on the Montreux Record following its contamination by large quantities of polluted water discharges which came from

Grootvlei Proprietary Mines Limited. The delisting of the wetland from the Montreux Record would be informed by the constant improvement of the water quality which is central in the restoration of the wetland (Ambani 2013).

On international cooperation Booys (2011) suggests that close collaboration by Contracting Parties is pivotal in effectively addressing issues of compliance to the objectives of the Ramsar Convention. He recommends the setting up of flexible cooperative mechanisms by Contracting Parties, which should mainly include technology transfer and financial assistance. Moreover, he argues that these have proven to be effective in some regions (Booys 2011).

Research conducted in the late 90s and early 2000s indicates serious compliance issues by Contracting Parties, mainly due to the broad legal expressions contained in the obligations as well as the application of the treaty within the space of IEL. For instance, it has been found that Contracting Parties are not utilising the Montreux Record to report the sites requiring priority conservation attention as per the requirement of Article 3.2 of the Ramsar Convention, and rather resort to requesting for technical assistance on response options where threats have been identified on the ecological character of a Ramsar Site (Ramsar Convention Secretariat 2018). However, the strengthening of close relations with other official bodies over the years, where the Ramsar Convention collaborates with the United Nations Environment Programme (UNEP) – through the Memorandum of Understanding (MoU) that was signed in 2010 with its World Conservation Monitoring Centre (WCMC) – is, for instance yielding positive results in harmonising requirements for reporting in different instruments and further developing effectiveness indicators (Ramsar Convention Secretariat 2016).

Another example of the many existing collaborations is the signed agreement with the Global Terrestrial Observing System (GTOS). This agreement came into effect from June 2006, which allowed the Secretariat to work closely with the European Space Agency on developing monitoring and management tools based on earth observation (EO) data. The EO data sets assist Contracting Parties to manage their wetland information more effectively, enabling them to respond to their reporting

requirements nationally and internationally (Rebelo, Finlayson, Strauch, Rosenqvist, Perennou, Tøttrup, Hollarides, Paganini, Wielaard, Siegert, Ballhorn, Navratil, Franke & Davidson 2018). More recently the Secretariat has actively partnered with the UN-Water in the developing of Target 6.6 of Goal 6 of the UN SDGs. This target is on the conservation of water-related ecosystems (Ramsar Convention Secretariat 2016). The EO dataset is also used by Contracting Parties to report on the relevant SDG target (Rebelo *et al.* 2018).

4.7 Conclusion

From the information gathered, it is evident that the Ramsar Convention has been instrumental in elevating the status of wetland protection, conservation and management globally and has contributed to the development of international environmental law in this regard. Whilst the Ramsar Convention may have been viewed as being inadequate in certain aspects of its implementation, this is clearly improving through various collaborations which the Secretariat is forging through a number of agreements with like-minded institutions. This coordination and collaboration with other international bodies strengthens its role in uplifting the wetlands agenda globally.

The obligations to Contracting Parties also expand the footprint of the overall objectives that the convention seeks to achieve in protecting, conserving and sustainably managing wetlands globally whilst improving international cooperation. The support provided to the Contracting Parties over the years is also strengthening and improving despite the issues of permanent state sovereignty having to be maintained. The participation and compliance of South Africa as a Contracting Party seems to be improving, aided by the strong legislative responses to wetland management in the country across the three chosen sectors.

CHAPTER 5: ANALYSIS OF SOUTH AFRICA'S POLICY AND LEGISLATIVE FRAMEWORK ON WETLAND MANAGEMENT

5.1 introduction

South Africa is regarded as having an abundance of legislation when it comes to environmental protection and management in general (Booys 2011). This is due to increasing environmental requirements and pressures locally and from abroad (Booys 2011). These legal responses demonstrate the country's commitment to the protection and sustainable management of the environment, including wetlands (Herbst 2015). In this chapter an overview is provided of the policy and legislative framework for wetland protection, conservation and sustainable management in the three chosen sectors. This overview provides a historical account of how the three chosen sectors have evolved over time until the present day. Reference is made to the pieces of legislation that were enacted from 1961 – a period in which the country was officially established as a Republic and had its first Constitution, Act No 32 of 1961 (Rapatsa 2014). This excludes the water regime as the only legislation that was in place before 1994 and was enacted in 1956.

An analysis is conducted by purposively interpreting the current policy and legislative framework through the teleological approach. This entails an examination of relevant policy and legislative provisions for wetland protection, conservation and sustainable management, according to their objectives and purposes. Such provisions could thus be purposefully interpreted to ascertain if they sufficiently provide for wetland protection, conservation and wise use in relation to their own objectives. Du Plessis (2008) describes teleological interpretation as a method which "aspires in the interpretation of individual Constitutional and statutory provisions, to realise the 'scheme of values' on which the Constitutional and statutory order is premised". Areas of interplay in these policies and pieces of legislation will be further highlighted. The point of departure for the analysis is the country's Constitution, as the supreme law of the country, followed by the national legislation as developed by the three chosen sectors.

5.2 An overview of the South African policy and legislative framework

5.2.1 The Constitutional regime

The history of South Africa's Constitution originates in 1961. This is when the country was formally established as a republic for the first time with a Constitution, namely Act No. 32 of 1961 (Rapatsa 2014). This period represents a harsh past when it comes to environmental policy. During the apartheid dispensation, the legal regime systemised natural resource distribution according to race. This meant that natural resources were owned by individuals, including wetlands. The transition to a democratic regime in 1994 brought with it a paradigm shift. This shift reconstituted governance systems and introduced a rights-based Constitution, underpinned by accountability and transparency principles of governance (Rossouw & Wiseman 2004).

The Constitution of the Republic of South Africa comprises the Bill of Rights in Chapter 2 that obliges the state to "respect, protect, promote and fulfil" such rights (RSA 1996, s7). Section 24 enshrines an environmental right with section 24 (b) laying a foundation for the development and implementation of legislation and additional, supplementary means to ensure environmental protection while upholding socio-economic development (Herbst 2015). Wetlands are implied in this environmental right (Cameron 2017).

Moreover the Constitution (RSA 1996) introduces a system of cooperative governance which empowers all three spheres of government nationally, provincially and locally to share both legislative and executive powers (Currie & de Waal 2001). Through section 24, all three spheres of government are effectively then responsible for environmental management and therefore required to carry out this primary duty of ensuring environmental protection (RSA 1996). There are a few other rights which are fundamentally relevant to section 24 of the Constitution (RSA 1996). These are discussed below.

Right to Property: The first one is section 25 on property rights. In section 25(1) the Constitution states that "No one may be deprived of property . . ." after which

provision is made in section 25 (2) for the expropriation of property “only in terms of law of general application (a) for a public purpose or in the public interest . . .” (RSA 1996, s25). The relevance of this section in the discussion is brought about through the interpretation of public interest as articulated in section 25 (4)(a), where the Constitution explicitly states that “the public interest includes the nation’s commitment to . . . reforms to bring about equitable access to all South Africa’s natural resources . . .” (RSA 1996, s25). Section 25 (4)(b) further states that “property is not limited to land” (RSA 1996, s25). The relevance of this right is from a perspective of the impact of natural resource management decisions, which are made by establishments based on property rights. A strong interdependence between property ownership and environmental protection has been established where there has been successful protection and conservation of wetlands based on their location. This relates to wetlands being better protected and managed in areas where land is owned by the State, enhancing management decisions and accountability (Adger & Luttrell 2000).

Right to Health Care, Food, Water and Social Security: The second relevant right is section 27 (1)(b), in which the Constitution provides for a right of “access to sufficient food and water” (RSA 1996, s27). This right is particularly relevant in the context of the multiple value system that wetland ecosystems benefit. As already discussed in chapter 3, the social value that is attributed to wetlands for sustainable livelihoods has a direct link to access to water and water quality issues. Moreover, the section on the water regime below examines in detail the upholding of this right.

Right of Access to Information: The third relevant right is section 32, which enshrines the “right of access to any information held by the state, and any information that is held by another person that is required for the protection of any rights” (RSA 1996, s32). This right is central to the successful protection and conservation of natural resources, including wetlands. Lack of access to information results in the public’s inability to properly and actively participate in environmental decision-making processes (Fabricius, Matsiliza & Sisitka 2003). The state has provided a legislative measure in a form of the Promotion of Access to Information Act 2 of 2000 (PAIA), which outlines comprehensive procedures that must be

followed to enable the realisation of this right. Sectoral national legislation, such as the NEMA and the NWA, also prescribe to the obligations of this right.

Enforcement of rights: The fourth relevant right is section 38, which provides for enforcement of rights. This right makes provision for "anyone listed in this section . . . to approach a competent court, alleging that a right in the Bill of Rights has been infringed or threatened . . ." (RSA 1996, s38). This right therefore empowers any citizen of the country to become involved by implying that any member of the public has a right to approach a court to take suitable action to promote the sustainable use of natural resources (Fabricius *et al.* 2003). This includes wetlands and is in line with the provisions of section 38 (d) which specifies that "the persons who may approach a court are … (d) anyone acting in the public interest", which could include the environment when read with the above-mentioned section 25, and more importantly, when read with the environmental right in section 24 (RSA 1996, s38).

The 1994 transition to a democratic regime, which brought about reconstituted governance systems and this rights-based Constitution, laid a foundation for complex nation-wide processes of environmental policy development. These processes resulted in a new environmental legislative framework for the country (Rossouw & Wiseman 2004). Whilst this plethora of environmental policy and legislation demonstrated the country's commitment to sound environmental management, it also drew some criticism (Herbst 2015). Much of the criticism against the new environmental management policy and legislation post-1994 attests to fragmented environmental legislation. This fragmentation led to poor management and protection of natural resources, with wetlands included (Rossouw & Wiseman 2004). However, the Constitution has made specific provisions in Chapter 3, where it prescribes a framework for cooperative governance across the three spheres of government (RSA 1996). This provision is important for wetlands as the protection, conservation and wise use of wetlands requires reliable scientific information, as well as integrated planning and accountability across all spheres of government (Herbst 2015). Through this framework, section 41 (1)(h) of the Constitution imposes cooperation with one another in "mutual trust and good faith" as a requirement for sound cooperative governance (RSA 1996).

5.2.2 The Environmental regime

Period pre-1994: During the apartheid era, environmental policy making processes were steered by technocrats, excluding the broader public. Where stakeholder engagements were held, they were limited to a few selected groups. The nature of engagements would also be more of information sharing rather than having open discussions (Rossouw & Wiseman 2004). In particular, during the period between the 1970s and the 1980s, the country had a number of environmental laws that protected some wetlands in varied degrees. These laws were not promulgated to specifically address wetlands and were therefore considered to have failed in providing full protection to wetlands (Cowan 1999). The main environmental statutes which were enacted during this period include the Mountain Catchment Areas Act 63 of 1970 and the Environment Conservation Act 73 OF 1989 (ECA), which are discussed below.

Mountain Catchment Areas Act 63 of 1970: This Act was enacted to "provide for the conservation, use, management and control of land situated in mountain catchment areas, and to provide for matters incidental thereto" (RSA 1970). Section 3 (1)(a) empowered the minister to direct through a declaration, any land owner or occupier to conserve, use, manage and control the land in question. Section 3 (1)(b) expanded this directive to the rehabilitation of natural vegetation, which implied wetland protection (RSA 1970). Since the legal mandate of the Mountain Catchment Areas Act was particularly focused on land situated in mountain catchment areas, it could not provide any protection for wetlands situated outside mountain catchment areas.

Environment Conservation Act 73 of 1989 (ECA): The ECA was regarded as the main environmental legal framework in South Africa before the new democratic dispensation (Du Toit 2016). It was enacted to "provide for the effective protection and controlled utilisation of the environment" (RSA 1989). The Act has largely been replaced by the National Environmental Management Act 107 of 1998 (NEMA). However, certain provisions of the Act remain valid and in force (RSA 1998a). Some of these provisions relate to the "wide ranging powers to protect and control utilisation of the environment" as demonstrated in the *City of Cape Town v Really*

Useful Investments 219 (Pty) Ltd) 2018 (2) SA 65 (WCC). In this case, the powers conferred to the competent authority or local authority (City of Cape Town) in terms of section 31A of the ECA were the subject. The powers relate to 31A where the "environment is damaged, endangered or detrimentally affected" (RSA, Environment Conservation Act, 1989, s31A). The High Court declared that the conduct of the Respondent "in placing soil, general rubble and fill on land within the 1:100 year flood line on the property constituted by Erven 7681 . . . to 7692 Cape Town and the Remainder of Erf 1530 Cape Town was in contravention of the provisions of the Applicant's By-law relating to Stormwater Management" (*City of Cape Town v Really Useful Investments 219 (Pty) Ltd) 2018 (2) SA 65 (WCC) 1*). Further to this, the court declared that the Respondent failed to comply with the ECA directive issued to it by the City of Cape Town in terms of section 31A of the ECA by failing to remove "the soil, general rubble and fill that was placed with in the floodplain of the Disa River" (*City of Cape Town v Really Useful Investments 219 (Pty) Ltd) 2018 (2) SA 65 (WCC) 3*).

The full scope of the ECA included provisions for the conservation of the environment in Part I; institutional arrangements for environmental management in Part II; environmental protection, pollution control, as well as activity control for activities that may adversely affect the environment in Parts III, IV and V; and regulations, enforcement and general provisions in Parts VI, VII and VIII (RSA 1989). Whilst this scope was regarded as sufficient, Kidd (2008) argued against its adequacy in the midst of international environmental obligations that were becoming increasingly important. In fact, Breedt and Dippenaar (2013) went further and stated that the ECA had huge gaps such as that its title was misleading. This claim is attributed to the aim of the ECA which is stated in its long title as "to provide for the effective protection and controlled utilisation of the environment" (RSA 1989). According to these authors, the long title presented two opposing ethical approaches. The "effective protection" was interpreted to adopt a preservation ethical approach which advocates for the sheltering of resources from use and keeping them in their 'wild' or original state. On the other hand the "controlled utilization" was interpreted to adopt a conservation ethical approach which was human-centered or anthropocentric in nature and had a strong utilitarian rationale

(Attfield 1983). Given the ethical disparities, the conclusion was that a more suitable long title should have referred to conservation rather than protection of the environment (Kidd 2008).

The view of the researcher is that there is no disparity in accommodating preservation of certain areas where the natural environment is kept in its original form and advocating for wise use in other areas. Both these ethical positions still contribute in the multiple value system discussed earlier with regard to the intrinsic values and utility benefits derived from both. The ECA provides for authorisations of certain activities under specific conditions to accommodate the conservation approach whilst the National Environmental Management: Protected Areas Act 57 of 2003 (NEMPAA) for instance goes on to provide for legal environmental protection in designated areas. (RSA 2003). However, the 2018 national biodiversity assessment has revealed that whilst the protected area estate has grown gradually over the past 30 years, both inland and river wetland ecosystem conditions are declining and found to be highly threatened and under protected (SANBI 2018). This continuing decline in wetlands protection suggests that ECA was ineffective or insufficient to provide protection. The recommendation made following this scientific assessment suggests that there is a need for streamlining of environmental decision making processes to improve existing land use decision support tools that determine the level of protection to be offered for sensitive areas to avoid inconsistency and strengthening of compliance and enforcement (SANBI 2018).

The first definition of the term “environment” was provided in section 1 of the ECA as “aggregate of surrounding objectives, conditions and influences that influence the life and habits of man or any other organism or collection of organisms” (RSA 1989, s1). The ECA further made provisions for Environmental Impact Assessment (EIA) regulations, which are an international requirement in terms of the Ramsar Convention. Section 2 (1) of the ECA made provision for development of policies to enable South Africa’s compliance with international obligations. These obligations advance the promotion of environmental protection to avoid pollution and degradation, including (a) “ecological processes, natural systems and the natural

beauty, as well as the preservation of biotic diversity in the natural environment" (RSA 1989, s2).

Period post-1994: Post-apartheid has seen a paradigm shift in the agenda for environmental policy that was influenced by a number of factors. These include political commitment to set up a more effective system of managing the environment and ensuring more equitable distribution of natural resources in response to the inequity and environmental injustice of the apartheid regime. It further enshrines the environmental rights in the country's Constitution as discussed in the first section of this chapter, whilst closing the huge policy and legislative gaps in environmental management (Rossouw & Wiseman 2004).

National Environmental Management Act 107 of 1998: The National Environmental Management Act 107 of 1998 (NEMA) was the first main legislation to provide a national framework for environmental governance in the democratic South Africa (Cameron 2017). According to Du Toit (2016), the NEMA addresses a number of weaknesses from the previous environmental laws. The Act refines and expands the definition of the term 'environment' from the original definition provided by the ECA. It goes on to specify the type of surroundings and conditions, and pronounces the properties and conditions that have an influence on the health and well-being of humans (RSA 1998a). The Act further provides eighteen environmental principles that are critical in environmental management which cognisance has to be taken of in all decision making that has an impact on the environment across all spheres of government (RSA 1998a). It does this by outlining specific principles in section 2 that can be grouped into the following themes: "sustainable development, decision-making and cooperative government, environmental assessment and management, environmental justice, as well as stakeholder engagement" (Rossouw & Wiseman 2004: 136). These principles are relevant to wetland conservation, protection and wise use, as they relate to the maintenance of the ecological character through avoidance of loss of biodiversity, pollution control and mitigation, and remedial measures where pollution has occurred (Herbst 2015).

In line with section 24 of the Constitution, section 2(2) of the NEMA states that "environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably" (RSA 1998a). This provision indicates that the benefits of wetlands must serve people and their needs equitably. The principles of sustainable development as outlined in section 2(3) and 2(4)(a)(vi) of the Act are relevant for the wise use of wetlands. In addition, the environmental assessment and management principles as outlined in section 2(2) and 2(4)(a) of the Act legislate pollution control and impact assessments (RSA 1998a). In section 28 for instance, the NEMA prescribes a general duty of care not to "cause significant pollution or degradation of the environment" and, where harm is unavoidable, to take measures to reduce, or stop the pollution (RSA 1998a, s28).

Moreover, in an instance where there is an emergency incident which affects a wetland, the response procedures prescribed in section 30 of the Act should be complied with (Cameron 2017). Such emergency incidents are defined in the Act as "an unexpected sudden occurrence including a major emission, fire or explosion leading to serious danger to the public or potentially serious pollution of or detrimental to the environment whether immediate or delayed" (RSA 1998a, s30).

As mentioned earlier, certain provisions of the ECA relating to environmental impact assessments (EIA), have been repealed and replaced by new more comprehensive EIA regulations which were published after 1998 and most recently in 2017 under the NEMA (RSA 2017). This has been done to strengthen the protection, conservation and rehabilitation of sensitive environments, which include wetlands (Herbst 2015). EIA regulations and integrated management is regarded as a point of departure for the protection and conservation of wetlands.

There are a number of additional environmental framework Acts that have been enacted since the NEMA. These are referred to as specific environmental management acts, or the SEMAs as they are an extension of the NEMA in specific matters according section 1 of the NEMA. For example, the principles in section 2 of

the NEMA apply to all the SEMAs. The environmental legislation enacted after the NEMA are part of this framework. See below:

The World Heritage Convention Act 49 of 1999: The World Heritage Convention Act 49 of 1999 (WHCA) is one of the SEMAs that are relevant for this discussion. With South Africa becoming a signatory in the World Heritage Convention in 1997, a World Heritage Convention Act was enacted on 9 December 1999 (Isimangaliso Wetland Park 2017). This legislation provides for "the incorporation of the World Heritage Convention into South African law" (RSA 1999). Whilst it does this to ensure that the principles and values of the World Heritage Convention are implemented in South Africa's World Heritage Sites, it also complements the country's efforts in meeting the obligation of listed sites by the Ramsar Convention. Its primary objective, according to section 3, is to ensure that the South African natural and cultural heritage is protected and conserved for future generations (RSA 1999).

The WHCA requires the state to identify innovative and effective approaches of merging the conservation of the country's unique natural resources with sustainable economic development. The strong focus of the WHCA in combining conservation and development is viewed as presenting an innovative protected area management approach in the country where the conservation of the natural and cultural heritage of natural resources that are declared as World Heritage Sites is treated as a national obligation (RSA 1999). This includes wetlands that are located within these declared areas such as the Isimangaliso Wetland Park (Isimangaliso Wetland Park 2017).

Because of the cultural element which has ensured more involvement of local communities in the implementation of the WHCA, a rich relationship has developed between the communities who live around these areas, and their natural environment, yielding improved natural resource protection (Isimangaliso Wetland Park 2017).

The fundamental principles in section 4 of the WHCA are aligned with the NEMA principles. Section 4(1)(p) of the WHCA particularly aligns with environmental management principles prescribed by the NEMA by stating that “sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, dolomitic land and ridges, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure” (RSA 1999, s4). 1999). This has facilitated strong protection of wetlands as this provision coincides with the provisions of the NWA, the National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA) and the NEMPAA which are discussed below (DEA 2017).

National Environmental Management: Protected Areas Act 57 of 2003: The National Environmental Management: Protected Areas Act 57 of 2003 (NEMPAA) is another one of the SEMAs. According to its long title, the NEMPAA provides “for the protection and conservation of ecologically viable areas representative of South Africa’s biological diversity and its natural landscapes and seascapes; for the establishment of a national register of all national, provincial and local protected areas; for the management of those areas in accordance with national norms and standards; for intergovernmental co-operation and public consultation in matters concerning protected areas; and for matters in connection therewith” (RSA 2003). Wetlands have an ecological character and are therefore included in the scope of the Act.

In its objectives as outlined in section 2, the NEMPAA aims “(a) to provide, within the framework of national legislation, including the NEMA, for the declaration and management of protected areas” and “(c) to effect a national system of protected areas in South Africa as part of a strategy to manage and conserve its biodiversity” (RSA 2003, s2). Biodiversity in the context of the NEMPAA is defined in the same way as section 1 of the NEMBA. Section 1 defines ‘biological biodiversity’ or ‘biodiversity’ as “the variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part and also includes diversity within species, between species, and

of ecosystems" (RSA 2004, s1). The relevance of the NEMPAA in wetland protection and conservation is that wetlands are also a home to biodiversity.

In section 9, the NEMPAA outlines the kinds of protected areas as "(a) special nature reserves, nature reserves (including wilderness areas) and protected environments; (b) world heritage sites; (d) specially protected forest areas, forest nature reserves and forest wilderness areas declared in terms of the National Forests Act 84 of 1998; and (e) mountain catchment areas declared in terms of the Mountain Catchment Areas Act 63 of 1970" (RSA 2003, s9). Wetlands are included in these protected areas, where the NEMPAA is regarded as particularly relevant to the protection and conservation of wetlands as it addresses the protection of the country's biodiversity, whilst keeping social and cultural considerations in accounting and providing for nature-based tourism (Breedt & Dippenaar 2013).

The National Environmental Management: Biodiversity Act 10 of 2004: The third relevant SEMA is the National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA). According to its long title, the NEMBA "provides for the management and conservation of South Africa's biodiversity within the framework of the NEMA the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from 'bio prospecting' involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith" (RSA 2004). The NEMBA defines 'bio prospecting' as "any research on, or development or application of, indigenous biological resources for commercial or industrial exploitation" in the context of biological resources that are indigenous (RSA 2004, s1:1).

Chapter 7 on permits provides for the regulation of issuing authorisations on restricted activities. This includes restricted activities that involve specimens of the three categories of protected species outlined in sections 57(1), 65(1) and 71(1) of the NEMBA. It further regulates the issuing of permits authorising activities that are regulated in accordance with a section 57(2) notice, bio prospecting that involves section 81(1) indigenous resources and export of s81(1) indigenous resources (RSA

2004, s8). Some of the protected species listed under the NEMBA form part of the wetland ecosystem that determines the ecological character of that particular wetland. This implies that any modification in the biodiversity of the wetland affects its overall natural condition (SANBI 2018).

In section 2(b), the NEMBA aims to "give effect to ratified international agreements relating to biodiversity which are binding to the Republic" (RSA 2004: s2). These agreements include the Convention on Biological Diversity, World Heritage Convention and the Ramsar Convention. Despite the absence of wetlands in the NEMBA, the provisions regarding the ecosystems conservation are considered to include wetlands conservation (Kidd 2011).

National Environmental Management: Integrated Coastal Management Act 24 of 2008: The final SEMA that is relevant to wetlands in the environmental regime is the National Environmental Management: Integrated Coastal Management Act 24 of 2008 (NEMICMA). This Act contributes to the management, conservation and protection of estuaries, or coastal wetlands, excluding inland wetlands (RSA 2008). Of South Africa's 23 designated wetlands that are on the Ramsar list, 12 are located in coastal areas, or in areas that are in close proximity to coastal areas (DEA 2017). Moreover, in section 27(1)(c), the NEMICMA states that "when determining and adjusting the coastal boundary of coastal public property, the Minister must take into account the importance of ensuring the natural functioning of dynamic coastal process and of extending the coastal boundaries of coastal public property to include the littoral active zone and sensitive coastal ecosystem, including coastal wetlands" (RSA 2008, s27).

In section 16(1)(f), the NEMICMA states that the coastal protection zone consists of any coastal wetland, lake, lagoon, or dam which is situated wholly or partially within (d) one kilometre of the high water mark which, when this Act came into force (i) was zoned for agricultural or undetermined use, or (e) 100 metres of the high water mark (RSA 2008).

The NEMICMA was further strengthened through an amendment in 2014. The amendments included modification of certain definitions to simplified powers relating to coastal authorisations whilst extending the powers of MECs to issue coastal protection notices and coastal access notices and limit the renewal of dumping permits, all of which strengthen wetland protection in coastal areas (RSA 2014). MECs in this regard refer to Members of Executive Council that govern provincial government. In extending these specific powers to MECs, the Act is clarifying the roles and responsibilities between the different spheres of government, therefore enhancing cooperative governance as prescribed by the Constitution.

In conclusion, it is evident from the amount of environmental legislation that was enacted after 1994 that environmental rights and environmental justice are taken seriously in the new dispensation. In particular, South Africa appears to have made strides in profiling itself in the international community. It has done this by not only committing to environment-related conventions that contribute to promoting wise use of wetlands, but also legislating their requirements in the national laws as demonstrated above. With regard to legal coherence it must be noted that the SEMAs have a provision that must be interpreted and applied in accordance with the national environmental management principles and be read with the applicable provisions of NEMA. This extends to the resolution of conflicts that may arise from their implementation, which must be done in terms of NEMA as well.

5.2.3 The Water regime

Period pre-1994: The history of the evolution of water rights in South Africa commences long before the study period – to before 1652, a period prior to the country's colonisation when there was a dual system of land ownership and water rights (Tewari 2009). The study period commences from an era during which there was a rule of apartheid by Afrikaner nationalists, and where huge water projects were introduced to heighten economic development in areas where the support base of the then ruling National Party was strong (Turton, Meissner, Mampane & Seremo 2004). This period commenced from approximately 1948 to 1990 during which the apartheid regime developed the Water Act 54 of 1956 as a first milestone in the South African history of water rights (DWAF 1986).

The Water Act 54 of 1956: The objective of the Water Act was to spread water allocation from the agricultural sector to the sector that was rapidly growing at the time, namely mining and industry (RSA 1956). The Water Act legislated the riparian ownership of water, which left some of the water that was in private land unregulated and resulted in most of the population being deprived of access to water. The consequence of this gross inequity was high rates of illness and death among the underprivileged communities in the country from use of unhygienic water. With water allocation biased towards domestic, agricultural and industrial needs, the Act did not accommodate water allocation for environmental needs (Kidd 1997). By implication, no attention was allocated for the health of wetlands from the water law perspective.

In the early 1970s when environmental law emerged, environmental issues started receiving more political attention globally (Kidd 2011). South Africa also began to transition with discussions being held on how to manage the environment, with water being central to these discussions. In 1970 a Commission of Inquiry was established to facilitate discussions on water issues. The outcomes of these discussions were rather vague proposals on water allocation for the upkeep of floodplains, wildlife and wetlands. A number of laws then followed suit, aiming to protect the environment, and particularly wetlands. However, these were implemented in a fragmented manner and therefore could not offer much protection to the country's wetlands (Breedt & Dippenaar 2013).

Lack of knowledge on wetland protection and conservation also contributed to the weak laws that did not afford wetlands adequate protection. As mentioned earlier, the Water Act had drawn a distinction between water that is public and private, as well as public streams. This meant that such waters were managed differently. Wetlands were generally located on private land and therefore regarded as private water. Unfortunately private water was not strictly regulated as its use and management was the sole responsibility of the land owner (Kidd 2011).

Period post-1994: Weak water policies and legislation were not a unique South African problem. A number of states and international agencies critically analysed their activities relating to water management. The World Bank was one of those

agencies that opted to change its water management policy in 1993. The two main components of the World Bank's new water policy became "the adoption of a comprehensive management framework which calls for water to be treated as an economic commodity, and second is a greater decentralisation of service delivery, a greater reliance on pricing, and autonomous financial service entities combined with fuller participation by water users in management of water resource systems" (Meyer 2007: 26) South Africa's new water policy adopted the features of this World Bank approach with significant changes in water ownership, stakeholder engagement and participation in water management, including wetlands (Meyer 2007).

White Paper on National Water Policy, 1997: The White Paper on National Water Policy (hereafter referred to as the White Paper) is explicit on the need to protect ecosystems, where wetlands are classified as water resources. This White Paper prioritises water provision for environmental requirements and elevates policy objectives on water resource protection and conservation (de Coning & Sherwill 2004). It pronounces that water management in South Africa will be guided by a guaranteed right for water that is "required to meet basic human needs and maintain environmental stability" (RSA 1997: 4). Policy provisions are made for resource directed measures (RDM), where the focus is on the quality of the resource. Objectives are set for the desired level of protection of the resource through a classification system, determination of the reserve and setting of the resource quality objectives. Source-directed controls are also provided for – these aim to control water uses with a view to limit impacts to levels that are acceptable (RSA 1997).

Moreover, the policy takes forward the recommendations of the panel of the Water Law review by providing the 28 basic principles that built the "new water law" containing constitutional values (Tewari 2009). These principles were particularly developed to facilitate a change from the pre-1994 water law regime (RSA 1997). The first four principles lay a legal foundation where the policy states in Principle 1 that "while taking cognisance of existing uses, the water law will actively promote the values enshrined in the Bill of Rights" (RSA 1997: 60). Principle 2 pronounces water as a public good, irrespective of where it is located. Principle 3 addresses ownership issues, emphasising that entitlements, including environmental entitlements, are

informed by rights as against ownership. Principle 4 then abolishes the riparian principle. The riparian principle was a water law system that conferred preferential water use rights to land owners based on the location of the water resource in relation to land (RSA 1997).

All other principles are grouped according to the themes of: water cycle (Principles 5 to 6); water resource management (WRM) priorities (Principles 7 to 11); water resource management approaches (Principles 12 to 21); water institutions (Principles 22 to 24); and water services (Principles 25 to 28). These principles inform the legal framework for water management in South Africa (RSA 1997). As stated above, the National Water Act 36 of 1998 (NWA), which is discussed below, became a statutory expression of the 1997 White Paper on National Water Policy (Dini & Everard 2016).

National Water Act 36 of 1998: The NWA was published in 1998 with an objective of fundamentally reforming the previous laws relating to water resources in the country. It repeals the previous Acts related to water management, as the past laws were considered to be discriminatory and inappropriate to South African conditions. It removes private ownership of water resources, making the national government the trustee of all water resources and recognises the significance of water resources, and the need to protect, conserve and manage them (Siyaya 2015).

In section 1 (xxvii), the definition of a water resource includes “an estuary or aquifer”. Section 2 goes on to state that the purpose of the NWA is to “ensure that the nation’s water resources are protected, used, developed, conserved, managed and controlled in ways which take into account amongst other factors…; (g) protecting aquatic and associated ecosystems and their biological diversity; (h) reducing and preventing pollution and degradation of water resources” (RSA 1998d, s2). In the Act, estuaries are defined as “partially or fully enclosed body of water (a) which is open to the sea permanently or periodically; and (h) within which the sea water can be diluted, to an extent that is measurable, with fresh water drained from land” (RSA 1998d, s1:ix). Section 1 of the Act goes on to further define wetlands as “land which is transitional between terrestrial and aquatic systems where the water table is

usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil in section 1(xxix)". From these definitions, it can be concluded that the objectives of the Act then include wetlands.

In section 5(3) of the NWA a legal framework relating to the protection, use, development, conservation, management and control of water resources for the country is also provided. It goes further to provide a management framework at regional or catchment level, in defined water management areas. Section 12 recognises that diverse water resources require different protection levels (RSA 1998d). Three sets of Resource Directed Measures (RDMs) are prescribed to protect aquatic ecosystems with a view to secure ecologically sustainable development and use of water resources as follows:

1. A system for classifying water resources into different management classes, which is prescribed by the Minister in terms of section 12 of the NWA (RSA 1998d). This system seeks to ensure the balance between the different uses of water resources and their protection;

2. The Ecological Reserve, which prescribes the minimum amount of water that is required to maintain the functioning of aquatic ecosystems, recognising the variations according to the management class of the resource; and

3. In relation to the management class of a water resource, are a set of Resource Quality Objectives, which determine the desired water quantity and quality, the assurance of instream flow, as well as the character and condition of instream and riparian habitat and biota (Dini & Everard 2016).

In its effort to protect and conserve wetlands, the NWA is further supported by the National Water Resource Strategy (NWRS). The NWRS is legally required to be subjected to periodic reviews, and is binding on all authorities and institutions that are empowered to exercise powers or perform any duties under the NWA. The NWRS outlines key principles that facilitate the protection of water resources

including wetlands. These principles are effected through section 6 of the Act (Herbst 2015).

In dealing with pollution prevention, section 19(1) of the NWA provides that in instances where there is land in which activities or processes are causing, have caused, or are likely to cause pollution of a water resource, the person who is in control is responsible to take all reasonable measures to prevent such pollution from occurring, continuing or recurring (RSA 1998d). The environmental management principles of duty to care and polluter pays are reflected in this section as well. This ensures further protection for wetlands where they are impacted by such pollution as by definition they form part of the water resources which the Act is promulgated to protect and conserve.

5.2.4 The Agricultural regime

Period pre-1994: The geophysical nature of South Africa is characterised by mountains, desert and widespread areas that have limited water resources. What is evident across all three sectors is that during the 1970s and 1980s a number of laws could be used to protect different aspects of wetlands, but since all of these laws had different objectives, wetland protection and conservation was merely a secondary effect and thus not sufficient. These laws include: the Conservation of Agricultural Resources Act 43 of 1983 (CARA) and the Forest Act 122 of 1984 as discussed below.

Conservation of Agricultural Resources Act 43 of 1983: Similar to other countries, the agricultural sector remains part of the main drivers of wetland degradation and loss in South Africa (Dini & Everard 2016). It is against this background that the Conservation of Agricultural Resources Act 43 of 1983 (CARA) (RSA, Conservation of Agricultural Resources Act, 1983) became the most dominant legal instrument to protect and conserve wetlands located outside protected areas before the introduction of the current suite of environmental and water legislation. The Act has the full authority to prescribe how the natural agricultural resources should be used in the country (Herbst 2015). In the 1980s, the CARA gained this recognition for its relevance and effectiveness with regard to wetland protection and

conservation as it was the only legislation that directly addressed wetland protection and conservation despite its objective being the conservation of agricultural resources (Breedt & Dippenaar 2013). In fact, the CARA is said to have been a crucial law on wetland use up until 1997 (Lizamore 2005). It still remains relevant and effective even in the present day.

The CARA aims to "provide for control over the utilisation of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith" (RSA 1983). As indicated earlier, the CARA has direct implications for wetlands, recognising the important role that wetlands play in the agricultural sector.

The Act provides for control measures that are regarded as crucial in the achievement of the objectives of the Act in section 6(1) (RSA 1983). These control measures are explained in section 6(2) as relating to a number of activities where the control measures seek to maintain the production potential of land, combat and prevent the erosion and destruction of water resources, also protect vegetation and combat weeds and alien invader plant species, or any other activity which may be deemed necessary at the discretion of the Minister to achieve the objective of the Act (Siyaya 2015).

Some of the specific provisions in section 6(1) where the Minister may prescribe required control measures include "(e) the utilisation and protection of vleis, marshes, water sponges, water courses and water sources; (f) the regulating of the flow pattern of run-off water; (g) the utilisation and protection of the vegetation" (RSA 1983). These provisions are relevant for wetlands. However, the Act is limited in its application. Section 2(1) states that it excludes "(a) any land which is situated in an urban area" and has other exclusions which severely limit it and therefore limit its applicability to certain wetlands (RSA 1983).

Other regulations pertaining to the management, conservation and protection of wetlands ecosystems have been published as Government Notice No. R. 2687 of 6

December 1985 by the Minister of Agriculture, under section 29 of the CARA. Regulation 15B (9) states that “unless authorised thereto in terms of the NWA, no land user shall allow category 2 plants to occur within 30 meters of the 1:50 year flood line of a river, stream, spring, natural channel in which water flows regularly or intermittently, lake, dam or wetland” (RSA 1985: 5). Regulation 15C(3)(a) which deals with the combating of category 3 plants provides limited protection to wetlands. It states that “No land user shall allow category 3 plants to occur within 30 meters of the 1:50 year flood line of a river, stream, spring, natural channel in which water flows regularly or intermittently, lake, dam or wetland” (RSA 1985: 5). In the context of this regulation the plant categories are specified in the table provided. In terms of recourse, penalties for offences as stated in section 23 of the CARA, are comparatively less to those found in SEMAs. The maximum is fines of up to R 10 000 or a prison term not exceeding four years.

With all the institutional and governance changes that South Africa has gone through in the new democratic dispensation, another concern regarding the CARA is that it does not have jurisdiction in urban areas that are located within municipal boundaries based on the exclusions that are stated in section 2(1) of the Act. The country was demarcated in 2002 into district areas that fall under district municipalities, with the exception of metropolitan municipalities. This concern emanates from growing subsistence farming that is occurring in urban and peri-urban areas. However, according to DAFF, this concern is not valid as no such case has been tested in court as yet (Lizamore 2005).

Forest Act 122 of 1984: The Forest Act 122 of 1984 contributed towards wetlands protection (RSA 1984). It did this by aiming to control open veld fires, but also outlawed afforestation or reforestation on certain land. This was specifically aimed at protecting any water resource, including wetlands (Kidd 1997). The National Veld and Forest Fire Act 101 of 1998 later reformed the law on veld and forest fires and repealed some provisions of the 1984 Forest Act (RSA 1998b). A general concern of the 1998 National Veld and Forest Fire Act was that it did not address the management of veld fires, given the fact that the practice of burning veld and forests

was a recognised agricultural practice that was viewed as maintaining certain vegetation even though this was not conducive to wetlands (Berliner 2002).

Period post-1994: The CARA remains the primary legislation that addresses agricultural resources including the wetlands protection in the agricultural sector post 1994 (Swanepoel & Barnard 2007). The National Forest Act 84 of 1998 and the discussion paper on wetlands in agriculture are relevant for the post-1994 period and are discussed below.

National Forests Act 84 of 1998: The National Forests Act 84 of 1998 presents a comprehensive legal mandate for the protection of natural forests in the country. This legislation was promulgated to reform the law on forests and repeal certain laws including most of the Forest Act 122 of 1984 (RSA 1998c). Section 1 outlines the purposes of the National Forests Act to include the promotion of sustainable management and development of forests, as well as the provision of special measures to protect certain forests and trees amongst others. When defining a forest, the Act stipulates three aspects which include ecosystems in section 2(1)(x)(c) (RSA 1998c). These ecosystems include wetlands ecosystems that form part of the forest make up. The principles outlined in section 3(3) explicitly advocate for the protection of natural forests by stating that “natural forests must not be destroyed save in exceptional circumstances where, in the opinion of the Minister, a proposed new land use is preferable in terms of its economic, social or environmental benefits” (RSA 1998c,s3:3). The National Forests Act prescribes this protection through the declaration of three types of protected areas in section 8 which mandates the Minister with the management and regulation of these protected areas.

Discussion Paper: Wetlands in Agriculture, **2007**: The vision by the Department of Agriculture (DoA) to draft a position paper on wetlands dates back to 2005 when the DoA collaborated with the Agricultural Research Council – Institute for Soil, Climate and Water (ARC-ISCW) and the WRC to undertake the consultation processes that culminated in the final discussion document in 2007 (DoA 2007).The discussion document recognises the critical role that agriculture plays by “building a

strong economy and, in the process, reducing inequalities by increasing incomes and employment opportunities for the poor, while nurturing our inheritance of natural resources" (DoA 2007). It identifies three main objectives for policy reform in the country, one of which is about conservation of the country's agricultural natural resources. To facilitate the achievement of this goal, policies and institutions for sustainable resource use are identified as enablers in the document.

The document places an emphasis on government's responsibility in the promotion of wise and sustainable use of natural resources. Moreover, it highlights the enhancing of the ecological character of natural systems whilst at the same time ensuring that risks that lead to resource degradation are minimised, or totally avoided, (Funke, De Klerk & De Klerk 2015). This discussion document had a potential to inform agricultural policy that would have adequately addressed matters related to wise use of wetlands, including their protection and conservation; however, the process halted in the first phase of a discussion paper in 2008. Currently the discussion document is referred to in informing the agricultural sector input towards a national policy on wetlands that is jointly being developed by the DWS, DALRRD and DEFF, with DEFF taking a leading role.

5.3 Conclusion

With the Constitution enshrining the environmental right in section 24 and other enabling clauses as discussed above, some researchers view the resultant legislative measures as inadequate in providing for the protection of wetlands (Booys 2011). However, the opposing view which the researcher is more inclined to agree with, strongly argues that the protection and conservation of wetlands is sufficiently catered for in the Constitution and the accompanying legislation. This is based on the definition of wetlands as discussed earlier in the study which correlates with the definition of the environment as defined in the NEMA.

The environmental regime has demonstrated through the given definition of the environment that the human interaction with wetlands is established through a multiple value system that wetlands offer to humans. The natural elements of land,

water, plants and animals make up the main characteristics of wetlands from the national legal definition, demonstrating a definite correlation.

In addition to this, the environmental rights that are expressed in the Constitution indicate alignment of the South African constitutional regime with global standards. This is apparent in the country's ratification of global multilateral environmental agreements, as well as legislating the requirements of these wetland related treaties, and mainly the Ramsar Convention (Herbst 2015).

The conclusion is that the new Constitution has succeeded in creating new and better environmental legislation for the country.

The country has an abundance of legislation across the three sectors in terms of the NWA, the NEMA and SEMAs respectively, as well as the CARA, and most of these laws have a shared concern with the protection and conservation of wetlands. However, evidence gathered from scientific assessments still paints a gloomy picture on wetland protection and conservation. This is highly concerning as the existence of these ecosystems continues to decline from degradation and loss as indicated by SANBI.

The promulgation of regulations that are strengthening the protection of wetlands through authorisations in both the environmental and agricultural regimes demonstrates an improvement of the legal framework post-1994 in the country.

South Africa has therefore improved significantly and achieved much in the last 50 years in developing its framework for environmental law. Legislation concerning wetlands is very comprehensive. However, difficulties seem to lie with its implementation, particularly in relation to wetlands. More research on wetlands, as well as training of personnel to better identify and implement laws on these sensitive ecosystems, is a necessity through which sustainable development and better use of natural resources can be achieved.

CHAPTER 6: COMPARATIVE ANALYSIS OF SOUTH AFRICA'S LEGAL FRAMEWORK AGAINST THE RAMSAR FRAMEWORK

6.1 Introduction

In the preceding chapter, the South African policy and legislative framework governing wetland protection, conservation and sustainable use/management was examined. This examination was done in line with the objectives and purposes as outlined in the preambles of the respective Acts. This chapter aims to assess the level of compliance of the South African national sectoral legislation against the Ramsar Convention measures. It does this by undertaking a comparative analysis of the suite of legislation presented in Chapter 5 against the requirements of the Ramsar Convention measures as outlined in the 1999 Guidelines for Reviewing Laws and Institutions to promote the Conservation and Wise Use of Wetlands, hereinafter referred to as the 1999 Guidelines. The selected Ramsar Convention measures for this analysis are as follows:

a. Wetland protective status to maintain their ecological character;
b. Principles, standards and techniques which are applicable to socio-economic activities;
c. Positive conservation measures and stewardship;
d. Provision for a polluter pays principle, enforcement procedures and penalties.

6.2 Comparative analysis of the Legal Framework

The Ramsar Convention regards the review of national legislation as a critical aspect of the wise use concept of the Ramsar Convention (Ramsar Convention Secretariat 2010b). Such reviews are done to ensure that legal frameworks of Contracting Parties promote the wise use, protection and conservation of wetlands (Ramsar Convention Framework 2010c). The wise use concept is expressed in Article 3.1 of the Ramsar Convention (Ramsar Convention Secretariat 1994), with the concept defined in the 1987 Regina Conference as sustainable utilization of wetlands "for the benefit of humankind in a way compatible with the maintenance of the natural properties of the ecosystem" (De Klemm & Créteaux 1995:23). By maintaining the

natural properties of a wetland, the Ramsar Convention seeks to ensure that "the combination of the ecosystem components, processes and benefits/services characterise the wetland at a given point in time" (Ramsar Convention Secretariat 2005b:3). It is against this background that the Guidelines for Reviewing Laws and Institutions to promote the Conservation and Wise Use of Wetlands were developed (Ramsar Convention Secretariat 2010c).

It is worth noting that the COP to the Ramsar Convention adopted two separate guidelines particularly on legal and institutional reviews, as well as on the development of national wetland policies. This was done to support the implementation of Article 3.1 of the Ramsar Convention as part of the planning requirements for Contracting Parties (Ramsar Convention Secretariat 1999a). These guidelines are titled Developing and Implementing National Wetland Policies and secondly Reviewing Laws and Institutions to promote the Conservation and Wise Use of Wetlands. Both these guidelines were adopted during the 7th meeting of the COP (COP 7) that was held in May 1999 in San Jose, Costa Rica, through Resolutions VII.6 for policies and VII.7 for laws and institutions (Ramsar Convention Secretariat 2010c). The comparative analysis in this chapter is confined to the legal regime since it has been established that there is currently no dedicated wetland policy in South Africa. However, it is further important to note that the COP recognises appropriate legal and institutional frameworks as critical components of wetland policies addressing the loss and degradation of wetlands even though these components are evaluated separately to the actual policies (De Klemm & Créteaux 1995). The analysis therefore takes stock of the specific relevant provisions in the existing national legislation, to ascertain whether they respond to the measures that are set out in the 1999 Guidelines. This in turn determines the level of alignment of the South African national laws to the Ramsar Convention standards.

As indicated in Chapter 2, the South African legal regime will be analysed and compared against the Ramsar Convention Guidelines for Reviewing Laws and Institutions to promote the Conservation and Wise Use of Wetlands (see 2.2 above). The two critical legal and institutional components of the 1999 Guidelines directly support the protection, conservation and wise use of wetlands by the Contracting

Parties through a range of possible measures that need to be considered when analysing national laws (Ramsar Convention Secretariat 2010c). These measures include wetlands-related environmental laws and regulations containing particular provisions on "environmental protection, nature conservation, protected areas, environmental impact assessment and audits, land use planning, coastal management, water resource management or pollution control" (Ramsar Convention Secretariat 2010c: 13). Moreover, the legal and institutional components are viewed as key contributors to a more rationalized approach to the achievement of effective wetland conservation and wise use. Premised on this rationale, they are therefore regarded as aiding the implementation of the Ramsar Convention (Ramsar Convention Secretariat 2010c).

The measurement of compliance levels by Contracting Parties in legislative reviews is a complex process, hence it is narrowed down in this study to focus on specific measures which are manageable (Bowman 1995). The comparative analysis focuses on analysing the South African legal regime presented in Chapter 5 against the following four selected measures that are provided in the Ramsar Convention 1999 Guidelines as considerations for Contracting Parties when reviewing their laws:

(a) Wetland protective status to maintain their ecological character – this measure considers legal or institutional provisions that confer a protective status on wetlands to regulate and constrain development which may be urban, industrial and/or recreational in nature. This development is regarded as having a potential to negatively affect the ecological character of a wetland and consequently its functions and benefits (Ramsar Convention Secretariat 1999a). The measure is informed by Recommendation 4.4 of the 1990 COP that advises Contracting Parties to ensure that adequate measures are taken in establishing and effectively protecting nature reserves with a view to protecting wetlands through their legal mechanisms. This recommendation was further strengthened through Recommendation 5.3 of the 1993 COP which advises Contracting Parties to take adequate measures to ensure that the ecological character of both the Listed Ramsar Sites and wetland reserves are not exposed to development risks and strictly protected (De Klemm & Créteaux 1995).

(b) Principles, standards and techniques which are applicable to socio-economic activities – this measure refers to legal principles, standards or techniques which support the maintenance of the values, functions and benefits of wetlands. These include regulatory measures such as permit systems to control and set standards for activities that may cause harm to wetlands (Ramsar Convention Secretariat 2010c). It also includes the requirements for environmental impact assessments, as well as a precautionary approach (Ramsar Convention Secretariat 1999a). The measure is informed by the recognition of the importance of implementing principles, standards and techniques for assessing impacts in circumstances where the ecological character of wetlands may be threatened due to development for socio-economic benefits. This recognition is expressed in the 1996 COP Recommendation 6.2 and the 1999 COP Resolution VII.16 that appeal to Contracting Parties to include the requirement for impact assessment in their legislative frameworks (Ramsar Convention Secretariat 2010a). The precautionary approach in this regard refers to evidence being produced to indicate that the capacity of wetlands to sustain their ecological character during urban, industrial or recreational development, or any use by humans, has been considered (Ramsar Convention Secretariat 2010d). The environmental impact assessment is one of the practical approaches that would then determine if a proposed development is compatible with the general requirements of wise use and the maintenance of the ecological character of the wetlands in question (Ramsar Convention Secretariat 2010b).

(c) Positive conservation measures and stewardship – this measure considers legal provisions which encourage positive conservation measures and stewardship by wetland users, wetland owners and non-governmental organisations through the use of certain instruments such as contracts, tax provisions and other incentives (Ramsar Convention Secretariat 1999a). This measure is an expression of Article 4.1 which requires Contracting Parties to “promote the conservation of wetlands […] and provide adequately for their wardening” (Ramsar Convention Secretariat 1994). The motivation behind this measure is a need to promote the implementation of economic and sectoral incentives that discourage development initiatives which lead to more wetland degradation and loss and encourage the maintenance of the

ecological character of wetlands as far as possible (Ramsar Convention Secretariat 2010b). This need was further adopted as Resolution VII.15 of COP 7 which urges Contracting Parties to ensure that incentive measures are considered when reviewing their existing legislation to promote conservation and wise use measures for wetlands (Ramsar Convention Secretariat 1999b).

(d) Provision for a polluter pays principle, enforcement procedures and penalties – this measure seeks to determine if there is a legal requirement for monetary, or other compensation, which is consistent with the polluter pays principle (Ramsar Convention Secretariat 1999a). This is in line with the Resolution V11.24 of COP 7, where a call was made for Contracting Parties to ensure that laws for compensation towards wetland loss and degradation are integrated in the national policies and policy instruments (Ramsar Convention Secretariat 1999c). The enforcement procedures aspect seeks to establish if polluting and degrading a wetland is recognised as a criminal offence and if penalties are clearly set at a meaningful level. Moreover, it determines whether enforcement procedures are provided for in the legislation (Ramsar Convention Secretariat 1999a). Penalties are one of the compliance and enforcement mechanisms which are designed to enforce compliance with legislative provisions and penalize non-compliance (Hugo 2014).

The Ramsar Convention's measures are aligned to the identified study themes of protection, conservation and wise use of wetlands as articulated in the research methodology chapter (see 2.5 above). The tables shown below reflect how the South African legal regime responds to each of the above-mentioned five Ramsar Convention measures. These measures are listed as sub-headings for each separate table. The first column refers to a particular statute under comparison, and the second column indicates whether the statute has a provision that responds to the specific measure as indicated in the sub-heading. The third column then specifies the provision as contained in the Act, and the last column provides a brief explanation of how the legal provision supports the Ramsar Convention measure. The approach of analysis is endorsed in section 3.22 of the 1999 Guidelines for Reviewing Laws and Institutions to promote the Conservation and Wise Use of Wetlands, where a set of questions are recommended when analysing the legal and

institutional measures that directly or indirectly affect wetlands, and are in line with the five specific measures that are used as key indicators for this study.

The limitation of this comparative assessment is that it only analyses whether legal provisions have been made as prescribed by the Ramsar Convention – it does not proceed to evaluate the effectiveness of such provisions as that would require a more complex evaluation which is beyond the scope of this research. Booys (2011) further reaffirms this opinion by stating that with the Ramsar Convention only encouraging Contracting Parties to adopt appropriate laws and policies, the measurement of the effectiveness of such instruments remains problematic. The study will, however, highlight existing concerns or identified constraints when summarising the compliance of the South African legal regime.

6.2.1 Wetland protective status to maintain ecological character

This first Ramsar Convention measure seeks to establish if the national legislation confers protective status on wetlands to limit development which is urban, industrial and recreational in nature (Ramsar Convention Secretariat 1999). This protection is to be provided against processes or activities that may result in the ecological character of a wetland being altered (Ramsar Convention Secretariat 2010c). This measure could be complied with through provisions that provide for declaration of protected status of wetlands and through provisions that restrict or prohibit activities damaging to wetlands. Table 6.1 below outlines and discusses specific clauses that provide for the identification and declaration of environmentally sensitive areas, particularly wetlands, to ensure their protection.

Table 6.1: Comparison of the RSA legal framework on wetlands protective status to maintain their ecological character against the Ramsar Convention measures

RSA LEGAL FRAMEWORK		Provision exists Y/N	Specific provision in the Act	Relevance of the provision to the Ramsar Convention measure
Environmental Regime				
1	Environment Conservation Act 73 of 1989 (ECA)	Yes	Section 21(1) states that "The Minister may by notice in the Gazette identify those activities which in his opinion may have a substantial detrimental effect on the environment, whether in general or in respect of certain areas". The categories of the activities are set out in section 21(2) and further activities which the Minister identified in terms of section 21 are set out in Regulation R1182. These controlled activities require written authorisation from the Minister, or a competent authority, prior to any activity being undertaken, informed by an impact assessment in terms of section 22.	This is an institutional provision that gives the Minister powers to specifically identify activities that have a potential to alter the ecological character of a wetland. It is in line with both Article 3 of the Ramsar Convention on the wise use of wetlands and Article 4 on the conservation of wetlands, depending on the level of protection.
2	National Environmental Management Act 107 of 1998 (NEMA)	Yes (implied)	Section 2(1) of the Act expresses the national principles of environmental management which are applicable "to the actions of all organs of state that may significantly affect the environment . . ." The Act does not have any specific clauses or procedures that enable declaration of protected areas. In section 2(4)(r) the Act makes reference to relevant factors which require consideration to ensure sustainable development as "sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resources usage and development pressure".	The environmental management principles of the NEMA are central in the processes for environmental decision making and therefore respond to Article 3.1 of the Ramsar Convention on the planning requirements for wetland conservation.

2	NEMA continued		Wetlands protection is then provided for in a form of identification of activities "which may not be commenced without prior authorisation from the Minister or MEC" in section 24(2)(a). These activities are listed in a Listing Notice No R.984, 985 and 986 of 2014 as amended in 2017 where activities that may impact on the ecological character of wetlands are identified. This provision is elaborated on in the second measure as authorisations are regarded as one of the regulatory measures that are prescribed to control and set standards for activities that may negatively affect the ecological character of wetlands.	This is a command and control approach which requires environmental authorisation from a competent authority before an activity can be undertaken. These activities are identified as having potential harm to the environment (wetlands included) hence there is a stipulation for an impact assessment to be undertaken before an environmental authorisation can be issued. It is a control mechanism aiming to protect and/or conserve wetlands by prescribing conditions to prevent or minimise harm to the environment/wetlands, as a result of such activities being undertaken.
3	World Heritage Convention Act 49 of 1999 (WHCA)	Yes	The WHCA empowers the Minister of Environmental Affairs and Tourism to oversee the nomination process where a written motivation for the declaration of a World Heritage Site is required to be prepared and kept by the department in accordance with the requirements of the UNESCO World Heritage Convention and its operational guidelines. Section 6 outlines the procedures for identification and nomination of these World Heritage Sites whereas section 7 outlines the procedures and clauses which enable the declaration of World Heritage Sites. According to the WHCA, the sites that are declared in accordance with the provisions of this Act are recognised as part of the country's natural and cultural heritage. As such these sites must be protected and conserved for future generations. Wetlands that are located within these declared areas are also recognised as natural heritage.	Whilst this institutional provision is in line with both Articles 3 and 4 of the Ramsar Convention on protection, conservation and wise use of wetlands, its compliance with the UNESCO World Heritage Convention highlights the interface between the two conventions, where the two conventions collaborate towards the conservation of natural and cultural areas, with wetlands being recognised as one such area in the World Heritage Convention. This has resulted in the List of common World Heritage and Ramsar Sites.

4	National Environmental Management: Protected Areas Act 57 of 2003 (NEMPAA)	Yes	Section 18(1)(a) allows the Minister, or MEC, to declare a special nature reserve, or a part of an existing special nature reserve, by notice in a Gazette. This is done to protect the area for a number of environmental reasons as specified in section 18(2)(a). Section 23(1)(a) allows the Minister or MEC to declare a nature reserve, or a part of an existing nature reserve, by notice in a Gazette. This is done to protect the area for a number of environmental reasons as specified in section 23(2)(b). Section 28(1)(a) allows the Minister or MEC to declare a protected environment, or a part of an existing protected environment, by notice in a Gazette. This is done to protect the area for a number of environmental reasons as specified in section 28(2). The definition of a protected area in section 9 of the NEMPAA recognises a system of protected areas that includes world heritage sites, special protected forest areas as declared by the 1998 National Forest Act, mountain catchment areas as declared by the 1970 Mountain Catchment Areas Act, special nature reserves in terms of the ECA and protected environments due to its biological diversity, natural characteristics, provision of environmental goods and services amongst others as specified in section 28(c). Wetlands feature in all of the above statutory provisions hence the relevance of the above-mentioned declarations for wetlands.	The three identified provisions are institutional provisions that give the Minister powers to declare protected areas in line with Article 4.1 of the Ramsar Convention. Wetlands form part of areas identified for the purposes of this Act. The level of protection afforded by the Act is determined by the criteria used to classify the protected area.
5	National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA)	Yes	In section 51 the NEMBA provides for the protection of both the ecosystems and species that are threatened, or in need of protection, to ensure their ecological	These legal provisions support the implementation of Articles 3 and 4 of the Ramsar Convention on the protection of wetlands and their inhabitants with a view

			integrity and survival. This is done through a national list of threatened ecosystems (section 52), or a list of critically endangered, endangered, vulnerable or protected species (section 56) which is published by the Minister through a Gazette notice e.g. GN1002 of 9 December 2012 for endangered species. Moreover, section 57 provides for restricted activities which involve listed or protected areas, where the Minister is allowed to prohibit the undertaking of such activities in section 57(2).	to maintain their ecological integrity. It is another example of collaboration between the Ramsar Convention and the Convention on Biological Diversity where conservation and wise use of wetlands are equally promoted (Ramsar Convention Secretariat 2010c).
6	National Environmental Management: Integrated Coastal Management Act 24 of 2008 (NEMICMA)	Yes	Section 16(1) specifies the composition of a number of areas which are considered to be coastal protection zones. Section 23 then provides for the declaration of special management areas by the Minister, in consultation with the MEC, that are wholly or partially in the coastal zone. This declaration may prohibit certain activities from taking place within such a management area. Moreover, section 26 makes provision for a number of coastal boundaries to be declared by the Minister, MEC or Municipality. Section 70 is clear on the intent of the Act to prohibit incineration at sea and minimise dumping at sea, even though it allows for dumping permits in certain circumstances and under strict conditions as outlined in section 71 which deals with dumping permits and section 72 which deals with emergency dumping.	The NEMICMA offers specific protection to coastal wetlands. It is significant in that the NWA definition of wetlands refers to inland wetlands. The NEMICMA therefore bridges the gap in terms of the wider definition of the Ramsar Convention which accommodates all wetland types as discussed in chapter 3 above.

Agricultural Regime				
7	Conservation of Agricultural Resources Act 43 of 1983 (CARA)	Yes	Section 6(2) provides for a number of control measures including for "(e) the utilisation and protection of vleis, marshes, water sponges, water courses and water sources" and "(n) the protection of water sources against pollution on account of farming practices". Moreover, section 6(3)(a) provides for the various control measures to either prohibit, or obligate, a person or persons in any matter relating to section 2 on prescribed control measures. Limited protection is afforded to wetlands through regulation 15B(9) which states that "unless authorised thereto in terms of the NWA, no land user shall allow category 2 plants to occur within 30 meters of the 1:50 year flood line of a river, stream, spring, natural channel in which water flows regularly or intermittently, lake, dam or wetland". Another provision is through regulation 15C which states that "no land user shall allow category 3 plants to occur within 30 meters of the 1:50 year flood line of a river, stream, spring, natural channel in which water flows regularly or intermittently, lake, dam or wetland".	The protection of wetlands through the prescription of control measures is in line with the requirement for the conservation and protection of wetlands in Article 4 of the Ramsar Convention. Article 4.1 particularly requires each Contracting Party to promote the conservation of wetlands, whilst Article 4.2 calls for the protection of wetlands where its boundaries of the Listed wetlands have been deleted or restricted due to a national interest.
8	National Forests Act 84 of 1998	Yes	Section 8(1) of the Act provides for three categories of specially protected areas in the forestry context which the Minister may declare as protected forest areas. These include a forest nature reserve, a forest wilderness area or any type of protected area which is recognised in international law or practice. In addition to this, there is another provision made in section 8(2) where the Minister is empowered to declare such an area in instances where he or she is of the opinion that it is	The Act includes ecosystems when defining a forest, therefore any protection of forests identified includes ecosystems that make up a forest which could therefore include certain wetlands. This institutional provision for ecosystem protection is also in line with both Article 3 of the Ramsar Convention on the wise use of wetlands and Article 4 on the conservation of wetlands, depending on the level of protection.

			not already adequately protected in terms of other legislation, which in this case would relate to NEMA and other related legislation for wetland protection.	
Water Regime				
9	The National Water Act 36 of 1998 (NWA)	Yes	Chapter 3 of the Act provides decision-making tools to achieve a balance between protecting and utilising water resources. This includes classifying different classes of water resources to ensure that quality requirements of users are met without any significant altering of the natural water quality characteristics of the water resource (section 13(1)), and determining the resource quality objectives to establish the level of protection required for the resource (section 13(2)).	The relevance of the provision is that any mention of a water resource in the Act includes a watercourse according to section 1(1)(xxvii). Moreover this watercourse is defined as including a wetland in section 1(1)(xxiv)(c). The planning requirement for wise use of wetlands supports the implementation of Article 3.1 of the Ramsar Convention.

Summary: It is evident that the legal framework provides different types of protection which include declarations, listings, classifying or providing control measures to ensure that wetland ecosystems are not harmed by any development, or where harm cannot be avoided, it is minimised. For this measure, the national framework provides strong command and control mechanisms where a Minister, or another competent authority, is afforded declaration powers to protect wetlands and the broader environment. However, despite these provisions, there appear to be some weaknesses as wetlands are still being degraded and suffering significant losses. One such potential weakness is the dependence on the Minister/competent authority to make these declarations. Whilst the legislation empowers the competent authorities to make declarations, non-utilisation of such powers renders the legislative provisions ineffective and meaningless.

6.2.2 Principles, standards and techniques applicable to socio-economic activities

In determining if the principles, standards and techniques applicable to socio-economic activities are prescribed in the legislation, this consideration further probes

whether there are principles, standards and techniques which support maintenance of wetland functions, values and benefits and incorporate a precautionary approach (Ramsar Convention Secretariat 1999a). This measure could be complied with through provisions that provide for specific environmental management, or planning tools, that enable environmental protection through assessing the potential harm to wetlands arising from development activities. Table 6.2 below sets out the regulatory measures that are prescribed by the national sectoral legislation which aims to control and set standards for activities that may negatively affect the ecological character of wetlands.

Table 6.2: Comparison of the RSA legal framework on principles, standards and techniques applicable to socio-economic activities against the Ramsar Convention measures

RSA LEGAL FRAMEWORK		Principles exist: Y/N	Specific provision in the Act	Relevance of the provision to the Ramsar Convention measure
Environmental Regime				
1	Environment Conservation Act 73 of 1989 (ECA)	Yes	Section 6 and section 26 of the ECA which would have been relevant for this measure, have been repealed by the NEMA and its related regulations.	n/a
2	National Environmental Management Act 107 of 1998 (NEMA)	Yes	A precautionary principle is explicitly outlined in section 2 of the NEMA where the Act states that “development must be socially, environmentally and economically sustainable”. Section 2(4) specifies the precautionary principle. Specific to wetlands, section 2(4)(r) states that “Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure”.	The precautionary principle contained in section 2 of the NEMA aims to minimise any negative impact on the environment by emphasising environmental sustainability amongst other values, where wetlands are implied. The planning requirement is in line with Article 3.1 of the Ramsar Convention.
			Section 11 requires every national government and organ of state which is exercising any functions which have a potential to affect the environment to prepare an environmental implementation and management plan. These plans are intended to secure the protection of the	This requirement also supports the planning requirement of the Ramsar Convention to ensure wise use of wetlands as expressed in Article 3.1.

2	NEMA continued		environment, amongst other aims, according to section 12(c).	
			Section 24(1) requires that the potential impact on "(a) the environment; (b) socio-economic conditions; and (c) the cultural heritage of activities that require authorisation, or permission by law and which may significantly affect the environment, must be considered, investigated and assessed prior to their implementation." Section 24(7) also provides the minimum "procedures for the investigation, assessment and communication of the potential impact of activities" on the environment as a precautionary approach.	Sections 24 (1), (7) and the 2014 EIA regulations prescribe the NEMA planning requirements, particularly the EIA process which support the implementation of Article 3 of the Ramsar Convention where Contracting Parties are compelled to implement their plans to promote wetlands conservation. The NEMA provisions communicate the need for an impact assessment on an environment, where wetlands are included and the minimum standards required for such assessments.
			Section 24G of the NEMA came into effect in 2004 to enable the rectification of either unauthorised commencement of listed activities that may have a detrimental impact on the environment or continuation of such an activity without prior environmental authorisation. This provision therefore facilitates the ex post facto legalising of an act which is rendered unlawful in the Act (Du Toit 2016).	Section 24G can be viewed as a provision for recourse in ensuring compliance with the planning requirements of the NEMA, and in line with Article 3 of the Ramsar Convention where Contracting Parties are compelled to implement their national plans.
			The 2014 Environmental Impact Assessment Regulations regulate the procedures relating to the submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities in order to avoid detrimental impacts on the environment, or where it cannot be avoided, ensure mitigation and management of impacts to acceptable levels, and to optimise positive environmental impacts. Another addition to the 2014 Regulations is the inclusion of a closure plan in the application of an environmental authorisation.	One of the weaknesses of the NEMA, despite these legal provisions, is that it allows for some individuals, or companies, to commence with a listed activity and later apply to the Minister, or MEC, for ex post facto environmental authorisation at a determined administrative fee in section 24G. This clause is viewed as contributing inconsistencies in the treatment of applications by competent authorities and contradicting the precautionary and preventative principles of

				the NEMA whilst undermining the foundation of the environmental assessments that are prescribed in the Act (Du Toit 2016). This is due to a section 24G application excluding the possibility of criminal responsibility for failure to obtain a licence.
3	World Heritage Convention Act 49 of 1999 (WHCA)	Yes	Section 4(1)(q) requires specific attention in management and planning procedures for sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, dolomitic land and ridges, estuaries, wetlands, and similar systems, particularly where they are subject to significant human resource usage and development pressure. With regard to the precautionary approach, section 4(2)(g) states that "For the purposes of this Act, sustainable development of World Heritage Sites includes that … a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions".	The legal requirement for specific attention to be paid towards management and planning procedures for sensitive, vulnerable, highly dynamic or stressed ecosystems supports the Ramsar Convention requirement for planning to ensure that wise use of wetlands is not undermined during development projects in heritage sites. This responds to Article 3 of the Ramsar Convention.
			Section 4(2)(h) states that "negative impacts on the environment and on the environmental rights of the people must be anticipated and prevented, and where they cannot be prevented, must be mitigated" as one of the fundamental principles of the Act. Section 21 requires every authority to prepare an integrated management plan for the World Heritage Site that is under its jurisdiction. This plan aims to ensure that World Heritage Sites are protected and managed according to section 23. This plan must also be integrated and harmonised with other prescribed environmental plans according to section 22.	Both these provisions also respond to the planning requirement expressed in Article 3.1 of the Ramsar Convention.

4	National Environmental Management: Protected Areas Act 57 of 2003 (NEMPAA)	Yes	Section 11 empowers the Minister to prescribe norms and standards for the achievement of any of the objectives of the Act. This includes the "(a) management and development of protected area referred to in section 9; (b) indicators to measure compliance with those norms and standards; and (c) the requirement for the management authorities of those protected areas to report on these indicators to the Minister". Section 39(2) requires management authorities which have been assigned by the Minister to submit management plans for the protected area for approval by the Minister, or MEC. Section 41(1) articulates the main objective of the management plan as ensuring that the protected area in question is protected, conserved and managed.	The legal requirements of the NEMPAA for norms and standards to ensure that protected areas are adequately managed through management plans enable the implementation of Article 3.1 of the Ramsar Convention where wetlands are located within the relevant protected areas.
5	National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA)	Yes	Section 9(1) allows the Minister to issue norms and standards to enable the achievement of any of the objectives of the Act, which include both the management and conservation of the country's biodiversity with all its components, as well as restriction of activities which may harm the biodiversity system.	The legal requirement of the NEMBA for issuing of norms and standards to ensure that the country's biodiversity with all its components is well managed and conserved supports the implementation of Article 3.1 of the Ramsar Convention.
			The planning trajectory for biodiversity is articulated from section 38(1) of the NEMBA, where the Minister is required to prepare and adopt a national biodiversity framework which is monitored and reviewed every five years. This national framework may also provide norms and standards for the environmental conservation plans of other spheres of government in order to integrate and coordinate biodiversity management according to section 39(2). Section 40(1) also provides for the publishing of a bioregional plan for a bioregion as determined by the Minister. This plan contains regional measures	The planning trajectory provided in the NEMBA supports the planning requirements of Article 3.1 of the Ramsar Convention.

5	NEMBA continued		to ensure effective management of biodiversity and its components according to section 41(a). In addition to this, section 43(1) states that any person, organisation or organ of state that desires to contribute towards the management of biodiversity may submit a draft management plan for an ecosystem, indigenous species, or migratory species for the Minister's approval. Wetlands are relevant for all three.	
			Moreover, the Act provides for a permit system, which is applicable for any person who: • undertakes a restricted activity involving a specimen of a listed threatened or protected species (section 57(2)), • undertakes a restricted activity involving a specimen of an alien species (section 65(1)), • undertakes a restricted activity involving a specimen of a listed invasive species (section 71(1)), and intends to engage in bio prospecting involving any indigenous biological resources (section 81(1).	The permit system is a control technique that ensures that the wise use principles are also not undermined and the ecological character is not altered in accordance with Article 3.
6	National Environmental Management: Integrated Coastal Management Act 24 of 2008 (NEMICMA)	Yes	Any listed activities according to the listing notices published under the NEMA, which are conducted in the coastal zone require an environmental authorisation in terms of the NEMA. In addition to the NEMA requirements and criteria for such authorisations, sections 63 and 64 of the NEMICMA provide for additional criteria that must be considered by the relevant competent authority when evaluating an application for an activity which will take place in the coastal zone.	Environmental authorisation is another control technique that is put in place to ensure that the wetland functions are not negatively affected by any human activity. This is in line with the requirements of Article 3 of the Ramsar Convention.
			As a precautionary approach, section 73 places a responsibility on the Minister to develop, maintain and expand a National Action List to allow for the	The precautionary principle is also part of the planning requirement expressed in Article 3 of the Ramsar Convention

			screening of waste proposed for marine disposal according to its potential effect on human health and the marine environment. This list must be developed according to the Waste Assessment Guidelines (Schedule 2 of the NEMICMA) and contain the prescribed information.	and its inclusion in the NEMICMA provides protection to coastal wetlands.
Agricultural Regime				
7	Conservation of Agricultural Resources Act 43 of 1983 (CARA)	Yes	Section 6(1) empowers the Minister to prescribe control measures which are compulsory for land users.	This is an institutional requirement for compliance with control techniques prescribed by the Act.
			Section 6(2)(e) provides control measures of the land user for the utilisation and protection of vleis, marshes, water sponges, water courses and water sources.	The control measures explained in section 6(2) are techniques that are put in place to ensure that wetland functions, amongst other environmental functions, are not negatively affected by any human activity in line with the requirements of Article 3 of the Ramsar Convention.
8	National Forests Act 84 of 1998	Yes	Section 7 prohibits the destruction of indigenous trees in any natural forest without a license. The implication of this provision for wetlands is that destruction of indigenous trees in any natural forest would alter the ecological character of any wetland in close proximity to such a tree since section 2(1)(x) interprets a forest to include “ecosystems which it makes up”.	The control measure prescribed in section 7 is a technique to ensure that wetland functions, amongst other environmental functions in a natural forest, are not negatively affected by any human activity in line with the requirements of Article 3 of the Ramsar Convention.
			Moreover, the scope of the norms and standards which may be prescribed by the Minister in terms of section 11 of the NEMPAA to manage and develop protected areas includes specially protected forest areas, forest nature reserves and forest wilderness areas declared in terms of this Act.	This requirement demonstrates a coherent approach in the South African legal regime to wetland and broader environmental protection. The requirement for norms and standards ensures that natural forests and their ecosystems are adequately managed through management plans in line with the planning requirement in Article 3.1 of the Ramsar Convention.

Water Regime				
9	The National Water Act 36 of 1998 (NWA)	Yes	Water use as explained in section 21 of the Act is controlled through regulating the manner in which water can be used. The Act regulates such uses through registration of water use and through different types of authorisations and licences as explained in section 27 where considerations for issue of general authorisations and licences are outlined. Section 28 addresses essential requirements of licences and section 29 outlines conditions for the issue of general authorisations and licences.	Water licensing is a legal technique that requires water users to obtain water licences before they can commence with any of the listed activities in relation to water resources, which include wetlands. This makes this provision a regulatory measure that sets standards and controls activities that may potentially cause harm to the water resource (Grobler 2012). It is also in line with the planning requirement in Article 3.1 of the Ramsar Convention.

Summary: The array of legislation has demonstrated a wide range of principles, standards and techniques which support the maintenance of wetland functions, values and benefits. These include regulations, planning considerations, impact assessments, norms and standards and authorisations for permits or licences. From the assessment, the national legal framework adequately responds to the Ramsar Conventions guidelines as legal provisions exist. However, with sufficient legal provisions, a number of concerns are already being raised on whether most of the prescribed planning tools are really effectively contributing to the protection and conservation of the environment, particularly wetlands (Du Toit 2016). The amount of money and time that is also spent during these planning processes is another concern as they are viewed to be delaying projects and subsequently impeding on socio-economic growth (September 2012).

6.2.3 Positive conservation measures and stewardship

This measure seeks to determine if there is a legal provision which encourages positive conservation measures and stewardship by wetland users, wetland owners and non-governmental organisations through the use of certain instruments such as contracts, tax provisions (Ramsar Convention Secretariat 1999a). It is an expression of Article 4.1 of the Ramsar Convention which specifies the need for stewardship by requiring Contracting Parties to “promote the conservation of wetlands . . . and

provide adequately for their wardening" through their legal mechanisms (Ramsar Convention Secretariat 1994). In the application of this measure, caution is made on unintended 'perverse incentives' which work against the wise use concept by encouraging development activities such as the draining of wetlands, or incentives which may be presented in a form of subsidies when developing coastal beds and flood plains which are harmful to the ecological character of wetlands (Ramsar Convention Secretariat 2010c).

Table 6.3: Comparison of the RSA legal framework on the positive conservation measures and stewardship against the Ramsar Convention measures

RSA LEGAL FRAMEWORK		Measures exist: Y/N	Specific provision in the Act	Relevance of the provision to the Ramsar Convention measure
Environmental Regime				
1	Environment Conservation Act 73 of 1989 (ECA)	No	n/a	n/a
2	National Environmental Management Act 107 of 1998 (NEMA)	Yes	Section 35 provides for the Minister or any specified authority to enter into an environmental management co-operation agreement with any entity to promote compliance with the NEMA principles. This agreement provides for compliance monitoring, penalties for non-compliance and incentives where the agreed on measurable standards have been complied with. The implication of this provision for wetlands is that incentives encourage the implementation of the precautionary, preventative and polluter pays principles amongst other NEMA principles through binding agreements. This benefits wetlands and the broader environment as it directly promotes the wise use concept.	The legal provision supports both the wise use concept expressed in Article 3.1 of the Ramsar Convention, as well as the stewardship concept when promoting wetland conservation in Article 4.1 of the Ramsar Convention.
3	World Heritage Convention Act 49 of 1999 (WHCA)	Yes (implied)	The WHCA places much emphasis on conservation and public participation, requiring that consultation must take place with the provinces and other organs of state. In this regard, sections 8, 9 and 10 set out the provisions for the establishment of the management authority by the Minister. The only eligibility	Section 13(1)(a)(ii) makes it clear that the implementation of the WHCA by the management authority includes ensuring that "effective and active measures are taken for the protection, conservation and

3	WHCA continued		prescribed for the members of the management authority in section 9 is that it "is a juristic person with a capacity to sue and be sued in its own name". This implies that it could be constituted by wetland users, private land owners and non-government organisations. The powers and duties assigned to the management authority in section 13 further suggest that it is a decentralised structure acting on behalf of the Minister to implement the Act. The model rules published by the Minister as guidelines for these management authorities in terms of section 13(4) may also include incentives for good performance since poor performance may lead to the amendment, suspension, revoking or termination of powers of such an authority in terms of section 12 (5). However, such incentives are not prescribed.	presentation of the cultural and natural heritage", which includes wetlands. This means that incentivising this performance would work directly in favour of wise use and protection of wetlands in line with Article 3 of the Ramsar Convention.
4	National Environmental Management: Protected Areas Act 57 of 2003 (NEMPAA)	Yes (implied)	In its long title, the NEMPAA states that it provides "for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes". This implies that conservation measures are definitely considered. However, no incentives are prescribed in the Act. The incentives, which mainly take the form of a range of tax deductions and exemptions, are prescribed in tax legislation such as the Local Government: Municipal Property Rates Act 2004. However, it is worth noting that protected areas are not necessarily state owned, which means that private land owners are also included.	The 2018 national biodiversity assessment indicated a 11% expansion in main land protected areas between the 2010 and 2018. This increase is attributed to biodiversity stewardship programmes which are supported by the NEMPAA (SANBI 2018). Whilst the incentives are not prescribed in the NEMPAA, there is room for their application in encouraging more wetland conservation. This would be in line with Article 3 of the Ramsar Convention.
5	National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA)	Yes	Section 44 allows the Minister to enter into a biodiversity management agreement with any person, organisation or organ of state to implement the biodiversity management plan. This has directly resulted in a Biodiversity Stewardship Programme, where	This provision is supporting wise use of wetlands in line with Article 3 of the Ramsar Convention. Caution on incentives is when 'perverse incentives' are made available. These

5	NEMBA continued		priority biodiversity on land outside of state owned protected areas is being secured on privately/communally owned land where the landowner/user is willing to enter into an agreement. The biodiversity on this land is secured through a biodiversity stewardship agreement and incentives may be provided to the owner/user to enable this to occur. Biodiversity stewardship guidelines have been developed. Biodiversity tax incentives include municipal rates exemption, SARS tax rebates (37D) for land value to be deducted over 20 years – both need to have an approved management plan in place, and full declaration and title deed endorsement for 99 years.	incentives directly work against the wise use concept as they may encourage draining of wetlands, or maybe in a form of subsidies when developing coastal beds and flood plains (Ramsar Convention Secretariat 2010c).
6	National Environmental Management: Integrated Coastal Management Act 24 of 2008 (NEMICMA)	No	n/a	n/a
Agricultural Regime				
7	Conservation of Agricultural Resources Act 43 of 1983 (CARA)	Yes	Section 8 of the CARA allows the Minister to establish a scheme for financial assistance by means of subsidies in concurrence with the Minister of Finance. In section 8(1)(a), such subsidy payments may be granted to land users for a number of activities which are meant to encourage environmental conservation.	This provision on the use of incentive measures is also supporting wise use of wetlands in line with Article 3 of the Ramsar Convention. Caution on 'perverse incentives' remains valid for the agricultural sector as well.
8	National Forests Act 84 of 1998	No	n/a	n/a
Water Regime				
9	The National Water Act 36 of 1998 (NWA)	Yes	Section 56(1) of the NWA allows the Minister to establish a pricing strategy for any water use, in concurrence with the Minister of Finance. This strategy may contain a strategy for funding water resource management and related costs according to section 56(2)(a). Funding for water resource management caters for the costs of information gathering, monitoring of the water resource and its use, controlling, protecting as well as conserving the water	These provisions on the use of incentive measures respond to the wise use of wetlands in line with Article 3 of the Ramsar Convention. Caution on 'perverse incentives' remains valid for the water sector as well, particularly in relation to section 56(2)(b) where the same measure can be applied towards water resource

			resource. All these activities are related to wetland management. In addition to this, section 56(6)(b) provides for consideration of incentives and disincentives for (i) promotion of efficient and beneficial use of water, (ii) reduction of harmful impacts on the resource and (iii) prevention of waste water.	development and use of waterworks which are likely to have a negative effect on water quality.

Summary: Whilst the overall objectives of the South African legal framework are premised on the conservation and protection of the environment, there seems to be a gap in incentives to encourage positive conservation measures with limited legislation prescribing instruments for incentives. Where legal provisions are made, most acts do not provide a clear framework within which such incentive measures can be implemented effectively (Herbst 2015). Perverse incentives remain a high risk, contributing to wetland degradation and loss as tax or subsidy incentives are used in other sectors to encourage intensive irrigation, intensive forestry and construction of roads and houses in wetlands (Ramsar Convention Secretariat 2010c).

6.2.4 Provision for a polluter pays principle, enforcement procedures and penalties

In instances where any development involves wetland loss and degradation, this measure seeks to determine if there is a legal requirement to compensate that is consistent with the polluter pays principle and penalties set at a meaningful level for offences relating to pollution of wetlands (Ramsar Convention Secretariat 1999a). The measure, therefore, simply requires the cost of environmental pollution to be carried by the polluter. The analysis in the table below will demonstrate whether wetland users, developers and any polluters are legally obliged to carry the costs of polluting and rehabilitating wetlands. Where wetland loss and degradation constitutes a criminal offence, this consideration seeks to determine if enforcement procedures and remedies are provided for in the legislation. Where an offence has been committed, Table 6.4 also demonstrates whether penalties are clearly set in

addition to the costs recovered from the polluter pays principle provisions (Ramsar Convention Secretariat 1999a).

Table 6.4: Comparison of the RSA legal framework on the provisions for a polluter pays principle, enforcement procedures and penalties against the Ramsar Convention measures

RSA LEGAL FRAMEWORK		Requirement exist: Y/N	Specific provision in the Act	Relevance of the provision to the Ramsar Convention measure
Environmental Regime				
1	Environment Conservation Act 73 of 1989 (ECA)	Yes	Offences, penalties and forfeiture are provided for in sections 29 and 30 of the Act. A maximum fine of R100 000.000 is prescribed for the disposing of waste in an unlawful manner. The Act provides for other offences to also incur continuing fines where a polluter continues with the activity after they have been convicted. Section 31A(1) empowers the Minister, or competent authority, to stop any activity or take the necessary steps to either eliminate, reduce or prevent the potential damage, danger or detrimental effect arising from any activity performed by any person within the determined time frames.	Most of the ECA provisions have been repealed by the NEMA, however it is encouraging to see that the offences, fines and directives remain valid to complement the NEMA. These enforcement measures support conservation, protection and/or wise use of wetlands which enable the implementation of Articles 3 and 4 of the Ramsar Convention.
2	National Environmental Management Act 107 of 1998 (NEMA)	Yes	Section 2(4)(p) embodies the polluter pays principle by stating that “the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage, or adverse health effects must be paid for by those responsible for harming the environment”. Section 28(8) empowers the Director-General or provincial head of department to recover all costs incurred as a result of it acting due to failure by responsible persons to comply with a directive issued in terms of subsection (4), where they have caused, or may cause significant pollution, or	Whilst the NEMA is articulate on its provisions for authorisations and the polluter pays principle, section 24G is viewed as undermining these clauses by giving offenders an opportunity to commence with listed activities illegally and budget for the administrative fee for *ex post facto* authorisations. The clause however provides an opportunity for resource poor producers for instance who may have been unaware of their environmental obligations to rectify their actions and pay an

2	NEMA continued		degradation of the environment, including wetlands. Moreover, section 28(1) establishes a distinctive duty of care which includes the polluter pays principle by stating that "Every person who causes, has caused or may cause significant pollution, or degradation of the environment must take reasonable measures to prevent such pollution, or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment". Section 24F requires no listed activity to be undertaken without an environmental authorisation from a competent authority. The punishment for convicted offenders is stated as a fine of not more than R10 million, imprisonment for up to ten years or both such fine and imprisonment. Such a person can still be liable for a criminal offence under the NEMA. However, section 24G allows for ex post facto authorisation of activities that were commenced without any authorisation by applying to a Minister, or any other delegated authority for authorisation which in turn determines an administrative fine of not more than R10 million for the applicant. Criminal proceedings for persons convicted of an offence for contravening any section of the NEMA are stipulated in section 34 of the Act.	administrative fine. Another limitation of the Act is the inadequate provisions for repeat and purposeful offenders as opposed to first time offenders in section 49B(2) (Du Toit 2016). It is however worth highlighting that in instances where an administrative fine is issued under section 24G, the Act still allows for criminal prosecution. Enforcement procedures have been determined to deal with wetland loss and degradation due to criminal offence under the provisions of the Act. All these measures are aimed at enforcing wetland conservation, protection and/or wise use which supports the implementation of Articles 3 and 4 of the Ramsar Convention.
3	World Heritage Convention Act 49 of 1999 (WHCA)	Yes	In section 5, the Minister is empowered to enforce and implement the Act through procedures listed therein.	Whilst this legislation appears weak on compliance and enforcement related matters, its fundamental principles draw from the NEMA as a SEMA and it recognises the NEMA as the main act which

3	WHCA continued			should prevail should any conflict arise. In this regard, it also supports the implementation of Articles 3 and 4 of the Ramsar Convention.
4	National Environmental Management: Protected Areas Act 57 of 2003 (NEMPAA)	Yes	Section 89(1) of the Act provides for a range of offences which relate to illegal access to protected areas, or undertaking a number of activities in a protected area without the required permission of the management authority. Section 89(20) states that "A person convicted of an offence in terms of subsection (1) is liable on conviction to a fine, or to imprisonment for a period not exceeding five years, or to both". The Act does not distinguish the seriousness of the offence, or whether it relates to threatened species or ecosystems. The amount of the fine is left to the discretion of the court. However, the offences committed under this potentially trigger a range of additional penalties under Schedule 3 of the NEMA as the Acts are linked. The Act is silent on enforcement procedures. However, by virtue of it being a SEMA, the enforcement procedures prescribed in the NEMA are applicable to the NEMPAA.	Whilst elaborative on specific matters relating to protected areas, the fundamental principles of the NEMPAA draw from the NEMA as a SEMA. It also recognises the NEMA as the main Act which should prevail should any conflict arise. In this regard, it also supports the implementation of Articles 3 and 4 of the Ramsar Convention.
5	National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA)	Yes	The Act provides for the principle of duty of care which requires land owners with listed or protected species/environment, or permit holders, to take all the required measures to prevent or minimise harm to the environment and biodiversity. These are particularly prescribed for alien species in section 69(1)(b) and listed invasive species in 72(2)(c). Failure to comply with this provision leads to a directive being issued, compelling a transgressor to take remedial action in terms of section 69(2) for alien species and 73(3) for listed invasive species. Failure to comply with the directive then	Whilst elaborative on specific matters relating to biological diversity, the fundamental principles of NEMBA draw from the NEMA as a SEMA. It also recognises the NEMA as the main Act which should prevail should any conflict arise. In this regard, it also supports the implementation of Articles 3 and 4 of the Ramsar Convention.

5	NEMBA continued		leads to the competent authority implementing the directive and recovering the costs incurred whilst doing so. This is provided for in section 69(3) for alien species and 73(4) and related regulations for listed invasive species. Section 97 (1) empowers the Minister to make regulations relating to the monitoring of compliance, as well as with the enforcement of the norms and standards issued in terms of section 9 of the Act.	
6	National Environmental Management: Integrated Coastal Management Act 24 of 2008 (NEMICMA)	Yes	Section 61 provides for measures to be taken by the Minister, or MEC, to recover costs resulting from carrying out the required actions as specified in the notice that would have been issued in terms of section 59 (1), or (5), or section 60(1), to the responsible person. This provision becomes effective once a responsible person has failed to comply with a coastal protection notice, coastal access notice, or a repair and removal notice. Sections 79 and 80 make provision for three different categories of offences, each attracting a different penalty depending on the severity of the offence. With regard to actions in relation to coastal zones, section 82 provides for the prevention of damage to, or recovery of costs of damage to coastal public property, or the coastal environment, by empowering the Minister, MEC, or municipality to institute legal proceedings or other appropriate measures. In instances where the Minister is of the view that the MEC of a coastal province is failing to take adequate actions to fulfil the duties assigned to them in terms of section 90(1), the Act empowers the Minister to instruct the MEC to take specific measures in order to fulfil his or	Whilst elaborative on specific matters relating to coastal areas, the fundamental principles of the NEMICMA draw from the NEMA as a SEMA. It also recognises the NEMA as the main Act which should prevail should any conflict arise. In this regard, it also supports the implementation of Articles 3 and 4 of the Ramsar Convention.

6	NEMICMA continued		her duties in terms of section 90(1). Failure to comply by the MEC, enables the Minister to use any powers given to the MEC in terms of the Act, including the power to issue coastal protection, or coastal access notices and repair and removal notices (sections 59 and 60) and take measures to recover costs (section 61) amongst others.	
Agricultural Regime				
7	Conservation of Agricultural Resources Act 43 of 1983 (CARA)	Yes	Section 18 empowers an executive officer, or any other authorised person, to enter any land at any reasonable time to determine if and to what extent water pollution has occurred due to the activities on the farm. In instances where water pollution originates on, or near a factory farm, any authorised person is empowered to enter the premises to investigate the pollution and determine its extent. Moreover, they may issue a directive to remedy the pollution, or take the reasonable measures to prevent it. Section 23 makes provision for penalties in the event of contravention of the Act. The responsible person, or entity may be found guilty of an offence and held liable for payment of a fine, or imprisonment.	The focus of pollution in the CARA is on the water resource which includes wetlands. Provisions are made to deal with pollution and penalties, although the fine amounts are not prescribed. These provisions respond to Articles 3 and 4 of the Ramsar Convention.
8	National Forests Act 84 of 1998	Yes	Matters relating to sentencing, particularly on penalties, are specified in section 58 of the Act. Section 59 provides for compensatory orders in criminal proceedings where the court has convicted a person of an offence in terms of the Act. Moreover, the Act lists offences relating to protection of forests in section 62. With regard to enforcement procedures, the Act empowers forest officers to enter and search any land, or premises, in section 67, and confer power to seize without any warrant anything which he or she	Whilst not clearly articulate, it could be argued that the legal provisions on compensatory orders in criminal proceedings, where the court has convicted a person of an offence in terms of the Act, could be attributed to the implementation of the polluter pays principle. Enforcement procedures are clearly articulated with fine amounts not imposed, which is a concern emanating from the court's capacity to

8	National Forests Act continued		believes may be used as evidence in the prosecution of any person for an offence in terms of the Act in section 68(c), with section 69 granting them power to make arrests to any person whom they reasonably suspect to have committed either (a) "first, second or third category offence; or (b) a fourth category offence and who in his or her opinion will fail to appear in answer to a summons".	impose a fine that would be appropriate for the environmental damage. However, the provisions respond to Articles 3 and 4 of the Ramsar Convention.
Water Regime				
9	The National Water Act 36 of 1998 (NWA)	Yes	Section 19(1) compels the person who owns, controls, occupies, or uses, the land to be responsible for preventing pollution of water resources and to remedy the effects of the pollution if it occurs. In section 19(5) a catchment management agency (CMA) is empowered to recover all costs incurred as a result of it acting under subsection (4) to prevent pollution, or to address the effects of pollution. In this regard, subsection (4) refers to failure to comply with a directive issued in terms of subsection (3), where a land owner, occupier, user, or person, managing the land fails to take measures to prevent any water pollution from occurring, continuing or recurring. Section 19(7) goes on the state that "The costs claimed under subsection (5) must be reasonable and may include, without being limited to labour, administrative and overhead costs". Section 20 imposes further pollution remedying responsibility to responsible persons in cases of emergency incidents after reporting the incident to the department. In section 20(6), the catchment management agency is empowered to take necessary measures to either "(i) contain and minimise the effect of the incident, (ii) undertake clean up	The NWA has adequate legal measures to implement the polluter pays principle through the identified offences, however, the lack of prescription of fines is a concern as this is not aligned with other SEMAs and is a gap that require attention for the current legislative review. Institutional arrangements are also provided for. These provisions respond to Articles 3 and 4 of the Ramsar Convention.

9	NWA continued		procedures, and (iii) remedy the effects of the incident". Costs may be recovered from the responsible person/s by the CMA according to section 20(7). Section 19(3) of the NWA empowers the CMA to issue a directive to any person who fails to comply with sub-section (1) by taking "all reasonable measures to prevent any such pollution from occurring, continuing or reoccurring". Section 151(1) lists the acts and omissions which are offences under the Act. This includes "(a) use of water otherwise than as permitted under this Act; (c) failure to comply with any condition attached to the permitted water use under this Act; (i) unlawfully and intentionally, or negligently commit any act, or omission which pollutes, or is likely to pollute a water resource". Section 151(2) provides for the associated penalties where any provision of subsection (1) has been contravened. This includes a fine and imprisonment or both for first time offenders and repeat offenders. In addition to this, section 153 authorises the court to award damages after making determinations with respect to harm, loss or damage that was suffered as a result of an act of omission constituting an offence.	

Summary: It is not surprising that there are strong positive legal responses that support the Ramsar Convention's measures for the provision of a polluter pays principle in the South African legal regime. This is motivated by the deliberate drive towards environmental protection and conservation which is a constitutional requirement in the country. This principle is regarded as a measure to prevent pollution and degradation of the environment as referred to in section 24(b)(ii) of the Constitution (RSA 1996). It is also part of the legislative measures that the

Constitution prescribes in section 24 to ensure that environmental damage is remedied (Nabileyo 2009; RSA 1996). However, where the principle is not provided for in the legislation this could be limiting in the recovery of environmental damages, which is an area for improvement. The coordinated approach of recognising the NEMA as an umbrella legislation for all the SEMAs addresses such gaps where SEMAs are applicable. This approach should be considered in all national legislation that has any environmental implications. Enforcement procedures are also provided, to different extents, in all national legislation, with institutional arrangements generally clearly articulated in terms of delegation of powers, clarifying the level of authority to implement such provisions. However, not all legislation prescribes fines and it can be left to the courts to determine the amounts. This is an area of weakness as courts may not be equipped to fully understand the extent of environmental damage and rehabilitation costs, potentially resulting in fines that would be insufficient when rehabilitation has to be undertaken.

6.3 Conclusion

The comparative assessment in this chapter indicates that the South African legal regime on wetlands meets the measures that are recommended in the Ramsar Convention 1999 guidelines. On the protective status of wetlands to maintain their ecological integrity the South African legal regime has proven to offer different mechanisms of protection with the Minister, or a competent authority, being afforded declaration powers to effect this protection of wetlands. However, the risk lies with the potential non-utilisation of such powers.

When it comes to principles, standards and techniques applicable to socio-economic activities, the suite of legislation has proven to provide for this requirement through various tools and approaches as well. However, the effectiveness of these tools is a concern due the amount of time they consume and the lack of integrated approach to wetland management.

On positive conservation measures and stewardship the assessment revealed common objectives across all legislation, towards environmental protection, conservation and wise use. However, not all legislation was found to have provisions

for incentives to encourage positive conservation measures. Where such provisions were made, the instruments for such incentives were not clearly articulated.

With regard to the provision for a polluter pays principle, enforcement procedures and penalties, there are strong positive legal responses supporting the Ramsar Convention's measures with not all legislation prescribing specific fine amounts. There is a need for better coordination to wetland management, hence the latest decision by South Africa to develop a national wetland policy may trigger legislative reviews and standardise some of the areas that are not covered in a consistent manner in the existing legislation – this would improve the overall management, protection and conservation of wetlands in the country.

One of the strengths in the identified national legislation for the chosen sectors is that the SEMAs in particular have attempted to cover a wide range of habitat types and dynamics that wetlands present in a manner that they are configured and subject to their variation in location as well. There are hardly any significant inconsistencies outside variations of fines. However the underlying principles that underpin the responses towards the selected Ramsar Convention measures used in the assessment such as the polluter pays and precautionary principles are the same throughout the different sectors. The absence of clear enforcement procedures in the few Acts is also a concern as this directly impacts on effective remedies.

CHAPTER 7: RECOMMENDATIONS AND CONCLUSION

7.1 Introduction

This chapter presents the conclusions of the research findings as well as recommendations which are designed to support all spheres of government when reviewing their legislation and related legal instruments to improve wetland protection in South Africa. When presenting the conclusions, the researcher responds to the main aim that the study sought to achieve by drawing conclusions from the specific objectives as set out in Chapter 1, which guided the research process as follows:

a) To establish the extent to which South Africa incorporated the treaty provisions into its domestic policies and legislation given that South Africa is a Contracting Party to the Ramsar Convention.
b) To analyse the South African policy and legislative framework to determine the level of protection that is offered to wetlands and highlight the areas of interplay across the three chosen sectors.
c) To assess the level of compliance by conducting a comparative analysis between the national legislation and the recommended set of indicators from the 1999 Ramsar Convention Guidelines for Reviewing Laws and Institutions to promote the Conservation and Wise Use of Wetlands and make recommendations for improving wetland protection in the South African legal regime.

7.2 Responses to the research objectives

7.2.1 The extent to which South Africa incorporated the treaty provisions into its domestic legislation

Responses to this objective are provided in Chapter 4 and in more detail in Chapter 6. From the review of literature, the study revealed South Africa's existing national legislative responses to the Ramsar Convention's obligations as a Contracting Party.

These Ramsar Convention's obligations are presented as Articles in the treaty, namely (1) Article 2 on listed sites; (2) Article 3 on wise use; (3) Article 4 on setting up nature reserves on wetlands and training; and (4) Article 5 on international cooperation. They feed into the three pillars of action of the Ramsar Convention which highlight the principles of wise use for the management of wetlands, the identification, labelling and management of wetlands as Wetlands of International Importance, as well as international cooperation on the conservation and wise use of wetlands (Okuno *et al*. 2016).

The literature revealed the specific national responses to the four obligations as follows:

(a) On listed sites – there is implementation of national programmes to designate wetland, conservation and heritage sites as Ramsar Sites;

(b) On wise use - the state has a constitutional obligation to ensure environmental protection and conservation as prescribed in section 24(b) of the Constitution (RSA 1996). This translates to various legal provisions across the three chosen sectors where authorisation of listed or controlled activities, environmental management plans and environmental impact assessments are prescribed;

(c) On nature reserves and training – there are a number of provisions in the array of environmental legislation that allow for declaration of nature reserves, particularly for environmental protection, which includes wetlands. On training, SANBI has been established in terms of section 10(1) of the NEMBA as a dedicated training institution for wetlands amongst other attributes for the ecological infrastructure. The institution has a range of other responsibilities outside capacity building as prescribed in section 11 which include reporting, monitoring, advising, acting as a consultative body, coordinating and promoting the full diversity of South Africa's fauna and flora (DEA 2014).

(d) On international cooperation – South Africa is a signatory to the 1999 SADC Protocol on Wildlife Conservation and Law Enforcement, which introduced Transfrontier Conservation Areas to facilitate regional cooperation on protected areas, including wetlands (Hanks 2003). Through this Protocol, South Africa has entered into a number of agreements with neighbouring states to ensure cooperation on transboundary protected areas (see table 4.1). In addition to the

SADC Protocol, section 102 of the NWA provides for regional cooperation on water resource issues by empowering the Minister, in consultation with the Cabinet, to establish bodies to implement international agreements. This provision recognises that water resources know no boundaries, with the scope of water resources including wetlands (RSA, National Water Act, 1998).

A conclusion that is drawn based on the above-mentioned findings is that South Africa has been able to meet all four Ramsar Convention obligations by incorporating the requirements of such obligations in its various national legislation, and therefore has fully incorporated the treaty provisions into its domestic laws. However, more can be done to strengthen this compliance by making it more effective. For instance, whilst SANBI has been established, there is still a need for more research to be done on wetlands and their functions, and current research is deemed inadequate (Malherbe *et al*. 2017).

7.2.2 The analysis of the South African policy and legislative framework to determine the level of protection that is offered to wetlands and highlight the areas of interplay across the three chosen sectors.

The response to this objective is presented in Chapter 5. The analysis of the national legislation across the three chosen sectors for the study revealed that there is indeed a number of national laws that provide for environmental protection and management, where wetlands are included. The chapter highlighted the constitutional rights that the different laws commonly upheld to effectively respond to the shared duty of the state in relation to environmental protection and conservation which stems from the environmental right in section 24. One of the fundamental constitutional principles relating to cooperative governance has emerged as central in addressing institutional arrangements and ensuring that all three spheres of government collaboratively exercise their duty and responsibility towards environmental protection and conservation in line with the constitutional obligations assigned to them. The national policies and legislation recognise and accommodate these requirements and their related institutional arrangements through specific provisions where certain powers are delegated to MECs and competent authorities.

The conclusion drawn on this objective is therefore that the level of legal protection that is offered to wetlands in South Africa is high as can been seen from the objectives of the various legislation that were analysed. This is also attributed to environmental protection being one of the guaranteed constitutional rights. Whilst this is one of the strengths in the legal regime, its practical implementation remains a high risk for the effectiveness of these laws.

7.2.3 The comparative analysis between the national legislation and the recommended set of indicators, or measures, from the 1999 Ramsar Convention Guidelines for Reviewing Laws and Institutions to promote the Conservation and Wise Use of Wetlands to assess the level of South Africa's compliance.

The assessment of the level of compliance of the South African national sectoral legislation against the Ramsar Convention measures contained in the 1999 Guidelines that was conducted in Chapter 6 revealed the following:

(a) On the wetland protective status to maintain ecological integrity – the national legal framework was found to have diverse provisions that allow for protective status to be conferred on wetlands, as they depend on declarations, listings, classifications or provision of control measures that ensure protection of wetland ecosystems from harm resulting from any type of development. Where absolute protection is not possible, the legal provisions prescribe measures to minimise environmental harm. The national laws also prescribe clear institutional mechanisms in terms of the order of authority to enforce the identified legal provisions. However, these provisions appear to have very little impact when it comes to wetland protection as evidence suggests that wetland degradation and loss are increasing. This implies that whilst legal instruments may provide scope for regulation, the effective implementation of such instruments is probably even more critical if wetlands are to be protected, conserved and/or wisely used.

(b) Principles, standards and techniques applicable to socio-economic activities – the array of national legislation assessed revealed that the legal framework has a variety of principles, standards and techniques which support the maintenance of wetland functions, values and benefits and which incorporate a precautionary approach in South Africa. Specific approaches included regulations, planning considerations, impact assessments, norms and standards, and authorisations for permits or licences. The criticism against the current requirements emanates from the financial costs and time delays that result from these planning requirements, which are regarded as impeding socio-economic growth. Whilst this argument is possibly valid, economic growth cannot be used as an excuse for poor environmental management. There is a need to strike a balance between the social, environmental and economic aspects when advocating for sustainable development through systems such as the one environmental system that is implemented in South Africa.

(c) Positive conservation measures and stewardship – the assessment on this measure revealed inadequate legal provisions which encourage positive conservation measures through the prescription of instruments for incentives. Moreover, the assessment revealed that in instances where such provisions for incentives are made, there are no provisions for clear frameworks within which such incentive measures could be effectively implemented (Herbst 2015). What remains a greater concern is the existence of perverse incentives which contribute to wetland degradation and loss as tax or subsidy incentives may be used in other sectors to encourage thorough irrigation, intensive forestry and construction of roads and houses in wetlands

(d) Provision for a polluter pays principle, enforcement procedures and penalties – there were strong legal responses to the polluter pays principle, coming from all national sectoral legislation assessed. This was attributed to this principle being regarded as a constitutional measure to prevent environmental pollution and degradation as referred to in section 24(b)(ii) of the Constitution (RSA 1996). In addition to this, all national legislation was found to have provisions or enforcement procedures with clear delegation of powers to guide

implementation. A major concern was with regard to the absence of fines in some of the legislation, which left the responsibility to the judiciary which may not fully comprehend the costs of environmental degradation and loss when determining the adequate penalty to enable effective rehabilitation.

The conclusion drawn from this assessment is that whilst there are definite areas that require improvements, the South African legal regime complies to a large degree with the selected Ramsar Convention measures on laws and institutions.

7.3 Recommendations

Based on the findings and conclusions, the following recommendations are made:

Firstly, there is a need to strengthen the legislation to ensure the declaration of protected areas by the competent authority as non-declarations leave the areas that require protection vulnerable to exploitation, resulting in degradation and loss of wetlands. A clear articulation of the role of other stakeholders in identifying these areas may assist and identification of timeframes for the competent authority to investigate and declare.

Secondly, in order to make the planning processes more effective without compromising the environment, the one environmental system should be extended to cover all sectors that have activities which have potential harm to the broader environment, including wetlands. For instance, under the one environmental system, the Mineral Resources and Energy Minister is appointed as a competent authority to issue environmental authorisations in terms of the NEMA, and issue licences for waste management in terms of the National Environmental Management: Waste Act 59 of 2008 when dealing with mine related activities. However, the Minister of Environment, Forestry and Fisheries remains the appeal authority for such authorisations. The recommendation is for the same principle of centralising powers relating to wetland management in the environmental legislation and appointing Ministers of other sectors that share different mandates on wetland management to be able to enforce the NEMA within the context of their sectors.

Thirdly, there is a need to draft legal provisions that articulate a clear framework within which incentives can be implemented effectively to encourage positive conservation measures for the protection of wetlands..

Fourthly, whilst strengthening incentives for positive conservation, there is a need to address perverse incentives by ensuring that tax or subsidy incentives that are used in other sectors to encourage intensive irrigation, intensive forestry and construction of roads and houses in wetlands are strictly managed and only used in areas where there would be minimal or no environmental damage.

Fifthly, there is a need to amend the NEMA to provide for repeat and purposeful offenders for all offences listed in section 49A(1) as the current provision in section 49B(2) does not apply to all offences. This review would particularly address the unintended consequences of section 24G. The provision as it is appears to undermine the requirements for authorisations in the same Act by giving offenders an opportunity to commence with listed activities illegally and budget for the administrative fee for ex post facto authorisations. Whilst the Act allows for criminal prosecution, enforcement of this provision appears to be a challenge hence the system is being undermined. In addition to the consideration for administrative fines to be made more costly to prevent these costs being included as normal project costs, enforcement of criminal prosecution needs to be strengthened.

Finally, all laws that are relevant to environmental and particularly wetland protection need to stipulate clear penalties where there have been contraventions. With South Africa having reviewed its decision not to have a wetland policy, the new policy may assist to introduce a standard approach to determining penalties for environmental pollution or harm. The review of the current legal framework for planning processes and regulation of wetlands should also address matters related to institutional capacity as well as budget allocations across all relevant spheres of government.

7.4 Concluding remarks

As demonstrated in the findings and recommendations, South Africa has done well in ensuring some level of alignment in the national legislation by elevating

environmental protection to be a constitutional right. This has been significant in informing the objectives of the various Acts and ensured a coordinated vision. Whilst cooperative governance is also a constitutional requirement, there is room for improvement in its practical application. The proposed wetlands policy may also provide a solution in clarifying a national vision for wetland management and strengthening collaborative approaches between all the relevant sectors on all aspects of wetland management, from capacity building, monitoring, research and many other aspects. The study has highlighted the values and benefits of wetlands not only to humanity but to the environment as well, and for this reason there is a need to continue working towards more effective management, protection and conservation of wetlands for the current and future generation. This justifies a need for more studies on wetlands and enablers of their effective management in South Africa.

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APPENDICES

APPENDIX 1: LETTER OF APPROVAL TO CONDUCT STUDY