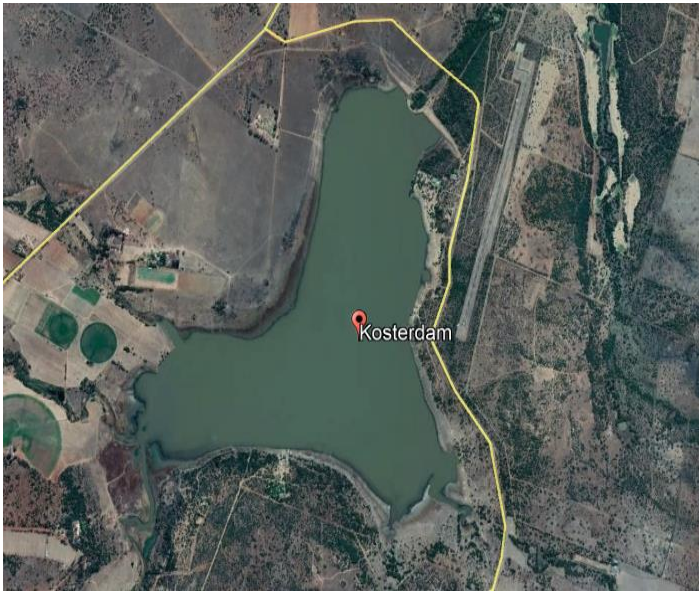


Resource Management Plan

KOSTER DAM

REPORT – Volume 4 of 5

November 2019



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Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA



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- Department of Environmental Affairs: Working for Water;
- Department of Water and Sanitation;
- Kgetlengrivier Local Municipality;
- Surrounding Land Owners;
- Ward Councilor of Ward 6;
- Host community of Koster Dam; and
- Local community members of Ratsegae.

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 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				

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

AMENDMENTS PAGE

Revision No	Description	Date
1	Draft RMP for DWS Review	11/05/2018
2	Draft RMP for public Review	20/08/2018
3	Final Draft RMP for DWS Approval	27/09/2018
4	Final Draft RMP for DWS Approval	27/03/2019
5	RMP for DWS Approval	03/12/2019

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 Koster Dam, herein after referred to as the Dam, which is part of the Infrastructure Build, Operate and Maintenance (IBOM) Northern 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 NWA, mandates the Minister as the custodian of the Nation's water resources to ensure that state dams, including the Koster 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. To assist the Minister in fulfilling this mandate, the DWS initiated and commissioned the development of the RMP for the Koster Dam.

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

Resource Management:

- The water resource located within or outside a protected area whether is subject to protection by legislation;
- Invasive alien species; and

- Water quality issues.

Recreational Industry Involvement:

- Conflict between users due to no management tool in place;
- Public safety with regards to the use of inland vessels; and
- Uncontrolled developments within the 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); and
- 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 Koster Dam has an arch and earth-fill type dam wall which impounds the Koster River. The Dam is located on the demarcation boundary of Ward 6 of the Kgetlengrivier Local Municipality (KRLM). The KRLM falls under the jurisdiction of the Bojanala District Municipality (BDM) in the North West Province of South Africa. The centre point

GPS coordinates are 25°42'46.65"S and 26°53'57.43"E.

Purpose of the Dam: The primary purpose of the Dam is to provide water for Irrigation. It also supports the supply of potable water to Koster and Reagile communities. The secondary use of the Dam offers recreational activities such as angling, picnicking, camping, swimming and boating (water skiing and jet skiing). Recreational facilities at the Dam comprise of a communal Lapa, braai stands, ablution blocks and a swimming pool (within the DWS Purchased Boundary) to cater for camping and day visitors.

Dam Ownership and Management: DWS owns the Dam and surrounding state land. It also operates the Dam for its primary purpose. The secondary use of the Dam is currently managed by the KRDMC. The Waterkloof Resort, situated on the north-western shore, also provides recreational activities and manages access to the Dam. A lease agreement application was submitted to DWAF on 20 March 2014 by the Waterkloof Resort. Through the development of the RMP, an appropriate Dam Management Committee (DMC), shall be appointed by DWS to facilitate the implementation of the objectives and identified action projects in line with the requirements of the Koster Dam RMP. The DMC 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 purposes.

Stakeholder Engagement: The success of the development and implementation of the RMP depends on the cooperation of all stakeholders and planning partners. Authority and public meetings were conducted to obtain inputs (challenges and objectives) regarding the Dam. The communities consulted during the stakeholder engagement meetings are situated within Ward 6 of KRLM. These meetings were

conducted in accordance with the Guideline for Public Participation (DWAF, 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 formulated:

- To eradicate alien invasive plants;
- To maintain high standard of water quality;
- To review access fees to the Koster Dam Nature Resort, that are alleged to be unaffordable and not based on the socio-economic status of the surrounding local communities;
- To promote sustainable subsistence fishing/ small-scale fishing at the Dam;
- To implement organized events through the events application process;
- To promote recreational and tourism related events to be held at the Dam to the surrounding and rural community members to ensure that the recreational use sector at the Dam contributes to transformation and equitable socio-economic benefit, and support entrepreneurship and participation, by the rural community members in the fishing linked tourism service sector;
- Upgrading of recreational boat slipway and wash bay;
- Uplift the local economy through skills training and education; and
- Review and update the institutional structure for recreational activities.

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

"A commitment to develop and utilize the Koster Dam in an equitable manner to maximize its potential".

Tourism Potential: The potential tourist attraction includes:

- Establishment of an information centre in Koster and Swartruggens;

- Upgrading of Koster and Swartruggens Dam Resorts; and
- Upgrading of the Leeufontein Dam for fishing.

The main challenges identified comprise:

- The Dam is infested with alien invasive plants along the river inflow which threatens the ecological function of the area. The alien invasive plants species competes with and replaces indigenous grassland and riverine species;
- It has been alleged by surrounding landowners that raw sewage is released into the river that feeds the Dam, impacting on the water quality of the Dam;
- There is a non-operational wash bay at the Dam. Without a functional wash bay, invasive plants species may spread and re-infest into the Dam;
- Approximately 35% of individuals in Ward 6 do not have any form of education and may not be able to be actively participate in the tourism sector without the necessary skills;
- The access fees to Koster Dam Nature Resort for local communities, are allegedly unaffordable as alleged by the local communities;
- The three (3) existing access points are far from the surrounding communities;
- There is a lack of environmental and tourism awareness for the community;
- The local community is not involved in the management and utilization of the Dam for recreational purpose, hence transformation and equitable socio-economic benefit, and entrepreneurship by the local and rural community is required to support the fishing linked tourism service sector; and
- The region (district and local) has tourism potential, which has not been properly exploited (environmentally or otherwise).

Recommendations:

This RMP recommends the following immediate actions:

- Establishment of a Dam Management Committee (DMC) to serve as an advisory committee to DWS;
- Eradication of alien invasive plants;
- Water quality reporting and monitoring;
- Review of the current access fees to the Koster Dam Nature Resort to ensure that it remains an affordable destination for all;
- Promotion of sustainable subsistence/ small-scale fishing at the Dam;
- Ensuring continuous public safety and security around the Dam;
- Implementation of organized events and other recreational activities;
- Promote recreational and tourism related events to be held at the Dam to the surrounding and rural community members to create job opportunities and/or entrepreneurship in the fishing linked tourism service sector;
- Upgrading of recreational boat slipway and wash bay;
- Upliftment of the local economy to ensure community participation and beneficiation;
- Ensure organised development, equitable visitor access, sound resource management and optimal community beneficiation, as per the proposed Zoning Plan in Section 4.2;
- Ensure public safety with regards to the use of inland vessels, as per the Carrying Capacity in Section 4.2.3; and
- Ensure resource management, resource utilisation and benefit flow management, as per the Strategic Plan and Key Performance Areas in Section 4.3.

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LIST OF ACRONYMS

AtoN	Aids to Navigation
BBBEE	Broad Based Black Economic Empowerment
BDM	Bojanala District Municipality
BID	Background Information Document
BP	Business Plan
CATHSSETA	Culture, Arts, Tourism, Hospitality, Sports Sector, Education and Training Authority
CD: IO MANCO	Chief Directorate: Infrastructure Operations Management Committee
CIWSP	Cooperative Inland Watercourse Safety Programme
CoGTA	Cooperative Governance and Traditional Affairs
DAFF	Department of Forestry and Fisheries
DEA	Department of Environmental Affairs
DHS	Department of Human Settlement
DMC	Dam Management Committee
DoT	Department of Transport
DPW	Department of Public Works
DRDLR	Department of Rural Development and Land Reform
DSR	Department of Sports and Recreation
DWAF	Department of Water Affairs and Forestry
DWS	Department of Water and Sanitation
ECC	Effective Carrying Capacity
FP	Financial Plan
FSL	Full Supply Level
GIAMA	Government Immovable Asset Management Act, 2007 (Act No. 19 of 2007)
GWWs	Government Waterworks
I&APs	Interested and Affected Parties
IA	Implementing Agency
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IBOM	Infrastructure Build, Operate and Maintenance
IDP	Integrated Development Plan
IEE	Integrated Environmental Engineering
IRMP	Integrated Resource Management Planning
KDRMC	Koster Dam/River Management Committee
KPAs	Key Performance Areas
KRLM	Kgetlengrivier Local Municipality
LAAP	Local Accountable AtoN Parties
LED	Local Economic Development
MOA	Memorandum of Agreement
NDT	National Department of Tourism
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEMBA	National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004)
NPSC	National Project Steering Committee
NT	National Treasury
NWA	National Water Act, 1998 (Act No. 36 of 1998)
OMC	Operations Management Committee
PB	Purchased Boundary

PCC	Physical Carrying Capacity
PFMA	Public Finance Management Act, 1999 (Act No. 29 of 1999)
PP	Public Participation
PPP	Public Private Partnership
RCC	Real Carrying Capacity
RMP	Resource Management Plan
SAMSA	South African Maritime Safety Authority
SAPS	South African Police Service
SASCOC	South African Sports Confederations and Olympic Committee
SDF	Spatial Development Framework
SMMEs	Small, Medium and Micro Enterprises
SWOT	Strengths, Weaknesses, Opportunities and Threats
ToR	Terms of Reference
WfW	Working for Water
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 Koster 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 located within or outside a protected area whether is subject to protection by legislation;
- Invasive alien species; and
- Water quality issues.

Recreational Industry Involvement:

- Conflict between users due to no management tool in place;
- Public safety with regards to the use of inland vessels; and
- 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); and
- 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 and its Business Plan (BP) for Koster 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 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 Koster Dam, herein after referred to as the Dam, which is part of the Infrastructure Build, Operate and Maintenance (IBOM) Northern Operations.

This RMP is developed in accordance with the Guidelines for the Compilation of Resource Management Plans (DWAF, 2006) for the Koster 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 Koster Dam has an arch and earth-fill type dam wall which impounds the Koster River. The water surface area of the Dam is approximately

258 hectares with a full capacity of approximately 11.8 million cubic meters. **Table 1** shows the Dam profile.

The Dam is located on the demarcation boundary of Ward 6 of the Kgetlengrivier Local Municipality (KRLM). The KRLM falls under the jurisdiction of the Bojanala District Municipality (BDM) in the North West Province of South Africa, as shown in **Figure 1**. The centre point coordinates are 25°42'46.65"S and 26°53'57.43"E.

1.4 PURPOSE OF THE DAM

The primary purpose of the Dam is to provide water for irrigation. It also supports the supply of potable water to Koster and Reagile communities.

The Dam offers recreational activities (secondary use) such as angling (catch and release), picnicking, camping, swimming, boating (water skiing and jet skiing). Recreational facilities such as the Lapa, braai stands, ablution block and swimming pool also exists within the DWS purchased boundary to cater for camping and day visitors.

1.5 DAM OWNERSHIP AND MANAGEMENT

DWS owns the Dam and surrounding state-owned land. It also operates Dam for its primary use. The RMP focus area is mainly on the Dam, comprising the water surface and the DWS Purchased Boundary.

The recreational activities and facilities within the DWS purchased boundary are managed by the Koster Dam River Management Committee (KDRMC). The KDRMC is responsible for a coordinated management of the access (through the Koster Dam Nature Resort) and use of the Dam as well the surrounding landowners' activities.

The Waterkloof Resort, situated on the north-western shore, also provides recreational activities and manages access to the Dam. A lease agreement application was submitted to DWAF on 20 March 2014 by the Waterkloof Resort.

Through the development of the RMP process, an appropriate Dam Management Committee (DMC), shall be appointed by DWS to facilitate the implementation of the objectives and identified action projects in line with the requirements of the Koster Dam RMP on behalf of DWS.

Table 1: Koster Dam Profile

Koster Dam Profile	
Location	South Africa
Province	North West
District Municipality	Bojanala
Local Municipalities	Kgetlengrivier
Nearest Town	Koster
Completion Year	1964
GPS Coordinates	25°42'46.65"S 26°53'57.43"E
Purpose	Irrigation
Owner	DWS
Quaternary Catchment	A22B
Water Management Area	Limpopo
River	Koster River
Capacity (Mm ³)	11.8
Surface area (ha)	258
Wall type	Arch and Earthfill
Wall Height (m)	26
Crest (m)	846

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

KOSTER DAM RESOURCE MANAGEMENT PLAN

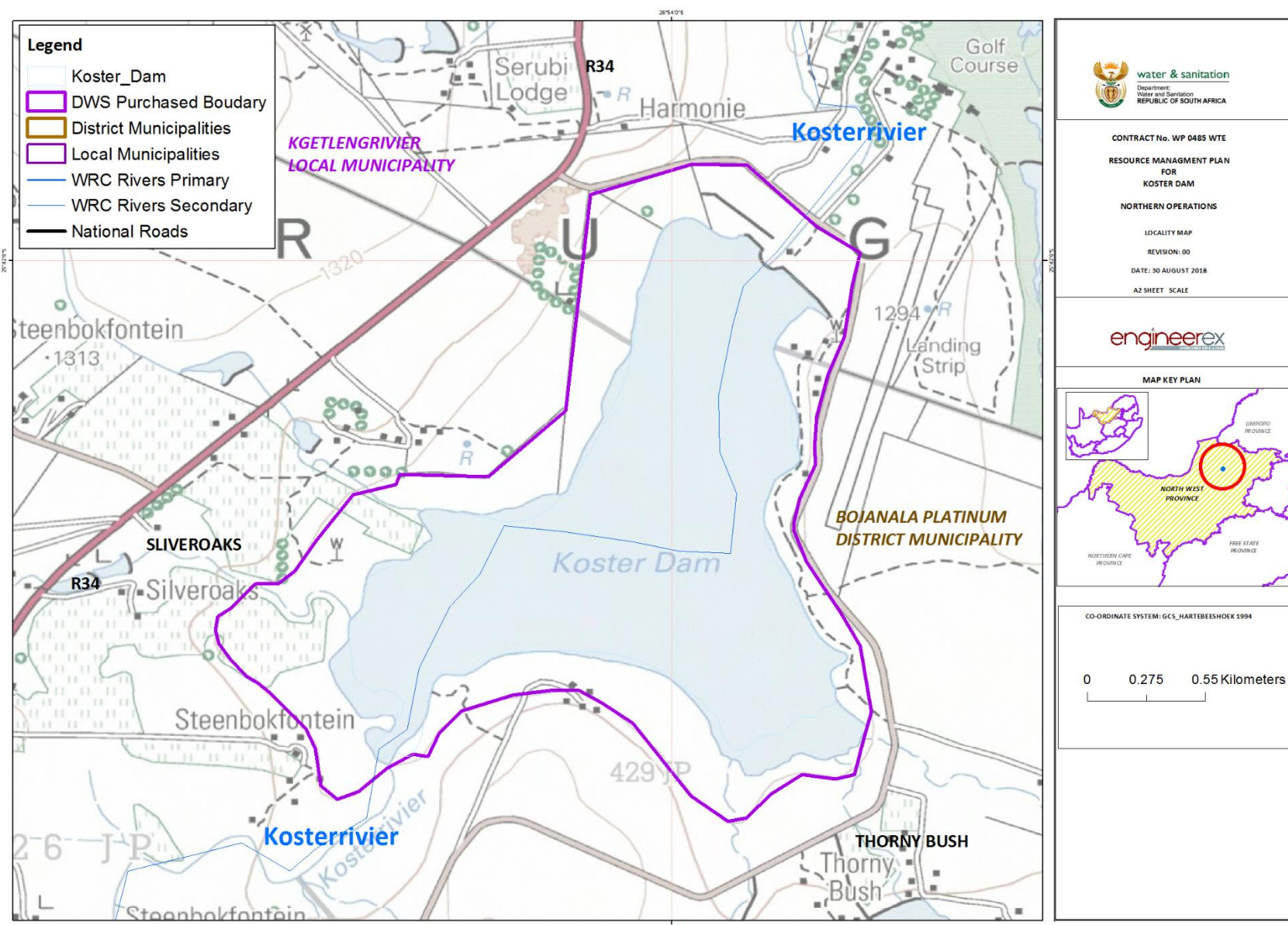


Figure 1: Locality Map for Koster Dam

1.6 LEGISLATIVE FRAMEWORK

The table below list the key data sources used to develop the RMP.

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

Policy and 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.
1st Draft National Inland Fisheries Policy Framework for South Africa. Department of Agriculture, Forestry and Fisheries (2018)	The Policy seeks to create an efficient regulatory regime for the inland fisheries sector in order to create an enabling environment to promote sustainable growth and transformation of the sector.

The legislative framework applicable to the management and use of the Dam for recreational purposes is summarised in the table below.

KOSTER DAM RESOURCE MANAGEMENT PLAN

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

Legislation: Acts, ordinances, bylaws	
Constitution	Relevance:
Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996), Environmental Rights (Section 24)	<p>Section 24 - Everyone has the right:</p> <ol style="list-style-type: none"> 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- <ol style="list-style-type: none"> 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]	<p>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.</p> <p>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.</p>
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]	<p>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.</p> <p>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.</p>
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.

KOSTER DAM RESOURCE MANAGEMENT PLAN

Legislation: Acts, ordinances, bylaws	
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]	<p>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.</p> <p>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.</p>
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 in a way 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 <i>inter alia</i> 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

KOSTER DAM RESOURCE MANAGEMENT PLAN

Legislation: Acts, ordinances, bylaws	
	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 Act 181 of 1993 G. 15369 GoN 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 <i>inter alia</i> 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.
Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996), Environmental Rights (Section 24)	<p>Section 24 - Everyone has the right:</p> <ol style="list-style-type: none"> 3. to an environment that is not harmful to their health or wellbeing, 4. to have an environment protected for the benefit of present and future generations, through reasonable legislative and other measures that- <ol style="list-style-type: none"> c. prevent pollution and ecological degradation <p>promote conservation and secure ecologically sustainable development and use natural resources while promoting justifiable economic and social development.</p>
Municipal Policy, By-Laws, Reports & Guidelines	Significance to the RMP:
Kgetlengrivier Local Municipality Final IDP (2013 – 2017)	Municipal planning approach that involves the entire municipality and its citizens in finding the best solutions to achieve good long-term development and promote tourism.

CHAPTER 2: ENVIRONMENTAL ANALYSIS

2.1 BIOPHYSICAL ENVIRONMENT

2.1.1 Climate

According to Climate-Data. ORG (2018), the area where Koster Dam is located experiences good rainfall in summer. The driest month of the year is June, July and August with an average rainfall of about 8 mm. The average rainfall during the

summer months (December – April) is 134 mm. The average annual temperature for the area is 11.8°C. Mean monthly maximum and minimum temperatures for the area is 35.2°C and –0.4°C for January and June, respectively.

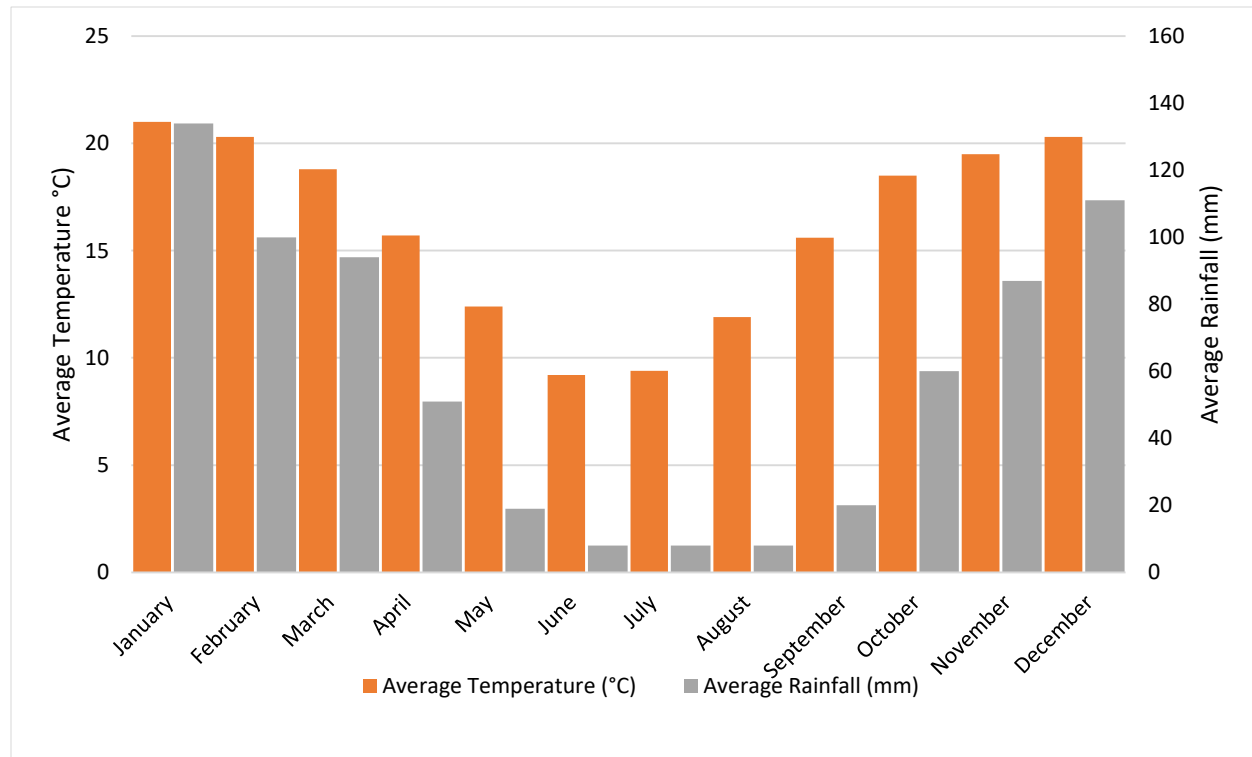


Figure 2: Average Temperature and Rainfall of the Koster area

Source: Adapted from Climate Data. ORG, 2018

2.1.2 Topography

The Dam is situated within an area categorized by undulating hills (Mucina and Rutherford, 2006).

2.1.3 Geology and Soil

The geology and soils of the area is characterised by Shales, Quartzites and Andesites of the Pretoria Group (Transvaal Supergroup), with stony shallow soils of the Glenrosa and Mispah (Mucina and Rutherford, 2006).

2.1.4 Hydrology

Surface Water

The Dam lies within the quaternary catchment A22B which forms part of Limpopo Water Management Agency (WMA). The Dam impounds the Koster River which is categorized as a National Freshwater Ecosystems Priority Area (NFEPA) in terms of the North West Biodiversity Sector Plan (2015). The Present Ecological State (PES, 1999) of Koster River is categorised as Class C: Moderately Modified.

Water Quality

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

Owing to the absence of TWQR test samples (not only pH), it is inconclusive if the water is fit for recreational use. DWS should conduct regular water quality tests in terms of the acceptable TWQR 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 Protected Areas

There are no formal land based protected areas within the vicinity of the Dam. The nearest

Table 4: Land-use guidelines for each CBA Map category

CBA Map category	Description	Desired state	Examples of Compatible Land Uses
Critical Biodiversity Area 2	Areas that are the best option for meeting biodiversity targets, in the smallest area, while avoiding conflict with other land uses.	Maintain in natural or near natural ecological condition.	<ul style="list-style-type: none"> Open space Low impact ecotourism or recreation
Ecological Support Area 1	Areas that support the ecological functioning of protected areas or CBAs, or provide important ecological infrastructure.	No further intensification of land Use.	<ul style="list-style-type: none"> Intensive agriculture

partially protected area is the Magaliesberg Important Bird Area, located approximately 20 km west of the Dam (SANBI, 2015).

2.1.6 Critical Biodiversity Areas

Based on North West Biodiversity Sector Plan (2015), land adjoining the Dam on the west side is classified as Critical Biodiversity Areas (CBA) and land on the eastern side is classified as Ecological Support Area (ESA).

Table 4 and **Figure 3** should inform:

- Environmental Impact Assessments and environmental authorisations;
- Land development applications
- Mining, water and agricultural authorisations; and
- Biodiversity offsets.

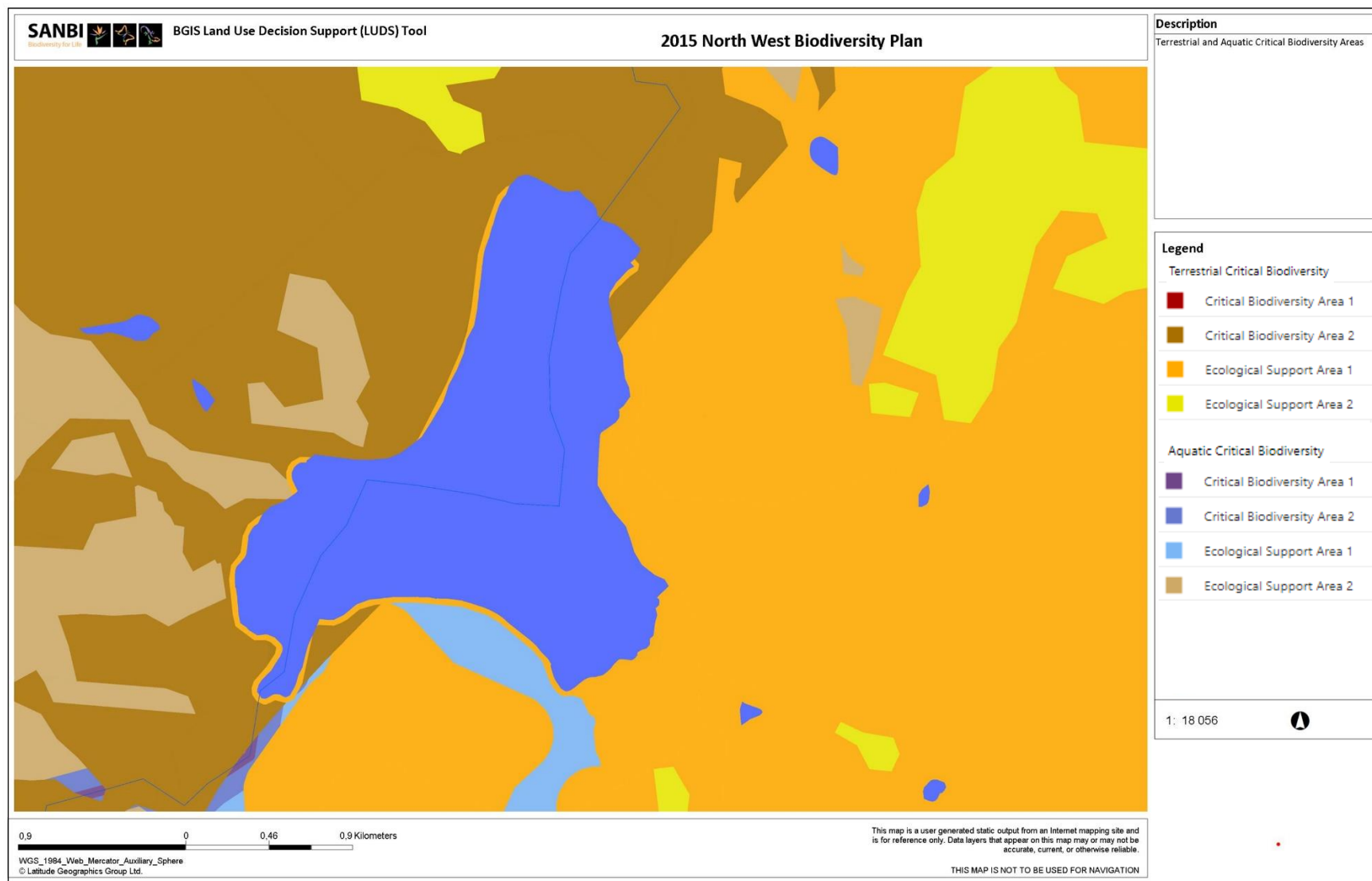


Figure 3: North West Biodiversity Plan, 2015

Source: SANBI BGIS Map Viewer

2.1.7 Flora

The Dam is situated in Dwarsberg in Swartruggens Mountain Bushveld and Moot Plains Bushveld vegetation. The vegetation type comprises trees and shrubs with a dense grass layer and often a thorny savanna dominated by various species of *Acacia* and woodlands respectively (Mucina and Rutherford, 2006). **Figure 4 – 5** depicts the vegetation types around the Dam.



Figure 4: Vegetation around the Dam

Alien invasive plants species are present along the Koster River inflow which threatens the ecological integrity and function of the ecosystem. Alien invasive plants species compete with and replaces indigenous grassland and riverine species.



Figure 5: Alien Invasive Plants around the Dam

2.1.8 Fauna

There is a wide variety of fish in the Dam that includes, Carp, Barber, Kurper, Bass and Yellow

Fish. Angling at the Dam is strictly on a catch and release basis.

2.2 BUILT ENVIRONMENT

The aspects investigated are presented under the following sub-headings:

- Roads and land-based transportation;
- Non land-based transportation;
- Bulk services;
- On-site facilities;
- Fencing;
- Management and operation;
- Safety;
- Legal; and
- Zoning Plan.

2.2.1 Roads and Land-Based Transportation

Surrounding Roads: The Dam is accessible *via* provincial road R34 from Koster Town.

Internal Road and Circulation: There are several unnamed internal gravel roads that lead to the recreation areas comprising a Lapa, swimming pool, wash bay structure, slipway, camping areas, kiosk, ablution and braai facilities.

Parking: There is demarcated undeveloped space for parking.

Access Points: There are currently three (3) existing access points to the Dam (refer to **Figure 21** for the proposed Zoning Plan). The Dam has two public access points *via* the Waterkloof Resort proceeding to Koster Dam Angling and the Koster Dam Nature Resort.

2.2.2 On-site facilities

The existing facilities at the Dam includes:

- Tourism/ Recreational Facilities:
 - Ablution blocks;
 - Camping and braai stands;
 - Kiosk;
 - Lapa;
 - Swimming pool;
 - Three (3) existing slipways; and
 - Wash bay structure.



Figure 6: Camping Stands



Figure 7: Existing Slipway



Figure 8: Lapa



Figure 9: Swimming Pool

Wash Bay: An existing wash bay is located near the recreational area (within the DWS purchased boundary), however, no equipment is fitted for operationalisation of the wash bay.



Figure 10: Existing wash bay (no equipment fitted)

2.2.3 Fencing

The Dam is located within the Koster Dam Nature Resort which is in a controlled and secure environment. This ensures improved access control and security for day visitors and campers.

2.2.4 Management and Operation

The management and primary operation of the Dam is done by the DWS.. The recreational use of the Dam is currently managed by the KDRMC. The KDRMC is responsible for a coordinated management of the access (through the Koster Dam Nature Resort) and the use of the Dam as well the surrounding landowners' activities.

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.

2.2.6 Legal

A lease agreement application (dated 20 March 2014) was submitted to DWS by the Waterkloof Resort for the leasing of property A5 of the Farm Waterkloof No.423-JP and Waterkloof No.420-JP which is located on the shoreline north-west of the Dam wall, within the DWS Purchased Boundary. The Waterkloof Resort also manages access to the Dam and the recreational use on

the latter mentioned farm portions. The existing lease agreement has a community involvement and job creation plan in place.

2.2.7 Zoning Plan

The Zoning Plan for Koster Dam has been updated taking into account the current recreational activities, facilities and identified objectives.

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 focuses on the socio-economic conditions of Ward 6 of KRLM.

The socio-economic conditions, according to Stats SA Community Survey (2016), are summarised in the sub-sections as follows:

- Population size;
- Education level;
- Employment status;
- Monthly income; and
- Community beneficiation.

Population Size

According KRLM (2012 – 2017), the KRLM has a total population of 37 806. The area is predominantly populated by Africans who constitute 81% of the population at 32 423 and whites that constitute 16% and the remaining percentage of the population is Asian.

Education Level

Thirty percent (30%) of residents have received education up to secondary level, and only 12% of the population has attained higher education.

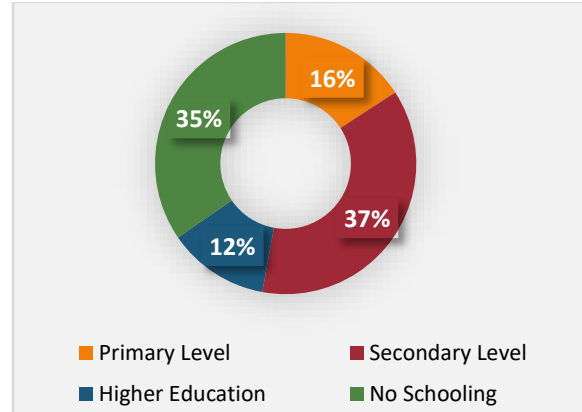


Figure 11: Education Level of Ward 6

Source: Stats SA Community Survey (2016)

Employment Status

Sixty-five (65%) of the residents are employed, 9% are unemployed. The residents not actively contributing to the economy accounts to 24% of which 2% are discouraged work-seekers, suggesting that they no longer seek to become employed.

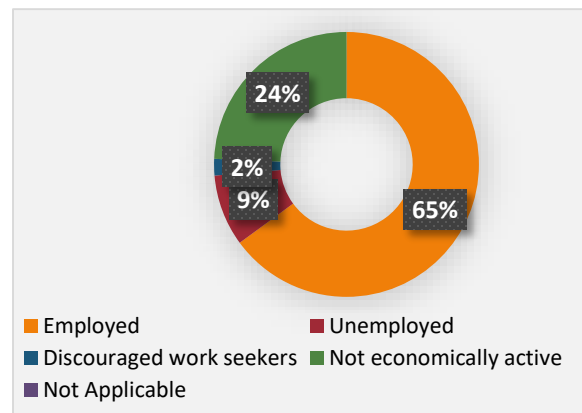


Figure 12: Employment Status

Source: Stats SA Community Survey (2016)

Monthly Income

Ward 6 has 3 259 individuals without a source of income representing 8.6% of the KRLM population (refer to **Figure 13**). Rigorous and integrated efforts are required by municipalities to create work opportunities and sustainable livelihoods for the people.

The Local Economic Development and Social Development unit within KRLM primary focus is

to improve the business (formal and informal) and tourism sector.

The implementation of the RMP can contribute to the growth of the Dam's economic sector, and this can be in the form of fishing, finance, business services, catering and accommodation, transport and communication.

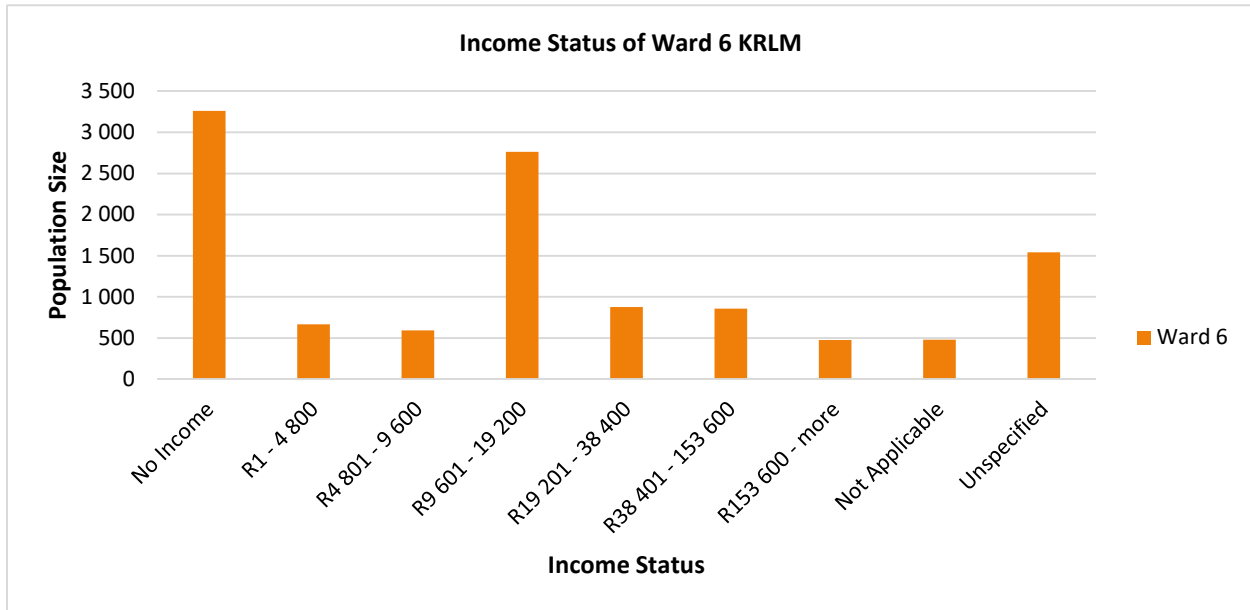


Figure 13: Income Status of Ward 6
Source: Stats SA Community Survey (2016)

2.3.1 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 use.

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.

In terms of recreational angling, this sector has a substantial participation rate and a significant economic impact through the tourism sector and angling supply value chains. It is therefore important that recreational anglers are recognised as important stakeholders in South

African inland fisheries and that their interests are recognised in future fisheries development initiatives.

The value chain associated with the recreational fishing sector has the potential to support rural food security through decent jobs, entrepreneurship and participation in the fishing linked tourism service sector.

In addition to the above, subsistence fishing is widely practiced by rural community members to sustain their livelihoods. Appropriate policies to promote greater participation by rural community members in the recreational angling value chain have the potential to create opportunities such as decent jobs and food security in rural areas. In terms of the 1ST Draft

of the National Inland Fisheries Policy Framework for South Africa. Department of Agriculture, Forestry and Fisheries (2018), more can be done to ensure that this economic sector contributes to transformation and equitable socio-economic benefit from inland fish resources

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: RESORCE 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 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 in line with the process triggers and potential challenges presented in **Table 5**.

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 5: Summary of triggers and potential challenges for Koster Dam

Trigger(s)	Potential Challenges
Resource Management	<ul style="list-style-type: none"> Allegations to proclaim the Koster Dam into a formal protected area. Sewage flowing into the Koster Dam that negatively affects the water quality of the dam.
Resource Utilization	<ul style="list-style-type: none"> There is an existing wash bay structure, however it is has no equipment fitted and is not yet operational. The non-operation of the wash bay will lead to re-infestation/ spreading of alien invasive plant in the dam.
Community participation and beneficiation	<ul style="list-style-type: none"> Allegations that local communities are currently not involved in the management of recreational opportunities and activities taking place at the Dam.
Public Policy	<ul style="list-style-type: none"> Koster Dam should be identified for development opportunities of recreational and tourism node in the Integrated Development Plans (IDPs) for Kgetlengrivier Local Municipality and Bojanala District Municipality.

3.4 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 14**.

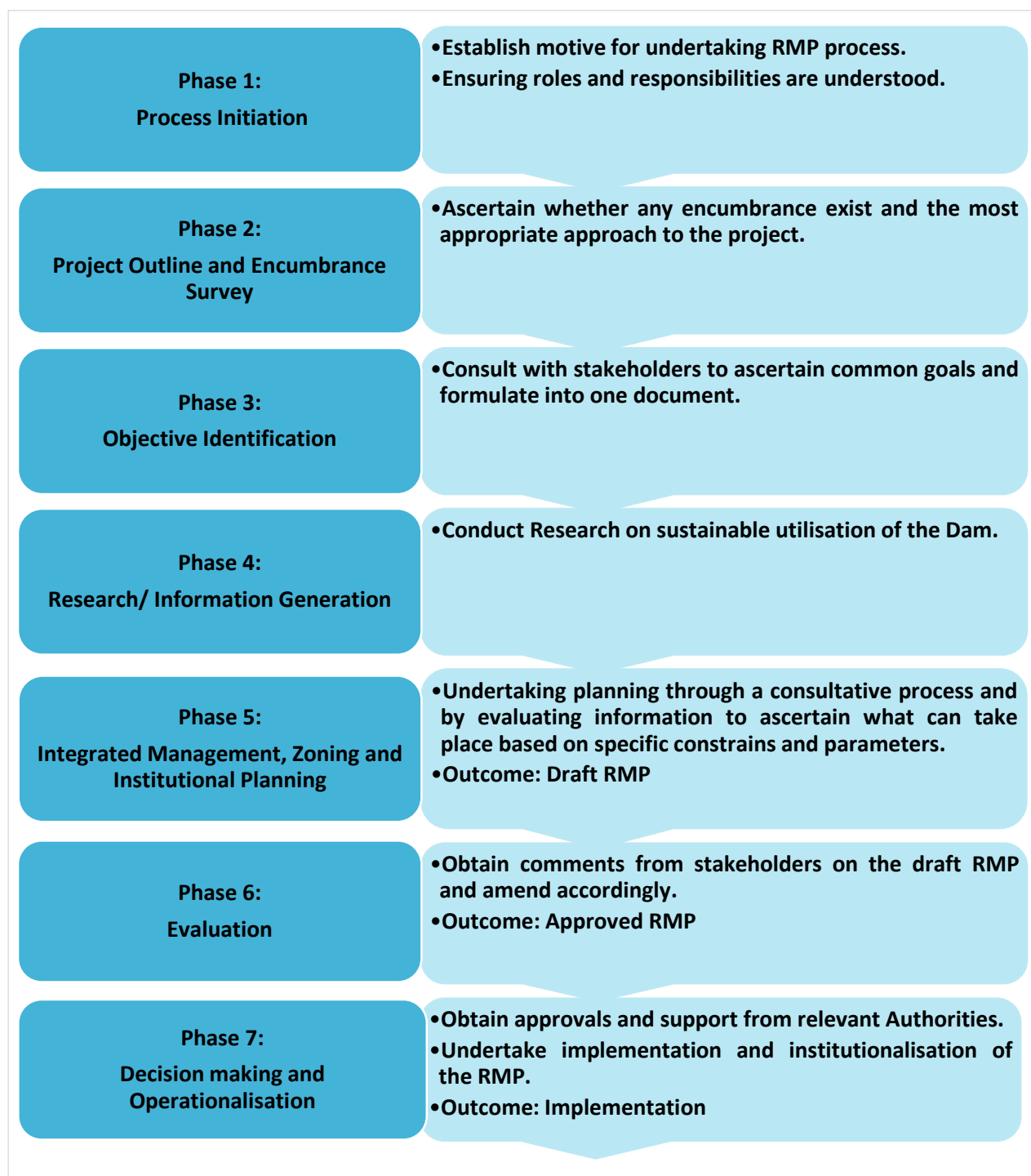


Figure 14: RMP Procedure

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, policies and guidelines, local and district municipal plans, biodiversity sector plans and integrated water information systems.

3.4.2 Site Inspection

A site inspection was conducted with the DWS officials (DWS IEE and Dam Control Officer) on **9 May 2014**. During the site inspection the following were observed: Camping and fishing (strictly catch and release); wash bay structure (no equipment); kiosk, recreational facilities such as braai stands, camping sites with power points, waste bins, swimming pool and Lapa. Additional background information was collated from consultation with different stakeholders. Potential I&APs were identified during the site inspection through liaison with the Dam Control Officer.

3.4.3 Public Participation

The Public Participation Process (PPP) is a process in which potential Interested and Affected Parties (I&APs) 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&APs.

The PPP 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&APs that 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 I&APs.

The following advertising methods were used:

- **Newspaper Advert:** Initial public meetings were advertised on Platinum Weekly Newspaper in English on 24 November 2017. For the draft RMP presentation the public meetings were advertised on **17 August 2018**. (refer to **Appendix B**).
- **Flyers and Onsite Notices:** The Flyers and Onsite Notices were compiled in English and Setswana and were distributed on 24 November 2017. For the draft RMP presentation, flyers were distributed on 20 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 24 November 2017, notifying them about the scheduled consultative meetings. The meeting invitations for the draft RMP presentation were sent on 21 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 05 December 2017 at the KRLM 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 meetings were held on 05 and 06 December 2017 at Koster Lapa and Ratsagae Community Hall. The Draft RMP was presented on 05 and 06 September 2018 at Koster Lapa and Ratsagae Community Hall. The follow up public meeting was held on 20 September 2018.
- **Comment and Responses Register:** A copy of the draft RMP report was circulated on 21 August 2018 for commenting. The initial commenting period lapsed on 06 September 2018. On the day of the meeting, the commenting period was extended to 12 September 2018. The comments received were documented in the Comments and Responses Register (refer to **Appendix F**).

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.

3.4.4 Planning Partners

As an integrated planning procedure, the RMP Process addresses both the institutional structure required to effectively manage the water resource, as well as the site planning parameters (environment, community and visitor) resulting in a management plan specific to the Dam. Both the proposal regarding the institutional structure and the management plan are consolidated into the RMP, which will serve as guide for the development and management of the water resource for recreational use.

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

KOSTER DAM RESOURCE MANAGEMENT PLAN

Table 6: Planning Partners for Koster Dam RMP

Department	Functions / Objectives
Kgetlengrivier Local Municipality (KRLM)	The Dam is within the jurisdiction of the KRLM.
Bojanala District Municipality (BDM)	KRLM is within the jurisdiction of the BDM.
Department of Agriculture, Forestry and Fisheries (DAFF)	<p>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.</p> <p>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.</p>
Department of Environmental Affairs (DEA)	<p>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.</p> <p>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.</p>
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), which is mandated to: to ensure safety of life and property at sea; to prevent and combat pollution from ships in the marine environment; and to promote the Republic's maritime interests.
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.
Cooperative Inland Watercourse Safety Programme (CIWSP)	The CIWSP is the programme under DWS and 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 watercourse and to implement responsible water use within the broader socio-economic context of the country.

KOSTER DAM RESOURCE MANAGEMENT PLAN

Department	Functions / Objectives
	The CIWSP 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 Corporate Governance and Traditional Affairs (CoGTA)	Its function is to develop national policies and legislation regarding 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 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. Hosting of recreational events must comply with the Safety at Sports and Recreational Events Act, 2010 (Act No. 2 of 2010).
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 **Socio-cultural**.

Table 7 summarises the identified biophysical and social-economic encumbrances/ limitations, respectively that might affect the development or implementation of the RMP for the Dam.

Table 7: Summary of Biophysical and Socio-cultural Encumbrances

Item	Description
Flora	<ul style="list-style-type: none"> • Presence of alien invasive plant species along the inflow river threatens the ecological function of the area. The alien invasive plants species competes with and replaces indigenous grassland and riverine species. • The non-operation of the wash bay will lead to re-infestation and spreading of alien invasive plants species in the Dam.
Hydrology	<ul style="list-style-type: none"> • Many species of alien invasive plants species especially trees and shrubs, have higher evaporation rates than indigenous species and therefore, use more water than the vegetation they replace. The increased evaporation results in reductions of river flows and reduced groundwater reserves. • It has been alleged by surrounding landowners that raw sewage is released into the river that feeds the Dam, impacting on the water quality of the Dam.
Socio-cultural	<ul style="list-style-type: none"> • Approximately 1536 individuals in Ward 6, equivalent to 35% of the population in Ward 6 does not have any form of education and may not be able to be active participants in the tourism sector. • The majority of the community members are living below the poverty line, representing a standard of living attained by a person to be deemed poor. • The access fees at Koster Dam Nature Resort for local communities, which is owned by DWS, are unaffordable as alleged by the local communities.

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 were identified through

Weaknesses and **Threats**. Refer to **Table 8** for the SWOT analysis.

Table 8: SWOT Analysis for Koster Dam

Strengths	Weaknesses
<ul style="list-style-type: none"> Existing RMP which was developed by KDRMC. Boating and fishing activities. Access control. Management structure in place. Well maintained facilities such as swimming pools, braai stands, picnic and camping areas, and ablution facilities. Existing formal agreements between DWS and current Dam management. Community beneficiation for farm workers. Existing Dam rules and enforcement. 	<ul style="list-style-type: none"> Exclusive Dam use and beneficiation. Authorised access point is far from the local communities. Communication of Dam matters between DWS and stakeholders is poor.
Opportunities	Threats
<ul style="list-style-type: none"> Cultural and art exhibition opportunities. Introduction of other water sports. Refurbishment of wash bay to be operational. Job creation through eradication of alien invasive plants, small-scale fishery and tourism. SAPS water-wing should be activated at the Dam. Small scale fisheries and fish farming through Operation Phakisa initiative. 	<ul style="list-style-type: none"> Effluent discharged into the inflow river feeding the Dam. Alien invasive plants upstream that consume large volumes of water. Drought.

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, and is discussed in the paragraphs to follow.

Objective Identification (Phase 3)

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

KPA 1: Resource Management

- To eradicate alien invasive plants at Koster Dam; and
- To maintain a good water quality for recreational use as well as to ensure a healthy environment.

KPA 2: Resource Utilization

- To promote sustainable commercial and subsistence fishing at the Dam;
- To ensure continuous public safety and security around the Dam; and

- To manage organized events in a manner that does not impact the Dam.

KPA 3: Benefit Flow Management

- Uplift the local economy and increase benefit flows to the surrounding communities through community empowerment; and
- To review and update the existing management structure to include other surrounding stakeholders in the management and use of water for recreational activities.

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

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

“A commitment to develop and utilize the Koster Dam in an equitable manner to maximize its potential”.

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 KRLM (2012-17), the Municipal priorities and objectives under Tourism Development as follow:

- Establishment of information centres in Koster and Swartruggens; and
- Upgrading of Koster and Swartruggens Dam Resorts.

Waterkloof Resort:

Waterkloof Resort is a privately-owned resort situated next to the Koster Dam (outside the DWS Purchased Boundary) and is ideal for family holidays, functions or events. Waterkloof Resort has 20 stands on the western shore and 10 amongst the trees on the northern side which at most could accommodate 30 parties (30 parties with a family of four (4)). Therefore, approximately 120 persons could be accommodated at the Resort. The Waterkloof Resort has newly build ablution facilities, volleyball court, two sparkling swimming pools and a large playground for children. A Shop with all the necessities is available in the perimeter.

The Waterkloof Resort proposed improvements on the Western embankment such as:

- Repairing and reconstruct proper toilet facilities;
- Repair and reinstate the drinking water piping and associated taps;
- Repair damages caused by erosion on the northern side of the lease area; and
- Erect a fence to prevent public access to private land.

The ERA Trust further has Community Involvement Plan where:

- Bi-Annual invitation are sent out for scholars to get acquainted with nature at the lease area and invite subject

matter experts (Alien species, indigenous trees and aquatic species) to address the scholars;

- Bi-Annual invitation for elderly to come with family and friends to Waterkloof Resort to enjoy the nature at the lease area; and
- Annual family day from local communities together with their parents for a fun day and to enjoy the outdoors.

There is also a job creation plan where there are job opportunities at the lease area for local community members to assist with clean-up operations, removal and control of alien species, planting indigenous species and maintenance of the amenities.

Koster Dam Angling:

Koster Dam Angling is situated opposite to Waterkloof Resort on the eastern side. Caravans and tents can be pitched close to the water surface. Ablution blocks and drinking water are available. Koster Dam also provides a shop/ kiosk.

Koster Dam Nature Resort:

Koster Dam nature resort is situated about 55km from Rustenburg, North West Province surrounded by a community of farmers who are passionate about farming and nature conservation. The resort is more of a nature resort than a holiday resort where you can enjoy the peace and quiet of the bush and where the call of the Fish Eagle can be heard from time to time. Koster Dam Nature Resort welcomes nature lovers, anglers and motorboat enthusiast.

The KDRCM was established in 2009 that currently manages the access and recreational use of the Dam. An opportunity was given to KDRMC by DWS to develop an interim RMP so that activities like boating and water skiing may commence as of 01 December 2009 for holidays and long weekends, as the Dam is one of the few recreational resources near the town of Koster.

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, although 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 15** shows the plans and their components.

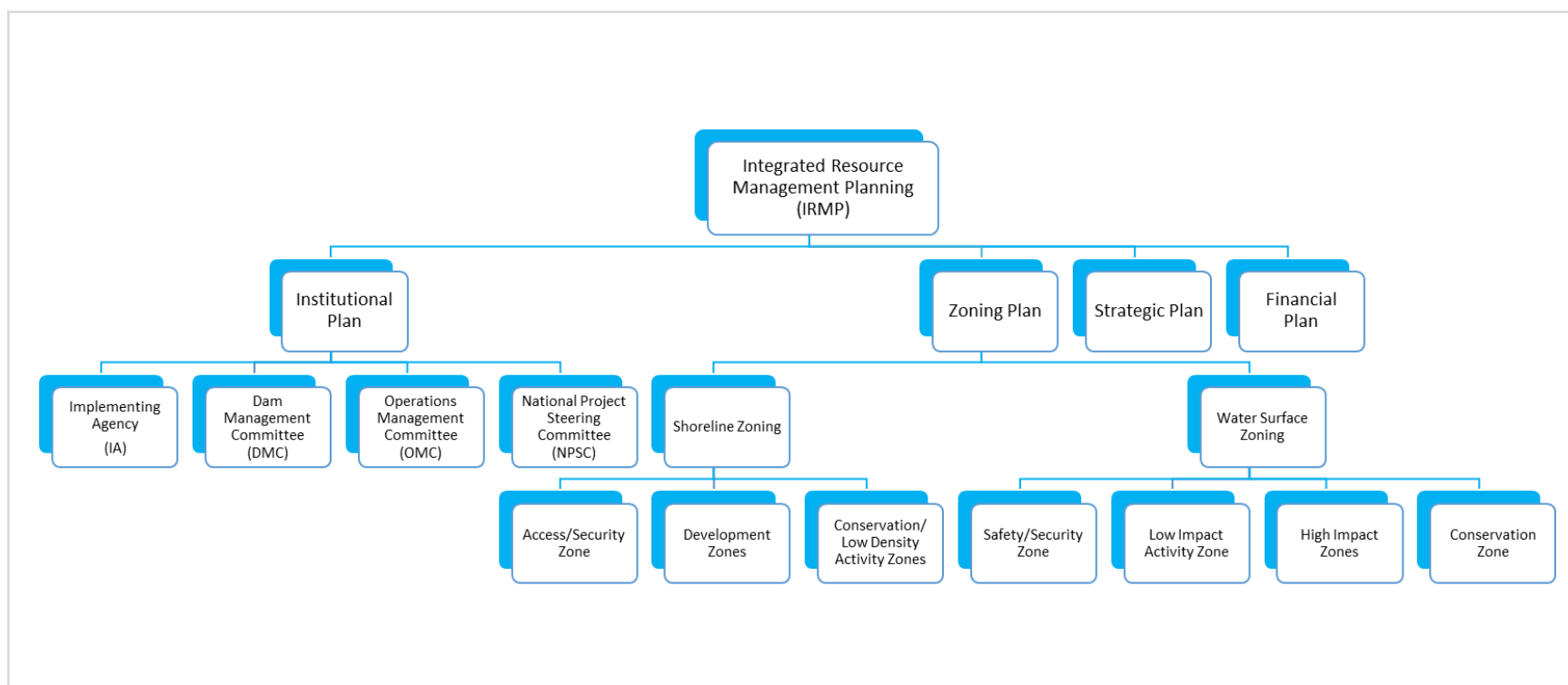


Figure 15: Integrated Resource Management Planning

4.1 INSTITUTIONAL PLAN

The Institutional Plan provides a framework for the institutional arrangements at the Dam. The proposed management systems include four (4) committees namely:

- Implementing Agency (IA);
- Dam Management Committee (DMC);
- Operations Management Committee (OMC); and
- National Project Steering Committee (NPSC).

The management authorities appointed by the DWS 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 programmes or action projects identified in the RMP. 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 recreational and tourism related activities;

- Management of agreements entered between DWS and third parties;
- Management of incident management system and wash bays;
- 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;
- Assist in conveying the management objectives and decisions pertaining to the Dam to the relevant stakeholders; and
- Assist in the management of the incident management system and wash bays.

Figure 16 shows the proposed parties to form part of the DMC for Koster Dam.



Figure 16: 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 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.

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

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 authorised. 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 Cooperative 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.

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

Recreational Use Agreements:

Recreational clubs must enter into an agreement with DWS. The DMC will manage the agreement as it would be responsible for the surface water and shoreline management of the Dam. All recreational use at the Dam must be through an appropriate Legal Framework. All agreements must be approved in writing by DWS. Recreational Use Agreements must be developed in line with the conditions stipulated in the agreement between DWS and the DMC. All agreements must be finalised within twelve (12) months of the RMP being approved.

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.

4.1.4 Operations Management Committee (OMC)

There is an existing Chief Directorate: Infrastructure Operations Management Committee (CD: IO MANCO) within the DWS IBOM which comprises of directors of the IBOM's four (4) operations (Northern, Southern, Eastern and Central) and is chaired by the Chief Director: Infrastructure Operations within the IBOM as illustrated in **Figure 17**.

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 17: Existing CD: IO MANCO

4.1.5 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 18** shows government departments (also referred to as planning partners and/ or authorities) and agencies that will form part of the NPSC



Figure 18: Proposed NSPC

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. This RMP and/ or zonation plan does not legitimise nor does it authorise any existing built structures, infrastructure or services within the Government Water Work (in both the water surface and shoreline).

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 zonation map is a desktop exercise and must not be used for navigational purposes. DWS and SAMSA will update the zoning map to be used for navigational purposes. 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 habitats at the inlet(s) of the Dam. Access to these areas are 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
- These areas are used by aquatic birds, amphibians 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, aquaculture³ 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 9 and **Figure 19** shows the proposed water surface zoning for Koster Dam.

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

KOSTER DAM RESOURCE MANAGEMENT PLAN

Table 9: Proposed Water Surface Zoning Description

Zone Description	Permissible Activities	Non-Permissible Activities	Recommendation
<ul style="list-style-type: none"> Safety and Security Zone. 	<ul style="list-style-type: none"> Alien invasive species clearing Management of Dam infrastructure Management and maintenance activities by DWS and authorised personnel 	<ul style="list-style-type: none"> Public access 	<ul style="list-style-type: none"> Area should be demarcated by demarcation makers and AtoN.
<ul style="list-style-type: none"> Conservation Zone. 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Public activities (to prevent disturbance of aquatic habitats disturbance) 	<ul style="list-style-type: none"> Area should be demarcated by demarcation makers and AtoN. Strict management and control of these areas.
<ul style="list-style-type: none"> Low Impact Activity Zone. 	<ul style="list-style-type: none"> Angling Rowing Canoeing Kayaking Paddling boat Float tubes Swimming Floating Jetty 	<ul style="list-style-type: none"> Motorised boating Water skiing House boats Para-sailing Kite-surfing Jet Skis Wind surfing Kite surfing Aquaculture 	<ul style="list-style-type: none"> Area should be demarcated by demarcation markers 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.
<ul style="list-style-type: none"> High Impact Activity Zone. 	<ul style="list-style-type: none"> Aquaculture facilities⁴ Motorised boating Water Skiing Para-sailing Kite-surfing Jet ski 	<ul style="list-style-type: none"> Angling Rowing Canoeing Kayaking Paddling boat Float tubes Swimming Floating Jetty 	<ul style="list-style-type: none"> 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.

⁴ The final location of the aquaculture will be subjected to a feasibility study.

KOSTER DAM RESOURCE MANAGEMENT PLAN

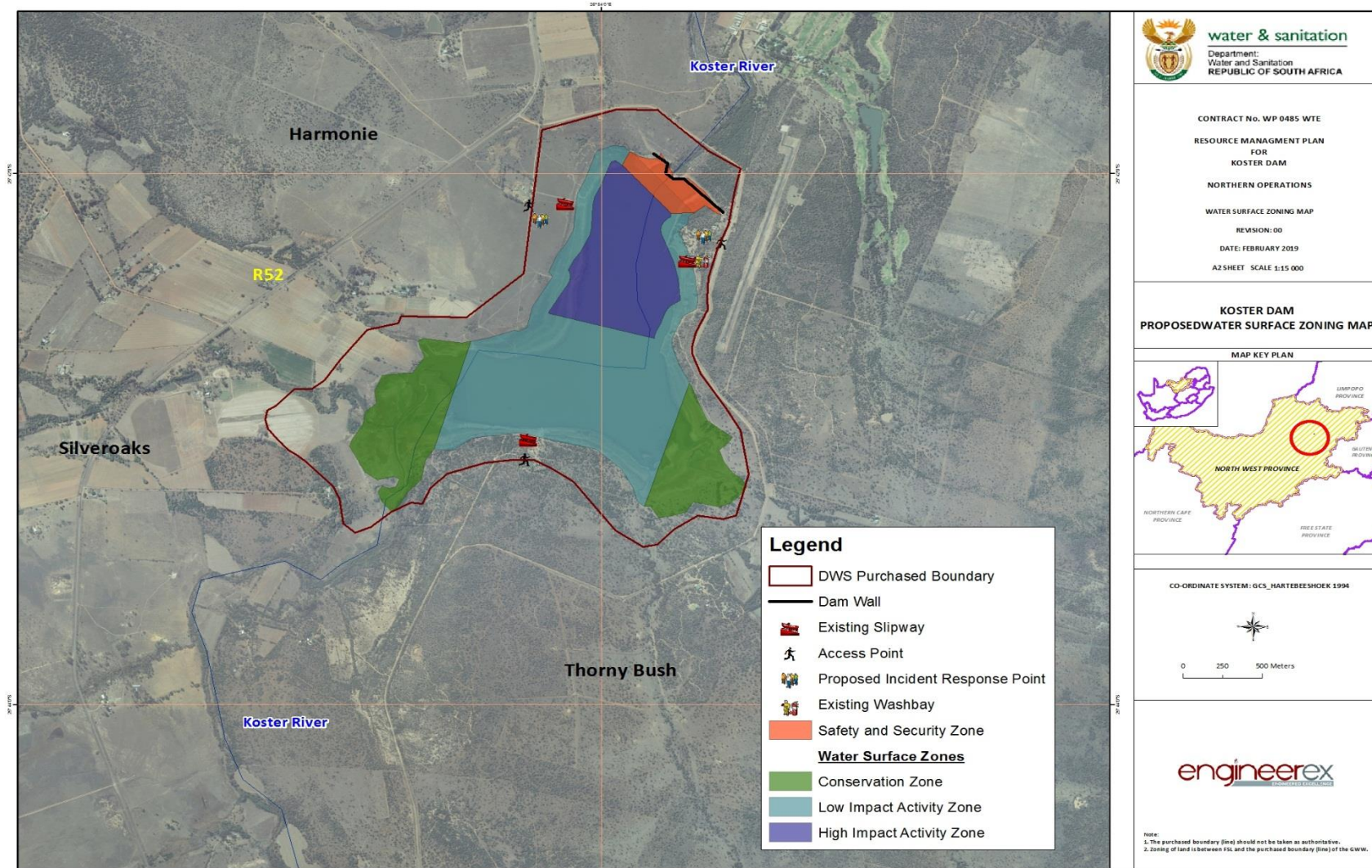


Figure 19: Proposed Water Surface Zoning Map

4.2.2 Shoreline Zoning⁵

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 10 and **Figure 20** and **Figure 21** shows the proposed shoreline and overall zoning for Koster Dam.

⁵ Permanent structures within the purchased boundary are not allowed. All developments should be outside 1:100-year flood line.

KOSTER DAM RESOURCE MANAGEMENT PLAN

Table 10: Proposed Shoreline Zoning Description

Zone Description	Permissible activities	Non-Permissible Activities	Recommendation
<ul style="list-style-type: none"> Safety and Security Zone. 	<ul style="list-style-type: none"> Fire management Alien invasive species clearing Management of Dam infrastructure Management and maintenance activities by DWS and authorised personnel 	<ul style="list-style-type: none"> Public access 	<ul style="list-style-type: none"> A minimum area of 100m wide downstream the Dam wall should be demarcated preventing public access and use.
<ul style="list-style-type: none"> Conservation/ Low Density Activity Zone. 	<ul style="list-style-type: none"> Conservation management activities 	<ul style="list-style-type: none"> Development 	<ul style="list-style-type: none"> This zone should control access to ecological sensitive areas.
<ul style="list-style-type: none"> Medium Density Activity Zone. 	<ul style="list-style-type: none"> Camping (tent and/or caravan) Day visitors Picnic Shoreline fishing Braai facilities Swimming pool Ablution facilities and Infrastructure for services 	<ul style="list-style-type: none"> Permanent structures Accommodation facilities such as: <ul style="list-style-type: none"> Chalets Recreational club houses 	<ul style="list-style-type: none"> The management of this area should follow PPP process in terms of National Treasury. All developments must be approved by DWS. Requirements of NWA and NEMA must be taken into account in all developments. Camping, birding, hiking, picnicking, bank angling and access to the water must be done in accordance to access agreements. Camping and picnicking is allowed only in designated areas. Noise levels to be kept at a minimum. No littering at Camping and Picnic spots.
<ul style="list-style-type: none"> High Density Activity Zone. 	<ul style="list-style-type: none"> Accommodation facilities: Chalets Guesthouse Recreational Boat House Infrastructure for services 	<ul style="list-style-type: none"> Hiking Camping Picnicking caravan park Permanent structures 	<ul style="list-style-type: none"> The management of this area should follow PPP process in terms of the National Treasury. All developments must be approved by DWS. Requirements of NWA and NEMA must be considered in all developments.

KOSTER DAM RESOURCE MANAGEMENT PLAN

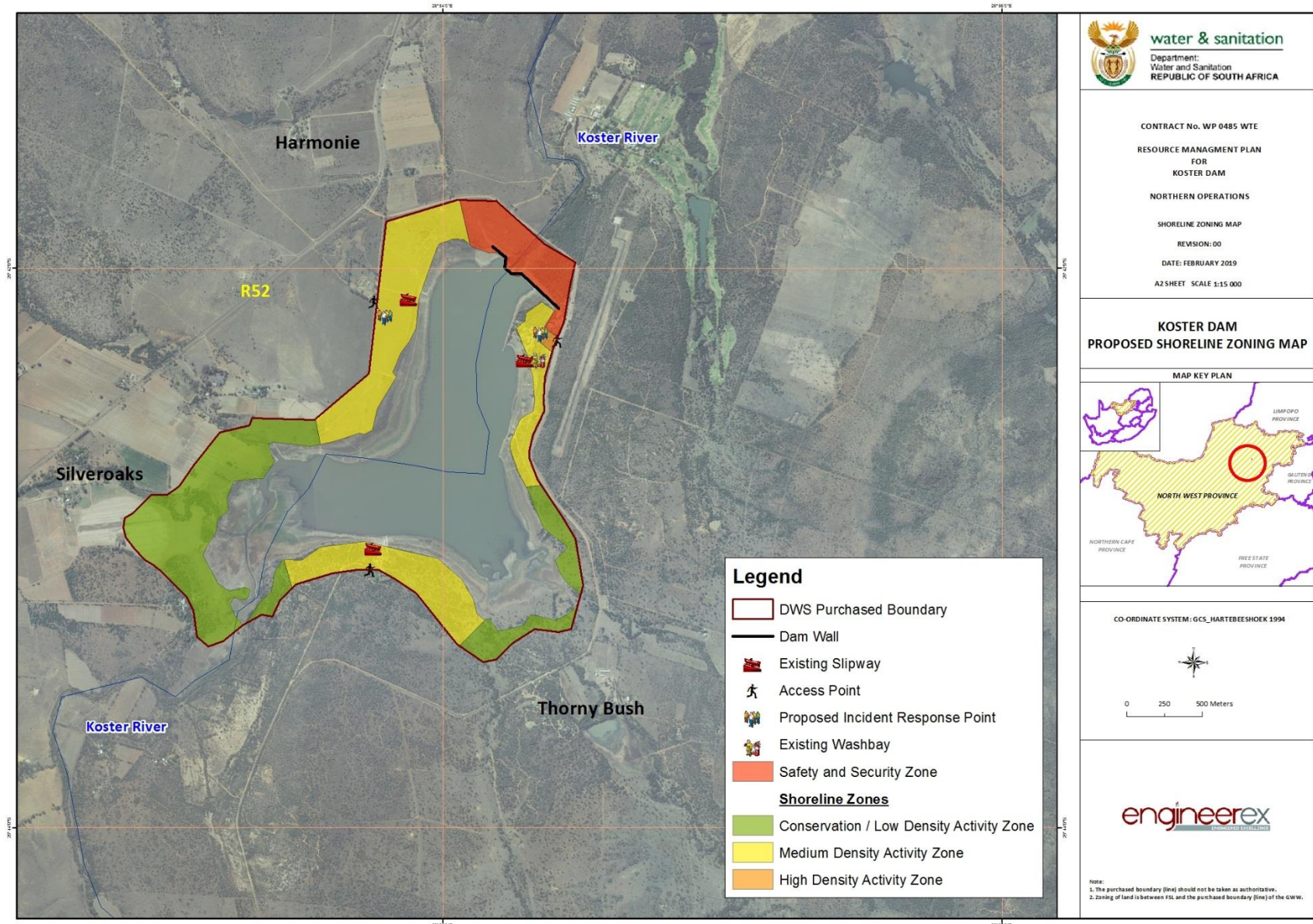


Figure 20: Proposed Shoreline Zoning Map

KOSTER DAM RESOURCE MANAGEMENT PLAN

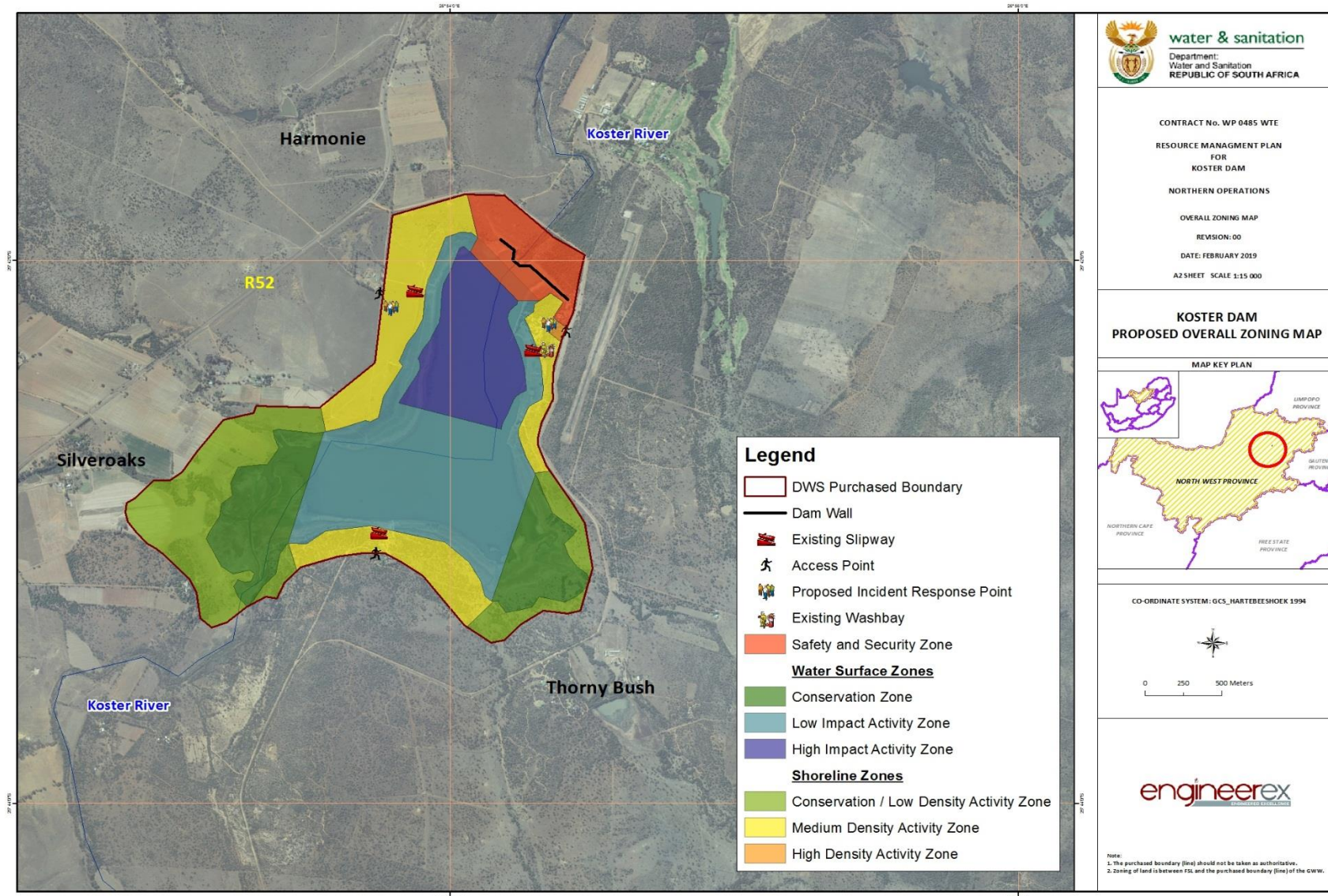


Figure 21: Proposed Overall Zoning Map

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 $RCC \geq ECC$** .

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)

$$PCC = A \times U/a \times Rf$$

Where:

A = available surface area for public use

U/a = area required per user

Rf = rotation factor (number of visits/day)

Table 11 shows the type of craft and the required area for use

Table 11: Area required per user

Craft	U/A (ha/craft)
Rowing	0.5
Canoe	1.0
Fishing	3.0
Paddle boating	1.0
Float tubes	1.0
Average	1.3

Based on the **Table 11**, the average hectare per user is 1.3 ha (13 000 m²), the value of 3.0 ha (30 000 m²) 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 Koster Dam is **258 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.

$$\begin{aligned} \text{Therefore: } PCC &= A \div U/a \times Rf \\ &= 258 \times 1/3 \times 1 \\ &= 86 \text{ crafts on the Dam} \end{aligned}$$

Real Carrying Capacity (RCC)

$$RCC = PCC \times (100 - Cf1) \% \times (100 - Cf2) \% \times \dots (100 - Cfn) \%$$

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

Koster Dam, these factors includes sensitive areas, such as conservation areas (45 ha) as well as aspects regarding the safe operation and management of the Dam (15 ha).

These factors accounts for 60 ha, that is 23% of the area that is not available for recreational use.

Therefore: $RCC = PCC \times (100 - cf1) \% \times (100 - cf1) \% \times (100 - cf1) \%$

$$= 86 \times (100 - 23) \%$$

$$= 66 \text{ crafts}$$

Effective Carrying Capacity (ECC)

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

Once a proposed recreational Institutional Structure and infrastructure capacity is in place, the ECC can be calculated 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?);
- Motivation (Why is it important to achieve this?);
- Action Projects (How to achieve this?); and
- Management support (Who will be involved?).

Tables 12 to 14, outlines the strategic plan on how to achieve the objectives identified for the Dam.

4.3.1 KPA 1: Resource Management

Table 12: Strategic Plan for KPA 1: Resource Management

Objective (What do we want)	Motivation & Strategy (Why do we want to achieve this)	Action Plans (How do we achieve this)	Management Support (Who will be involved)
<u>Alien Invasive Plants Control:</u> <ul style="list-style-type: none"> Eradication of Alien Invasive Plants. 	<ul style="list-style-type: none"> Presence of alien invasive plants species along the inflow river threatens the ecological functioning of the Dam. 	<ul style="list-style-type: none"> Remove all invasive alien vegetation within the DWS purchased boundary and the surrounding area. Develop an inspection and cleaning mechanism (wash bay) to ensure that vessels entering the Dam do not contaminate it with alien invasive plants seeds from other Dams. Rehabilitate areas infested with invasive alien vegetation with suitable species that are indigenous to the area. 	<ul style="list-style-type: none"> DEA [Working for Water (WFW) programmes] North West Expanded Public Works Programme (NEPWP) DMC
<u>Water Quality:</u> <ul style="list-style-type: none"> To maintain acceptable water quality for recreational use to ensure a healthy aquatic ecosystem. 	<ul style="list-style-type: none"> It has been alleged by surrounding land owners that there is a release of raw sewage into the river that feeds the Dam impacting the water quality of the Dam. 	<ul style="list-style-type: none"> DWS to engage with relevant authority who has the mandate for the infrastructure maintenance. Enforcement of all relevant environmental legislations (e.g. NWA and NEMA) at the Dam can assist to improve the Dam's water quality. Implementation of the Co-operative Inland Watercourse Safety Programme (CIWSP) components at the Dam to achieve this objective. Frequent monitoring of water quality. 	<ul style="list-style-type: none"> KRLM DWS DMC

4.3.2 KPA 2: Resource Utilisation

Table 13: Strategic Plan for KPA 2: Resource Utilisation

Objective (What do we want)	Motivation & Strategy (Why do we want to achieve this)	Action Plans (How do we achieve this)	Management Support (Who will be involved)
<u>Access Control:</u> <ul style="list-style-type: none"> To review existing access fees to ensure that the local communities are not excluded due to socio- 	<ul style="list-style-type: none"> Two public access points exists through Koster Dam Nature Reserve and Waterkloof Resort respectively. Respective access rates have been discussed under Chapter 3 of this report. 	<ul style="list-style-type: none"> Access to the Dam must be equitable to all users. Appointment of the gate attendants or security officers to monitor or control access to the Dam. 	<ul style="list-style-type: none"> DMC DWS North West Department of Tourism

KOSTER DAM RESOURCE MANAGEMENT PLAN

Objective (What do we want)	Motivation & Strategy (Why do we want to achieve this)	Action Plans (How do we achieve this)	Management Support (Who will be involved)
economic status of the area.		<ul style="list-style-type: none"> The entry fees need to be reasonable to ensure that the Dam remains an affordable destination for all. 	
<u>Sustainable Subsistence Fishing:</u> <ul style="list-style-type: none"> To promote sustainable subsistence fishing at the Dam. 	<ul style="list-style-type: none"> Surrounding communities fish at the Dam to sustain their livelihood. Promote subsistence fishing by local communities. 	<ul style="list-style-type: none"> Permits (fishing licence) must be acquired and the use of gill nets must be prohibited, as it has significant negative impact on fish population within the Dam. Educate and train people on fishing methods that are safe and sustainable. Preserve the core habitats for nesting, resting, feeding and breeding of fish within the inlets, by demarcating areas for subsistence fishing. Management authority or DWS must develop a communication signage in order to effectively inform different angling groups about the Dam fishing rules. Appoint and train safety officers within the communities to monitor compliance of the Dam fishing rules. Generate the necessary infrastructure, such as banks to fish from in order to support the sustainable fishing. Incorporate the objective in a Business Plan for a feasibility study to evaluate the fish population in the Dam and a possibility of a fishery project. 	<ul style="list-style-type: none"> Department of Agriculture, Forestry and Fisheries (DAFF) North West Department of Rural, Environment and Agricultural Development (READ) DMC
<u>Public Safety:</u> <ul style="list-style-type: none"> To ensure public safety and security around the Dam. 	<ul style="list-style-type: none"> There is no specific incident management system in place to ensure that incidents are responded to in a coordinated manner. 	<ul style="list-style-type: none"> Appoint and train safety officers from within the communities to monitor access to the Dam and to ensure that the Dam safety rules are adhered to always. Raise awareness amongst the local communities about the importance of having a water resource and associated 	<ul style="list-style-type: none"> DWS DMC

KOSTER DAM RESOURCE MANAGEMENT PLAN

Objective (What do we want)	Motivation & Strategy (Why do we want to achieve this)	Action Plans (How do we achieve this)	Management Support (Who will be involved)
		infrastructure to prevent vandalism at the Dam. <ul style="list-style-type: none"> Ensure that Dam safety rules are aligned with DWS requirements. 	
Recreational Activities: <ul style="list-style-type: none"> Implementation of organized events and other recreational activities. 	<ul style="list-style-type: none"> To provide exclusive time and space for organised events in a manner that does not impact on the Dam. There are activities such as organised parties, end year functions which are held at the Dam from time to time. 	<ul style="list-style-type: none"> Different events that involves recreational activities such as fishing and boating competition must be managed through an event application process. These applications must follow a specific template and will include the following: <ul style="list-style-type: none"> Number of participants. Emergency Response Plan. Advertising and branding (will need to be in line with DWS communication requirements). Access points to be used. Furthermore, all Events must meet the requirements of the Safety at Sports and Recreation Act, 2010 (Act No 2 of 2010). 	<ul style="list-style-type: none"> DMC North West Department of Tourism DWS
Upgrading of Slipway and Wash bay: <ul style="list-style-type: none"> To construct a recreational boat slipway and wash bay. 	<ul style="list-style-type: none"> The wash bay within the Koster Dam Nature is currently not working. Boats are not currently inspected for safety and not washed prior to launching to prevent alien invasive contamination. 	<ul style="list-style-type: none"> Upgrade wash bay and slipway according to DWS specifications. 	<ul style="list-style-type: none"> DWS DMC DEA: WfW

4.3.3 KPA 3: Benefit Flow Management

Table 14: Strategic Plan for KPA 3: Benefit Flow Management

Objective (What do we want)	Motivation & Strategy (Why do we want to achieve this)	Action Plans (How do we achieve this)	Management Support (Who will be involved)
Community Participation and Beneficiation: <ul style="list-style-type: none"> Uplift the local economy 	<ul style="list-style-type: none"> Tourism sector have been identified as a vehicle for skills development, job creation, BBBEE, etc. It is imperative that the local communities derive benefits from 	<ul style="list-style-type: none"> Implement skills development programmes where opportunities exist. Implementation of environmental awareness programmes for the local communities and 	<ul style="list-style-type: none"> Sector Education and Training Authority (SETA) DWS DMC

KOSTER DAM RESOURCE MANAGEMENT PLAN

Objective (What do we want)	Motivation & Strategy (Why do we want to achieve this)	Action Plans (How do we achieve this)	Management Support (Who will be involved)
	<p>recreational activities conducted at the Dam.</p> <ul style="list-style-type: none"> This will assist in ensuring that the Dam is utilised in a sustainable manner and in a way that fulfills the interests of the community. 	<p>ensure that they are always updated with environmental information.</p> <ul style="list-style-type: none"> 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. 	
<p><u>Recreational Institutional Structure:</u></p> <ul style="list-style-type: none"> Review and update the institutional structure for recreational activities 	<ul style="list-style-type: none"> To review and update the existing management structure to include other surrounding stakeholders in the management and use of water for recreational activities. The institutional structure of the Dam excludes other role players who have the mandate to protect the water resource such as Local Municipality, DEA: WfW, etc. 	<ul style="list-style-type: none"> Form close working relationships with resource managers and private sector operators and contractors, benefits can emanate from the management and utilisation of the dam, allowing the DMC the opportunity to disseminate these benefits to neighboring communities in an equitable manner based on sound Government policy supported by the relevant authorities. DWS to appoint a DMC for the implementation of the Koster Dam RMP. The roles and responsibilities of the role players must be clearly defined and understood. 	<ul style="list-style-type: none"> DWS

4.4 FINANCIAL PLAN

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

The proposed DMC for this Dam can explore the various streams of generating revenue as presented below:

4.4.1 Potential Sources of Revenue

Access Fees: Potential revenue can be generated from access fees paid by visitors. A standard access fee can be charged per head, differentiated on age. The determination of access fees should take cognisance of the socio-economic profile of the area so as to cater for the local communities. The access fees cannot be used for rent seeking or to make profit.

Over and above access fees, additional fees can also be charged which includes:

- **Parking Fees:** Motorists can be charged extra fees for parking.
- **Event and Service Based Fees:** These are extra fees that can be charged for the following:
 - Fishing (sports);
 - Private boating;
 - Functions (festivals, weddings, conferences and cultural activities); and
 - Caravan/ outdoor camping.

It is important that the identified events above be established at the Dam for the realisation of the identified fees.

Rental Charges⁶: Potential source of revenue can also be explored on rental fees, *inter alia*, boat clubs operating from the Dam should pay the

leasing fees. The terms of payment will be stipulated in the lease agreement between DWS through the DMC (lesser) and the lessee.

4.4.2 Target Market

To realise the above-mentioned revenue the following will be the target:

- Farmers;
- Churches;
- Schools;
- Institutions;
- Group tourists; and
- Government Departments.

Considering the above mentioned, there should be sources of capital for initial investment for the upgrading of existing infrastructure as well as setting up of new facilities. The proposed DMC can consider the following sub-sections as a source of capital.

4.4.3 Co-Funding

The project can leverage its existence in the local Integrated Development Plan (IDP) to harness funding. Co-funding is also viable where a DMC is appointed to manage recreational use of the Dam. Examples of projects of similar nature which were successfully co-funded are Roodeplaat Dam Nature Reserve and Nonoti Beach Resort Development (Coastal Marine Tourism Project), details are attached as **Appendix G**.

DWS and/or other relevant Government Departments can fund the DMC to supplement operational costs and other scenarios by co-funding identified objectives that are related to their mandate.

It is recommended that a DMC be appointed to manage the recreational use of the Dam on behalf of DWS. Examples of potential co-funders are:

⁶ Leasing of DWS property will be concluded based on market related rental fee

- The Department of Tourism;
- Industrial Development Corporation (IDC); and
- InvestSA (One Stop Shop).

More information on the co-funders is attached in **Appendix H**.

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

The information acquired from the RMP will be used to produce the Business Plan (BP) 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 the Koster 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 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 Koster Dam:

- The Dam is infested with alien invasive plants along the river inflow which threatens the ecological function of the area. The alien invasive plants species competes with and replaces indigenous grassland and riverine species;
- It has been alleged by surrounding landowners that there is raw sewage released into the river that feeds the Dam impacting the water quality of the Dam;
- There is non-operational wash bay at the Dam. The non-operation of the wash bay will lead to re-infestation and spread of alien invasive plants species in the Dam;
- Approximately 1536 individuals in Ward 6 equivalent to 35% of the population does not have any form of education and may not be able to be active participants in the tourism sector;
- The access fees on Koster Dam Nature Resort for local communities are alleged unaffordable as alleged by the local communities;
- The three (3) existing access points are far from the communities;
- There is a lack of environmental and tourism awareness for the community;
- The local community is not involved in the management and utilization of the Dam for recreational purpose, hence they are not benefiting from the Dam; and
- The region (district and local) has tourism potential, which has not been properly exploited (environmentally or otherwise).

Recommendations:

This RMP recommends the implementation of the following immediate actions:

- Establishment of a Dam Management Committee (DMC) to serve as an advisory committee to DWS;
- Eradication of alien invasive plants;
- To maintain high standard of water quality;
- To review access fees to the Koster Dam Nature Resort, that is owned by DWS, and alleged to be unaffordable and not based on the socio-economic status of the surrounding local communities;
- To promote sustainable subsistence fishing/ small-scale fishing at the Dam;
- To implement organized events through the event application process;
- To promote recreational and tourism related events to be held at the Dam to the surrounding and rural community members to ensure that the recreational use sector at the Dam contributes to transformation and equitable socio-economic benefit, and support entrepreneurship and participation, by the rural community members in the fishing linked tourism service sector;
- Upgrading of recreational boat slipway and wash bay;
- Uplift the local economy through skills training and education;
- Review and update the institutional structure for recreational activities;
- Ensure organised development, equitable visitor access, sound resource management and optimal community beneficiation, as per the proposed Zoning Plan in Section 4.2;
- Ensure public safety with regards to the use of inland vessels, as per the Carrying Capacity in Section 4.2.3; and
- Ensure resource management, resource utilisation and benefit flow management, as

per the Strategic Plan and Key Performance Areas in Section 4.3.

Review:

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 22** illustrates the RMP and BP review framework.

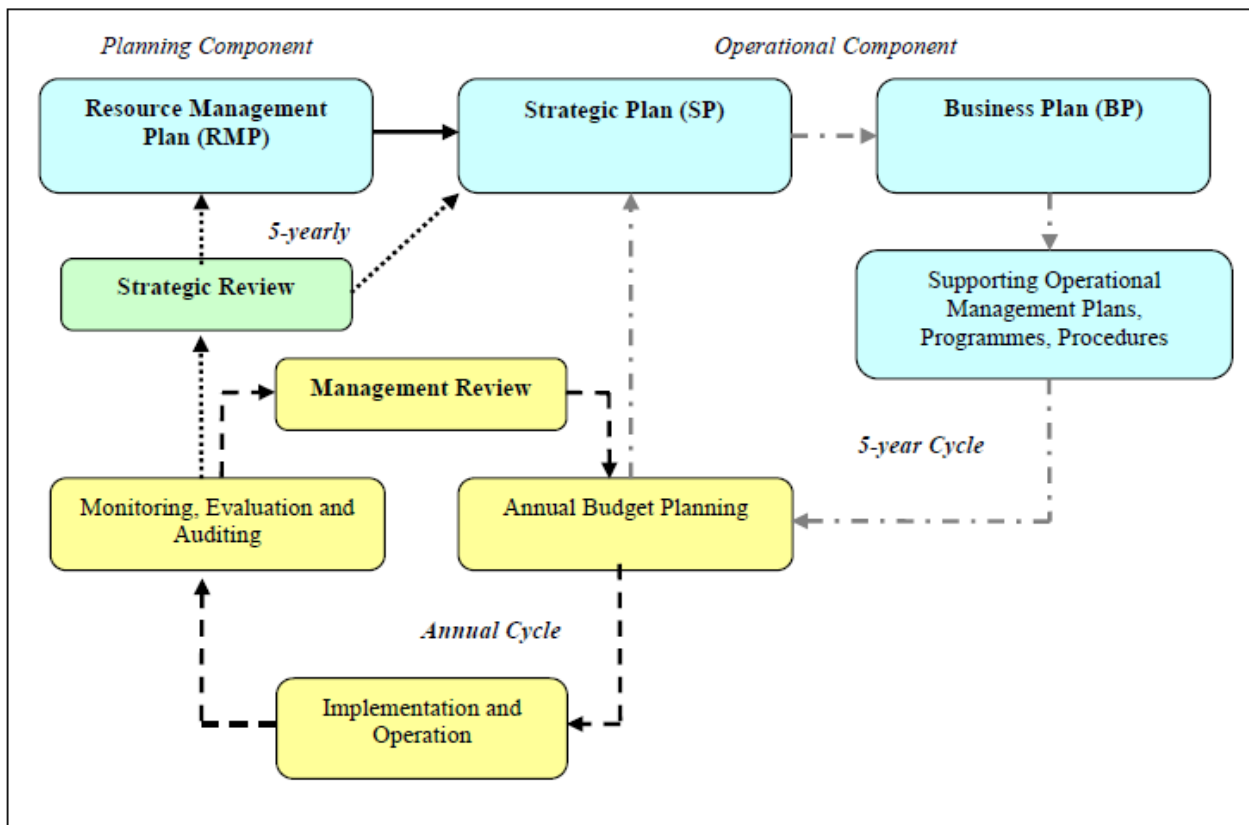


Figure 22: RMP and BP Review Framework

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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: COMMENT AND RESPONSES REGISTER

APPENDIX G: EXAMPLES OF SUCCESSFULLY CO-FUNDED PROJECTS

APPENDIX H: POTENTIAL CO-FUNDERS

APPENDIX I: BUSINESS PLAN