

FACULTY OF LAW

UNIVERSITY OF THE WESTERN CAPE

BALANCING THE MARINE ECOSYSTEM THROUGH THE PROTECTION  
OF ESTUARIES

Mini-thesis submitted in partial fulfilment of the requirements for the MPhil  
degree

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## DECLARATION

I declare that ***Balancing the Marine Ecosystem through the Protection of Estuaries*** is my own work, that it has not been submitted before for any degree or assessment in any university, and all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

Signed .....  .....

Date: 31/10/2017

This mini-thesis has been submitted for examination with my approval as the designated supervisor.



.....

Professor W Scholtz

University of the Western Cape

Date.....

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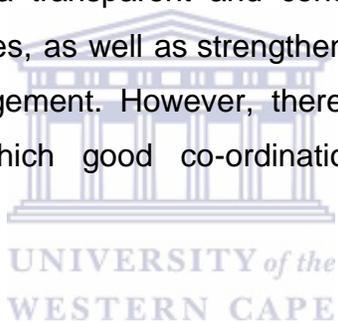


## ABSTRACT

Estuaries are highly productive types of ecosystems worldwide and of considerable value, yet are some of the most degraded systems on earth. South African estuaries are widely distributed across the State and cover a diversity of geomorphological types. In South Africa, a number of studies have shown that estuaries contribute significantly to the local and national economy. International law has put measures and principles in place to protect estuaries; and South Africa has adopted those measures and principles. The country already has legal instruments to protect estuaries, which include the National Environmental Management Integrated Coastal Management Act. Several challenges pertaining to estuary management in South Africa remain as degradation continues. Few estuaries are regarded as near pristine and the vast majority are vulnerable to a range of threats influencing terrestrial, freshwater and marine systems. The greatest threat facing estuaries globally is human behaviour. There is less planning done to protect estuaries; the focus is on economic development opportunities and approval procedures, such as, port and related facilities, public facilities, mariculture and aquaculture, tourism, leisure and recreation, and lastly, mining among them. Emphasis in this priority area is on local economic development. However, co-operative governance is required to assist in estuarine management and protection to promote sustainable coastal development.

Given the importance of estuaries and their vulnerability, there is a need to consider protecting many more via co-operative environmental governance as it is its constitutional mandate. The aim of the study is two-fold. First, to conduct a critical analysis of existing environmental and international law instruments to address the problem, co-operative governance and its implications for the concept of sustainable development with special reference to the safeguarding of estuaries; and secondly, identify challenges that are being faced by co-operative governance in estuary management.

The Constitution of the Republic of South Africa 1996 is the influential document in addressing challenges. The study argues that, despite much progress towards legislation development, there is still more that co-operative governance can do in terms of its legal duties to protect estuaries and its ecosystem. The study and findings depended largely on available literature. This study shows that, although there are several legislative documents that support the concept of co-operative governance, especially co-operative environmental governance, many issues still influence the success of co-operative governance in South Africa in order to fulfil its mandate to protect and manage estuaries. For the purposes of this study, recommendations clearly indicate how these challenges can be overcome to ensure that co-operative governance achieves its legislated mandate with regards to estuarine management. More emphasis is placed on making use of Environmental Management Co-operation Agreements (EMCAs) in order to build a transparent and cohesive process between the major authorities governing estuaries, as well as strengthening the definition of an estuary for proper administrative management. However, there is also a need to establish co-ordinating structures of which good co-ordination is the key to dealing with fragmentation.



## KEYWORDS

Coastal waters

Conservation

Co-operative governance

Constitution

Environment

Environmental governance

Estuaries

Integrated Coastal Management

Legislation

Management

Marine ecosystem

Protection

Sustainable Development

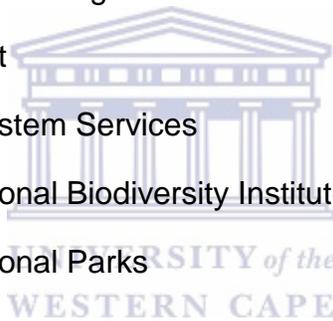
Sustainability



## ABBREVIATIONS AND ACRONYMS

CBD	Convention on Biological Diversity
CITES	Convention on International Trade and Endangered Species of Wild Fauna and Flora, 1973
CMP	Coastal Management Plan
DAFF	Department of Agriculture, Forestry and Fisheries
DEA	Department of Environmental Affairs
DWS	Department of Water and Sanitation
DMR	Department of Mineral Resources
EIA	Environmental Impact Assessment
EIPs	Environmental Implementation Plans
EMCA	Environmental Management Co-Operation Agreement
EMI	Environmental Management Inspector
EMP	Environmental Management Plan
EMRI	Environmental Mineral Resource Inspector
GESAMP	Group of Experts on the Scientific Aspects of Marine Environmental Protection
GG	Government Gazette
GN	Government Notice
GNR	Government Notice Regulation
IDP	Integrated Development Plan
ICM Act	National Environmental Management: Integrated Coastal Management Act
ICM	Integrated Coastal Management
IUCN	International Union for the Conservation of Nature and Natural Resources
MARPOL	International Convention for the Prevention of Pollution from Ships

MLRA	Marine Living Resource Act
MEC	Member of Executive Committee
MPA	Marine Protected Area
MoU	Memorandum of Understanding
NBA	National Biodiversity Assessment
NCMP	National Coastal Management Programme
NEM:BA	National Environmental Management: Biodiversity Act
NEM:PA	National Environmental Management: Protected Areas Act
NEMA	National Environmental Management Act
NEMP	National Estuarine Management Protocol
NWA	National Water Act
PES	Payment of Ecosystem Services
SANBI	South African National Biodiversity Institute
SANParks	South African National Parks
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific, and Cultural Organization
USEPA	United State Environmental Agency
WWF	World Wildlife Fund



## CHAPTER 1

### ESTUARIES: A KEY MEANS OF CONSERVING THE MARINE ECOSYSTEM

#### 1.1 Background

At the close of the 20th century, the conservation of marine biodiversity became a serious challenge that required international co-operation.<sup>1</sup> The Stockholm Conference recognised the importance of estuaries<sup>2</sup> which are among the most productive ecosystems in the world. Estuaries are very vulnerable to anthropogenic activities<sup>3</sup> and the primary concern, worldwide, was the effect of pollution on them.<sup>4</sup> Direct physical alteration and destruction of habitats<sup>5</sup> are now viewed as arguably the most important single threat to the coastal environment.<sup>6</sup> This makes estuaries amongst the most endangered areas in the world. The major challenge that is being faced is the management thereof.<sup>7</sup>

There are several international instruments that are pertinent to estuarine protection, such as, the United Nations Convention on the Law of the Sea of 1982 (UNCLOS),<sup>8</sup> the Convention on International Trade in Endangered Species of Wild Fauna and Flora of

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<sup>1</sup> White Paper on the National Environmental Management of the Ocean (GN 426 in GG 37692 of 29 May 2014).

<sup>2</sup> United Nations Environmental Programme *Coastal and Marine Areas: State of the Environment and Policy Retrospective 1972–2002* (2002):180.

<sup>3</sup> Morant P & Quinn N 'Influence of man in the management of South African Estuaries' in Allan BR & Baird D (eds) *Estuaries of South Africa* (1999) 289-320.

<sup>4</sup> Grant A, Hateley JG & Jones NV 'Mapping the ecological impact of heavy metals on the estuarine polychaete *Nereis diversicolor* using inherited metal tolerance' (1989) 20 *Marine Pollution Bulletin* 235.

<sup>5</sup> Lenfest Ocean Program 'Decline of World's Estuaries and Coastal Seas has accelerated in last 150-300 years - New study tracks human impact on coastal marine ecosystems from roman times to present day' *Lenfest News & Publication* 01 June 2006.

<sup>6</sup> Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) *Protecting the Oceans from Land-Based Activities - Land-based Sources and Activities Affecting the Quality and Uses of the Marine, Coastal and Associated Freshwater Environment* 71 (2001) 28.

<sup>7</sup> Wolanski E & Ducrotoy JP (ed) *Estuaries of the world* (2013) 17.

<sup>8</sup> United Nation Convention on the Law of the Sea, 1982 (1982) 21 *ILM* 1261, Section 5 makes provision for States to adopt "international rules and national legislation to prevent, reduce and control pollution of the marine environment"; Article 207 clearly states that the adoption of such laws and regulations to prevent, reduce and control pollution of the marine environment from land based activities should include estuaries.

1973 (CITES),<sup>9</sup> the International Convention for the Prevention of Pollution from Ships of 1973, as modified by the Protocol of 1978 relating thereto (MARPOL);<sup>10</sup> the Convention on Biological Diversity of 1992 (CBD),<sup>11</sup> and the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention) of 1971.<sup>12</sup> Soft law instruments include Guidelines for the Designation of Special Areas; and the Identification of Particularly Sensitive Sea Areas. However most of these instruments do not specifically address estuaries. They just form the basis for States to develop their own legislation and policy in this regard. It is only the Ramsar Convention of 1971 that seeks to facilitate the conservation and wise use of all wetland areas through local, regional and national action and international co-operation.<sup>13</sup>

Worldwide, States have implemented these instruments at a national level using a wide variety of tools to protect the marine environment and its ecosystem. One of the key tools which has been mostly utilised is the establishment of Marine Protected Areas which basically prevent the exploitation of the marine ecosystem by human development and activities.<sup>14</sup> However, studies have confirmed that protected areas frequently do not correlate with biodiversity conservation priorities.<sup>15</sup>

The Global Estuarine Systems Technical Report which was released in 2010 indicated that the global estuarine abundance had increased by 16 per cent.<sup>16</sup> Temperate estuarine species had shown a near two-and-a-half-fold increase in population

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<sup>9</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973 (1973) 12 *ILM* 1085.

<sup>10</sup> International Convention for the Prevention of Pollution from Ships, 1973 (1973) 12 *ILM* 1319.

<sup>11</sup> United Nations Conference on Environment and Development: Convention on Biological Diversity, 1992 (1992) 31 *ILM* 818.

<sup>12</sup> Convention on Wetlands of International Importance Especially as Waterfowl Habitat, 1971 (1971) 11 *ILM* 1972.

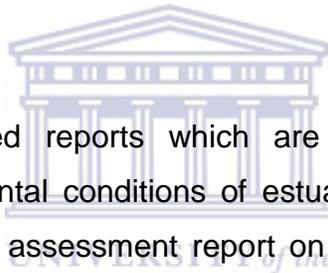
<sup>13</sup> Ramsar Convention Secretariat *The Ramsar Convention Manual: a guide to the Convention on Wetlands (Ramsar, Iran, 1971)*, 6<sup>th</sup> ed (2013) 7. The Manual states the five major wetland types are generally recognised and which include estuaries.

<sup>14</sup> Techera EJ & Troniak S *Marine Protected Areas Policy and Legislation Gap Analysis: Fiji Islands* (2009) 19.

<sup>15</sup> Bakarr MI & Lockwood M Establishing protected areas in: Lockwood M, Worboys GL & Kothari A (eds) *Managing protected areas – a global guide* (2006) 195–222.

<sup>16</sup> Deinet S, McRae L, De Palma A et al. The Living Planet Index for Global Estuarine Systems Technical Report (2010) 2 available at [assets.panda.org/downloads/lpi\\_estuaries\\_project\\_report\\_final.pdf](http://assets.panda.org/downloads/lpi_estuaries_project_report_final.pdf) (accessed 31 July 2016).

abundance by 2005, with temperate fish populations doubling over the same period. Bird populations, especially from temperate regions, appeared to be in a good state relative to 1980 levels, with abundance more than doubling by 2005. Even though the overall global estuarine fish populations remain steady around the baseline, there was a dramatic decline of 43 per cent by 2005 in abundance tropical systems and 74 per cent by 2002 in tropical fish species. Populations of specialist fish species, which are highly dependent on estuarine systems, decreased by 20 per cent between 1980 and 2002. There was a decline of 75 and 43 per cent of vertebrate abundance, while populations from estuarine locations listed as not threatened quadruple in abundance by 2002. Estuarine wildlife populations from areas of high human population density decreased more than those from areas of low human population density, but this is mediated by a regional effect, with tropical abundance trends decreasing and temperate trends increasing.<sup>17</sup>



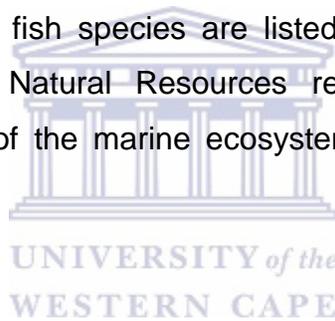
Several States have produced reports which are science-based comprehensive assessments of the environmental conditions of estuaries, and which resulted in the development of a world ocean assessment report on overall biodiversity. The United Nations did integrated assessment of estuary conditions and coastal habitats globally. Reports have been provided on the condition of individual estuaries or groups of estuaries within a broad area. Where possible, the results given in the reports were converted into a report card score on a scale of one to four (very good, good, poor, and very poor) and the date of assessment recorded. In addition, a trend for overall condition was extracted (declining, stable or improving) and the timeframe over which the trend was observed was recorded. Based on published assessments for 103 areas, the global condition of estuaries is poor overall. The published assessments gave a very poor rating in 31 areas, a poor rating in 32 areas, good in 31 areas, and a very good rating in only eight areas. It is argued that these results are biased by the fact that many studies are carried out in affected areas and hence the scores are skewed (i.e., the overall poor rating is influenced by the many studies that are conducted in affected systems). On the other hand, many of the available assessments are based on only a

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<sup>17</sup> Deinet S, McRae L, De Palma A et al. (2010) 3-4.

few measured variables (typically related to water quality or fisheries) and they do not give an overall (integrated) picture of the health and condition of estuarine ecosystems. This factor can influence the outcome of a non-integrated assessment for systems in which the impact is not measured by the parameters used.<sup>18</sup>

In South Africa also, the situation is no different as the marine environment is an integral part of the natural and cultural heritage of the country.<sup>19</sup> Marine ecosystems, such as estuaries, have become vulnerable to human interference<sup>20</sup> due to increasing urbanisation<sup>21</sup>, industrialisation,<sup>22</sup> agricultural activities,<sup>23</sup> mining<sup>24</sup> and over-population<sup>25</sup> affecting the marine ecosystem, causing irreversible damage to coastal and deep-sea environments and decimating stocks of living marine resources.<sup>26</sup> Habitat degradation and increasing human pressures on estuaries have led to species being endangered.<sup>27</sup> Some South African estuarine fish species are listed on the International Union for Conservation of Nature and Natural Resources red list.<sup>28</sup> Climate change also exacerbates the deterioration of the marine ecosystem of the western and southern coasts of South Africa.<sup>29</sup>



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<sup>18</sup> United Nations UN *World Ocean Assessment: Estuaries and Deltas* (2016).

<sup>19</sup> Kenchington RA *Managing Marine Environments* (1990) 221.

<sup>20</sup> Allanson BR, Baird D & Heydorn AEF 'Perspectives' in: Allanson BR & Baird D (eds.) *Estuaries of South Africa* (1999) 321-8.

<sup>21</sup> van Dolah RF, Calder DR, Knott D M. 'Effects of dredging and open water disposal on benthic macro-invertebrates in a South Carolina estuary' 1(1984) 7 *Estuaries* 28.

<sup>22</sup> Whitfield AK, 'Fish community structure response to major habitat changes within the littoral zone of an estuarine coastal lake' (1986) 17 *Environ. Biol. Fishes* 41.

<sup>23</sup> Campbell IC & Doeg TJ 'Impact of timber harvesting and production on streams: a review' (1989) 40 *Aust. J. Mar. Freshw. Res.* 519.

<sup>24</sup> Chevallier R *Illegal Sand Mining in South Africa' Policy Briefing 116: Governance of Africa's Resource Programme* (2014).

<sup>25</sup> Seitzinger S & Kroeze C 'Global distribution of nitrous oxide production and n inputs in freshwater and marine and coastal ecosystems' (1998) 12 *Global Biogeochemical Cycles* 93.

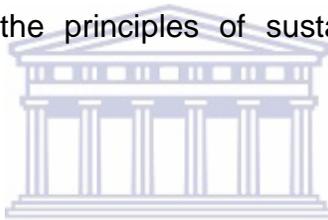
<sup>26</sup> Alvani J, Boustani F, Tabiee O. et al. 'The effects of human activity in Yasuj area on the health of Stream City' (2011) 5 *World Academy of Science, Engineering and Technology* 296.

<sup>27</sup> Atkinson L & Clark B Background research paper: marine and coastal ecosystems South Africa environment outlook national state of the environment project marine and coastal ecosystems October (2005).

<sup>28</sup> Kimball LA *International Ocean Governance - Using International Law and Organisations to Manage Marine Resources Sustainably* (2003) 33; Van der Elst RP & Beckley L 'Conservation of South African marine fishes' in Verdoorn GH & le Roux J (eds). *The State of South Africa's Species* (2001) 126-39.

<sup>29</sup> Turpie J K *Estuaries component of the National Spatial Biodiversity Assessment for development of South Africa's National Biodiversity Strategy and Action Plan* (2004) 30.

In South Africa, section 24 of the Constitution of the Republic of South Africa 1996 (Constitution) includes a right to an environment that is not harmful to people's health or well-being. The Constitution further requires the promulgation of reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.<sup>30</sup> Furthermore, in the Constitution, co-operative governance is regarded as a necessary precursor to effective environmental protection.<sup>31</sup> In view of the emphasis on sustainable development in section 24, this indicates that co-operative governance is a tool for the promotion of sustainable development. Hence, framework legislation in the form of the National Environmental Management Act (NEMA) was promulgated.<sup>32</sup> The NEMA prescribes an array of statutory mechanisms for achieving co-operative governance<sup>33</sup> and places an emphasis on the principles of sustainable development<sup>34</sup> and co-



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<sup>30</sup> Section 24 of the Constitution states: 'everyone has the right—  
(a) to an environment that is not harmful to their health or wellbeing; 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.'

<sup>31</sup> Paterson AR, Kotze LJ & Albie S (eds) *Environmental Compliance and Enforcement in South Africa Legal Perspectives* (2009) 33.

<sup>32</sup> Act 107 of 1998.

<sup>33</sup> Chapter 3 of the NEMA.

<sup>34</sup> Section 2 states: - 'the principles apply throughout the Republic to the actions of all organs of state that may significantly affect the environment and-

- (a) shall apply alongside all other appropriate and relevant considerations, including the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of categories of persons disadvantaged by unfair discrimination;
- (b) serve as the general framework within which environmental management and implementation plans must be formulated;
- (c) serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment;
- (d) serve as principles by reference to which a conciliator appointed under this Act must make recommendations; and
- (e) guide the interpretation, administration and implementation of this Act, and any other law concerned with the protection or management of the environment.'

operative governance<sup>35</sup> The NEMA is meant to assist in ensuring that the environmental right in the Constitution is promoted.<sup>36</sup>

In recognition of the broad definition of 'environment' in the NEMA,<sup>37</sup> the government established a holistic approach acknowledged as Integrated Coastal Management (ICM).<sup>38</sup> This is a process that consists of the establishment of a legal and institutional framework necessary to ensure that development and management plans for coastal zones are integrated with environmental (including social) goals and are made with the participation of those affected.<sup>39</sup>

Hence, the National Environmental Management: Integrated Coastal Management Act, 28 of 2008 (ICM Act) came into effect in December 2009. This was the first legal instrument in South Africa to manage the coastline, including estuaries, in an integrated fashion to ensure the sustainable use of the coastal natural resources and to manage activities of the people in the coastal zone in order to promote sustainable development.<sup>40</sup> One of the reasons for this Act was to conserve the coastal environment and to maintain the coastal landscape and seascape. The challenge with the ICM approach is that it must inevitably function within a complex legal framework, most of

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<sup>35</sup> The purpose of the Act is 'to provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance....'

<sup>36</sup> Section 24 of the Constitution requires the promulgation of reasonable legislative and other measures.

<sup>37</sup> In terms of S1 of Act 107 of 1998 'environment' means the 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.'

<sup>38</sup> Ministry of Environmental Affairs and Tourism *White Paper for Sustainable Coastal Development in South Africa* (2000).

<sup>39</sup> Post JC & Lundin CG *Guidelines for Integrated Coastal Zone Management* (1996). Refer to objectives of Act.

<sup>40</sup> Integrated Coastal Management is a process defined in terms of sustainable development. Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) *The contributions of science to Integrated Coastal Management* 61(1996) 4. 'In order to commit to making progress towards the goal of sustainable development and therefore achieving a balance between both development and conservation; ICM must aim to combine and harmonize investment in development with conservation of environmental qualities and functions.'

which pre-dates the concept of ICM and was created for different purposes.<sup>41</sup> In addition, this approach requires effective integration of expertise from natural and social science, in conjunction with principles of co-operative governance, in order to reach a balanced and sustainable development of the coastal zone.<sup>42</sup>

Fragmented environmental management is not unique to South Africa; and the context in which estuary management takes place is not exceptional. Existing legislation is for specific management and control of human activities that pose threats to the environment; and that disintegrates the management and enforcement capacity between various national and provincial governments. Co-operative governance is seen as a key requirement for the success of proper estuary management in terms of the ICM Act.<sup>43</sup> The definition of 'coastal management' in the ICM Act includes monitoring and enforcement of compliance with laws and policies that regulate human activities within the coastal zone, with each province to take all reasonably practical measures to monitor and enforce compliance.<sup>44</sup> Furthermore, the object of the Act is to provide, within the framework of the NEMA for the co-ordinated and integrated management of the coastal zone by all spheres of government in accordance with the principles of co-operative governance.

## 1.2 Problem statement

Land based activities are the most important source of marine ecosystem degradation and represent risks to the promotion of sustainable development. In South Africa, the environmental legislation that regulates such activities is largely adequate but not

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<sup>41</sup> Eremina TR & Stetsko EV Legal Provision for Integrated Coastal Zone Management: Available at <http://www.unesco.org/csi/act/russia/legalpro5.htm> (accessed 18 February 2016).

<sup>42</sup> Moksness E, Dahl E & Stottrup J (eds) *Global Challenges in Integrated Coastal Zone Management* (2013) xiii.

<sup>43</sup> Chapter 5 of the ICM Act details the institutional arrangements that would, once implemented, contribute to co-operative coastal governance in South Africa. These arrangements are made at national, provincial and municipal government levels, and the embodiment of co-operative coastal governance is vested in what will be known as coastal committees.

<sup>44</sup> Section 38 makes provision to designate a provincial organ of State to function as the lead agency for coastal management in the province.

properly enforced. This legislation affirms sustainable development<sup>45</sup> which is also included in section 24 of the Constitution. Section 24 of the South African Constitution makes it clear that 'ecologically sustainable development' is to be secured, while 'promoting justifiable economic and social development.' Sustainable development is a fundamental principle, and a number of cases in the Constitutional Court have succeeded during the adjudication of environmental issues.<sup>46</sup> Every development is a consistent imperative of the principle of sustainability. This merely shows the constitutional imperative of sustainable development in decision making concerning the protection of the environment.

Pursuing the sustainable development model, importantly, co-operative governance is a constitutional mechanism to sustainable development, to 'secure the well-being of the people of the Republic,'<sup>47</sup> to provide services in an environmentally sustainable manner<sup>48</sup> and to promote a safe and healthy environment.<sup>49</sup> Schedules 4 and 5 of the Constitution<sup>50</sup> list the environment and marine resources<sup>51</sup> as functional areas of concurrent national and provincial legislative competence.<sup>52</sup> It is clear that within the sections and schedules of the Constitution, the three spheres of government have been given obligations with regards to sustainable development and the protection of the

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<sup>45</sup> Section 2 of the NEMA makes provision for the concept of sustainable development to guide any organ of State when taking any decision concerning the protection of the environment; Section 24(b) of the NEMA places a positive obligation on the State to make decisions "that would ensure the protection of the environment and to execute this governance function in a manner that would ensure sustainable development. The objective of the ICM Act is to establish a system of integrated coastal and estuarine management in the Republic, including norms, standards and policies, in order to promote the conservation of the coastal environment, maintain the natural attributes of coastal landscapes and seascapes, and ensure that development and use of natural resources within the coastal zone is socially and economically justifiable and ecologically sustainable.

<sup>46</sup> *BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation, Environment and Land Affairs 2004 (5) SA 124 (W) at 140E-151H* It has been argued that the balancing process failed in the decisions of *BP Southern Africa*. The argument holds that the case masks a bias towards an economically weighted approach, which in these situations, gives an environmentally friendly outcome as it resulted in the prevention of an environmentally degrading activity.

<sup>47</sup> Section 41 of the Constitution.

<sup>48</sup> Section 152(1)(b) of the Constitution makes provision for local government to ensure the provision of services to communities in a sustainable manner.

<sup>49</sup> Section 152(1)(d) of the Constitution

<sup>50</sup> Schedule 4 and Schedule 5 of the Constitution make provision for "functional areas of exclusive provincial legislative competence."

<sup>51</sup> McLusky DS & Elliott M (3<sup>rd</sup> ed) *The Estuarine Ecosystem: Ecology, Threats and Management* (2004) 216. McLusky & Elliott state that 'estuary is subjected both to marine and riverine influences'

<sup>52</sup> Schedule 4 of the Constitution 135.

environment. The notion of co-operative governance, inherited a fragmented administration, dividing government departments amongst the different environmental features, which resulted in fragmented application of environmental legislation. This constitutional imperative and fragmented legislation obviously create acute and complex problems.

Integrated coastal management has been identified as an ideal measure for the promotion of sustainable coastal development and management. The ICM Act also firmly establishes co-operative governance as a vehicle for the promotion of sustainable coastal development in South Africa. Even though constitutional and legislative mechanisms have been put in place at the provincial level of government to monitor and enforce compliance in coastal waters, this is still a challenge.<sup>53</sup> Considering the local circumstances and that the success of the ICM Act to promote sustainable development requires co-operative governance, it is vital to determine whether estuaries have received sufficient recognition by co-operative governance in South Africa and, if co-operative governance is effective, the estuaries will be properly protected and managed; thus the goals of sustainable development will probably be attained.<sup>54</sup>

### **1.3 The protection of estuaries as an environmental governance challenge**

Development in the estuaries is mostly driven by economic interests and made up of a range of complex problems. In attempting to address these approaches more effectively, the role of co-operative governance has been identified as a vehicle towards more effective estuary management in order to promote sustainable development.<sup>55</sup> Co-operative governance is an important component of the South African environmental

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<sup>53</sup> Glazewski J & Haward M 'Towards integrated coastal area management: a case study in co-operative governance in South Africa and Australia' (2005) 20 *The International Journal of Marine and Coastal Law* 65.

<sup>54</sup> United Nations, United Nations Development Programme Sustainable Development Goals: Goal 14 'Conserve and sustainably use the oceans, seas and marine resources' Available at <http://www.undp.org/content/undp/en/home/sdoverview/post-2015-development-agenda.html>, (accessed 29 February 2016).

<sup>55</sup> Nealer EJ & Naudé M 'Integrated co-operative governance in the context of sustainable development' (2011) 7 *The Journal for Transdisciplinary Research in Southern Africa* 105.

governance effort and is provided for and mandated by the constitutional framework.<sup>56</sup> The NEMA contains provisions for institutions and procedures for co-operative governance to promote sustainable development in all matters affecting the environment.<sup>57</sup> The mere fact that the legal framework enables co-operative governance to secure the wellbeing of the people of the Republic and promote sustainable development in relation to estuary management does not necessarily mean that they transpire in practice. The overlapping of the functions of the various spheres of government limits effective decentralisation and delegation and creates different standards across the country.<sup>58</sup>

Within the ICM Act, the National Estuarine Management Protocol (Protocol) is the recommended approach for establishing a broad alignment of estuarine management on a national and regional scale.<sup>59</sup> The development of such Protocol is the responsibility of the Ministry of the Environment in concurrence with the Ministry of Water Affairs. This merely shows that co-operative government has a role in protecting and managing estuaries. The Protocol was promulgated in May 2013<sup>60</sup> and contains a guiding principle to 'maintain and/or restore the ecological integrity of South African estuaries by ensuring that the ecological interactions between adjacent estuaries, between estuaries and their catchments, and between estuaries and other ecosystems, are maintained.'<sup>61</sup> The prescribed content for this Protocol includes: a strategic vision and objectives;<sup>62</sup> management standards;<sup>63</sup> procedures or guidelines on how to manage estuaries and which authorities should undertake such management;<sup>64</sup> and details

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<sup>56</sup> Chapter 3 of the NEMA entitled 'Procedures for Co-operative Governance', which provides procedures for the compilation of Environmental Implementation Plans by certain scheduled National and Provincial Government Departments.

<sup>57</sup> Chapter 2 states the institutions that are responsible for environmental management and Chapter 3 states the procedures for co-operative governance.

<sup>58</sup> Steytler N (eds) 'Local government in South Africa: Entrenching decentralised government' *The place and role of local government in federal systems* (2005) 183.

<sup>59</sup> Section 33 of the ICM Act provides for the preparation of the Protocol that should govern wetlands.

<sup>60</sup> GN. 341 in GG. 36432 of 10 May 2013.

<sup>61</sup> Paterson AR 'Connectivity Conservation Law through the eyes of the Greater Cederberg Biodiversity Corridor' in Leuzinger LD, Farrier D, Gromilova M et al. (2013) *The Legal Aspects of Connectivity Conservation- Case Studies* (2013) 66 (hereafter *The Legal Aspects of Connectivity Conservation*)

<sup>62</sup> Section 33(3)(a) of the ICM Act.

<sup>63</sup> Section 33(3)(b) of the ICM Act.

<sup>64</sup> Section 33(3)(c) of the ICM Act.

regarding estuarine management plans where it is anticipated provincial and local government authorities will be required to prepare for estuaries situated in their jurisdictions.<sup>65</sup> In principle, the Protocol set the scene for co-operative governance to develop and implement the Estuary Management Plans. Thus far, less than 10 per cent of the Estuarine Management Plans have been developed.<sup>66</sup> The development of an Estuary Management Plan is the responsibility of the Estuary Management Committee that must be established by the local authority, which is made up of representatives from local government, State agencies responsible for managing estuary resources, members of the community, and researchers.<sup>67</sup>

In addition to this, section 69 of the ICM Act governs the effluent discharge in coastal waters, including estuaries, which was previously governed by the Department of Water and Sanitation under the National Water Act (NWA).<sup>68</sup> The issuing of coastal discharge permits under the ICM Act is still at an early stage as it only commenced in 2014. At the same time, the estuaries are still categorised as water resources under the NWA due to the fact that fresh water and saline water resources have their meeting place in the coastal zone, creating unique and sensitive estuarine habitats.<sup>69</sup> Therefore estuaries require to be looked after in order to prevent further depletion of the water resources.

The ICM Act makes provision for 'each provincial lead agency within a province to take all reasonably practical measures to monitor compliance, and to enforce the Act.'<sup>70</sup> Even though constitutional and legislative mechanisms have been put in place to enable management to take place at the provincial level of government to monitor and enforce compliance in coastal waters, this is still a challenge.<sup>71</sup> The nature of estuary

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<sup>65</sup> Section 33(3)(d) and (e) of the ICM Act.

<sup>66</sup> Van Niekerk L & Turpie JK (eds) *South African National Biodiversity Assessment Technical Report (2011)* 3 37.

<sup>67</sup> Van Niekerk L *A Framework for Regional Estuarine Management: A South African Case Study (2007)* 22 (hereafter *A Framework for Regional Estuarine Management*)

<sup>68</sup> Act 1998, Act 36 of 1998.

<sup>69</sup> Chapter 1 of the National Water Act No. 36 of 1998 in Section 1(ix) defines an estuary as a 'partially or fully enclosed body of water (a) which is open to the sea permanently or periodically; and within which the sea water can be diluted, to an extent that is measurable, with fresh water drained from land.'

<sup>70</sup> Section 38(2)(h).

<sup>71</sup> Glazewski J & Haward M (2005) 20.

management requires a combination of diverse skills which cut across a number of sectors and spheres of government. With regard to the institutional structure, the main challenges seem to be at the provincial and municipal levels. The overlapping of the functions of the various spheres of government limits effective decentralisation and delegation and creates different standards across the country.

Chapter 4 of the ICM Act promotes the conservation, sustainable use and protection of estuaries through the preparation of management plans and the specification of management authorities. Although the ICM Act defines municipalities' responsibilities, such as the establishment of estuary management plans, coastal management programmes and coastal access to land, municipalities do not have the budget for this. These shortcomings hamper the achievement of the constitutional mandate. In fact, ineffective co-operative governance worsens activities that pose threats to estuaries.<sup>72</sup>

#### 1.4 Definition and importance of estuaries

Internationally, there is no legal recognised definition of an estuary, only a scientific one. An estuary is a semi-closed coastal body of water that has a free connection with the open sea and within which sea water is measurably diluted with fresh water derived from the land.<sup>73</sup> In terms of the ICM Act an estuary is 'a body of surface water that is part of a water course that is permanently or periodically open to the sea; in which a rise and fall of the water level as a result of the tides is measurable at spring tides when the water course is open to the sea; or in respect of which the salinity is measurably higher as a result of the influence of the sea'.<sup>74</sup> Variations in climate, topography and catchment geology give rise to a wide variety of estuarine types in South Africa. In this context five major types of estuaries have been recognised based primarily on broad

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<sup>72</sup> Van Niekerk L & Taljaard S *A framework for effective co-operative governance of South African estuaries* (2003).

<sup>73</sup> Cameron WM & Pritchard DW 'Estuaries' in Hill MN (eds) *The Sea* 2<sup>nd</sup> ed (1963) 306-24.

<sup>74</sup> Chapter 1 of the ICM Act.

physical features.<sup>75</sup> These are (1) estuarine lakes, (2) estuarine bays, (3) river mouths, (4) permanently open estuaries, and (5) temporarily open estuaries.

Estuaries are important for ecological, social and economic purposes. They provide opportunities for marine and harbour development; fishing and mariculture; raw material harvesting; boating and swimming.<sup>76</sup> Estuarine ecosystems produce plants and animals that are used directly by people therefore they supply food and building materials as well as a source of medication. Estuaries are vital for the health of the oceans providing essential ecosystem services, such as, freshwater flows to the marine environment, replenishment of nutrients and organic material to coastal habitats, flood and sea storm protection, carbon sequestration, safe bathing areas, and cultivation of plants for biofuels without freshwater. Estuaries comprise a key component of coastal and marine ecosystems as spawning grounds,<sup>77</sup> often called the nurseries of the sea,<sup>78</sup> contributing significantly to overall fisheries production.<sup>79</sup> The tidal, sheltered waters of estuaries also support unique communities of plants and animals especially adapted for life at the margin of the sea.<sup>80</sup> Many marine organisms, including most commercially important fish species, depend on estuaries at some point during their development and rely on the sheltered waters of estuaries as protected spawning places.<sup>81</sup> Estuaries also filter sediments and pollutants which in turn creates cleaner and clearer water, thereby benefitting the marine life.<sup>82</sup> The coast's beauty and diversity, with its estuaries, make it an attractive place to visit and live at. The ecosystems services provided by estuaries are fundamental life-support processes upon which all organisms depend.<sup>83</sup>

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<sup>75</sup> Whitfield AK 'A characterization of Southern African estuarine systems' (1992) 18 *South African Journal of Aquatic Sciences* 89.

<sup>76</sup> Hay D & McKenzie M *Managing Estuaries in South Africa: A step by step guide* (2005) 1.

<sup>77</sup> Hutchings L; Roberts MR & Verheye HM 'Marine environmental monitoring programmes in South Africa: a review' (2009) 105 *S. Afr. J. Sci.* 94.

<sup>78</sup> Ecological Society of America *Communicating Ecosystem Services: Marine Nurseries Fact Sheet Revealing Secrets about Marine Nurseries Areas* (2010).

<sup>79</sup> [Qasim SZ](#) *Indian Estuaries* (2003) 10.

<sup>80</sup> United State Environmental Protection Agency 'Basic information about estuaries (2015) available at <https://www.epa.gov/nep/basic-information-about-estuaries> (accessed 28 March 2016).

<sup>81</sup> [Young ST](#) & [Dhandu KK](#) *Essentials of Sustainability for Business* (2012) 108.

<sup>82</sup> Oelofse S & Strydom W *CSIR perspective on water in South Africa* (2010) 31.

<sup>83</sup> Daily GC, Alexander SP, Ehrlich R et al. *Ecosystem Services: Benefits Supplied to Human Societies by Natural Ecosystems: Issues of Ecology* 2 (1997) 9.

### 1.4.1 South African estuaries

Recent studies indicated that the future health of South Africa's estuaries is dependent on their direct management and the quantity and quality of freshwater inputs.<sup>84</sup> There are approximately 300 functional estuaries in South Africa. The management has now been considered under the ICM Act and water allocation is considered under the NWA. The scientific information on the overall South African estuaries health status is occasional but available on individual estuaries; however, for some there is none.

A study to assess the ecological status of estuaries within the eThekweni Municipal Area was also undertaken; 16 estuaries of the EThekweni coastline were assessed. The health of an estuary is usually measured by determining if:

- i. The key physical processes which maintain estuarine habitats are functioning;
- ii. The expected diversity of biota at different trophic levels is present; and
- iii. Impact from human activities is resulting in a degradation of habitats, loss of goods and services or unacceptable changes to a system.

Outcomes from the study of EThekweni estuaries resulted in the placement of the respective systems into one of five categories:

- I. Excellent: Estuaries with high level of habitat integrity, good water quality, high diversity and high provision of goods and services;
- II. Good: Estuaries with most of the core estuarine habitat and estuarine support habitats still present, good water quality, diversity of habitats and species and estuarine processes in place;
- III. Fair: Estuaries with core estuarine habitat intact, some estuarine support habitats, impacted water quality and some loss of diversity and key estuarine process in place;

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<sup>84</sup> Turpie JK, Adams JB, Joubert A et al. 'Assessment of the conservation priority status of South African estuaries for use in management and water allocation' *Water SA* 2(2002) 28.

- IV. Poor: Estuaries with impacted core estuarine habitat, substantially reduced or no estuarine support habitats, polluted water, substantial loss of diversity and/or abundance and key estuarine processes impaired; and
- V. Highly degraded: Estuaries which have had major impacts on core estuarine habitats through infilling, canalisation and pollution, substantially reduced or no estuarine support.

Seven of the estuaries were highly degraded, 2 rated poor, 4 fair and 3 good. In general, the relative health of Durban's estuaries was extremely poor, with present trends suggesting a particularly bleak future for these systems. Overall, a mere 10 per cent of Durban's estuarine area fell into the good category, while 58 per cent received the lowest possible rating.<sup>85</sup>

South Africa's NBA of 2011 was the last comprehensive national assessment done on the health status of estuaries of the country. A revision of this assessment is anticipated to be completed in 2018 and published in 2019 as this takes approximately five years.<sup>86</sup> Studies that have been recently conducted on different individual estuaries indicate that most of South Africa's estuaries are threatened primarily by human activities, resulting in changes in water-flow, water quality pollution, quality habitat reduction and loss of biodiversity.<sup>87</sup> The Lake St Lucia system represents over 55 per cent of the estuarine area of South Africa, but it was in a very poor condition. The report revealed that there are 46 estuary ecosystem types, and that 20 types were classified as threatened; and this represents 43 per cent of the threatened ecosystem which also represents 79 per cent of the county's estuarine area. About 39 per cent was classified as critically endangered, 2 per cent as endangered, 2 per cent as vulnerable, and 57 per cent as least threatened. Only about 1 per cent of the estuarine habitat area was in excellent condition, 14 per cent in good condition, 31 per cent in a fair condition, and 54 per cent

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<sup>85</sup> Forbes AT & Dimetriades NT *Estuaries of Durban* (2008) 29-190.

<sup>86</sup> South African National Biodiversity Institute National Biodiversity Assessment available at <http://www.sanbi.org/nba> (accessed 26 June 2016).

<sup>87</sup> Van Niekerk L & Turpie JK (eds) (2012) 3 66-88.

in a poor condition. The NBA identified about 42 per cent of estuaries that require protection.<sup>88</sup>

## 1.5 Assumptions

In studying the balancing of the marine ecosystem through the protection of estuaries, the following assumptions have been identified:

- i. Estuaries are particularly vulnerable ecosystems that are under co-operative governance. The different pieces of legislation are clear on the mandate of co-operative governance as regards to protecting the environment. The inclusion of co-operative governance in the Constitution should be considered as an important mechanism for protection of the environment and promotion of sustainable development.
- ii. There is insufficient protection and attention given to estuaries to conserve them for the future. Marine biodiversity problems result from insufficient attention being given to the need for estuary protection; and co-operative governance is required to adopt adequate measures.
- iii. Unless the estuaries are managed in a sustainable manner, the marine ecosystems will remain threatened, as there is connectivity between the estuaries and the marine environment.
- iv. Effectively managed estuaries can contribute to the maintenance of the marine ecosystem. Estuaries should be recognised as an important resource that needs to be protected in order to conserve the marine ecosystem by protecting its habitats and ecosystems.

## 1.6 Significance of the study

The study will be beneficial as the existing co-operative governance structure will be reviewed on how it could be effectively functional to carry out its legislative mandate, as stipulated in the Constitution, in terms of effective environmental protection.

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<sup>88</sup> Van Niekerk L & Turpie, JK (eds) (2012) 3 vi-vii.

## 1.7 Rationale

Nearly 60 per cent of our inshore coastal ecosystems, which include estuaries are threatened, whilst 41 per cent of our offshore ecosystems are under threat.<sup>89</sup> The state of the estuaries habitat reflects the fundamental environmental problem in South Africa. Key problems include, *inter alia*, pollution, and loss of marine ecosystem. The rationale to conduct this study is the existing threat to estuaries, fragmentation of legislation and a need for conducive co-operative governance to manage and protect estuaries.

## 1.8 Research objectives

Through this study the author would like to achieve the following:

1. To analyse the legal framework relating to estuarine management in South Africa;
2. To determine how co-operative government governance is supportive in protecting estuaries;
3. To identify the challenges being faced by co-operative governance to manage and protect estuaries; and
4. To provide recommendations for co-operative governance to use in order to protect estuaries in promoting sustainable coastal development strategies and activities.

## 1.9 Research question

This thesis aims to answer the following primary research question:

How can co-operative governance embodied in the Constitution be conducive to the promotion of 'sustainable development' in relation to estuary management?

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<sup>89</sup> Wildlife and Environment Society of South Africa (WESSA) *Marine and Coastal Conservation in South Africa: WESSA Position Statement* (2013) 1.

## 1.10 Literature review

There are numerous studies that have been done on estuaries but there have been no legal studies in relation to the issue that this study seeks to address.

A comprehensive analysis of the status of South African estuaries was done by Van Niekerk which revealed the poor status of the habitat of South African estuaries. The study also revealed that estuarine conservation should be undertaken in terms of legislation that highlights the principles of sustainable development, biodiversity conservation, the precautionary principle, the polluter pays principle, integrated management, self-regulation and sensitivity to local circumstances. Particular emphasis should be placed on the need for the various actors, agencies and levels of government to seek an agreement aimed at the continued successful conservation of South Africa's estuaries. The emphasis for effective estuarine management is more on co-operative governance, scientific research and the legal initiatives that are taking place in the country. The Protocol will be the tool to achieve this objective and co-operative governance is a key for the success of this programme<sup>90</sup>

A study was done by Bieseman to determine whether co-operative governance is successful in the formulation and implementation of a Strategic Environmental Plan at the local authority level. The research report has shown that, although there are several legislative documents that support the concept of co-operative governance, especially co-operative environmental governance, and that they are prescriptive regarding these principles, many issues still influence the success of co-operative governance. He concluded that it can be argued that, within the South African context, there is more that can be done to ensure that the true concept of co-operative governance is realised and, more specifically, utilised as a means of achieving sustainable development. Governance relating to environmental processes is taking place in an isolated environment and very little is co-ordinated and incorporated. Greater emphasis needs to be placed on public involvement and decision-making at the local authority level. In turn,

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<sup>90</sup> Van Niekerk L (2007).

this would imply a greater capacity for both funding and human resources at the local authority level, empowering them to fulfil their roles. Environmental issues need to be addressed within a strategic framework. However, the implementation and enforcement of such a framework is dependent on cross-sectoral linkages, levels of government with sufficient capacity, integration and co-ordination, as well as participation. The intention of the strategic framework is to link policy principles to responsibilities and monitoring systems in all spheres and levels of government (co-operative governance), promoting sustainable development.<sup>91</sup>

Booy's undertook a study to assess the adequacy of the present legal regime for the conservation of wetlands and estuaries in South Africa. He concluded that the legislation that affords protection to wetlands and estuaries has to function within a complex legal framework in order to really make the system effective. He further recommended that legislation that specifically deals with wetlands and estuaries be developed, possibly along the lines of the discarded Wetland Conservation Bill of 1990. The essential features of this Act should contain the legislative incorporation of the Ramsar Convention into South African domestic legislation. The Act should also provide for Environmental Impact Assessments and the additional listing notices to afford adequate and appropriate protection. In his assessment he also concluded that the potential wealth of biodiversity is not safeguarded in South Africa. His suggestion supports the suggestions made by Van Niekerk. He further stated that wetland and estuarine conservation will only be achieved by designing action adequate and appropriate specific legislation or an Act for the specific conditions of each region in the country.<sup>92</sup>

Lemine undertook a study to examine the role of local government in the effective implementation of the ICM Act.<sup>93</sup> The case study mainly focuses on the context of the

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<sup>91</sup> Bieseman G *Co-operative Governance- A South African perspective relating to strategic environmental planning* (unpublished MSc thesis, University of the Witwatersrand 2009).

<sup>92</sup> Booy's EJ *An assessment of the adequacy of the present legal regime for the conservation of wetlands and estuaries in South Africa* (unpublished LLM thesis, University of the Western Cape 2011).

<sup>93</sup> Lemine BJ *The Role of Local Government in the effective implementation of the National Environmental Management: Integrated Coastal Management Act 2008- a case of the Draft Cape*

City of Cape Town Municipality for the whole ICM Act. The findings of the study stated that the City of Cape Town Municipality plays a vital role with regards to the coastal environment; more decision-making powers are being devolved to this sphere; and that the Municipality must be lauded for drafting the ICM By-law. The City needs to find possible solutions to climate change related issues affecting the vulnerability of estuaries, through its City of Cape Town International Council for Local Environmental Initiatives (ICLEI): Local Government for Sustainability Partnership.<sup>94</sup> As more power is being devolved in this sphere, the more responsibilities are acquired and the more capacity is required to deal with estuarine management. The City has established the City-ICLEI partnership to adopt adaptive and preventative measures to climate change issues affecting estuaries. An additional financial burden will be placed on the City to implement recommendations made by the ICLEI. Adequate fiscal mechanisms have been set in place to assist with implementing these.

The City of Cape Town Municipality is mandated by the Land Use Planning Ordinances (LUPO)<sup>95</sup> to establish structure plans and zoning schemes. In light of the above, and in relation to coastal management, the Municipality is mandated to ensure proper management of the coastal environment when preparing, amending, withdrawing or reviewing its Spatial Development Framework, which guides and informs municipal coastal zones' development and management.<sup>96</sup> Therefore it is imperative that the coastal planning in terms of the By-law creates a narrative for planning.<sup>97</sup>

A case study of the South African coastline (Buffalo City) was done in order to determine whether the existing Integrated Coastal Zone Management Plans (ICZMs) and policies are functional in terms of their roll-out; how successful they are; and if not what the shortcomings are and what future changes need to be made to make them

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*Town Metropolitan Coastal Protection Zone Management* (unpublished LLM thesis University of the Western Cape 2012).

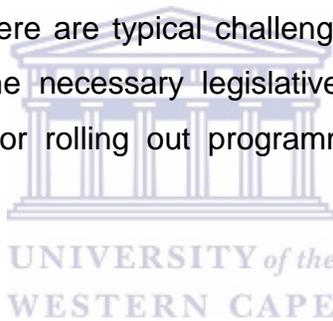
<sup>94</sup> The ICLEI established a climate change programme, which speaks to issues on mitigation, adaptation and advocacy on climate change related issues.

<sup>95</sup> Claassen PE 'Spatial Planning, with the Western Cape Province as a case study' in Strydom HA & King ND. (eds) *Environmental Management in South Africa* 2<sup>nd</sup> ed (2009) 921.

<sup>96</sup> Land Use Planning Ordinance 15 of 1985.

<sup>97</sup> Section 26(e) of the Local Government: Municipal Systems Act, 2000.

effective.<sup>98</sup> The study also seeks to investigate collective, coherent co-operation between the lead agents regarding the implementation of ICZMs. Manyefane argues that the existence of the ICM Act only implies that the policy development cycle has been shaped and does not necessarily indicate that there are any positive signs of an improvement of the state of the coast. There are recommendations that must be considered to provide a brighter future for qualitative coastal management practice in South Africa. There have been many problems related to the ocean: cleaning up pollution, stopping habitat destruction and creating new habitat where appropriate, controlling over-exploitation of resources and making preparations for the expected sea-level rise. The conflict of interests between different users of the coastal zone has so far been the main obstacle to taking the appropriate actions. The most reasonable resolution of this conflict requires a high degree of innovative social, political and legal activity that can be utilised. There are typical challenges that are normally faced by a decision, such as, securing the necessary legislative and legal changes, obtaining adequate financial resources for rolling out programmes, plus identifying and filling policy gaps.



### **1.11 Research methods**

The study entails a literature review of primary and secondary sources, which includes legislation, a review of relevant case law, journal articles and electronic documents.

### **1.12 Structure**

Chapter two deals with international law and South African environmental law and policy concerning coastal and estuary management.

Chapter three reflects on the legal and institutional arrangements for the protection of estuaries, compliance and enforcement; and case law. It further considers the key

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<sup>98</sup> Manyefane TW *A Critical Evaluation on the Effective Implementation of the Integrated Coastal Zone Management Plan for the South African Coastline: A Case Study of the Buffalo City Metropolitan Municipality; Eastern Cape; South Africa* (unpublished MSc thesis, World Maritime University 2014).

challenges to effective co-operative governance for estuarine protection and management.

Chapter four distils lessons derived from the research and presents recommendations for the implementation of effective co-operative governance regarding estuarine protection and management in South Africa.

### **1.13 Conclusion**

This chapter has argued that marine biodiversity is threatened by anthropogenic disturbances. The flora and fauna that depend on estuaries for their life cycle are in danger of disappearing if action is not taken to protect them. Marine biodiversity conservation is recognised and protected in both international and national law, with particular recognition of estuaries as an important valuable habitat. Fragmented environmental legislation greatly affects the pathway towards a sustainable development of the South African marine resources and environment. The inclusion of co-operative governance in relation to environmental protection and promotion of sustainable development in the South African Constitution may be the most appropriate mechanism to ensure estuary protection, because the Constitution has a binding force on the State. The lack of effective co-operative governance in protecting estuaries leaves them in a poor state which affects the marine ecosystem as estuaries have become a central method for economic development. Estuaries are biologically and economically invaluable natural resources.

## CHAPTER 2

### THE LAW GOVERNING ESTUARIES

#### 2.1 Introduction

For the estuarine ecosystem to function properly, estuaries require efficient management, protection and controlled utilisation. The interaction between nature and society is more direct and stronger in estuaries and coastal systems than elsewhere in the marine environment.<sup>99</sup> Estuaries are increasingly evolving into new policy arenas as economic and population growth place increasing stress on the water resources that determine the boundaries of estuaries.<sup>100</sup> Laws that have been established both globally and at local level highlight the values of estuaries and the need to conserve their habitat and natural resources. Estuaries are protected, restored and conserved in many ways. States and local governments implement regulations, policies and management strategies to ensure the long-term viability of their coasts and estuaries.

The large number of environmental Conventions that exist currently require co-operation. Co-ordinated policies and collaborative projects in these newly-developing arenas can mitigate externality problems, but collaboration is difficult because of different statutes and statutory authorities, different stakeholders, different existing policy networks, and even different scientific knowledge.<sup>101</sup> The regulatory framework discussed below provides a brief account of estuaries.

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<sup>99</sup> Harris LA, Duarte CM & Nixon SW 'Allometric Laws and Prediction in Estuarine and Coastal Ecology' (2006) 29 (2) *Estuaries and Coasts* 344.

<sup>100</sup> Scholz JT & Stiffler B (eds) *Adaptive Governance of Water Conflict* (2005)

<sup>101</sup> Schneider, M, Scholz J, Lubell M et al 'Building Consensual Institutions: Networks and the National Estuary Program' (2003) 47 *The American Journal of Political Science* 143.

## 2.2 International instruments regarding estuary protection

Estuaries have attracted limited attention in international law.<sup>102</sup> The concept of an estuary arose during the preparations for the UNCLOS.<sup>103</sup> Since States are to act in particular through competent international organisations in order to attempt to establish global and regional rules, standards and recommended practices with respect to land-based pollution, the discussion of an estuary is often encountered in other international instruments, such as the CITES,<sup>104</sup> the MARPOL,<sup>105</sup> the CBD<sup>106</sup>, the Ramsar Convention,<sup>107</sup> the Convention on the Law of Non-Navigational Uses of International Watercourses of 1997, and the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities of 1995.

## 2.3 Treaties

### 2.3.1 Ramsar Convention of 1971

The Ramsar Convention was the first modern instrument seeking to conserve natural resources on a global scale. Its aim, which is to ensure the conservation and wise use of wetlands, has over the years been defined in the context of sustainable development.<sup>108</sup> Article 1 defines 'wetlands' as 'areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing; fresh, brackish or salt, including areas of marine water, the depth of which allow tide does not exceed six metres.' The Convention covers a very wide variety of wetland habitats, including rivers, lakes, ponds, marshes, coastal areas and estuaries. It is still

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<sup>102</sup> United Nations Conference on the Law of the Sea, Geneva, Switzerland, 24 February to 27 April 1958- a brief geographical and hydrographical study of bays and estuaries the coasts of which belong to different States: Extract from the official records of the UNCLOS Preparatory Documents (2009) available at [http://legal.un.org/diplomaticconferences/lawofthesea-1958/docs/english/vol\\_I/15\\_A-CONF-13-15\\_PrepDocs\\_vol\\_I\\_e.pdf](http://legal.un.org/diplomaticconferences/lawofthesea-1958/docs/english/vol_I/15_A-CONF-13-15_PrepDocs_vol_I_e.pdf) (accessed 30 April 2016).

<sup>103</sup> Article 17 of United Nations Convention on the Law of the Sea, 1982 (1982) 21 *ILM* 1261

<sup>104</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973 (1973) 12 *ILM* 1085.

<sup>105</sup> International Convention for the Prevention of Pollution from Ships, 1973 (1973) 12 *ILM* 1319.

<sup>106</sup> United Nations Conference on Environment and Development: Convention on Biological Diversity, 1992 (1992) 31 *ILM* 818.

<sup>107</sup> Convention on Wetlands of International Importance Especially as Waterfowl, 1971 (1971) 11 *ILM* 963.

<sup>108</sup> Article 3.1.

the only world-wide treaty which places numerous obligations upon the Contracting Parties for the wise use of wetland habitats, for special conservation requirements for wetland sites designated on the 'List of Wetlands of International Importance', for the creation of wetland reserves, for international co-operation, for shared water bodies and shared wetland species to enhance waterfowl numbers, for the training of wetland personnel, and for the promotion of general public awareness of conservation.<sup>109</sup>

### **2.3.2 The Convention Concerning the Protection of the World Cultural and Natural Heritage, 1972**

The World Natural Heritage Convention plays a major role in promoting the protection of estuaries. The intention of the Convention is to establish a select list of cultural and natural heritage of outstanding universal value. The Convention is under the support of the United Nations Educational, Scientific, and Cultural Organization (UNESCO).<sup>110</sup> Marine sanctuaries and parks have been established in response to the continuing threats to the marine environment including estuaries.<sup>111</sup> 'Natural heritage' is defined as 'natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view.'<sup>112</sup> The Convention also states that each State Party recognises the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of cultural and natural heritage situated in its territory.<sup>113</sup> Certain areas have been designated as Heritage Sites under the Convention. A World Heritage List has been developed.<sup>114</sup> Beside the role played by this Convention, it was

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<sup>109</sup> Koester V *The Ramsar Convention on the Conservation of Wetlands - A Legal Analysis of the Adoption and Implementation of the Convention in Denmark Environmental Policy and Law Paper No. 23* (1989) ix.

<sup>110</sup> Convention for the Protection of the World Cultural and Natural Heritage, 1972, 11 *ILM* 1358 (1972).

<sup>111</sup> Michel PE Monterey Bay National Marine Sanctuary Overview 2015. The marine sanctuary is a 'diverse marine ecosystem also includes rugged rocky shores, wave-swept sandy beaches and tranquil estuaries' available at <http://montereybay.noaa.gov/intro/welcome.html> (accessed 30 May 2016).

<sup>112</sup> Article 2.

<sup>113</sup> Article 4.

<sup>114</sup> The UNESCO World Heritage List available at <http://whc.unesco.org/en/list/> (accessed 22 May 2016). The Wadden Sea one of the included areas is a large, temperate, relatively flat coastal wetland

discovered that there are a number of imbalances in the implementation of the World Heritage Convention and in the composition of the World Heritage List.<sup>115</sup> There has been highly unequal distribution of sites according to countries and continents. A large number (46 per cent) of the sites are in Europe, only 9 per cent are in Africa. Only ten countries have a large number of 20 sites or more, whereas, on the other hand, 38 member countries of the Convention have no sites at all.<sup>116</sup>

### **2.3.3 International Convention for the Prevention of Pollution from Ships, 1973**

Estuaries were not acknowledged in the initial International Convention for the Prevention of Pollution from Ships of 1973. However they are acknowledged in the 2005 reviewed version of the Convention in Regulation 14(4)(b), where it is stated that 'waste streams from the use of such equipment shall not be discharged into enclosed estuaries unless it can be thoroughly documented by the ship that such waste streams have no adverse impact on the ecosystems estuaries....'<sup>117</sup> Regulation 16(5) also prohibits shipboard incineration of sewage sludge and sludge oil generated during the normal operation of a ship inside estuaries.

### **2.3.4 Convention on the Conservation of Migratory Species of Wild Animals, 1979**

Estuaries are well-known as staging sites for significant populations of migratory birds.<sup>118</sup> This Convention therefore is critical in terms of protecting estuaries. Parties

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environment, formed by the intricate interactions between physical and biological factors that have given rise to a multitude of transitional habitats with tidal channels, ..... estuaries, beaches and dunes.

<sup>115</sup> Steiner L & Frey BS *Correcting the Imbalance of the World Heritage List: Did the UNESCO Strategy Work?* (2011) 3-18.

<sup>116</sup> Steiner L & Frey BS (2011) 2.

<sup>117</sup> The International Convention for the Prevention of Pollution from Ships Amended by Resolution MEPC.111(50) Amended by Resolution MEPC.115(51) Amended by Resolution MEPC.116(51) - Annex VI - Regulations for the Prevention of Air Pollution from Ships- Lloyd's Register Rulefinder 2005 – Version 9.4.

<sup>118</sup> Turpie JK 'Prioritizing South African estuaries for conservation: a practical example using waterbirds' (1995) 74 *Biol. Conserv.* 175.

that are Range States<sup>119</sup> of a migratory species listed in Appendix I shall endeavour to conserve and, where feasible and appropriate, to restore those habitats of the species which are of importance in removing the species from danger of extinction.<sup>120</sup> It further states that Parties that are Range States of a migratory species listed in Appendix II shall endeavour to conclude agreements where these would benefit the species,<sup>121</sup> which should provide for, but not be limited to, *inter alia*: conservation and, where required and feasible, restoration of the habitats of importance in maintaining a favourable conservation status, and protection of such habitats from disturbance,<sup>122</sup> and maintenance of a network of suitable habitats appropriately disposed in relation to the migratory routes.<sup>123</sup> This is mainly achieved through agreements between the States in which species occur.<sup>124</sup> International co-operation is also key to this Convention.

### 2.3.5 United Nation Convention on the Law of the Sea, 1982

The United Nations Convention on the Law of the Sea (UNCLOS) forms the cornerstone of the law of the sea and seeks to balance the interests of States in different capacities regarding all uses and resources.<sup>125</sup> The UNCLOS does contain provisions on the protection of the marine environment<sup>126</sup> but only refers to estuaries, first, when defining 'pollution of the marine environment' as meaning 'the introduction by man directly or indirectly of substances or energy into the marine environment, including estuaries'<sup>127</sup> and secondly, when providing that States are required to adopt laws and regulations and other necessary measures to prevent, reduce, and control pollution

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<sup>119</sup>Range of State refers to 'the nation that exercises jurisdiction over any part of a range which a particular species, taxon or biotope inhabits, or crosses or overflies at any time on its normal migration route It also includes, particularly in international waters, any nation with vessels flying their flag that engage in exploitation such as hunting, fishing, capturing of that species.'

<sup>120</sup> Article III para 4a.

<sup>121</sup> Article IV para 3.

<sup>122</sup> Article V para 5e.

<sup>123</sup> Article V para 5f.

<sup>124</sup> Boere GC *Global activities on the conservation, management and sustainable use of migratory birds: an integrated flyway/ecosystem approach* (2003) 98.

<sup>125</sup> McConnell ML& Gold E 'The Modern Law of the Sea: Framework for the Protection and Preservation of the Marine Environment?' (1991) 23 *Case Western Reserve Journal of International Law* 83.

<sup>126</sup> Article 192 sets out the general obligation of 'States to protect and preserve the marine environment.'

<sup>127</sup> Article 1 (4).

from land-based sources, including rivers and estuaries.<sup>128</sup> It should be noted that the Convention nowhere defines estuaries. Moreover, the fresh water component of estuaries is not recognised in the Convention's language. Article 193<sup>129</sup> and Article 194<sup>130</sup> are also relevant to the protection and management of estuaries.

### 2.3.6 Convention on Biological Diversity, 1992

The Convention on Biological Diversity (CBD) is one of the principal instrument of international law concerned with the conservation and sustainable use of biodiversity, and was adopted at the Earth Summit in Rio de Janeiro in June 1992, in order to conserve biological diversity. It is only applicable within the land and marine areas under the national jurisdiction of States.<sup>131</sup> The CBD imposes a number of obligations on its States Parties with regard to *in situ* conservation<sup>132</sup> and States must apply the general principles of the CBD to processes and activities carried out under their jurisdiction or control. These include establishing protected areas<sup>133</sup> and conducting an environmental impact assessment of proposed projects, policies and programmes in cases where there are risks of significant adverse impacts on biological diversity, with a

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<sup>128</sup> Article 207 (1) and Article (2); S5 of UNCLOS makes provision for international rules and national legislation to prevent, reduce and control pollution of the marine environment.

<sup>129</sup> Article 19 points into view the sovereign right of States to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment.

<sup>130</sup> Article 194 makes provision for 'measures to prevent, reduce and control pollution of the marine environment' to be put in place.

<sup>131</sup> Article 2 provides that the term 'components of biological diversity' means 'the variability among living organisms from all sources including inter alia terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems'.

<sup>132</sup> Article 4 states: 'Subject to the rights of other States, and except as otherwise expressly provided in this Convention, the provisions of this Convention apply, in relation to each Contracting Party:

- (a) in the case of components of biological diversity, in areas within the limits of its national jurisdiction; and
- (b) in the case of processes and activities, regardless of where their effects occur, carried out under its jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction.'

<sup>133</sup> Article 8 refers to a 'system' of protected areas and other 'areas where special measures need to be taken to conserve biological diversity' and in so doing promotes and calls for connectivity between conservation initiatives.

view to avoid or minimise such environmental impacts. Still, the CBD must be applied in a manner consistent with the UNCLOS.<sup>134</sup>

### **2.3.7 Convention on the Law of Non-Navigational Uses of International Watercourses, 1997**

The notion of estuaries is also evident in the Convention on the Law of Non-Navigational Uses of International Watercourses, 1997. Article 23 makes provision for the protection and preservation of the marine environment. Watercourse States shall, individually and, where appropriate, in co-operation with other States, take all measures with respect to an international watercourse that are necessary to protect and preserve the marine environment, including estuaries, taking into account generally accepted international rules and standards. This has served as an example for other regional agreements.<sup>135</sup>

### **2.3.8 Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1998**

The Convention on International Trade in Endangered Species of Wild Fauna and Flora of 1998 (CITES) specifically addresses the problem of international trade in endangered species. The CITES provides varying degrees of protection to more than 30,000 plant and animal species.<sup>136</sup> Since habitat degradation and increasing human pressures on estuaries have led to species being endangered,<sup>137</sup> the CITES plays a huge role in ensuring the conservation of such species in international trade by requiring a permit from the country of origin in order to be traded on the international market. Identifying

<sup>134</sup> Article 22 is concerned with the relationship between the CBD and other international instruments, and explicitly provides that it is to be implemented with respect to the marine environment 'consistently with the rights and obligations of States under the law of the sea'.

<sup>135</sup> Article 4(2)(d) of the 2000 Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC).

<sup>136</sup> The CITES Secretariat, Appendices I & II, available at [http://www.cites.org/eng/append/I+II\\_0700.shtml](http://www.cites.org/eng/append/I+II_0700.shtml); CITES Secretariat, available at <http://www.cites.org/eng/disc/species.shtml> (accessed 16 May 2016).

<sup>137</sup> Atkinson L & Clark B *Marine and Coastal Ecosystems South Africa Environment Outlook National State of the Environment Project Marine and Coastal Ecosystems* (2005).

certain species that are listed in the CITES is also problematic as sometimes they are shipped without the necessary permits, or with incorrect permits.<sup>138</sup> Therefore, collaboration and co-operation with scientist to identify species during shipment is critical.

### 2.3.9 Gaps in and strengths of the treaties

Even though the Ramsar Convention is the only treaty specifically devoted to the conservation of estuaries,<sup>139</sup> estuaries have not been entirely neglected by international law.<sup>140</sup> The international treaties as they currently stand do afford protection to estuaries, but generally fall short of effective protection of the estuarine ecosystem and are hardly specific on estuaries as there are no specific chapters that are dedicated to estuaries. The treaties are points of reference for understanding the protection of this invaluable part of our ecosystem. More needs to be done to make them more specific, integrated and effective. Almost all the relevant international treaties for this study encourage the designation of protected areas by national governments or international organisations. Protected areas are mostly effective in conserving habitat and supporting the recovery of exploited species. In their relationship to each other, the Conventions relevant to this study, though they only partly refer to each other explicitly, are of mutual complementary, close and overlapping character<sup>141</sup> as they promote international co-operation and co-operative governance within the State with respect to the conservation and protection of the environment in general.

The co-operative methodology is regarded as a necessary precursor to achieve conservation goals and the exact extent of the co-operation internationally is clear.<sup>142</sup>

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<sup>138</sup> Sehgal R 'Law Legal Regime Towards Protecting Coral Reefs: An International Perspective And Indian Scenario (2006) 2 (2) *Environment and Development Journal* 183.

<sup>139</sup> Timoshenko AS 'Protection of Wetlands by International Law' (1988) 5 (2) *Pace Env'tl. L. Rev* 463.

<sup>140</sup> Ramsar Convention Manual: A Guide to the Convention on Wetlands (2004) 9.

<sup>141</sup> Czybulka D & Kersandt P Legal Regulations, Legal Instruments and Competent Authorities with Relevance for Marine Protected Areas (MPAs) in the Exclusive Economic Zone (EEZ) and the High Seas of the OSPAR Maritime Area (2000) 18.

<sup>142</sup> Rose GL *Gaps in the Implementation of Environmental Law at the National, Regional and Global Level*: (2011) 'International cooperation, in contrast, involves the provision of assistance by one party to another. The party with a greater capability to implement an environmental agreement provides

This is a very important point of departure for environmental conservation and protection including our valuable estuaries. The Rio Conventions all encourage co-operation with other relevant treaty bodies and international organisations.<sup>143</sup> The Ramsar Convention on wetlands itself does call for international co-operation<sup>144</sup> and declares the need for States to consider the effects of those policies that will have an effect on the wetlands and estuaries of other nations when they are formulating their estuarine laws.<sup>145</sup> It is often argued that co-operative approaches are more cost effective, more conducive to innovation, and better able to promote fundamental attitudinal change than traditional command and control regulation.<sup>146</sup>

The Conference of the Parties has a mandate to keep under regular review the implementation of the Conventions and any related legal instrument that the Conference of the Parties may adopt, and shall make, within its mandate, the decisions necessary to promote the effective implementation of the Conventions. There are no compliance and enforcement mechanisms stipulated in these treaties that create, define, and enforce legal obligations.<sup>147</sup> One of the key problems in bridging the gap between legal requirements and sustainability outcomes is deficiencies in compliance and enforcement programs. There is no international executive, and international bodies do not possess ultimate sanction authority to make and enforce decisions.<sup>148</sup> The main challenge is that these treaties are based on the voluntary acceptance of sovereign States that recognise it to be in their interest to sacrifice some degree of sovereignty in return for commitments from others. Institutional co-ordination and co-operation in

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financial support, access to its technical information and expertise and specialist services to facilitate an improvement in the capacity of a less capable party.'

<sup>143</sup> Van Assel H Legal and Political Approaches in Interplay Management: Fragmentation of Global Climate Governance in Oberthür S & Stokke OS *Managing Institutional Complexity: Regime Interplay and Global Environmental Change* (2011) 71.

<sup>144</sup> Article 1 states 'The Imperial Government of Iran, in accordance with recommendations of earlier international meetings on wetlands and waterfowl conservation, convened an International Conference on the Conservation of Wetlands –and Waterfowl, with a view to promoting international collaboration in this field.'

<sup>145</sup> Navid D The International on Migratory Species: The Ramsar Convention (1989) 1005.

<sup>146</sup> Harrison K 'Cooperative Approaches to Environmental Protection' (1999) 2 *Journal of Industrial Ecology* 51.

<sup>147</sup> Kirgis F *Current International Law* (1985).

<sup>148</sup> Hajost SA & Shea QJ An Overview Of Enforcement And Compliance Mechanisms In International Environmental Agreements

dealing with interactions only take place simply through information exchange between treaty bodies, or in a more ambitious form comprising joint planning of programmes or even the co-ordination of substantive decision-making or implementation activities.<sup>149</sup> A State can refuse to take part in the monitoring of compliance. In addition, it is generally accepted that the regime is ineffective because anthropogenic stresses have not been reduced, the quality of estuaries is continuously deteriorating as stated in the first chapter, and States remain hesitant to subject themselves to binding environmental obligations and to comply with those to which they have subjected themselves.<sup>150</sup>

These Conventions require a secretariat and a financial mechanism to be effective, but some, such as the Wetlands Convention lack both<sup>151</sup> as they translate the general commitments of the Convention into binding norms or guidelines, and assist Parties with implementation.<sup>152</sup> Financial co-operation at the international level is needed. Sources of estuary management and protection are generally fragmented. Of particular importance in terms of management is the fragmentation of pollution management. The fragmentation of international environmental law, poses a huge challenge to monitoring the commitment of States in meeting their international obligations. This is particularly the case as regards estuaries, given that both the causes and impacts of estuary degradation have implications for the marine ecosystem, and it is evident in the reported global state of estuaries. Hence, two issues are: fragmentation as well as compliance and enforcement.

## **2.4 Soft law and estuarine management and protection**

After the adoption of the Conventions, domestic legislation worldwide has been developed in order to address ecological quality or integrity within estuarine and coastal systems, and approaches to protect estuaries were initiated. There have been three principal approaches to marine conservation which includes estuaries. The first was

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<sup>149</sup> Stokke OS *The Interplay of International Regimes: Putting Effectiveness Theory to Work?* (2001) 12.

<sup>150</sup> Kotze LJ 'Arguing environmental constitutionalism' (2012) 1 *TEL* 199.

<sup>151</sup> The IUCN World Conservation Strategy (1980).

<sup>152</sup> Camenzuli LK *The development of international environmental law at the Multilateral Environmental agreements' Conference of the Parties and its validity* (2007) 2.

regulation and management of individual marine activities, such as commercial fishing, but there was little or no co-ordination with the management of adjacent coastal lands. The second approach involved the creation of small marine protected areas<sup>153</sup> which provided special protection for particularly valuable areas within the broad areas which were subject to regulation of the first type or, in some cases, to no regulation. It is usually the first stage in marine conservation initiatives which go beyond fisheries restrictions which limit gear, catches and effort. The third approach is the establishment of a large multiple-use protected area with an integrated management system providing levels of protection varying throughout the area. All of these approaches are included in the South African legislation which is analysed in the next part of this Chapter. Guidelines for establishing marine protected areas were later developed.<sup>154</sup> Marine and coastal protected areas are important and interactive aspects of marine conservation which have been addressed in the International Union for the Conservation of Nature and Natural Resources (IUCN).<sup>155</sup>



#### 2.4.1 Agenda 21

Agenda 21 is a comprehensive plan of action to be adopted globally, nationally and locally by organisations of the United Nations System, Governments, and major groups in every area in which humans impact on the environment. The management of the world's coastal and marine resources is firmly placed in Chapter 17.<sup>156</sup> This Chapter makes provision for the 'prevention, reduction and control of degradation of the marine environment from sea-based activities.'<sup>157</sup> It recognises that coastal areas offer superb

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<sup>153</sup> Kelleher G & Kenchington R The IUCN Guidelines for Establishing Marine Protected Areas (1992). The term marine protected area is defined as any area of intertidal or subtidal terrain, together with its overlying waters and associated flora, fauna, historical and cultural features, which has been reserved by legislation to protect part or all of the enclosed environment'.

<sup>154</sup> Kelleher G & Kenchington R (1992).

<sup>155</sup> Salm RV, Clark JR & Siirila E (3<sup>rd</sup> ed) Marine and Coastal Protected Areas: A guide for planners and managers (2000) 148.

<sup>156</sup> United Nations Rio Declaration on the Environment and Development (1992) 31 *ILM* 876.

<sup>157</sup> Agenda 21, in Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992 available at <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm> (accessed 10 May 2016); Chapter 17.4 at 168. Chapter 17.30 also points out 'States, acting individually, bilaterally, regionally or multilaterally and within the framework of international Marine Organisation (IMO) and other relevant international organizations, whether subregional,

opportunities for development, which if executed properly, can yield significant economic and social benefits while maintaining environmental integrity. In addition protection is afforded to estuaries in terms of 15(5)(g) which basically requires action to be taken where necessary for the conservation of biological diversity through the in situ<sup>158</sup> conservation of ecosystems and natural habitats, as well as primitive cultivars and their wild relatives, and the maintenance and recovery of viable populations of species in their natural surroundings, and implement ex situ measures, preferably in the source country.

#### **2.4.2 The Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, 1995**

The Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities of 1995 is one of the initiatives taken. This programme of action agrees that there is a need for action to be taken in order to protect the marine environment, including estuaries, from human activities on land in coastal areas and further inland. The main aim of this Global Programme of Action is to prevent the degradation of the marine environment from land-based activities by facilitating the realisation of the duty of States to preserve and protect the marine environment. It is designed to assist States in taking action individually or jointly within their respective policies; such as, provision for 'promotion of primary, secondary and, where appropriate and feasible, tertiary treatment of municipal sewage discharged to rivers, estuaries and

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regional or global, as appropriate, should assess the need for additional measures to address degradation of the marine environment:

(a) From shipping, by:

(i) Supporting wider ratification and implementation of relevant shipping conventions and protocols;

(v) Taking action to ensure respect of areas designated by coastal States, within their exclusive economic zones, consistent with international law, in order to protect and preserve rare or fragile ecosystems.

17.84 States should prohibit dynamiting, poisoning and other comparable destructive fishing practices.

17.85 States should identify marine ecosystems exhibiting high levels of biodiversity and productivity and other critical habitat areas and should provide necessary limitations on use in these areas, though, inter alia, designation of protected areas. Priority should be accorded, as appropriate, to:

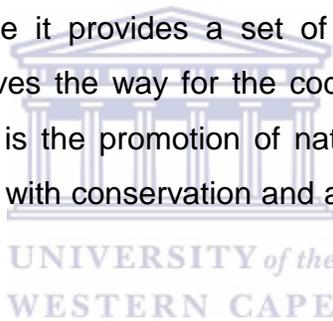
(e) 'other spawning and nursery areas.'

<sup>158</sup> In situ measures should include the reinforcement of terrestrial, marine and aquatic protected area systems and embrace, inter alia, vulnerable freshwater and other wetlands and coastal ecosystems, such as estuaries....'

the sea.<sup>159</sup> Estuaries and their drainage basins are identified as areas of concern but not listed in order of priority<sup>160</sup> even though it is also acknowledged that estuaries' habitat require sedimentation and siltation inputs for their development and maintenance.<sup>161</sup>

### **2.4.3 World Conservation Strategy**

The IUCN, with the World Wildlife Fund (WWF) and the United Nations Environment Programme (UNEP), published the World Conservation Strategy which emphasised the importance of marine environments and ecosystems towards the goal of providing for conservation for sustainable development.<sup>162</sup> Although it provides broad policy guidelines for determining development priorities; it actually plays a huge role in the protection of estuaries because it provides a set of generally agreed standards of international behaviour and paves the way for the codification of such standards in a more binding form.<sup>163</sup> The key is the promotion of national conservation strategies to integrate development planning with conservation and also provide an important tool for all stages of development.



### **2.4.4 The Marine Conservation Programme**

The IUCN's Marine Conservation Programme was established in 1985 to promote activities which demonstrate how conservation and development can reinforce each other in marine and coastal environments; conserve marine and coastal species and ecosystems; enhance awareness of marine and coastal conservation issues and management; and mobilise the global conservation community to work for marine and coastal conservation.

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<sup>159</sup> Section 97(b)(v).

<sup>160</sup> Section 21(e)(vi).

<sup>161</sup> Section 133.

<sup>162</sup> The IUCN World Conservation Strategy (1980).

<sup>163</sup> The IUCN Priorities for international action available at <https://portals.iucn.org/library/efiles/html/wcs-004/section23.html> (accessed 14 August 2016).

## 2.5 South African environmental law concerning estuary management

Parties to international agreements are bound by general international law to carry out their treaty obligations, which include the adoption of appropriate and necessary domestic legal measures. South Africa has established laws and regulations designed to implement its international obligations and principles and address national issues.<sup>164</sup> Such laws and regulations cover a wide range of aspects relevant to land based marine pollution activities and habitat protection. Whereas the details of these laws will differ, much of what they are trying to achieve is relevant internationally.<sup>165</sup> These include customary international law, unless it is inconsistent with the Constitution or an Act of Parliament, and it is mandatory that every court interprets legislation in a manner that is consistent with international law.

### 2.5.1 The Constitution



The Constitution is the supreme law that provides the legal framework in South Africa. Section 24 of the Constitution is therefore a foundation of South African environmental law.<sup>166</sup> Section 24 sets out environmental rights and further affords enforceable status

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<sup>164</sup> Section 231-233 of the Constitution. 'The Republic is bound by international agreements which were binding on the Republic when this Constitution took effect. When interpreting any legislation, every court must prefer any reasonable interpretation of the legislation that is consistent with international law over any alternative interpretation that is inconsistent with international law.

<sup>165</sup> Chapter 6 of Act 18 of 1998 refers to Incorporation of international environmental instruments where the Minister may make a recommendation to Cabinet and Parliament regarding accession to and ratification of an international environmental instrument if the Republic is not yet bound by an international environmental instrument This includes introducing legislation in Parliament or making such regulations as may be necessary for giving effect to an international environmental instrument to which the Republic is a party,

<sup>166</sup> Section 8 of the Constitution. This section states:

- (1) The Bill of Rights applies to all law, and binds the legislature, the executive, the judiciary and all organs of state.
- (2) A provision of the Bill of Rights binds a natural or a juristic person if, and to the extent that, it is applicable, taking into account the nature of the right and the nature of any duty imposed by the right.
- (3) When applying a provision of the Bill of Rights to a natural or juristic person in terms of subsection (2), a court -
  - (a) in order to give effect to a right in the Bill, must apply, or if necessary develop, the common law to the extent that legislation does not give effect to that right; and
  - (b) may develop rules of the common law to limit the right, provided that the limitation is in accordance with section 36(1).

by making specific provision that the rights are enforced by means of reasonable legislative and other measures.<sup>167</sup> This supreme law allows both the national and provincial governments to have concurrent legislative competence. All organs of State are required to respect, protect, promote and fulfil these rights.

Estuaries are not specifically identified in the Constitution; but the environment and nature conservation, with the exclusion of the national parks, national botanical gardens and marine resources, are functional areas of concurrent national and provincial legislative competence. Estuaries fall under functional areas whereby the National and Provincial governments share legislative competence in terms of Schedules 4 and 5 of the Constitution.

Apart from the Constitution, in addressing the imperatives for sound environmental management, there are several pieces of legislation that have been enacted to give effect to the constitutional environmental rights of all South Africans. This legislation is fragmented with roles and responsibilities across the three spheres of government as per the Schedules of the Constitution, and are indicated in the next section. Challenges and progress that has been made to date are also recorded.

### **2.5.2 National Environmental Management Act 107 of 1998**

A significant development towards environmental protection and sustainable development is the enactment of the NEMA and various amendments thereof. The Act highlights sustainable development as the main goal of environmental policy and also sets out national environmental management principles that need to be considered by organs of State when taking decisions that could significantly affect the environment.<sup>168</sup> The main aim of the NEMA is to provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment;

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(4) A juristic person is entitled to the rights in the Bill of Rights to the extent required by the nature of the rights and the nature of that juristic person.'

<sup>167</sup> Section 24 of the Constitution.

<sup>168</sup> Section 2(3) of the NEMA.

prohibition, restriction or control of activities that are likely to have a detrimental effect on the environment; institutions that will promote co-operative governance and procedures for co-coordinating environmental functions exercised by organs of State; and to provide for certain aspects of the administration and enforcement of other environmental management laws. It further streamlines the process of regulating and administering the impact assessment process.<sup>169</sup>

The NEMA is the umbrella law governing environmental management and gives effect to section 24 of the Constitution.<sup>170</sup> While the NEMA refers to the principle of co-operation and sustainable development, it broadens the scope of the application of the principle of co-operation, sustainable development and its guiding environmental principles to environmental legislation. Hence, the NEMA requires that management of the estuaries should comply with the principles of co-operative environmental governance as set out in the Act.<sup>171</sup> Estuaries must be managed according to the national environmental management principles as set out in section 2 of the NEMA, along with the objectives of integrated environmental management,<sup>172</sup> and duty of care.<sup>173</sup> This merely points out that all environmental issues are reliant on co-operative governance. Chapter 3 of NEMA further makes provision for procedures for co-operative governance. Estuaries are also singled out in the NEMA principles that seek to promote sustainable development as vulnerable areas that need to be taken care of.<sup>174</sup> The Act also provides for the public trust doctrine, to the effect that an 'environment is held in public trust for the people, the beneficial use of the

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<sup>169</sup> Objectives of the NEMA.

<sup>170</sup> Bray E 'Focus on the National Environmental Management Act: Co-operative governance in the context of the National Environmental Management Act 107 of 1998' (1999) *South African Journal of Environmental Law and Policy* 1.

<sup>171</sup> Chapter 2 of the NEMA makes provision for procedures of co-operative governance which should give effect to the principle of co-operative government in Chapter 3 of the Constitution.

<sup>172</sup> Section 24.

<sup>173</sup> Section 28.

<sup>174</sup> Section 2(4)(r) states: '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.'

environmental resources must serve the public interest of the people and the environment must be protected as the people's common heritage.<sup>175</sup>

Chapter 5 makes provision for integrated environmental management, with the inclusion of Environmental Impact Assessments (EIA) in Section 24 of the NEMA as a tool to put into practice and operationalise the management principles. Further to this, EIA Regulations were promulgated with various amendments, the latest being the 2014 amendments which became effective on 8 December 2014. The purpose of the Regulations is to 'regulate the procedure and criteria as contemplated in chapter 5 of the Act relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto.'<sup>176</sup>

The Regulations stipulate three listing notices with activities that require environmental authorisation before commencement and have been published in conjunction with the new EIA Regulations. Listing notice one specifies the activities requiring a basic assessment report;<sup>177</sup> listing notice two identifies the activities requiring both a Scoping Report and an Environmental Impact Report (EIR)<sup>178</sup>; and listing notice three specifies activities that will only require a Basic Assessment Report (BAR), but that is when the activity is undertaken in one of the specified geographical areas.<sup>179</sup> Development in estuaries is also listed in these listing notices.<sup>180</sup>

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<sup>175</sup>Section 2(4)(o).

<sup>176</sup> Section 2 of the Environmental Impact Assessment EIA Regulations GNR 10328 in GG 38282 of 4 December 2014.

<sup>177</sup> GNR 983 in GG 38282 of 4 December 2014.

<sup>178</sup> GNR 984 in GG 38282 of 4 December 2014.

<sup>179</sup> GNR 985 in GG 38282 of 4 December 2014.

<sup>180</sup> Activities 17(ii) and (iv), 19(iii), 54(ii) and (v) in GNR 983 in GG 38282 of 4 December 2014; Activities 25(ii) and (v) GNR 984 in GG 38282 of 4 December 2014; Listing Notice 3 in GNR 985 in GG 38282 of 4 December 2014.

### 2.5.3 Marine Living Resource Act 18 of 1998 (MLRA)

The conservation, management, control and protection of certain marine living resources and the marine ecosystem are done under this legislation. The main aim is to ensure sustainable development of marine living resources; and that the marine ecosystem and marine living resources are utilised in a sustainable, fair and equitable manner for the benefit of all the citizens of South Africa. This also includes the minimisation of marine pollution and the establishment of marine protected areas. Even though estuaries are not mentioned in this Act, the marine living resources include those resources that are estuary dependent.<sup>181</sup>

The particularly important part in relation to estuary protection is the definition of fish which means 'the marine living resources of the sea and the seashore, including any aquatic plant or animal whether piscine or not, and any mollusc, crustacean, coral, sponge, holothurian or other echinoderm, reptile and marine mammal, and includes their eggs, larvae and all juvenile stages, but does not include sea birds and seals. Therefore, this broad definition also allows for the protection of the estuaries through the protection of fish.<sup>182</sup> The management of the estuary mouth conditions is not included, to facilitate the completion of the life cycle of commercially important and rare species.<sup>183</sup> It is noteworthy that some commercially important fish species depend on estuaries at some point during their development and rely on the sheltered waters of estuaries as protected spawning places. Migratory birds also use estuaries as resting and feeding places when they are migrating.<sup>184</sup>

Significantly, Regulations regarding fishing in the Estuary of Breede River were promulgated.<sup>185</sup> The purpose of the Regulations is to provide protection of the line-fish

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<sup>181</sup> Marine Living Resource Act 18 of 1998.

<sup>182</sup> Section 1(xiii) of MLRA.

<sup>183</sup> De Villiers P 'Estuary Management in South Africa- An overview of the Challenges and Progress made to Date' in Diop S, Scheren P & Ferdinand J (eds) *Estuaries: A life line of ecosystem services in the Western Indian Ocean* (2016) 302.

<sup>184</sup> Young ST & Dhanda KK (2012) 108.

<sup>185</sup> GNR 727 GG 34596 of 16 September 2011.

species. Such protection is provided in terms of Section 72 of the MLRA.<sup>186</sup> Another set of Regulations regarding marine protected areas under the MLRA was promulgated.<sup>187</sup> The purposes of these Regulations are: (a) to protect and conserve the coastal environment and marine living resources that are found in and around the Marine Protected Area; (b) to protect the reproductive capacity of exploited species of fish, including shellfish, to allow their populations to recover and to contribute to the replenishment of adjacent areas; (c) to protect the nursery function of the Goukou estuary and the recruitment of estuarine-dependent fish into marine fisheries; and (d) to control other activities in the Marine Protected Area to reduce the risks of habitat degradation and to preserve the sites, which have archaeological and cultural value. The objectives of these Regulations are interconnected to several pieces of legislation used for the protection and management of estuaries in the country. There is control of activities in restricted zones.<sup>188</sup>

The MLRA also takes the co-operative governance approach into reality as it mentions the delegation of powers (via Notice in the *Gazette*) to 'an authority in the local sphere of government'.<sup>189</sup> Thus far, there has been no official Government Notice to the effect that any of the provisions have been so assigned. In addition, one of the Act's objectives is marine pollution prevention; however, that is only done through the issuing of licences by the Minister for foreign vessels.<sup>190</sup> However, these sections of the Act are not applicable to locally owned fishing vessels. Further in 77(2)(w), 'the Minister may make regulations to regarding the prevention of marine pollution.' No regulations have

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<sup>186</sup>Section 77(2) states: 'the Minister may make regulations-  
(x) regulating or prohibiting, either generally or in any specified fisheries—  
(i) the management and protection of marine protected areas;'

<sup>187</sup> GNR 1108 in GG 31516 of 17 October 2008.

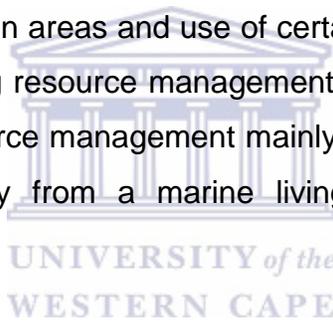
<sup>188</sup> Regulation 4 restricts fishing or attempt to fish, in any Restricted Zones within the Marine Protected Area; entering the Geelkrans Restricted Zone in a vessel that has fishing gear on board; and fishing gear on vessels that are in, or enter the Goukou Estuarine Restricted Zone and the Skulpiesbaai Restricted Zone for the purposes of passage, must be stowed. Regulation 5 makes provision for Bait collection within the Estuary to be only collected in the controlled zone of the Goukou estuary downstream.

<sup>189</sup> Section 79 (1).

<sup>190</sup> Section 39 (3) 'the Minister may issue a licence in respect of a foreign fishing vessel where the applicant provides sufficient financial and other guarantees relating to his or her fulfilment of all obligations arising in terms of this Act, as well as other conditions regarding insurance related to pollution and rescue.

been introduced as of date regarding marine pollution prevention under this section. This leaves the marine living resources under South African jurisdiction not entirely protected but exposed to pollution.

The regulatory management imposed by the Act is through the granting of rights and permits.<sup>191</sup> The permit system is limited, for example, trout is not covered under the MLRA even though some species are found in the estuary. The exclusion of sea birds under the definition of fish remains a significant challenge; and they are not protected under the MLRA. It is worth mentioning that some migratory birds use estuaries as resting and feeding places when they migrate and also that if you protect the estuary and its ecosystem, it is highly likely that the marine ecosystem will be conserved due to the link between the two. The MLRA is the only piece of legislation which provides for the restriction of fishing in certain areas and use of certain gear.<sup>192</sup> However, it does not provide for holistic marine living resource management as it only addresses harvesting issues. The marine living resource management mainly focuses on the management of harvesting activities and away from a marine living resources ecosystem based conservation approach.



#### **2.5.4 National Water Act 36 of 1998**

The purpose of this Act is broad, but in relation to estuaries, it is to ensure that South Africa's water resources are protected, developed, conserved, managed and controlled for the protection of biodiversity, aquatic resources and associated ecosystems; facilitation of social and economic development and the reduction and prevention of pollution to comply with international obligations.<sup>193</sup> 'Water resource' is defined as water bodies such as rivers, streams, wetlands, estuaries and groundwater.<sup>194</sup> Part 4 of this Act deals 'with pollution prevention, and in particular the situation where pollution of a

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<sup>191</sup> Section (18)(1) stipulates that 'no person may engage in commercial fishing, subsistence fishing, mariculture or operate a fish processing establishment unless a right to engage in such an activity or to operate such an establishment has been granted to by the Minister'.

<sup>192</sup> Section 14.

<sup>193</sup> National Water Act 36 of 1998 (hereafter NWA). See section 2.

<sup>194</sup> Ministry of Water Affairs and Forestry, Guide to the National Water Act 36 of 1998.

water resource occurs or might occur as a result of activities on land. Part 8 provides for compulsory licences for water use in respect of specific resources in areas which are, or are soon likely to be, under water stress. It has been made clear in this Act that estuaries are protected through the broad definition of water resource.

The Act does acknowledge the ecological approach to water resources as they are all linked to each other by the hydrological cycle. The Act makes minimal provision for the management of freshwater flow into the estuaries or management of the estuary mouth; meanwhile; that may affect the estuarine habitat and estuarine dependent species. This gap has also been identified by Van Niekerk where she states that estuaries have been integrated into catchment management as ecological flow requirements studies required in terms of the NWA, but integration into the coastal zone has been neglected.<sup>195</sup> It is only the estuarine reserve determination process that caters for the freshwater requirements needed to sustain the estuarine ecosystem.

### **2.5.5 The World Heritage Convention Act 49 of 1999**

The central purpose of the World Heritage Act was to incorporate the World Heritage Convention into South African Law<sup>196</sup> as South Africa agreed to the World Heritage Convention.<sup>197</sup> This includes the enforcement and implementation of the World Heritage Convention in South Africa; the recognition and establishment of World Heritage Sites; the establishment of Authorities and the granting of additional powers to existing organs of State; the powers and duties of such Authorities, especially those safeguarding the integrity of World Heritage Sites; where appropriate, the establishment of Boards and Executive Staff Components of the Authorities; integrated management plans for World Heritage Sites; land matters in relation to World Heritage Sites; financial, auditing and reporting controls over the Authorities; and to provide for incidental matters.<sup>198</sup> This

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<sup>195</sup> Van Niekerk L A *Framework for Regional Estuarine Management: A South African Case study* (unpublished LLM thesis, University of Stellenbosch, 2007) 2.

<sup>196</sup> Chapter 1 makes provision for the 'enactment of Convention as part of South African law'. It further states: 'the Convention is enacted into law in the Republic'.

<sup>197</sup> Glazewski J (2005) 54.

<sup>198</sup> World Heritage Convention Act 49 of 1999.

legislation provides that the loss through deterioration, disappearance or damage through inappropriate development of the most prized possessions constitutes an impoverishment of the heritage of all the people in the world, and in particular the people of South Africa.<sup>199</sup> The natural heritage of South Africa currently includes estuaries like the Orange River Mouth<sup>200</sup> and St Lucia estuary which is the most important estuary and a key nursery for fish on the South-East African Coast.<sup>201</sup>

### **2.5.6 National Environmental Management: Protected Areas Act 57 of 2003**

The National Environmental Management: Protected Areas Act (NEM:PA) and its amendments provide for the protection and management of ecologically valuable areas by establishing protected areas within the NEMA and MLRA framework. It also requires the adherence to national norms and standards applicable to their protection and requires intergovernmental co-operation concerning protected areas.<sup>202</sup> It aimed to consolidate and rationalise all the protected areas legislation in South Africa.<sup>203</sup> The ecologically viable areas are the areas that are representative of the country's biological diversity and its natural landscapes and seascapes, habitats and species, including threatened or rare species. It also makes provision to rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species. The Act mentions four categories of protected areas that can be invoked: special nature reserve, national park, nature reserve and protected environment, as well as their buffer zones. The NEM:PA affords protection for all ecosystems, biomes, habitats and waterfowl.<sup>204</sup> Estuaries and their surrounding areas call for protection under the protected environment.

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<sup>199</sup> Preamble of Act 49 of 1999.

<sup>200</sup> Verschuuren J Case of Transboundary Wetlands under the Ramsar Convention: Keep the Lawyers (2008) 19 *Colo. J. Int'l Envtl. L. & Pol'y* 49. The Richterveld is a World Heritage Site and the Orange River estuary falls within the Richtersveld.

<sup>201</sup> Cyrus D, Jerling H, MacKayl F et al. 'Lake St Lucia, Africa's largest estuarine lake in crisis: Combined effects of mouth closure, low levels and hypersalinity' (2011) 107 (3/4) *S. Afr. J. Sci.* 1-13.

<sup>202</sup> National Environmental Management: Protected Areas Act 57 of 2003.

<sup>203</sup> Kidd M *Environmental Law* 2ed (2011) 102.

<sup>204</sup> Section 17(d) of Protected Areas Act 57 of 2003

## 2.5.7 National Environmental Management: Biodiversity Act 10 of 2004

The National Environmental Management: Biodiversity Act sets out mechanisms for managing and conserving biodiversity; protecting species and ecosystems; the sustainable use of indigenous biological resources; access to and sharing of the benefits arising from the use of biological resources, as well as bio-prospecting.<sup>205</sup> Regulations relating to alien species and listed invasive species have been published and they became of force on 1 October, 2014.<sup>206</sup> Included are a list of exempted species, a list of prohibited alien species and a list of invasive species.<sup>207</sup> An updated set of Invasive Species Lists (as per the NEMBA Regulations) were published on 29 July 2016 and came into force on 1 October 2016 which replaces the 2014 lists. In terms of this Act, regulations relating to listed threatened or protected species have also been published.<sup>208</sup> This supports conservation of plant and animal biodiversity, including the soil and water upon which this biodiversity depends. It has been mentioned above that certain species from estuaries have been listed as threatened.

## 2.5.8 National Environmental Management: Waste Act 59 of 2008

This Act and its amendments regulate waste management so that health and the environment are protected. It provides measures to prevent pollution and ecological degradation and to secure ecologically sustainable development. It also makes provision for institutional arrangements and planning matters, national norms and standards for regulating waste management, and specific waste management measures. The Act provides for the licensing and control of waste management activities, the remediation of contaminated land, and a national waste information system. It also addresses compliance and enforcement.<sup>209</sup>

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<sup>205</sup> National Environmental Management: Biodiversity Act 10 of 2004 (hereafter NEM:BA).

<sup>206</sup> GNR. 598 in GG 37885 of 01 August 2014. These regulations have been provided in terms of Section 97(1) of NEMBA

<sup>207</sup> GN 599 in GG 37885 of 01 August 2014. *Hippocampus capensis* is one of the threatened species which currently be found in the Knysna, Swartvlei, and Keurbooms estuaries in South Africa.

<sup>208</sup> GNR 152 in GG 29657 of 23 February 2007.

<sup>209</sup> Section 60 of National Environmental Management Waste Act 24 of 2008.

This Act is relevant in terms of the regulation of land-based marine pollution. Section 19(1) makes provision for a list of waste management activities that have, or are likely to have, a detrimental effect on the environment that the Minister may gazette. The list has been published.<sup>210</sup> Pollution of estuarine and coastal management is affected by the listed activities. Estuaries in particular have served as major repositories for industrial and municipal waste, sewage sludge and dredged material.<sup>211</sup>

### **2.5.9 National Environmental Management Act: Integrated Coastal Management Act 24 of 2008**

In 2009, South Africa adopted the Integrated Coastal Management Act (ICM Act) to manage its coastal and estuarine environments more holistically and to entrench the principles of co-operative governance. The ICM Act establishes a planning system that legally integrates coastal, marine, land and economic planning procedures in South Africa in order to protect the coastal protection zone, ecological integrity, natural character and economic, social and aesthetic values of the coast. This approach is an essential planning management Instrument by the regulation of land-based activities which are the main cause of marine pollution. This adoption was done as part of the institutional and legal reform flowing from the White Paper's action plan.<sup>212</sup> The process is designed to overcome the fragmentation inherent in both the sectoral management approach and the division of jurisdiction among levels of government at the land-water interface. This is done by ensuring that the decisions of all sectors and all levels of government are harmonised and consistent with the coastal policies of the nation in question.<sup>213</sup>

This is the most important legislation for estuaries and the coastal ecosystem in the broad sense. A key part of the ICM Act is the design of institutional processes to

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<sup>210</sup> GN 718 in GG 32368 of 03 July 2009 and GN 332 in GG 37604 of 2 May 2014.

<sup>211</sup> Kennish MJ 'Pollution in estuaries and coastal marine waters - coastal hazards perception, susceptibility and mitigation (1994) 12 *Journal of Coastal Research* 27.

<sup>212</sup> Chevallier R *Promoting the Integrated Governance of South Africa's Coastal Zone* (2015) 5.

<sup>213</sup> Cicin-Sain B & Knecht RW *Integrated Coastal and Ocean Management: Concepts and Practices* (1998) 39.

accomplish this harmonisation in a politically acceptable manner, to underpin co-operative governance which is seen as a key requirement for the success of proper estuary management.<sup>214</sup>

The coastal zone includes land falling within 100m of the high-water mark in urban areas and within 1km in rural areas, unless otherwise determined by the Member of Executive Council.<sup>215</sup> The estuarine environment falls within the coastal protection zone. The Act is designed to extend across the land–sea interface to allow for integrated planning, control and use. This Act also establishes a national monitoring and information system for the coastal ecosystem<sup>216</sup> and governs the effluent discharge into coastal waters, including estuaries, from any source on land.<sup>217</sup> The Act sets out certain principles for integrated coastal and estuarine management in order to promote the conservation of the coastal environment and to ensure that development and the use of natural resources within the coastal zone are socially and economically justifiable and ecologically sustainable. These principles are informed by the NEMA principles as adapted for the coastal zone in the nationally adopted White Paper for Sustainable Coastal Development in South Africa.<sup>218</sup> Any development and operation in the

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<sup>214</sup> Section 2 of the ICM Act states that the objects of the act is ‘to provide, within the framework of the National Environmental Management Act, for the co-ordinated and integrated management of the coastal zone by all spheres of government in accordance with the principles of co-operative governance’; Chapter 5 of the ICM Act details the institutional arrangements that would once implemented, contribute to co-operative coastal governance in South Africa. These arrangements are made at national, provincial and municipal government levels; and the embodiment of co-operative coastal governance is vested in what will be known as coastal committees.

<sup>215</sup> Chapter 3 makes provision for ‘boundaries of coastal areas’.

<sup>216</sup> Section 83(1)(f).

<sup>217</sup> Section 69.

<sup>218</sup> The principles are: **National asset:** The coast must be retained as a national asset, with public rights to access and benefit from the opportunities provided by coastal resources.

**Economic Development:** Coastal economic development opportunities must be optimised to meet society’s needs and to promote the wellbeing of coastal communities.

**Social Equity:** Coastal management efforts must ensure that all people, including future generations, enjoy the rights of human dignity, equality and freedom.

**Ecological Integrity:** The diversity, health and productivity of coastal ecosystems must be maintained and, where appropriate, rehabilitated.

**Holism:** The coast must be treated as a distinctive and indivisible system, recognising the interrelationships between coastal users and ecosystems, and between the land, sea and air.

**Risk Aversion & Precaution:** Coastal management efforts must adopt a risk averse and precautionary approach under conditions of uncertainty.

estuaries will need to take into account the principles of environmental protection, pollution control, waste management, and responsible resource use. One more legal concept introduced is 'the interests of the whole community' regarding the coastal zone.<sup>219</sup> This is one of the key principles provided in the NEMA.

Chapter 4 of the ICM Act promotes the conservation, sustainable use and protection of estuaries, mangroves and wetlands directly and through the preparation of management plans and the specification of management authorities. This is a key approach for land-based marine pollution regulation and is aligned with international best practice with regard to the regulatory objectives. The estuaries are managed according to the National Estuarine Management Protocol (NEMP).<sup>220</sup> The NEMP will provide a national policy for estuary management, and guide the development of individual estuarine management plans to 'maintain and/or restore the ecological integrity of South African estuaries by ensuring that the ecological interactions between adjacent estuaries, between estuaries and their catchments, and between estuaries and other ecosystems, are maintained.'<sup>221</sup> Furthermore, it must be ensured that estuarine management plans are aligned with the NEMP and the National Coastal Management Programme (NCMP). The prescribed content for this NEMP includes: a strategic vision

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**Accountability & Responsibility:** Coastal management is a shared responsibility. All people must be held responsible for the consequences of their actions, including financial responsibility for negative impacts.

**Duty of Care:** All people and organisations must act with due care to avoid negative impacts on the coastal environment and coastal resources.

**Integration & Participation:** A dedicated, co-ordinated and integrated coastal management approach must be developed and conducted in a participatory, inclusive and transparent manner.

**Co-operative Governance:** Partnerships between government, the private sector and civil society must be built in order to ensure co-responsibility for coastal management and to empower stakeholders to participate effectively.

<sup>219</sup> Section 1 states that 'interest of the community' means 'the collective interests of the community determined by (a) prioritising the collective interests in coastal public property of all persons living in the Republic over the interests of a particular group or sector of society; (b) adopting a long-term perspective that takes into account the interests of future generations in inheriting coastal public property and a coastal environment characterised by healthy and productive ecosystems and economic activities that are ecologically and socially sustainable; (c) taking into account the interests of other living organisms that are dependent on the coastal environment; and (d) taking into account any interests of persons or other living organisms outside the Republic that may be affected by the decision.'

<sup>220</sup> Section 33.

<sup>221</sup> Paterson AR (2013) 147.

and objectives;<sup>222</sup> management standards;<sup>223</sup> procedures or guidelines on how to manage estuaries; and which authorities should undertake such management,<sup>224</sup> and details regarding estuarine management plans where it is anticipated provincial and local government authorities will be required to prepare for estuaries situated in their jurisdiction.<sup>225</sup>

The ICM Act prescribes that all estuaries must be managed in a co-ordinated and efficient manner and in accordance with the NEMP. The Act helps to align national, provincial and municipal planning and management initiatives and to formalise these initiatives through appropriate frameworks, such as, Spatial Development Frameworks and Integrated Development Plans.<sup>226</sup> In light of the above, there is no doubt that the ICM Act is the most transformative legislation in terms of protecting estuaries and their ecosystem; however, there are certain challenges with this Act. This Act repealed the Sea Shore Act<sup>227</sup> but certain provisions of the ICM Act are not brought into effect<sup>228</sup> which results in making use of the Sea Shore Act provisions.<sup>229</sup> Therefore the Sea Shore Act<sup>230</sup> remains in force together with the ICM Act. It can be argued that the non-repeal of the Sea Shore Act is caused by the challenges of co-operative governance.

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<sup>222</sup> Section 33(3)(a).

<sup>223</sup> Section 33(3)(b).

<sup>224</sup> Section 33(3)(c). The Act also outlines a directive for the establishment of the National Coastal Committee (NCC) and Provincial Coastal Committees (PCCs), and makes provision for the optional establishment of Municipal Coastal Committees (MCCs), as well as voluntary coastal officers.

<sup>225</sup> Sections 33(3)(d) and (e). 'The provincial and municipal coastal committees will monitor the implementation of environmental management plans and report on estuarine management, among others'.

<sup>226</sup> Celliers L, Moore T, & Malan D, *A User-friendly Guide to the Integrated Coastal Management of South Africa* (2009) 25.

<sup>227</sup> Act 21 of 1935.

<sup>228</sup> Sections 11, 65, 66, 95, 96 and 98 of the Act were not brought into effect. Section 11 makes provision for ownership of coastal public property; S65, makes provision for award of leases and concession on coastal public property; S66 makes provision for terms of coastal leases and coastal concessions; S95 makes provision for existing leases or rights to coastal public property; S96 makes provisions for regulation of unlawful structures on coastal public property; S98 makes provision for repeal of legislation.

<sup>229</sup> Ministry of Environmental Affairs Oceans and Coasts briefing by Department of Environmental Affairs available at <https://pmg.org.za/committee-meeting/20707/> (accessed 02 July 2016).

<sup>230</sup> The definition of 'tidal lagoon' and 'tidal rivers' allows estuaries to be protected. 'tidal lagoon' means any lagoon in which a rise and fall of the water-level takes place as a result of the action of the tides; 'tidal river' means that part of any river in which a rise and fall of the water-level takes place as a result of the action of the tides.

The ICM Act adopts the approach of identifying the legal elements of sustainable development as it consists of the integration principle (integrates coastal, marine, land and economic planning procedures in order to protect the sustainable use of the coastal protection zone, ecological integrity, natural character and economic, social and aesthetic values of the coast)<sup>231</sup> and co-operation principle,<sup>232</sup> which is basically what this study is addressing in assessing the efficiency of co-operative governance. A major contribution of the Act is that, it has identified the area that is coastal.

## 2.6 General criticism of the estuary legislation

There remains an element of subjectivity in the definition of the geographical estuarine boundary. This is a gap identified in the entire estuarine related framework. This makes it difficult for practical estuary management and protection. It is therefore very important to define the precise geographic boundary of an estuary for proper management. The definition of an estuary provided in the Acts is mainly relevant to the scientific (ecological, geomorphological or hydraulic) knowledge and understanding of estuarine processes. Lawyers require a legally defensible definition of an estuary.<sup>233</sup> The physical definitions are apparently more objective; the biological separation of these transitional areas remains more subjective. It is the author's view that the definition should make provision for coastal waters within the definition of water dependent ecosystems as it is known that freshwater and brackish plumes from large rivers can extend some distance offshore, and that these flows have been correlated with ecological responses, such as fish migration events. This is one of the main challenges to protect and manage

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<sup>231</sup> Glavovic BC. The evolution of coastal management in South Africa: why blood is thicker than water. (2006) 49 *Ocean & Coastal Management* 889. He states that the White Paper for Sustainable Coastal Development in South Africa was founded on a national vision for the coast that includes the socially justified sharing of benefits derived from a resource-rich coastal area without compromising the ability of future generations to access those benefits. Above all, the White Paper promotes ICM, which in its most basic form, represents an acknowledgement that the coastal zone functions as an interconnected system which includes managing human activities of people in the coastal zone, and calls for co-ordinated, integrated and systemic management, whilst simultaneously promoting sustainable coastal development.

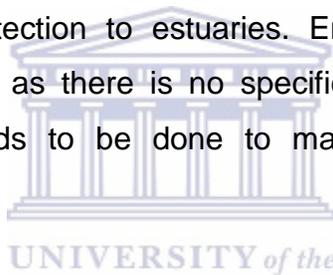
<sup>232</sup> Celliers L, Moore T & Malan D A *User- friendly Guide to the Integrated Coastal Management of South Africa* (2010) 2. In general, ICM promotes the use of defensible scientific information in conjunction with the principles of co-operative governance in order to achieve sustainable coastal development.

<sup>233</sup> McLusky DS & Elliott M 'The need for definitions in understanding estuaries' (2002) *Estuarine, Coastal and Shelf Science* 815.

estuaries in an effective manner. The existence of two legal regimes to regulate effluents in estuaries, one in terms of the NWA and the other in terms of the ICM Act, affects the integrated and ecosystem-based management of water resources, including coastal waters. An effective co-operative approach for the management of estuaries is very critical.

## **2.7 Conclusion**

At the international level, international law (treaties and soft law) has afforded some kind of protection for the estuarine ecosystems. However, none of them has a specific section devoted to estuaries. Though the soft laws are developed, they remain only guiding documents, a fact which can limit their legal implication and status. The law does not afford sufficient protection to estuaries. Enforcement of the international environmental law is complex, as there is no specific body designated to take that responsibility; thus more needs to be done to make the treaties more specific, integrated and effective.



The South African environmental framework in the context of estuary regulation does incorporate the internationally accepted law principles and international obligations. The objectives of the South African regulatory framework pertaining to estuaries are aligned with those of international best practice, aiming at the protection of the environment, pollution management and the management of water uses. The local framework has gaps but it does afford sufficient protection to estuaries but the challenge being faced is the lack of a legal recognised definition of an estuary. The scientific definition remains the only definition used for an estuary in the entire South African legislative framework. This impairs the management and protection of estuaries as it results in confusion and uncertainty in terms of administrative purposes.

## CHAPTER 3

### CO-OPERATIVE GOVERNANCE AND THE CONSTITUTIONAL MANDATE TO PROTECT THE ENVIRONMENT

#### 3.1 Introduction

Despite the rapid promulgation of environmental law since the adoption of the Constitution which makes provision for environmental rights, estuaries and their ecosystem continue to deteriorate in number.<sup>234</sup> The legal framework for the protection and management of estuaries clearly reflects fragmentation and disharmony in environmental law. Governments are important players in how the environment is managed, exploited and conserved. The notion of co-management of natural resources, such as estuaries, has emerged as the most promising institutional prospect for resolving resource conflicts and building a partnership between conservation and management in government. Theoretically, such co-management is part of the South African environmental governance's mandate.<sup>235</sup> This is supported by the constitutional vision of co-operative government which is set out in Chapter 3 of the Constitution. Government does not exist as a single organisation; various institutions and agencies deal with regulatory issues pertaining to the environment.<sup>236</sup> Provision is also made in the NEMA to establish institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of State.<sup>237</sup>

This fragmentation makes environmental governance a complex field in South Africa and faces serious challenges in terms of improving service delivery.<sup>238</sup> The general public has been concerned about the fragmentation of environmental issues and the haphazard and poor enforcement of environmental laws.<sup>239</sup> Environmental governance

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<sup>234</sup> Refer to Chap 1.

<sup>235</sup> Schedules 4 & 5 of the Constitution.

<sup>236</sup> Nanda VP & Pring G *International Environmental Law & Policy for the 21<sup>st</sup> Century* (2003) 121ff.

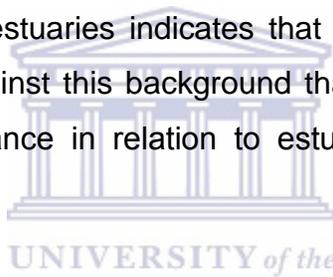
<sup>237</sup> Preamble of the NEMA.

<sup>238</sup> Kotze LJ 'Improving unsustainable environmental Governance in South Africa' (2006) 1 *PER* 1.

<sup>239</sup> Bray E 'Fragmentation of the environment: another opportunity lost for a nationally coordinated approach?' (1995) 10 *South African Public Law* 173.

can only be effective if it leads to fair and sustainable management of ecosystems.<sup>240</sup> The situation in South Africa is that the fragmented legislation further gives rise to duplication of administrative procedures, jurisdictional overlap and confusing governance efforts when it comes to the management and protection of estuaries; and that inhibits sustainable estuarine management efforts. Fragmentation is also furthered by the Constitution that established nine provinces.<sup>241</sup> As the interaction between nature and society is more direct and stronger in estuaries and coastal systems, co-operative governance is accordingly regarded as a necessary pioneer of coastal development, including effective environmental compliance and enforcement efforts in South Africa.<sup>242</sup>

Regardless of the comprehensive legal framework and the utility of co-operative governance, evidence suggests that co-operative governance is not very successful in practice.<sup>243</sup> The status of the estuaries indicates that there are challenges facing co-operative governance. It is against this background that I shall critically assess South Africa's environmental governance in relation to estuary management: its structure, mandate and challenges.



### **3.2 The Constitution and co-operative governance**

Fragmentation of environmental governance is evident in the Constitution, where the roles and responsibilities with regards to environmental matters are documented in schedules 4 and 5. This provides an opportunity for collaboration between the spheres of government in ensuring the promotion of good governance in public administration. The distribution of State authority is informed by the principle of co-operative governance which seeks to determine the relationship between the spheres of government. The Constitution also acknowledges co-operative governance as a model

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<sup>240</sup> World Resources Institute *Decisions for the Earth, World Resources 2002–2004*, World Resources Institute (2004).

<sup>241</sup> Section 103 of the Constitution.

<sup>242</sup> Paterson AR Kotze LJ & Albie S (2009) 33.

<sup>243</sup> Kotze LJ et al 'Strategies to Integrate Environmental Policy at the Operational Level: Towards an Integrated Framework for Environmental Authorisations' 2008 *SAJELP* 57.

to align fragmented government processes.<sup>244</sup> It is within the setting of fragmentation that the term 'co-operative governance' is often present in the environmental management framework.

Co-operative governance refers to the system of government that defines the framework within which the relations between the three spheres of government must be conducted.<sup>245</sup> Co-operative governance primarily refers to the integration of the different spheres of government and line functionaries at intra-governmental level; co-operation between individual government officials in each sphere/line function; co-operation between government officials in different spheres/line functions; integration of policy, regulation methods and tools, service provision and scrutiny; and co-operation with industry and the public in order to achieve the principles of sustainability.<sup>246</sup> Co-operative governance is further characterised by consultation, co-ordination and mutual support.<sup>247</sup> The State organs all have legislative and executive authority in their own spheres,<sup>248</sup> and are interdependent and interrelated.<sup>249</sup> However, the Constitution gives comprehensive powers to the National Government to enable it to set national standards and norms and to override any provincial legislation that may threaten national unity or standards.<sup>250</sup>

Section 41(1) of the Constitution establishes a set of principles of co-operative government and intergovernmental relations for the resolution of intergovernmental disputes.<sup>251</sup> These principles are based on mutual respect for one another's

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<sup>244</sup> See schedules 4 and 5 of the Constitution as well as Chapter 3 of the Constitution.

<sup>245</sup> South Africa has a three-tier system of government (national, provincial and local) and each tier is distinctive.

<sup>246</sup> Kotze LJ 'A Legal Framework for Integrated Environmental Governance in South Africa and the North West Province' (2006).

<sup>247</sup> Malherbe R 'The role of the Constitutional Court in the development of the provincial autonomy' (2001) 16 *SAPR/PL*, 255.

<sup>248</sup> Section 43-44 of the Constitution.

<sup>249</sup> Section 40(1) of the Constitution.

<sup>250</sup> Section 146 of the Constitution. Also see Simeon R & Murray C 'Multi-Sphere Governance in South Africa: An interim Assessment' (2001) 31 (4) *The Journal of Federalism* 72.

<sup>251</sup> Section 41 of the Constitution provides (inter alia) (1) All spheres of government and all organs of state within each sphere must :

c) provide effective, transparent, accountable and coherent government for the Republic as a whole;  
e) respect the constitutional status, institutions, powers and functions of government in the other spheres;

constitutional status, powers and functioning, and on consultation with each other on matters of common interest. Section 41(2) further provides for an Act of Parliament to be enacted in order to provide for structures and Institutions to promote and facilitate settlement of intergovernmental relations; and to provide for appropriate mechanisms and procedures to facilitate the settlement of intergovernmental disputes and facilitate co-ordination and implementation of policy and legislation. South African environmental governance has not been given the resources or the political capital to fulfil this mandate. Thus, the Intergovernmental Relations Framework Act 13 of 2005 was promulgated to give effect to co-operative governance.<sup>252</sup> This Act recognises that government is liable to secure the right to a healthy environment; provides for an institutional framework to promote and facilitate intergovernmental relations as well as ensure that effective governance is achieved; and emphasises the requirement of co-operation.



### **3.2.1 Co-operative governance and the NEMA**

South African environmental legislation must operate within the framework set out in the Constitution.<sup>253</sup> The trend of co-operative governance is substantiated by the NEMA as the main objective. The main objective is basically to provide for co-operative environmental governance by establishing principles for decision making on matters affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of state; to provide for certain aspects of the administration and enforcement of other environmental management laws; and to provide for matters connected therewith.

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- f) not assume any power or function except those conferred on them in terms of the Constitution;
  - g) exercise their powers and perform their functions in a manner that does not encroach on the geographical, functional or institutional integrity of government in another sphere; and
  - 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; and
    - vi. avoiding legal proceedings against one another.

<sup>252</sup> Section 4 of Intergovernmental Relations Framework Act.

<sup>253</sup> Kidd M ed. (2011) 20.

Chapter 3 of the NEMA makes provision for co-operative governance in order to promote co-operation between all spheres of government as well as organs of State.

The Preamble of the NEMA recognises that the environment is a functional area of concurrent national and provincial legislative competence, and that all spheres of government and all organs of State must co-operate with, consult and support one another; that it is desirable that the law develops a framework for integrating good environmental management into all development activities; and that the law should promote certainty with regard to decision-making by organs of state on matters affecting the environment to achieve sustainable environmental management. However, the Act is so widely formulated that certain government departments usurp environmental decision making, taking it away from the DEA. On the other hand, the DEA strives to regain decision making on matters regarding the environment .Intergovernmental co-ordination is accordingly acknowledged as an important requirement of sustainable development in the NEMA.<sup>254</sup> This is all supported in South African environmental law and nearly all environmental frameworks include co-operative governance as one of the concepts of the strategy. Some environmental frameworks place stronger emphasis on co-operative governance than others. Institutional forums are created by legislation and informally to ensure environmental co-operative federalism.<sup>255</sup>

In support of co-operative governance, the NEMA provides for the drafting of EMPs and Environmental Implementation Plans (EIPs) by both National and Provincial Governments as well as the establishment of an environmental co-ordination committee which should facilitate co-operative governance through promoting the integration and co-ordination of environmental functions by the relevant organs of State.<sup>256</sup> This is intended to promote co-ordination of environmental functions. Intergovernmental disputes and solutions to ensure fair decision-making and effective conflict management are also provided for in Chapter 4 through provisions relating to conciliation, facilitation,

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<sup>254</sup> Sections 4(l) of the NEMA

<sup>255</sup> Layman T *Intergovernmental relations and service delivery in South Africa: a ten year review* (2003) 8-9.

<sup>256</sup> Section 11-16 of the NEMA.

arbitration, investigation, and the appointment of a panel of conciliators or arbitrators from which a selection of conciliators and arbitrators may be made.

### 3.3 Institutional arrangements that govern estuaries

Environmental governance is fragmented in South Africa. The fragmented legislative framework has already been described in Chapter 2. All spheres of government have responsibilities for environmental management and biodiversity conservation, as much of the implementation of central government policies is devolved to provincial and local government.<sup>257</sup> For ecologically sustainable development and use of our coastal, estuarine and marine environments, planning, resource allocation and control of activities in coastal, estuarine and marine environments are achieved through legislation administered by the State.



#### 3.3.1 National Government

The DEA is the lead agent in environmental management, conservation and protection towards sustainable development for the benefit of South Africans and the global community.<sup>258</sup> It co-ordinates environmental functions across various national departments and other levels of the South African government.<sup>259</sup> The DEA administers the NEMA, NEM:BA, NEM:PA, ICM Act, NEM:WA and World Heritage Convention Act. The DEA shares the responsibility of managing estuaries with the Department of Water and Sanitation (DWS), and the Department of Agriculture Forestry and Fisheries (DAFF) is responsible for the management of marine living resources.<sup>260</sup> The DWS is responsible for the regulation of South Africa's water resources, which include estuaries as part of the source-to-sea concept through the NWA. Water resources are an

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<sup>257</sup> Schedule 4 and 5 of the Constitution.

<sup>258</sup> Department of Environmental Affairs Available at <http://www.gov.za/about-SA/environment> (accessed 30 November 2016). The NEMA, however, identified the DEA as the lead agency on environmental matters and within the systems of co-operative governance.

<sup>259</sup> Thomsen P 'Corporate accountability in South Africa: the role of community mobilising in environmental governance' (2005) 83 (3) *International Affairs* 625.

<sup>260</sup> Estuaries are protected through the MLRA.

exclusive national legislative competence.<sup>261</sup> The Act specifically states 'that water is a scarce and unevenly distributed national resource which occurs in many different forms which are all part of a unitary, interdependent cycle; and that the National Government's overall responsibility for and authority over the nation's water resources and their use, including the equitable allocation of water for beneficial use...'.<sup>262</sup> The DWS is mandated to attend to the development of water management strategies and protection of water resources, undertake monitoring, and do assessments of and ensure information dissemination on the quantity and quality of water resources in South Africa. It retains certain powers and functions at national level and other powers and functions are devolved to regional levels.<sup>263</sup>

The ICM Act recognises that the physical nature of estuaries requires joint management and provides for the Ministers responsible for Water Affairs and Environmental Affairs to agree jointly on a NEMP that will guide the development of estuarine management plans for each estuary.<sup>264</sup> The ICM Act further provides for consultation between the two Ministries on matters relating to discharging of effluent into coastal waters that originates from a source on land.<sup>265</sup> Furthermore, the Department of Mineral Resources (DMR) basically grants environmental authorisation for mining activities which include mining activities in marine and coastal waters.<sup>266</sup> All the authorities implement their sectoral environmental legislation but the DMR and DEA both implement the NEMA.

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<sup>261</sup> Dickens C, Kotz D, Mashigo S, et al *Guideline for Integrating the Protection Conservation and Management of Wetlands into Catchment Management Planning* (2003) 35.

<sup>262</sup> Preamble of the NWA.

<sup>263</sup> Kidd M ed (2011) 75.

<sup>264</sup> Section 33(2) the ICM Act.

<sup>265</sup> Section 69 of the ICM Act.

<sup>266</sup> Section 24C (2A) of the NEMA. The Minister responsible for mineral resources must be identified as the competent authority in terms of subsection (1) where the listed or specified activity is directly related to-

- (a) prospecting or exploration of a mineral or petroleum resource; or
- (b) extraction and primary processing of a mineral or petroleum resource.

### 3.3.2 Provincial Government, agencies and institutional structures

The role played by the provincial Departments relates to the planning, management and use of coastal natural resources<sup>267</sup> as estuaries are identified as coastal resources. The provincial governments are further required, in terms of the system of co-operative governance, to monitor and supervise the local sphere as entrenched in section 139 of the Constitution. The NEMA also requires Provincial Government to prepare EIPs<sup>268</sup> and to ensure that municipalities adhere to these EIPs in the preparation of their Integrated Development Plans (IDPs).<sup>269</sup> Another role played by Provincial Government is to support municipalities to adhere to the NEMA principles in the preparation of municipal policy and programmes.<sup>270</sup> The provinces are given a mandate to establish and declare coastal setback lines after consulting the relevant municipalities and affected parties.<sup>271</sup> A coastal setback is a buffer zone defined by a specific distance from the shoreline's highest winter water mark, within which permanent constructions are not allowed.<sup>272</sup> Setback zones are a coastal zone management tool for a number of different reasons, such as:

- (1) to ensure public access;
- (2) to protect the ecological and landscape integrity of the coast; and
- (3) to minimize the natural risk hazards protecting population and developments.

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<sup>267</sup> The Constitution has assigned provincial planning under schedule 5. As part of its Provincial Planning mandate, Provincial Government is responsible for ensuring that the coastal assets are used sustainably.

<sup>268</sup> Section 11 of the NEMA.

<sup>269</sup> Section 16(4)(b) of the NEMA.

<sup>270</sup> Section 16(4)(b) of the NEMA.

<sup>271</sup> Section 25 of the ICM Act. The Act details the setback line as prescribed boundaries that indicate the limit of development along ecologically sensitive or vulnerable areas or an area that poses a hazard to humans. These lines restrict the construction, extension or repair of structures that are either wholly or partly seaward of the line, in order to protect coastal property, promote public safety and ensure the aesthetics of the coastal zone.

<sup>272</sup> Sylaios G 'Bridging the Implementation Gap –An Innovative Approach to Coastal Setbacks definition Case Study in a Kavala Municipality Shoreline at [http://marenostrumproject.eu/wp-content/uploads/2013/12/Mare\\_Nostrum\\_Alexandroupolis\\_DUTH\\_Kavala\\_Municipality\\_Shoreline\\_Case\\_Study.pdf](http://marenostrumproject.eu/wp-content/uploads/2013/12/Mare_Nostrum_Alexandroupolis_DUTH_Kavala_Municipality_Shoreline_Case_Study.pdf) (accessed 28 January 2017).

The NWA makes provision for the establishment of catchment management agencies which are responsible for the management of water resources.<sup>273</sup> In addition, the ICM Act makes provision for the establishment of coastal committees with a role to promote integrated coastal zone management in the province. The coastal committees are also mandated to promote co-ordinated and effective implementation of the ICM Act as well as co-ordination of the provincial CMP.

### 3.3.3 Local government

A local government has executive authority in respect of, and has the right to administer local government matters listed in Part B of Schedule 4 and Part B of Schedule 5 of the Constitution.<sup>274</sup> It is the local sphere that carries a broader mandate in the area of service delivery, which directly contributes to an effective system of public administration for the advancement of the principles of co-operative governance.<sup>275</sup> Certain environmental functions, such as waste management and coastal development, are allocated to local government, which then serves as the competent authority. The primary functions of municipalities in relation to coastal management are to prepare and implement municipal coastal management programmes,<sup>276</sup> to manage beaches and other coastal areas under their jurisdiction in an integrated, effective, and efficient manner that is in accordance with the coastal management principles and the purpose of the ICM Act, and to ensure that the public has appropriate access to coastal public property. All municipalities are mandated to have coastal setback lines in place<sup>277</sup> and

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<sup>273</sup> Chapter 7 of the NWA. Catchment management agencies (CMAs) are statutory bodies established by a notice in the Government Gazette, with jurisdiction in a defined water management area (WMA). A CMA therefore manages water resources and co-ordinates the functions of other institutions involved in water related matters within WMAs.

<sup>274</sup> Section 156 of the Constitution.

<sup>275</sup> Section 151 describes the status of the local sphere of government as follows: ‘

- (1) The local sphere of government consists of municipalities which must be established for the whole of the territory of the Republic.
- (2) The executive and legislative authority of a municipality is vested in its municipal council.
- (3) A municipality has the right to govern, on its own initiative, the local government affairs of its community, subject to national and provincial legislation, as provided for in the Constitution.
- (4) The national or a provincial government may not compromise or impede a municipality’s ability or right to exercise its powers or perform its functions.’

<sup>276</sup> Section 48 of the ICM Act.

<sup>277</sup> Section 25 of the ICM Act.

these lines must be delineated on the map that forms part of the municipal zoning scheme to provide guidance on locating the future development footprint.<sup>278</sup>

### **3.4 Challenges facing South African co-operative governance in protecting and managing estuaries**

Governance of the environment and natural resources is essential; and without effective co-operative governance, natural resources such as estuaries are at risk.<sup>279</sup> Despite the existing legislative framework and the utility of co-operative governance, estuarine degradation still continues.<sup>280</sup> An effective system of co-operative government is predicated on appropriate and effective institutions which are responsible for the development of appropriate systems and processes as well as initiating and overseeing joint work and projects.<sup>281</sup> The status of the estuaries reflects both the successes and failures of the environmental governance system we have today. Despite the Constitution, environmental policies and legislation, co-operative governance is often not experienced at the operational level.<sup>282</sup> These institutions are responsible for the development of appropriate systems and processes as well as initiating and overseeing joint work and projects. The current practice of the institutions poses a number of challenges for the successful realisation of co-operative government's ability to fulfil its mandate in protecting and managing estuaries and the estuarine ecosystem.<sup>283</sup>

Estuarine protection in South Africa further suffers from intrinsic problems related to environmental law.<sup>284</sup> In the previous chapter, the scale and scope of environmental law

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<sup>278</sup> Celliers L Colenbranderc DR, Breetzke T et al. 'Towards increased degrees of integrated coastal management in the City of Cape Town, South Africa' (2009) 105 *Oceans and Coastal Management* 138.

<sup>279</sup> Dietz T, Ostrom E & Stern PC 'The struggle to govern the commons' (2008) *Urban Ecology* 611.

<sup>280</sup> Refer to 1.4.1 of Chapter 1 and Chapter 2.

<sup>281</sup> Layman T (2003) 21.

<sup>282</sup> Du Plessis W 'Legal mechanisms for co-operative governance in South Africa: Successes and failures' (2008) 23 (1) *SALP* 109.

<sup>283</sup> Layman T (2003) 21.

<sup>284</sup> Bugge HC Environmental law's fragmentation and discretionary decision-making: A critical reflection on the case of Norway in Rosaeg E, Schafer HB, Nor-Stavang E (eds) in *Law and Economics* (2010) 55-75. He states that the challenges are probably to some extent observed in most countries. They

fragmentation have been well documented. These major challenges that are faced by co-operative governance in protecting the estuaries are:

- (i) The environment is sector based and highly fragmented. It is fragmented between sectors. There are separate Acts for various types of industry, such as, agriculture, mining, energy, fishing and aquaculture, and so on, and most of the environmental matters concerning these industries are interrelated. The environment sector is also fragmented between different spheres of government. This fragmentation happens without the necessary mechanisms for co-ordination and there is no co-operation.<sup>285</sup>
- (ii) The sustainable development principle laid down in the environmental legislation is interpreted and applied most inconsistently, or not at all.<sup>286</sup>
- (iii) The provincial and local governments have a role to play. However, decision making, monitoring enforcement, and judicial responsibilities of integrated environmental management often lie with national government.<sup>287</sup>

Fragmentation results in several disadvantages and may ultimately hamper the effectiveness of environmental governance in fulfilling its mandate.<sup>288</sup> It also makes it difficult to address issues in a comprehensive holistic fashion,<sup>289</sup> leading to the challenges discussed below.

### 3.4.1 Lack of clarity regarding the respective responsibilities

The management of estuaries has also been bedeviled by a lack of clarity regarding the respective responsibilities of the DWS, on the one hand, and the DEA and DMR, on the

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represent general challenges to good environmental governance and must be seen in the light of some fundamental problems in environmental law.

<sup>285</sup> Bray E 'Fragmentation of the environment: another opportunity lost for a nationally coordinated approach?' (1995) 10 *South African Public Law* 173.

<sup>286</sup> Bugge HC 'Twelve challenges in environmental law' in Voigt C *Rule of Law for Nature: New Dimensions and Ideas in Environmental Law* (2013) 25.

<sup>287</sup> Wessels JA 'Environmental By-Laws – The Missing Link of Integrated Environmental Management' (2006) 3.

<sup>288</sup> Kotze LJ 'A Legal Framework for Integrated Environmental Governance in South Africa and the North-West Province' (*LLD thesis, University of the North West* 2005).

<sup>289</sup> Lazurus RJ *The making of environmental law* (2004) 33.

other. This arises primarily from the fact that estuaries contain fresh water and fall within the definition of a water resource in the NWA, but also contain salt water and marine living resources as defined in the MLRA and ICM Act. The ICM Act governs coastal waters which include estuaries. This environmental legislation is silo based and issue specific, and contains jurisdictional overlaps and duplication of procedures and processes.<sup>290</sup>

It was mentioned in Chapter 1 that mining does occur within the estuaries which is one of the main causes for the degradation of estuaries. The usurping of power relating to matters dealing with the environment is more apparent in the latest NEMA amendments. The NEMA indicates that the Ministry of Mineral Resources is the competent authority for mining activities i.e. environment authorisations and compliance.<sup>291</sup> The Ministry of Mineral Resources is also the custodian of minerals whether occurring in estuaries or coastal waters.<sup>292</sup> It is apparent that decision-making on environmental matters concerning coastal and estuarine mining is assumed by the DMR, while the management of estuaries and coastal areas is the responsibility of the DEA. The mandates contradict one another: one promotes economic development through mining and another promotes the protection of the environment. These inconsistencies bring about a situation in which the spheres are working against one another, with each department trying to promote its own mandate.

The amendment of the NEMA has resulted in confusion in connection with the mining related environmental function. The NEMA transferred all decision making with regard to mining related environmental matters to the Minister of Mineral Resources (excluding water and air quality), and the applications for environmental authorisations will have to be completed in terms of the NEMA and its Regulations,<sup>293</sup> but with an appeal available to the Minister of Environmental Affairs on any environmental decision taken by the

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<sup>290</sup> Kotze LJ (2005) 1.

<sup>291</sup> Section 50A(2)(c) of the NEMA.

<sup>292</sup> Minerals and Petroleum Development Act 28 of 2002.

<sup>293</sup> Section 24C(2A) of the NEMA.

Minister of Mineral Resources.<sup>294</sup> All decision-making with regard to residue stockpiles and residue deposits are regulated in terms of the NEM:WA by the Minister of Mineral Resources.<sup>295</sup> The amendment further introduced a mineral resource inspectorate.<sup>296</sup> This makes it increasingly difficult to define the boundaries of power and responsibility between the two government departments. There is uncertainty and confusion about the ground rules, and these result in inconsistent practices, unreasonable expectations and unconstitutional conduct. These consequences are, unfortunately, not uncommon. The inspectors of the Ministry of Mineral Resources have authority to enforce environmental laws as far as they relate to mining. Meanwhile the inspectors of the Ministry of the Environment cannot enforce the ICM Act or any provision thereof in respect of mining activities that are occurring in coastal waters. It has to be noted that the estuarine environment falls within the coastal protection zone which is the mandate of the DEA. This also creates confusion about whether the DEA has a mandate in relation to mining activities that are occurring in coastal waters. In most cases when an activity is regulated by the party that in the main gets only the benefits; the imbalance becomes evident. There are different institutional interests, and the inevitability of contestation among them.



Issues of environmental transgressions and non-compliance require that municipalities have the ability to respond and enforce the relevant laws.<sup>297</sup> There appears to be uncertainty relating to carrying out coastal management functions between district and local municipalities, such as, the responsibility for the delineation of coastal management lines.<sup>298</sup> At this stage, the DEA is the institution with the necessary authority to enforce environmental and coastal management laws.

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<sup>294</sup> Section 43 of the NEMA.

<sup>295</sup> Sections 1, 43(1A), 43A, 69(1)(iA) of the NEM:WA.

<sup>296</sup> Section 31BB of the NEMA.

<sup>297</sup> Mathebula AMT 'The role and duties of municipalities in the enforcement of Environmental law' (2014) 5 (23) *Mediterranean Journal of Social Sciences* 136.

<sup>298</sup> The South African Local Government Association (SALGA) and DEA *Defining the role of Local Government in Environmental Management and establishing the costs of performing environmental management functions :Revised Environmental Legal Protocol* (2015) 20.

### 3.4.2 Enforcement

To manage and protect estuaries, enforcement of the stated legislation is very critical. Enforcement is also a shared responsibility of the three spheres of government. The conducting of compliance inspections with regards to the legislative provisions, as well as the authorisations and permits issued in terms of environmental law, play a critical role in ensuring the integrity of the regulatory function. Without the implementation of effective compliance monitoring activities, there is no way to determine whether the regulated community is complying with the environmental authorisations and permits being issued.<sup>299</sup> An important tool of environmental enforcement has been set out in the legislation, and is done through the use of directives<sup>300</sup> and compliance notices.<sup>301</sup> These provisions establish a duty of care and empower competent authorities to direct transgressors to take a number of steps to remedy harm to the environment. This role is fulfilled by the National and Provincial Governments.

The environmental compliance and enforcement system in South Africa rests on three main institutions, namely, the Environmental Management Inspectors (EMIs) and Environmental Mineral Resource Inspectors (EMRIs),<sup>302</sup> the National Prosecuting Authority (NPA) and the courts. There are, of course, officials appointed in terms of provincial legislation and local authority by-laws that also carry out environmental compliance and enforcement functions. However, only EMIs and EMRIs are mandated to enforce and monitor compliance with the NEMA and specific environmental management Acts.<sup>303</sup> All these institutions must co-operate in the monitoring and enforcement of compliance with the NEMA and its subsidiary laws covering estuarine and coastal management.

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<sup>299</sup> Paterson AR & Kotze LJ (2009).

<sup>300</sup> Section 19 of the NWA, section 28 of the NEMA and Section 37 of the NEM:WA.

<sup>301</sup> Section 31L of the NEMA.

<sup>302</sup> Section 31B, 31BB and 31C of the NEMA, make provision for the Minister of the Environmental Affairs and Members of the Executive Council (MECs) of provincial departments responsible for the environment to appoint EMIs the Minister responsible for Mineral Resources to appoint EMRIs tasked with the monitoring and enforcement of certain environmental legislation.

<sup>303</sup> Section 31E of the NEMA.

These Inspectors are categorised according to various grades which reflect the legislative compliance and enforcement powers that they have in terms of Chapter 7 of the NEMA. The grading system is intended to align the functions of the inspectors with access to appropriate legislative powers. However, the inspectors should undergo training and there is a qualification criterion that the Ministers may prescribe.<sup>304</sup> The MLRA makes use of Fishery Control Officers (FCOs) and honorary marine conservation officers,<sup>305</sup> but both environmental enforcement officials and FCOs do that in collaboration with other enforcement agencies in the country, such as the South African Police Services (SAPS).<sup>306</sup> However, notwithstanding all these efforts, estuaries still continue to deteriorate. It can be argued that South Africa's environmental compliance monitoring and enforcement system is not effective enough due, *inter alia*, to the fact that its enforcement regime for coastal mining activities does not utilise any institution other than the DMR. The DEA is limited to the ICM Act when it comes to coastal mining activities. The authorisations that are granted for the coastal activities are difficult to monitor, and compliance inspections take too long to finalise.<sup>307</sup>

### 3.4.3 Poor planning

It has been mentioned that the role of co-operative governance is to integrate line functionaries of the different spheres of government at intra-governmental level, including regulation methods and tools to achieve the principles of sustainability. Section 2(4) of the NEMA also recognises that environmental governance must be integrated because all elements of the environment are linked and interrelated. This integration can be done through consultation of the parties involved. Section 24K of the NEMA provides for 'consultation between competent authorities and consideration of legislative compliance requirements of other organs of State having jurisdiction' in order to co-ordinate the respective requirements of such legislation and to avoid duplication.

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<sup>304</sup> Section 31E of the NEMA.

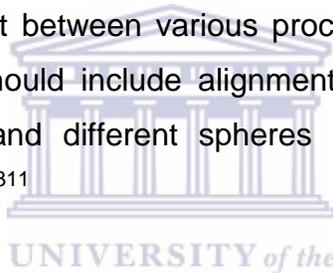
<sup>305</sup> Section 9 of the MLRA. Powers of the FCOs are set forth in section 51.

<sup>306</sup> Ministry of Environment *National Environmental Compliance and Enforcement Report* (2014-15) 62.

<sup>307</sup> The Centre for Environmental Rights Full *Disclosure The Truth about Corporate Environmental Compliance in South Africa 2015* available at <http://fulldisclosure.cer.org.za/2015/> (accessed 25 March 2017).

However, in reality, this rarely happens. Government departments with a legal responsibility to participate in the management of estuaries and estuary resources barely interact and consult with one another.<sup>308</sup>

Section 24L makes provision for the issuing of an Integrated Environmental Authorisation (IEA) if the carrying out of a listed activity is also regulated in terms of another law.<sup>309</sup> This procedure aims to merge all the necessary environmental authorisations for operating industrial facilities into a single procedure, with the aim of guaranteeing a comprehensive and integrated view of the pollution produced by these facilities. Fully integrated exercise of administrative powers by administrative authorities is not the norm. Integrated authorisations are normally issued if both activities are regulated by the same state entity. Most commonly, authorisations are administered with little or no point of contact between various processes which are very vague.<sup>310</sup> Integration in terms of IEM should include alignment of authorisation arrangements between the same spheres and different spheres of government; integrating the fragmented government efforts.<sup>311</sup>



Planning for any development is important and it is primarily a public sector activity, administered by different spheres of government, with local government usually playing a key role, and is concerned with both shaping and protecting the environment.<sup>312</sup> Government is also the custodian of the nation's natural resources, including estuaries, and it regulates developmental activities. Estuaries and estuaries management have

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<sup>308</sup> Meissner R & Nikki Funke *The politics of establishing catchment management agencies in South Africa: the case of the Breede-Overberg Catchment Management Agency* (2014) 93.

<sup>309</sup> Section 24L(1) of the NEMA

<sup>310</sup> Gilder A, Rumble O & Dhladhla B *Environment-South Africa* available at <https://www.ensafrica.com/news/Environment-South-Africa?id=843&STitle=environmental%20ENSight> (accessed 08 December 2016).

<sup>311</sup> Mining activities in estuaries are authorised by DMR but discharging of effluent of mining activities are authorised by DEA.

<sup>312</sup> Makgill RA & Rennie HG 'Model for Integrated Coastal Management Legislation: A Principled Analysis of New Zealand's Resource Management Act 1991' (2012) 27 *The International Journal of Marine and Coastal Law* 135.

been marginalised due to the fact that they do not fit within the ambit of any government department.<sup>313</sup>

The lack of integrated planning and management to a large degree was regarded as a contributory factor to the fragmented approach to estuary management.<sup>314</sup> Estuaries and the management thereof now form an integral part of the ICM Act which outlines a NEMP. The Protocol identifies the need for the development of EMPs, as these would help to align and co-ordinate estuaries management at a local level. However, even with this approach, when compared to other sectors, estuaries are considered unimportant and there is little investment in their management at a local level. With the exception of the few largest municipalities, estuary management is not being addressed in IDPs, especially in the Eastern Cape.<sup>315</sup> Within the IDPs of local and district municipalities, estuaries are mentioned only peripherally. While several attempts have been made to establish coherent land use planning and regulate development, both continue on an informal and unregulated basis. In some areas, illegal development as well as unregulated sand mining on riverbanks and coastal dunes continue.<sup>316</sup> There are relatively low degrees of ICM in the country's coastal municipalities, and commensurately low degrees of political interest coupled with constrained institutions, despite the buoyant and well structured national ICM framework.<sup>317</sup>

Even though there is an ICM concept and the ICM Act, the environment has not been efficiently integrated into development planning and programming. This poor planning for estuaries has been evident in the case law relevant to residents of Kenton-on-Sea and Bushman's River Mouth and various State departments.<sup>318</sup> A waste dump was authorised by the Department of Water and Forestry approximately 1.2 km from

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<sup>313</sup> Enviro-Fish Africa (Pty) Ltd C.A.P.E. *Estuaries Management Programme; Gamtoos Estuary Management Plan: Situation Assessment* (2007) Cape Nature: Cape Town.

<sup>314</sup> Maponya PL & Ngulube P 'The state of estuarine knowledge of the communities of the Tyolomnqa Estuary in the Eastern Cape, South Africa' (2007) 73(1) *SAJnl Libs & Info Sci* 75.

<sup>315</sup> Water Research Commission *Estuary Management as Part of Integrated Development Plans (IDPs)* (2008) 2.

<sup>316</sup> Chevallier R (2015) 21.

<sup>317</sup> Celliers L et al (2015) 105.

<sup>318</sup> *Kenton on Sea Ratepayers' Association and others v Ndlambe Local Municipality and others* 2014 SA 4341 (CC).

Bushman's River estuary, and a sewage system which was the responsibility of the Ndlambe Municipality that allowed raw sewage to flow into the Bushman's River which had a negative impact on the estuary. A decommissioning licence for the dumpsite was granted by the DEA to the Municipality and decommissioning was supposed to commence within 20 days of issuing of the licence, but five months passed without it commencing.

#### **3.4.4 Lack of trust, transparency, co-operation and co-ordination**

It is quite clear that co-operation and consultation are fundamental requirements of co-operative government and that these requirements apply to the enacting and implementation of legislation in areas of concurrent competency shared between different spheres of government.<sup>319</sup> The Constitutional Court noted in the *Premier, Western Cape* case that co-operation is of particular importance in the field of concurrent lawmaking and implementation of laws. It is desirable where possible to avoid conflicting legislative provisions, to determine the administrations which will implement laws that are made, and to ensure that adequate provision is made therefor in the budgets of the different governments.<sup>320</sup> These observations by the Court underscore section 41(1)(h)(iv) of the Constitution, which mandates organs of State to co-ordinate their actions and legislation. The ICM Act makes provision for the establishment of co-ordinating structures at national (National Coastal Committee), provincial (Provincial Coastal Committee) and municipal (Municipal Coastal Committee) government levels in order to promote co-ordinated and effective implementation of the ICM Act as well as co-ordination of the CMPs.<sup>321</sup>

Disputes are disruptive of the aims of environmental management. They create mistrust and block proper communication. A climate of inter-agency distrust and unclear mandates has not been conducive to either institutional co-operation or co-ordination.<sup>322</sup>

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<sup>319</sup> Chapter 3 of the NEMA.

<sup>320</sup> *Premier, Western Cape v President of the Republic of South Africa* 1999 (3) SA 657 (CC).

<sup>321</sup> Chapter 5 of the ICM Act.

<sup>322</sup> Najam A, Papa M & Taiyab N *Global Environmental Governance A Reform Agenda* (2010) 15.

There is lack of trust and transparency among State organs. As a result, consultation and information sharing among the different organs is very limited. Consultation plays a fundamental role in the management of estuaries as this is a shared responsibility. Information sharing regarding policies, opportunities, strengths, weaknesses and challenges faced by the competent authorities can provide them with the integrated and synthesised approaches needed to enhance estuaries management.<sup>323</sup> The little information shared is also not filtered through correctly due to the lack of knowledge and understanding that government officials have about the notions of co-operative governance and the mandates of each level of government.<sup>324</sup> There is no existing structure which promotes and encourages co-ordination and co-operation between the different levels of government.

Consultation and co-operation appear to be essential in circumstances where several authorities wish to exercise concurrent competencies. This is noted in the *National Education Policy Bill* case where the Court stated:

'It is necessary to enable the national government to obtain the information it may require to enable it to take decisions... It is necessary to avoid conflicting legislative provisions and to rationalise the legislation applicable to Schedule 6 matters; and it is necessary to enable provincial and national governments to formulate their plans, including budgetary allocations, for the future. The setting up of parallel national administration in a province to procure the information that the national government needs, and to implement legislation enacted pursuant thereto, would be neither cost-effective nor efficient, and moreover, would be likely to be more intrusive of provincial structures than legislation which calls for co-operation.'<sup>325</sup>

Section 35(1) of the NEMA has been identified as one of the tools that promotes environmental management co-operation.<sup>326</sup>

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<sup>323</sup> Lazurus RJ (2004) 33.

<sup>324</sup> Bieseman G (2009) 60.

<sup>325</sup> *Ex Parte Speaker of the National Assembly: In Re Dispute Concerning the Constitutionality of Certain Provisions of the National Education Policy Bill 83 of 1995* 1996 (3) SA 289 (CC), para 27.

<sup>326</sup> Scholtz W Co-operative and Participatory Governance via the implementation of Environmental Management Co-operation Agreements (2004) 11 *SAJELP* 183-94.; Scholtz W Introduction of Environmental Management Cooperation Agreements in South Africa (2004) 11 *SAJELP* 31-51.

Section 24K of the NEMA further stipulates that after consultation between the competent authorities, they should enter into a written agreement in order to avoid duplication in the submission of information or the carrying out of a process relating to any aspect of an activity that also requires authorisation. When Government departments have concluded memorandums of understanding (MoUs), the MoUs do not always function well as they are concluded at a high political level without buy-in from officials on the ground, and the meetings where these MoUs are discussed are too short to really have an in-depth discussion. The more detailed information is also not always relayed to the relevant officials who are dealing with the actual issues on a daily basis.<sup>327</sup> There is absence of trust and transparency between officials within environmental governance. This is one of the most critical pillars of co-operative governance in order to implement their mandate in an efficient and effective manner.<sup>328</sup> Lack of trust and transparency restricts sharing of information and cross-border alignment of planning and implementation. Differing mandate policies and interest among the various spheres of government is a key factor contributing to the limited communication within co-operative governance.<sup>329</sup> It is particularly important that all stakeholders are provided with complete relevant information, and that transparency is promoted to allow for informed and impartial decision-making.

### **3.4.5 The interpretation of sustainable development**

Sustainable development has become the leading concept in South African environmental policy.<sup>330</sup> Here definition of sustainable development is linked to environmental. Nel and Du Plessis made this link when they define 'good environmental

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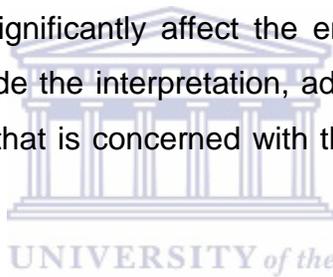
<sup>327</sup> Snyman E (ed) *An Integrated Environmental Management System for the North West Province – Final Report Phase II* (2004) 207.

<sup>328</sup> Hogl K, Kvarda E, Nordbeck R et al. (eds) 'Effectiveness and legitimacy of environmental governance-synopsis of key insights' *Environmental Governance: The Challenge of Legitimacy and Effectiveness* (2012) 280.

<sup>329</sup> Bieseman G (2009) 63.

<sup>330</sup> Section 2(4)(r) of the NEMA: the decision pertaining to development or activities in the estuaries must be managed and based on the principles of sustainable development. Also see Barrow C *Environmental Management for Sustainable Development* (2006) 12.

governance' as 'the collection of legislative, executive and administrative functions, processes and instruments used by government to ensure sustainable behaviour by all as far as governance of environmental activities, products, services, processes and tools are concerned.'<sup>331</sup> There is an agreed and consistent meaning of 'sustainable development' as a concept in South African law,<sup>332</sup> namely, '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'. Here lies the problem: the different pieces of legislation have different objectives and criteria for decision-making and treat the social, economic and environmental factors differently.<sup>333</sup> The NEMA is more focused on environmental conservation and protection than the integration of the various layers of sustainable development. The key section in the NEMA states that 'the principles set out apply throughout the Republic to the actions of all organs of State that may significantly affect the environment, serve as a general framework and should also guide the interpretation, administration and implementation of the NEMA or any other law that is concerned with the protection or management of the environment.'<sup>334</sup>



These three elements are not functioning as separately but are interdependent and grounded in legislated governance frameworks leading to co-operative governance as an option to facilitate an integrated approach. Empirical studies show that real integration of these values is difficult, in spite of strong, ambitious and well formulated policy objectives to this effect. Authorities lack the ability to balance the various interests when decisions are taken relating to development. For each authority this principle of integrating the environmental and social and economic impacts may be merely implicit.<sup>335</sup> Procedures that must be followed to identify, predict and evaluate the impact of an activity on the environment and socio-economic conditions are not set and there is no mention of how conflicting interests must be measured and balanced if conflict arises

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<sup>331</sup> Nel J & Du Plessis W 'An evaluation of NEMA based on a Generic Framework for Environmental Framework Legislation' 2004 *SA Public Law* 181.

<sup>332</sup> Section 1 of the NEMA.

<sup>333</sup> Bugge HC (2013) 17.

<sup>334</sup> Section 2 of the NEMA.

<sup>335</sup> Becker J 'Use of back-casting to integrate indicators with principles of sustainability' (2010) 17 (3) *International Journal of Sustainable Development & World Ecology* 189.

between the different layers of sustainable development.<sup>336</sup> Different authorities weigh and balance their objectives against the related environmental effects differently.<sup>337</sup> The law, for instance, states that 'environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests.'<sup>338</sup> People's needs are not the sole concern but they should be placed in a central role: this in turn could make room for other concerns.<sup>339</sup> It must be recognised that people's needs change over time and are not always uniform or based on commonly acceptable values.<sup>340</sup> It can be argued that fragmented legislation and administration make it very difficult to treat ecology, social needs and economy in combination in an equal manner, and that has an effect on the management of estuaries. The nature of these environmental management principles is that they leave room for the values of an ecosystem to be outweighed by the other values.<sup>341</sup>



### 3.4.6 Political vested interest in environmental matters

Politics is part and parcel of environmental management.<sup>342</sup> Tackling environmental problems is complex because the problems are not primarily scientific and technocratic in nature, but almost exclusively problems of politics. Political interference in the administration of environmental matters is part of the challenges that affect co-operative environmental governance in fulfilling its mandate. Dominance of development in the

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<sup>336</sup> Le Roux N *Environmental Governance, Fragmentation and Sustainability in the Mining Industry* (unpublished thesis for Magister Legum in Environmental Law and Governance at the North-West University 2011).

<sup>337</sup> Muhumuza M & Balkwill K 'Factors Affecting the Success of Conserving Biodiversity in National Parks: A Review of Case Studies from South Africa' (2013) *International Journal of Biodiversity* 17. The study revealed that factors responsible for both the success and failure of conserving biodiversity in National Parks in various contexts were socio-economic and cultural in nature.

<sup>338</sup> Section 2(2) of the NEMA.

<sup>339</sup> Bilchitz D *Can the Environmental Rights in the South African Constitution Offer Protection for the Interests of Animals?* Paper Prepared for Harvard Conference on Animals and the Constitution Draft 22.

<sup>340</sup> Ostrom E *The complexity of collective action theory, Workshop in Political Theory and Policy Analysis* (2005) 1-56.

<sup>341</sup> The IUCN Academy of Environmental Law 'The challenges of valuing ecosystem services: Are the challenges too many to ensure the maintenance of ecosystem integrity?' (2013) 4 *IUCNEL EJournal* 13.

<sup>342</sup> Karvonen A *Politics of Urban Runoff: Nature, Technology, and the Sustainable City* (2011) 160.

State's political mind-set is a South African environmental governance challenge.<sup>343</sup> The development pressure results in defective functioning of environmental law.

A reference of this intervention can be made in relation to the issuing of authorisations when it comes to infrastructure development. The Infrastructure Development Act 23 of 2014 came into effect on 10 July 2014 with the aim to fast-track infrastructure delivery in specifically designated areas.<sup>344</sup> This Act establishes the Presidential Infrastructure Coordinating Commission and its Council which are responsible for designating strategic integrated projects. The Act further creates steering committees that will provide concrete assistance by identifying the necessary authorisations for a project and also monitor the progress of the applications for the required authorisations.<sup>345</sup>

Fairness in environmental administration decisions is regarded as being compromised by some external forces. Some scientific staff and government officials have experienced political interference in their work and been directed to inappropriately exclude or alter technical information documents. There is evidence in some reports of posts being filled in some municipalities in the country on political grounds, with some staff being unqualified but appointed on the basis of party affiliation.<sup>346</sup> The commonly held notion is that environmental issues curb social development. Therefore not all sectors that have a role to play in estuaries are committed to effective protection of the estuaries. For political reasons, environmental compliance by the mining sector is monitored and enforced by the DMR, rather than the DEA. Indeed, even when the logic of co-operative governance is apparent, it tends to be overwhelmed by the fact that actors are primarily charged with safeguarding their narrower institutional interests.

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<sup>343</sup> Chingono M & Nakana S 'The challenges of regional integration in Southern Africa' (2009) 3 (10) *African Journal of Political Science and International Relations* 396.

<sup>344</sup> Infrastructure Development Act 23 of 2014.

<sup>345</sup> Section 2 of the Infrastructure Development Act.

<sup>346</sup> Paradza G, Mokwena I. & Richards, R. *Assessing the role of councillors in service delivery at local government level in South Africa* (2010) 40.

### 3.4.7 Financial constraints

It has been argued that environmental legislation is often best administered at a local level, as opposed to being administered by Provincial and National Governments.<sup>347</sup> As a result, the role of local government in relation to the protection of the environment has increased significantly with the adoption of the Constitution, as well as general environmental legislation, such as the NEMA, and some provincial legislation. Regardless of this allocation of environmental management functions to local government, it receives a smaller amount of the budget.<sup>348</sup> Although the ICM Act defines municipalities' responsibilities, such as, the establishment of zoning schemes, estuary management plans, coastal management programmes, and coastal access to land, most municipalities as well as the Provincial and National Governments do not have a sufficient budget for these purposes, including environmental compliance monitoring and enforcement activities. This is creating a stand-off between the different spheres of government and is not conducive to co-operative governance,<sup>349</sup> leading to environmental functions not being given proper attention. The issue of financial constraints was considered in the *Bato Star Fishing case* which concerned dissatisfaction with the allocation it received in the 2001 allocation process for the 2002 – 2005 fishing seasons, and sought to have that allocation decision reviewed.<sup>350</sup>

### 3.4.8 Human resources and skills

National enforcement and compliance cannot be guaranteed if capacity is weak. Problems of capacity at national, local government and municipality levels everywhere affect performance. In some areas there has been an almost complete collapse of regulatory enforcement in respect of activities occurring in the coastal zone.<sup>351</sup> Lack of

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<sup>347</sup> Mathebula AMT (2014).

<sup>348</sup> Ministry of Environment 2<sup>nd</sup> South Africa Environment Outlook - a report on the state of the environment (2012) 60.

<sup>349</sup> Chevallier R (2015) 18.

<sup>350</sup> *Bato Star Fishing (Pty) Ltd v Minister of Environmental Affairs and Tourism and Others* 2004 (7) SA 490 (CC).

<sup>351</sup> Day JA in Fuggle RF, Rabie MA, Strydom HA & King ND (eds) *Environmental Management in South Africa* 2ed (2009) 903.

enforcement and implementation of policy and legislation due to a lack of capacity within the National and Provincial Governments and at local level is a major hindrance to ensuring environmentally sustainable development in relation to coastal waters.<sup>352</sup> The issue of capacity building manifests itself as a social threat to sustainable coastal management, more especially in developing countries like South Africa, as there is a constant lack of, or diminishing capacity and expertise, particularly at local municipal level, with associated ripple effects on the effectiveness and efficiency of management institutions.<sup>353</sup> A lack of continuity usually results in more suffering on the part of government authorities when they cannot retain sufficient expertise to fulfil their roles and responsibilities.<sup>354</sup>

Managing estuaries requires understanding and the use of practical knowledge. Lack of knowledge and skills result in estuaries being threatened.<sup>355</sup> Municipalities may not have had the training which will enable them to make sound environmental decisions and while provincial authorities should be supporting and assisting municipalities, they, unfortunately, also do not always have the capacity.<sup>356</sup> As a result, local government deals with environmental functions on an ad hoc and piecemeal basis, without policy guidance, technical advice or training from the national or provincial departments.<sup>357</sup>

The ICM Act gives local management authorities the power to establish zoning schemes. However, if the ICM Act is to be effectively implemented there is an urgent need to address the lack of management competencies at the municipal level.<sup>358</sup> The dispute about lack of resources was also challenged in court, where the court found that a lack of resources is not sufficient reason for lack of enforcement<sup>359</sup>

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<sup>352</sup> Manyefane TW (2014) 54.

<sup>353</sup> Taljaard S, Slinger JH, Morant PD et al 'Implementing integrated coastal management in a sector-based governance system' (2012) 67 *Ocean & Coastal Management* 39.

<sup>354</sup> Manyefane TW (2014) 57.

<sup>355</sup> Maponya & Ngulube (2007)

<sup>356</sup> Mathebula AMT (2014).

<sup>357</sup> Atkinson D *Local government, local governance and sustainable development: getting the parameters right* (2002) 18.

<sup>358</sup> Chevallier R (2015) 18.

<sup>359</sup> *Hichange investments (Pty) Ltd v Cape Produce Co (Pty) Ltd t/a Pelts Products and Others* 2001 SA 1050 (CC).

### 3.5 Conclusion

It can be deduced from the above that co-operative governance is regarded as one of the cornerstones of the constitutional environmental dispensation. This is due to fragmentation of the environmental sector: as various government departments have a role in relation to the activities that occur in estuaries, as well as with regard to the managing and protecting of estuaries and their ecosystems. Co-operative governance is a means to achieve integration and co-operation of regulation methods and tools, service provision between government spheres and to fairly and sustainably manage the coastal resources and activities of South Africa. Co-operative governance is further expanded in South African environmental legislation.

The study further demonstrates the substantial challenges, which are mostly law related regarding estuarine protection by co-operative environmental governance in South Africa. The law governing estuaries is fragmented. The lack of a definition of a geographical estuarine boundary on its own makes it difficult for practical estuary management and protection. The sustainable development principle laid down in environmental legislation is interpreted and applied differently, depending on the priority that the environment enjoys with the particular authority. Each and every industry has different goals, objectives and criteria for decision-making, and treats the social, economic and environmental factors differently. Sustainable development is recognised by the NEMA in the form of principles, with EIAs as normative content that must be followed to identify, predict and evaluate the impact of an activity on the environment. Socio-economic conditions are not set and there is no mention of how conflicting interests must be measured and balanced if conflict arises between the different layers of sustainable development. Due to their conflicting mandates, each actor is primarily charged with safeguarding its narrower institutional interests. The NEMA Amendment 2014 seems to cause confusion when it comes to environmental management of mining activities in coastal waters. It seems that the DEA has no mandate regarding mining

activities in coastal waters; it is implementing the ICM Act and the NEMA which are applicable to estuaries.

Enforcement of the law is a vital component of any regulatory system. An environmental compliance monitoring and enforcement system is not effective enough if there are insufficient trained, experienced and resourced compliance inspectors in all relevant government departments; and better quality and more monitorable authorisations. All the institutions that are involved in estuarine activities must co-operate in the monitoring and enforcement of compliance with the NEMA and its subsidiary laws covering estuarine and coastal management; but co-operation is a challenge as there are limitations to the enforcement regarding coastal activities.

Notably, one of the most profound challenges is that politicians have a vested interest in the administration of environmental matters as certain developments require environmental authorisations. This often results in the defective functioning of environmental law as fairness in environmental administration decisions as well as planning is compromised by some external forces. It is quite clear from this study that co-operation and consultation are fundamental requirements of co-operative government and that these requirements apply to the implementation of legislation in areas of concurrent competency shared between different spheres of government, and which is one of the key challenges facing environmental governance. While the co-operative governance principle emphasises the importance of co-ordination, integration, transparency, co-operation and harmonisation among stakeholders, in practice South African environmental governance lacks all of these elements. This poses a threat to the proper governance of estuaries. Case law has also demonstrated that these challenges are real and have a huge impact on environmental governance in fulfilling its constitutional mandate of co-operative governance.

## CHAPTER 4 RECOMMENDATIONS AND CONCLUSION

### 4.1 Introduction

Throughout this study I have sketched that estuaries and coastal waterways are extremely important natural resources from many perspectives; the role played by estuaries in the marine ecosystem and the need to conserve them. Because of the failure to appreciate their value, little is spent on their management and the protection of the biodiversity of these environments. This study has discussed legislation governing estuaries and explained that the onus to administer laws can only be achieved within co-operative governance.

#### 4.1.1 Estuary protection at the international level

Estuaries are not entirely neglected by international law. The law is not specifically dedicated to them and sources of estuary management are generally fragmented. The law to a large degree determines the management strategies relevant to estuaries, including planning and consent procedures. The Ramsar Convention remains the only treaty specifically devoted to the conservation of a wide variety of wetland habitats, including rivers, lakes, ponds, marshes, coastal areas and estuaries. Based primarily on the broad physical features of estuaries, some of the rivers involved are international, which brings into play the law of international freshwater resources. This brings joint responsibilities for Watercourse States with respect to the care of those rivers estuarine areas. Therefore, the law of international watercourses requires States to co-operate in order to achieve integrated management of an area. The international treaties mostly encourage the designation of protected areas by national governments or international organisations. Enforcement of international environmental law remains a challenge, as there is no specific body designated to take that responsibility. The treaties promote States to co-operate with one another to achieve conservation goals. With all the Conventions in place, still, globally, different individual studies indicate that most

estuaries are threatened primarily by human activities, resulting in changes in water-flow, water quality pollution, quality habitat reduction and loss of biodiversity.

#### 4.1.2 Estuary protection at the national level

Environmental governance is tasked to protect the environmental right<sup>360</sup> through the promulgation of reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.<sup>361</sup> The nature conservation of estuaries has not been given satisfactory attention within South Africa, as the Orange River Mouth is one of the few protected estuaries.<sup>362</sup> Section 24 of the Constitution is the supreme provision with regard to the foundation of South African environmental law. Estuaries are not specifically identified in the Constitution; but in addressing the imperatives for sound environmental management, there are several pieces of legislation put in place which promote co-operative environmental governance.



In South Africa a structured process to address estuary management in an integrated approach is provided in the legislative framework. In this framework, the role of co-operative governance to promote sustainable development has also been put in place. Evidence is emerging of a massive loss of biodiversity in South African estuaries over the past ten years. The South African environmental framework has gaps but it does afford sufficient protection to estuaries. Even though this is a role of co-operative governance, the substantial challenges faced by co-operative governance are mostly law related regarding estuarine protection. The most critical challenge is the lack of a legal recognised definition of an estuary. The scientific definition remains the only definition of an estuary used in the South African legislative framework. This impairs the management and protection of estuaries as it results in confusion and uncertainty in terms of administrative purposes. The conclusion therefore seems to be justified that

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<sup>360</sup> Schedules 4 and 5 of the Constitution.

<sup>361</sup> Section 24 of the Constitution.

<sup>362</sup> Refer to paragraph 2.5.5.

due to the nature of estuaries, they belong as much to the freshwater regime as the ocean and coastal regimes.

Similar to international law, enforcement of the law is not effective enough and there is a lack of or inadequate human, financial and technical resources that may be needed to monitor the implementation of EIA commitments and other legal requirements and enforcement programmes. Co-operation, co-ordination, and consultation are fundamental requirements of effective and successful co-operative governance which is one of the key challenges facing environmental governance. This poses a threat to the proper governance of estuaries. In addition, the integrative nature of sustainable development also requires co-ordination, co-operation, effective communication and optimum collaboration between all involved actors as they are interdependent. The need to develop procedures to resolve conflict between the different pillars of sustainable development is also key to ensure that co-operative environmental governance achieves its legislative mandate which is to protect the environment. Integration of policy, regulation methods and tools, service provision and scrutiny and co-operation between government officials in each sphere/line function; and co-ordination and mutual support are the operational tools of co-operative governance. There is clearly a need for more integrated and holistic management approaches in order to understand their driving processes, and maintain their function.

Based on these challenges, this chapter draws conclusions on how co-operative governance embodied in the Constitution can be conducive to the promotion of 'sustainable development' in relation to estuary management.

## **4.2 Recommendations**

The existence of environmental law governance on paper is not enough to address real environmental concerns.<sup>363</sup> In fact, in spite of the existence of the principle of co-

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<sup>363</sup> Burns Y & Kidd M 'Administrative law and implementation of environmental law' in Strydom HA & King ND (eds.) *Frugge and Rabie's Environmental Management in South Africa* (2009) 240.

operative governance embodied in the Constitution; the governance response to estuary degradation is not nearly adequate as it is not implemented efficiently and effectively.<sup>364</sup> Much still needs to be done to give real effect to the realisation of environmental rights when it comes to estuaries. The achievement of sustainable development should be one of the primary objectives of co-operative environmental governance efforts in South Africa. Several tasks and strategies may help to improve efficacy of the environmental governance system with regards to estuarine management and protection. In light of the foregoing, this study proposes nine strategies that can be implemented by South African co-operative environmental governance in order to fulfil its constitutional mandate in managing estuaries. The following are some of them:

1. Strengthening the definition of an estuary;
2. Implementing integrated planning and decision-making;
3. Stakeholder engagement and Information sharing;
4. Use of Environmental Management Co-operation Agreements (EMCAs);
5. Instituting procedures to balance conflict between the different layers of sustainable development;
6. Establishment of co-ordinating structures for estuaries and coastal waters;
7. Launching of certain estuaries as full or partial protected areas; and
8. Environmental Funds and Payments for Ecosystem Services (PES) to improve conservation finance.

#### **4.2.1 Strengthening the definition of an estuary for administration purposes**

The shape of estuaries and coastal waterways is determined by a large number of environmental factors, such as, sea level history, antecedent topography, tectonic setting, geology, river and marine sediment supply, tidal currents, wave action, river flow, climate, and biota.<sup>365</sup> Consequently, every coastal waterway has intrinsic characteristics that makes it different from all others, and determines its need for, and

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<sup>364</sup> Refer to Chapter 3, 3.5 of this thesis.

<sup>365</sup> Ryan DA, Heap AD, Radke L, et al *Conceptual models of Australia's estuaries and coastal waterways applications for coastal resource management* (2003).

responses, to management strategies.<sup>366</sup> It is recognised that the current definition that has been put in the South African legislative framework may be restrictive for the purposes of conservation, administrative and enforcement purposes. Additionally, some habitats may be left out for conservation purposes. In the previous chapter, the author recommended that the definition should make provision for coastal waters within the definition of water dependent ecosystems. Co-operative environmental governance needs to engage in such debate and come up with an endorsement that will allow proper administrative management of this invaluable resource. As suggested in Chapter 2, the definition should make provision for coastal waters within the definition of water dependent ecosystems.<sup>367</sup>

#### 4.2.2 Integrated planning and decision-making

Fragmentation and lack of co-ordination of management responsibilities among national, provincial and local government agencies is a fundamental obstacle to the effective management of activities and developments that affect estuaries. Marine and coastal environments cannot be managed and conserved in isolation, as all rivers lead to the sea. Whatever occurs in a terrestrial context affects these habitats. These habitats are impacted upon by human activities in numerous forms, from the introduction of marine alien species to pollution.<sup>368</sup> Integrated planning has been suggested by various authors; however, proper integration of the relevant service with other land uses is still lacking, as it is evident from the case law relating to the residents of Kenton-on -Sea and Bushman's River.<sup>369</sup> It should be noted that the role of co-operative is to integrate line functions of the different spheres of government at intra-governmental level; including regulation methods, resources and tools to achieve the principles of sustainability.

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<sup>366</sup> Perillo, GME 'Definitions and geomorphologic classifications of estuaries' *In: Perillo, GME (Ed.) Geomorphology and Sedimentology of estuaries* Developments in Sedimentology (1995) 53:17-47.

<sup>367</sup> See paragraph 2.6.

<sup>368</sup> Wildlife and Environment Society of South Africa Marine and Coastal Conservation in South Africa: WESSA Position Statement (2013) 3.

<sup>369</sup> *Kenton on Sea Ratepayers' Association and others v Ndlambe Local Municipality and others* 2014 SA 4341 (CC). Refer to paragraph 3.4.4 of this study.

Integrated planning leads to integrated decision-making and actions that consider the creation of value over the short, medium, and long term.<sup>370</sup> There is real strength in numbers. When you have many groups with different views, resources, and skills applying their intelligence and strengths to solve a problem together, so much can be overcome.<sup>371</sup> As the ICM Act refers to the development of the EMPs and the CMP, these need to be integrated into broader development plans, such as, IDPs, Spatial Development Frameworks and other spatial planning tools considering ecosystem services and sense of place.<sup>372</sup> Estuaries and coastal waterways are an extremely important natural resource from many perspectives, and are clearly in need of more integrated and holistic management approaches.<sup>373</sup> There is a need to monitor and evaluate these processes.<sup>374</sup> Integrated, co-ordinated decision-making is enhanced together with planning and management. Holistic management of all components of coastal biodiversity and social management should be at the forefront. This integration can be done through consultation (information sharing) by the parties involved.

#### 4.2.3 Use of Environmental Management Co-operation Agreements

One of the challenges mentioned was the lack of clarity regarding the respective responsibilities of the DWS, on the one hand, and the DEA and DMR, on the other, as the legislation is silo based and issue specific, and contains jurisdictional overlaps and duplication of procedures and processes. The physical nature of estuaries requires joint management. One other way to strengthen environmental governance is to enter into EMCAs in the field of estuary or coastal water management. The main objective should be to promote co-operative efforts for environmental protection and a collaborative working relationship between environmental governance, and to work towards the long-term sustainability of estuaries in order to preserve and improve them for present and future generations. An EMCA may facilitate agreement between levels of government in

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<sup>370</sup> Integrated Reporting annual conference 2017 available at (accessed on 06 May 2017).

<sup>371</sup> Central Alberto Regional Collaborative Service Delivery available at <http://carcsd.ca/home/main-benefits/> (accessed 20 May 2017).

<sup>372</sup> Chevallier R (2015) 21.

<sup>373</sup> The UNEP *Protection of the quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources* (1997).

<sup>374</sup> Section 24L of the NEMA.

relation to the promotion of sustainable development.<sup>375</sup> Such EMCAs can create harmony between different legislative mandates as they can be used as an administrative agreement. These agreements have not been used to address environmental problems in South Africa.<sup>376</sup>

There is a need for the three specific State entities, the DWS, DMR and DEA, to enter into an EMCA. This EMCA shall only relate to co-operative governance between organs of State as they have defined environmental mandates that overlap with one another when it comes to estuaries. More than one sphere of government may be involved in implementation of development projects around the estuaries. This arrangement of EMCAs can be extended to Provincial and Local Governments depending on the need as they have a huge role to play regarding the management and activities occurring in estuaries. The EMCA can be the principal instrument to contribute to the efforts of co-operative governance in promoting optimal use and management of estuaries in accordance with the objective of sustainable development as well as building working relationships. An EMCA is not merely a normal contract between parties, but is the mechanism that facilitates trust and partnership.<sup>377</sup>

Section 35 of the NEMA supports the conclusion of an EMCA when it states that the Minister<sup>378</sup> and every MEC or municipality may enter into an EMCA with any person or community for the purpose of promoting compliance with the principles in the NEMA. Sustainable development serves as a central theme embodied in the set of principles in the NEMA. Therefore, EMCAs must accordingly aim to promote sustainable development.<sup>379</sup> A person is not properly defined in the Act or the Constitution. However, in the NEMA a person includes a juristic person, and in terms of the law of persons and family law a person is defined as somebody or something that has legal

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<sup>375</sup> Scholtz W Co-operative and Participatory Governance via the implementation of Environmental Management Co-operation Agreements (2004) 11 *SAJELP* 194.

<sup>376</sup> Scholtz W Introduction of Environmental Management Cooperation Agreements in South Africa (2004) 11 *SAJELP* 31-3.

<sup>377</sup> Scholtz W (2004) 11 *SAJELP* 35.

<sup>378</sup> Minister refers to the Minister of Environmental Affairs in terms of the NEMA.

<sup>379</sup> Scholtz W (2004) 11 *SAJELP* 31-32.

rights and can be subject to legal duties.<sup>380</sup> In the NEMA, it is stated that ‘the Minister of the DEA and every MEC or municipality may enter into EMCAs with any person’<sup>381</sup>, which means that a State organ can also be a person. Therefore, State organs can actually enter into EMCAs.

Section 35 further makes provisions for an EMCA to ‘only be entered into with the agreement of every organ of State which has jurisdiction over any activity to which such environmental management co-operation agreement relates.’<sup>382</sup> In this case, the DMR, DEA and DWS have jurisdiction with regard to different activities in the estuaries, as well as the Provincial Department of Environment and Local Governments. It is important to note that similar provisions in terms of an EMCA are found in the NEMA in terms of the ‘content of environmental management plans’ which ‘must contain a description of arrangements for co-operation with other national departments and spheres of government, including any existing or proposed memoranda of understanding entered into, or delegation or assignment of powers to other organs of state, with a bearing on environmental management.’<sup>383</sup> An EMCA involves consultation between the parties involved. Such consultation is in accordance with section 41(h) of the Constitution that states that all spheres of government must co-operate with one another, *inter alia* by, informing, and consulting with one another on matters of common interest.

This could be of great value in the South African context due to the problems that are experienced as an EMCA may serve as a vehicle for co-operation, consultation and information sharing in relation to the management of estuaries between spheres of government and at the same time promotes sustainable development. An EMCA may allow and in fact encourage stakeholders to resolve conflicts before an authoritative

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<sup>380</sup> Cronjé DSP *The South African Law of Persons and Family Law* 1994. The term person in the law of persons is roughly interchangeable with legal subject. A legal subject is an entity capable of holding rights, duties and capacities. A legal object is an entity which the law does not thus recognise, because it cannot legally interact; it is merely something in respect of which a legal subject may hold rights, duties and capacities.

<sup>381</sup> Section 35(1) of the NEMA.

<sup>382</sup> Section 35(2)(i) of the NEMA.

<sup>383</sup> Section 14(f) of the NEMA.

decision by a government structure that may have power to authorise such activity in an estuary. Once an EMCA has been completed between the primary stakeholders, a need for sound management is required to ensure compliance with the requirements of legislative and regulatory activities, and that commitments set out in the agreement are met by all parties. These different organs of State may enter into an implementation protocol that describes the role and responsibility of each; outlines priorities and desired outcomes; and provides for monitoring, evaluation, resource allocation and dispute settlement procedures.

It has also been demonstrated that when organisations co-operate, they not only share information and make adjustments in their services, they share resources to help each other do a better job.<sup>384</sup> In a co-operative relationship, organisations may share staff, volunteers, expertise, space, funds, and other resources.<sup>385</sup> An EMCA may result in the promotion of trust between State organisations.

#### **4.2.4 Instituting procedures to manage conflicts between the different pillars of sustainable development**

There is a significant focus on governance as a key factor for promoting and achieving sustainable development as reflected in the Constitution and South African legislation. To date, although sustainable development has been almost universally adopted as the policy paradigm driving strategy to protect the environment, sustainability has not yet been achieved. Despite the deteriorating state of the environment, there is still a wide gap between the rhetoric and reality of sustainable development.<sup>386</sup> The previous chapter suggested that institutions have a role to play in estuaries and may not always agree about the different pillars of sustainable development as different values may inform different perceptions and needs for each sector.

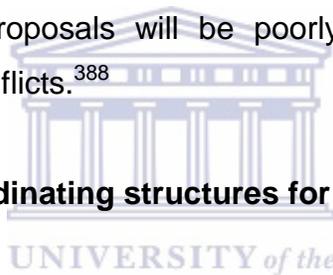
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<sup>384</sup> Dayal B *Managing Academic Libraries* (2011) 90.

<sup>385</sup> Community Tool Box 'Promoting Coordination, Cooperative Agreements, and Collaborative Agreements Among Agencies' available at <http://ctb.ku.edu/en/table-of-contents/implement/improving-services/coordination-cooperation-collaboration/main> (accessed 20 May 2017).

<sup>386</sup> Carter N *The Politics of the Environment: Ideas, Activism, Policy* 2ed (2007) 356.

There is a need to set a normative content that must be followed to identify, predict and evaluate the impact of an activity on the environment as well as socio-economic conditions. Le Roux suggested that for sustainability within the environmental governance framework currently regulating the mining industry, sustainability criteria should be developed, clearly indicating how the different pillars of sustainable development should be weighed, balanced and integrated by decision-makers.<sup>387</sup> This should not focus on the mining industry only but on all developmental activities. Most of the national problem solving focuses on one layer at a time. If any of the layers is weak, then the whole system is unsustainable. Conflict can hinder developments that could deliver benefits; thus conflicts between the different layers of sustainable development need to be effectively managed and resolution of some type achieved. Conflict management processes can help sustainable development occur by reducing the likelihood that development proposals will be poorly informed, and that operating projects will be disrupted by conflicts.<sup>388</sup>



#### **4.2.5 Establishment of co-ordinating structures for estuaries**

To promote integration, co-ordination and co-operation between the different spheres of government, co-ordinating structures need to be established at national, provincial and local levels. By co-ordinating, co-operating and collaborating, organisations working together can accomplish goals they could not reach by working in isolation. Such a structure can help fill the gaps and also help prevent service duplication. Co-ordination is important because it gives people a better chance to get the services they need. The ICM Act already makes provision for the establishment of coastal committees at national, provincial and municipal government levels to promote integrated coastal zone management and to promote co-ordinated and effective implementation of the ICM Act as well as co-ordination of the CMPs.<sup>389</sup> A National Coastal Committee (Min Tech

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<sup>387</sup> Le Roux N *Environmental Governance, Fragmentation and Sustainability in the Mining Industry* (unpublished thesis for Magister Legum in Environmental Law and Governance at the North-West University 2011).

<sup>388</sup> Lili P, Oli S, Vakaloloma B et al. 'The role of conflict management skills in sustainable development in PNG' (2016) 1-3.

<sup>389</sup> Chapter 5 of the ICM Act.

Working Group 8) has been established, and all the four coastal provinces have Provincial Coastal Committees in place, but not all the municipalities that have jurisdiction over the coastal zone have Municipal Coastal Committees in place, and there are no estuary committees and estuary advisory forums in order to undertake necessary management actions. A Municipal Coastal Committee is discretionary in terms of the Act.<sup>390</sup> However, creation of the Municipal Coastal Committees would ensure that relevant issues from Municipal Coastal Committees are elevated to the Provincial Coastal Committees and the National Coastal Committee.

Through these co-ordinating structures, information sharing on management of estuaries can be done, which could play a huge role in sustainable management of estuaries.<sup>391</sup> Matters pertaining to estuaries are best handled with participation of all concerned parties in order to promote a healthy estuarine environment. Section 24K of the NEMA provides for 'consultation between competent authorities and consideration of legislative compliance requirements of other organs of State having jurisdiction' in order to co-ordinate the respective requirements of such legislation and to break down silos, involving relevant people, engaging external stakeholders, and ensuring that a wide range of perspectives is heard. By cutting through silos and facilitating communication of critical information across operating and functional units, stimulating informal and continuous dialogues, and sharing views on the functioning of the estuarine system, these can provide decision-makers with the best possible foundation upon which to base their decisions and can overcome difficulties introduced by fragmentation in institutions.<sup>392</sup>

A key impact of this is that stakeholders are better able to make informative decisions when they have information about the activities and policies of the government as there are different goals for different sectors. It must be noted that co-operative governance is

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<sup>390</sup> Section 42 of the ICM Act.

<sup>391</sup> Nath V 'Heralding ICT enabled knowledge societies: the way forward for the developing countries' (2007) 21(3) *AI & Society* 329. 'Knowledge is empowering. Lack of knowledge is debilitating. Knowledge enables an individual to think, to analyse and to understand the existing situation, and the inter-linkages and externalities of each action.'

<sup>392</sup> Van Kleef AW, Houtekamer NL, Adriaanse et al. *A governance vision on adaptive estuary management* (2015).

generally characterised by openness, participation, and transparency, consultation, co-ordination and mutual support in the making and implementation of legislation in areas of concurrent competency shared between different spheres of government.<sup>393</sup> Estuary management forums can contribute significantly to the improved co-operative management of estuarine resources. These insights provide the basis for improved understanding between stakeholders with varying interests. Environmental governance should be proactive by getting involved in discussions at all levels (local, provincial and national) in order to secure the opportunity to share their experiences on the realisation of sustainable coastal development. These structures should be put in place as once implemented, it is anticipated that they will contribute to co-operative coastal management and effective governance in South Africa.

#### **4.2.6 Declaring of certain estuaries as full or partial protected areas**

There is a need to manage the demands placed on estuaries to ensure that they do not exceed the natural ability of the ecosystem. Chapter 2 has indicated that the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities of 1995 agrees that there is a need for action to be taken in order to protect estuaries from human activities on land, in coastal areas and further inland in order to prevent degradation from land-based activities. One of the most existing actions has been the identification of protected areas and critical biodiversity areas. Most areas identified as protected environments are mainly inland and marine environments.<sup>394</sup> The nature conservation of estuaries has not been effectively noted as the Orange River Mouth is one of the few protected estuaries. Estuaries are the least of the areas identified as protected areas. The use of estuaries should be balanced with the ability of estuaries to deliver services. The establishment of certain estuaries, habitats and ecosystems as protected areas should not be seen as a constraint on economic development, but should rather be seen as an opportunity to diversify the South African economy. Such declaration can assist co-operative governance as an essential

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<sup>393</sup> Chapter 3 of the NEMA.

<sup>394</sup> Refer to paragraph 3.5.6.

decision-making tool when considering applications related to the development and establishment of protected areas, and can have a potential to enhance an estuarine conservation vision.

#### **4.2.7 Conservation finance through Payment for Ecosystem Services**

While environmental protection is vital, in ensuring long-term conservation of estuaries a fundamental challenge facing estuary management and protection and the environment broadly is finding ways to financially support environmental programmes and to employ sufficient and skilled personnel, for regulation and enforcement activities. National enforcement and compliance with legislation cannot be guaranteed if local capacity is weak. Proactive financial commitments need to be made in all spheres of government for implementation of services and infrastructure in relation to coastal management. Estuaries should be regarded as an asset and managed to maintain their value. Society cannot survive without the environment and the economy cannot grow if there is severe damage to the environment as it is the environment that provides resources. The economic losses attributed to the reduced quality and habitat destruction of estuaries is enormous. One mechanism by which conservation finance has been approached is through Payment for Ecosystem Services (PES). This mechanism has been used as a vehicle for generating funds that can be used to finance conservation projects as well as an incentive for more sustainable land use in inhabited landscapes.<sup>395</sup> It can offer an efficient and effective means of supporting sustainable development objectives.<sup>396</sup> Since estuaries are one of the ecosystems that can perform such vital roles in the environment and co-operative environmental governance struggles for funds, PES schemes become a relevant instrument for their sustainable management.

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<sup>395</sup> World Bank *Payments for environmental services and the poor: Initial Lessons and guidelines*. Environment Department, World Bank (2005). Available at <ftp://ftp.fao.org/es/esa/roa/ppt/May05-Pagiola.pdf> (accessed 30 June 2017).

<sup>396</sup> UNEP/IUCN *Developing International Payments for Ecosystem Services: Towards A Greener World Economy* (2007) 2 available at [http://unep.ch/etb/areas/pdf/IPES\\_IUCNbrochure.pdf](http://unep.ch/etb/areas/pdf/IPES_IUCNbrochure.pdf) (accessed 30 June 2017).

Using alternative mechanisms, such as, PES to mobilise resources for conservation projects with a focus on estuaries can be beneficial. This market based mechanism encourages biodiversity and resource conservation and sustainable natural resource management while simultaneously benefitting the guardians of those services. Herbst had suggested the use of PES for the conservation of wetlands in South Africa.<sup>397</sup> This can be cost effective for South African environmental government and it has been proven to be a successful mechanism in several developed and developing countries for restoring the functioning of the natural environment and providing economic returns to those responsible for having done so.<sup>398</sup> The PES is defined as a:

‘Market based instrument which facilitates the payment by a beneficiary to a landowner or intermediary parties for activities which achieve enhanced ecosystem services, for example sustaining the integrity of a wetland to provide for the natural purification of water. The beneficiary can be industry, private parties or organs of State who would benefit from the action of the landowners or intermediary parties.’<sup>399</sup>

The protection of biodiversity and securing the sustainable delivery of ecosystem services is the primary focus of the PES. Some authors have identified particular risks as well as benefits with the idea of PES as an effective way of achieving conservation.<sup>400</sup> Herbst further outlines the disadvantages and advantages of introducing PES for wetlands, such as, creating awareness and opportunities to improve on environmental policy where it is not adequate and to achieve cross-compliance.<sup>401</sup> It

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<sup>397</sup> Herbst DL *Wetlands: An ecosystem service South Africa can afford to protect. A critical evaluation of the current legal regime and mechanisms to facilitate the use of payment for ecosystem services to the conservation of wetlands in South Africa* (unpublished MPhil thesis, University of Cape Town 2015).

<sup>398</sup> Russi D, Brink P, Farmer A et al *The Economics of Ecosystems and Biodiversity for Water and Wetlands* (2013) 43-4.

<sup>399</sup> Griebner Payment for Ecosystem Services, Legal and Institutional Frameworks 6 “what makes PES a PES is that in any payment arrangements those who pay are aware that they are paying for an ES which is valuable to them or their constituencies – and those that receive the payments engage in meaningful and measurable activities to secure the sustainable supply of ecosystem services in question.

<sup>400</sup> Redford KH & Adams WM ‘Payment for Ecosystem Services and the Challenge of Saving’ (2009) 23 (4) *Nature Conservation Biology*, 785–7.

<sup>401</sup> Herbs 2015: 48. Such advantages are: The PES focuses directly on the enhancement and protection of ecosystem services and encourages broader participation by parties who otherwise would not have been exposed to the benefits which their activities could have on a sustainable future; and create awareness and opportunities to improve on environmental policy where it is not adequate and achieve

is constantly argued that the best tool for conservation of our estuary resources is education, and encouraging education and awareness programmes. Colvin et al recognised 'building capacity for co-operative governance as a basis for integrated water resource managing.'<sup>402</sup> The improvement of estuaries depends on good academic training and staff motivation.<sup>403</sup> Without funds it is impossible to achieve this, and to capacitate people with skills and knowledge and to get enough human capacity to be able to administer and enforce environmental legislation; therefore sufficient funding to cater for all of these is required and this can guarantee effective co-operative governance in implementing the constitutional mandate. These include interventions targetting ecosystem based adaptation to climate change that could drive rural development models. In developing countries like South Africa, PES has the potential to alleviate poverty through creating purpose and innovation for poor communities.<sup>404</sup> By introducing PES in relation to estuaries, the greatest benefits can be generated for the greatest number of people by an estuary at minimised cost to society. Payments for such services may be voluntary, from public stakeholders such as governments, or may be mandated by the government to be paid by private enterprises. National Treasury can play a huge role in facilitating access to funding and allocating funds collected from various environmental taxes towards estuary management as it is responsible for managing South Africa's national government finances. Government should set up a trust fund to channel money that is coming from both public and private sources to guarantee the effective administration of PES. The trust fund could come with advantages of ensuring continuity and transparency in conservation activities and

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cross compliance. It encourages the consideration of tradeoffs and measuring the effectiveness of existing policies.

<sup>402</sup> Colvin J, Ballim F; Chimbuya S et al. 'Building capacity for co-operative governance as a basis for integrated water resource managing in the Inkomati and Mvoti catchments, South Africa' (2008) 34 (6) *Water SA* 681.

<sup>403</sup> Young GJ, Dooge JCI & Rodda JC 'The development of human resources at the individual level and the promotion of awareness of water issues' in Young GJ, Dooge JCI and Rodda JC *Global Water Resource Issues* (1994) 149.

<sup>404</sup> Kronenberg J & Hubacek K 'Could payments for ecosystem services create an "ecosystem services curse?' (2013) 18(1) *Ecology and Society* 10.

provide long-term conservation financing. The administration of funds could be facilitated by institution, such as, SANBI and Conservation South Africa.<sup>405</sup>

### 4.3 Concluding remarks

The poor management of estuaries reduces the chances of maintaining existing biodiversity. There are still no marine reserves in any of the estuaries. The role played by estuaries in the marine ecosystem makes it a necessity to conserve them. The existence of environmental law as well as the existence of the co-operative governance notion pertaining to the environment are not enough to address real environmental concerns pertaining to estuaries, as estuaries continue to degrade. Co-operative governance needs to be enhanced at all levels as enhancement in turn may have significant implications for estuarine management in South Africa. Without strong co-ordinating bodies and formal mechanisms of collaboration and information-sharing, most interventions will continue to be planned and implemented in isolation from one another, co-operative environmental governance needs reform.

Building a transparent and cohesive process between State organs that have jurisdiction over the activities occurring in the estuaries should also be prioritised. Building trust is the key element for co-ordination of functions in co-operative environmental governance. Trust can overcome difficulties introduced by fragmentation in institutions, and regulations. Building trust precedes joint goals and leads to sharing resources (capacity, knowledge, and funding). Introducing EMCA's can assist in building such trust. The need to disseminate information to the existing structures and the establishment of the Municipal Coastal Committees must be prioritised as well as the development of the Estuary Management Plans as it was mentioned that less than 10 per cent of the Estuarine Management Plans have been developed. These would help to align and co-ordinate estuaries management at a local level. Generating funds

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<sup>405</sup> This has been implemented in developing countries such as Costa Rica. Herbst DL (2015)70-1 has suggested that The DEA, DWS, DAFF and Treasury would be the institutions tasked with the roll out. Since DEA is mandated with environmental framework legislation they would be best placed to develop a PES legal framework with the necessary support for fiscal reform from National Treasury.

should be one of the main focuses of environmental governance to ensure that there are sufficient skilled personnel for enforcement of law and management of estuaries. These will secure the estuarine ecosystem services in the future.



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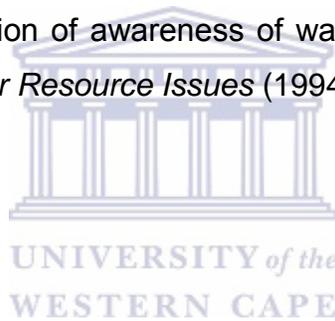
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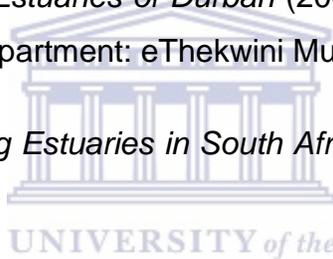
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