Department of Water and Sanitation

NATIONAL WATER RESOURCE INFRASTRUCTURE (NWRI)

Resource Management Plan

RUST DE WINTER DAM

REPORT – Volume 4 of 5 | **September 2018**

WATER IS LIFE - SANITATION IS DIGNITY

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

2030 NDP

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- Bela-Bela Local Municipality;
- Department of Agriculture and Rural Development;
- Department of Economic Development, Tourism and Environmental Affairs;
- Department of Rural Development and Land Reform;
- Department of Transport;
- Department of Water and Sanitation;
- The community members of Pienaarsriver, Rust de Winter and Rapotokwane; and
- Waterberg District Municipality.

Acknowledgement is also extended to all other stakeholders who attended and participated in the various engagements during the development of this plan.

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Review:

Review Period	Month	Year				
Annual Review of Business Plan (BP)	December	2020[1]	2021	2022	2023	2024
Five (5) yearly Review of Resource Management Plan (RMP)	December	2024				

[1]The implementation of the RMP and BP requires one financial year planning ahead.

AMENDMENTS PAGE

Revision No	Description	Date
1	Draft RMP for DWS Review	19/06/2018
2	Amended Draft RMP for DWS Review	24/07/2018
3	Draft RMP for Public Review	01/08/2018
4	Final Draft RMP for DWS review	14/09/2018
5		

EXECUTIVE SUMMARY

Purpose of the Resource Management Plan: A Resource Management Plan (RMP) provides the principles and guidance within which the dams must be used for recreational purposes. The principles and guidelines seek to promote community participation and beneficiation, environmental conservation and unlocking socio-economic opportunities associated with the recreational use of the dam. This RMP is for Rust de Winter Dam, herein after referred to as the Dam, which is part of the National Water Resources Infrastructure (NWRI) Eastern Operations.

This RMP was developed in accordance with the Guidelines for the Compilation of Resource Management Plans (DWAF, 2006), to attain the objectives underlying sustainability in Section 2 of the National Water Act, 1998 (Act No. 36 of 1998) [NWA], with particular relevance to Section 26 and 113 relating to the use of water and access and use of government waterworks for recreational purposes.

Mandate of Department of Water and Sanitation: The Department of Water and Sanitation (DWS), through the National Water Act (NWA), 1998 (Act No. 36 of 1998), mandates the minister as the custodian of the nation's water resources to ensure that the government waterworks (GWWs), including Rust de Winter Dam, are protected, used, developed, managed and controlled in a sustainable manner, to the benefit of all, as contemplated in Section 2 of the NWA.

A number of factors have prompted the need to compile a Resource Management Plan (RMP) for GWWs which amongst others, include the following:

Resource Management:

- The water resource within protected area, or is subject to protection legislation.
- Invasive Alien species.
- Water quality issues.

Recreational Industry Involvement:

- Conflict between users (in terms of Schedule (1) of the NWA due to no management tool in place.
- Public safety with regards to the use of inland vessels.
- Community and economic opportunities exists.
- Uncontrolled developments within dam basin.

Community Participation and Beneficiation:

- Challenges of communities regarding physical access and access to the water-based economy of the resource.
- Participation and beneficiation of surrounding communities remains a challenge.
- Unlocking the economic potential of the dam through the establishment of effective Public Private Partnerships (PPPs).
- Equitable and sustainable benefit flow into the community through the creation of appropriate institutional arrangements.

Public Policy:

- The water resource should be identified as a local development objective in terms of an Integrated Development Plan (IDP) or Strategic Development Framework (SDF) for the relevant local and/or district municipalities. The zoning plan for the water resource must either be developed or updated.

To assist the Minister in fulfilling this mandate, the DWS initiated and commissioned the development of the RMP for the Dam.

Description and Location of the Dam: The Dam is a Rockfill dam that impounds the Elands River. The dam is situated within the Rust de Winter Reserve (RdWNR), it falls under Ward 8 of Bela-

Bela Local Municipality (BBLM) within the jurisdiction of the Waterberg District Municipality (WDM), in Limpopo Province, South Africa. Its GPS coordinates are 25°14'00"**S** 28°31'50"**E**.

Purpose of the Dam: The primary purpose of the dam is to provide raw bulk water for irrigation to Rust de Winter farmers and domestic use. The Dam offers recreational activities such as angling, picnicking and boating.

Dam Ownership and Management: DWS owns and operates the Dam for its primary purpose. Currently there is no institutional structure managing the Dam. Through the development of the RMP process, an appropriate Implementing Agency (IA), such as Limpopo Wildlife Resorts (LWR) previously known as Limpopo Tourism Agency (LTA), shall be designated by DWS to facilitate the implementation of the objectives and identified action projects in line with the requirements of the Rust de Winter Dam RMP on behalf of DWS. The IA will sign a Memorandum of Agreement (MOA) with DWS, which shall be a legal binding document outlining the roles, responsibilities and conditions that must be followed by both parties for the management of the water resource for recreational use.

Stakeholder Engagement: The success of the development and implementation of the RMP depends on the cooperation of all stakeholders [Authorities and Interested and Affected Parties (I&APs)]. Authority and public meetings were conducted to obtain inputs (challenges and objectives) regarding the Dam. These meetings were conducted in accordance with the DWAF Guidelines for Public Participation (2001) that outlines three broad phases for public participation namely the Planning, Participation and Exit phase.

Identified Objectives and Vision: During the authority and public meetings, issues and concerns were raised from which the following objectives were identified:

- Installation of safety of navigation;
- To have the Dam free of alien invasive plants to support the proposed recreational activities and to improve natural ecology of the Dam;
- To ensure availability of water supply for domestic and irrigation purposes to the local communities;
- Possible introduction of aquaculture to unlock community beneficiation from the Dam;
- To promote sustainable subsistence fishing at the Dam;
- Introducing more recreational facilities such as swimming pools;
- To uplift the local economy and increase benefit flows to the surrounding communities; and
- To establish an effective institutional structure to manage recreational use of the Dam.

A 20-year vision for the Dam, formulated from the objectives identified by stakeholders, is as follows:

"To conserve the area and its biodiversity, promote and ensure sustainability on the use of the dam and the surrounding environment in-order to ensure community beneficiation".

Tourism Potential: The potential recreational developments identified to enhance tourist attraction includes:

- Construction of swimming pools and
- Improving the picnic site facilities.

The key challenges identified comprise:

- Drowning incidents.
- Inadequate Aids to Navigation and demarcation markers.
- Presence of dangerous organisms in the Dam such as crocodiles and Hippopotamuses.
- Lack of proper camping sites facilities.
- Lack of security and law enforcement.
- The dam is in a remote area far from the local communities

- Safety and security of people visiting the dam.
- Deterioration of water quality due to upstream pollution.
- Shortage of water for domestic use and irrigation.
- Allegations of high theft risks at the nature reserve.
- Illegal fishing.
- Possible contamination from unauthorized mining.
- Presence of terrestrial and aquatic weeds at the dam.
- Fixed and floating Aids to Navigation (AtoN) and demarcation markers are not in place.
- There is currently no specific incident management system in place to ensure that incidents are recorded and responded to in a coordinated manner.

Recommendations:

This RMP recommends the following immediate actions:

- DWS to appoint LWR as an IA; and
- Establish a Dam Management Committee (DMC).

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LIST OF ACRONYMS

ADU	Animal Demographics Unit
AtoN	Aid(s) to Navigation
BBBEE	Broad-based Black Economic Empowerment
BBLM	Bela-Bela Local Municipality
BID	Background Information Document
BP	Business Plan
CATHSSETA	Culture, Arts, Tourism, Hospitality, Sport Sector, Education and Training Authority
CD: IO MANCO	Chief Directorate: Infrastructure Operations Management Committee
CIWSP	Co-operative Inland Waterways Safety Programme
CoGTA	Department of Corporative Governance and Traditional Affairs
CPSI	Centre for Public Service Innovation
DAFF	Department of Agriculture, Forestry and Fisheries
DARD	Department of Agriculture and Rural Development
DEA	Department of Environmental Affairs
DHS	Department of Human Settlements
DMC	Dam Management Committee
DMR	Department of Mineral Resources
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
ECC	Effective Carrying Capacity
EDTEA	Department of Economic Development, Tourism and Environmental Affairs
EPWP	Expanded Public Works Programme
GIAMA	Government Immovable Asset Management Act, 2007 (Act No.19 of 2007)
GPS	Global Positioning System
GWWs	Government Waterworks
I&APs	Interested and Affected Parties
IA	Implementing Agency
IDP	Integrated Development Plan
IEE	Integrated Environmental Engineering
IRMP	Integrated Resource Management Planning
LAAP	Local Accountable Aton Parties
LDA	Limpopo Department of Agriculture
LEDET	Limpopo Department of Economic Development, Environment and Tourism
LWR	Limpopo Wildlife Resorts
MOA	Memorandum of Agreement
NDT	National Department of Tourism
NEMA	National Environment Management Act, 1998 (Act No. 107 of 1998)
NEMBA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NEMPAA	National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)
NPSC	National Project Steering Committee
NWA	National Water Act, 1998 (Act No. 36 of 1998)

PCC	Physical Carrying Capacity
PFMA	Public Finance Management Act, 1999 (Act No. 29 of 1999)
PP	Public Participation
PPP	Public Private Partnership
QDS	Quarter Degree Square
RCC	Real Carrying Capacity
RdWNR	Rust de Winter Nature Reserve
RMP	Resource Management Plan
SAMSA	South African Maritime Safety Authority
SAPS	South African Police Service
SASCOC	South African Sports Confederation and Olympic Committee
SDF	Spatial Development Framework
ToR	Terms of Reference
TWQR	Target Water Quality Range
WDM	Waterberg District Municipality
WMA	Water Management Area

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

The Department of Water and Sanitation (DWS), through the National Water Act (NWA), 1998 (Act No. 36 of 1998), mandates the Minister as the custodian of the nation's water resources to ensure that the government waterworks (GWWs), including the Rust de Winter Dam, are protected, used, developed, managed and controlled in a sustainable manner and to the benefit of all as contemplated in Section 2 of the NWA.

A number of factors have prompted the need to compile Resource Management Plans (RMP) for GWWs, which *inter alia* include the following:

Resource Management:

- The water resource within protected area, or is subject to protection legislation.
- Invasive Alien species.
- Water quality issues.

Recreational Industry Involvement:

- Conflict between users (in terms of Schedule (1) of the NWA due to no management tool in place.
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Public Policy:

- The water resource should be identified as a local development objective in terms of an Integrated Development Plan (IDP) or Strategic Development Framework (SDF) for the relevant local and/or district municipalities. The zoning plan for the water resource must either be developed or updated.

To assist the Minister in fulfilling this mandate, the DWS initiated and commissioned the development of the RMP and its Business Plan (BP) for Rust de Winter Dam, hereafter referred to as the Dam.

1.2 PURPOSE OF THIS RMP

A Resource Management Plan (RMP) provides the principles and guidance within which the dams must be used for recreational purposes. The principles and guidelines seeks to promote community participation and beneficiation, environmental conservation and unlocking socio-economic opportunities associated with the recreational use of the dam. This RMP is for Rust de Winter Dam, herein after referred to as the Dam, which is part of the National Water Resources Infrastructure (NWRI) Eastern Operations.

This RMP is developed in accordance with the Guidelines for the Compilation of Resource Management Plans (DWAF, 2006) for the Rust de Winter Dam, and to attain the objectives underlying sustainability in Section 2 of the NWA, with particular relevance to Section 26 and 113 relating to the use of water and access and use of government waterworks for recreational purposes.

1.3 DESCRIPTION AND LOCATION OF THE DAM

The Rust de Winter Dam is a rockfill dam which impounds the Elands River. **Table 1** shows the Dam profile. The Dam falls under Ward 8 of Bela-Bela Local Municipality (BBLM) within the jurisdiction of the Waterberg District Municipality (WDM) in Limpopo Province, South Africa, as shown in **Figure 1**. Its GPS coordinates are 25°14'00"S 28°31'50"E

1.4 PURPOSE OF THE DAM

The primary purpose of the Dam is to provide bulk raw water for irrigation and domestic use. The Dam offers recreational activities such as camping, boating and fishing.

1.5 DAM OWNERSHIP AND MANAGEMENT

DWS owns and operates the Dam for its primary use. Currently there is no institutional structure managing the dam. Through the development of the RMP Limpopo Wildlife Resorts (LWR) previously known as Limpopo Tourism Agency (LTA is proposed as the Implementing Agency (IA) for the management of recreational use for this Dam.

Table 1: Rust de Winter Dam Profile

Rust de Winter Dam Profile	
Location	South Africa
Province	Limpopo
District Municipality	Waterberg
Local Municipality	Bela-Bela
Nearest Town	Pretoria
Completion Year	1934
Coordinates	25°14'00"**S** 28°31'50"**E**
Primary Purpose	Irrigation
Owner	DWS
Quaternary Catchment	B31C
Water Management Area	Olifants
River	Elands
Capacity (m^3)	28 091
Surface area (ha)	473
Wall type	Rockfill
Wall Height (m)	31
Crest Length (m)	271

Source: Adapted from Department of Water and Sanitation (2016)

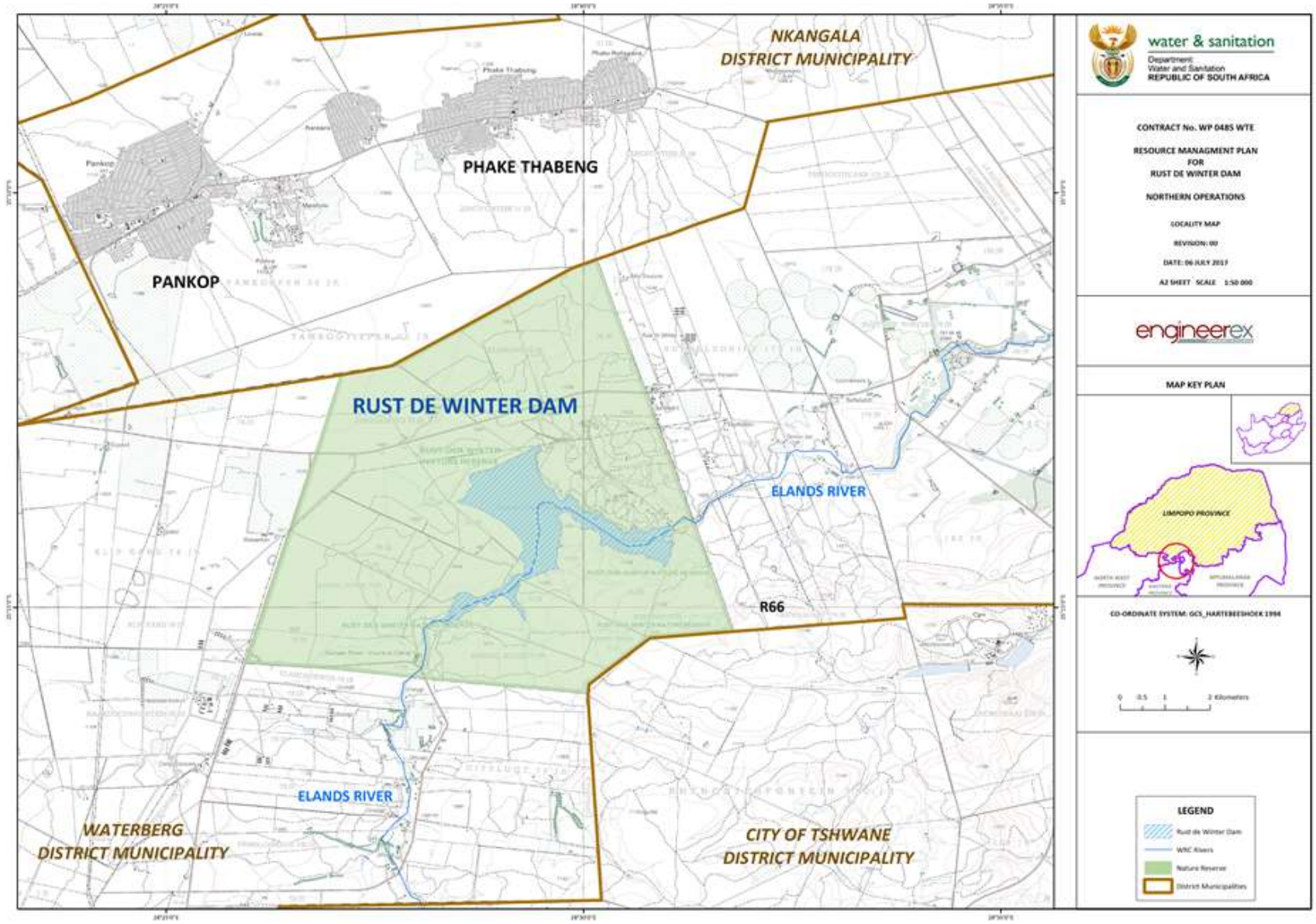

Figure 1: Locality Map for Rust de Winter Dam

1.6 LEGISLATIVE FRAMEWORK

Provided below are the key data sources used to develop the RMP and the legislative framework applicable to the management and use of the Dam for recreational purposes.

Table 2: Key Data Sources Used to Develop the RMP:

Guidelines	Description
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.
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.
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.
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.
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.
Guidelines for Compilation of Zoning Plans for Government Waterworks (DWAF, 1999)	It provides direction on the compilation of zoning plans for government waterworks (within DWS purchased boundary).
National Treasury Public Private Partnership (PPP) Toolkit for Tourism, 2005,	This toolkit assists 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.
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 waterworks for recreational purposes.

Table 3: Legislative Framework Applicable to the Management and Use of the Dam for Recreational Purposes

Legislation: Acts, ordinances, bylaws	Relevance: Description
Constitution	**Relevance:**
Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996), Environmental Rights (Section 24)	Section 24 - Everyone has the right: 1. to an environment that is not harmful to their health or wellbeing, 2. to have an environment protected for the benefit of present and future generations, through reasonable legislative and other measures that- a. prevent pollution and ecological degradation b. promote conservation and secure ecologically sustainable development and use natural resources while promoting justifiable economic and social development.
National Legislation	**Significance to the RMP:**
Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) [CARA]	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.
National Environmental Management Act, 1998 (Act No. 107 of 1998) [NEMA]	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.
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) [NEMBA]	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.
National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) [NEMPAA]	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.
National Environmental Management: Waste Act, 2014 (Act No. 59 of 2008) **[NEWA]**	Provides for the national domestic waste collection standards and national norms and standards for the storage of waste.

Legislation: Acts, ordinances, bylaws	Relevance: Description
National Heritage Resources Act, 1999 (Act No. 25 of 1999) [NHRA]	To nurture and conserve their heritage resources so that they may be hand down to future generation. To introduce an integrated system for the identification, assessment and management of the heritage resources of South Africa. All heritage sites and cultural artefact must be protected and should be demarcated in the RMP zoning map.
National Water Act, 1998 (Act No. 36 of 1998) [NWA]	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.
Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003)	It aims to address inequities resulting from the systematic exclusion of black people from meaningful participation in the economy.
Communal Land Rights Act, 2004 (Act No. 11 of 2004)	To provide legal security by transferring communal land to communities or by granting comparable compensation. Based on South Africa's complex history most communities who used to reside in the vicinity of the dams have been forcefully removed. During the implementation of the RMP it is essential to comply with the act where necessary.
Government Immovable Asset Management Act, 2007 (Act No. 19 of 2007) (GIAMA)	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.
Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000)	To provide for the manner in which municipal powers and functions are exercised and performed; to provide for community participation; to establish a simple and enabling framework for the core processes of planning, performance management, resource mobilisation and organisational change which underpin the notion of developmental local government.
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

Legislation: Acts, ordinances, bylaws	Relevance: Description
	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.
Occupational Health and Safety Amendment ActAct181 of 1993G.15369GoN 2471	It requires the employer to bring about and maintain, as far as reasonably practicable, a work environment that is safe and without risk to the health of the workers. The workers and the employer must share the responsibility for health and safety in the workplace.
Public Finance Management Act, 1999 (Act No. 29 of 1999) [PFMA]	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.
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 *inter alia* responsibility for safety and security at the events, risk categorization of events and safety certificates.
South African Maritime Safety Authority Act, 1998 (Act No. 5 of 1998) [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.
Water Services Act, 1997 (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.
Provincial Legislation	**Significance to the RMP:**
Limpopo Environmental Management Act, 2003 (Act No. 7 of 2003).	The Act aims to manage and protect the environment in the Province and to secure ecologically sustainable development and responsible use of natural resources in the Province.
Limpopo Tourism Act, 2009 (Act No. 2 of 2009).	The Act mandates the Department to sustainably develop, manage and promote tourism in Limpopo.
Municipal Policy, By-Laws, Reports & Guidelines	**Significance to the RMP:**
Bela-Bela Local Municipality Draft IDP (2015/2016).	Tourism is one of the largest and fastest growing industry with the potential of becoming the focal point of the emerging economy in Bela-Bela Municipality. With regard to economic development and transformation, they have identified strategic programmes in tourism sectors to develop the Bela-Bela Local Municipality area as an attractive, unique and preferred tourism destination.
Bela-Bela Local Municipality By-laws.	Provide the framework within which tourism in the municipality will be implemented.

Legislation: Acts, ordinances, bylaws	Relevance: Description
Rust de Winter Nature Reserve. Strategic Plan (2013 – 2017).	The Strategic Plan sets out the ambitions for the Rust de Winter Nature Reserve (RdWNR), as articulated through the vision and objectives for the reserve.

CHAPTER 2: ENVIRONMENTAL ANALYSIS

2.1 BIOPHYSICAL ENVIRONMENT

2.1.1 Climate

According to Climate Data.Org (2016), the Rust de Winter Dam is located in Rust de Winter, an area characterised by local steppe climate. The climate here is classified as BSh by the Köppen-Geiger system. As shown in **Figure 2**, the driest months of the year are June and July, with an average of about 5 mm, whilst most of the rainfall is received during December and January, averaging about 100 mm.

The average annual temperatures for the Rust de Winter area is 19.3°C (Climate Data. ORG, 2016). As shown in **Figure 2**, the warmest months of this area are January, February, March and December with the average temperatures of about 24°C whilst the winter months which include May, June, July and August have temperatures averaging about 15°C.

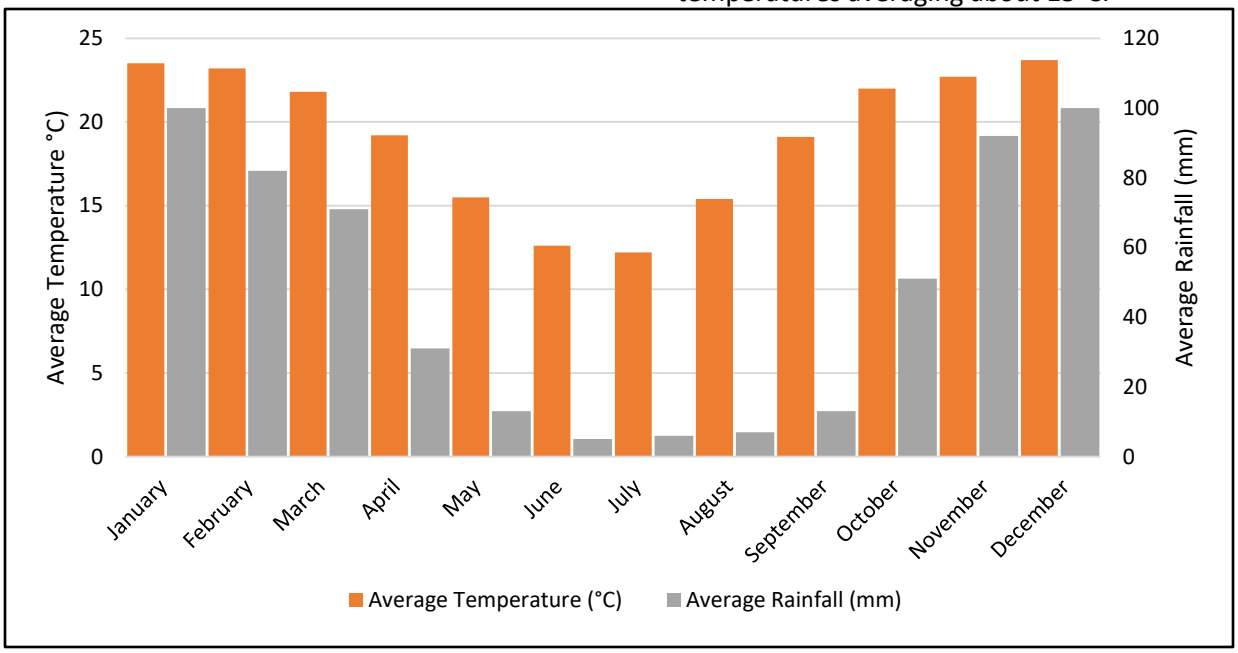

Figure 2: Average Temperature and Rainfall of the Vryheid area
Source: Adapted from Climate Data. ORG, 2016

2.1.2 Topography

According to Mucina and Rutherford (2006), the topography of the area within which the dam is situated is characterized by slightly to extremely irregular plains with sometimes steep slopes and a hill landscape. Altitudes within the area vary from 1 006 m above sea level on the banks of the Rust de Winter Dam to 1 142 m above sea level in the hilly southern section of the reserve (LEDET, 2013-2017).

2.1.3 Geology and Soil

According to LEDET (2013-2017), the Rust de Winter area is underlain by granite of the Lebowa Granite Suite and some granophyre of the Roshoop Granophyre Suite. Rocks specifically from the Waterberg Group include sandstone, conglomerate and siltstone of the Alma Formation and sandstone, shale and siltstone of the Vaalwater Formation.

There is also Mafic volcanics (tholeitic and olivine basalts and nephalinites) of the Letaba Formation are most abundant, with mudstones of the Irrigasie Formation and shale and sandstone units of the Ecca Group being less prominent. Waterberg Group is also identified at the RdWNR which include sandstone, conglomerate and siltstone of the Alma

Formation and sandstone, shale and siltstone of the Vaalwater Formation (LEDET, 2013-2017).
LEDET (2013-2017), further indicates that, a variety of soil forms occur in the RdWNR, which can generally be grouped according to the vegetation unit it supports. Central Sandy Bushveld occurs on well-drained, deep Hutton or Clovelly soils, often with a centenary sequence from Hutton on the hilltops to Clovelly on the lower slopes. Shallow, skeletal Glenrosa soils also occur, Loskop Mountain Bushveld occurs in rocky areas, with miscellaneous soils ranging from sandy to sandy loams and sandy clay soils.

Springbokvlakte Thornveld soils are red-yellow apedal, freely drained soils with a high base status and self-mulching, black, vertic clays. The vertic soils, with a fluctuating water table, experience prolonged periods of swelling and shrinking during wet and dry periods; considerable soil cracking when dry; a loose soil surface; and a high calcium carbonate content and gilgai micro-relief. Of the above mentioned soils, there is no extensive erosion in the area (LEDET, 2013-2017).

2.1.4 Hydrology

Water Surface

The dam lies within the B31C quaternary drainage that forms part of the Olifants Water Management Area (WMA).The dam impounds the Elands River. The level of the dam is currently at 100% as shown in **Figure 3**

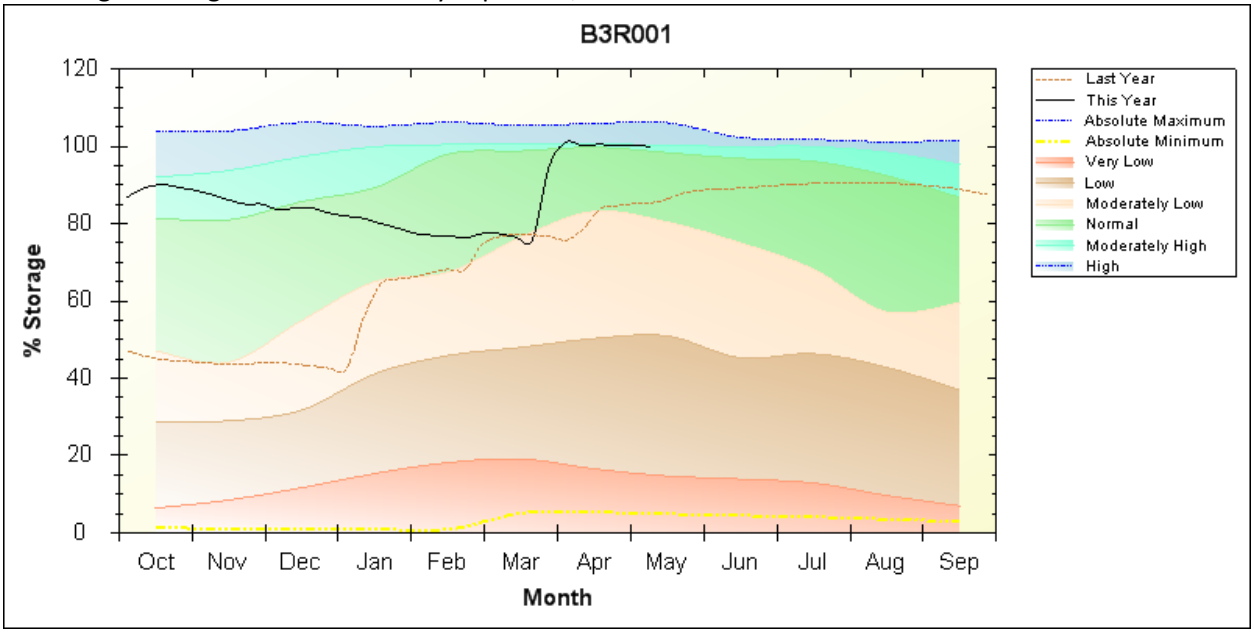

Figure 3: Fluctuations of Rust de Winter Dam water level over a year
Source: DWS, 2018

Water Quality

According DWAF (1996), the following constituents are the indicators of the water quality to determine its suitability for recreational use; pH, algae, odour, turbidity, floating matter and indicator organisms (*E.coli*, faecal coliforms, total coliforms).

At the time of developing this report, the only indicator results available were for pH, which was found to be within the acceptable Target Water Quality Range (TWQR) (6.5-8.5), indicating that minimal eye irritation might occur once in contact with water.

However, owing to the absence of test samples for water quality constituents (not only pH) in the Water Management System (WMS), it is inconclusive if the water is fit for recreational use. As such, DWS should conduct tests of those other indicators including algae, odour, turbidity, floating matter and indicator organisms (*E.coli*, faecal coliforms, and total coliforms) in order to make a conclusive decision on the suitability of the water for recreational use. Hence, precautionary measures should be exercised for contact sports at the Dam.

2.1.5 Flora

According to Mucina and Rutherford (2006), the dam falls within the Savanna Biome (. The Savanna biome is very prone to the forest fires (LEEDET 2013 - 2017). The area consists of distinct shrubs and tree layers, however trees occur in a matrix with a grass-dominated herb layer. Some of the trees occurring there include *Acacia erubescens, A. nilotica,* and *A. tenuispina*, *Combretum.*

There are some aquatic and terrestrial alien invasive species identified at the dam these include: snotterbel, red fern, parrots feather, Port Jackson trees and l*antana Camara* (LEEDET 2013 - 2017).

2.1.6 Fauna

The dam is situated in RdWNR, where there is a large diversity of game animals. 14 mammal species were recorded within 2528AB QDS (Refer to **Table 4**) and 17 mammal species were identified within the 2528BA QDS (Refer to **Table 5**) (ADU, 2018).

Table 4: Mammal list identified within 2528AB QDS

Scientific Name	Common name	Conservation Status
Alcelaphus buselaphus	Hartebeest	Not Listed
Connochaetes taurinus		Least Concern
Kobus ellipsiprymnus		
Raphicerus campestris	Steenbok	
Redunca fulvorufula	Mountain Reedbuck	
Sylvicapra grimmia	Bush Duiker	
Tragelaphus strepsiceros	Greater Kudu	
Chlorocebus pygerythrus	Vervet Monkey	Not Listed
Equus quagga	Plains Zebra	
Leptailurus serval	Serval	Near Threatened
Panthera pardus	Leopard	Least Concern
Hippopotamus amphibius	Common Hippopotamus	
Lepus saxatilis	Scrub Hare	
Phacochoerus africanus	Common Warthog	

Table 5: Mammal List of Species found in Locus 2528BA

Scientific Names	Common name	Red list category
Alcelaphus buselaphus	Hartebeest	Not Listed
Antidorcas marsupialis	Springbok	List Concern
Connochaetes taurinus		
Kobus ellipsiprymnus		
Raphicerus campestris	Steenbok	

Scientific Names	Common name	Red list category
Redunca fulvorufula	Mountain Reedbuck	
Sylvicapra grimmia	Bush Duiker	
Tragelaphus angasii	Nyala	
Tragelaphus strepsiceros	Greater Kudu	
Equus quagga	Plains Zebra	Not Listed
Panthera leo	Lion	List Concern
Panthera pardus	Leopard	
Mungos mungo	Banded Mongoose	
Hippopotamus amphibius	Common Hippopotamus	
Lemniscomys rosalia	Single-Striped Lemniscomys	Data Deficient
Phacochoerus africanus	Common Warthog	List Concern
Potamochoerus larvatus	Bush-pig (subspecies koiropotamus)	Not Listed

2.2 BUILT ENVIRONMENT

The aspects that have been investigated consist of and are presented under the following sub-headings:

- Roads and land-based transportation;
- Non-land-based transportation;
- Bulk services;
- Other on-site structures;
- Fencing; and
- Management and operation.
- Safety.

2.2.1 Roads and Land-Based Transportation

Surrounding Roads

The dam is situated near the N1 North road, and is easily accessible by tourists.

Internal Road and Circulation: There are internal gravel roads that lead to the RDWNR offices, Dam wall, camping site and surrounding the dam.

Parking: There is no demarcated area for parking, however, there is sufficient space to provide parking.

2.2.2 Other On-Site structures

The main structure at the dam includes:

- LEDET offices;
- Deteriorated ablution facility and picnic site stands.
- Slipways

2.2.3 Fencing

The dam is situated within the RDWNR and the Nature Reserve is entirely fenced.

2.2.4 Management and Operation

The management and operation of the Dam is done by the DWS. Currently there is no institutional structure managing the Dam for recreational use. Through the development of this RMP, LWR is proposed as an IA for the management of recreational use for this Dam.

There are currently no fixed and floating Aids to Navigation (AtoN) and demarcation markers in place. 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 the DWS and thereafter the permission by South African Maritime Safety Authority (SAMSA).

2.2.5 Safety

There is currently no specific incident management system in place to ensure that incidents are recorded and responded to in a co-ordinated manner. However, as part of the RMP, the Incident Management Plan will be implemented to ensure that incidents are recorded and responded to.

2.3 SOCIO-ECONOMIC ENVIRONMENT

The purpose of assessing the socio-economic conditions is to determine matters that need to be addressed through the implementation of the RMP to uplift the standard of living of the communities. The study area falls within BBLM under Ward 8, refer to **Figure 4** for the municipal ward boundary.

Stats SA Community Survey (2016) conducted a social audit that focuses on the social data presented in the sub-sections below:

- Population size;
- Education level;
- Employment status;
- Tourism potential; and
- Community beneficiation.

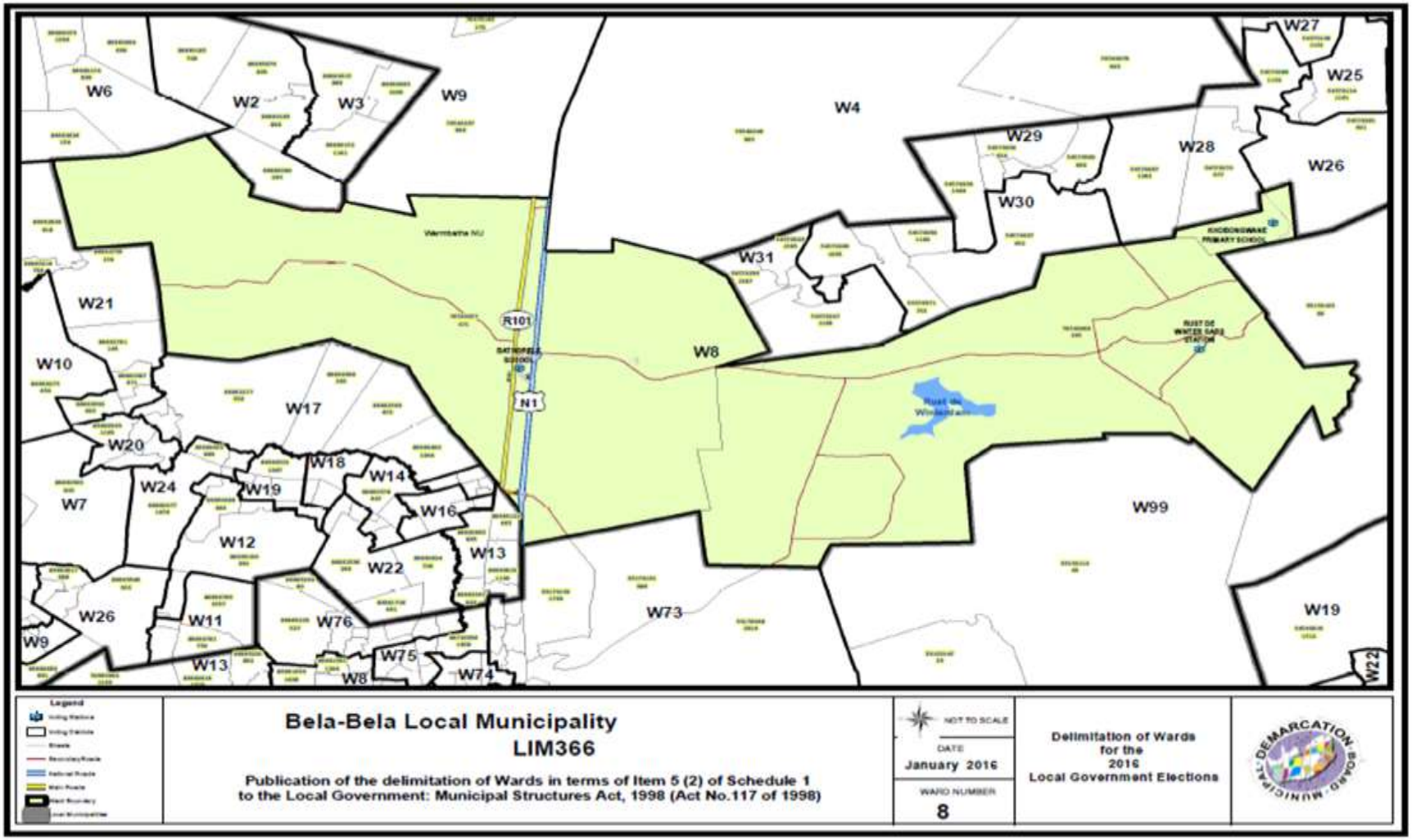

Figure 4: BBLM Ward 8 Delimitation
Source: Municipal Demarcation Board (2016)

Population Size

According to Stats SA Community Survey (2016), BBLM has a total population of 66 500 while Ward 8 has a population of 6 045, representing 8%, of the whole municipality (Refer to **Figure 5**).

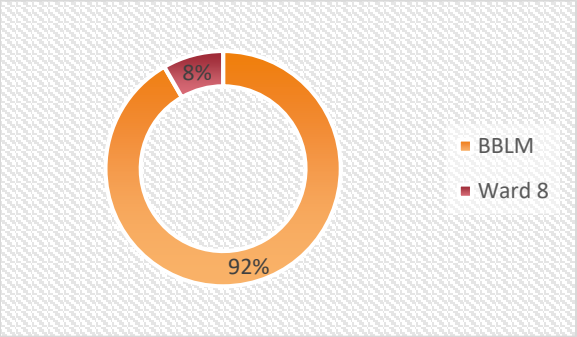

Figure 5: Population size of Ward 8 of BBLM
Source: Stats SA Community Survey (2016)

Educational Level

The Census 2011 (Stats SA Community Survey 2016) breaks down educational levels into each year of study. For the purpose of this report, the educational levels are grouped into primary, higher, tertiary educational and no schooling categories. As shown in **Table 5** and **Figure 6**, 1 780 individuals representing 28% of acquired primary education, 2 820 individuals representing 44% acquired secondary education, 144 individuals (2%) acquired higher education and 523 individuals acquired tertiary education.

Table 6: Education Level in Ward 8 at BBLMM

Description	Ward 8
Primary Level	1780
Secondary Level	2820
Higher Educational Level	144
Tertiary	523
No Schooling	382
Not applicable	764

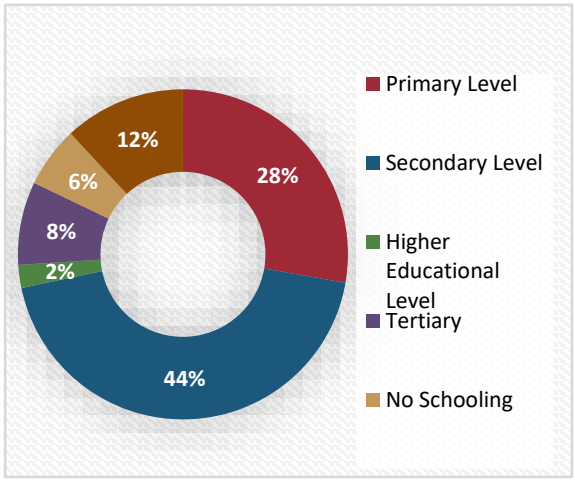

Figure 6: Education Level of Ward 8
Source: Adapted from Stats SA (2016)

Employment status

In terms of employment levels within Ward 8 of BBLM, majority of residents are not working, only 28% of the population is employed. However, 34% of population are not applicable, 27 % they are not economic active and 3% are discouraged work-seekers suggesting that they no longer seek to become employed (Refer to **Table 6** and **Figure 7**) Census 2011 (boundaries 2016).

Table 7: Employment Status of Ward 8 of BBLM

Description	Ward 8
Employed	1 662
Unemployment	511
Discouraged work-seekers	196
Other not Economically active	1 622
Not applicable	2 053

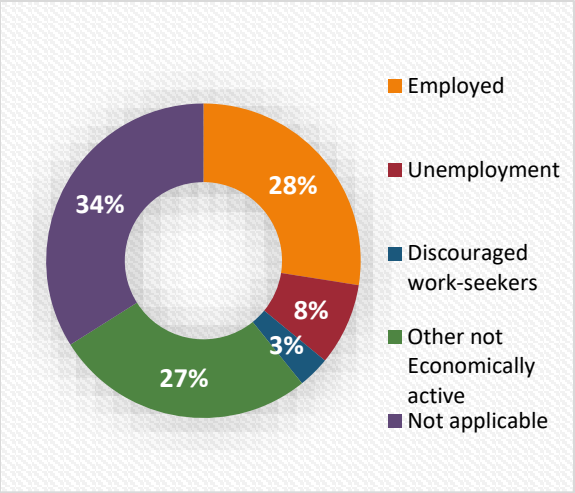

Figure 7: Employment Status of Ward 8 of BBLM
Source: Adapted from Stats SA (2016)

2.3.1 Tourism Potential

According to (LEDET, 2013-2017), the presence of the dam means that there is ample water throughout the year offering excellent wildlife photographing opportunities for tourists. Since the dam is located in a Nature Reserve, this gives it a potential in tourism business. The dam also supports an extensive birdlife. Many people visit the dam because it is rich in biodiversity.

2.3.2 Community Beneficiation

It is the DWS's policy that local communities should equally share the benefits emanating from the utilisation of the Dam for recreational purposes.

According to DWAF (2006), it is important to ensure that communities have physical access to the resource, as well as access to the water-based recreation economy. This will ensure that water resource remain protected for future generations.

Involving the communities in the utilisation and management of the Dam will ensure that communities benefit through:

- Equitable access to the Dam;
- Safety while accessing and using the Dam;
- Being given first preference when there are employment opportunities and skills development through the Public Private Partnership (PPP); and
- Participating in decision-making with respect to major developments planned or proposed for the Dam [through the Dam Management Committee (DMC)].

CHAPTER 3: RESOURCE MANAGEMENT PLAN PROCESS

3.1 DEFINITION OF RMP

A Resource Management Plan (RMP) is a tool which regulates access to and the recreational utilisation (secondary use) of a water resource and the surrounding state land, in ways that promote community participation and beneficiation, environmental conservation and the unlocking of socio-economic potential of the water resource.

Secondary use includes leisure, culture and religious activities. Although recreational use does not involve consumption of water, it is still a major water use and needs to be managed effectively with minimal detrimental environmental impacts.

3.2 PROCESS TRIGGERS

Process triggers are factors based on the principles underlying the integrated resource planning procedure for recreational waters.

Process triggers are used to initiate the planning and public participation process in which stakeholder and potential Interested and Affected Parties (I&AP) are given an opportunity to comment or raise issues of concern that are relevant and site specific in line with the process triggers and potential challenges presented in **Table 8.**

The resource management planning process aims to achieve a common goal, identify site specific challenges and establish a set of objectives and action projects to attain community participation and beneficiation, environmental conservation and the unlocking of socio-economic potential of the water resource.

Table 8: Summary of Triggers and Potential Challenges for Rust de Winter Dam

Triggers (s)	Potential Challenges
Resource Management:	• The water resource within protected area, or is subject to protection legislation. • Invasive Alien species. • Water quality issues.
Recreational Industry Involvement:	• Presence of dangerous aquatic organisms (crocodiles and hippopotamuses.). • Reports of drowning incidents in the Dam. • Poor recreational facilities i.e ablution facilities, camping facilities, etc.
Community Participation and Beneficiation	• Challenges of communities regarding physical access and access to the water-based economy of the resource. • Participation and beneficiation of surrounding communities remains a challenge. • Unlocking the economic potential of the dam through the establishment of effective Public Private Partnerships (PPPs). • Equitable and sustainable benefit flow into the community through the creation of appropriate institutional arrangements.
Public Policy	• The water resource should be identified as a local development objective in terms of an Integrated Development Plan (IDP) or Strategic Development Framework (SDF) for the relevant local and/or district municipalities. The zoning plan for the water resource must either be developed or updated

3.3 RMP DEVELOPMENT PROCESS

The RMP is developed in accordance with the RMP guideline procedure (DWAF, 2006) which stipulates the stages that needs to be adhered to as shown in **Figure 8.**

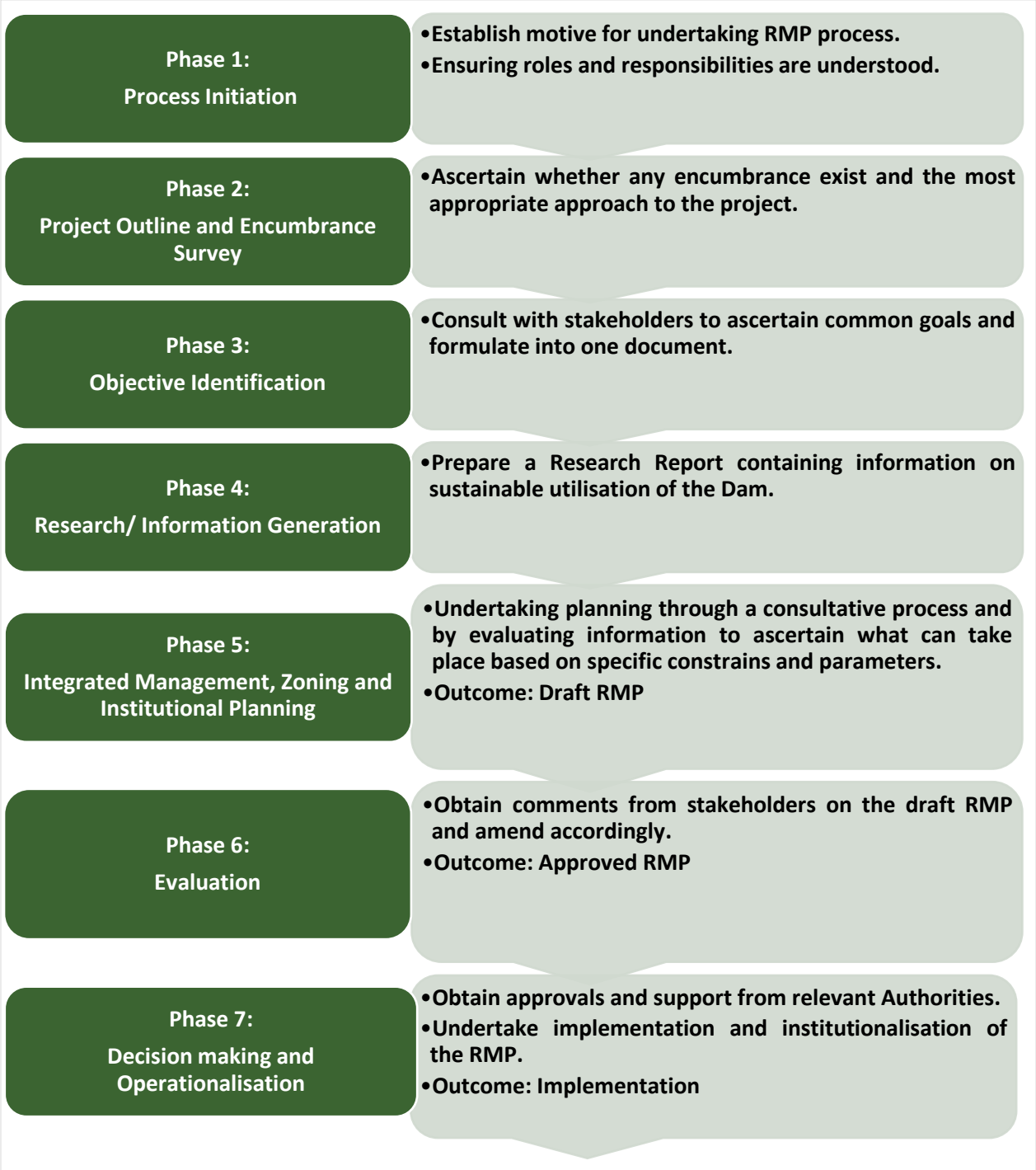

Figure 8: RMP Procedure
Source: Adapted from DWAF (2006)

3.4 RMP PLANNING STAGES

3.4.1 Desktop Study

A desktop study was conducted with the aim of acquiring background information about the Dam, such as the review of legislative and regulatory framework, decision-support tools, specialist reports and studies, policies and guidelines district and local municipal plans, biodiversity sector plans and water information systems.

3.4.2 Site Inspection

A site inspection was conducted with the DWS officials (DWS IEE and Dam Control Officer) on **14 September 2017**

During the site inspection the following were observed: alien invasive plants species at the dam, ablution facilities that needs to be refurbished. Additional background information was collated from consultation with different stakeholders. Potential Interested and Affected Parties (I&APs) were identified during site inspection through liaison with the Dam control officer.

3.4.3 Public Participation

The Public Participation (PP) process is a process in which potential Interested and Affected Parties (I&AP) are given an opportunity to comment or raise issues of concern on specific matters. The three (3) fundamental and theoretical objectives of the 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&AP.

The PP process was conducted in order to obtain information for **Phase 2 (Encumbrance Survey), Phase 3 (Objective Identification)** and **Phase 4 (Research/ Information Generation)** from stakeholders authorities and I&AP, which was used to complete **Phase 5 (Integrated Management, Zoning and Institutional Planning)**.

Stakeholder Database Register

Various stakeholders were identified and invited to participate in an open and consultative process. The stakeholder database was updated on a continuous basis throughout the RMP process (refer to **Appendix A**).

Advertising Process

The purpose of advertising is to notify the public about the proposed RMP project and to give the public an opportunity to register as an i&AP.

The following advertising methods were used:

- **Newspaper Advert:** initial public meetings was advertised on **Die Pos** Newspaper in English on **23 February 2018,** for the draft RMP presentation, meeting was advertised on **3 August 2018** (refer to **Appendix B)**.
- **Flyers and Onsite Notices:** The Flyers and Onsite Notices were compiled in English and were distributed on **22 February 2018,** for the draft RMP presentation, flyers were distributed on **07 August 2018**. (Refer to **Appendix C**).

Consultation and Engagement

Consultation with stakeholders shall continue until the approval of the RMP.

The following consultation methods were used:

- **E-mails:** initial meeting invitations were sent to stakeholders on **27 February 2018**, notifying them about the scheduled consultative meetings. The draft RMP presentation was sent on **06 August 2018** (refer to **Appendix D**).
- **Background Information Document (BID):** The BID was sent to stakeholders *via* email with background information about the proposed RMP project (refer to **Appendix E**).

- **Authority Meeting:** The initial authority meeting was held on **01 March 2018** at the **Bela-Bela Local Municipality.** The draft RMP was presented on **15 August 2018** at **Bela-Bela Local Municipality.**: Boardroom.
  The purpose of the meeting was:
  - To present the RMP, its goal and the 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.
- **Public Meeting:** The initial public meeting was held as follows:

Date	Venue
01 March 2018	Pienaars Community Hall
02 March 2018	Rust de Winter (DWS Offices
18 April 2018	Rapotokwane Community Hall
	Rust de Winter (DWS Offices)

- The Draft RMP was presented on the following dates:

Date	Venue
01 March 2018	Pienaars Community Hall
02 March 2018	Rust de Winter (DWS Offices
18 April 2018	Rapotokwane Community Hall
	Rust de Winter (DWS Offices)

- **Comments and Responses Register:** A copy of the draft RMP report was circulated on 0**1 August 2018** for commenting until **21 August 2018.** The comments received were documented in the Comments and Responses Register (refer to **Appendix F**).

3.4.4 Planning Partners

In order to successfully complete the RMP, it is essential that the information obtained in the previous phases is utilised as planning input.

The RMP provides for coordination between different government departments and agencies as shown in **Table 6.** This is to ensure that not only the objectives of DWS are achieved but also that the functions/ objectives of the planning partners (relating to the recreational use of the Dam) are taken into consideration when developing the RMP.

Table 9: Planning Partners

Department	Functions / objections
Bela Bela Local Municipality	The Dam is within the jurisdiction of the BBLM. The Local Economic Development (LED) unit within BBLM primary focus is to improve *inter alia* the tourism sector. The main purpose for LED is to support economic development initiatives that will empower the community, create job opportunities, minimise income leakages and growth by building partnerships within relevant stakeholders in order to create a conducive environment for job creation.
Department of Agriculture, Forestry and Fisheries (DAFF)	The purpose of the DAFF includes sustainable development and management of resources to maximise the economic potential of the fisheries sector while protecting the integrity and quality of the country's aquatic ecosystems. Operation Phakisa's expansion to inland dams is one of the DAFF's initiatives aimed at unlocking the economic potential of the fisheries sector of inland water. The latter programme will be used as a benchmark for the implementation of conservation policies, while implementing job creation in the fishery and fish processing market.
Department of Environmental Affairs (DEA)	The 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 DEA is responsible for biodiversity management within the GWWs, including invasive alien species. In addition, the Department should ensure that Environmental Impact Assessments (EIAs) is undertaken for all activities that triggers EIA Regulations. The DEA through the WfW programme, can assist in eradicating alien invasive plants species (blue gums and parrot furthers) and alien invasive fish species.
Department of Public Works (DPW)	DPW is tasked with the function to regulate and control the use of state land outside the GWWs.
Department of Rural Development and Land Reform (DRDLR)	The Department will assist in terms of land claims/ ownership issues (i.e. land under traditional authorities). The Department are also involved in rural development by improving both economic infrastructure (such as roads) and social infrastructure (e.g. communal sanitation and non-farming activities).
Department of Transport (DoT)	Responsible for legislation, policy and regulations for all transportation in South Africa, including shipping and other transport by water, and inland waterways. For the purpose of Inland Waterways, DoT has established an agency called the South African Maritime Safety Authority (SAMSA) SAMSA has been charged with the responsibility of executing the administration of the Merchant shipping (National Small Vessel Safety) Regulation, 2007, as amended (the Regulations). The Regulations extends SAMSA's Core mandate to include inland waterways (only waterways accessible to the public) within the Republic. That is to ensure boating safety on our waters.
National Treasury (NT)	The use of state assets is governed by National Treasury Regulations, requiring the DWS to plan concessions in compliance or association with the National Treasury, guided by the Tourism Public Private Partnership (PPP) Toolkit of 2005.
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.

Department	Functions / objections
	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 the 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 the culture, hospitality, tourism and sport sectors.
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. Another function of the Department is to support provinces and local government in fulfilling their constitutional and legal obligations
Department of Basic Education (DBE):	The function of the DBE is to develop, maintain and support a South African school education system. In this regard, the DBE can collaborate with nature reserves that encompasses GWWs, in order to provide an opportunity for school environmental tours, as this can also have influence on career options.
Department of Sports and Recreation (DSR)	The Department is mandated to promote and develop sport and recreation activities and also to co-ordinate the relationships between the sports commission, national and recreational 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.
South African Police Service (SAPS)	The South African Police Service has been entrusted with the responsibility of creating a safe and secure environment for all people in South Africa, as well as preventing 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 in sports, as well as to act as a controlling body for sports in South Africa. It can also assist in coordinating organised events at the Dam.

3.5 RMP DATA ANALYSIS

3.5.1 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 are categorized into **Biophysical** and **Social-Cultural**.

Tables 10-11 summarises the identified biophysical and social-cultural encumbrances/ limitations, respectively that might affect the development or implementation of the RMP for the Dam.

Table 10: Summary of Biophysical Encumbrances

Item	Description
Climate	• Climate change affects the possibilities of rainfall, which negatively impacts on the quantity of water in the dam.
Flora	• The further spreading of terrestrial and aquatic alien plant species can have a detrimental effect on the ecology of the dam and can outcompete indigenous plants species as well as hinder other proposed recreational activities such as boating.
Fauna	• The large numbers of largemouth bass pose a huge threat to fish diversity to smaller fish species in the dam. • The population of alien fish species is growing at an alarming rate. • The presence of crocodiles restrict some of the recreational activities such as swimming at the dam.

Table 11: Summary of Social Encumbrances

Item	Description
Mobility	• There is a long distance between the access point and the communities, which makes it difficult for nearby communities to access the dam. • The dam is located in a remote area, where there is no public transport for people without private transport.
Expectations	• Failure of DWS, to meet the community expectations might discourage the community to participate in the implementation of the RMP.
Social Audit	• Only an average of 5.9%of the population in ward 8 have furthered their studies up to higher education level. The implication in the project is that the majority of residents in the aforementioned wards will not have received any kind of training to become active participants in the tourism sector. • The “No-income” group is of great concern as they have no income. Since the dam is far from the communities, they need transport to get to the dam. Those people might not participate on the RMP project because they think they do not benefit from the dam.

3.5.2 SWOT Analysis and Objective Identification

Engineerex Pty Ltd as the process facilitator conducted the Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis to determine the **Strengths** and **Opportunities** that define the potential of the Dam whereas the challenges regarding the Dam where identified through **Weaknesses** and **Threats**. Refer to **Table 12** for the SWOT analysis.

Table 12: SWOT Analysis for Rust de Winter Dam

Strengths	Weaknesses
• Rust de Winter Dam is situated within the Dinokeng tourism hub. • The Dam is easily accessible by tourist. • The Rust de Winter Dam is located within a Nature Reserve and serves as a permanent water source for game. • The dam offers some recreational activities such as boat cruising and sailing. • DBSA has plans in place to renovate the ablution facilities and the gravel roads within the Nature Reserve. • Bass fishing competition is hosted annually at Rust de Winter Dam.	• Drowning incidents. • Inadequate Aids to Navigation and demarcation markers. • Presence of dangerous organisms in the Dam such as crocodiles and Hippopotamuses. • Lack of proper camping sites facilities. • Lack of security and law enforcement. • The dam is in a remote area far from the local communities.
Opportunities	**Threats**
• Expansion of recreational activities and facilities. • Economic hub of the area. • There is potential for Fishing (subsistence and sports) at the dam. • Implement Environmental Education (EE) programmes within the surrounding communities. • There is an opportunity to introduce Aquaculture at the dam.	• Safety and security of people visiting the dam. • Deterioration of water quality due to upstream pollution. • Shortage of water for domestic use and irrigation. • Allegations of high theft risks at the nature reserve. • Illegal fishing. • Possible contamination from unauthorized mining. • Presence of terrestrial and aquatic weeds at the dam.

Key objectives were formulated from the identified **Strengths** and **Opportunities** of the Dam.

The vision and key performance areas (KPA) for the Dam for a period of 20-years was formulated from the key objectives, discussed in the paragraphs to follow.

Objective Identification (Phase 3)

The key objectives were evaluated and identified based on the following questions:

- **Objective** (What is envisaged for the Dam?)
- **Priority** (How significant is the objective?)
- **Motivation** (Why is it important to achieve this?)
- **Management support** (Who will be involved?)
- **Guidelines and Policies** (How to get there?)
- **Action Projects** (How to achieve this?).
- **Monitoring Guideline** (How will the action projects be monitored?)

The set of key objectives acknowledged were then categorised into three (3) Key Performance Areas (KPAs) as follow:

KPA 1: Resource Management

- Installation of safety of navigation and
- To have the dam free of alien invasive plants in order to support the proposed recreational activities and to improve natural ecology of the Dam**.**

KPA 2: Resource Utilisation

- To ensure the availability of water a supply for domestic and irrigation purposes to the local communities;
- Possible introduction of aquaculture to unlock community beneficiation from the dam;
- To promote sustainable subsistence fishing at the dam;
- To promote tourist attraction by introducing more recreational facilities such as swimming pools.

KPA 3: Benefit Flow Management

- To uplift the local economy and increase benefit flows to the surrounding communities.
- To establish an effective institutional structure to manage recreational use of the dam.

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

A 20 year vision for the Dam formulated from the objective identified by the stakeholder is as follow:

"To conserve the area and its biodiversity, promote and ensure sustainability on the use of the dam and the surrounding environment in-order to ensure community beneficiation".

3.5.3 Research/ Information Generation (Phase 4)

The main aim of the research was to identify the Dam tourism development potential and to evaluate the practicality/ feasibility of the identified objectives.

Tourism Development Potential:

According to (LEDET, 2013-2017), the presence of the dam means that there is ample water throughout the year offering excellent wildlife photographing opportunities for tourists. Since the dam is located in a Nature Reserve, this gives it a potential in tourism business. The dam also supports an extensive birdlife. Many people visit the dam because it is rich in biodiversity.

Practicability/ Feasibility of Potential Objectives:

According to the DWAF (2006), the feasibility of the proposed objectives needs to be determined prior to the RMP implementation. Based on the desktop study done for the Dam, all identified objectives are considered to be practical/ feasible during the implementation stage, others will be subjected to a feasibility study, refer to the Strategic Plan in **Section 4.3** of this RMP.

CHAPTER 4: INTEGRATED RESOURCE MANAGEMENT PLANNING

The purpose of the Integrated Resource Management Planning (IRMP) is to evaluate the information obtained from preceding phases (Process Triggers, Encumbrance Survey, Objective Identification and Research/ Information Generation) to ascertain what could be achieved based on specific constraints and parameters of the water resource and surrounding State land.

The IRMP consists of four (4) plans namely the **Institutional Plan**, **Zoning Plan, Strategic Plan** and **Financial Plan. Figure 9** shows the plans and their components.

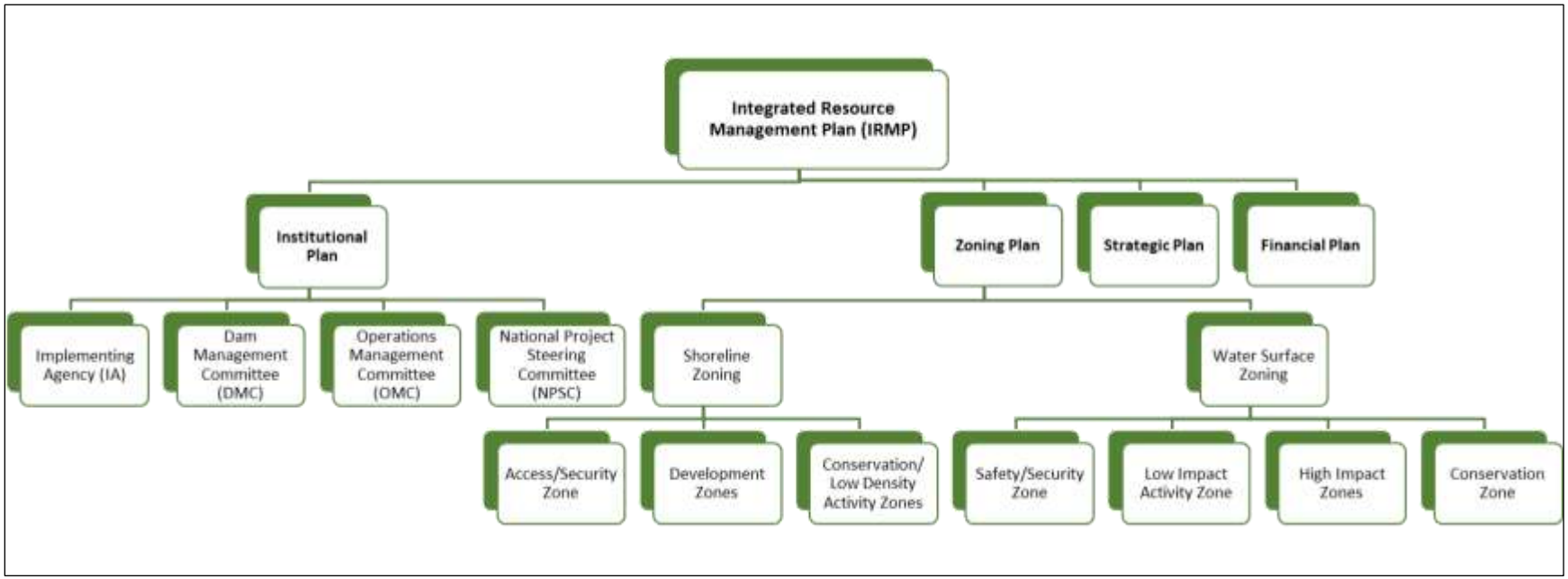

Figure 9: Integrated Resource Management Planning

4.1 INSTITUTIONAL PLAN

The Institutional Plan provides a framework for the institutional arrangements at the Dam. The proposed management systems include five (5) committees namely; the Implementing Agency (IA), Dam Management Committee (DMC), Operations Management Committee (OMC); and National Project Steering Committee (NPSC).

The management authorities appointed by the Department at the Dam, also form part of the institutional structure.

4.1.1 Implementing Agency (IA)

The Implementing Agency (IA) is an institution that implements a programme or project on behalf of DWS.

According to DWS, the minimum requirements of an IA include the following:

- An IA can be a government entity or a public-sector body, identified by the DWS;
- IA must have the best interest of water resource and the community at large; and
- IA must be willing to work with the DWS and other users of the water resource.

The IA shall facilitate the implementation of a programme or project identified in the RMP for Rust de Winter Dam. The IA and DWS will sign a Memorandum of Agreement (MOA), which is a legal binding document that outlines the roles and responsibilities and conditions to be followed by both parties when entering into agreement(s) and/or when in terms of managing the Dam/ water resource for recreational use.

Some of the functions/ responsibilities of the IA include:

- Management of public access area;
- Management of incident management system;
- Management of community skills and training programmes;
- Management of commercial activities (in line with Treasury Requirements); and
- Management of AtoN and demarcation markers.

4.1.2 Dam Management Committee (DMC)

The DMC comprises of user groups representatives that are interested or affected by the Dam and will assist in raising and addressing issues relating to the Dam. Any unresolved issues relating to the Dam are escalated to OMC (described in detailed in **4.1.3**). The DMC is required to meet quarterly.

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

- To give support to Implementing Agency (IA);
- To assess commercial opportunities at the Dam;
- 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 that the floating AtoN and demarcation markers are in place and setting times for use of the Dam;
- 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 10 shows the proposed parties to form part of the DMC for Rust de Winter Dam.

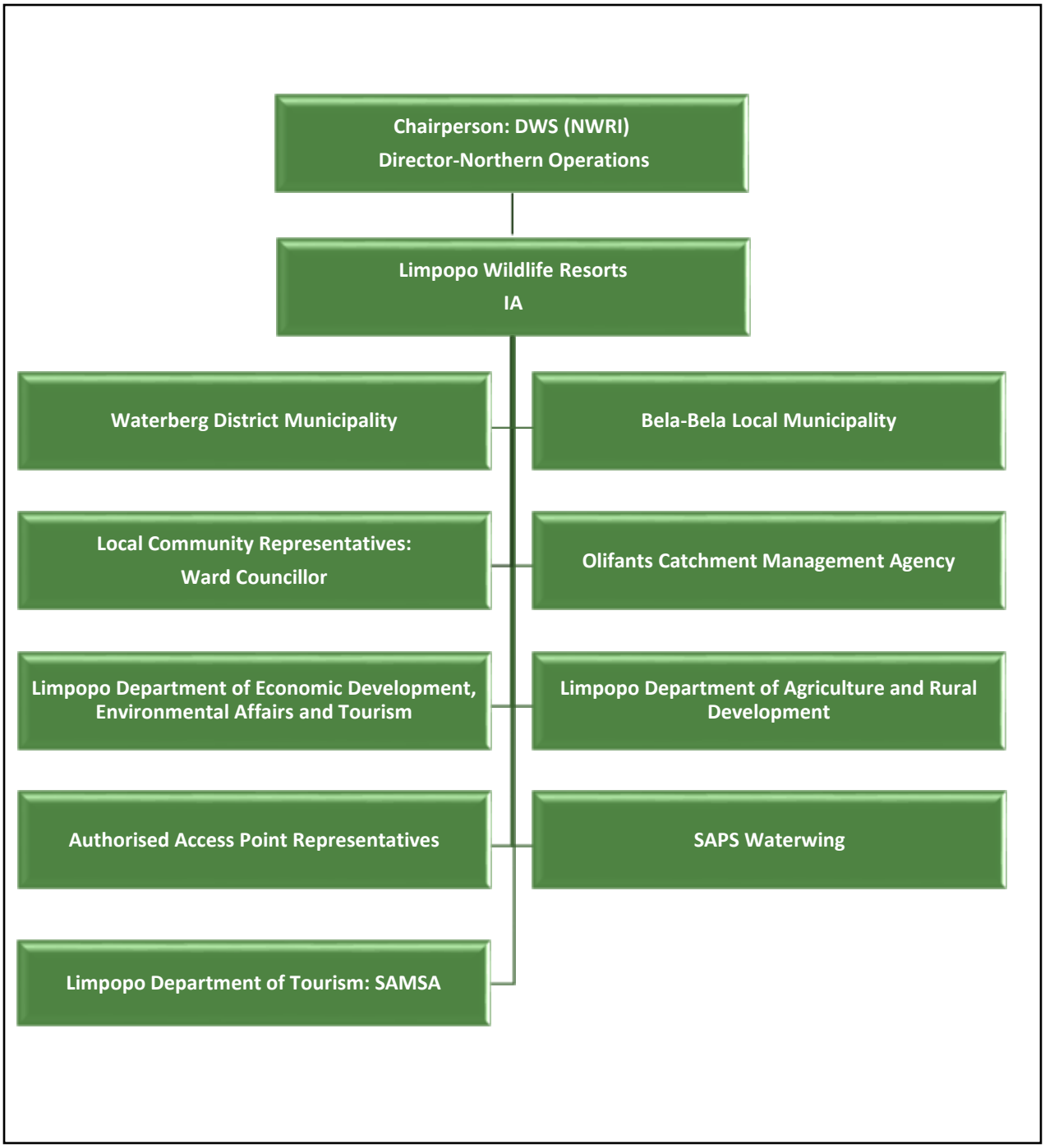

Figure 10: Proposed DMC

Management Tools:
The DMC will have number of management tools which will enable proper management of the Dam in line with legislative requirements. Some of the management tools includes the *Terms of Reference.*

Terms of Reference (ToR) defines the purpose and structure of the DMC and its management aspect for the implementation of the RMP. The management aspects that will be guided by the ToR includes:

- Roles and responsibility of chairperson;
- Roles and responsibilities of an IA;
- 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 system and wash bays; and
- Management of AtoN and demarcation markers.

4.1.3 Agreements and Permits

The purpose of agreements is to ensure proper use of the Dam in line with the RMP requirements and the relevant acts and regulations.

The applicable agreements for the implementation of RMP are as follows:

Memorandum of Agreement (MOA)[2]:
MOA is a legally binding document that outlines the roles, responsibilities and conditions to be followed for the management of the water resource for recreational use. An MOA will be signed in an event where the DWS is tasking another organization with its function of managing the dam for recreational purposes.

Safety of Navigation Agreements:
The purpose of this agreement is to allow access of boating vessel to government waterworks. This agreement to be concluded between SAMSA, the DWS and other relevant parties or bodies to allow them to:

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

Access Agreements:
All access points to the Dam and surrounding State Land must be formalised. Accessing the Dam through unauthorised access points is an illegal activity unless a formal agreement with the DWS is concluded. Therefore, a formal agreement with DWS will be required for all adjacent landowners and recreational clubs that have direct access to the Dam and surrounding State Land.

A formal agreement on building, management and maintenance of the wash bay is necessary between the DWS and DEA. A wash bay must be built on State Property as part of the Centre for Inland Waterways Safety Programme (CIWSP).

Event Applications:
All events at the Dam and surrounding state land must be managed through an event application process. The events application will be submitted to DWS for approval through the IA. These applications must follow a specific template and will include amongst others 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.

[2] The Department of the Water and Sanitation reserves the right to appoint the Implementing Agency at their own discretion.

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 (i.e canoeing and fishing) must be affiliated to a South African Sports Confederation and Olympic Committee (SASCOC) affiliated organisation.

4.1.3 Operations Management Committee (OMC)

There is an existing Chief Directorate: Infrastructure Operations Management Committee (CD: IO MANCO) within the DWS NWRI which comprises of directors of the NWRI's four (4) operations (Northern, Southern, Eastern and Central) and is chaired by the Chief Director: Infrastructure Operations within the NWRI as illustrated in **Figure 11**.

The committee shall meet quarterly to discuss matters relating to operations and maintenance of all GWWs. An RMP must be a standard agenda item. Any matters relating to the RMP that are outside the scope of the DWS will be escalated to the NPSC (described in detail in **4.1.4**).

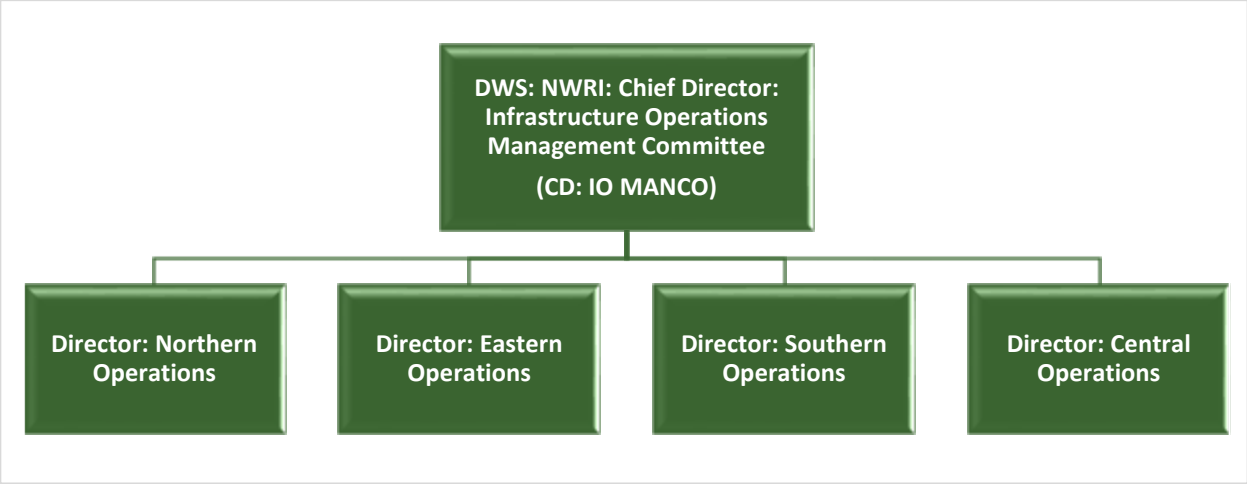

Figure 11: Existing CD: IO MANCO

4.1.4 National Project Steering Committee (NPSC)

The NPSC is formed by the DWS and is made up of representatives from national government departments and their agencies (also referred to as planning partners) that have direct and/or indirect mandate in managing the water resource. The function of the NPSC is to provide guidance and support to DWS on recreational water use in terms of their respective mandates with the aim of achieving sustainable utilisation of the Dam. The NPSC shall meet twice a year. **Figure 12** shows government departments (also referred to as planning partners and/ or authorities) and agencies that will form part of the NPSC:

Figure 12: Proposed NPSC

4.2 ZONING PLAN

The purpose of the zoning plan is to demarcate permissible and non-permissible activities on the water surface and the shoreline to avoid conflict amongst users, uncontrolled development and to protect the water resource. In order to determine the extent of possible recreational use on the water surface, the carrying capacity of the water surface was calculated.

The proposed zoning plan integrates 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:
This zone covers a minimum area of 100m from the wall and outlet works indicated by demarcation markers and AtoN. This area is reserved for the 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 Zone:
The aim of this zone is to conserve and protect sensitive aquatic habitation at the inlet(s) of the Dam. Access to this area 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 acts as a buffer between high impact activity zones and conservation zones. The 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[3] and small-scale fisheries.

High Impact Activity Zone:
This zone is demarcated where the Dam is at its deepest level. 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.

Table 13 and **Figure 13** shows the proposed water surface zoning for Rust de Winter Dam

[3] The final location of the aquaculture will be dependent on the outcome of a feasibility study.

Table 13: Proposed Water Surface Zoning Description

Zone Description	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 demarcation makers and AtoN.
• Conservation Zones.	• None	• Public activities (to prevent aquatic habitats disturbance)	• Area should be demarcated by demarcation makers and AtoN. • Strict management and control of these areas, especially with regards to illegal fishing and dumping.
• Low Impact Activity Zone.	• Angling • Rowing • Paddle boating • Canoeing	• Swimming • Motorised boating • Water Skiing	• Area should be demarcated by demarcation makers and AtoN. • No private slipways/ floating jetties to be built without approval from DWS. • Launching and mooring of vessels should take place at this zone. • Motorised boating are allowed to launch at this zone but no water wake should be formed until the designated area for motorised recreational boating is reached.
• High Impact Activity Zone	• Motorised boating • Water Skiing • Aquaculture	• Swimming • Angling • Rowing • Paddle boating • Float tubes • Yachting • Canoeing •	• 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.

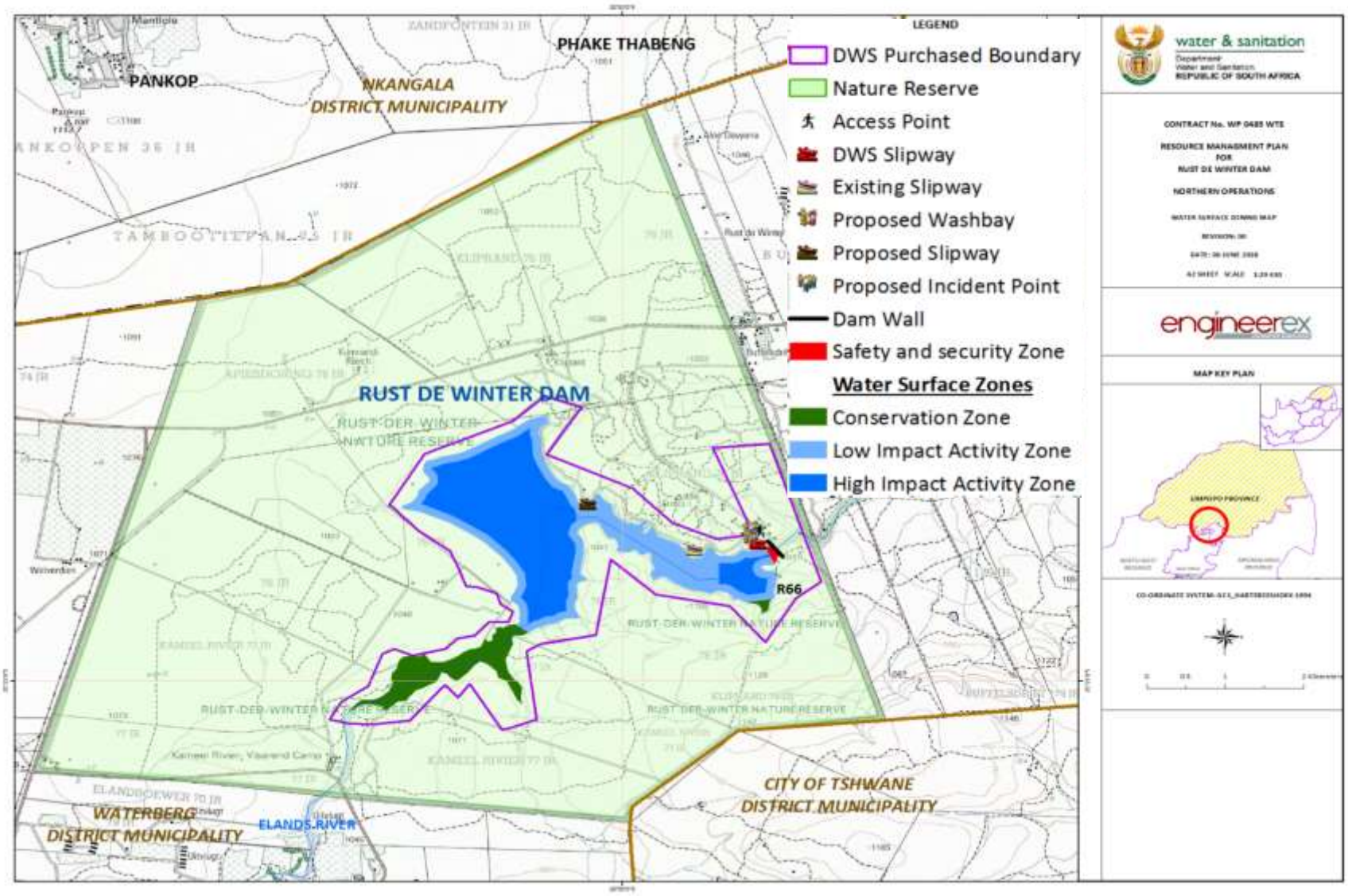

Figure 13: Proposed Water Surface Zoning

4.2.2 Shoreline Zoning[4]

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 or not permissible on the land adjacent to the Dam (DWS purchased boundary). The shoreline zones include:

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

This zone is applicable to the area surrounding the Dam wall and the outlet works. The extent of this zone is determined by the 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 ensuring 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, and bird watching. This area is demarcated to prevent ecological Damage due to high density development activities.

Medium Density Activity Zone:

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

High Density Activity Zone:

This zone is demarcated for large-scale activities including chalets, recreational club houses, infrastructure for services, and land based aquaculture.

Community Resource Zone:

This zone is for the sole beneficiation of the local communities in ensuring that their livelihoods are maintained and improved. Activities include subsistence fishing, livestock watering points, and small-scale community gardens.

Table 14 and **Figure 14** shows the proposed shoreline zoning for Rust de Winter Dam

[4] 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 Description	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	• Unauthorised 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	• Development	• Permissible activities may only be permitted provided that they are approved by relevant Authorities and they are conduct as per the relevant Legislations. • These zone should control access to ecological sensitive areas.
• Medium Density Activity Zone	• Shoreline fishing • Day visitors • Picnic areas • Braai facilities • swimming pools • Ablution facilities and infrastructure for services • Game Viewing • Walking Trails	• Accommodation facilities such as • Chalets • Recreational club houses • Permanent Structures	• The management of this area should follow PPP process in terms of the National Treasury. • Requirements of NWA and NEMA must be taken into account in all recreational activities. • All developments must be approved by DWS and IA. • No private slipways to be built without approval from DWS.

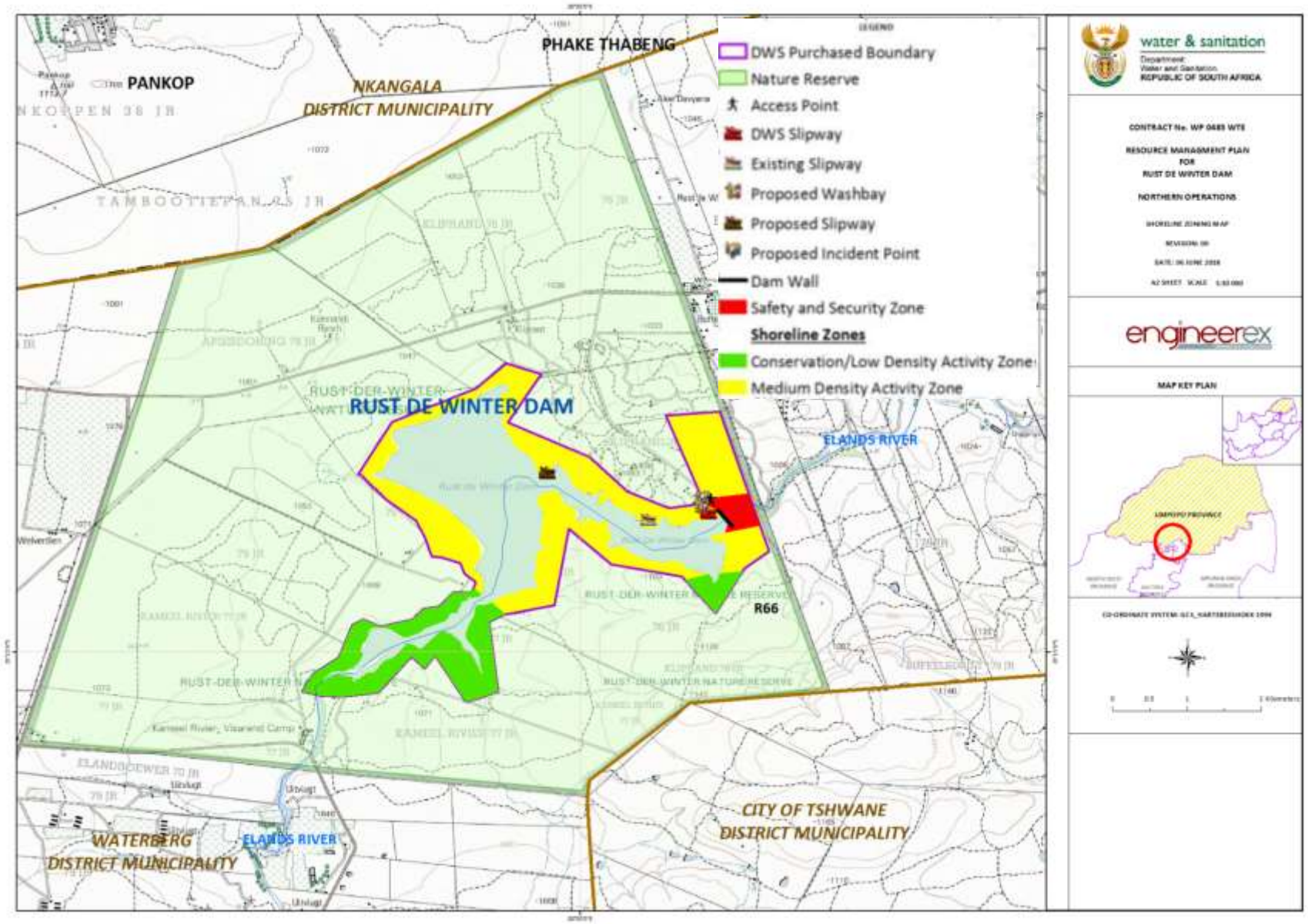

Figure 14: Proposed Shoreline Zoning Map

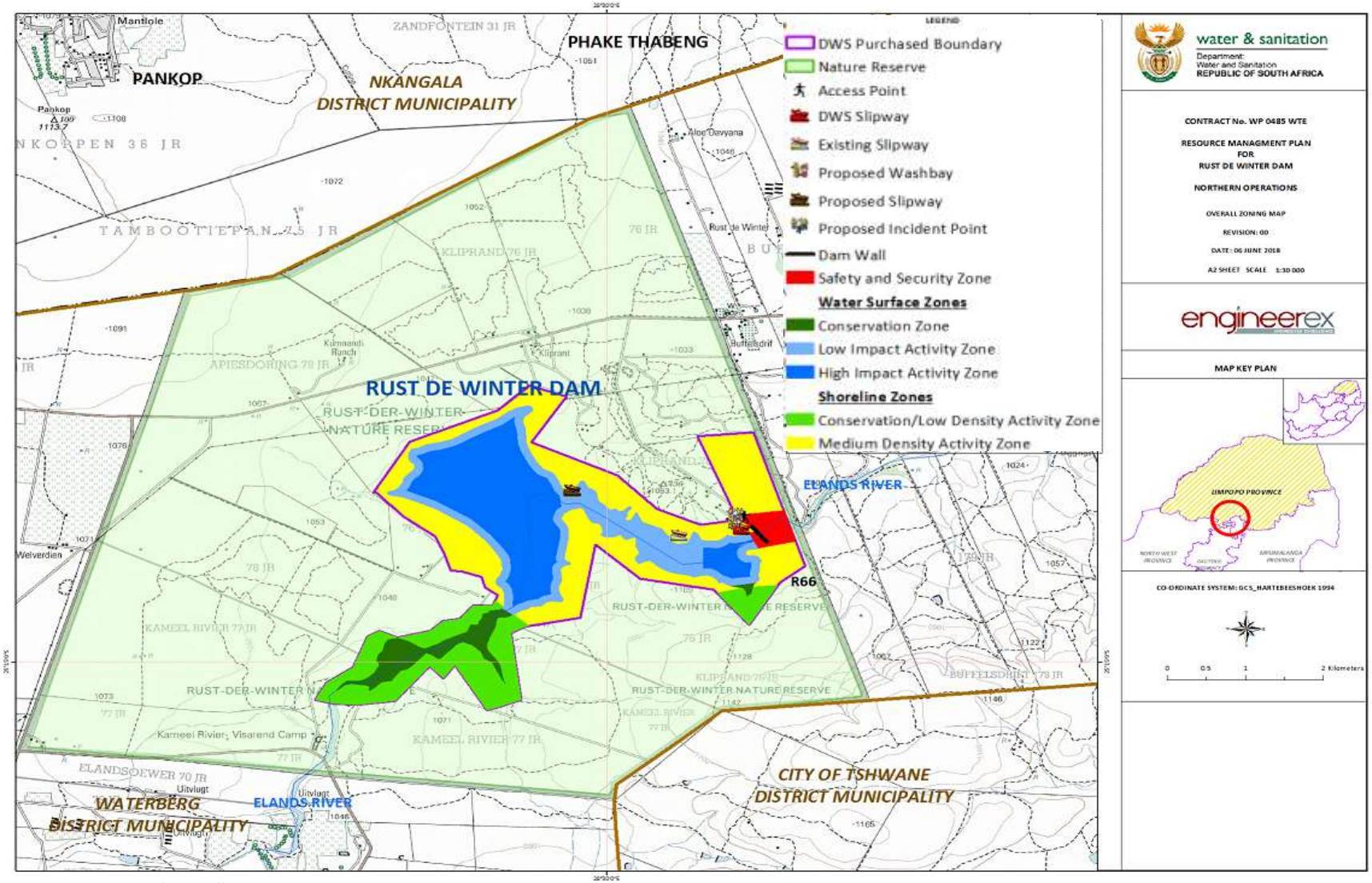

Figure 15: Proposed Overall Zoning Map

4.2.3 Carrying Capacity

The carrying capacity provides a guideline for recreation to ensure that the Dam is safe, that users do not feel crowded and that they enjoy the use of the Dam.

The Methodology for Carrying Capacity Assessment for the use of water for Recreational purposes was used as a guideline to determine the maximum level of visitor/recreational use and related infrastructure that the water resource and surrounding area can accommodate (DWAF, 2003).

There are three levels of carrying capacity:

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

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, i.e.: **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 = 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)

Table 15 shows the type of craft and the required area for use

Table 15: Area required per user

Craft	U/A (ha/craft)
Canoe	1.0
Angling	3.0
Rowing	0.5
Water-Skiing	2.0
Average	**1.4**

Based on the table above the average hectare per user is 1.4 ha (14 000 m^2), the value of 3.0 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.

The available surface area for Rust de Winter Dam is **473 ha** whereas ***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.

Therefore: **PCC =** A ÷ U/a x Rf
=473 x 1/3 x 1
= 158 crafts on the dam

Real Carrying Capacity (RCC)

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 Rust de Winter Dam, these factors includes sensitive areas, such as conservation areas (61.7 ha) as well as aspects regarding the safe operation and management of the dam (0.63 ha).

These factors accounts for 62 ha, which is 13% of the dam, therefore 87% of the surface area of the dam is still available for recreation

Therefore: RCC = PCC x (100 – cf1)% x (100 – cf1)% x (100 – cf1)%

= 158 x (100 – 13)%/100

= 137 crafts

Effective Carrying Capacity (ECC)

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

Given that there is no adequate recreational infrastructure facilities and no management capacity at the Dam, the ECC is currently 0. Once a proposed recreational 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 is envisaged for the Dam?)
- Priority (How significant is the objective?)
- Motivation (Why is it important to achieve this?)
- Management support (Who will be involved?)
- Guidelines and Policies (How to get there?)
- Action Projects (How to achieve this?).
- Monitoring Guideline (How will the action projects be monitored?)

In **Tables 16** to **18**, the strategic plan on how to achieve the objectives identified for the Dam is outlined.

Table 16: Strategic Plan for 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)
Safety of Navigation: • Installation of safety of navigation.	• Currently there are no adequate floating aids to Navigation (AtoN) and Demarcation Markers in Place. • There is no incident management system.	• Implement adequate, standardised, harmonised fixed and floating AtoN and demarcation markers. • Implement and manage DWS incident management system.	• DWS • Agreements between SAMSA, DWS, LAAPs and other relevant parties to be concluded • IA with the support of the DMC
Alien Plants Control: • To have Rust de Winter Dam free of alien invasive plants in order to support the proposed recreational activities and to improve natural ecology of the dam.	• Rust de Winter Dam is infested with aquatic alien invasive plant species such as snotterbel, red fern and parrots feather and the terrestrial alien invasive plant species lantana Camara. The further spreading of these species can have a detrimental effect on the ecology of the dam and the natural aesthetic of the area in general. They can also lower the diversity of both aquatic and terrestrial alien species within and around the dam as well as hindering other proposed recreational activities such as boating.	• Initiate a Public Private Partnership in which businesses in the region 'adopt' sections of the Dam for the clearing of alien plants and vegetation rehabilitation and receive advertising and publicity in return (i.e. road side and/or newspaper advertising • Co-ordinate a systematic programme for clearing alien plants and vegetation rehabilitation in co-operation with Working for Water (WfW). This programme should begin on all state-owned land. • Removal of alien invasive plants, and replacement by fast growing indigenous plants • Develop an inspection and cleaning mechanism (wash bay) to ensure that vessels entering the Dam do not contaminate it with alien vegetation.	• DEA (WfW) • IA with the support of the DMC • DWS • Local Businesses

Table 17: Strategic Plan for 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)
Water Provision: • To ensure availability of water supply for domestic and irrigation purposes to the local communities.	• The local communities experience a shortage of water for domestic purpose and farming. • The local communities requests DWS to intervene on the matter of water supply.	• The BBLM needs to supply water to the nearby communities as mandated by the Water Services Act, 1997) Act No. 108 of 1997).	• BBLM • WDM • DWS
Aquaculture • Possible introduction of aquaculture to unlock community beneficiation from the dam.	• Most of the people living in the communities near the dam are not working, therefore they practice unlawful fishing method by using gill nets, which poses risk of drowning and beingattacked by crocodiles and Hippopotamuses.	• Identify range of farming activities that can be pursued at subsistence level (such as aquaculture) and encourage potential linkages between aquaculture and the tourism industry; • Facilitate access to farming inputs for small-scale farmers and acquire the necessary technical advice. • Conduct a feasibility study to get comprehensive information on the viability of the project, e.g. the soil type for its stability in case ponds are to be constructed, water quality parameters, size to be demarcated for aquaculture, and targeted production; • Generate key partnerships with farmers' organisations, CBO's and NGO's; • In consultation with Department of Agriculture, set up and implement a farmers support and advice programme (especially for subsistence farmers). • Promote co-operative arrangements for supply and distribution networks; • Develop a business plan for the aquaculture project.	• Limpopo Department of Agriculture and Land Reform (LDALR) • DAFF • DWS • IA with the support of the DMC
Subsistence Fishing: • To promote sustainable subsistence fishing at the dam.	• There is an interest of fishing at the dam to sustain livelihood. Currently people are harvesting fish from the dam using prohibited methods such as gill nets. This type of method is not	• Dermacate an area on the zoning map suitable for fishing. • Determine the species of fish targetted for the implementation of the small-scale fishery.	• Limpopo Department of Agriculture and Rural Development (LDARD)

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)
	allowed at the dam because it might lead to the depletion of fish in the dam.	• Conduct a training workshop to educate the interested community members on how to fish sustainably. • Provide the fishermen with the fishing equipment.	• DAFF • IA with the support of the DMC
Tourism • Introducing more recreational facilities such as swimming pools and refurbish existing facilities.	• The dam is a home to hippopotamuses and crocodiles hence swimming in the dam is prohibited. • The existing facilities are worn out. • The dam is situated near the N1 road from Gauteng to Limpopo Province, this makes it easily accessible by people from these two provinces and it is also near Mpumalanga Province. The dam has a tourism attraction potential since it is situated within a protected area. Therefore, it is crucial to establish more tourism facilities such as swimming pools and refurbish the existing facilities on the picnic site.	• Incorporate the objective in the BP to determine the costs for the action projects. • Introduce development structures such as, swimming pools and refurbish the existing facilities at the picnic site. • BBLM may incorporate the dam into its development plans such as the Integrated Development Plan (IDP) and Tourism Master Plan due to its tourism potential.	• IA with the support of the DMC • LEDET • BBLM • WDM

Table 18: Strategic Plan for 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)
Community Participation and Beneficiation: • To uplift the local economy and increase benefit flows to the surrounding communities.	• Tourism sector has been identified as a vehicle for skills development, job creation, Broad-based Black Economic Empowerment (BBBEE), etc. it is imperative that the local communities derive benefits from recreational activities conducted at the dam. • The neighboring communities are concerned about the issue of not getting water from the dam. • The introduction of recreational activities might create job opportunities to the local communities.	• Implement skills development programmes where opportunities exist. • Institute a comprehensive alien invasive plant education programme in pilot schools in the region, subsequent to be extended to all the schools. • Implement of environmental awareness programmes for the local communities and ensure that they are always updated with environmental information. • Educate the community on how to utilise the Dam for other recreational activities besides fishing. This will assist in terms of uplifting the surrounding local community. • First preference to be given to the local community members if any job opportunities arise.	• IA with the support of the DMC • Sector Education and Training Authority (SETA) • DWS • BBLM
Recreational Institutional Structure: • To establish an effective institutional structure to manage recreational use of the dam..	• Currently LWR is managing the recreational activities, however due to unclear, uncertain roles and responsibilities, the management of the recreational use of the dam is not effective.	• Appoint an IA. • The roles and responsibilities of the role players must be clearly defined and understood in the MOA.	• DWS

4.4 FINANCIAL PLAN

A Financial Plan provides guidance on how revenue generated through recreational use of the dam should be used to ensure community participation and beneficiation, as well as to ensure the sustained and improved management of the dam.

Currently, revenue at the dam is generated from general access fees for picnicking, camping, fishing and boating. The entry fees need to be reasonable to ensure that the dam remains an affordable destination for all.

There are also opportunities for PPPs which could further unlock the economic potential of the Dam. PPPs are commercial in nature where a private party make use of a state property to generate profit. 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). The PPP will contribute to the socio-economic development and empowerment of local communities through job creation and upliftment of local Small, Medium and Micro-sized Enterprises (SMMEs).

It is proposed that LWR should be appointed as an IA to manage recreational use of the dam including the management of agreements entered between DWS and the private parties. The appointed IA will be responsible for cost/funding of operation and management of the dam for recreational use. However, DWS and other relevant government department will assist the IA in co-funding of objectives that are related to their mandate.

A more detailed Financial Plan (FP) is contained in the Business Plan (BP) (refer to **Appendix G**), which will facilitate the implementation of the RMP by providing implementation program cost estimate for all possible economic recreational activities.

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 Rust de Winter Dam RMP. It also describes the financial management and operational requirements to implement the Objectives of the RMP

CONCLUSION AND WAYFORWARD

This RMP comprehensively covered *inter alia* the environmental analysis (biophysical, built and and socio-economic environment) of the Dam, RMP data analysis (encumbrance survey, objective identification and research/ information generation) and the integrated resource management planning which consists of the institutional plan, zoning plan, strategic plan and the financial plan.

Key Challenges:
The following key challenges were identified for Rust de Winter Dam:

- Safety and security of people visiting the dam.
- Deterioration of water quality due to upstream pollution.
- Shortage of water for domestic use and irrigation.
- Allegations of high theft risks at the nature reserve.
- Illegal fishing.
- Unauthorised sand mining along the banks of the dam posing siltation build up in the dam.
- Possible contamination from unauthorized sand mining.
- Presence terrestrial and aquatic weeds at the dam.
- Drowning incidents.
- Inadequate Aids to Navigation and demarcation markers.
- Presence of dangerous animals in the dam such as crocodiles and Hippopotamuses.
- Lack of proper camping sites facilities.
- Lack of security and law enforcement.
- The dam is in a remote area far from the local communities.

Recommendations:
This RMP recommends the implementation of the following immediate actions:

- Implement adequate, standardised, harmonised fixed and floating AtoN and demarcation markers.
- Remove all alien invasive plants within the DWS purchased boundary and the surrounding adjacent area. Manual removal is more environmental friendly and can create employment opportunities for local community members.
- Rehabilitate areas infested with invasive alien vegetation with suitable species that are indigenous to the area.
- Conduct a feasibility study to get a comprehensive information on the viability of the project e.g the soil type for its stability in cases ponds are to be constructed, water quality parameters, size to be demarcated for aquaculture, targetted production etc
- Determine the species of fish targetted for the implementation of the small-scale fishery.
- Introduce development structures such as, swimming pools and refurbish the existing facilities at the picnic site.
- Implement skills development programmes where opportunities exist.
- Identify potential IA(s) to assist with the recreational use of the dam on behalf of DWS; and
- Establishment of a Dam Management Committee (DMC) to serve as an advisory committee to the proposed IA.

Way Forward:
Once the RMP and BP are approved by the DWS, it will be published in the Government Gazette as a regulation in terms of Section 26 of the NWA.
Review of RMP:
According to the DWAF (2006), the RMP may be reviewed and updated every five (5) years to

ensure that the management objectives are relevant and that management actions are continually improved. The BP needs to be updated annually. **Figure 16** illustrates the RMP and BP review framework.

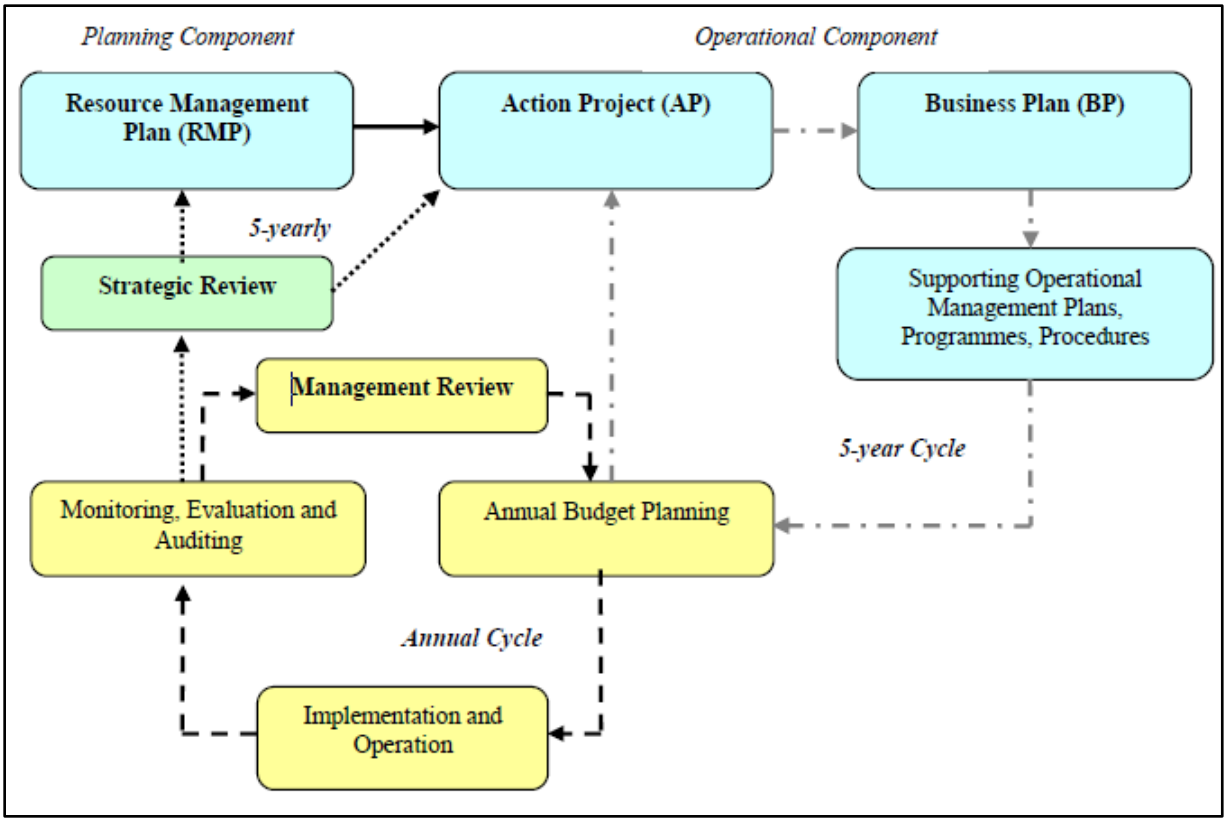

Figure 16: RMP and BP Review Framework

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APPENDICES

APPENDIX A : STAKEHOLDER DATABASE REGISTER

APPENDIX B : NEWSPAPER ADVERT

APPENDIX C : FLYERS

APPENDIX D : EMAILS

APPENDIX E : BACKGROUND INFORMATION DOCUMENT (BID)

APPENDIX F : COMMENTS AND RESPONSES REGISTER

APPENDIX G : BUSINESS PLAN