South Africa's response in fulfilling her obligations to meet the legal measures of wetland conservation and wise use

By

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Declaration

I, Bramley Jemain Lemine, declare that the contents of this thesis represent my own unaided work and that the thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

Signed: Date: 28 January 2019

Dedication

I dedicate this dissertation to my late father Jeffrey Henry Lemine, and my loving mother Cynthia Rose Lemine.

Acknowledgements

The successful completion of this dissertation would not have been possible without the love, support, effort and time of many…

To my loving spouse and pillar, Anthony van Wyk, thank you for the encouragement, laughter and your patience.

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Success means falling down nine times and getting up ten. - Coco Chanel

Abstract

South Africa is a signatory to the Convention on Wetlands of International Importance especially as Waterfowl Habitat of 1971 (referred to as the Ramsar Convention), which is an international convention making provision for protection and wise use of wetlands. Article 3 of the Ramsar Convention requires signatories to formulate and implement their planning to promote wise use of wetlands within their jurisdiction. "Wise use of wetlands" is defined as "the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development" (Birnie & Boyle, 2009: 674). The concept of wise use has been interpreted to mean sustainable development (de Klemm & Shine, 1999: 47; Birnie & Boyle, 2009: 49; Kiss & Shelton, 2007: 93; Birnie & Boyle, 2009: 674; Sands, 2003: 604), as it pertains to wetlands. Having said this, the National Environmental Management Act 107 of 1998 (NEMA) sets out principles of sustainable development that every organ of state must apply in the execution of their duties. Due to the wise use-sustainable development link, two NEMA principles have been considered to form the basis of this study, i.e. sections 2(4)(l) and 2(4)(r). The first principle places an obligation upon the state to ensure that there is intergovernmental coordination and harmonisation of policies, legislation and action relating to the environment (read to include a wetland); and the second principle is to ensure that specific attention in the management and planning are had to wetlands. Ironically, factors that are identified as hindering wise use include, but are not limited to: conflicting and incomplete sectoral law, absence of monitoring procedures, the absence of legal measures for environmental management of water quantity and quality. Therefore, an analysis will be undertaken to determine the extent to which South Africa's legislative framework regulating wetland conservation is fulfilling the requirements for the promotion of wise use, through these two principles. Focus was had to environmental and related legislation, policies and regulations that promote and/or constrain wetland conservation and wise use. This study identifies the flaws within the law; and proposes streamlining and, where apposite, amendments to the existing legislative framework regulating wetlands in order for South Africa to fulfil her obligations.

Contents

Acronyms and Abbreviations

AIS- Alien invasive species

CARA- Conservation of Agricultural Resources Act 43 of 1983

CBD- 1992 Convention on Biological Diversity

Constitution- Constitution of the Republic of South Africa, 1996

DAFF- Department of Agriculture, Forestry and Fisheries

DEA- Department of Environmental Affairs

EIA- Environmental impact assessments

EIMP- Environmental implementation and management plan

EIP- Environmental implementation plans

EMCA- Environmental management co-operation agreements

EMI- Environmental management inspectors

EMP- Environmental management plans

ICM- Integrated coastal management

IEM- Integrated environmental management

IFRA- Intergovernmental Relations Framework Act 13 of 2005

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 10 of 2004

NWA- National Water Act 36 of 1998

Ramsar- Convention on Wetlands of International Importance especially as Waterfowl Habitat of 1971

RCSLIG- Ramsar Convention Secretariat Laws and Institution Guidelines

RQO- Resource quality objectives

SANBI- South Africa National Biodiversity Institute

SEMAs- Specific environmental management acts

UNFCCC- United Nations Framework Convention on Climate Change 1992

White Paper NCCR- National Climate Change Response White Paper of 2011

WMA- Water management area

WWF- World Wildlife Fund

Keywords**:** legal framework, wetland environment, Ramsar Convention, wise use, fragmentation, planning and cooperative environmental governance.

Chapter 1: Introduction

1.1 Background to the study

The Convention on Wetlands of International Importance especially as Waterfowl Habitat of 1971 (also referred to as the Ramsar Convention), was the first international agreement promulgated to address the conservation of wetlands. The Ramsar Convention is a treaty with the primary aim of making provision for the framework of international cooperation for the wise use and conservation of wetlands and its related resources (Ramsar Convention, 1971). Parties to the Ramsar Convention desired to "stem the progressive encroachment on and the loss of wetlands now and in the future; and combining far-sighted national policies with coordinated international action" (Ramsar Convention, 1971). The Ramsar Convention was entered into in South Africa on 21 December 1975 without any reservations deposited to the Secretary-General (South Africa, 1998). As a contracting party, South Africa is bound to the provisions of the Ramsar Convention. In South Africa, twenty-three sites have been designated as Wetlands of International importance (Ramsar, 2017). This further necessitates the need for improved compliance with the Articles of the Ramsar Convention.

Article 3(1) of the Ramsar is central to this study and makes explicit provision for the notion of the wise use of wetlands. This article prescribes the formulation and implementation of contracting parties' planning to promote the conservation and wise use of wetlands, listed and unlisted (Ramsar, 1971). The concept of 'wise use' is a key Ramsar obligation for contracting parties, and the conceptualisation of the concept informs the manner in which South Africa had responded to her international obligation; and how it resonated through its existing enabling legislative provisions. This encapsulates South Africa's response in fulfilling her obligations to meet the legal measures of wetland conservation and wise use.

1.2 Problem statement

Wetlands provide an array of important functions to both humans and the natural environment. They function as a natural filter such as trapping nutrients, sediments, and bacteria. By doing so, they improve the water quality (Day, 2009:842). The nutrients so trapped by a wetland allow for various plants to grow which, in turn, attract various creatures and provide shelter and food for them (Falkenmark & Rockström, 2005: 14). Wetland fulfil human needs by providing a source of grazing and reeds for

the construction of huts (Day, 2009: 842-843). Furthermore, Falkenmark and Rockström (2005: 15) stated that wetlands function as the 'kidneys of a landscape'. They improve water quality through the absorption and sedimentation of certain pollutants and nutrients. Contrary to the belief that wetlands are water producing resources, they are in fact water-consuming as they facilitate groundwater recharge during flood season (Falkenmark & Rockström, 2005: 16). This function is crucial in areas surrounded by spaces for domestic, agricultural and other uses (Jurpie, 2009: 45). With the effects of climate change facing the world, wetlands provide a vital service as a carbon sink which contributes greatly towards reducing carbon emissions (Jurpie, 2009: 45). It is therefore clear that the conservation of wetlands is important to the environment, and for serving the present and future generations, through other measures and legislation (Grootboom, 2001).

In South Africa, no legislation is specifically dedicated to the regulation of wetlands conservation and protection; and recognition thereto is given in a piecemeal manner; by way of various specific environmental management acts (hereafter SEMAs). Later in this study the integral link between wise use as contemplated by the Ramsar Convention and sustainable development is established (see paragraph 4.2.1.1 below). Section 2 of the National Environmental Management Act 107 of 1998 (hereafter NEMA) sets out the national environmental management principles "that apply throughout the Republic to the actions of all organ of state that may significantly affect the environment". This is referred to as the sustainable development principles. NEMA makes provision for 18 principles in section 2(4)(a) to (r). For purposes of this study only two of these principles were considered, namely sections 2(4)(l) and 2(4)(r).

Section 2(4) provides that sustainable development requires the deliberation of the following considerations, i.e.:

- Section 2(4)(l)- there must be intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment; and
- Section 2(4)(r)- Sensitive, vulnerable…ecosystems, such as…wetlands… require specific attention in the management and planning procedure.

Section 2(4)(l), application to wetland conservation is under investigation as there are various SEMAs and governmental departments regulating and managing these. Therefore, in terms of this principle, it is crucial that it is found that there is governmental coordination and harmonisation of the SEMAs and policies as it pertain to wetlands conservation. Section 2(4)(r) application to wetland conservation is under investigation as this is the only principle in NEMA that specifically mentions wetlands and providing specific attention to wetland ecosystems in the management and planning procedures. Later in the study the research will indicate the manner in which the Ramsar administration instructs the approach in which planning mechanisms should be applied for wetland conservation (see paragraph 4.3 below).

Lack of or no intergovernmental coordination and legislation, policies and actions are not harmonised as it pertains to wetland conservation, then South Africa has not met its obligations in respect of principle 1. Furthermore, if the management and planning procedure are not encompassing wetland conservation, then the obligations for wetland conservation is also not met. Failure to comply with these obligations could have adverse effects on South Africa.

1.3 Research question

This research posed a central question, namely:

to what extent does South Africa's wetland legislative framework make provision for the fulfilment of its obligations for the promotion of wise use as contemplated by Article 3(1) of the Ramsar Convention with special reference to sections 2(4)(l) and 2(4)(r) of the NEMA?

1.4 Aims and objectives of the research

The aim of this study is to determine through an analysis of South Africa's enabling wetland legislative framework the extent to which she meets her international obligations in terms of fulfilling the requirements for the promotion of conservation and wise use of wetlands as contemplated in Article 3(1) of the Ramsar Convention, through the lens of sections 2(4)(l) and 2(4)(r) of the NEMA.

The objectives of this study aim to determine whether:

- South Africa's wetland legislative framework aligns with the NEMA obligatory principle of intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment as contemplated by section 2(4)(l) of the NEMA; whether
    - There is intergovernmental co-ordination (i.e. cooperative governance);
    - Policies, legislation and actions are harmonised; and
- South Africa's wetland legislative framework is aligned with the NEMA obligatory principle of ensuring that sensitive, vulnerable, highly dynamic or stressed ecosystems, *in casu* wetlands have been given specific attention in planning procedures as contemplated by section 2(4)(r).

The two abovementioned sustainable development principles will be indicated as principle 1 and principle 2.

1.5 Terms and concepts

The detailed description of key terms and concepts serve as an aid in the ensuing chapters to provide for an exposition of the said terms and concepts. For purposes of this study, the key terms and concepts are: wetland, environment, wise use, sustainable development, environment and conservation which will be discussed in 1.5.1, 1.5.2, 1.5.3, 1.5.4 and 1.5.5 below.

1.5.1 Wetland

Section 1(1)(xxix) of the National Water Act 36 of 1998 (hereafter NWA) defines a wetland to mean:

> . . . 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.

Furthermore, Section 1(1)(xxvii) of the NWA defines a water resource to include a watercourse and the latter is defined in section 1(1)(xxiv) as 'a wetland, lake, dam into which, or from which, water flows'.

In light of the abovementioned, the Conservation of Agricultural Resources Act 43 of 1983 defines natural agricultural resources to mean "soil, the water sources and vegetation"

The National Environmental Management: Integrated Coastal Management Act 24 of 2008 defines a coastal wetland to mean

> (a) any wetland in the coastal zone; and (b) includes — (i) land adjacent to coastal waters that is regularly or periodically inundated by water, salt marshes, mangrove areas, inter-tidal sand and mud flats, marshes, and minor coastal streams regardless of whether they are of a saline, freshwater or brackish nature; and (ii) the water, the subsoil and substrata beneath, and bed and banks of, any such wetland

The National Environmental Management: Biodiversity Act 10 of 2004 defines an ecosystem is defined by NEMBA to mean "a dynamic complex of animal, plant and micro-organism communities and their non-living environment interacting as a functional unit".

It is vital to understand what a wetland entails to ensure optimal protection of this resource. Furthermore, it is important to note that wetland conservation, as contained in the SEMAs, aims to bolster protection as this is the primary purpose of environmental legislation (Van der Linde; 2009: 194).

1.5.2 Environment

In terms of section 1 of the National Environmental Management Act 107 of 1998 (hereafter NEMA), the word environment means "the surroundings within which humans exist and that are made up of—

> (i) the land, water and atmosphere of the earth;
> (ii) microorganisms, plant and animal life;
> (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and
> (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.

The national environmental framework act does not include a definition for a wetland, but the definition in itself it broad enough to include a wetland.

1.5.3 Wise use

The conceptual framework of wise use equates to the "maintenance of an ecosystem benefits/services to ensure long term maintenance of biodiversity as well as human

well-being and poverty alleviation" (Ramsar Convention Secretariat, 2010: 9). It finds its application in Article 3(1) of the Ramsar, which provides 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, 1971: 3).

This term has been interpreted broadly to mean sustainable development of wetlands as it applies to each member state (de Klemm & Shine, 1999: 47; Birnie & Boyle, 2009: 49; Kiss & Shelton, 2007: 93; Birnie & Boyle, 2009: 674; Sands, 2003: 604). This concept is therefore interpreted to be analogous to the South African environmental law and management meaning of sustainable development.

1.5.4 Sustainable development

Section 1 of NEMA provides that sustainable development "means the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations."

1.5.5 Conservation

The dictionary or literal meaning is "the protection of natural things such as animals, plants, forests etc, to prevent them from being spoiled or destroyed" (Pearson, 2014).

Crucial to understanding the abovementioned concepts within the context of this research and as a point of reference is fully discussed in chapter 2 of this study.

1.6 International instruments

This brief overview introduces the applicable international instruments. The national instruments pertaining to South Africa's wetland conservation obligations are discussed in Chapter 2.

There are various other international tools, save for the Ramsar Convention, that aid in the promotion of wetland conservation and wise use. Incidental to the Ramsar Convention is the United Nations Framework Convention on Climate Change 1992 (hereafter UNFCCC) that was established and adopted by the international community in response to the threat of climate change, and affording protection to ecosystems that mitigates greenhouse gas emissions (Abate & Kronk, 2013). The 1992

Convention on Biological Diversity (hereafter CBD) was chiefly established for the conservation of biodiversity and the *in situ* conservation of ecosystems (Fuggle & Rabie, 2009: 106). The aforementioned Convention requires states to development guidelines for the "selection, establishment and management of protected areas"; and conserving its biodiversity (Fuggle & Rabie, 2009: 106). This study focussed through the lens of Article 3(1) to determine whether South Africa's legal measures to achieve wise use compliance has been met. It is against this background that attention is had to the Ramsar Convention, more specifically issues that the Conference of the Parties highlighted as legal weaknesses.

The Conference of the Parties has agreed on inherent weaknesses that could lead to the hampering of wise use. It has been submitted by the Ramsar Convention Secretariat Laws and Institution Guidelines (hereafter RCSLIG) that the weaknesses pertaining to legal measures that could potentially hinder wetland conservation and wise use include, but are not limited to:

- Conflicting sectoral policies, laws and taxes;
- Incomplete or weak laws applicable to wetlands;
- Failure to incorporate environmental impact assessment (EIA) regulations into matters relating to wetlands;
- The failure to apply environmental impact assessment-specific rules for wetlands;
- Failure to regulate on sectoral activities (e.g. transport, mining, agriculture etc…); and
- The absence of legal measures for environmental management of water quantity and quality (Ramsar Secretariat, 2010: 33).

These guidelines may be utilised as a tool in implementing wise use, broadly.

In light of the overview that it is necessary for wetland laws to be regulated holistically; in a coordinated manner. If it is not, then it will have hinder wise use of wetlands.

1.7 Significance of the research

There is reason to stress that academic writing pertaining to wetlands are predominantly from a purely scientific or applied science point of view, but this present study focuses on purely legal measures: legislation, policies, regulations and case law.

This becomes clearer by virtue of the fact that Glazewski (2015: 447), Glazewski & Young (2017: 16) and Kidd (2011: 136), who are leading legal experts in the field of South African environmental law, express their opinion on research to be completed as it pertains to legislation with regards with wetlands- without providing a critical in-depth analysis as to the issues at hand.

Wetlands are disappearing, and this is an international dilemma (Challand, 1992: 18; Ramsar Convention Secretariat, 2010). In the most recent Ramsar report on the state of the wetlands, Martha Rojas Urrego, head of the Ramsar Convention on Wetlands, submitted that "we are losing wetlands three times faster than forests" (Ramsar, 2018). The benefits afforded by these vulnerable ecosystems are vital to humans and the environment (see paragraph 1.2 above). Having legal measures that adhere to the bolstering of wise use and subsequently wetland conservation is therefore crucial. In South Africa, recognition is directly and indirectly afforded to the wetlands through a body of SEMAs (see paragraphs 2.5.1 and 2.5.2 below). This study will add to the existing body of literature pertaining to wetland conservation by providing an exposition of the gaps within the existing legislative framework that creates ambiguities, inconsistencies and duplication of wetland conservation efforts, to mention a few. To the survival of wetlands, this study also provides a niche approach into wetland conservation through the lens of the law.

1.9 Chapter outline:

Chapter 1: The introduction
Chapter 2: Literature review
Chapter 3: Research design
Chapter 4: Analysis and findings
Chapter 5: Conclusions and recommendations

Chapter 2: Literature review

2.1 Introduction

Core to this study was determining whether South Africa is meeting the principle of wise use of wetland conservation obligation. The literature informs that the wise use principle is to be interpreted to include the principle of sustainable development. Section 2(4) (a-r) of NEMA sets out a host of sustainable development principles that all organs of state must take into consideration when dealing with matters regarding the environment. However, this study is narrowed down to two such sustainable development principles, as envisaged in the NEMA, namely 1. Section 2(4)(l)- the need for intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment; and 2. Section 2(4)(r)- sensitive, vulnerable, highly dynamic or stressed ecosystems such as wetlands that require specific attention in management and planning procedures, due to development pressure. It was through this lens that the determination was made in order to address and meet the objectives of this study. Therefore, it is crucial to ascertain and provide an exposition of the nature of the wise use obligation to member states as envisaged in legal literature to use as a yardstick in determining whether South Africa, in terms of its current legislative framework, is compliant in utilising the prescribed legislation to promote wetland conservation. The existing legislative framework makes enabling provision for the protection of the environment. Within this context it is vital to refresh the senses as to what the concept of environment encompasses to ensure that the use of the word is understood within the context of this research.

2.2 Environment

There is no definition or mention made of a ‘wetland’ within the national environmental framework act, albeit in SEMAs. The significance of tracing “wetlands” within this legal framework is due to the fact that all other SEMAs, specifically those applicable to wetland conservation, are promulgated to give effect to the NEMA. However, the “Environment” is defined by the NEMA in section 1 to mean “surroundings within which humans exist and that are made up of-

(i) the land, water and atmosphere of the earth;

(ii) micro-organisms, plant and animal life;

(iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and

(iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being."

Given the complex nature, characteristics and benefits boasted by a wetland, wetlands are implied in this definition as the definition also caters for a combination of or interrelationship among environmental matter. The research aims to ascertain South Africa's obligations in meeting its obligations in terms of wise use and thus cognisance must be had to the conceptual framework of wise use.

2.3 The concept of wise use

The concept of wise use was introduced for the first time in 1987 by the conference of parties (Ramsar Convention Secretariat, 2010: 9) and was first interpreted at the conference adopted by the contracting parties the year in which the World Commission on Environment and Development's Report was published (de Klemm and Shine, 1999: 47). Coincidental too, this was the same report that "coined" the term sustainable development (Birnie & Boyle, 2009: 49). The wise use sustainable development interplay is discussed in 2.4 below. In terms of the Ramsar administration, wise use equates to the "maintenance of an ecosystem benefits/services to ensure long term maintenance of biodiversity as well as human well-being and poverty alleviation" (Ramsar Convention Secretariat, 2010: 9). At the Regina Conference in 1987, the following interpretation of wise use was adopted to mean: "their sustainable utilization (inter- and intragenerational principles) for the benefit of human kind in a way compatible with the maintenance of the natural properties of the ecosystem" (Birnie & Boyle, 2009: 49).

De Klemm and Shine averred that the interpretation of the concept of wise use includes:

- Sustainable use of wetlands for the benefit of mankind in a way that is compatible with maintaining the natural properties of the ecosystem;
- Human use of a wetland so that it may yield the greatest continuous benefit to the present generation while maintaining its potential to meet the needs and aspirations of future generation; and
- Natural properties of the ecosystem include the physical, biological or chemical elements, such as soil, water, flora, fauna and nutrients, as well as the inter-actions between these elements (1999: 47).

At the Kampala Conference in 2005 it was stipulated that: "the maintenance of their (wetlands) ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development" (Birnie & Boyle, 2009: 674).

It is clear from the aforementioned that the interpretation of wise use instructs contracting parties, which includes South Africa, to fit the mould of sustainable development. This is confirmed by the Ramsar administration's view of holding that the interpretation of wise use is in line with the objectives of sustainable development (Ramsar Convention Secretariat, 2010: 10). It should be noted that the term wise use, *per se*, is not mentioned anywhere within South Africa's legislative framework. In order to elaborate on the wise use-sustainable development interplay, it is necessary for purposes of this research to unpack the concept of sustainable development within South African jurisprudence to determine the objective of ascertaining whether South Africa meets its obligations.

2.4 Sustainable development

The concept of and the evolution of sustainable development can be traced to the Stockholm Conference of 1972. Sands, without providing a definition of the concept, identifies elements which comprise the legal concept:

- The need to take into consideration the needs of present and future generations;
- The acceptance, on environmental protection grounds, of limits placed upon the use and exploitation of natural resources;
- The need to integrate all aspects of the environment and development; and
- The need to interpret and apply rules of international law in an integrated and systematic manner (2003: 253).

The Constitution of the Republic of South Africa 1996 similarly makes provision in section 24(b) for the fundamental right of protecting the environment for present and future generations through legislative and other means, which describes one of Sand's elements of sustainable development. Therefore, sustainable development is the cornerstone of protecting the environment, and destruction of the environment has an adverse effect on humans, which is in conflict with the constitutional provision of advancing human rights.

Section 1 of the NEMA defines sustainable development as “the integration of social, economic and environmental factors into planning, implementation and decision-making to ensure that development serves present and future generations” (South Africa, 1998: 9).

The NEMA makes provision for 18 key principles or objectives of sustainable development that must be adhered to by all organs of state in fulfilment of their duty in protecting natural resources (wetlands). Determining whether South Africa meets every sustainable development objectives/principles is not the purpose of this study, as it would have casted the net too broad; and not all of the principles would be relevant and applicable. It is in light hereof that this study focuses on the following two sustainable development principles of NEMA:

I. 2(4)(l) There must be intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment.”
II. 2(4)(r) 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 (South Africa, 1998:10).

The relationship between specifically these two principles and the concepts of wise use and wetlands is two-fold: section 2(4)(r) is the only NEMA sustainable development principle that makes specific reference to wetlands; and, section 2(4)(l) the intergovernmental coordination through governmental action and laws is key in promoting wise use. Therefore, it is through the lens of these two key principles of sustainable development that the descriptive analysis was conducted in order to determine whether the obligations of wise use have been fulfilled. The following logical step is therefore to ensure that the literature as it pertains to these two principles [sections 2(4)(l) and 2(4)(r)] were unpacked to prepare for the later analysis.

2.4.1 Exploring principle one of NEMA- section 2(4)(l).

South Africa is one, sovereign, democratic state founded on the values of human dignity, the advancement of equality and advancement of human rights and freedoms (South Africa, 1996:7). The fundamental human right to the environment is guaranteed

in section 24 of the Constitution, and concerted efforts should strive towards advancing human rights through wetland conservation, and not hampering or exacerbating these efforts.

The Constitution is the supreme law of the land (South Africa, 1996: 6); and any law or conduct inconsistent with it is considered as being invalid, and obligations imposed by it must be fulfilled (South Africa, 1996: 7). Against this background, legislative efforts and actions by the organ of state responsible for wetland conservation should not be found to undermine peremptory mandates so stipulated in the Constitution. Section 7(2) mandates the state to respect, protect, promote and fulfil the rights so contained in the Bill of Rights for which protection and conservation of the wetlands is fundamental, through coordinating their action- for example.

Intergovernmental coordination and the constitutionally entrenched principle of cooperative government are synonymous (De Villiers, 1997: 197). Having said this, Chapter 3 of the Constitution makes provision for the broad principles of cooperative government. The term is not defined in the Constitution, but it has been akin to give effect to the 'cooperative model of federalism' (Nel & Kotze, 2009: 19). This specific principle, albeit embedded in the NEMA as a principle, flows from the constitutional provision of cooperative government. Du Plessis (2008; 87) avers that "South Africa's policy and legislation have served to strengthen cooperative governance, especially with regard to environmental matters." This further emphasises the realisation of the obligation placed upon the state to cooperate with matters pertaining to the environment. The legislation applicable to this study, more specifically to wetland conservation, is within the administration of various state environmental departments. This would in theory create the opportunity for bolstering wetland governance.

Strydom & King (2015: 18-19) qualified the following factors as hampering governance: fragmented and uncoordinated legislation, policies, processes and authorisation; disjoined decision-making processes; overlap and duplication of governance effort; inability to monitor the implementation of policies and legislation holistically; and governmental discord. Thus, if it is found that the current wetland legislative framework falls within the aforementioned "governance hampering" factors, then it may have a domino effect of hampering sustainable development. However,

cooperative environmental governance as cited by Du Plessis *ibid* is more relevant to this study as it refers to the governance over matters relating to the environment, as opposed to merely governance in the broad sense. As a 'wetland' falling under the umbrella of the 'environment' definition, it is inevitable that these two co-exist. Cooperative environmental governance refers to the various organs of state and spheres of government mandated to perform functions relating to the environment (Bosman *et al.,* 2004: 412) as explained above. Du Plessis submits that despite this constitutional and legislative imperative, turf wars, unwillingness of officials, and fragmentation sometimes frustrate this ideal of cooperative environmental governance (Du Plessis, 2008: 87).

Section 2(4)(l) as discussed below stresses not only the need for cooperative environmental governance but for harmonisation of three elements: legislation, policies and actions related to wetland management. If legislation is consolidated or unified, then the achievement of harmonisation will be adequate. The NEMA stresses the need for cooperative environmental governance in its purpose:

> to provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote cooperative governance and procedures for co-ordinating environmental functions exercised by the organ of state; to provide for certain aspects of the administration and enforcement of other environmental management laws; and to provide for matters connected therewith (South Africa, 1998: 2).

The NEMA makes provision for mechanisms that promote cooperative environmental governance. Among other, it makes extensive provision for planning mechanism that may be utilised to bolster wetland conservation, as discussed under the second principle below.

2.4.2 Exploring principle two of NEMA- section 2(4)(r)

Planning is vital for wetlands, as prescribed in Article 3(1) of the Ramsar Convention. Planning should promote wise use (Ramsar Secretariat, 2010). In relation hereto, Section 2(4)(r) of NEMA describes a wetland as a sensitive, vulnerable, highly dynamic and stressed ecosystem. It continues by classifying that specific attention is required in the management and planning procedures of these systems. Therefore, to

provide clearly defined and/or identified attention to wetlands could be interpreted as to mean coherent and consolidated attention not fragmented and incoherent. The 'specific attention' component becomes more significant when wetlands are subject to significant human resource usage and development pressure. The aforementioned is confirmed by the World Wildlife Fund's (WWF): *'Half of the world's wetlands have disappeared since 1900. Development and conversion continue to pose major threats to wetlands, despite their value and importance'* (Gunther, 2017). The WWF submits a list of factors that constitute the cause for the disappearance of these sensitive ecosystems. These factors include, but are not limited to, the conversion of wetlands for commercial development, drainage schemes, extraction of minerals and peat, overfishing, tourism, siltation, pesticide discharges from intensive agriculture, toxic pollutants from industrial waste, and the construction of dams and dikes (Gunther, 2017). These factors all have a bearing on the manner in which planning is considered, assessed and implemented.

In light of the above, wetlands are subject to significant human resource usage and development pressure. Similarly, the coastal environment is also recognised as "sensitive and vulnerable, highly dynamic and stressed ecosystem" and was managed by various regulatory mechanisms like the Sea-shore Act 21 of 1935, Transkei Environmental Conservation Decree 9 of 1992 and Control of Dumping at Sea Act 73 of 1980. The management in the coastal environment was fragmented and uncoordinated (Kidd, 2011: 136). In overcoming these, and giving effect to principle 2(4)(r) of NEMA, the legislature has introduced a single act for coastal management, namely the National Environmental Management: Integrated Coastal Management 24 of 2008 (NEMICMA). The current legal framework for wetland conservation is not too remote from this pre-NEMICMA situation that gave way to the introduction of the NEMICMA.

This principle, section 2(4)(r), refers specifically to the planning procedure, which is directly linked to planning law mechanisms. As stated above, NEMA makes provision for various planning mechanisms that would bolster the environment. Kidd (2011: 209) states that land-use was a vital component of environmental management, and that in the past legislation failed to address the link between land-use planning and concerns of the environment. Therefore, planning mechanisms should incorporate or address

issues of wetlands that would bolster protection. The reason for considering specifically EIA as a tool is due to the recommendations highlighted by the Ramsar administration in the RCSLIG as noted in 1.6.2 above.

The Ramsar administration requires the implementation of EIA into planning law mechanisms (Ramsar Secretariat, 2010: 13, 36-37). Planning law mechanisms are exorbitant within our current framework; however, focus was had to EIAs, as provided for in the NEMA. The inclusion of EIAs as a planning tool within the scope of wetland protection is vital, as stated in the RCSLIG (see paragraph 1.6.2 above). For purposes of clarity, it must be stressed that EIA is a tool of cooperative environmental governance (du Plessis W; 2008: 96). Kidd (2011) submits that an EIA is a written statement used to guide decision-makers, with the functions including: serving as a tool to which decisions are made; and providing decision-makers with information on environmental effects on proposed activities. Sands describes an EIA in a three-fold manner:

- Provides information to decision-makers with information on the environmental consequences of proposed activities, programmes and policies;
- Decisions should be based on that information received; and
- Ensuring that a tool exist to ensure public participation takes place (2012, 194).

Certain activities like those indicated by Gunther *ibid* may have detrimental effects on wetlands; therefore, an EIA operates as a tool curtailing this.

The following case is evidence indicating our judiciary upholding the enabling provisions of the Ramsar while the latter was still in its infancy. The Cape High Court of *van Huyssteen NO and Others v Minister of Environmental Affairs and Tourism and Others 1995(9) BCLR 1191 (C)*, had to decide for the first time on development in terms of the EIA regulations against the enabling provisions of the Ramsar. The court *in casu* recognised South Africa's duties as a contracting party in terms of the Ramsar, and announced the obligation of the state to, in this case, protect the Langebaan Lagoon "which is part of a sensitive ecosystem of international importance." The said court therefore declined the application for the development by the applying the EIA alongside the Ramsar.

In the case of *Fuel Retailers Associations of SA v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province 2007(6) SA 4 (CC),* it was held that sustainable development and sustainable use are at the core of the protection of the environment. This is therefore read to include the protection of wetlands.

Therefore, for purposes of this study and more specifically principle 2 it is necessary to unpack and address the manner in which EIA as a planning tool caters and applies to other SEMAs for the protection of the wetland environment.

2.5 Principle 1. Cooperative wetland environmental governance and harmonisation-section 2(4)(l); and Principle 2. Wetlands management and planning procedures- section 2(4)(r)

To further streamline this study, it is necessary to apply the two principles to more specific legal measures falling within the South African wetland legislative framework. The implication being that these two principles must be analysed through the lens of the current legislative wetland framework and its respective regulations.

2.5.1 Principle 1: Cooperative wetland environmental governance and harmonisation

This principle relates to the intergovernmental coordination and harmonisation of the wetland environment legislation and policies as well as the coordination of governmental action.

It has been submitted by Kidd (2011) that there is no single act for wetland conservation; and that such efforts are contained within various pieces of SEMAs. Therefore, this section will provide an exposition of the state's action of cooperative governance through selected wetland legislation and corresponding policies. Booys (2012: 4) stated that "domestic legislation being un-coordinated and haphazardous"; Glazewski & Young (2017: 16) stated that "South Africa lacks a dedicated wetland protection Act," "a private member's wetlands Bill was tabled…but has not seen the light of day"; and Kidd (2011: 136) said that "singling out wetlands for conservation has not been achieved by our legislation and this is, in my opinion, an opportunity missed". However, it has been submitted by Kidd stated that South Africa's legislative

framework which aims to conserve wetlands “appears to be sufficiently comprehensive” (2011: 137). Kidd does not provide a detailed explanation for his averments.

In light of the above, it is crucial to emphasise the fact that the aim of research is not to determine whether a single wetland act is necessary, but rather ascertaining whether there is coordination between government environmental departments, the plethora of legislation; and whether EIA planning is afforded to wetlands. The NEMA and plethora of SEMAs i.e. NWA, NEMBA, CARA, NEMICMA and NCCR apply to wetland conservation.

The long title of the NEMA states the following:

> to provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote cooperative governance and procedures for co-ordinating environmental functions exercised by the organ of state; to provide for matters connected therewith (South Africa, 1998:2).

The significance is that in terms of the Constitution, ‘environment’ is a national and provincial legislative competence (South Africa, 1996: 27). The consequence is that both the national and provincial authorities are in authority for the administration of laws protecting the environment (Kidd, 2011: 35). No reference is made specifically to wetlands in this act, but ‘environment’ must be interpreted to mean wetland (see paragraph 1.3.2 above).

Key to the field of environmental conservation and enforcement, is the introduction of environmental management inspectors (hereafter EMI). The necessity of including them in this study is that they perform crucial administrative functions on behalf the departments within which they are employed. Section 31C of the NEMA refers to the designation an EMI. Section 31D indicates that the Minister or MEC must determine in terms of what Act the EMI will acquire his/her mandate. Furthermore, their functions or duties are important for environmental management as envisaged in section 31G. The relevance of this body is that in the execution of this recent in vintage designation that the various departments enforcing wetland conservation laws’ actions are coordinated as well as the laws (legislation and policies).

The NWA was introduced to afford better water management and conservation to the resource than its predecessor (the Water Act 54 of 1956), and to bring alignment between constitutional imperatives and the law (Kidd, 2011). In its preamble, it provides that the ultimate aim of water resource management is to achieve the sustainable use of water for the benefit of all. The mandate of the NWA is with the Department of Water and Sanitation (South Africa, 1998: 6).

The NWA defines a wetland to be a “wetland”, “water resource”, and “watercourse”, respectively. Falkenmark and Rockström (2005: 15) recognise the fact that there are several types of wetlands namely marshes, swamps, bogs and fences. Falkenmark & Rockström (2005: 15) further categorise these into two groups: peatlands and non-peat lands, and this might have contributed to the variation in meaning from one Act to the other.

Chapter 3 of the NWA makes provision for the “Protection of Water Resources”. Against this background, section 12 of the NWA prescribes a classification system for water resources. The classification system is utilised to determine whether a particular water resource is minimally used, moderately used, or heavily used. Subsequent to this determination, the Act requires the establishment of resource quality objectives (hereafter RQOs) for each category (minimally used, moderately used or heavily used). The significance of RQOs in light of water resource management is that it provides for:

> the quantity, pattern, timing, water level…; the water quality, including the physical, chemical and biological characteristics of the water; the character and condition of the instream…and the characteristics, condition and distribution of the aquatic biota (section 1).

The description of RQOs therefore provides and addresses information that is pertinent to sustainable wetland conservation and monitoring. Moreover, the RCSLIG requires the inclusion of legislative frameworks to bolster water quality and water quantity (see 1.6.2 above). Again, paragraph 1.2 stresses the important function of wetland and its ability to improve water quality.

The purpose of the NEMBA is to provide for the conservation and management of South Africa’s biodiversity; and the protection of species and ecosystems that warrant

protection, among other things (South Africa, 2004). An object of the Act is to provide for cooperative governance in biodiversity management and conservation (Section 2(c)). As a point of departure, it is evident that nowhere reference is made to a wetland *per se* nor has any of the other definitions describing or including wetlands, as envisaged by the other SEMAs, been included in the NEMBA. The administration of the Act is the SANBI and Department of Environmental Affairs (South Africa, 2004:14). Of relevance to this study is the protection afforded to ecosystems. An ecosystem is defined by to mean "a dynamic complex of animal, plant and micro-organism communities and their non-living environment interacting as a functional unit" (South Africa, 2010:14). The definition of a wetland therefore warrants it to fall within the meaning of an ecosystem and vice versa.

The introduction of alien invasive species to wetland conservation has raised global concern as the effect leads to the damage and ultimate loss of wetlands (Ramsar Convention Secretariat, 2016). Briefly put, the NEMBA defines alien species as including a species that is not indigenous, or translocated to a place outside its natural distribution range. It also describes an invasive species as any species whose establishment and spread outside of its natural distribution range- "(a) threaten ecosystems, habitats or other species or have demonstrable potential to threaten ecosystems, habitats or other species; and (b) may result in economic or environmental harm or harm to human health" (South Africa, 2010: 16). Thus, controlling and managing alien invasive species are of critical importance, and the legislature has indicated its intention of not merely protecting the citizens and the environment, but also the financial benefit such resource provides as stipulated in paragraph 1.2 above.

In light of the abovementioned concerns regarding alien invasive species (hereafter AIS), the NEMBA sets out the functions of the SANBI in respect of AIS and the functions of the Minister in publishing a national list of threatened ecosystems. The SANBI through the WFW and Working for Water Programme performs various functions which include the removal of AIS that poses a threat to the Republic's water security, biodiversity and agricultural productivity (DEA, 2017). The Ramsar together with the Global Invasive Species Programme and IUCN are promoting the understanding of wetland invasions, and have published publications identifying the

AIS specifically located in Africa (Howard & Matindi, 2003). The reason for including this in the study, besides its adverse global concern, is that NEMBA is not the only SEMA monitoring and controlling AIS for wetlands. The Conservation of Agricultural Resources Act 43 of 1983 plays a crucial role too.

The CARA has been enacted to:

> provide for the conservation of the natural agricultural resources of the Republic by the maintenance of the production potential of land, by the combating and prevention of erosion and weakening of destruction of the water courses, and by the protection of the vegetation and the combating of weeds and invader plants (section1).

The mandate of the CARA is with the Department of Agricultural, Forestry and Fisheries (South Africa, 1983: 2).

The Act defines natural agricultural resources to mean “soil, the water sources and vegetation” (South Africa, 1983: 3). “Wetland” is not mentioned or defined in CARA. However, a wetland falls within the meaning of a water source; and therefore it is presumed that CARA, by its wording, is responsible for wetland conservation. This meaning is further given effect to in CARA’s description of soil conservation work which means “any work which is constructed on land for the conservation or reclamation of any water source” (South Africa, 1983: 4). With specific focus on water sources, the CARA empowers the Minister (DAFF) to prescribe control measures which shall be complied with by land users (South Africa, 1983: 8). Such control measures may relate to the utilisation and protection of vleis, marshes… and water sources; and the protection of water sources against pollution on account of farming practices (South Africa, 1983: 4). Section 18(1) of the CARA vests the power of investigation in the executive officer, any other officer of the department or member of soil conservation committee to “determine whether and to what extent the water sources on that land are polluted on account of farming methods or have become weaker or have ceased to exist”; make surveys, take samples (soil or plant) to make an assessment of the water sources, and may take photographs for purposes of the assessment as s/he deem fit (South Africa, 1983: 28). This officer is the same as an EMI due to the similarities in functions and duties set out in paragraph 2.5.1.1.1 above. The relevance of this officer will become apparent under the second principle and plays a key role in terms of principle 2.

CARA, similar to the NEMBA, sets out its goals in regulations for the combating of AIS (South Africa, 1984: table 3). The type of species in terms of the regulations of the NEMBA and CARA are identical. This could lead to enforcement issues which exacerbate wetland conservation challenges rather than bolster conservation.

The National Environmental Management: Integrated Coastal Management Act 24 of 2008 (hereafter NEMICMA) was introduced into our legal system due to the failure of sectoral and compartmentalised management to prevent the deterioration of the coastal environment (Glavovic & Cullinan, 2009). The NEMICMA was introduced as a framework to address and overcome the disjunction of a plethora of laws that regulated a wide variety of activities that took place in the coastal zone (Glazewski, 2017). The White Paper for Sustainable Coastal Development of April 2000 (hereafter White Paper SCD) stressed that integrated coastal management (hereafter ICM) is pivotal to recognising the coast as a system and realising that various human uses of coastal resources are inter-reliant (White Paper SCD, 2000). The envisaged result is that the coast should be managed in a holistic manner and not "as a range of distinct sectors" (White Paper SCD, 2000). This is the current state of how activities are regulated in the wetland environment. In addition hereto, wetlands and the coastal environment are designated sensitive ecosystems in terms of the NEMA. Here the harmonisation and integration of coastal laws were lauded as they were akin to sustainable coastal development.

What is often stressed in the literature regarding the coastal environment is that it functions as both mitigating and adapting tools to prevent the adverse effects of climate change on the natural environment and ultimately human health. It has been submitted that besides human activities placing pressure on the coastal resources too does climate change related issues; these include sea level rise and storms (Glazewski, 2017). The NEMICMA aims to protect dune systems as they act as a buffer against storm surges, which is vital mitigating factor for climate change (Colenbrander 2011: 313).

The NEMICMA within its definition list defines a "wetland" and a "coastal wetland" (see 1.5.1 above), along with their differentiating features (South Africa, 2009: 3). The latter

refers to any wetland within the coastal zone (which comprises coastal public property, coastal protection zone, coastal access land, coastal protected areas etc…). Having said this, the NEMICMA exercises ownership over “its” wetlands falling within the coastal zone.

The National Climate Change Response White Paper of 2011 (hereafter White Paper NCCR) is a presentation of the South African Government’s vision for an “effective climate change response and long-term, just transition to a climate-resilient and lower-carbon economy and society” (White Paper NCC, 2011). South Africa, within the White Paper NCC, commits to two objectives:

1. Effective manage inevitable climate change impacts through interventions that build and sustain South Africa’s social, economic and environmental resilience and emergency response capacity; and
2. Making a fair contribution to the global effort to stabilise greenhouse gas concentrations in the atmosphere at a level that avoids dangerous anthropogenic interference with the climate system within a timeframe that enables economic, social and environmental development to proceed in a sustainable manner.

Given the services climate change mitigation and adaptation benefits provided for by wetlands, it is expected that these efforts are integrated into functions rather than standalone provisions exercised in silos. As indicated above, integration (more specifically IEM) is a forerunner of sustainable development for intergovernmental coordination and harmonisation of legislation and policies.

2.5.2 Principle 2: Wetlands management and planning procedures- section 2(4)(r)

This section of the work focuses on EIAs and its application to wetland conservation. As a point of departure, NEMA and its EIA regulations are the primary sources making provision for EIAs. Due to the fact that wetlands conservation is not contained in one act as demonstrated by the definition of a wetland in paragraph 1.5.1, it is equally crucial to ascertain the manner in which it makes provision in the applicable sections of the NEMA in paragraph 2.5.2 below and the SEMAs discussed in 2.5.2 below.

National Environmental Management Act 107 of 1998

Section 24 of NEMA makes provision for the acquisition of environmental authorisation where the

> "potential consequences for or impacts on the environment of listed activities or specified activities must be considered, investigated, assessed and reported on to the competent authority or the Minister… except in respect of those activities that may commence without having to obtain an environmental authorisation" (South Africa, 1998:21).

The functions of the EMI become relevant with matters relating to EIA authorisations for wetlands. They fall within the ambit of 'competent authority' as NEMA describes this to include an organ of state, and the Constitution makes reference to 'organ of state' as "any department of state or administration; or functionary or institution" (South Africa, 1996: 127).

Sections 24(2), 24(5), 24(D) and 44 of NEMA further mandate the Minister to publish a notice of the activities that will be subject to authorisation. In light hereof, the following listing notices have been published by the Minister: GNR. 327 of 7 April 2017: Environment Impact Assessment Regulation Listing Notice 1 of 2014 (GG No. 40772); GNR. 325 of 7 April 2017: Environment Impact Assessment Regulation Listing Notice 2 of 2014 (GG No. 40772); and GNR. 324 of 7 April 2017: Environment Impact Assessment Regulation Listing Notice 3 of 2014 (GG No. 40772).

With relevance to this study, it is imperative to look at the manner in which EIA regulations cater for wetlands. This is crucial as indicated by the RCSLIG in paragraph 1.6.2 above. As a point of departure, the Listings make provision for both wetlands and watercourses as a listed item. EIAs consists of 3 Listing Notices. For activities in listing notice 1, a basic assessment is the level of environmental assessment applied here. For activities in listing notice 2, scoping and EIA is required for activities falling within this scope. Listing notice 3 relates to activities requiring basic assessment that are undertaken in specific geographical areas. The intricacies of these in relation to wetland management will be discussed later in this study for purpose of completeness. Following is the inclusion of EIAs and the SEMAs as it has bearing on wetland conservation.

Specific Environmental Management Acts

Planning law is key for promoting wetland conservation, and to facilitate the promotion thereof EIAs as a tool is considered. The literature below pertains to ascertaining how EIAs feature within the selected SEMAs for purposes of this study.

In terms of the NEMBA, the Minister has published a national list in GN 1002 of 9 December 2011: National list of ecosystems that are threatened and in need of protection (*Government Gazette* No. 34809). The regulation highlights those wetlands that are at risk. The Notice establishes the following thresholds for wetlands: 3-score are identified critically endangered; 2-score are identified as endangered; and 1-score are identified as vulnerable. The significance of this listing is for the Minister to identify threatening processes in listed ecosystems for which an EIA or authorisation is required before granting one (Kidd, 2011). The EIA Listing Notice 3 lists "Ecosystems" as a geographical area based on environmental attributes that triggers EIA if a specific activity takes place – this is so for every province within the Republic. In terms of the NWA, as noted in paragraph 2.5.1 above, the terms "watercourse" and "water resource" apply to wetlands too. In the same breath, CARA also makes provision for the "water resources". The relevance is that the EIA listing notices 1 and 3 make provisions for the assessment of risk for "watercourses". The confusion or uncertainty that it creates is that a wetland is defined to include an "ecosystem", "water resource" as well as a "watercourse". Therefore, it is unclear which EIA listing Notice (1 or 3) is applicable. This determination is crucial, because if it is an "ecosystem" then a determination must be made as to the national list above regarding its endangered status too. However, if it is a "watercourse" or "water resource", then no such determination is necessary.

The content below provides a structure of the two principles along with their associated acts and core aspects that are of value to this topic to be analysed in chapter 4.

	Principle 1:Inter-governmental coordination and harmonisation of legislation, policies and action	**Topics**
Objectives 1	Ramsar Convention	• Wise use; sustainable use of wetlands
	Constitution of the Republic of South Africa of 1996	• Chapter 3- Cooperative (environmental) governance. • Section 24(b) - Environmental right; Sustainable development • Socio-economic rights

	National Environmental Management Act 107 of 1998	• Definition of environment • Cooperative environmental governance • Environmental management inspector
	National Water Act 36 of 1998	• Chapter 3- Protection of water resources: RQOs.
	• National Environmental Management: Biodiversity Act 10 of 2004; and • Conservation of Agricultural Resources Act 43 of 1983	• Regulations and enforcement of AIS
	National Environmental Management: Integrated Coastal Management Act 24 of 2008	• Fragmented legislation • Amendment to definition of coastal environment
	National Climate Change Response White Paper 2011	• Streamlining and bolstering wetland resilience
Objective 2	**Principle 2: Planning (EIA) for wetlands**	**Topics**
	National Environmental Management Act 107 of 1998	• Section 24: EIA regulations- Listing Notices 1, 2 and 3 • SEMAs (NWA and NEMBA) interplay and enforcement

Chapter 3: Research design

3.1 Introduction

In order to adequately answer the research question, and to address the aims and objectives of this study, it is crucial to set out a scientifically sound method of the manner in which the tools and procedures were utilised. The focus in this chapter is to provide a full account of the approach; strategies; the type of data that is required; the manner in which the data was collected and analysed in order to address the aims and objective, and to ultimately answer the research question.

3.2 Research design

The research design is considered as the blueprint on how the intended research will be conducted (Mouton, 2003: 55). It is considered as the overall plan to the project (Creswell, 2014:107). The element of design refers to the tools/instruments to be utilised but the research component is the first step before identifying instruments of data collection (Gorard, 2013: 7). The research design focuses on the end product; here emphasises is placed on the kind of study being planned and the result it aims to meet (Mouton, 2003: 55). The research design specifies the kind of evidence that is required to address the research question adequately (Mouton, 2003: 55).

An inductive approach was used to address the research question as the researcher worked from a "sample" of texts to come to a proper understanding of a specific domain of scholarship (Mouton; 2003: 180). Wagner *et al* (2010: 229) explained that this involves starting at a specific then moving to a general. Therefore, the research question pointed specifically to two principles, then it looked at it broadly to gauge the deeper meaning. There is a body of international instruments, guidelines, legislation, policies, regulations and scholarly writings that speak to wetlands and the law. A well-integrated and comprehensive literature review was essential for this type of design (Mouton, 2003: 180). The strength of utilising this form of design was that it made provision for good understanding of the debates and issues in this specific area of study current theoretical thinking and definitions (Mouton, 2003: 180).

In order to ascertain whether South Africa was complying with its Article 3(1) obligations in terms of the Ramsar Convention, it was required that a literature review

of the wetland legislative framework was conducted followed by an analysis of the wetland legislative framework. The reasoning behind this was that a literature review provided an overview of scholarship in a certain discipline through an analysis of trends and debates" (Mouton; 2003: 180), which this study wished to address. Machi and McEvoy (2016: 7) define it as simple literature review as it raised a point on the "current state of knowledge on a topic".

In order to determine the overall plan for this study, it was crucial to set out the relevant tools that will be required to address the result that it the study aimed to meet. The research focused on the legal measures that reflect South Africa's response in fulfilling its wise use obligations. Having said this, it is evident that the evidence required to ascertain South Africa's response in the fulfilment of its obligations to meet the legal measures of the wise use standard would, in theory, include observing legal texts, which include the international imperatives, the Constitution of South Africa, Acts, case law and scholarly writings pertaining to wetlands. There were various categories of data/documents, and the category needed to answer the research question adequately must be carefully considered. Furthermore, the type of data/documents were obtained from various media. Subsequently, the data was broken up into patterns to bring to light any gaps, if any, which this study aimed to address.

3.3 Methodology

This particular section begs the 'how' to answer the research question. The methodology refers to the tools and procedures that were used throughout the research process (Mouton, 2003: 56). This section of the work recognises the strategies that were used to adequately answer the research question.

3.3.1 Data sources

The selection of the sources, namely documents and texts were determined by the objectives of the study as well as the research question (Mouton; 2003: 180). The sources that were needed in addressing the objectives of this study are document-based. However, Wagner *et al* (2012; 141) recognises the principal ways of classifying documents: 1. Primary, secondary and tertiary; 2. Public and private documents; and

3. Solicited and unsolicited documents. For purposes of this study, only the first two categories were necessary to consider due to its relevance.

Primary documents refer to materials written by person who have witnessed the events which they describe (Wagner *et al* 2012; 141). Examples such documents are autobiographies (Wagner *et al* 2012: 141). Secondary documents are those that are written by the author which the author has not personally witnessed and may be incomplete (Wagner *et al* 2012: 141). An example of such document is the Life of Julius Caesar written by Shakespeare (Wagner *et al* 2012: 141). Tertiary documents are those that assist researchers to find other references, such as abstracts, indexes and other bibliographies. Examples would include libraries and internet search engines (Wagner *et al* 2012: 141). It is in light of the aforementioned that the relevant documents that were required for addressing part of this study is tertiary in nature as the research that speak to wetland conservation, wise use, inter-governmental coordination and harmonisation of legislation, policies and actions are found in libraries in the form of textbooks and published articles on internet sources.

The second principal way was considering whether public or private documents are required to conduct this research (Wagner *et al* 2012: 141). Private documents are considered as those documents that are not for public viewing and which belong to a specific person or organisation (Wagner *et al* 2012: 141). Public document on the other hand can be open-published documents (Wagner *et al* 2012: 141). Examples of these include government policies and legislation (Wagner *et al* 2012: 141). Due to the nature of the topic, the latter type of document was relevant to wetland conservation and wise use as it includes the Ramsar Convention, Constitution of the Republic of South Africa 1996, NEMA, NWA, NEMBA, CARA, the White Paper NCC and the NEMICMA, along with their policies and regulations, through the lens of the two selected principles of sustainable development.

In light of the above mentioned it is evident that both academic literature and public documents were required to adequately address the research question. They may also be considered to work in harmony: the academic literature was utilised for informing, interpreting and giving meaning to the public documents for later interpretation and

analysis. In other words, published journal and other publications were used as a guide to sections of the acts under investigation.

The above mentioned sources were obtained from various trusted sources. To ensure that the most recent pieces of legal material and writing were utilised, the source were obtained from reliable academic databases: Butterworth/LexisNexis Academic, Juta Publications, Sabinet, HeinOnline and hardcopy academic library sources.

3.3.2 Analysis

An analysis has been described as the "breaking up" of data into manageable patterns, principles, relationships and trends (Mouton, 2003: 108). Subsequent to the analysis, findings were made and the findings were utilised to either support or refute the existing information. The latter stage refers to interpreting the findings. This study is qualitative in nature and the data that was being analysed for this purpose is qualitative data. The method employed with the data collected would have to address the objectives which this study aimed to achieve, these include to determine whether:

1. South Africa's wetland legislative framework aligns with the NEMA obligatory principle of intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment as contemplated by section 2(4)(l) of the NEMA;
   1.2 There is intergovernmental co-ordination (i.e. cooperative governance);
   1.3 Policies, legislation and actions are harmonised; and

2. South Africa's wetland legislative framework is aligned with the NEMA obligatory principle of ensuring that sensitive, vulnerable, highly dynamic or stressed ecosystems, *in casu* wetlands have been given specific attention in planning procedures as contemplated by section 2(4)(r).

A documentary analysis, cited as a domain of documentary research method (Wagner *et al* 2012; 141), were one of the methods used to address the objectives. The documents used to answer the research question are both academic literature and public documents. The public documents (legislation, policies and regulations) were required to be "broken up" into different parts that prescribe to the objectives. The

academic literature was used to give meaning to or the theories applicable to address the objectives as well as the interpreting, where applicable, the public documents.

The second form of analysis was descriptive. This form of analysis required the technique and procedure for identifying, locating, retrieving and analysing documents for their relevance, meaning and significance. Furthermore, this scientific method of presenting research required a critical examination and not merely stating what the Ramsar Convention, Constitution, acts and case law say with regard to the objectives which this study aim to meet. The descriptive analysis entailed disseminating and describing the various pieces of legislation by way of the purpose and applicable sections of each Act as they pertain to wise use. The interpretation of the legislation and policies in itself allowed for the reveal of the existing gaps within the realm of wetland conservation. Once the relevant pieces have been descriptively analysed, the extent of their degrees of compliance with sections 2(4)(l) and 2(4)(r) were unveiled.

It has been stated that the international conventions and acts that are selected for this study for purposes of investigating have so been chosen due to the inclusion of wetland conservation provisions. Furthermore, it must be stated that these acts are, within itself, extensive in nature, and provision for a plethora of not only sections within these acts, but a host of regulations and policies guiding these. It is against this background that only the provision that has bearing on wise use and wetland conservation, through the lens of the two principles, were considered.

Glazewski & Young (2017: 16-43) and Kidd (2011: 136) expressed their opinion on legislation as it pertains to wetlands without a critical in-depth analysis as to the issues at hand. This study intensified the research in the field of analysing wetland law through the lens of the two selected principles, taking into consideration the law as it stands today. It is vital to note that at the time of writing this manuscript, the pieces of legislation and regulations that are being utilised are those currently in force and effect. The present study focuses on selected conventions, acts of parliament and their regulations/policies that give effect to wetland protection through wise use, more specifically through the lens of the two principles of sustainable development. Therefore, the analysis of the existing wetland legislative framework was conducted as well as an analysis of the theories.

3.3.2.1 Analysis of legislation

The concept of wise use has been broadly conceptualised to be interpreted as sustainable development by the Ramsar Administration (2010: 9), De Klemm and Shine (1999: 47) and Birnie & Boyle (2009: 674). Sustainable development is considered as the cornerstone of environmental protection (see paragraph 2.4 above). As mentioned previously, the concept of wise use is not termed in South African law; however, sustainable development is. NEMA, the national environmental framework Act, makes provision for a list of environmental principles to which all organs of state must adhere to. NEMA make these provisions peremptory in nature and no derogation is allowed. There are 18 principles that speak to sustainable development under section 2(4). However, relevant to this study are two principles that provides which sustainable development requires that there "must be intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment"; and that "sensitive ecosystems like wetlands require specific attention in management and planning procedures". Therefore, it is imperative that legislative wetland efforts were interpreted in light of these two sustainable development principles, which served as the basis for this study. With this in mind, the analysis was conducted to ascertain whether the concept of wise use has been infiltrated and legal measures exist through the two selected principles.

In the analysis the relevant sections of the acts and regulations and policies were described in respect of wise use and wetland conservation. Through the enabling provisions of wise use, the acts assign certain administrative powers and functions to key administrators, i.e. departments responsible for environmental affairs. The performance of these functions and duties by these distinct departments must operate like an engine, but in harmony; and it must produce a single output: wise use. The aforementioned speaks to the objective as contained in 1.2 (intergovernmental coordination) above. The description of the various acts has brought to light whether these SEMAs, cumulatively, are harmonised which speaks to objective 1.3 (harmonisation of legislation and policies) above. For the last objective, the requisite documents were analysed and described as it pertains to planning mechanisms for wetland conservation. This analyses were therefore in aid of addressing the objectives of the study, which included international precincts, the South African Constitution, the

NEMA and SEMAs. As indicated previously, the SEMAs were promulgated to give effect to the NEMA, and the latter is obliged to give effect to the constitutional provisions of environmental protection.

3.4 Limitations

As indicated previously that the Acts are extensive in vintage, and comparing each act in its entirety would lead to applying sections of the act that have no bearing on wetland protection, and in essence will escape the funnel through which this study aims to address. Therefore, only the relevant legal measures pertaining to the two selected principles as they apply to wise use were considered for purposes of this study.

Furthermore, each Act that are being analysed has a plethora of regulations guiding the Act. Therefore, the regulations and policies utilised in answering the question were those regulations that are an integral and inseparable part of that particular section/s of the Act. Finally, the NEMA sets out a vast number of sustainable development factors under section 2, but only two were taken into consideration for purposes of this study.

Chapter 4: Analysis and findings

4.1 Introduction

The analysis of the research was conducted in this section of this study. Here, specific reference was made to Table 1 above, where the principles along with the relevant acts (NEMA and SEMAs) were considered through the lens of the topics embedded in them to adequately address the objectives. It should be borne in mind that the research aims to address two objectives, which, in essence, are deduced from the two selected principles. This stage of the analysis focused on providing an exposition of the selected legislative framework as it pertains to wise use, through the two principles. In light hereof, the selected SEMAs and EIA were analysed by way of documentary and descriptive analysis through the lens of principle one which relates to the imperative of intergovernmental coordination and harmonisation of legislation and policies; and secondly through the lens of principle two which relates to the EIA as a planning tool for sensitive ecosystems.

4.2 Principle 1: Cooperative wetland environmental governance and harmonisation- section 2(4)(l)

This section of the study focused predominantly on the selected wetland legislative framework: Ramsar, NEMA, NWA, NEMBA, CARA, White Paper NCC and NEMICMA as set out in Table 1. The corresponding topics as per table 1 were analysed in order to address the objectives of the study, and to later provide an answer to this objective and its two inherent objective study. For ease of reference, the structural content as provided for in chapter 2 below:

	Principle 1:Inter-governmental coordination and harmonisation of legislation, policies and action	Topics
Objectives 1	Ramsar Convention	• Wise use; sustainable use of wetlands
	Constitution of the Republic of South Africa of 1996	• Chapter 3- Cooperative (environmental) governance. • Section 24(b) - Environmental right; Sustainable development • Socio-economic rights
	National Environmental Management Act 107 of 1998	• Definition of environment • Cooperative environmental governance • Environmental management inspector
	National Water Act 36 of 1998	• Chapter 3- Protection of water resources: RQOs.
	• National Environmental Management: Biodiversity Act 10 of 2004; and • Conservation of Agricultural Resources Act 43 of 1983	• Regulations and enforcement of AIS
	National Environmental Management: Integrated Coastal Management Act 24 of 2008	• Fragmented legislation • Amendment to definition of coastal environment
	National Climate Change Response White Paper 2011	• Streamlining and bolstering wetland resilience
Objective 2	**Principle 2: Planning (EIA) for wetlands**	**Topics**
	National Environmental Management Act 107 of 1998	• Section 24: EIA regulations- Listing Notices 1, 2 and 3 • SEMAs (NWA and NEMBA) interplay and enforcement

4.2.1 Ramsar Convention

Under the Ramsar Convention the topic analysed include sustainable use of wetlands. Sands (2003: 253) argued that the interpretation and application of international law should occur in an integrated manner. Wise use as a concept of international law has been interpreted to equate to South Africa's meaning of sustainable development. The legal term wise use *per se* is unknown in a South African legal context. However, the established link between wise use and sustainable development (see 2.3 and 2.4 above) causes the analysis to be considered through this lens. Sands' approach expresses the necessity of conserving, based on its values, wetlands for present and future generations; and integrating wetland environment considerations with developments (see 2.4 above). The last mentioned emphasises the need of planning law mechanisms and the environment to be considered as a whole.

Furthermore, the sustainable development principles as envisaged in the NEMA is a pertinent guideline through which the environmental departments must execute their mandate in order to bolster wetland protection. To reiterate, sustainable development is the cornerstone of wetland environment protection.

4.2.2 The Constitution of the Republic of South Africa of 1996

The topics analysed accordingly included cooperative governance; environmental right and sustainable development; and socio-economic right.

4.2.2.1 Cooperative governance

The supreme law of the land, in terms of Chapter 3, makes provision for the principles of cooperative government. Relevant to this principle is the provisions of section 41(1)(h) of the Constitution that provides that:

> All spheres of government and all organs of state within each sphere must—
> (h) co-operate with one another in mutual trust and good faith by—
> (i) fostering friendly relations;
> (ii) assisting and supporting one another;
> (iii) informing one another of, and consulting one another on, matters of common interest;
> (iv) co-ordinating their actions and legislation with one another;
> (v) adhering to agreed procedures.

The intricate relationship between section 41(1)(h) and wetland conservation is strengthened in that the principle of cooperative government demonstrates that various environmental affairs departments with a wetland management mandate must coordinate and communicate their actions, legislation and procedures with one another. Cumulatively, it informs the constitutional imperative of cooperative governance. The stance is therefore that together these factors become an integral part of each other. Therefore, if one factor in section 41(1)(h) is lacking, then it has a domino effect on the others and ultimately negatively affects cooperative governance. The following topic discusses the realisation of the fundamental right to the environment and sustainable development as a directive to bolster cooperative governance.

4.2.2.2 Environmental right and sustainable development

The fundamentally entrenched environmental right is contained in section 24 of the Constitution. It provides that:

Everyone has the right-

(a) to an environment that is not harmful to their health and well-being; and

(b) to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that-

(i) prevent pollution and ecological degradation;

(ii) promote conservation; and

(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The notion of well-being, it has been stated, refers to the idea of 'sense of place' (Kidd, 2011:23). In the example reference was specifically made to the threat of damage to the natural environment which the author makes direct reference to the St Lucia (Ramsar Site) (Kidd, 2011: 23). This further indicates the importance of wetland conservation. Cooperative governance read with section 24 requires that the government departments responsible for wetland environment legislation prevent pollution and ecological degradation, promote conservation, and secure ecologically sustainable development and use of natural resources through coordination. With cooperative governance and section 24 standing next to each other, it creates an enforceable right by right-holders towards efforts bolstering wetland protection. In the constitutional landmark case of the *Government of the Republic of South Africa and Other v Grootboom and Other 2001(1) SA 46 (CC),* the Constitutional court per Yacoob J held "reasonable legislative and other measures" means that if government passes legislation pertaining to wetlands, then this mere action does not constitute constitutional compliance for purposes of section 24(b) (para. 42). Flowing from legislation must be well-directed policies and programs, and these must be reasonable both in its conception and implementation (para. 42). In other words, the legislative framework for wetlands cannot merely sit dormant in various state departments but it must be effective when conceived, and these various departments implement them holistically, and not in disjointed and incoherent manner. Creating disjunction is not the light in which section 24 was meant to be interpreted in the constitution;

considering the fact that cooperative governance is a constitutional imperative. Failure of the environmental government departments to realise this right may have adverse effect on other fundamental rights like socio-economic rights.

4.2.2.3 Socio-economic rights

As a point of departure, Article 3(1) of the Ramsar Convention mandates member states to apply wise use of wetlands within their territory. In the constitutional court case of *Glenister v President of the Republic of South Africa and Others 2011(3) SA 437 (CC),* it has been confirmed that incorporated international agreements becomes a source of rights and obligations. Considered on a national level, this means that the public may enforce their right to have wetlands protected so that they may enjoy the benefits provided for by these; and the state is obliged to act in a manner that promotes wetland conservation which includes the coordination and harmonisation of policies, legislation and actions relating to the environment. The benefits offered by wetlands for humans are exhaustive (food, shelter, water, aesthetics etc…), and if not conserved and these benefits are foregone, it will have an adverse effect on corresponding socio-economic rights. It is against this backdrop that the Bill of Rights comprises of a number of other clause that are apposite to environmental concerns. These include socio-economic rights like the right to access health care, food, water and social security (Glazewski, 2017: 5). Thus, if the state fails in its duty to conserve wetlands, then the socio-economic rights which the present generations enjoy will be diminished. Liebenberg (2010:83), a leading scholar in socio-economic rights submits that the duty of the state in promoting and protecting the rights of its citizens whether it is social, cultural or political requires a positive duty by the state. Inherent in NEMA are sustainable development principles that makes explicit reference to promoting socio-economic rights through protecting the environment (South Africa, 1998: 17-19), read to include wetlands.

4.2.3 National Environmental Management Act 107 of 1998

The topics under NEMA were analysed, these include the definition of environment; cooperative environmental governance; and the environmental management inspector.

4.2.3.1 Definition of Environment

Due to the nature of the definition for “Environment” (see paragraph 2.2 above) as defined by the NEMA, it must be interpreted as meaning wetland. The word “wetland” is not defined or mentioned in the NEMA. By interpreting “environment” to mean “wetland”, will provide an inclusionary rather than exclusionary interpretation for the conservation of wetlands. The significance of this interpretation is further promoted under paragraph 4.2.6 below. It is vital to realise the manner in which the different environmental departments are required to cooperate on matters as it pertain to the environment.

4.2.3.2 Cooperative environmental governance

The NEMA was promulgated to give effect to section 24(b) of the Constitution, and NEMA’s purpose is

> to provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote cooperative governance and procedures for co-ordinating environmental functions exercised by organ of state; to provide for certain aspects of the administration and enforcement of other environmental management laws; and to provide for matters connected therewith (South Africa, 1998:2).

This further intensifies the need for this study by focusing on wetland conservation through the lens of this principle. It has been submitted that apart from being the overarching framework, acting as a catalyst for IEM and coordinated protection for the environment, it allows for SEMAs to provide greater and more specific protection. Furthermore, it has been submitted that framework legislation has the potential to enhance cooperative governance between ministries (Van der Linde; 2009:194). *In casu* wetland protection includes the DWS, DEA and the DAFF. Within the ministries there are various methods of implementing the said SEMAs, and a crucial implementation mechanism that is more recent in vintage is the EMI.

4.2.3.3 Environmental management inspector

Novel to the field of environmental management and enforcement, is the introduction of the EMI. The necessity of including EMIs in this study is that they perform crucial administrative functions on behalf the departments which they are employed. Section

31(C) of the NEMA refers to the designation an EMI. Section 31D indicates that the Minister or MEC must determine in terms of what Act the EMI will acquire his/her mandate. Furthermore, their functions or duties are important for environmental management as envisaged in section 31G.

The functions of the EMI become relevant with matters relating to EIA authorisations for wetlands, and falls under the umbrella of an organ of state. A detailed discussion follows later in paragraph 4.2.5 below due to the operational functions in respect of sanctioning EIAs.

4.2.4 National Water Act 36 of 1998

The topic under NWA as indicated protection of water resources: RQOs was analysed. The NWA, as in its preamble, aims that water resource management achieves the sustainable use of water recognising the need for the integrated management of all aspects of water resources (which includes wetlands), and protecting the quality of the water resources. The NWA is the mandate of the DWS. Section 2 of the NWA sets out the purpose of the Act to ensure that the nation's water resources are protected, developed, used, conserved, controlled and managed in ways that take into account, *inter alia*, the following factors- those pertinent to this study namely: meeting the basic human needs of present and future generations, protecting aquatic and associated ecosystems and their biological diversity, reducing and preventing pollution and degradation of water resources. A wetland falls within various definitions in the NWA, namely: "wetland", "water resource", and "watercourse", respectively. Therefore, SEMAs that use any of the aforementioned expressions should be construed as to include a wetland in the ordinary sense.

As discussed in paragraph 2.5.1, RQOs have been introduced by the NWA in regulations to enhance water resource protection. Improved water quality is a fundamental function of a wetland. Protection of the wetland environment breathes life into wise use. This is confirmed in its inclusion in the RCSLIG which lists that legal measures that are absent for the management of water quality and quantity hinder wise use (see 1.6.2 above). The significance of RQOs is articulated by the NWA: which it describes to mean the quality of all the aspects of a water resource including:

> the quantity, pattern, timing, water level…; the water quality, including the physical, chemical and biological characteristics of the water; the character and condition of the instream…and the characteristics, condition and distribution of the aquatic biota (section 1).

There are a total of nine (9) water management areas (hereafter WMAs) within the Republic as provided for in the Government Gazette 16 September 2016, No. 40279. At the time of writing this, only seven (7) WMAs have established classification of water resources[1] which establishes RQOs. The setting of RQOs, specifically as it pertains to wetlands, features solely within the mandate of the DWS and cooperation within the regulation is not aimed at being inclusive in nature. Although section 13(4)(a)(ii) of the NWA makes provision for the invitation of comments for the proposed classification and RQOs after the fact, it does not directly vest the inclusion in line with the spirit of cooperative environmental governance. In my opinion, the proposed class and RQO must be established by all affected departments prior to publication for comments. This will circumvent the possible conflict as it pertains to mandates (South Africa, 1996:21), and it could be considered as a procedure for "co-ordinating environmental functions exercised by organ of state" (South Africa, 1998: 2).

The lack of promulgating regulations for the other WMAs, DWS, it appears, on the face of it, is the only department dealing with matters pertaining to RQOs from its inception. This goes against section 41(1)(h)(iii) and infringes on section 24(b) of the Constitution. Additionally, too, in the international spectrum, in its current state, hinders objectives of the Fourth Ramsar Strategic Plan of 2016-2024 which requires the public offices (wetland environment departments) to apply good practices and guidelines for the wise use; and providing services at an appropriate scale at the basin level (WMA) (Ramsar Convention Secretariat, 2016: 23&42). The failure by the state to give effect to the principle of cooperative governance in setting RQOs could lead to diminished water quality and poor water security. This will hamper advancing human rights as guaranteed by the Constitution, and flies in the face of the Ramsar Strategic Plan with matters relating to WMA. It further hampers conservation which is in conflict with the constitutional duty as prescribed for section 24(b)(i and iii) and section 41.

[1] GN 818, GN 819, GN 820, GN 821, GN 822, GN 823 and GN 824.

4.2.5 National Environmental Management: Biodiversity Act 10 of 2004 and Conservation of Agricultural Resources Act 43 of 1983

The topic under NEMBA and CARA as indicated were analysed accordingly. This include the Regulations and enforcement of AIS. The NEMBA in terms of section 70 mandates the Minister or MEC for environmental affairs in a province to publish a national or provincial list, as the case may be, of AIS (South Africa, 2010: 35). In giving effect to this obligation, the national list has been published and identifies AIS within the various provinces in GN 864 of 29 July 2016: Alien and Invasive Species Lists (Government Gazette No. 40166) sets out the various Listings for AIS. What should be noted is the fact that the CARA also makes provision for the listing and identification of AIS (South Africa, 1984: table 3). At least 50% of the same AIS is to be managed and controlled by a different department- the DAFF (discussed in detail in the paragraph below). In light of it all, section 71 of the NEMBA prohibits the carrying out a restricted activity involving a listed AIS without a permit. The said Listings cover all those AIS identified by the IUCN-Ramsar-Global Invasive Species Programme partnership recommendations. The Fourth Ramsar Strategic Plan 2016-2024 obliges contracting parties to prioritise, control or eradicate and manage AIS. This is explicit by its inclusion in section 70 and the regulations to it.

EMIs perform an array of environmental compliance duties, as indicated above. As discussed previously in paragraph 2.5.1 above, agricultural wetland conservation is included in terms of the CARA. However, on the issue of AIS, it has been argued that the control and management of AIS is a NEMBA feature and action lobbied by the SANBI. However, NEMBA regulations 15A, B, C and F makes provision for the following, respectively: 15 A Combating of category 1 plants (plants that may not occur on any land or inland water surface other than in biological control reserves); 15B Combating of category 2 plants (plants may not occur on any land or inland water surface other than a demarcated area or a biological control reserve); 15C Combating of category 3 plants (plants that shall not occur on any land or inland water surface other than in a biological control reserve); and 15 F Provides that nothing contained in these regulations shall derogate in any way from any obligation imposed on any land user in terms if any law.

In light of managing or combating of these plants, the CARA regulations list these categories of plants in its Table 3. As stated in the paragraph above, 50% of the AIS listed and identified by NEMBA regulations are also covered by the CARA regulations. The uncertainty created by the regulations creates a catch 22 regarding “agricultural wetlands.” Is the EMI appointed in terms CARA required to do an assessment as to the 50% AIS and the remaining AIS- though it remains on an “agricultural wetland”, which is regulated by CARA, managed by another environmental department or the SANBI? Another concern is that an EMI empowered by the NEMA or SEMA and CARA, respectively attend to the same AIS as their mandate allows, by reporting on the exact same matters which may lead to duplications in performance of duty and reporting, and inconsistency in data. This also has the potential of instigating conflict among the departments which goes against constitutional provision of fostering friendly relations. Moreso, this flies in the face of cooperative environmental governance. Lastly, Van der Linde’s theory (2009: 194) that sectoral laws, as our SEMAs above, provide greater and more specific protection is flawed by the manner in which the wetland SEMAs are not only out of sync but are conflicting. The RCSLIG listed conflicting sectoral laws as a factor hindering wise use (see 1.6.2 above).

4.2.6 National Climate Change Response White Paper 2011

The topic under the White Paper NCCR was analysed accordingly. This include the streamlining and bolstering wetland resilience. As discussed above (paragraph 1.2), wetlands act as a catalyst in mitigating and adapting to the harsh effects of climate change. The White Paper NCC introduces the streamlining of climate change efforts in protecting ecosystems by providing that “conserve, rehabilitate and restore natural systems that improve resilience to climate change impacts or that reduce impacts, for example wetland ecosystems.” The concept of ecosystem fits within the context of the NEMBA, which is referred to as a function that must be performed by the SANBI. However, climate change affects the wetland in its form of a water resource, watercourse, wetland and ecosystem. Therefore, the effects of climate change affect the DEA, DWS and DAFF. However, in the same breath, it is clear that coordination is lacking in this manner that there are no coordination of actions and legislation, agreed procedures to managing these or informing one another on this common matter of interest, i.e. cohesively bolstering wetland resilience. This leads to a

diminution of upholding the constitutional provisions of section 41(1)(h) (see 4.2.2.1 above).

In terms of the international imperatives, the UNFCCC is an international law instrument which has been established and adopted by the international community in 'response to the threat of climate change and is of direct relevance to mitigation of greenhouse gas emissions' (Abate & Kronk, 2013). Contracting parties to the UNFCCC commit themselves to take action to mitigate the effects of climate change (Dugard, 2011:77). Under the UNFCCC, Article 2 provides that contracting parties should 'within a time frame… allow ecosystems (like wetlands) to adapt naturally to climate change, to ensure that the food production is not threatened' (Birnie & Boyle, 2009: 187). More recently, states, including South Africa, have entered into the Paris Agreement which has been prepared under the guidance of the UNFCCC. Article 8(4)(h) of the Paris Agreement of 2015 emphasises the need for cooperation and facilitation to enhance the understanding, action and support to building resilient ecosystems (United Nations, 2015: 11). Hereby emphasising, from an international perspective, the necessity for these departments to streamline climate change efforts. The United Nations stated unequivocally that "climate change not only exacerbates threats to international peace and security, it is a threat to international peace and security" (Strydom, 2016: 97).

4.2.7 National Environmental Management: Integrated Coastal Management Act 24 of 2008

The topics were analysed accordingly. This include the fragmented legislation; and amendment to definition of coastal environment.

4.2.7.1 Fragmented legislation

The NEMICMA has been included in this study as part of a comparison. The coast offers similar benefits to humans as wetlands. The latter was managed and regulated by an array of legislative frameworks (see 2.5.1 above). The legislature was of the opinion that a single act for the coastal environment would bolster protection (see 2.5.1 above). However, opting for a single act for wetlands is not the purpose of this study, but protection through cooperative environmental governance is. Therefore, through this innovation the definition of a coast has been amended too.

4.2.7.2 Amendment to definition of coastal environment

Section 28 of the NEMA provides that 'every person who causes, has caused significant degradation of the environment must take reasonable measures to prevent such pollution or degradation'. This is termed the duty of care and remediation of environmental damage clause. In line with NEMA, section 58(1)(b)(ii) of the NEMICMA interprets the term "Environment" to include the coastal environment. Lemine (2012: 76) therefore states that "considering this, the NEMA provision therefore reads that 'significant pollution or degradation of the coastal environment'".[2]

4.3 Principle 2: Wetlands management and planning procedures- section 2(4)(r)

As discussed in paragraph 2.4.2, an EIA is a planning tool that provides essential information upon which decisions will be made before an activity may be executed, as it applies to wetlands. The Ramsar administration stated that ecological character of wetlands is maintained or restored, through effective planning and integrated management (see 1.5.1 above). Furthermore, at the heart of this study is Article 3(1) of the Ramsar Convention which instructs contracting parties to formulate and implement their planning to promote the conservation of wetlands (see 1.5.1 above).

4.3.1 National Environmental Management Act 107 of 1998

The topics were analysed accordingly. This include the section 24: EIA regulations- listing notices; and the SEMAs interplay and enforcement of EIAs

4.3.1.1 Section 24: EIA regulations- Listing Notices 1, 2 and 3

Section 24 of NEMA makes provision for the acquisition of environmental authorisation where the

> potential consequences for or impacts on the environment of listed activities or specified activities must be considered, investigated, assessed and reported on to the competent authority or the Minister… except in respect of those activities that may commence without having to obtain an environmental authorisation.

Section 24(1A) sets out a list of prescribed requirements that every applicant must comply with (NEMA, 1998). Section 24(2) of NEMA sets out the power of the Minister

[2] Section 58*(i)(b)(i).*

or MEC, with concurrence of the Minister, in identifying activities that may commence without environmental authorisation, and those in need as set out below.

> The Minister, or an MEC with the concurrence of the Minister, may identify—
>
> (*a*) activities which may not commence without environmental authorisation from the competent authority;
>
> (*b*) geographical areas based on environmental attributes, and as specified in spatial development tools adopted in the prescribed manner by the environmental authority, in which specified activities may not commence without environmental authorisation from the competent authority;
>
> (*c*) geographical areas based on environmental attributes, and specified in spatial development tools adopted in the prescribed manner by the environmental authority, in which specified activities may be excluded from authorisation by the competent authority;
>
> (*d*) activities contemplated in paragraphs (*a*) and (*b*) that may commence without an environmental authorisation, but that must comply with prescribed norms or standards:
>
> Provided that where an activity falls under the jurisdiction of another Minister or MEC; a decision in respect of paragraphs (*a*) to (*d*) must be taken after consultation with such other Minister or MEC.

In light of the abovementioned provisions, it is clear that cognisance is had to certain areas that are considered as no-go areas for specified activities. For example, if a wetland falls within a specific area and a company wishes to develop within that specific geographical area, that company might have to apply for authorisation from the competent authority before the commencement of such an activity. In identifying the competent authority, section 24(C)(2)(d) stipulates that this includes:

> (i) a national department;
>
> (ii) a provincial department responsible for environmental affairs or any other organ of state performing a regulatory function and reporting to the MEC; or
>
> (iii) a statutory body, excluding any municipality, performing an exclusive competence of the national sphere of government;

With NEMA's definition of the 'competent authority' it is read to include an EMI, through the meaning of an organ of state, as envisaged in the Constitution.

It is imperative to look at the extent of which EIA regulations cater for wetlands due to the RCSLIG. The EIA Listings items a “wetland”, “watercourse” (as defined in the NWA) and “ecosystem” (as defined in the NEMBA). For activities in Listing notice 1, these activities are smaller scale activities for which the impacts are reasonably known and can be easily managed. For activities in listing notice 2, scoping and EIA is required for activities falling within this scope; here activities are considered to be higher risk activities that are likely to have significant impacts on the environment that cannot be easily predicted. Listing notice 3 relates to activities requiring basic assessment that are undertaken in specific geographical areas. In respect of the aforementioned description of each Listing and the definitions (ecosystem, wetland and watercourse) the significance is that an “ecosystem” is marked in EIA Listing Notice 3 only. However, a “wetland” and “watercourse” are marked in EIA Listing Notices 1 and 2. There are no guidelines categorising these “distinct” systems. This creates legal uncertainty, and where uncertainty exists, it has the potential of bringing about discord (see paragraph 2.4.1. above). It is equally important to analyse EIA and its enforcement through the lens of the relevant SEMAs.

4.3.1.2 The SEMAs interplay and enforcement of EIAs

To reiterate, wetlands are not subject to the mandate of a single department, and in the listings at times it is described as a wetland and other as a watercourse (see paragraph 4.3.1.1). The significance lies in the fact that a watercourse is the term utilised by NWA for which DWS is responsible and wetland is the term used by the other departments. Thus, if the provincial DEA is identified as the competent authority, how are they permitted to usurp powers of another department, namely DWS, or make decisions on an Act for which they do not have a mandate for? Also worthy of mentioning here is that SANBI is also not the competent authority as envisaged in section 24(C)(2)(d)(iii) (see above 4.5). This may also lead to shifting of responsibility in that no department may accept or consider the application. This creates the governance problems as recorded by Strydom & King, Bosman, Kotze and du Plessis (paragraph 2.4.1 above) of stifling service delivery due to a lack of proper mandate and accountability. Furthermore, this creates uncertainty to the public as to which department an application should be submitted, and could lead to friction between government departments. The conclusion is therefore that actions here are uncoordinated. This is ironic considering the rationale and purpose of EIAs, and the

averment that environmental policy serves to strengthen cooperative environmental governance. Furthermore, Bosman, Kotze and du Plessis aver that the lack of accountability flies in the face of good governance (see 2.4.1 above). Furthermore, government departments are constitutionally bound to consulting and informing one another on this matter of common interest, coordinating their actions, agreeing to procedures and adhering to it (see 4.4 above).

The Ramsar administration advised that countries are giving effect to the Ramsar by way of incorporating wetlands and wise use measures into national laws and regulations on EIA (see 1.6.2 above). Wise use includes “integrating environmental impact assessment (EIA) into planning of projects which might affect the wetland” (Ramsar Convention Secretariat, 2010). South Africa should however be lauded for, though not well coordinated, its effort for including wetland matters into EIAs.

4.4 Conclusion

This analysis has presented inherent fragmentation, duplications and inconsistencies within the wetland legislative framework, which frustrates the ideal of wise use. In the following chapter conclusions are drawn and recommendations will be made in an effort to bolster wetland conservation.

Chapter 5: Conclusions and recommendations

5.1 Introduction

In this chapter conclusions were made based on the analysis conducted in chapter 4 of this study. These conclusions were made against the backdrop of the two objectives which this study aimed to achieve, by way of the two principles. The first principle is divided into two sub-objectives and the second principle is an objective on its own. Subsequent to drawing the conclusions on each of the objectives, recommendations were made in order to bolster compliance, where apposite, of sections 2(4)(l) and 2(4)(r) of the NEMA as it pertains to wetland conservation and wise use.

5.2.1 Principle 1: Cooperative wetland environmental governance and harmonisation- section 2(4)(l)

This is cited as a single objective but has been divided into two sub-objectives. Ironically, the two sub-objectives inform the entire principle 1 as a collective. In other words, they are co-dependent. Thus, if the one sub-objective is found to be non-compliant, irrespective of the positive extent of compliance of alternative sub-objective, the entire principle 1 would not have been satisfied.

5.2.1.1 Harmonisation of policies, legislation and actions

Through the analysis of the documents as it pertains to wetland conservation and wise use, it is evident that the legislation, policies and the lack thereof (see paragraph 4.3.2.1 above), and action are not harmonised. Issue of biodiversity in terms of the NEMBA is not streamlined with climate change imperatives in terms of the White Paper NCCR (see paragraph 4.2.6.1). To further exacerbate the issue, regulations that were passed to guide legislative decision-making appears to duplicative in nature and incomplete (see paragraph 4.2.5.1 above). The action taken and those expected to be taken by key environmental enforcement role players namely, the EMI, are not harmonised. These are with specific reference as it pertains to EIAs (see paragraph 4.3.1.2 above) and AIS enforcement (see paragraph 4.2.5.1 above). Not a single element (legislation, policies or action) as it pertains to bolstering wetland conservation is successfully achieved for this objective. This already places the first objective of this study at risk.

5.2.1.2 Intergovernmental co-ordination (i.e. cooperative environmental governance)

The premise is that if the objective discussed under paragraph 5.2.2.1 above has been determined to not be fulfilled, then it would be almost impossible for this objective to have been fulfilled. This is confirmed in paragraph 4.2.2.1 above which provides that the intricate relationship between section 41(1)(h) and wetland conservation is strengthened in that the principle of cooperative government demonstrates that various environmental affairs departments with a wetland management mandate must coordinate and communicate their actions, legislation and procedures with one another.

The wetland environmental law departments should take positive steps in executing section 41 constitutional duties in order to bolster cooperation and coordination (see paragraph 4.2.2 above). These departments vested with the power of wetland administration include DWS, DAFF and the DEA (see paragraph 4.2.2 above). The failure by these departments in executing these would have an adverse effect on their section 24 constitutionally entrenched duty (see paragraph 4.2.2 above) and will, instead of advancing human rights, hamper the realisation of human rights (see paragraph 4.2.2 above).

Furthermore, the SEMAs fail to enhance cooperative governance between the ministries (DEA, DAFF and DWS) of wetland environmental matters. The failure to bolster cooperative wetland environmental governance leads to the failure of implementing the Ramsar Convention (see paragraphs 4.2.1.1 and 1.6.2 above). When there is no cooperative governance, whether failure to perform or duplicating, it has the effect of stifling service delivery. Thus, it will have an adverse effect on other socio-economic (see paragraph 4.2.2.3 above) but also fundamental human rights (see paragraph 2.4.1 above).

With regard to principle 1, there appears to be inconsistencies among the selected SEMAs regulating wetlands (see 4.4 above). It is evident that legislation as well as the wetland departments' actions is not coordinated (see 4.4 above). In light hereof, this in is conflict with the enabling provisions of the international wetland imperatives (see

1.2, 1.5.1 and 1.6.2), the Constitution (see 1.6.3, 2.4, 2.4.1 and 4.4 above) and NEMA (see 1.6.4, 2.4, 2.4.1, 2.4.2 and 2.5.2 above). There is no intergovernmental coordination; and legislation, policies and actions are not harmonised and therefore, objective one, in its entirety, has been determined to not have been fulfilled. Consequently, it constitutes a breach of the Ramsar Convention.

5.2.2 Principle 2: Wetland management and planning procedures- section 2(4)(r)

This study focussed on wetlands as it applies to EIAs. However, the potential threat of damage to this sensitive ecosystem is the fact that the different definitions or meanings of wetlands are used. A wetland is read to mean an ecosystem, water resource, and watercourse. But the legislative framework does not reflect that wetlands encompass all of the above. Although provision for wetlands is made, there are inconsistencies that exist that could hamper the implementation of the planning procedures (see paragraphs 4.3.1.1 and 4.3.1.2 above). This objective, on the face of it, has been determined to have been fulfilled, however inherent issue hamper deeper fulfilment as raised in paragraphs 4.3.1.1 and 4.3.1.2 above.

The state has a fiduciary duty *vis-à-vis* its citizens to protect the environment and therefore bolster human rights; and thus it has to protect by the direct and indirect application of legislative measures (see 4.4 above). The responsible environmental departments should be held liable for their inaction (see 4.4 above). Furthermore, there is no co-ordination of legislation and policies, and cannot be expected that state environmental departments', as organ of state, actions must be automatically co-ordinated. The aforementioned flies in the face of section 2(4)(l). On the face of it, partial fulfilment has been achieved but more should be done to achieve the objective.

5.3 Recommendations

It is evident that effort has been made to respond and give effect to wise use. However, this study has indicated that legal reform is required in respect of certain legal measures to bolster coordination of legislation, policies and government's actions on the one hand and the betterment of EIAs on the other hand. In ascertaining South Africa's legal measures taken in response to the wise use obligations, in my opinion, the answer is in law.

5.3.1 Principle 1

The recommendations flowing from this principle cover the main objective and two sub-objectives. The two latter objectives encapsulate what the main objective (which is principle 1) aims to address. The recommendations focus on including wetlands in the NEMA definition; bolstering water resource protection; and regulation and enforcement of AIS.

5.3.1.1 Definition of environment to include wetland

NEMA is the overarching environmental management Act. Due to the abovementioned analogy, the NEMA should also be amended to read to include the "wetland environment" as section 1(v) within the definition as follows: "surroundings within which humans exist and that are made up of-

(i) the land, water and atmosphere of the earth;

(ii) micro-organisms, plant and animal life;

(iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and

(iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being

(v) ***the wetland environment*** **(amended to include)**."

The effect is that wetland protection will be read to be inclusive in nature and not in piecemeal.

5.3.1.2 Integrated decision-making for setting RQOs

In order to give effect to section 24(b) of the Constitution it is crucial that, firstly, regulations be passed for the remaining two WMAs (see paragraph 4.2.4.1 above). Ironically, this failure to have established regulations for the remaining two WMAs could be utilised as a pilot in promoting better coordination and cooperation among organ of state. Secondly, the NWA should be amended to include that the "*Minister* [insert: in concurrence with affected departments] *must prescribe a system for classifying water resources".* Section 41(1)(h)(iii) of the Constitution requires that they consult one another on matters of common interest (see paragraphs 2.5.2, 4.2.2.1 and 4.3.1.2 above). The recommendation is that the departments address wetland conservation as part of the agenda when decisions are made, then agree on procedures in addressing these matters and adhere to them. Moreover, attention must be afforded by each department (DEA, DWS and DAFF) by way of a specific mandate

that will ensure that RQOs are coordinated. In this way it could lead to fulfilment of the constitutional imperative of fostering friendly relations (see 4.4 above).

5.3.1.3 Regulations and enforcement of AIS

With regards to the AIS Lists, it is important that the departments, specifically DEA, ensure that it updates and amends the AIS list in line with the IUCN-Ramsar-Global Invasive Species Programme (see 2.5.1 above). Controlling, eradication and managing AIS is an integral part of the Ramsar Strategic Plan 2016-2024 (see paragraph 2.5.1 above). The Programme advances protection and research with regards to AIS (see 2.5.2 above). To avoid duplication of duties by the CARA and other department's EMI (see 2.5.1 above), it is recommended that the DAFF has *carte blanche* to investigate AIS issues in "agricultural wetlands". The EMI is at the heart of the administration and implementation of environmental legislation and enforcement (see paragraph 2.5.2 and 4.2.3.3 above). Well trained and capacitated staff are needed to effectively execute wetland management issues. Climate change is an international concern (see 1.2 above); causing a threat to both the wetlands and humans. The recommendations here include lessons learnt from other jurisdictions in ascertaining how to integrate climate change into legislative frameworks which has the effect of extending the fostering of interstate relationships.

5.3.2 Principle 2

South African planning law must be lauded for incorporating wetland considerations within the body of planning (see paragraphs 4.3.1.1 and 4.3.1.2 above). However, inclusion does not necessarily conclude compliance if the said provisions are inconsistent with the purpose for which it was created. It is clear that for EIAs pertaining to wetlands, there were inconsistencies and uncoordinated efforts which lead to everyone's business but no one's job (see paragraph 4.3.1.2 above). The adequacy of this tool in its current form abrogates Ramsar's Article 3(1); instructing contracting parties to coordinate planning mechanisms that bolsters sustainable use of wetlands (see 1.5.3 above). Environmental risk assessments in the form of EIAs is key in ensuring that the environment is protected, and risk thereto has to be carefully considered, investigated, assessed and reported on (see 2.5.1 above). The anthropocentric approach to environmental protection through people and the natural

environment relationship cannot be overemphasised (see paragraphs 1.2, 1.6.3.1, 2.2, 2.3 and 2.4.1 above).

EIAs as a crucial planning tool that provides the competent authority with critical information to ascertain whether authorisation should be granted (see paragraph 2.4.2 above). Development places extreme pressure on wetlands (see paragraph 2.4.2 above). Here specifically developments that draws on the aesthetic features of a wetland. However, due to the unpredictable and complex nature (flooding, for example) of a wetland, it could endanger human life. Therefore, the recommendation is that the competent authority must be trained and kept abreast on wetland-specific EIAs, and not applying generic elements. Considering the present and future benefits of a wetland- it is imperative that administrative and criminal consequences should be enforced in this regard as advocated in section 29 and 34 of the NEMA (South Africa, 1998, 34 and 45).

With regards to finding the competent authority between DEA and DWS for wetland management, again the element of sustainable development through cooperation is key (see paragraph 4.3.1.2 above). The recommendation is that when an EIA affecting a wetland is lodged, the application should be with the DEA. The rationale is that within the DEA there are various units (biodiversity, air quality, protected areas etc…) and these departments have an input in this application. Similarly, the application should be forwarded to DWS for commenting and approval as they are the custodians of South Africa's water generally, and various wetland provisions emanates from this Act. Thus, through consultation, the concerned departments should draft an EIA DEA-DWS Partnership Wetland Environment Policy which sets out the procedures, functions and powers on which this application will be considered. It should be noted that NEMA and EIA regulations are time bound for decision-making, and these must be taken into consideration when drafting the policy. This will ensure that the ambit of taking reasonable legislative measures were taken.

There is alignment between the terms "wetland", "water resource" and "water course" as they apply equally throughout SEMAs; in this that they may all be construed to include wetlands (see paragraphs 2.5.1, 2.5.2, 4.3.1.1 and 4.3.1.2 above). However, an ecosystem may include a wetland but it could be broader than that. Therefore, the

definition of an ecosystem in the NEMBA should be amended to read: *"means a dynamic complex of animal, plant and micro-organism communities and their non-living environment interacting as a functional unit* [insert: including the wetland environment]". Without this it could read as an omission rather than inclusion. Therefore "wetland environment" should be included in this definition. With this inclusivity it would bolster wetland planning and management which upholds the Ramsar Convention, article 3(1). Furthermore, the definition of the coast was amended to coastal environment to afford it better protection (see paragraph 1.6.3.7 above). Similarly, an amendment of wetlands to the wetland environment, may afford the wetlands better protection.

In the field of environmental resource economics, the monetary value of wetlands is underestimated by, seemingly, the manner in which planning omits to take into consideration the nature and service provided by wetlands. Therefore, the recommendation is that the economics of this resource should be put at the disposal of the departments to realise the budget that will be required by departments in the near future if these ecosystems disappear. A simple example would be engineering for the functions of a wetland. In the most recent conference, COP13, held during 21-29 October 2018, the Secretary-General of Ramsar stated in an opinion piece that "wetlands contribute to all 17 SDGs (sustainable development goals). Their conservation, wise use, and restoration represents a cost-effective investment" (Ramsar Secretariat, 2018).

It is evident that the extent of the fulfilment of the legal obligations within South Africa's current body of wetland legislative framework is not fully realised. Furthermore, it is similarly unrealistic to expect an overnight amendment of the law whilst reasonableness is a constitutional standard as envisaged in Grootboom and section 24 of the Constitution. The research above lucidly proves that law reform is required to make for better compliance in the realisation of advancing environmental protection and human rights.

Lobbying for a single wetland Act for the conservation of the wetlands was not the aim of this study; there is no indication that this will be the ideal. International and national laws are adamant at proving that cooperative governance is key to promoting the wise

use of wetlands. In order to grasp the protective measures designed for wetlands as a whole, it requires the consideration of the various descriptions the SEMAs adopt for it. These include, but are not limited to, watercourse, water resource and ecosystem. In the absence hereof, ascertaining data that relates merely to “wetlands” would be unfitting. Although the approach is that SEMAs are intended to bolster cooperative environmental governance, it appears that the further Achilles heel for wetlands conservation is the regulations and guidelines that are promulgated to advance the spirit of the SEMAs. For purposes of this study it included the EIAs, AIS and RQOs regulations. This especially occurs where the SEMA empowers the competent authority of a particular environmental department to make regulations and pass guidelines. Thus the SEMAs, at times, appear to be a façade that allows for unilateral decision-making with total disregard for other wetland departments. The regulations are a key foundational implementation tool, as it guides decision-making.

Fast forwarding into the future, it will be interesting to have one department of environmental affairs, with the various departments and units working under the same roof, with the same goals, under a single ministry.

6. Bibliography

Books

Birnie, P., Boyle, A.E. 2009. *International Law and the Environment.*2ed. London: Oxford University Press.

Creswell, J. W. 2014. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*.4ed. Thousand Oaks, CA: Sage.

Currie, I. & De Waal, J. 2013. *Bill of Rights Handbook*. 6ed. Cape Town: Juta & Company.

de Vos, P. 2015. *South African Constitutional Law in Context*. Cape Town: Oxford University Press.

Dugard, J. 2011. *International Law- A South African Perspective*. 4ed.Cape Town: Juta & Company.

Falkenmark, M & Rockstrὸm, J.2005. *Balancing Water for Human and Nature.* UK: Earthscan.

Glazewski, J. 2005. *Environmental Law in South Africa.* 2ed. Durban: Butterworths/LexisNexis.

Gorard, S.2013 *Research Design Creating Robust Approaches for the Social Sciences* (ed) London: Sage.

Howard, G.W. & Matindi, S. 2003. *Alien invasive species in Africa's wetlands: some threats and solutions.* Nairobi: IUCN.

Kidd, M. 2011. *Environmental Law.* 2ed Cape Town: Juta & Company.

Kumar, R., McInnes, R.J., Everard, M., Gardner, R.C., Kulindwa, K.A.A., Wittmer, H. and Infante Mata, D. 2017. Integrating multiple wetland values into decision-making. Ramsar Policy Brief No. 2. Gland, Switzerland: Ramsar Convention Secretariat.

Machi, L., McEvoy, B. 2016. *The literature review: six steps to success.* 3ed. California: Corwin.

McNabb, D. 2015. *Research methods for political science Quantitative and Qualitative methods.* 2ed. New York: Routledge.

Mouton, J. 2001*. How to succeed in your Master's and Doctoral studies A south African guide and resource book. Van Shaik Publishers*

Ramsar Convention Secretariat. 2018. Global Wetland Outlook: State of the world's wetlands and their services to people 2018. Gland, Switzerland.

Ramsar Convention Secretariat. 2010. Laws and institutions: Reviewing laws and institutions to promote the conservation and wise use of wetlands. Ramsar handbooks for the wise use of wetlands, 4th edition, vol. 3. Switzerland: Ramsar Convention Secretariat.

Ramsar Convention Secretariat. 2010. National Wetland Policies: Developing and implementing National Wetland Policies. Ramsar handbooks for the wise use of wetlands, 4th edition, vol. 2. Switzerland: Ramsar Convention Secretariat.

Ramsar Convention Secretariat. 2010. Wise use of wetlands: Concepts and approaches for the wise use of wetlands. Ramsar handbooks for the wise use of wetlands, 4th edition, vol. 1. Switzerland: Ramsar Convention Secretariat, Gland.

Ramsar Convention Secretariat. 2016. The Fourth Ramsar Strategic Plan 2016–2024. Ramsar handbooks for the wise use of wetlands, 5th edition, vol. 2. Switzerland: Ramsar Convention Secretariat.

Sands, P. 2003. *Principle of International Environmental Law* (2ed) Cambridge: Cambridge University Press.

Strydom, H. 2016. *International Law* Cape Town: Oxford University Press South.

Chapters in books

Abebe, Y.D.2003. Wetlands of Ethiopia: an introduction. In Abebe,Y.D. & Geheb, K (eds) *Wetlands of Ethiopia Proceedings of a seminar on the resources and status of Ethiopia's wetlands.* International Union for Conservation of Nature and Natural Resources: EARO publications.

Algotsson, E. 2009. Biological Diversity. In Strydom HA and King ND (eds) *Environmental Management in South Africa.* 2ed. 97-125.

Bosman, C. and Kidd, M. 2009. Water Pollution. In Strydom HA and King ND (eds) *Environmental Management in South Africa.* 2ed. 860.

Day, J.A. 2009. Rivers and Wetlands. In Strydom HA and King ND (eds) *Environmental Management in South Africa.* 2ed. 860.

Devine, D.J. 2009. International Environmental Law. In Strydom HA and King ND (eds) *Environmental Management in South Africa.* 2ed. 126-164.

Glavovic BC and Cullinan C. 2009. The coast in Strydom HA and King ND (eds) *Environmental Management in South Africa* 2ed. 868-920.

Glazewski, J. & Young, C 2017. Wetlands and/or estuaries in Glazewski J (eds) *Environmental Law in South Africa.* 3ed. Durban: Butterworths/LexisNexis.

Jurpie, W. 2009. Environmental Management Resources Economics In Strydom HA & King ND (eds) *Environmental Management in South Africa*.2ed. 860. Environmental Resources Management 34-67.

King, N.A., Maree, G. and Muir, A. 2009. Freshwater Systems. In Strydom HA and King ND (eds) *Environmental Management in South Africa.* 2ed. 425-454.

Muller, K. 2009 Environmental Governance in South Africa. In Strydom HA & King ND (eds) *Environmental Management in South Africa.* 2ed. 68-95.

Nel, J.G and Kotze, L.J. 2009. Environmental Management: An Introduction. In Strydom HA & King ND (eds) *Environmental Management in South Africa*.2ed. 1-33.
Van der Linde, L. 2009. National Environmental Management Act 107 of 1998. In Strydom HA & King ND (eds) *Environmental Management in South Africa.* 2ed. 193-221.

Case law

Fuel Retailers Associations of SA v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province 2007(6) SA 4 (CC).

Glenister v President of the Republic of South Africa and Others 2011

Government of the Republic of South Africa and Other v Grootboom and Other 2001(1) SA 46 (CC).

Hichange Investments (Pty) Ltd v Cape Produce Co (Pty) Ltd t/a Pelts Products 2004 (2) SA 393 (E).

HTF Developers (Pty) Ltd v The Minister of Environmental Affairs and Tourism and Others 2007 (5) SA 438 (SCA).

Huyssteen NO and Others v Minister of Environmental Affairs and Tourism and Others 1995(9) BCLR 1191 (C).

Internet

World Wildlife Fund *'Half of the World's wetlands have disappeared since 1900. Development and conversion continue to pose major threats to wetlands, despite their value and importance*
http://wwf.panda.org/about_our_earth/about_freshwater/intro/threats [accessed on 9 March 2018].

Bergkamp, G Exploring collaboration between the Convention on Wetlands (Ramsar, Iran 1971) and the UN Framework Convention on Climate Change. https://www.ramsar.org/sites/default/files/documents/library/dn1999-9papere.pdf [accessed on 14 May 2018].

Ramsar Secretariat, COP13 https://www.ramsar.org/about-the-cop13 [accessed on 28 October 2018].

Journal and magazine articles

Couzens, E. and Dent, M. 2006.Finding NEMA: The National Environmental Management Act, The De Hoop Dam, Conflict Resolution and Alternative Dispute Resolution in Environmental Disputes. *PER/PELJ,* 2: 1-43, March.

De Klemm, C. & Shine, C. 1999. Wetlands, Water and the Law Using law to advance wetland conservation and wise use. Environmental Policy and Law Paper No. 38.

De Villiers, B. 1997. Intergovernmental Relations in South Africa. *South African Public Law,* 1: 18-25, October.

Du Plessis, W. 2008. Legal mechanisms for cooperative governance in South Africa: Successes and failures. *SAPR/PL*, 23: 5-33, April.

Scholtz, W. 2004. Introduction of Environmental Management Cooperation Agreements in South Africa. *South African Journal of Environmental Law and Policy*, 1:31 – 51, June.

Legislation and International instruments

GNR. 327 of 7 April 2017: Environment Impact Assessment Regulation Listing Notice 1 of 2014 (GG No. 40772).

GNR. 325 of 7 April 2017: Environment Impact Assessment Regulation Listing Notice 2 of 2014 (GG No. 40772).

GNR. 324 of 7 April 2017: Environment Impact Assessment Regulation Listing Notice 3 of 2014 (GG No. 40772).

GNR. 636 of June 2018: Draft Climate Change Bill (GG 41689).

GNR. 509 of 2016: General authorisation in terms of section 39 of the National Water Act, 1998 (Act No 36 of 1998) in terms of section 21(c) and (i) for the purpose of rehabilitating a wetland for conservation purposes (GG No. 40229).

South Africa, 1935. *Sea-shore Act 21 of 1935.* Pretoria: Government Printer.

South Africa, 1980. *Dumping at Sea Act 73 of 1980.* Pretoria: Government Printer.

South Africa, 1983. *Conservation of Agricultural Resources Act 43 of 1983*. Pretoria: Government Printer.

South Africa, 1992. *Transkei Environmental Conservation Decree 9 of 1992.* Pretoria: Government Printer.

South Africa, 1998. *National Environmental Management Act, No. 107 of 1998*. Pretoria: Government Printer.

South Africa, 2000. *White Paper for Sustainable Coastal Development of April 2000.* Pretoria: Government Printer.

South Africa, 2004. *National Environmental Management: Biodiversity Act 10 of 2004.* Pretoria: Government Printer.

South Africa, 2004. *National Environmental Management: Protected Areas Act 10 of 2004*. Pretoria: Government Printer.

South Africa, 2008. *National Environmental Management: Integrated Coastal Management Act 24 of 2008.* Pretoria: Government Printer.

South Africa, 2011. *National Climate Change Response White Paper of 2011*. Pretoria: Government Printer.

South Africa, 2012. *National Estuarine Management Protocol GNR 336 of 35296 of 4 May 2012*. Pretoria: Government Printer.

South Africa, 1998. *National Environmental Management Water Act, No. 36 of 1998*. Pretoria: Government Printer.

United Nations Convention on Biological Diversity of 1992.

United Nations Framework Convention on Climate Change 1992

United Nations Paris Agreement of 2015.

Thesis

Booys, E.J. 2012. *An assessment of the adequacy of the present legal regime for the conservation of wetlands and estuaries in South Africa.* Bellville: University of the Western Cape.

Lemine, B. J.2012 *The role of local government in the implementation of the NEMICMA- case study of the City of Cape Town By-Law.* Bellville: University of the Western Cape.