Department of Water and Sanitation

NATIONAL WATER RESOURCE INFRASTRUCTURE (NWRI)

Resource Management Plan

STOMPDRIFT DAM

REPORT – Volume 4 of 5 | **August 2017**

WATER IS LIFE - SANITATION IS DIGNITY

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

2030 NDP

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ACKNOWLEDGEMENTS

Engineerex (Pty) Ltd would like to express its gratitude to the following Stakeholders that immensely contributed in the development of this Resource Management Plan for Stompdrift Dam:

- Department of Water and Sanitation;
- Department of Environmental Affairs;
- Department of Public Works;
- Department of Transport;
- Department of Economic Development, Finance and Tourism;
- Department of Agriculture Forestry and Fisheries;
- Department of Rural Development and Land Reform;
- Eden District Municipality;
- Oudtshoorn Local Municipality;
- Kammanassie Irrigation board;
- Cape Nature;
- Stompdrift Bushcamp; and
- The Community members of De Rust.

The Acknowledgement is also extended to all other Stakeholders who attended and participated in the Stakeholder engagements.

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Review Period	Month	Year				
Annual Review of Business Plan	December	2019[1]	2020	2021	2022	2023
Five (5) Yearly Review of RMP	December	2023				

[1] The implementation of the RMP and BP requires a year budget planning prior to operationalisation.

AMENDMENTS PAGE

Revision No	Description	Date
1	Draft for DWS Review	02/12/2016
2	Draft for Public Review	05/04/2017
3	Final RMP for DWS Approval	10/08/2017
4	Final RMP for DWS Sign off	16/08/2017

LIST OF ACRONYMS

ADU	Animal Demography Unit
AtoN	Aid(s) to Navigation
BID	Background Information Document
BP	Business Plan
CATHSSETA	Culture, Arts, Tourism, Hospitality, Sports Sector, Education and Training Authority
CD: IO MANCO	Chief Director: Infrastructure Operations Management Committee
CIWSP	Cooperative Inland Waterways Safety Programme
CoGTA	Department of Cooperative Governance and Traditional Affairs
CPSI	Centre for Public Service Innovation
DAFF	Department of Agriculture, Forestry and Fisheries
DEA	Department of Environmental Affairs
DHS	Department of Human Settlement
DMC	Dam Management Committee
DoT	Department of Transport
DPW	Department of Public Works
DRDLR	Department of Rural Development and Land Reform
DSR	Department of Sports and Recreation
DWAF	Department of Water Affairs and Forestry
DWS	Department of Water and Sanitation
DWS, RQS	Department of Water and Sanitation, Resource Quality Services
ECC	Effective Carrying Capacity
EMF	Environmental Management Framework
FSL	Full Supply Level
GIAMA	Government Immovable Asset Management Act
GP	Guideline Programme
GPS	Global Positioning System
GVD	Gross Value Added
GWWs	Government Waterworks
I&APs	Interested and Affected Parties
IA	Implementing Agency
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IDP	Integrated Development Plan
IEE	Integrated Environmental Engineering
IRMP	Integrated Resource Management Planning
KPA	Key Performance Area
LAAP	Local Accountable AtoN Parties
LED	Local Economic Development
MOA	Memorandum of Agreement
NDT	National Department of Tourism
NEMA	National Environmental Management Act
NEMPAA	National Environmental Management: Protected Areas Act
NPSC	National Project Steering Committee
NT	National Treasury
NWA	National Water Act
NWRI	National Water Resources Infrastructure
OLM	Oudtshoorn Local Municipality
OMC	Operations Management Committee

PCC	Physical Carrying Capacity
PP	Public Participation
PPP	Public Private Partnership
PSP	Professional Service Provider
QDS	Quarter Degree Square
RCC	Real Carrying Capacity
RF	Rotation Factor
RMP	Resource Management Plan
SAMSA	South African Marine Safety Authority
SAPS	South African Police Service
SASCOC	South African Sports Confederation and Olympic Committee
SDF	Spatial Development Framework
SSA	Swimming South Africa
SWOT	Strengths, Weaknesses, Opportunities, Threats
TWQR	Target Water Quality Range
WfW	Working for Water
WMA	Water Management Area

EXECUTIVE SUMMARY

Mandate: The Department of Water and Sanitation (DWS), through the National Water Act, 1998 (Act No. 36 of 1998), is mandated to protect aquatic and associated ecosystems and their biological diversity. The Minister of Water and Sanitation, as the custodian of the nation's water resources must ensure that the Government Waterworks (GWWs), including Stompdrift Dam, are protected, used, developed, managed and controlled in a sustainable manner, for the benefit of all. To assist the Minister in attaining the mandate, and to ensure that access to, and use of, the dam is equitable, the DWS initiated and commissioned the development of the Resource Management Plan (RMP) for Stompdrift Dam.

Purpose of the RMP: The RMP is a plan which aims to regulate access and the recreational utilisation of a water resource and the surrounding state land, in ways which promote community participation and beneficiation, environmental conservation and unlock socio-economic potential of the water resource.

According to DWAF (2006), the use and management of the GWWs for recreation purpose needs to be based on Integrated Resource Management Planning (IRMP) included within the RMP.

Location of the dam: Stompdrift Dam is a multi-arch type of dam which impounds Olifants River. It falls under Ward11 within the jurisdiction of the Oudtshoorn Local Municipality (OLM), which forms part of the Eden District Municipality (EDM) in the Western Cape Province, South Africa. Its GPS coordinates are: **33^{0}30'42.74''S 22^{0}55'11.55''E**.

Purpose of the Dam: The dam was built mainly for irrigation purposes. The surrounding farms depend on the dam for irrigation water by making use of water pumps.

The secondary uses of the dam includes recreational activities such as boating, swimming, bird watching and picnic.

Dam ownership and management: The dam is owned by DWS while operated by Kammanassie Irrigation Board. There are two (2) access points at the dam, one of the access point is at the dam wall which is restricted to DWS for maintenance purposes. Another access point is situated within the Stompdrift Bushcamp and it is used for recreational purposes.

There is currently no institutional structure to manage the recreational use of the dam. However, the structure has been proposed in the RMP. The recreational institutional structure is necessary for the effective management of the Stompdrift Dam for recreational purposes.

Stakeholder engagement: The success of the development and implementation of the RMP depends on the role players and their level of participation. It is thus recognized that different roles and responsibilities of the stakeholders [Authorities and Interested and Affected Parties (I&APs)], their relationship towards each other and the steps in the planning procedure are imperative in the successful development of the RMP. As such, proper consultation with the public was done in order to help in producing a credible RMP.

DWAF's Guidelines for Public Participation (2001) outlines three (3) broad phases for public participation namely the **Planning, Participation** and **Exit phase**.

During the **Planning phase** a site inspection was done and secondary information reviewed as part of gathering baseline information about the dam. A process was also established to get into contact with the I&APs and relevant authorities to ensure co-operation interests and support of the RMP project.

The **Participation phase** entailed three (3) important aspects, namely:

- Informing stakeholders about the RMP project;
- Meeting the stakeholders to present the RMP process; and
- Giving Feedback in the form of meeting minutes, follow-up emails, telephonic and direct communication.

During the **Exit phase**, a draft RMP was presented to the stakeholders for comment and inputs. The Exit phase entailed two (2) important aspects, namely:

- Ensuring that all goals, challenges, concerns, objectives and the vision of the dam are identified and documented in the RMP; and
- Officially ending the public participation process.

Identified objectives and vision: During the Authority and Public Meetings issues of concerns were raised from which common objectives were identified and a vision for the dam, for a period of 20 years, formulated by the stakeholders.

The identified key common objectives are:

- To block sediments from entering the dam;
- To host angling and rowing championships;
- To establish a cultural conservation and history class; and
- To introduce eco-training at the dam for local communities.

A vision for the dam for a period of 20 years was formulated by stakeholders to be as follows:

"To make the Stompdrift Dam a local information Centre where the local heritage and cultural artifacts are kept, keeping the local communities involved in the recreational activities and ensuring that they benefit from the dam as it has potential for eco-tourism".

The aforementioned objectives and vision are aimed at supporting the attainment of DWS's vision, mission and objectives.

Tourism Potential: The following were identified as some of the potential recreational developments at the Stompdrift Dam that could enhance tourist attraction:

- To host rowing and angling championships at the dam;
- Establishment of a cultural conservation and history class at the dam; and
- Establishment of eco-tourism for visitors at the dam.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND OF STOMPDRIFT DAM

Stompdrift Dam is a multi-arch type of dam which impounds Olifants River. It falls under Ward 11 within the jurisdiction of the Oudtshoorn Local Municipality (OLM), which forms part of the Eden District Municipality (EDM) in the Western Cape Province, South Africa. Its GPS coordinates are: **33^{0}30'42.74''S 22^{0}55'11.55''E**. (See **Figure 1**).

The primary purpose of Stompdrift Dam is to provide raw water for irrigation, and domestic use.

The dam currently offers recreational activities such as boating, swimming, bird watching, picnic and other leisure related activities.

The dam is owned by DWS and operated by Kammanassie Irrigation Board, and it was opened in 1965. **Table 1** summarizes the dam profile.

Table 1: Stompdrift Dam Profile

Stompdrift Dam Profile	
Location	South Africa
Province	Western Cape
District Municipality	Eden District Municipality
Local Municipality	Oudtshoorn Local Municipality
Nearest Town	De Rust
Completion Year	1965
Raised Date	2014
Coordinates	33^{0}30'42.74''S; 22^{0}55'11.55''E.
Purpose	Irrigation and Domestic Use
Owner	DWS
Water Management Area	Olifants Catchment Area
Catchment Area (km^2)	5224
River	Olifants River
Capacity (m^3)	553 000 000
Surface Area (ha)	620.8
Wall type	multi-arch
Wall Height (m)	37
Length (m)	400

Source: Department of Water Affairs (List of registered dams; March 2013)

1.2 BIO-PHYSICAL ENVIRONMENT

1.2.1 Climate

The dam area receives mean annual rainfall of about 400mm during the months of March, May, August and October. The driest months are from December to February. Frost is infrequent.

The mean annual temperature range at 17^{0}C. (Refer to **Figure 2** for the average temperatures and rainfall patterns for the area from the year 2015 to 2017).

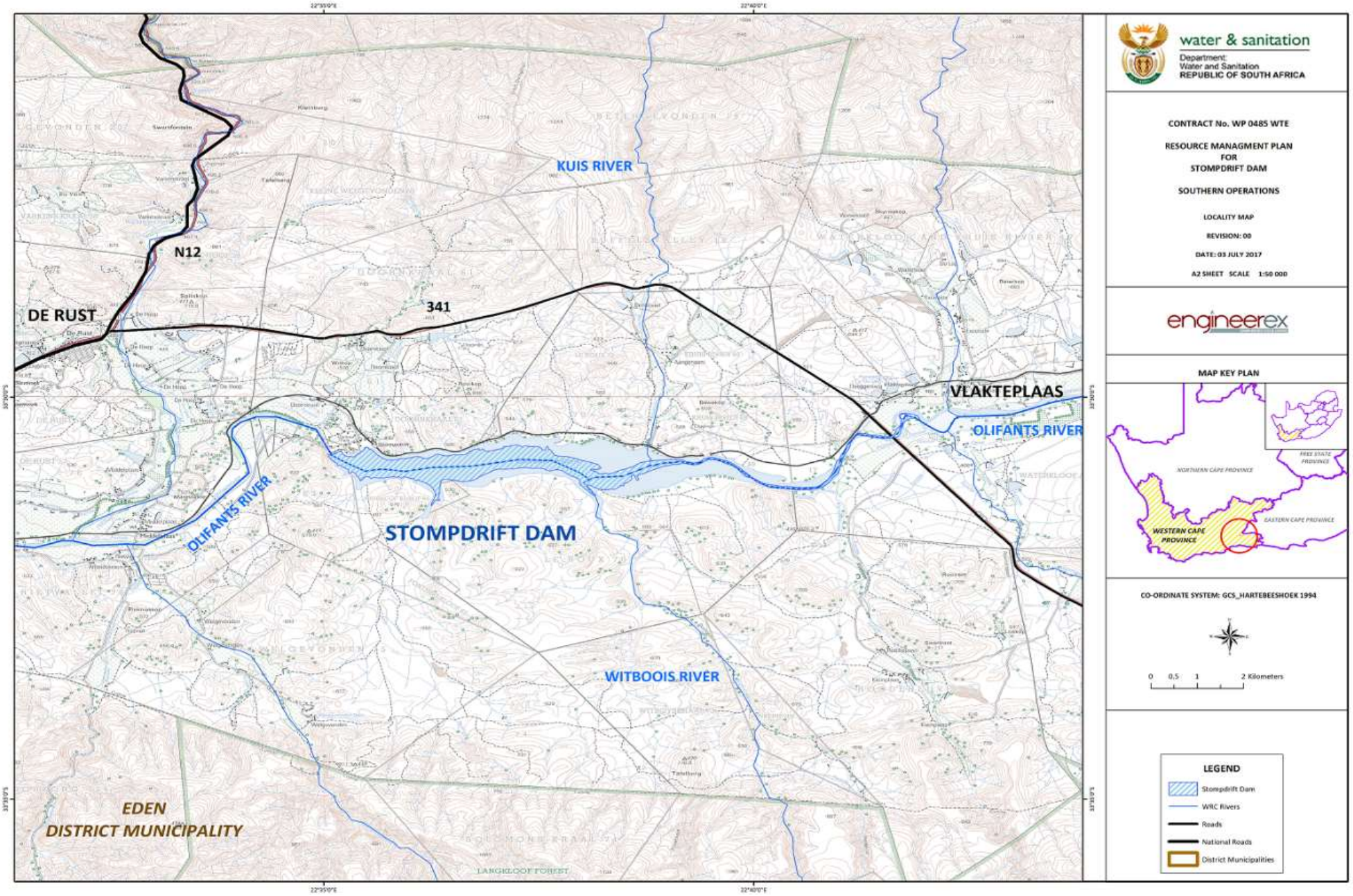

Figure 1: Stompdrift Dam Locality Map

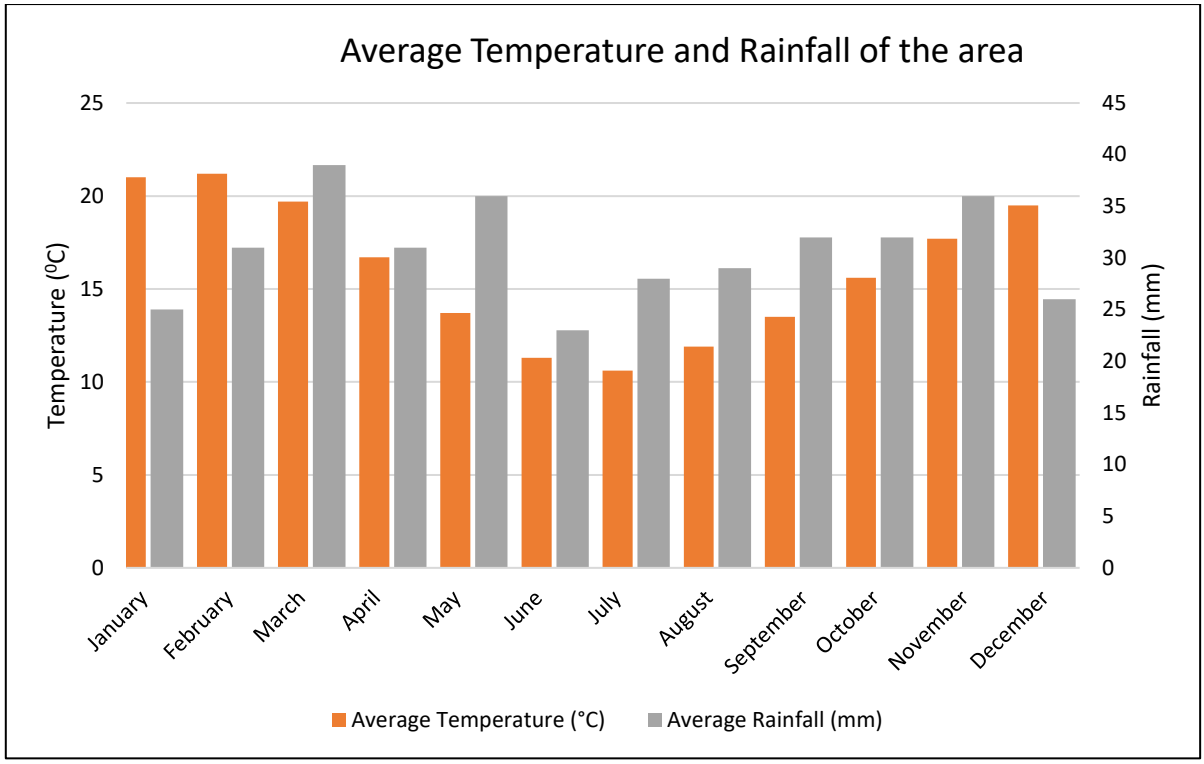

Figure 2: Average Temperature and Rainfall of the area

1.2.2 Flora

The area is characterised by medium-sized, dense thicket composed of sclerophylous evergreen shrubs such as *Eulea, Grewia, Gymnosporia, Putterlickia, Rhus, Sideroxylon, Tarchonanthus.* There is also an important admixture of microphyllous shrub element such as *Athanasia, Elytropappus, oedera and Stoebe*. A prominent and dominant, succulent rosulate tree called *Aloe Ferox* is also found in this area. The low shrub layer contains a high proportion of succulent shrubs such as *Aloe*, *Crassula*, *Euphorbia* and *Ruschia*). Grasses are abundant in some favoured grazing areas.

The conservation status of this area is considered as vulnerable, with a very little unit conserved in Pauline Bohnem Nature Reserve and in Langeberg-Oos Reserve. 35% of it is transformed by cultivation. Soil erosion is variable from very low to high. The local *Aloe Ferox* is harvested for medicinal purposes.

1.2.2.1 Terrestrial Alien Species

Alien invasive plant species are non-indigenous plants introduced from other countries. Once they were introduced, they tend to spread beyond the area where they are desired. Alien plant species also outcompete the indigenous species wherever they germinate. Many of these species are prominent in riparian ecosystems. I.e. on the banks of water sources (streams, rivers, estuaries, dams and lakes).

Alien species were either intentionally or unintentionally introduced to South Africa. The intentional introduction was for aesthetic and/or economic gain. Some plants have been introduced with the intent of aesthetically improving public recreation areas or private properties, whilst others are introduced for ornamental or timber uses.

The most common Terrestrial Alien Plants in South Africa are the Black Wattle (Arcacia Mearnsii) , Mauritius Thorn (Caesalpinia Decapetala), Guava (Psidium Guajava), Castor Oil plant (Ricinas Communis), Blue Gum (Eucalyptus globulus), Pine Trees, Bug weed (Solanum Mauritinum), Port Jackson willow (Acacia Saligna), weeping willow (Salix Babylonica), Tickberry (Lantana camara, blackwood (Dalbergia melanoxylon) and the silver wattle (Acacia dealbata).

Impacts of Alien Plants on Natural Environment:

- They are water guzzlers.
- They cause Eutrophication.
- They outcompete and displace the indigenous species.
- They cause soil erosion.

Control Methods

There are three methods to control or eradicate alien invasive species growing in the environment namely; **Physical control, Chemical and Biological control**.

Physical removal

Many invasive plants can be removed manually or with the help of simple tools. Shrubs can be removed by using a tree popper. The top growth of such plants can be cut, followed by the removal of the stem and roots from the ground. Larger trees can be dealt with using the ring-barking method. This involves peeling off the barks on the stem of the tree.

Chemical Control

Herbicides can be sprayed on plants less than 2m in height for quick results. Spraying needs to be done when there is no wind in order to prevent spray drifting onto adjacent wanted plants. All plants that are subjected to the spray will be destroyed. Large tree can be cut down, leaving a stump as flat and as close to the ground as possible, and apply a recommended herbicide.

Biological control

Biological control consists of the use of natural enemies to reduce the vigor or reproductive potential of an invasive alien plant. Biocontrol can be achieved by the use of specially selected and carefully tested plant-feeding insects, mites, and pathogens.

1.2.2.2 **Aquatic Alien Species**

Aquatic weeds is defined as "unwanted and/or undesired plants which grow and reproduce in an aquatic environment ".Whilst plants are important components of the aquatic environment, the excessive growth and spread of aquatic weeds can have a detrimental effect on water bodies and its inhabitants. Some of the problems caused by the growth and spread of aquatic weeds in water bodies are as follows:

- Interfere with or prohibit recreational activities such as swimming, fishing, and boating;
- Detract from the aesthetic appeal of a water body;
- Stunt or interfere with a balanced fish population;
- Produce quiet water areas that are ideal for mosquito breeding;
- Certain weeds can give water bad tastes and odours;
- Impede water flow in drainage ditches, irrigation canals, and culverts, causing water to back up; and
- Deposition of weeds, sediment, and debris, can hinder bodies of water to fill in.

There are ten known aquatic weeds in South Africa. The known weeds include, among others, the Water Hyacinth (Eichhornia crassipes), Red water fern (Azolla filiculoides), Parrots feather (Myriophyllum aquaticum), Water lettuce (Pistia Stratoites), etc.

Control Methods

Mechanical Control

Mechanical control usually refers to the mowing or mechanical cutting of an invasive plant infestation to limit seed production. With mowing, timing is essential. Invasive plants must be removed before the plants go to seed in order to be an effective method of control. Plants should be cut as close to the ground as possible and may have to be treated more than once in a growing season to achieve desired results.

Manual Control

Manual invasive plant control usually refers to hand-pulling or digging. Manual control works well for dealing with single plants or small infestations that can be eradicated with a small amount of labour. It is most effective if invasive plants are shallow rooted and the soil is loose or moist. One should be aware this type of control may not be effective for invasive plants that also reproduce by roots and rhizomes. In these instances, limited hand-pulling or digging

may actually increase the size of the infestation.

Biological control

Biological control often works best on large infestations, or infestations that are near the water. It is a long-term approach and often it takes many years for insects to establish and results to be seen. In some cases, a single biological control agent can adequately control an invasive plant species. However, in most cases, a variety of agents are needed to achieve control of the weed species population levels. Biological control will not eradicate the infestation directly. Rather, the agents are used to decrease the vigor and seed production of the plants in order to decrease their competitive ability. Therefore, it is important to use other weed management strategies to ensure that the infestations are contained.

1.2.3 Fauna

Amphibians

According to the Avian Demography Unit (ADU), 2015 Frogmap Atlas, nine (9) species have been recorded within the 3322DA Quarter Degree Square (QDS). No species are regarded as vulnerable or endangered in this area.

Reptiles

There are Thirty two (32) reptile species that are found within the 3322DA QDS and there are no species vulnerable to extinction and endangered reptile species.

Mammals

Within the 3322DA QDS more than eleven thousand two hundred and ninety two (11292) mammal species are available. From these mammal species, Two (2) of them species are vulnerable and these are the Blue Duiker and the Cape Mountain Zebra). The African White-tailed rat is considered as an endangered mammal species.

1.2.4 Topography

The topography is characterised by steep slopes of deeply incised valleys of rivers flowing mainly in a north-south direction dissecting the southern cape coastal peneplain. Medium sized to tall, dense thicket composed of scerophyllous evergreen shrubs as well as an important admixture of a microphyllous shrub element.

1.2.5 Geology and Soils

The soils at the area are shallow, loamy-clayey soils (Mostly Glenrosa and Mispah) derived from siltstone and shales of the Bokkeveld Group in the western part of the area, and Jurassic Enon conglomerates and other clastic sediments of the Uitenhage group in the eastern part of the area.

1.2.6 Hydrology

1.2.6.1 Surface Water

Stompdrift Dam impounds the Olifants River. According to the DWS state of dams 29/07/2016, it is evident that the dam is currently at 40% storage capacity. This is regarded as the normal to moderate water level, however, the water level is higher than it was during 2015 in the same months wherein it was below 30% storage. **Figure 3** shows the fluctuations of the dam's water level over a year (DWS, Western Cape Province State of Dams, 2016)

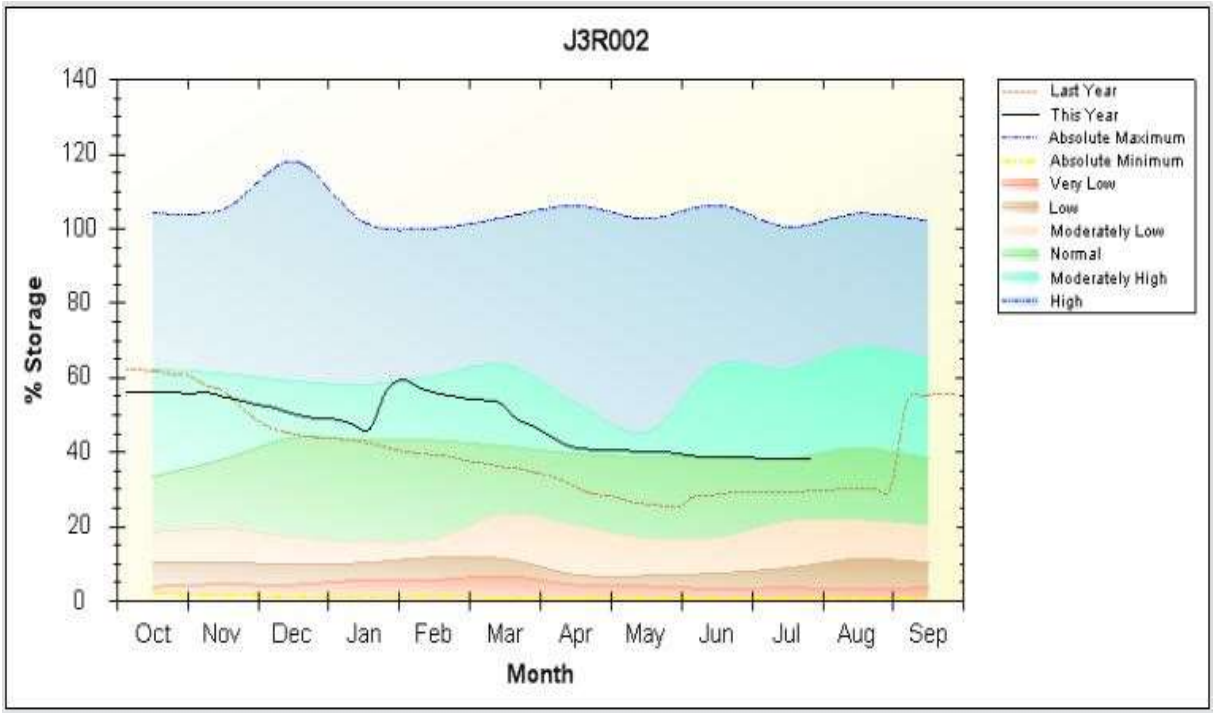

Figure 3: Fluctuations of the dam's water level over a year (DWS, 2016)

1.2.6.2 **Water Quality**

The term water quality is used to describe the physical, chemical, biological and aesthetic properties of water, all of which determine its fitness for use and its ability to maintain the health of aquatic organisms (DWAF, 1996). Water quality therefore expresses the suitability of water to sustain various uses or processes. Any particular use will have certain requirements for the physical, chemical or biological characteristics of water. Consequently, water quality can be defined by a range of variables which limit water use. Human health is directly affected by the proximity, availability and quality of water resources.

According to the DWS RQS, the Stompdrift Dam does not contain toxic substances. The pH of the water is still within the required level for recreational activities, however, the water becomes salty after heavy rains due to run-off. There is no record of any Algae at the dam. Magnesium and Potassium are also not recorded for Stompdrift Dam. The amount of Sulphate and Ammonia in the water is minimal and do not show signs of health or aesthetic effects. **Table 2** indicates the water quality variables at Stompdrift Dam:

Table 2: Water Quality Variables at Stompdrift Dam (DWS RQS, 2016)

Characteristics	Tests Results	Water Quality Target Range (Recreational Purposes)	Description
Clarity (Secchi disc, m)		3.0	No information available.
pH (pH units)	8.4	6.5 - 8.5	Minimal eye irritation occurs. The pH of water is well within Quality Range and the buffering capacity of the lachrymal fluid of the human eye. Skin, ear and mucous membrane irritation absent.
Algae (Chlorophyll-a method, µg/chl-a)		0 - 15	No information available.
Ammonia (mg/L)	0.066	0 – 1.0	No health and or aesthetic effects can occur.
Magnesium (mg/L)		0 - 30	No information available.
Potassium (mg/L)		0 - 50	No information available.
Sulphate (mg/l)	51.17	0 - 200	No health or aesthetic effects are Experienced.
Electrical Conductivity (mS/m)	74.6	0 - 70	The level of electrical conductivity has exceeded the water quality target range of 74.6 for recreational purposes. Further water quality tests are required.

1.3 USES AND USERS OF THE DAM

1.3.1 Primary Use

The dam was built mainly for irrigation purposes. The surrounding farms depend on the dam for irrigation water by making use of water pumps.

1.3.2 Recreational Use

The dam has a recreational facility that accommodates various recreational activities such as boating and fishing. The dam also attracts travellers from Cape Town.

1.4 RECREATIONAL INSTITUTIONAL STRUCTURE

Stompdrift Dam is operated by the kammanassie Irrigation board upon agreement with DWS, however, the RMP for the dam will be accompanied by a suitable institutional structure for the management of secondary uses.

1.4.1 Management of Water Surface

In addition to the DWS, Local Accountable AtoN Parties (LAAP) and other Bodies providing access to government waterways and watercourses have a responsibility to ensure that the required fixed and/or floating AtoN are provided after obtaining the necessary support from DWS and thereafter the permission by SAMSA.

1.4.2 Access

There are two (2) official access points at the dam, where one (1) is located next to the dam wall and the second one is at the Stompdrift Bushcamp. The access near the dam wall is only used by DWS for maintenance purposes. The access at the Stompdrift Bushcamp is used by the general public for access into the water. Other access points are on the private properties adjacent to the dam.

1.5 SAFETY AND SECURITY

The dam is surrounded by a protective fence to ensure safety of humans and animals from surrounding communities. The Stompdrift Bush-camp is responsible for maintaining the safety of the people who visit the camp.

1.5.1 Safety of Navigation

There is standardised and harmonised fixed and floating Aids to Navigation (AtoN) [2] and Demarcation Markers in place.

1.5.2 Incident Management

There is no specific incident management system in place to ensure that incidents are responded to in a co-ordinated manner.

1.6 SOCIO-ECONOMIC ENVIRONMENT

1.6.1 Social Audit

The main purpose of social audit is to examine the general status of the study area and to determine issues that need to be addressed when developing the RMP in order to overcome potential difficulties in an area. The study area falls within Ward 11 of the OLM. An understanding of socio-economic conditions of Ward 11 can be used at a later stage to determine the impact of a RMP in the area in terms of changed socio-economic conditions.

A social Audit which focused on the population composition of the ward, Education level, and employment status was undertaken and is presented in section 1.6.1.1 to 1.6.1.3, respectively.

1.6.1.1 Population Dynamics

According to the Census (2011) the OLM has a population of 29143. This population is composed of 51.97% females and 48.03% males. **Table 3** and **Figure 4** shows the population size of the OLM:

Table 3: OLM Population Size (Census 2011)

Population group	People
Coloured	15, 609
Black African	3, 699
White	9, 336
Other	338
Indian or Asian	161

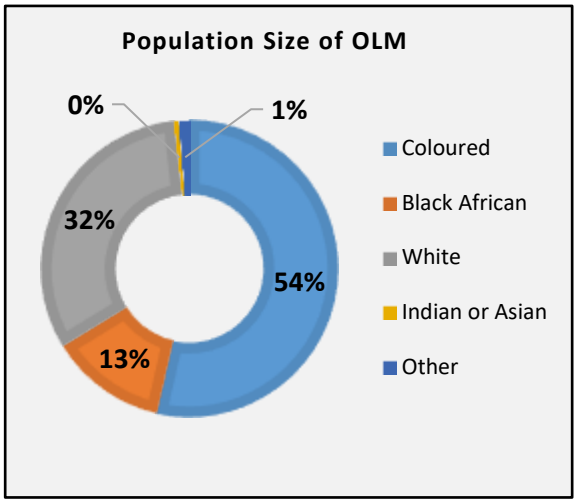

Figure 4: Population size of OLM

1.6.1.2 Education Level

Figure 5 indicates the level of education for individuals of age twenty (20) years and above for the OLM.

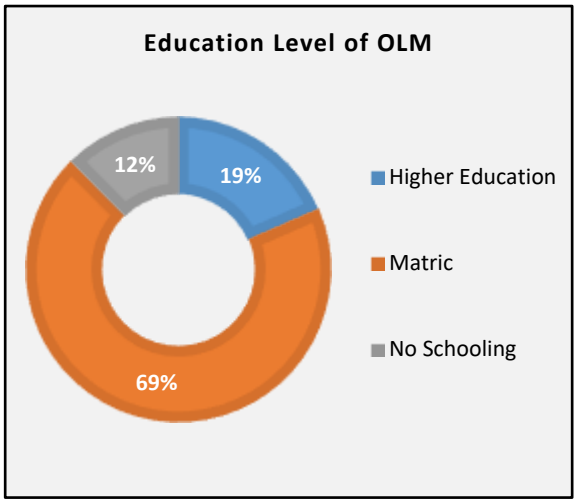

Figure 5: Education Level of OLM

1.6.1.3 Employment Status

Table 4 shows the employment percentage as well as the youth unemployment rate of people between the ages of 15 to 34 years within the area. It is evident that a higher percentage of the youth in the area is unemployed.

[2] A marine Aid to Navigation (AtoN) is defined by the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) as "A device or system external to vessels that is designed and operated to enhance the safe and efficient navigation of vessels and/or vessel traffic".

Table 4: OLM Employment Percentage (Census 2011)

Labour Market Percentage	
Unemployment rate	25.30%
Youth unemployment Rate	35.90%

Table 5 shows the employment per employment sectors.

Table 5: Employment sectors Percentage

Employment Sector	Percentage
General government community services	42%
Agriculture forestry and fishing	11%
Manufacturing	9%
Construction	7%
Commercial services	32%
Other sectors	0%

1.6.2 Community Beneficiation

It is DWS's belief that Local Communities should equally share the benefits emanating from the utilisation of the dam for recreational purposes, by ensuring that they have both physical access to the resource, as well as access to the water-based recreation economy.

According to DWAF (2006), by ensuring that the Local Communities move beyond merely being affected by or living close to a water resource, but rather undertaking the transition to become participants will ensure that water resources can and will be protected by the people closest to and most affected by the dam.

The community will benefit in amongst others the following ways:

- By having equitable access to the dam;
- The community needs will be addressed in an appropriate and equitable manner;
- By being safe while accessing and using the dam;
- By being given first preference when there are employment opportunities and skills development;
- Through the PPP; and
- By participating in decision-making with respect to major developments planned or proposed for the dam (through the Dam Management Committee).

CHAPTER 2: LEGISLATIVE FRAMEWORK

The RMP forms the overarching framework for the management of Stompdrift Dam. It is informed by relevant policy, legislation and planning documents administered by other government departments, most of which are discussed below. Similarly, these government departments are required to use the RMP to inform the development of future policy, legislation and planning documents.

I. **The Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996), Section 24:** Provides that, everyone has a right to an environment that is not harmful to their health or well-being.

II. **Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983):** Provides for control over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith. Regulation 7 and 8 within the same Act deals with the protection of wetlands and water courses, while regulations 15 and 16 deals with Alien Invasive Plant Species and bush encroachment**.**

III. **Consideration on Institutional Arrangement for Managing Use of Water for Recreational Purposes (DWAF, 2003):** It outlines some of the institutional issues at a local level and makes recommendations about the conditions under which different Institution Management arrangements may be considered.

IV. **General Public Participation Guidelines (DWAF, 2001):** Public Participation refers to the ongoing interaction between Role Players and all stakeholders that is aimed at improving decision making during planning, design, implementation and evaluation of all projects within the state, this includes the proposed development of the RMP.

V. **Government Immovable Asset Management Act, 2007 (Act No. 19 of 2007):** To provide for a uniform framework for the management of an immovable asset that is held or used by a national or provincial department; to ensure the coordination of the use of an immovable asset with the service delivery objectives of a national or provincial department; to provide for issuing of guidelines and minimum standards in respect of immovable asset management by a national or provincial department; and to provide for matters incidental thereto.

VI. **Government Notice R654 dated 1 May 1964, in terms of the Water Act, 1956 (Act No. 54 of 1956):** Regulates access and use of government water works for recreational purposes.

VII. **Guidelines for Compilation of Resource Management Plans (DWAF, 2006):** Directs and guides the development of RMPs by providing insight into the purpose and objectives of these plans, the procedure for its compilation and structure of such documents.

VIII. **Merchant Shipping (National Small Vessel Safety) Regulations (2007):** These Regulations provide *inter alia* for:

- Requirements for vessel safety;
- Crewing requirements and responsibilities;
- Controlled events such as competitions and regattas; and
- Responsibilities of authorised agencies (governing boards/clubs/organisations and regulating authorities).

These Regulations apply to the Department of Water and Sanitation as they are applicable to all inland and sheltered waters and as the Department and its agencies are allowing access to government waterworks for recreational boating vessels.

IX. **Methodology for Carrying Capacity Assessment for the Use of Water for Recreational Purposes (DWAF, 2003):** The carrying capacity of a water resource represents the maximum level of visitor/recreational use and related infrastructure that the water resource and surrounding area can accommodate, without diminishing user satisfaction or adverse impacts upon the local or host community, the economy and culture of the area.

X. **National Environmental Management Act, 1998 (Act No. 107 of 1998):** NEMA serves as South Africa's Environmental Framework Legislation. It was designed to provide for co-operative and Integrated Environmental Governance by establishing a general framework for decision-making on matters affecting the environment.

XI. **National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) and Related Regulations:** This Act aims to provide the framework, norms and standards for the conservation, sustainable use and equitable benefit-sharing of South Africa's biological resources.

The Alien and Invasive Species Regulations for this Act came into effect 01 October 2014. NEMBA together with these Regulations aim to prevent the introduction and spread of alien and invasive species across South Africa.

XII. **National Environmental Management: Protected Area Act, 2003 (Act No. 57 of 2003):** The aim of this Act is to provide for the protection and conservation of ecologically viable areas, which are representative of South Africa's Biodiversity, as well as natural landscapes and seascapes.

XIII. **National Treasury Public Private Partnership (PPP) Toolkit for Tourism, 2005:** This toolkit assist the process of development of tourism-based businesses on State-owned Land. The Toolkit make it easier for Institutions and the Private Sector to enter into tourism related partnerships on State Property managed by National and Provincial Government Institutions.

XIV. **National Water Act, 1998 (Act No. 36 of 1998):** The purpose of the Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in a sustainable and appropriate manner, for the benefit of all. Furthermore Section 113 of the Act states that the water of a government waterworks and surrounding state owned land may be made available for recreational purposes, subject to controls determined by the Minister and regulations made by the Minister.

Using water for recreational purposes is a water use under Section 21K and can be exercised as permissible use of water under Schedule 1 of the Act. However, this provision does not cater for commercial use hence the RMP should be implemented in line with General Strategic Plan for commercialisation of Tourism Public Private Partnerships at Government Waterworks, 2009 and PFMA Treasury Regulation 16.

Once the RMP has been approved, the RMP will regulate access and use of the dam. It is important to note that users

will need to comply with other relevant legislation.

XV. **Operational Policy: Using Water for Recreational Purposes (DWAF, 2004):** This policy is the main guideline in support of the RMP process with regards to the basic principles, policies, strategies and actions for regulating the use of water for recreational purposes.

XVI. **Public Finance Management Act (PFMA) (Act No. 29 of 1999**): Section 76 of the Act secures transparency, accountability and sound management of the revenue, expenditure, assets and liabilities of government departments. The Act promotes the objective of good financial management in order to maximise service delivery. The Act allows DWS to enter into PPP agreements with the private sector for the commercial use of state assets.

XVII. **Safety at Sport and Recreational Events Act, 2010 (Act No. 2 of 2010):** Events management is addressed by Safety at Sport and Recreational Events Act (Act No. 2 of 2010). This act deals with ensuring responsibility for safety and security at events. The act deals with among other things,

- Responsibility for safety and security at the events;
- Risk categorization of events; and
- Safety certificates.

XVIII. **South African Maritime Safety Authority Act, 1998 (Act No. 5 of 1998):** One of SAMSA's three legislative mandates is "to ensure safety of life and property at sea". The Act enables SAMSA to administer and execute the relevant maritime legislation.

XIX. **Water Services Act (Act No. 108 of 1997):** The Act outlines the roles and responsibilities for the supply of water and sanitation to citizens. It also recognises the rights of all humans to basic water supply and sanitation services.

The RMP process also takes cognizance of the following Legislations, Policies, Programmes and Reports:

- Broad-based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003).
- Communal Land Rights Act, 2004 (Act No.11 of 2004).
- Intergovernmental Relations Framework Act, 2005 (Act No.13 of 2005).
- Land Administration Act, 1995 (Act No. 2 of 1995).
- Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000).
- National Heritage Resources Act, 1999 (No. 25 of 1999).
- Occupation Health and Safety Act, 1993 (Act No. 85 of 1993).
- Restitution of Land Rights Act, 1994 (Act No. 22 of 1994).
- State Land Disposal Act, 1961 (Act No. 48 of 1961).
- The Mountain Catchment Areas Act, 1970 (Act No. 63 of 1970).
- Western Cape Nature Conservation Board Act, 1998 (Act No. 15 of 1998).
- Western Cape Nature Conservation Laws Amendment Act, 2000 (Act No. 3 of 2000):
- Western Cape Provincial Development Framework (2005).
- **Safety of Navigation:** In addition to its common-law responsibility, DWS is, in terms of the requirements described in the National Water Act, Act No 36 of 1998, amongst others, responsible for the safety of GWWs. DWS, its delegated public sector partner, or a delegated water management institution, has therefore the responsibility to provide the required fixed and/or floating AtoN for general navigation. In addition to the DWS, Local Accountable AtoN Parties (LAAP) and other Bodies providing access to Government waterways and watercourses have a responsibility to

ensure that the required fixed and/or floating AtoN are provided after obtaining the necessary support from DWS and thereafter the permission by SAMSA. In order to demarcate specific zones/areas, standardised demarcation markers are to be used in conjunction with the relevant AtoN.

- SAMSA Marine Notices and its Directive on the Standardisation of fixed and floating AtoN and Demarcation Markers on all navigable Inland Waterways in the Republic of South Africa.

The aim is to enhance the development of a best practice model to ensure a safe and structured inland maritime environment and culture, whilst protecting the country's precious water resources. Not only do these Acts, Regulations and Frameworks guide specific decisions and actions, they also provide the framework for monitoring performance and compliance, and provide guidelines regarding contravention, offences and penalties. This list is not extensive, other legislation could be applicable.

CHAPTER 3: WHAT IS A RESOURCE MANAGEMENT PLAN

3.1. DEFINITION OF RMP

The RMP is a plan which aims to manage the utilization of a water resource and the surrounding state land, in ways which promote community participation and beneficiation, environmental conservation and unlock socio-economic potential of the water resource for recreational use.

Recreational use includes activities ranging from leisure, sport to culture and religion. Although recreational use does not involve consumption of water, it is still a major water use and needs to be managed effectively with minimal environmental negative impacts and to ensure communities have access to the water-based economy of the resource.

3.2. PURPOSE OF THE RMP

The main aim of RMPs will be to attain the objectives underlying sustainability and to compile functional, workable sustainable access and utilisation plans for water resources.

Without approved management plans relating to water resources utilized for recreational purposes, it is difficult for informed decisions to be made necessitating a precautionary approach to access, utilisation and development proposals.

One of the components of the RMP process is to implement an Institutional Plan for effective management of GWWs. The focus on the Institutional Plan is accompanied by a Zoning Plan which is influenced by current and potential recreational uses. The RMP also outlines the Strategic Plan for all the identified objectives for the dam. In addition, a Financial Plan is incorporated into the Business Plan (BP) and provides guidance on funding requirements and funding options to implement the potential recreational activities at the dam.

3.3. PROCESS TRIGGERS

Triggers are factors that have encouraged DWS to initiate and commission the development of RMPs.

A number of generic factors have been identified by DWS for the development of RMPs, however, the Process Facilitator identified site specific trigger factors, as shown on **Table 6**.

Table 6: Trigger Factors for the Development of Stompdrift Dam RMP

Trigger Factors	Description
Resource Management	**Water Quality** • The water in the dam has a high salt content due to river inlets feeding the dam. **Access control** • Access through private properties should be properly managed in order to control recreational activities in the dam.
Community Participation and Beneficiation	**Community beneficiation** • The local communities do not partake on the recreational activities at the dam. It is more dominated by people from outside the community. • The dam has the potential to improve the socio-economic status of the local communities through recreational activities that promotes community beneficiation and participation.
Public Policy	**Local Planning Initiatives** • To ensure that the RMP incorporates the planning documents from Local or District Municipality in cases where the dam is identified as local development objective in terms of the Integrated Development Plan (IDP), Spatial Development Framework (SDF) or Tourism Master Plans for the relevant Local or District municipality.

3.4. RMP DEVELOPMENT PROCESS

The RMP is developed in accordance with the RMP guideline procedure (DWAF, 2006) as illustrated in **Figure 6**.

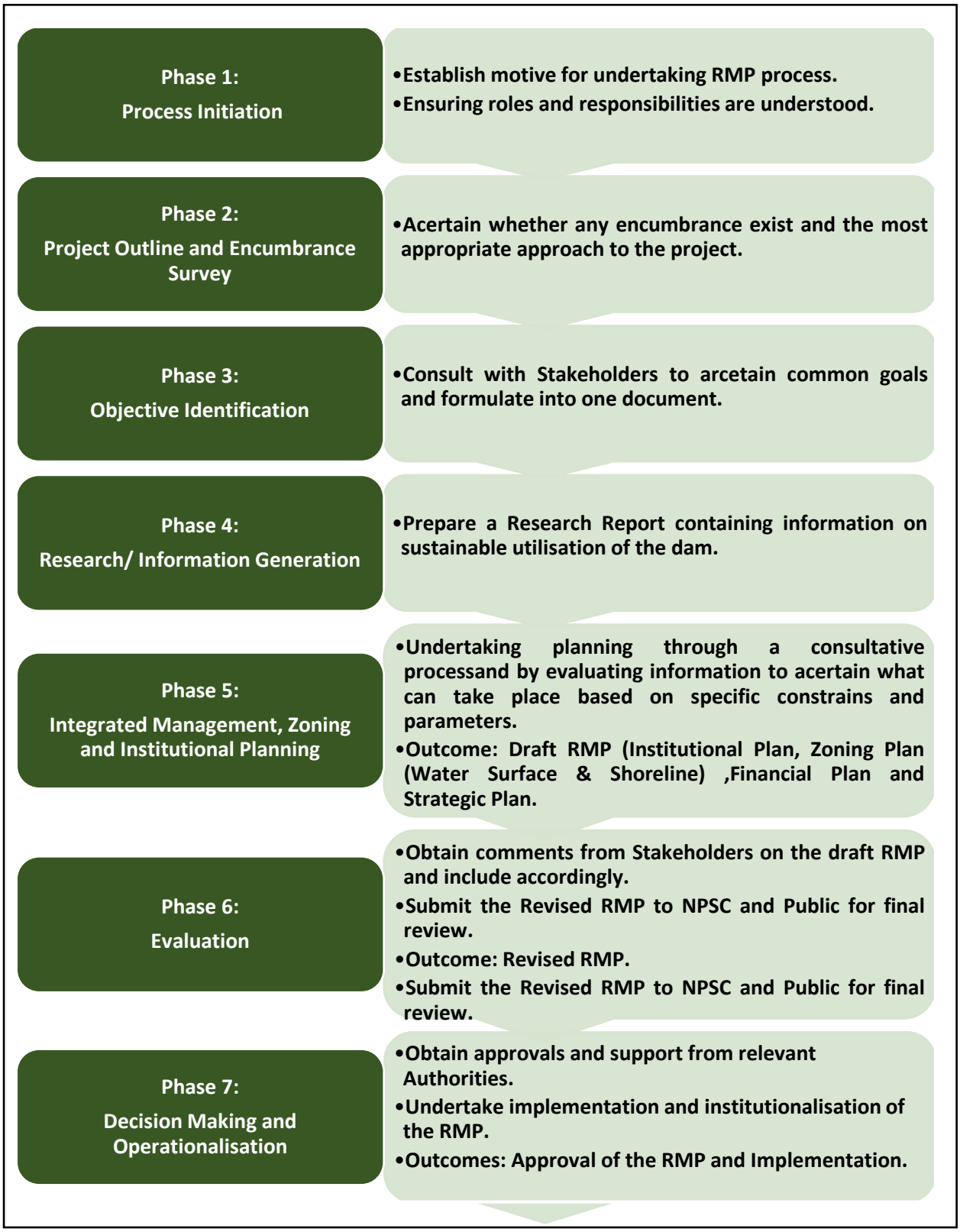

Figure 6: RMP Procedure

3.5. RMP PLANNING STAGES

3.5.1 Desktop Study

The desktop study was conducted with the aim of acquiring background information about the Stompdrift Dam. This was done through literature review. This study provided information such as the location of the dam, user groups, current activities, previous studies conducted for the dam.

3.5.2 Site Inspection

A site inspection was conducted at Stompdrift Dam on **17 November** to gather baseline information using a checklist questionnaire. The site inspection was undertaken with the DWS IEE, Southern Operations Champion and Kammanassie Irrigation Board representative. Photos of the study area were also taken during site inspection.

3.5.3 Public Participation

Public Participation process (PP) is a process in which potential Interested and Affected Parties (I&APs) are given an opportunity to comment on or raise issues relevant to specific matters. The three (3) fundamental and theoretical objectives of PP process as stipulated in the DWAF's Guideline for Public Participation (2001) are:

- To improve decision-making;
- To bring about sustainable development; and
- To normalise the attitudes of Stakeholders (Authorities and I&APs).

A Public Participation was conducted in order to acquire information for **Phase 2 (Encumbrance Survey)**, **Phase 3 (Objective Identification)** and **Phase 4 (Research/ Information Gathering)** from stakeholders, which was used to complete **Phase 5 (Integrated Management, Zoning and Institutional Planning)**. In order to successfully complete the RMP, it is essential that the information obtained in the previous phases is utilised as planning input.

The public participation process for this project was formulated to include the following objectives:

- The identification of role players;
- The introduction of the RMP project to role players and inform them about their roles and responsibilities;
- The engaging of the Stakeholders (Authorities and I&APs) in the planning process;
- The answering of questions and noting of concerns;
- The identification of important issues, problems, conflicts and alternatives;
- Identification of the overall vision of the dam;
- The elimination of false expectations and preconceptions; and
- The creation of awareness amongst users.

DWAF's Guidelines for Public Participation (2001) outlines three (3) broad phases for public participation namely the **Planning**, **Participation** and **Exit** phase. Summarized below are the aspects of each phase and the approach for this project.

3.5.3.1 **The Planning Phase**

The Planning Phase entails three (3) important aspects namely;

- Decision analysis;
- Participation planning; and
- Implementation planning.

During the **Planning Phase** a site inspection and literature review was conducted to gather baseline information about the dam. A process was also established to get into contact with the I&APs and relevant Authorities to ensure co-operative interests and support in the RMP project.

3.5.3.1.1 The Role Players

It is recognized that different roles and responsibilities of the stakeholders (Authorities and I&APs), and their relationship towards each other and the steps in the planning procedure are imperative in the successful development of the RMP. It is also important that proper consultation with the public is done in order to produce a credible RMP. As such, the success of the RMP is dependent on the level of involvement of the various stakeholders. Various stakeholders

were identified and invited to participate in an open and consultative process. (See attached **Appendix A)**. The stakeholder list is updated on a continuous basis throughout the RMP process.

3.5.3.2 **Participation Phase**

The **Participation Phase** entails three (3) important aspects:

- Informing stakeholders – explained briefly under **3.5.3.4 Advertising Process.**
- Meeting the stakeholders – explained briefly under **3.5.3.5 Direct Communication.**
- Feedback – it is of utmost importance that feedback is directed to and from stakeholders. In this project feedback thus far has been given in a form of minutes of the meetings and follow up e-mails.

3.5.3.3 **Exit Phase**

The **Exit Phase** entails two (2) important aspects namely:

- Ensuring that all goals, challenges, concerns, objectives and the vision for the dam have been identified and documented in the RMP.
- Officially ending the public participation process for the RMP process.

During this phase, a draft RMP will be presented to the stakeholders so that they can comment and give inputs.

3.5.3.4 **Advertising Process**

3.5.3.4.1 Distribution of Background Information Document (BID)

The purpose of this document was to provide Stakeholders (Authorities and I&APs) with the background information about the proposed RMP project and to introduce the processes to be followed in developing the plan. It also aimed to inform authorities and I&APs on how to fully participate in the process and to encourage active attendance in Stakeholder engagement meetings. The BID was compiled from the information collated through the desktop study and site inspection (See attached **Appendix B**).

3.5.3.4.2 Newspaper Advert

A Newspaper advert regarding the RMP project was placed in the **Die Herrie Newspaper**. The advert invited the public to attend the Public Participation Meeting. The advert was published in Afrikaans on **25 May 2016**. Furthermore, an advert for the draft RMP was advertised on **05 April 2017**. (See attached **Appendix C**).

3.5.3.4.3 Flyers Compilation and Distribution

Flyers were also used as a form of notification, they aimed at informing the I&APs about the public consultative meetings. The flyer detailed a brief description of the RMP, meeting date, time, venue and relevant contact details. The flyers were compiled in English and Afrikaans, they were distributed on **17 May 2016.**

The flyers aimed at informing the communities about the meeting that was scheduled to take place on **01 June 2016** at **Blomnek Hall**. Moreover, the flyers for the draft RMP were distributed on **05 April 2017** (See attached **Appendix D**).

3.5.3.5 **Direct Communication**

3.5.3.5.1 E-mails

Meeting invitations were sent out to authorities and I&APs notifying them about the scheduled consultative meetings. The invitation entailed the BID, meeting venue and time. The email notification was sent out on **22 May 2016**. Moreover, the meeting invites for the draft RMP were sent out on **07 April 2017** (See attached **Appendix E**).

3.5.3.5.2 Authority Meeting

The Authority Meeting was held on **01 June 2016** at the **Blomnek Hall**.

The purpose of the meeting was:

- To present the RMP, its goal and objectives of the project to the authorities; and
- To allow the authorities an opportunity to participate in the project by sharing information on their respective mandates.

The draft RMP was presented to the authorities on **18 April 2017.**

3.5.3.5.3 Public Meeting

The Initial public Meeting was held on **01 June 2017** at the **Blomnek Hall**. A platform was also given to I&APs to identify encumbrances/ challenges that might hinder the progress of the RMP as well as to identify objectives and vision for Stompdrift Dam.

The draft RMP was presented to the public on **18 April 2017.**

3.5.3.5.4 Comments and Responses Register

A copy of the draft report was circulated on **06 April 2017** for commenting. The commenting period was to elapse **18 April 2017** (See attached **Appendix F**).

3.5.4 Planning Partners

RMPs are developed through a process of cooperative governance and Stakeholder participation. The distinctly different roles and responsibilities of the stakeholders, and their relationship towards each other and the steps in the planning procedure are imperative in the success compilation of the RMP.

The RMP provides for coordination between different government departments and agencies to ensure that not only the objectives of DWS are attained, but also the objectives of other relevant Government Departments are attained. Such Departments includes among others as shown in **Table 7**.

Table 7: RMP Planning partners and their respective mandates

Department/ Agency	Mandate
Eden District Municipality (EDM) / Oudtshoorn Local Municipality (OLM)	The dam is within the jurisdiction of the municipality and is mandated to provide bulk water services.
Department of Agriculture, Forestry and Fisheries (DAFF)	The purpose of DAFF includes sustainable development and management of resources to maximizing the economic potential of the fisheries sector while protecting the integrity and quality of the country's aquatic ecosystems. Operation Phakisa expansion to inland dams is one of DAFF initiative aimed at unlocking economic potential of fisheries sector within the inland water. The latter programme will be used as benchmark for implementation of conservation policies while implementing job creation within fishery and fish processing market.
Department of Rural Development and Land Reform (DRDLR)	The department will assist in terms of Land Claims/Ownership issues.
Department of Environmental Affairs (DEA)	Responsible for Biodiversity Management within the dam including Invasive Alien Species.
Department of Public Works (DPW)	Has the power to regulate and control the use of state land outside the GWWs. In this regard, lease agreements or permits will be required from the department as some of the recreational activities will overlap into the state land.
Department of Transport (DoT)	Responsible for legislation, policy and regulations for all transportation in South Africa, including shipping and other transport by water or sea also inland waterways.
National Treasury (NT)	The use of State assets is governed by National Treasury Regulations, requiring DWS to plan concessions in compliance or association with National Treasury, guided by the Tourism Public Private Partnership (PPP) Toolkit of 2005.
South African Maritime Safety Authority (SAMSA)	One of SAMSA's three legislative mandates is "to ensure safety of life and property at sea". The Act enables SAMSA to administer and execute the relevant maritime legislation.

3.6 RMP DATA ANALYSIS

3.6.1 Encumbrance Survey (Phase 2)

The purpose of the Encumbrance Survey is to investigate/ ascertain whether any encumbrances exist around the dam and other factors that may influence the development and implementation of the RMP. The survey also identifies the information that is required for effective decision-making regarding the RMP (DWAF, 2006).

The identified encumbrances will assist DWS to identify hindrances and other factors that may influence the development and implementation of the RMP. The identified encumbrances are broken down into **Biophysical, Legal and Social**.

Tables 8 - 10 outline the summary of limitations that might affect the development or implementation of the RMP for Stompdrift Dam.

Table 8: Summary of Biophysical Encumbrances

Item	Description
Water Surface	• There are some tree stumps in the water which were washed into the dam during heavy rains. These stumps may cause injuries to people who take part in boating activities at the dam.
Water Quality	• The water in the dam has high salt content due to river inlets feeding the dam. This may affect some of the recreational activities because the water might corrode the boats in the water. It could be a slow process but it will eventually destroy the boats.
Zoning Plan	• The absence of a zoning plan may cause problems when users don't limit themselves to areas that are allowed for specific activities. This may become a safety risk.

Table 9: Summary of Legal Encumbrances

Item	Description
Agreements	• Stompdrift Bush-camp which manages the recreational activities at the dam, has an agreement with the Kammanassie Irrigation Board which is managing the dam for primary purposes.

Table 10: Summary of Social Encumbrances

Item	Description
Education	• The community members who fall under the 4.50% of No Schooling did not receive any form of education and therefore may not be equipped to participate on the recreational use of the dam. The 25.10% who have matric qualifications require training in the recreational use of the dam so that they can be actively involved in the secondary use of the dam.
Employment	• The high rate of unemployment of the youth leaves them relying on cheaper means of survival. The lack of employment might make people to lose interest in the recreational activities that are charged per entry.

Upon identifying the encumbrances, objectives needed to be identified in order to facilitate a planning procedure aimed at the compilation of a RMP. It is essential to clarify objectives to be met by the planning procedure (DWAF, 2006).

3.6.2 SWOT Analysis and Objective Identification

The SWOT Analysis was conducted to gather **Strengths** and **Opportunities** that define the potential of the dam whereas the challenges regarding the dam where identified through **Weaknesses** and **Threats**. The common key objectives were formulated and identified

from the **Strengths** and **Opportunities** of the dam. Moreover, the vision for the dam for a period of 20 years was formulated by stakeholders from the identified objectives.

3.6.2.1 SWOT Analysis Approach

There were issues of concerns that were raised in the stakeholder engagement meetings prior to conducting the SWOT Analysis. Other challenges or encumbrances that may hinder the progress of the dam's RMP process were identified by the stakeholders following the SWOT analysis approach as shown in **Table 11.**

Table 11: SWOT Analysis for Stompdrift Dam

Strengths	Weaknesses
• The dam volume increases during rainy seasons. • There is already an accessible picnic area which is operational and open for public use. • The dam has enough water to host recreational activities. • There is a quiet environment and tranquillity within the dam and its surrounding as it is far from the communities. • There is plenty of fish in the dam, which means fishing activities are possible. • The dam is accessible via a tar road. • There is a camp ground and cottages at the dam. • Ablution facilities are also available for public use. • The dam has virtually no pollution. • The slope at the camp allows for easier launching of boats into the dam. • There is a low crime rate in the area.	• The dam is far from the local communities. • During dry months, the water level drops drastically to 12%. • The dam can only be used for recreational activities when it is at full supply level. • Portable water is not always available for people who stay near the dam. • There is a poor cell phone reception around the dam. • Water and electricity supply in the area is minimal, which has a negative impact on the camping activities.
Opportunities	**Threats**
• Blocking sediments from entering the dam. • Tourism opportunities and water sports. • Angling festivals for the community. • Establishment of classroom for cultural, conservation and history studies. • Eco-training for the local community members. • Rowing championships can be held at the dam. • SANDF water training can be done at the dam. • Job creation through eradication of alien species and reeds around the dam. • Eco trips from the existing camping sites around the dam using boats. • The local land owners would like to buy excess land around the dam from DWS.	• Tree stumps in the water pose a risk of injury on recreational users. • The dam is silted, this limits most of the recreational activities such as swimming. • Lack of infrastructure for water and electricity supply in the area. • The dam is located within the Karoo Region which is prone to drought. • Excessive recreational development can pose a threat of pollution at the dam.

3.6.2.2 **Objective Identification (Phase 3)**

Objectives were identified by all the stakeholders in order to ascertain common goals. These objectives address the following questions:

- What do we want?
- How are we going to achieve this?
- Who will be involved?
- By when would we like to achieve our goals?
- Why would we want to achieve our goals?

The set common key objectives were derived from the SWOT Analysis for the Stompdrift Dam and have been categorized into three (3) Key Performance Areas (KPAs) as illustrated below:

KPA 1: Resource Management

- Blocking sediments from entering the dam.

KPA 2: Resource Utilisation

- To establish a tennis court at the dam; and
- Hosting angling and rowing Championships.

KPA 3: Benefit Flow Management

- Introducing horse riding at the dam;
- Establishing a cultural conservation and history class; and
- Introducing Eco-training at the dam for local communities.

Action projects required to achieve these objectives are provided in detail in **Section 4.3** (**The Strategic Plan**).

A vision for the dam for a period of 20 years was formulated from the key common objectives identified by the stakeholders and stands as follows:

"To make the Stompdrift Dam an information Centre where the local heritage and cultural artifacts are kept, keeping the local communities involved in the recreational activities and ensuring that they benefit from the dam as it has potential for eco-tourism".

After setting the dam's specific objectives, a research was conducted in order to provide relevant information to decision – makers regarding the sustainable utilisation of the water resource and where applicable the State Land.

3.6.3 Research/ Information Generation (Phase 4)

The aim of undertaking the research process was to collect the relevant data about the dam. This will serve as a decision-making guideline tool, guided by the objectives set for the dam and any limitations due to encumbrances. The report documents the following data as shown in **Figure 7**.

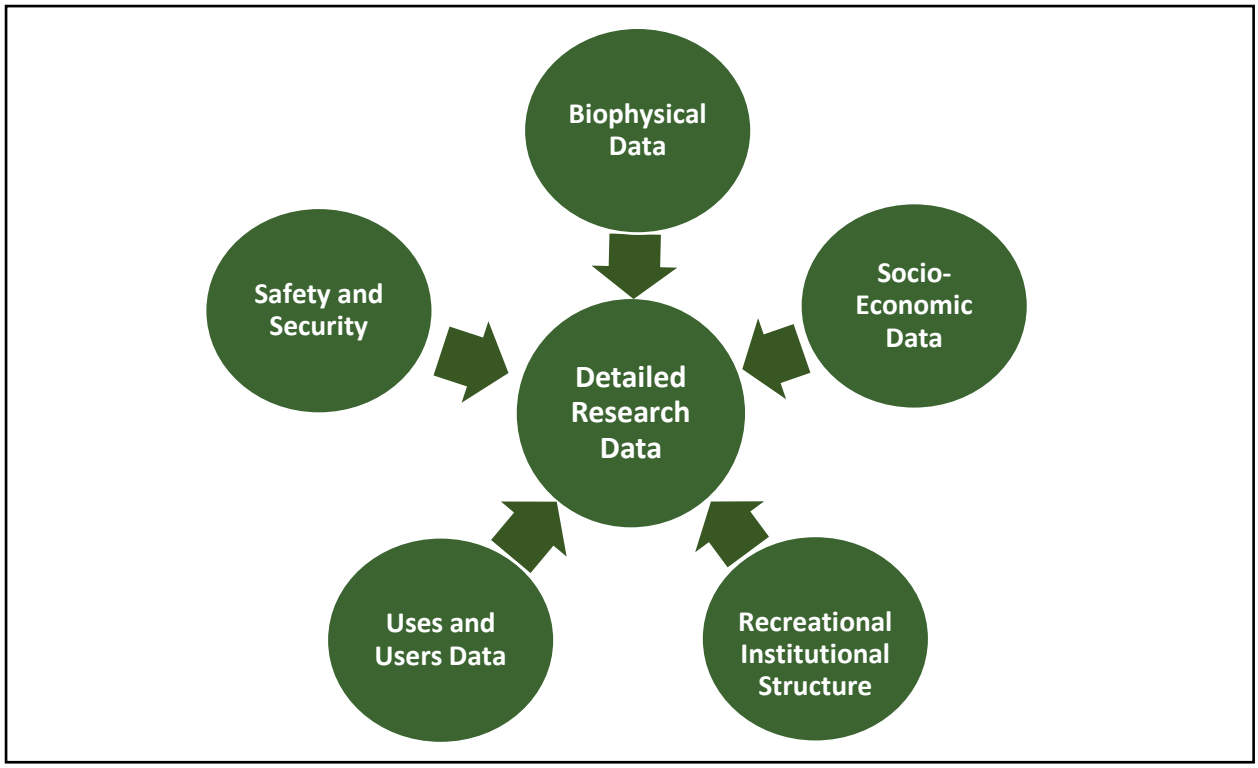

Figure 7: Research Data

The main aim of the research was to identify the dam tourism development potential and also to evaluate the practicability/feasibility of the potential objectives identified.

3.6.3.1 **Tourism Development Potential**

Stompdrift dam has the potential of being one of the preferred tourism destinations within the OLM. The recreational activities will require proper advertising so that people from the surrounding towns can visit the dam more often. The dam currently attract visitors from Cape Town and other surrounding towns.

3.6.3.2 **Feasibility for Potential Objectives**

According to DWAF (2006), the feasibility of the proposed objectives needs to be determined in light of the local environmental conditions. **Table 12** shows the practicability of all proposed recreational objectives.

Table 12: Feasibility of Potential Recreational Objectives

KPA 1: Resource Management		
Objective	**Status Quo**	**Practicability**
• To Block sediments and debris from entering the dam.	• During heavy rains, the run-off water carries huge chunks of sediments, debris and tree stumps from the rivers into the dam. As a result the dam is silted.	• A feasibility study should be conducted to evaluate the most viable means of blocking sediments and tree stumps from entering the dam.
KPA 2: Resource Utilisation		
Objective	**Status Quo**	**Practicability**
• To establish a tennis court at the dam.	• There is no tennis court at the dam and establishing it could draw more interest from people to participate in the activities.	• The DWS purchased boundary is relatively close to the high flood line. Such developments may be impacted when the dam is on full supply level. There is no much interest from the communities.
• To host angling and rowing activities in the dam.	• The angling and rowing championships are not undertaken at Stompdrift Dam.	• This will be subjected to the dam being on full supply level and could only be undertaken during peak seasons.
KPA 3: Benefit Flow Management		
Objective	**Status Quo**	**Practicability**
• Introducing horse riding at the dam.	• There are currently no horse riding activities.	• The DWS purchased boundary is relatively close to the high flood line. Such developments may be impacted when the dam is on full supply level. The surrounding dam area is rocky and steep, this activity will not be feasible within the purchased boundary.
• Establishing a history and cultural conservation class.	• No classes have been introduced at the dam.	• To identify areas where a conservation class can be established.
• Introducing Eco-training at the dam.	• There is currently no training taking place at the dam.	• Eco-training plays a vital role in eco-tourism and therefore if it is introduced at the dam, more interest will be drawn to the dam. Qualified facilitators should be assigned to educate people who visit the dam.

CHAPTER 4: INTEGRATED MANAGEMENT, ZONING AND INSTITUTIONAL PLANNING

The purpose of this phase is to evaluate the information obtained from previous stages to ascertain what could be achieved based on specific constraints and parameters of the various input factors such as biophysical, cultural and socio-economic, current institutional and the needs of the dam users. The Integrated Resource Management Planning (IRMP) will take into account the following:

- Biophysical, cultural and socio-economic and user needs constraints;
- Development potential and requirements;
- Site planning and Zonation;
- Programmes and plans that will unlock the potential of the water resource; and
- Institution options and legal aspects required to create these programmes and plans.

The IRMP is broken down into four (4) main plans namely the **Institutional Plan**, **Zoning Plan, Strategic Plan** and **Financial Plan** as shown in **Figure 8.**

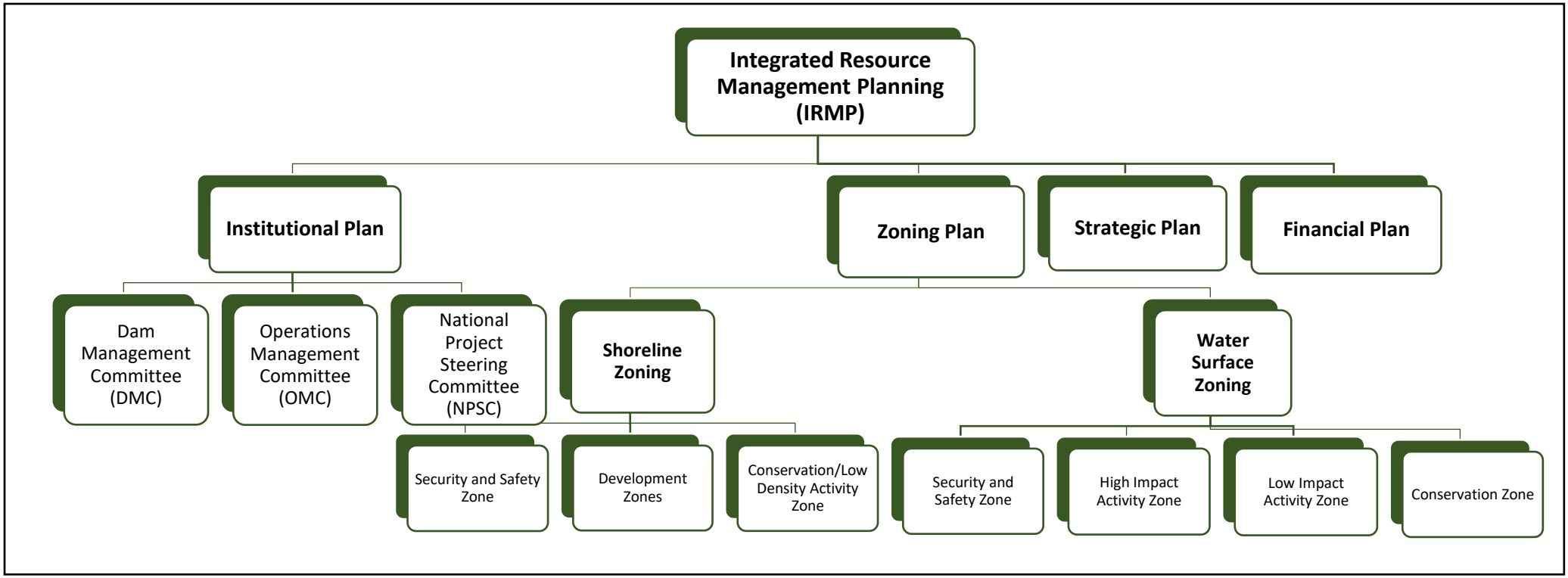

Figure 8: Integrated Resource Management Planning

4.1 INSTITUTIONAL PLAN

The Institutional Plan provides a framework for the institutional arrangements at the dam. The proposed management systems includes three (3) committees namely; The Dam Management Committee (DMC), Operations Management Committee (OMC) and National Project Steering Committee (NPSC). The appointed management authorities by DWS at the dams, also form part of the institutional structure.

4.1.1 Dam Management Committee (DMC)

DMC refers to any party that is interested or affected by the dam and will assist in raising and addressing issues relating to the dam.

One of the main functions of the DMC is to give support to DWS in the management of the dam for recreational purposes. Moreover, to assess commercial opportunities at the dam. As such, an agenda item related to the Strategic Plan for commercialization is required. In addition, changes in water quality, developments in the area, status of Aquatic Invasive Species and education and information programmes should be discussed. The DMC must meet quarterly.

The functions of the DMC include the following (amongst others):

- Seeking resolution for general management issues;
- Monitoring the practical implementation of the RMP and BP;
- Reviewing the feedback received from I&APs;
- Operational management of recreational activities such as ensuring the floating AtoN and demarcation markers are in place and setting times for use of the dam (no recreational activities can take place between sunset and sunrise);
- Conveying the Management Objectives and decisions pertaining to the dam to the relevant stakeholders; and
- Management of the incident management system and wash bays.

Figure 9 shows the proposed user groups that will form part of the DMC**.**

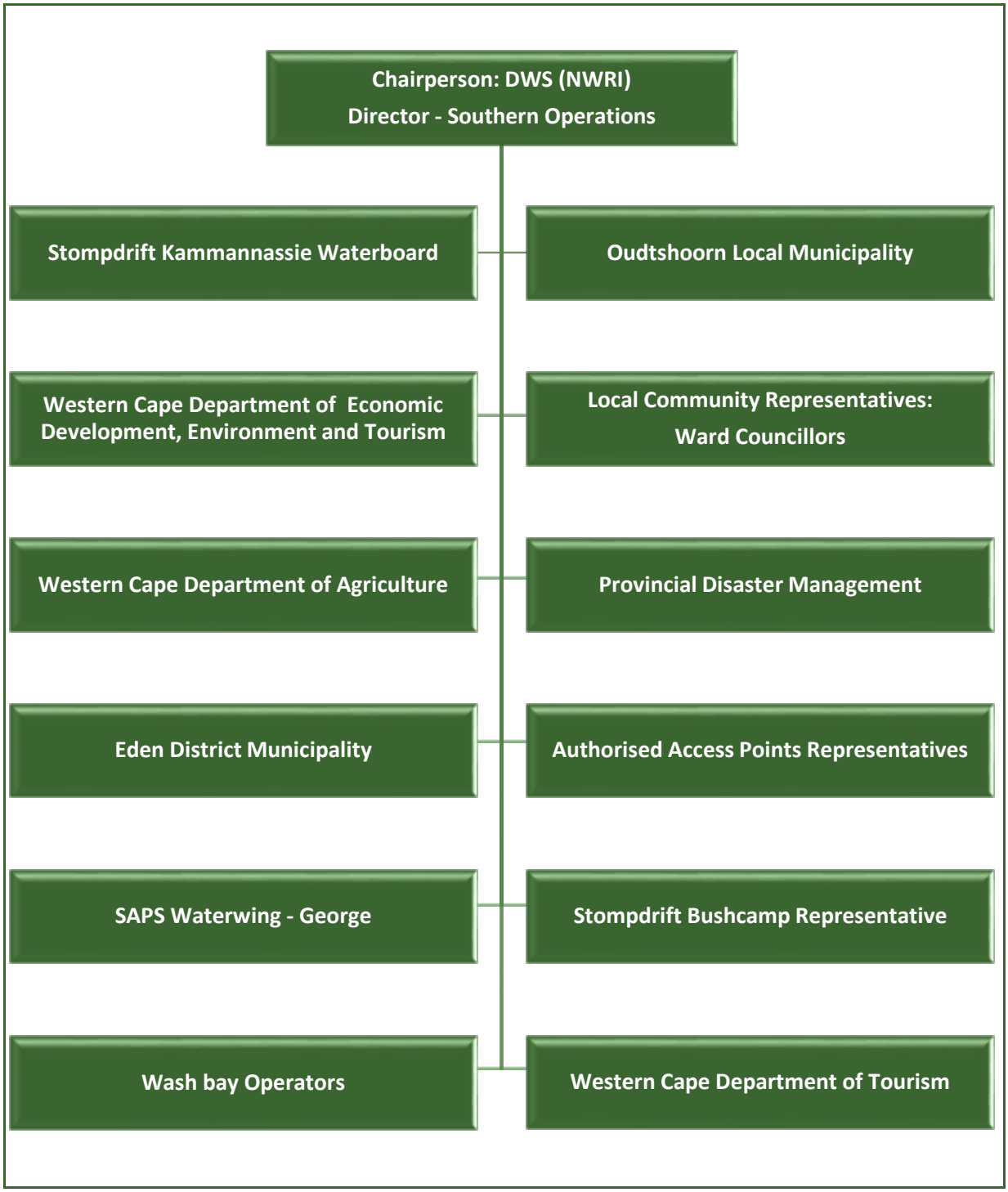

Figure 9: Proposed DMC

The DMC will have a number of management tools which will enable proper management of the dam in line with existing Legislations and Regulations requirements.

4.1.1.1 Management Tools

Terms of Reference

The DMC and NPSC will be guided by Terms of Reference (ToR) regarding roles and responsibilities. ToR is not required for the **OMC**. The ToR provide guidance on the following management aspects:

- Roles and Responsibility of chairperson;
- Roles and Responsibilities of members;
- Minutes and attendance requirements;
- Reporting requirements;
- Management of agreements;
- Management of access objectives;
- Management of development targets;
- Management of water quality monitoring;
- Management of the control of aquatic invasive species;
- Management of development pressure;
- Management of incident management systems; and
- Management of AtoN and demarcation markers.

Agreements

One of the main management tool available is the use of agreements to ensure proper use of the dam in line with the RMP vision and objectives.

The DMC will have a number of management tools which will enable proper management of the dam in line with existing Legislations and Regulations requirements.

Access Agreements

All surface water and shoreline access must be formalised. The conditions for such access must be written into the agreement. All illegal practices must be addressed and appropriate action must be taken to ensure that all parties comply with the requirements of the RMP.

The wash bay must be built on State Property as part of the CIWSP. A formal agreement is necessary on the management and maintenance of the facility.

Recreational Use Agreements

Recreational Clubs must enter into an agreement with DWS. All agreements must be finalised within twelve (12) months of the RMP being approved.

Safety of Navigation Agreements

In addition to its common law responsibility, DWS is, in terms of the requirements described in the National Water Act, 1998 (Act No.36 of 1998), amongst others, responsible for the safety of GWWs and watercourses, including its dams. DWS, its delegated public sector partner, or a delegated water management institution, has therefore the responsibility to provide the required fixed and/or floating Aids to Navigation (AtoN) for general navigation.

Agreements between SAMSA and DWS, other relevant Parties or Bodies are to be concluded to allow them to:

- Exhibit the relevant AtoN; and
- Establish or deploy the relevant fixed and/or floating AtoN.

Event Applications

Different events that involves recreational activities such as angling competitions are more popular at the dam. All events must be managed through an event application process. The applications should be directed to DWS for approval.

These applications must follow a specific template and will include the following:

- Number of participants;
- Emergency Response Plan;
- Advertising and branding (will need to be in line with DWS communication requirements) and
- Access points to be used.

Furthermore, all Events must meet the requirements of the Safety at Sports and Recreation Act, 2010 (Act No. 2 of 2010).

National Affiliations

All recreational clubs should be affiliated to a SASCOC affiliated organisation. The development targets set by the National Organisations must be met.

4.1.2 Operations Management Committee (OMC)

There is an existing Chief Director Infrastructure Operations Management Committee (CDIO MANCO) within the NWRI which comprises of all directors of four (4) operations (Northern, Southern, Eastern and Central) and is chaired by the Chief Director of Infrastructure Operations within NWRI as shown in **Figure 10**.

The committee should meet quarterly discussing matters relating to operations and maintenance of all GWWs. RMP will be a standard item on the agenda. Any matters relating to the RMP that are outside the scope of DWS will be escalated to the NPSC.

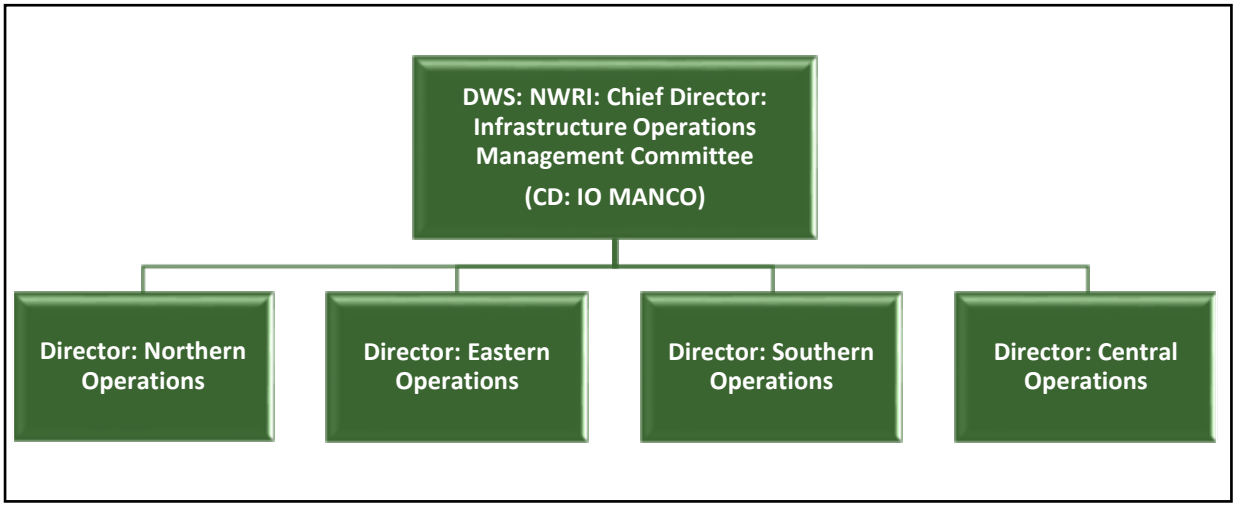

Figure 10: Existing CD: IO MANCO

4.1.3 National Project Steering Committee (NPSC)

NPSC is formed by DWS and is made up of representatives from National Government Departments and Implementing Agencies that are relevant in terms of managing the water resource.

The primary function of the NPSC is to provide guidance on recreational water use in terms of their respective mandates as well as to ensure that continuous support by different Government Sectors is provided to the dam with the aim of achieving sustainable utilisation of the dam for recreational purposes. The NPSC should meet twice a year. **Figure 11** illustrates a typical example of Governmental Departments that will form part of the NPSC.

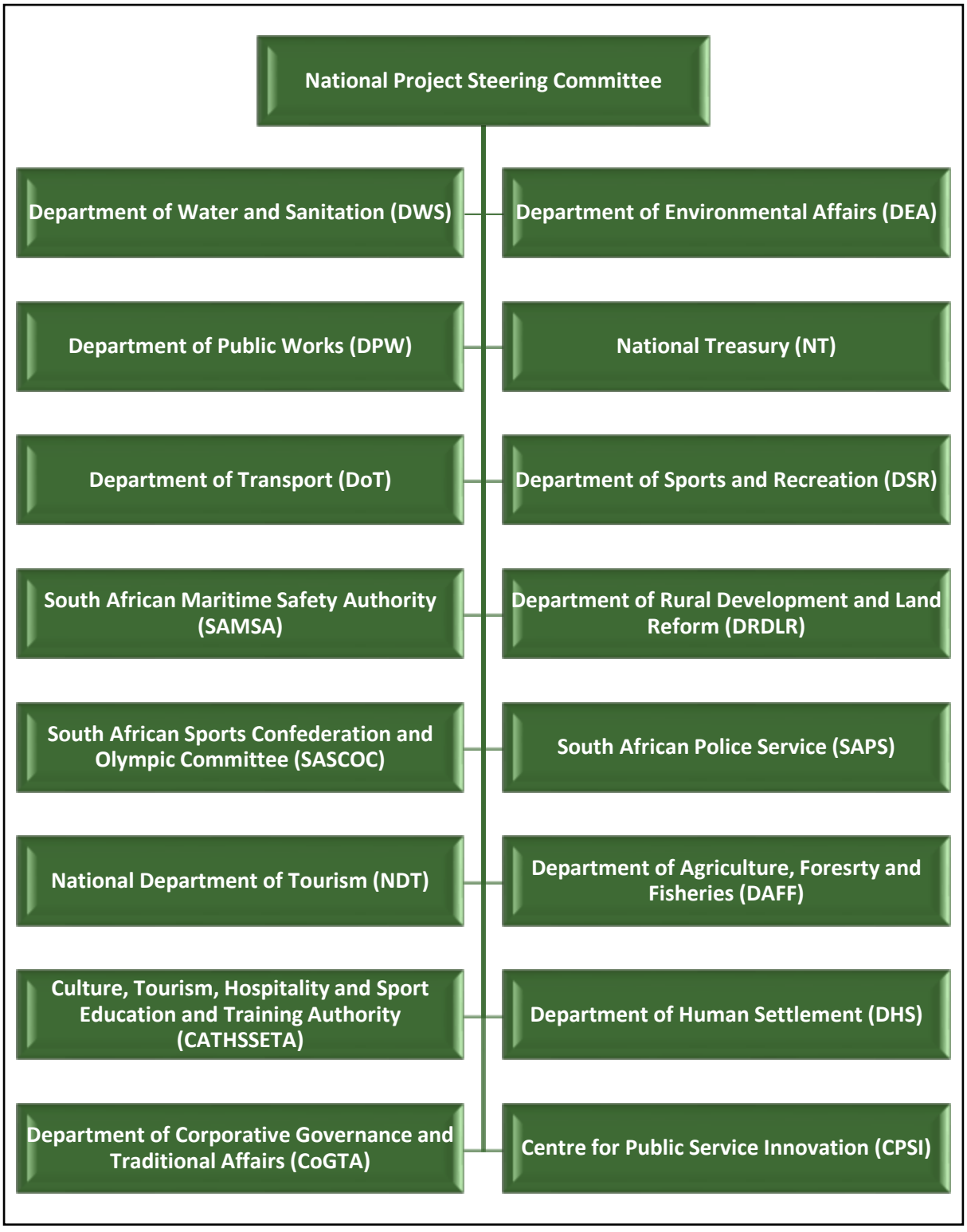

Figure 11: Proposed NPSC

The role of the relevant departments forming part of the NPSC is listed below:

Centre for Public Service Innovation (CPSI):
The CPSI is supporting a multi-departmental working group that is developing an innovative approach to inland water and safety integrity. The project, was initiated out of the need to find an innovative, practical and cost-effective way to implement SAMSA' vessel safety regulations on inland waterways and to implement responsible water use within the broader socio-economic context of the country.

The CIWSP is a project piloted by CPSI that is a partnership between multiple Government entities and between the Government and communities. The main aim of the project is to enhance the development of a best practice model to ensure safe and structured inland maritime environment and culture, whilst protecting the country's precious water resource.

Culture, Arts, Tourism, Hospitality, Sport Sector, Education and Training Authority (CATHSSETA):
CATHSSETA deals with the approval and financing of training relating to culture, hospitality, tourism and sport sectors.

Department of Agriculture, Forestry and Fisheries (DAFF):
The purpose of DAFF includes sustainable development and management of resources to maximizing the economic potential of the fisheries sector while protecting the integrity and quality of the country's aquatic ecosystems.

Operation Phakisa expansion to inland dams is one of DAFF initiative aimed at unlocking economic potential of fisheries sector within the inland water. The latter programme will be used as benchmark for implementation of conservation policies while implementing job creation within fishery and fish processing market.

Department of Corporative Governance and Traditional Affairs (CoGTA):
Its function is to develop national policies and legislation with regard to Provinces and Local government, and to monitor their implementation. Other function of the Department is to support Provinces and Local Government in fulfilling their constitutional and legal obligations.

Department of Environmental Affairs (DEA):
DEA is mandated to give effect to the right of citizens to an environment that is not harmful to their health or wellbeing, and to have the environment protected for the benefit of present and future generations. In relation to the RMP, the Department should ensure that Environmental Impact Assessments is undertaken for all activities that triggers EIA Regulations at the dam. Furthermore, DEA through WfW programme can assist to eradicate alien invasive plants species (Blue Gums and Parrot Furthers) and alien invasive fish species at the dam.

Department of Public Works (DPW):
DPW has the power to regulate and control the use of state land outside the GWWs. In this regard, lease agreements or permits will be required from the Department as some of the recreational activities will overlap into the State Land, e.g. trail running, biking and running.

Department of Rural Development and Land Reform (DRDLR):
The Department is tasked with the facilitation of land claims within the country. They are also involved in rural development by improving both economic infrastructure (such as roads, etc.) and social infrastructure (e.g. communal sanitation and non-farming activities).

Department of Sports and Recreation (DSR):
The Department is mandated to promote and develop sport and recreation activities and also in co-ordination of the relationships between the Sports Commission, national and recreation federations and other agencies.

Department of Tourism (NDT):
The Department is mandated to create conditions for the sustainable growth and development of tourism in South Africa. The Tourism Act makes provision for the promotion of tourism to and in the Republic and for regulation and rationalisation of the tourism sector, including measures aimed at the enhancement and maintenance of the standards of facilities and services utilised by tourists; and the co-ordination and rationalisation of the activities of those who are active in the tourism sector.

Department of Transport (DoT):
Responsible for legislation, policy and regulations for all transportation in South Africa, including shipping and other transport by water or sea, including small vessels and inland waterways.

Department of Water and Sanitation (DWS):
DWS through the National Water Act, 1998 (Act No. 36 of 1998) is mandated to protect aquatic and associated ecosystems and their biological diversity as well as to reduce degradation of the water resources. As part of its mandate, DWS initiated the development of RMPs together with the supporting BPs with the aim of ensuring sustainable and equitable development, utilisation and management of GWWs.

National Treasury (NT):
The Department is mandated to support the optimal allocation and utilisation of financial resources in all spheres of government. As part of the RMP, The National Treasury Public Private Partnership (PPP) Toolkit for Tourism (2005), will assist the process of tourism-based businesses development on State-owned Land. The Toolkit make it easier for Institutions and the Private Sector to enter into tourism related partnerships on State Property managed by National, Provincial and Local Government Institutions.

South African Maritime Safety Authority (SAMSA):
Administers and executes maritime related legislation and regulations, including the National Small Vessel Safety Regulations and ensures standardisation, harmonisation and compliance of all AtoN in South African waters.

South African Police Service (SAPS):
The South African Police Service have been entrusted with the responsibility of creating a safe and secure environment for all people in South Africa as well as to prevent anything that may threaten the safety or security of any community.

South African Sports Confederation and Olympic Committee (SASCOC):
SASCOC is mandated to promote and develop high performance of sports as well as to act as a controlling body for sports in South Africa. It can also assist to coordinate organise events at the dam.

4.2 ZONING PLAN

According to DWAF (2006), a site-specific master planning and zoning which describes a framework for the allocation of zones needs to be undertaken based on the results of the Encumbrance Survey and basic Research regarding the Bio-physical, Social and Cultural environment as well as the objectives set by the Stakeholders (refer to section **3.6**).

The proposed Zoning Plan will integrate conservation, recreation and development whilst not retarding the primary functions of the dam.

4.2.1 Water Surface Zoning

The water surface zoning provides guidance on permissible and non-permissible recreational activities on the water surface taking into account the biophysical factors of the dam. The Water Surface is zoned as follows:

Safety and Security Zone:
It covers a minimum of 100m area from the wall and outlet works indicated by demarcation markers and AtoN. This area is reserved for DWS management purposes.

Management of this zone is aimed at protecting the dam wall and outlet works, as well as to ensure the safety of the public. This is a no-go zone to the public unless authorised.

Conservation Zones:
The aim of this zone is to conserve and protect sensitive aquatic habitation at the inlet(s) of the dam. According to Section 12 and 26 of NWA, the existence of these zones is thus not negotiable as it is imperative to protect the water resource for the purposes relating to basic human needs, environmental sustainability and water quality requirements. Access to these areas is generally not allowed due to the following:

- The areas intercept sediments and nutrients/pollutants which pose safety risks to the public due to muddy clay, and
- They are used by aquatic birds and fish species as habitat, refuge and breeding areas.

Low Impact Activity Zone:
This zone act as a buffer between High Impact Activity Zones and Conservation Zones. Low Impact Activity Zone allows for low intensity activities, i.e. activities associated with little or no wake such as wind surfing, kayaking, swimming, rowing, sailing, paddle boating, float tubes, canoeing, angling, yachting, aquaculture and small scale fisheries.

High Impact Activity Zone:
This zone has the largest water surface area and is located where the reservoir is at its deepest. It caters for high impact activities associated with high speed, wake and noise activities such as motorised boating, house boating, water skiing, and para-sailing.

The water surface zoning colour coding means the following:

Colour	Zone Description
Red	Safety and Security Zone
Green	Conservation Zone
Sky Blue	Low Impact Activity Zone
Dark Blue	High Impact Activity Zone

Table 13: Proposed Water Surface Zoning Description

Zone Name	Permissible Activities	Non Permissible Activities	Recommendation
• Safety and Security Zone.	• Alien invasive species clearing • Management of dam infrastructure • Management and maintenance activities by DWS and authorised personnel	• Public access	• Area should be demarcated by dermacation makers and AtoN.
• Conservation Zones.	• None	• Public activities (in order prevent aquatic habitats disturbance)	• Area should be demarcated by demarcation makers and AtoN. • Strict management and control of these areas.
• Low Impact Activity Zone.	• Activities associated with no or little wakes, such as ○ Angling ○ Swimming ○ Canoeing ○ Rowing ○ Paddle boating ○ Kayaks ○ float tubes ○ Rafting ○ Sailing	• Motorised boating • Water Skiing • House boats • Para-sailing • Kite-surfing • Jet skis	• Area should be demarcated by demarcation makers and AtoN.
• High Impact Activity Zone.	• Motorised boating • Water Skiing • House boats • Para-sailing • Kite-surfing • Jet skis	• Large vessels such as: ○ Angling ○ Swimming ○ Canoeing ○ Rowing ○ Paddle boating ○ Kayaks ○ float tubes ○ Rafting ○ Sailing	• Area should be demarcated by demarcation makers and AtoN. • All activities within the high impact zone shall take place beyond 70m from the shoreline. • Activities within this zone must be evaluated to determine their impact on the water resources and other dam users before they are allowed into the dam.

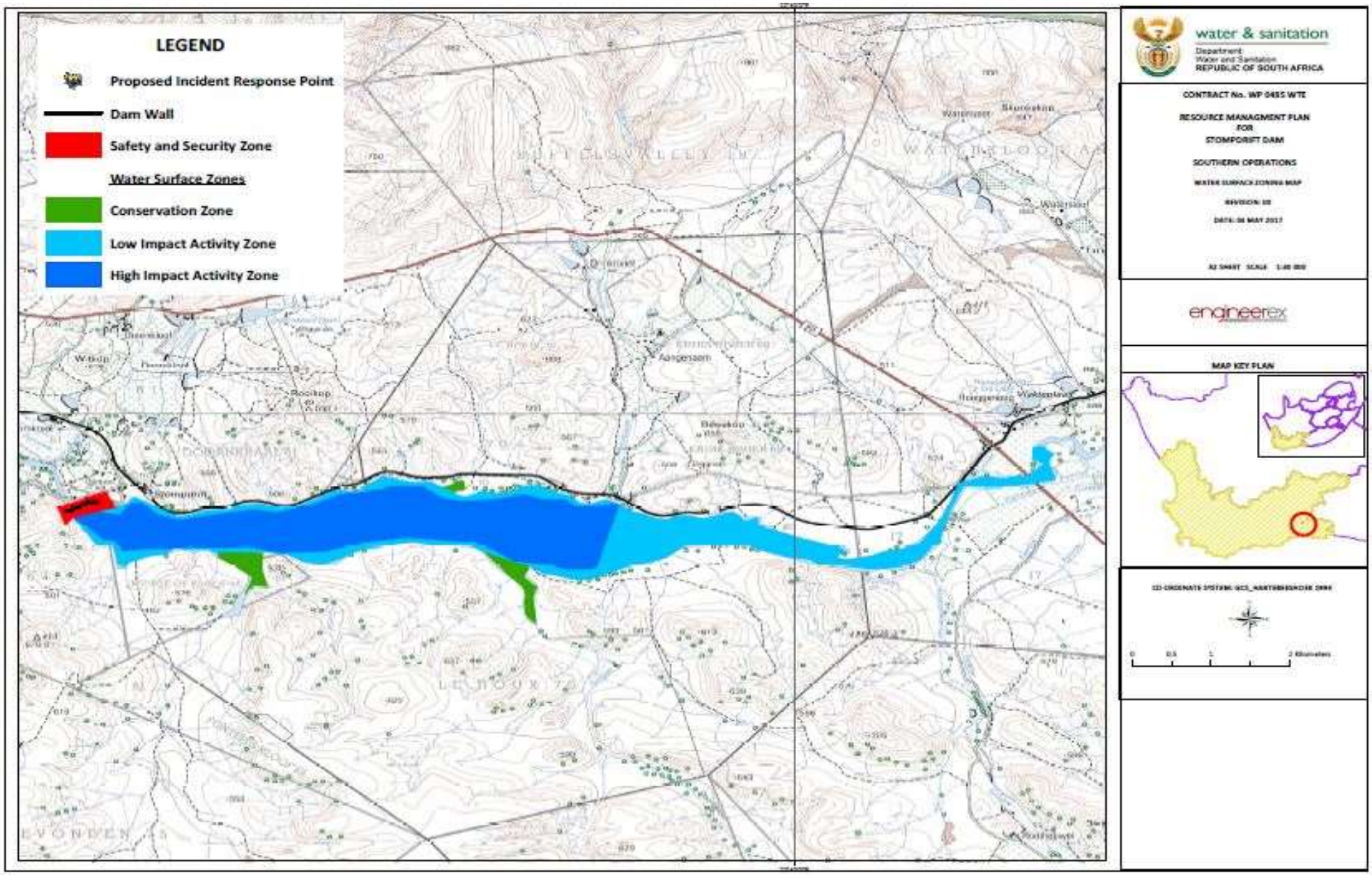

Figure 12: Proposed Water Surface Zoning Map

4.2.2. Shoreline Zoning[3]

In addition to the water surface zoning, an integral part of the RMP is also shoreline zoning, which provides guidance on what recreational activities (if any) are permissible and not permissible on the land adjacent to the dam (DWS purchased boundary). The management zones include:

Safety and Security Zone (dam wall and associated DWS infrastructure):

It is applicable to the area surrounding the dam wall and the outlet works. The extent of this zone is determined by DWS and shall not be less than 100m from the dam wall and downstream. This area is reserved for DWS management purposes.

Management of this zone is aimed at protecting the dam wall and outlet works, as well as to ensure the safety of the public and surrounding areas. This is a no-go zone to the public unless authorised.

Conservation / Low Density Activity Zone:

This zone consists of ecologically sensitive areas and areas with high biodiversity. It also includes the area around the inlets of the dam. Access to this area is limited to low impact activities such as hiking, bird watching, etc. This area is reserved to prevent ecological damage due to development activities hence high impact development not permitted.

Medium Density Activity Zone:

This area is reserved for small scale activities such as day visitors, picnic areas, shoreline fishing, camping (tent and caravan), braai facilities, swimming pools, ablution facilities and infrastructure for services.

High Density Activity Zone:

This area is reserved for large scale activities including chalets, recreational club houses, infrastructure for services, and Land Based Aquaculture.

The shoreline zoning colour coding means the following:

Colour	Zone Description
Red	Safety and Security Zone
Green	Conservation/ Low Density Activity Zone
Yellow	Medium Density Activity Zone
Orange	High Density Activity Zone
Brown	Community Resource Zone

[3] Permanent structures within the purchase line are not allowed. All developments should be outside 1:100 year floodline.

Table 14: Proposed Shoreline Zoning Description

Zone Name	Permissible Activities	Non-permissible Activities	Recommendation
• Safety and Security Zone.	• Fire management • Alien invasive species clearing • Management of dam infrastructure • Management and maintenance activities by DWS and authorised personnel	• Public access	• A minimum area of 100m wide downstream the dam wall should be demarcated preventing public access and use.

• Conservation/ Low Density Activity Zone.	• Conservation management activities:
	  ○ Bird watching
	  ○ Hiking
		• Development	• These zones should control access to ecological sensitive areas.

• Medium Density Activity Zone.	• Camping (tent and/or caravan)
	• Day visitors
	• Picnic
	• Shoreline fishing
	• Braai facilities
	• Swimming pools
	• Ablution facilities
	• Infrastructure for services
		• Accommodation facilities such as:
		  ○ Chalets
		  ○ Recreational club houses
			• The management of this area should follow the PPP process in terms of National Treasury.
			• All developments must be approved by IA and DWS.
			• Requirements of NWA and NEMA must be taken into account in all developments.
			• Camping, picnicking, bank angling and access to the water must be done in accordance to access agreements.
			• Camping and picnicking is allowed only in designated areas.
			• Noise levels to be kept at a minimum.
			• No littering at Camping and Picnic spots.

• High Density Activity Zone.	• Accommodation facilities such as:
	  ○ Chalets
	  ○ Resorts
	• Recreational club houses
	• Infrastructure for services
		• Day visitors
		• Picnic
		• Hiking
		• Permanent structures
			• The management of this area should follow the PPP in terms of National Treasury.
			• All developments must be approved by IA and DWS.
			• Requirements of NWA and NEMA must be taken into account in all developments.
			• Noise levels should be kept at a minimum.
			• No private slipways should be built without approval from DWS.

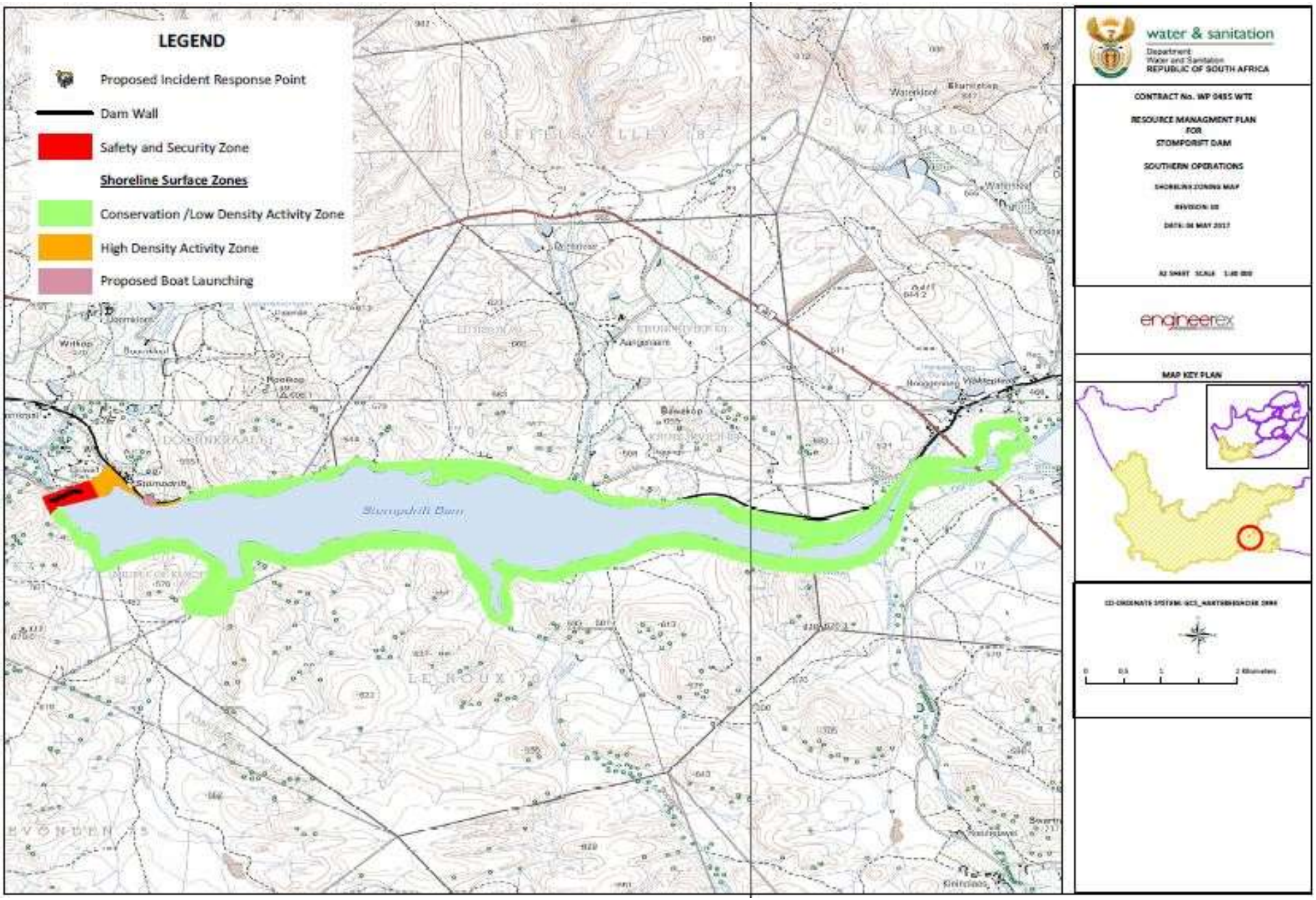

Figure 13: Proposed Shoreline Zoning Map

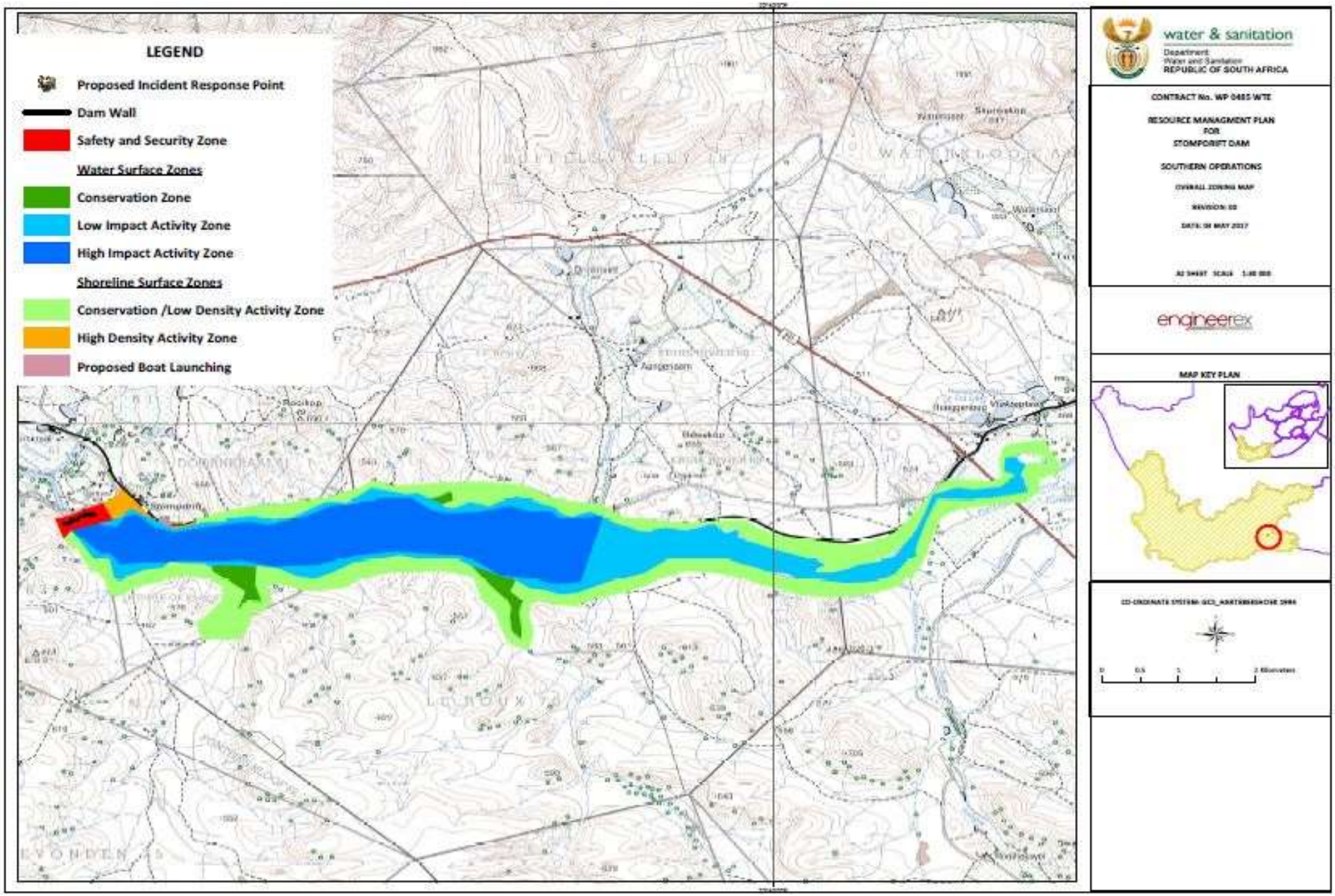

Figure 14: Proposed Overall Zoning Map

4.2.3 Carrying Capacity

In order to determine the degree of recreational use possible on the water surface, the Methodology for Carrying Capacity Assessment: Recreational Water Use (DWAF) was used as a guideline to determine the level of activity that would be sustainable at Stompdrift Dam. DWS recommended that the carrying capacity should be calculated using the lowest supply level, highest supply level and average supply level.

Determining the carrying capacity ensures that recreational use of the dam is safe and that users do not feel crowded and enjoy their use of the dam. There are three kinds of carrying capacity, namely:

- **Physical Carrying Capacity** (PCC) – this is the maximum number of users that can physically fit onto the water surface at any given time;
- **Real Carrying Capacity** (RCC) – this is the maximum number of users that can use the resource once corrective factors that are unique to the dam are taken into account; and
- **Effective** (or permissible) **Carrying Capacity** (ECC) – this is the number of visitors that can use the resource, given the management capacity.

Each level constitutes a corrected capacity level of the preceding level. The PCC is always greater than the RCC, and the RCC is greater than the ECC, thus: **PCC > RCC and RCC ≥ ECC.**

The process of establishing the carrying capacity is normally determined through the following tasks:

- Analysis of recreation and water resource management policies;
- Analysis of objectives of the water resource;
- Analysis of current recreational water use;
- Definition, strengthening or modification of policies regarding recreational water use management;
- Identification of factors influencing recreational water use; and
- Determination of the recreational water use carrying capacity.

Physical Carrying Capacity (PCC)

PCC refers to the maximum number of users that can physically fit into or onto a defined water resource, over a particular time.

Formula: PCC = A x U/a x Rf

Where:

- **A** = Available Surface area for public use
- **U/a** = Area required per user
- **Rf** =Rotation factor (number of visits/day)

A is calculated as the area of the water surface available for public use: **620.8 ha**

The **U/a** is assumed to be the average which was calculated as 1 craft/3 ha. And again the rotation factor (Rf) is assumed as 1 visit per day.

The **U/A** used for the assessment is as follows:

Craft	U/A (ha/craft)
Angling	1.0
Skiing	2.0
Canoe	2.0
Average	**1.6 ha**

Based on the table above, the average hectare per user is 1.6 ha (16000 m^2), the value of 3 ha (30 000 M^2) can be acceptable area per user. This has been chosen in order to ensure that the dam is not overcrowded, as such impacting on the sense of the area.

Therefore: **PCC** = A x U/a x Rf

= 620.8 x (1/3) x1

= 207 crafts **(At full Supply Level)**

Real Carrying Capacity (RCC)

It refers to the maximum permissible number of users to the water resource, once the corrective factors (Cf) derived from the particular characteristics of the site have been applied to the PCC. The limiting factors include:

- Safety Areas/ No go Zones and
- Conservation Area

RCC for Stompdrift Dam: **RCC** = **PCC** x (100 – Cf1) % x (100 – Cf2) % x (100 – Cfn) %
Where:

Cf = a corrective factor expressed as a percentage.
The RCC takes into account factors that limit recreation use (craft based) of the dam. For Stompdrift Dam these factors includes sensitive areas such as conservation areas, security zones (2.0 ha) as well as aspects regarding the safe operation and management of the dam (25 ha).

These factors accounts for 27 ha, which is 3%.

RCC = **PCC** x (100 – Cf1) % x (100 – Cf2) % x … (100 – Cfn) %
= 207 x (100 – 3) %/100
=.194 Crafts **(At Full Supply Level)**

Effective Carrying Capacity (ECC)
The maximum number of visitors that a site can sustain, given the management capacity (MC) available.

ECC = [Infrastructure Capacity x Management Capacity] x 100/ RCC

Given that there are less facilities e.g. slipways at Stompdrift Dam, the infrastructure capacity is estimated to be approximately 0.1. The management capacity is also estimated to be low as there is only one formalised recreational management structure in place and thus the ECC is currently 0. Once a proposed Institutional Structure and infrastructure capacity is in place, the ECC can be recalculated to verify if the RCC can be possible.

4.3 STRATEGIC PLAN

The Strategic Plan is informed by the objectives identified by Stakeholders and through research on potential opportunities at the dam. The objectives are broken down into management fields which are listed below in a format offering ease of reference:

- Objective (What do we want?);
- Motivation (Why do we want to achieve this?);
- Action Projects (How do we achieve this?); and
- Management Support (Who will be involved?).

In **Table 15-17**, the Strategic Plan on how to achieve the identified objectives identified regarding the dam is outlined.

Table 15: Strategic Plan for KPA 1: Resource Management

KPA 1: Resource Management			
Objective (What do we want)	**Motivation (Why do we want to achieve this)**	**Action Projects (How do we achieve this)**	**Management Support (Who will be involved)**
Sediments and Debris • To block and prevent debris and sediments from entering the dam.	• During heavy rains, sediments are usually washed down into the dam. The sediments accumulates on the dam floor and cause siltation.	• DEA working for water programme can be used in order to achieve this objective. Nets and other forms of barricades on the inlets can be used to block and stop sediments from entering the dam. • The BP to advice on management plan and funding sources.	• DWS, DAFF, DEA, Stompdrift Bush-camp and local communities can work together in accomplishing this objective.

Table 16: Strategic Plan for KPA 2: Resource Utilisation

KPA 2: Resource Utilisation			
Objective (What do we want)	**Motivation (Why do we want to achieve this)**	**Action Projects (How do we achieve this)**	**Management Support (Who will be involved)**
Angling and rowing Championships • To host angling and rowing championships at Stompdrift Dam.	• Water sports are part of the secondary use of the dam. Stompdrift dam is big enough to host these recreational activities. As part of the RMP, these activities will benefit the local communities.	• These will activities will subjected to the dam being on full supply level. • The Angling competitions should be SASCOC affiliated. • Before the rowing competitions can be undertaken at the dam, there must be an assessment of safety in the water. Tree stumps and other debris should be removed from the dam to prevent injuries. Participants should undergo a proper training to ensure that they comply with all rules and regulations of the competition.	• DWS, SASCOC, OLM, DMC will provide support during the championships. Safety should be made a priority to prevent any injuries and fatalities. The Organising committees should develop a strategy of managing these events to ensure that they run smoothly without compromising the public safety.

Table 17: Strategic Plan for KPA 3: Benefit Flow Management

KPA 3: Benefit Flow Management			
Objective (What do we want)	**Motivation (Why do we want to achieve this)**	**Action Projects (How do we achieve this)**	**Management Support (Who will be involved)**
Establishment of Cultural Conservation and History Class and Eco-training • To have a history class at the dam for people to gain knowledge about the local history. • To establish eco-training for the local communities and tourists.	• The culture and history of the local communities around the Stompdrift Dam is considered to be important to the residents. Introducing a class where culture and history of the area will be taught to the people will help the younger generation to have the knowledge of their history and culture. It will also help the visitors to understand the history and culture of the area. • Eco-training provides insight about the state of the surrounding environment. The visitors will learn a lot about the Stompdrift Dam. Introducing this training will help protect the dam and the surrounding as well as providing measures in which the people can protect the dam from pollution.	• To identify resources that will be used for the history classes and eco-trainings.	• DWS, OLM, SAPS, DMC, DoE, OLM and other additional structures can develop this facility at the dam and facilitate the classes. The local communities should be subsidised on the access fees to ensure that they fully participate in the cultural conservation and history classes.

4.4 FINANCIAL PLAN

The RMP provides guidance on cost recovery mechanisms to ensure the sustained and improved management of the dam. There are opportunities for PPPs which could further unlock the economic potential of the dam. PPPs allows for DWS to make State Assets such as GWWs available to private parties who wish to engage in tourism related commercial operations (DWAF, 2009). PPPs should be established as per Regulation 16 of the National Treasury.

The dam is a state asset and as such all profits generated from the recreational use, should also be used to further develop the dam. People should not be denied access to the dam. All fees associated with the usage of the dam for recreation should take into account the socio-economic status of the users. The access fees should make a provision for equitable access.

The information acquired from the RMP will be used to produce the Business Plan based on the action projects for each objective as stipulated under the Strategic Plan. However, many of the identified objectives are not of commercial nature and as such these non-economic objectives will not feature in the BP.

The BP provides a good description of possible economic recreational activities and the methods that can be used or enhanced to achieve the ultimate vision and the key objectives of Stompdrift Dam RMP. It also describes the financial management and operational requirements to implement the Objectives of the RMP.

The BP will include a Financial Plan (FP) which will facilitate the implementation of the RMP by providing implementation program cost estimate for all possible economic recreational activities.

WAY FORWARD

Once the RMP and its BP are approved by the Minister of Water and Sanitation, it will be published in the Government Gazette as a regulation in terms of Section 26 of the NWA.

Review of RMP

According to DWAF (2006), the RMP is reviewed and updated every five (5) years to ensure that the management objectives remains relevant and management actions are continually improved. The BP is updated annually. **Figure 15** illustrates the RMP & BP review framework

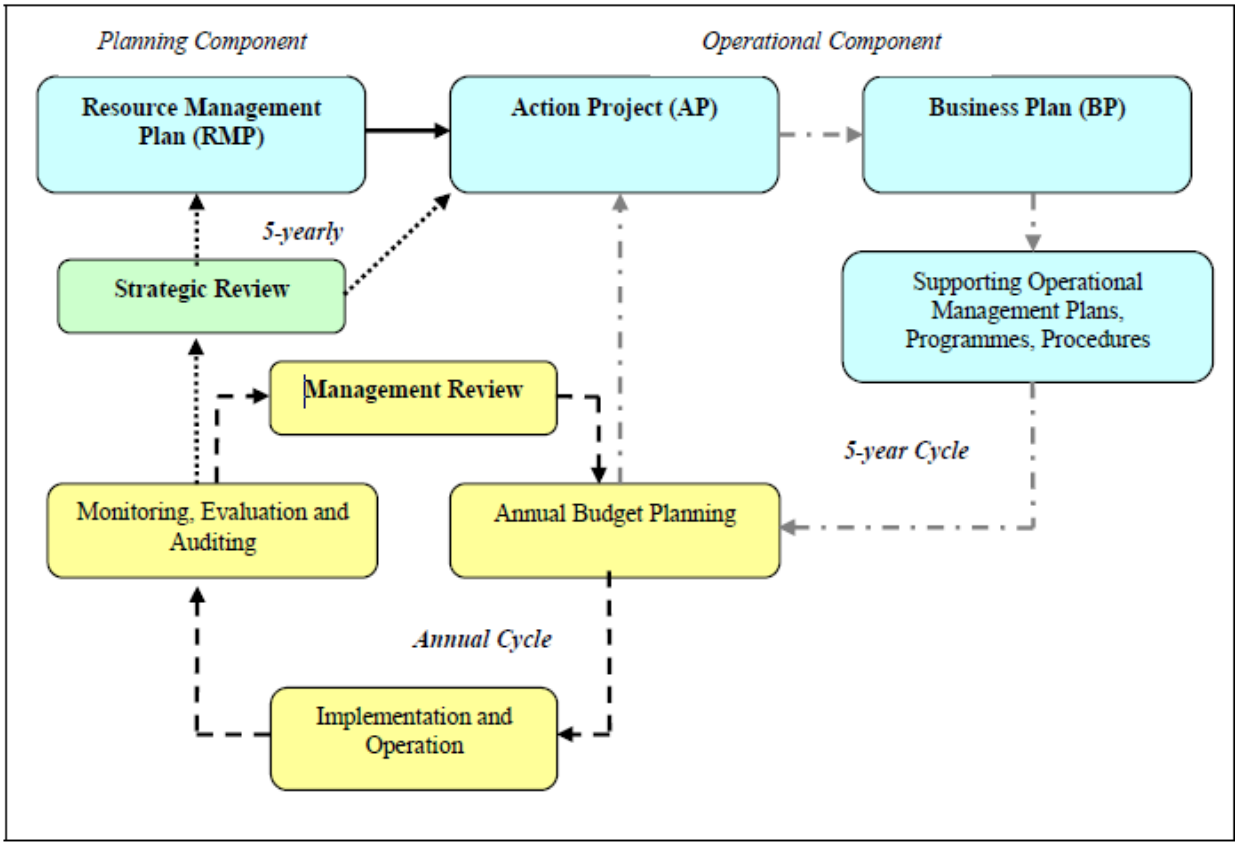

Figure 15: RMP and BP Review Framework

CONCLUSIONS

The RMP documents the challenges that exists within the Stompdrift Dam that can significantly impact on the utilisation and management of the dam and it's surrounding for recreational purposes. Such factors include legal, biophysical, socio-economic, hydrological and access to the resource. These factors will assist DWS with the most appropriate approach to ascertain that the issues are addressed before the implementation of the RMP.

The RMP will assist in effectively managing the dam and its surrounding environment. Furthermore its function is to implement an **Institutional Plan** for the effective management of dam. The focus on Institutional Plan is accompanied by a **Zonal Plan** which provides guidance on potential activities that are allowed on the dam, together with a **Strategic Plan**. Furthermore the RMP promotes community participation and beneficiation, through Stakeholders engagement which were conducted to obtain common key objectives to be met by the RMP. The vision of the dam was formulated from the common key objectives identified by Stakeholders. Based on the strategic objectives identified for Stompdrift Dam, a BP has been developed to describe a manner in which the potential recreational activities are to be financially resourced. Furthermore, by including the RMP in the Local Initiatives such as IDPs, LED, etc. can ensure effective co-operative governance as well as to provide necessary support with regards to the use of dam for recreational purposes. Undertaken in this manner, it is believed that the potential of the water resource can be optimally unlocked in a sustainable and equitable manner.

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