Resource Management Plan for Hazelmere Dam

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water & sanitation

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This Resource Management Plan for Hazelmere Dam was compiled and recommended by a Technical Task Team, a multi-disciplinary team consisting of stakeholder representatives from *inter alia* Government; the local communities; user groups and the business sector. Contributions made by the larger stakeholder group (refer **Appendix A**) are also recognised.

The project was made possible through the financial and resource support of the eThekwini Municipality, Umgeni Water & Department of Water and Sanitation.

In addition, the update of the RMP was done in consultation with a number of stakeholders including members of the public and Government Authorities. The project team for the update of the RMP would therefore like to acknowledge and thank the following organisations for their contribution to the Resource Management Plan.

- Centre for Public Service Innovation (CPSI) and the Cooperative Inland Waterways Safety Programme for inputs into the RMP;
- Stakeholders who attended and contributed at the Public Meeting;
- South African Maritime Safety Authority (SAMSA);
- eThekwini Metropolitan Municipality; and
- Umgeni Water.

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Annual Review of Business Plans	August	2015	2016	2017	2018	2019
Five (5) Yearly review of RMP	August	2019				

EXECUTIVE SUMMARY

This Resource Management Plan is the management, development and institutional plan for Hazelmere Dam and is reviewed based on the framework set out in page 13.

The Hazelmere Dam which is referred to in this document consists of the water body and the water surface as well as the surrounding State land, utilised by the Department of Water Affairs (DWS) for National State domestic purposes, in the context of a Precinct Plan within the Development Framework of the eThekwini Municipality.

Compiled through the Resource Management Plan procedure, the plan is based on the principles underlying sustainability addressing environmental, industry and community involvement aspects.

As a document to guide the management of Hazelmere Dam, based on the inputs of all stakeholders, the plan also serves as the basis for monitoring both performance and compliance regarding the following Key Performance Areas (KPAs) as well as meeting the objectives of the National Water Act, (Act No. 36 of 1998):

- Resource management
- Utilisation; and
- Benefit flow management.

Land and water use options identified as possibilities in and around Hazelmere Dam include:

- Conservation;
- Agriculture;
- Aquaculture;
- Fishing (food security and recreation); Sport and recreation;
- Accommodation and leisure activities, and
- Tourism.

The primary purpose of the Hazelmere Dam is to provide drinking water to eThekwini Municipality. However, the need to realise the full potential of the Dam including sport, recreational and tourism related development requires the compilation of a Resource Management Plan (RMP).

The structure of the RMP consists of three sections, the first addressing the background; aims and objectives; encumbrances to the plan, and challenges facing the management authority ("The Place").

The second section consists of an integrated environmental management plan and a zoning plan ("The Plan").

The third section outlines the proposed institutional structure ("The People").

"The Plan" deals with the three KPAs – Resource management; Utilisation, and Benefit flow management (community involvement and beneficiation). Within each area the plan provides insight into the specific rationale regarding the KPA, the objectives, the policy and strategies, as well as operational guidelines and action projects which will focus the management decisions, actions and initiatives.

Various zones have been proposed in the Master Plan for both the water surface of Hazelmere

Dam and the State land within the expropriation boundary for which DWS is the user department, and includes management interventions pertaining to access, utilisation, development and infrastructure.

Only access via one of the designated access points or in terms of access agreements or permits will be deemed legal. All opportunities will be subject to a fair and open procurement procedure, and will be dependent on the successful finalisation of PPPs.

To effectively and efficiently manage the implementation of the plan, a proposal regarding the management authority as well as institutional structuring and arrangements is made, although the ultimate responsibility regarding the implementation of the RMP will resort with DWS.

Undertaken in this manner it is believed that the sustainable utilisation of Hazelmere Dam can and will be attained.



The process for the compilation of the RMP is summarised in Figure 1.

Figure 1: RMP Compilation Procedure

The process for the update of the Resource Management Plan is provided in Figure 2.



Figure 1: Resource Management Plan Update Process

RMP REVIEW FRAMEWORK

Overview

The Resource Management Plan (RMP) process has an integrated planning component and operational planning component, each with a five (5)-year time frame that is reviewed annually.

Integrated Planning Components

A RMP is the primary overarching planning document that describes the administrative and legal framework, contextual background, public participation process followed, vision / mission statements, prioritised management objectives, zoning as well as management policy framework and guidelines. The RMP forms the framework within which all the other planning components a re developed. Within the framework of the RMP, a *Master Plan* provides a strategic guideline for the management, utilisation and development of the water resource and water resource infrastructure within the constraints of the receiving environment. Operational plans, programmes and procedures that support the RMP are either in place or will be compiled where these do not exist.

Authorisation of RMPs

These plans are authorised by the relevant Regional Chief Director and the Deputy Director General of the National Water Resource Infrastructure Branch of the Department of Water Affairs (DWS) in terms of Section 113 of the National Water Act (Act No. 36 of 1998) and operationalised through the following two operational planning components.

Operational Planning Components

A 5-year *Strategic Plan (SP)* that operationalises (or actions) the management authority's management objectives and any projects identified in the RMP and Business Plan. The SP is an operational management component that identifies the activities and tasks that need to be undertaken in the achievement of the RMPs objectives and attaches responsibilities, timeframes, budgets and resources to each activity. The SP is a key planning document that also informs the management authority's Annual Budgeting Estimates and provides information for Annual Reports.

With expenditure estimates drawn from the SP a *Business Plan (BP)* will be developed. The BP is primarily aimed at describing the manner in which the RMP are to be financially resourced. It may address issues of operational efficiency and the optimisation of income generation opportunities in order to bridge any possible shortfalls between required operational expenditure and committed budget allocations.

Authorisation of BP

Once the BP has been approved by DWS, the SP is finalised according to the committed budget allocations and other expected financial income.

RMP Planning & Review

The RMP requires both annual and 5-yearly revisions to ensure that management objectives remain relevant and management actions are continually improved. Figure 3 illustrates the

annual and 5-yearly planning and review cycles.¹



Figure 2: RMP Review Framework

Planning Process

The rationale of a RMP is to assist DWS and the management authority in ensuring sustainability by protecting the integrity and value of water resources, providing measurable benefits to host communities, and enhancing the satisfaction of users.

By addressing the needs and expectations of resource managers; communities, and users by defining the processes that contribute to sustainability and monitoring the performance of these processes, DWS and the management authority can ensure that their objectives, as well as those of relevant stakeholders are attained in an acceptable and appropriate manner, consistently.

Continual improvement can be achieved by using an ISO 9000 based management system as framework, and the system provides DWS and the management authority with confidence that their policies are relevant and acceptable to all stakeholders.

The procedure used during the planning process is based on DWS's *Guidelines for the Compilation of Resource Management Plans* ensuring the involvement of all stakeholders, as well as interested and affected parties. Opportunity was provided to all participants to actively participate in the planning, discussions and compilation of the management plan, compliant to the prescripts of the National Environmental Management Act (Act 107 of 1998), as well as Chapter 3 of the Constitution of South Africa (Act No. 108 of 1996). This approach ensures

¹ This review framework is based on Ezemvelo KZN Wildlife's approach to Integrated Management Plans prepared in terms of the National Environmental Management: Protected Areas Act (Act. No. 57 of 2003).

inclusivity, transparency and builds trusts between all participants. See Appendix A for a stakeholder list.

The planning procedure for Hazelmere Dam's First Edition RMP consisted of three distinct phases, namely:

- <u>Phase 1:</u> The first phase aimed at ensuring the support of key stakeholders. This phase mainly addressed the encumbrances to the process attaining institutional support and identifying participants to the process.
- <u>Phase 2:</u> The second phase aimed at ensuring broad stakeholder involvement, building capacity within the stakeholders and providing the stakeholders with relevant information to assist in decision making.
- <u>Phase 3:</u> The third aimed at achieving recommendation for the RMP, prior to submitting the plan to DWS for approval and implementation.

TABLE OF CONTENTS

CONTRIBUTORS	3	
UPDATED RMP APPROVALS		
Recommended:	4	
XECUTIVE SUMMARY	5	
RMP REVIEW FRAMEWORK	ii	
Overviewvi	ii	
Integrated Planning Componentsvi	ii	
Authorisation of RMPsvi	ii	
Operational Planning Components vi	ii	
Authorisation of BPvi	ii	
RMP Planning & Review vi	ii	
Planning Processi	х	
ABLE OF CONTENTS	9	
IST OF TABLES1	3	
LIST OF FIGURES		
ACRONYMS AND ABBREVIATIONS1	5	
. THE PLACE1	7	
1.1. INTRODUCTION	7	
1.2. PURPOSE AND SIGNIFICANCE AND CHALLENGES OF THE HAZELMERE DAM1	7	
1.2.1. Purpose1	7	
1.2.2. Significance1	8	
1.2.3. The Challenge1	9	
1.2.4. Process followed for the Update of the Hazelmere Dam RMP1	9	
1.2.5. Overview of Current Institutional Arrangements2	0	
1.2.5.1. Official Institutional Structure2	0	
1.2.5.2. Informal Institutional Structure2	0	
1.2.5.3. Management of the Water Surface2	0	
1.2.5.4. Access	0	

1.2	.5.5.	Permits	20
1.2	.5.6.	Safety	20
1.2	.5.7.	Overnight facilities	20
1.2	.5.8.	Event Management	20
1.3.	LEG	AL FRAMEWORK, CONCEPTS AND PRINCIPLES FOR UTILISATION AND SUSTAINAE	BILITY
PLAN	NING		20
1.3	.1.	National Water Act (Act 36 of 1998)	21
1.3	.2.	GN 654 of May 1964	22
1.3	.3.	Water Services Act (Act 108 of 1997)	23
1.3	.4.	National Environmental Management Act (Act 107 of 1998) as Amended	23
1.3 200	.5. 09)	National Environmental Management: Protected Areas Amendment Act (Act 15 23	of
1.3	.6.	The National Environmental Management: Biodiversity Act (Act 10 of 2004)	24
1.3 and	.7. d Inva	National Environmental Management: Biodiversity Act (Act 10 of 2004): Draft Al sive Species Lists, 2014 (GN 78 of 2014)	ien 24
1.3 Inv	.8. asive	The National Environmental Management: Biodiversity Act (Act 10 of 2004): Alie Species Regulations (GN 33683 of 19 July 2013)	en and 24
1.3	.9.	The Municipal Systems Act (Act 32 of 2000)	25
1.3	.10.	Conservation of Agricultural Resources Act (Act 43 of 1983)	25
1.3	.11.	Public Finance Management Act (PFMA) (Act 29 of 1999)	25
1.3	.12.	Treasury Regulations of 15 March 2005	25
1.3	.13.	Safety at Sports and Recreational Events Act (Act 2 of 2010)	25
1.3 200	.14. 07)	Merchant Shipping (National Small Vessel Safety) Regulations (GN.R 705 of 8 Au 26	gust
1.3	.15.	South African Maritime Safety Authority Act (Act 5 of 1998)	26
1.3	.16.	Kwazulu-Natal Planning and Development Act (Act 06 of 2008)	26
1.3	.17.	KwaZulu-Natal Nature Conservation Management Act (Act 09 of 1997)	26
1.3	.18.	The Natal Nature Conservation Ordinance (Ordinance 15 of 1974)	26
1.4.	ALIC	GNING THE RMP TO RELATED REGIONAL INITIATIVES	27
1.5.	BAC	KGROUND OF HAZELMERE DAM	27
1.5	.1.	Physical Environment	30
1.5	.1.1.	Climate	30
1.5	.1.2.	Geology	30
1.5	.1.3.	Topography	30

		- -
1.5.1.4.	Hydrology	30
1.5.1.5.	Soils	30
1.5.1.6.	Water Quality	30
1.5.1.7.	Flora	31
1.5.1.8.	Fauna	31
1.5.2.	Socio-economic Environment	31
1.5.2.1.	Population Dynamics	32
1.5.2.2.	Educational and Health Facilities	33
<i>1.5.2.3</i> .	Current Employment Status	34
1.1.1.1.	Annual Household Income	34
1.5.2.4.	Types of Housing	35
1.5.2.5.	Business and Economic Activities	.35
2. THE PLA	N	.37
2.1. STR	ATEGIC FRAMEWORK	.37
2.1.1.	DWS's Vision	.37
2.1.2.	DWS's Mission	.37
2.1.3.	Key Objectives of the Department	.37
2.2. VISI	ION, MISSION AND OBJECTIVES FOR HAZELMERE DAM	.38
2.2.1.	Vision	.38
2.2.2.	Mission	.38
2.2.3.	Key Management Objectives	.38
2.3. MA	NAGEMENT APPROACH	.39
2.4. KPA	A 1: RESOURCE MANAGEMENT	.42
2.4.1.	Natural Resources	.42
2.4.1.1.	Alien Plant and Pollution Control	.42
2.4.2.	Cultural Resources	.44
2.4.2.1.	Cultural Heritage Resource Management	44
2.5. KPA		45
251	Access Use and Development	45
2.5.1.1	Regulation	.5
2.5.1.1.	Access Lise and Develonment Management	. ج 46
2.3.1.2.	Carrying Canacities and Density Controls	-0 /12
2.3.1.3.	Access Control	+0 E0
2.5.1.4.		50

	2.5.1.5.	Private Access	.51
	2.5.1.6.	Zoning	.54
	2.5.2.	Infrastructure and Services	.55
	2.5.2.1.	Access Roads	.55
	2.5.2.2.	Services	.56
2.6	5. KPA	3: BENEFIT FLOW MANAGEMENT	.57
	2.6.1.	Benefit Flow Mechanisms	.57
	2.6.2.	Safety and Security	58
	2.6.3.	Public Access	.59
2.7	. KPA	4: INSTITUTIONAL STRATEGY	.60
	2.7.1.	Management Boundary and Responsibilities	.60
	2.7.2.	Catchment Management	.61
	2.7.3.	Intergovernmental Co-operation	62
	2.7.4.	Streamlined Administrative Processes	.63
	2.7.5.	Commercial Farming Support	.64
	2.7.6.	Donor Funding Support	.65
2.8	B. MAS	STER PLAN	.65
	2.8.1.	Process	.65
	2.8.2.	Master Plan	.66
2	2.8.2.1.	Access	.66
	2.8.2.2.	Utilisation	67
	2.8.2.3.	Development Cores, Nodes and Sites	.67
	2.8.2.4.	Infrastructure	.67
	2.8.3.	PRECINCT PLAN	.68
	2.8.3.1.	Purpose of the Precinct Plan	.68
	2.8.3.2.	Precinct Context & Boundary	.68
	2.8.3.3.	Access	.68
	2.8.3.4.	Land Use	.68
	2.8.3.5.	Infrastructure	69
3.	THE PEOF	PLE	.69
3.1	. ROL	EPLAYERS	.69
3.2	. INST	TITUTIONAL PLAN	.71
	3.2.1.	RMP Steering Committee (RSC)	72

	3.2.2.	Operations Management Committee (OMC)	72
	3.2.3.	Dam Management Committee (DMC)	73
	3.2.4.	Management tools	74
	3.2.4.1.	Terms of Reference	75
	3.2.4.2.	Agreements	75
	3.2.4.3.	National Affiliations and Development Targets	78
4.	WAY FO	RWARD	79
4	4.1. Con	npilation of Business Plans	79
4	4.2. Rev	iew of RMPs and Business Plans	79
5.	REFEREN	CES	80
AP	PENDIX A:	RMP PROCESS STAKEHOLDER LIST	54
APPENDIX B: BACKGROUND INFORMATION			
AP	PENDIX C:	MASTER PLAN	68

LIST OF TABLES

Table 1: Purpose and Significance of Hazelmere Dam based on Stakeholder Inputs	18
Table 2: Hazelmere Dam Statistics	28
Table 3: Population (Source: Stats SA, 2011)	32
Table 4: Number of Households (Source: Stats SA, 2011)	33
Table 8: Key Economic Activities	36
Table 9: Management Objectives According to KPAs	40
Table 10: Alien Plant and Pollution Control	43
Table 11: Cultural Heritage Resource Management	44
Table 12: Regulation	46
Table 13: Access, Use and Development Management	47
Table 14: Carrying Capacities and Density Controls	48
Table 15: Access Control	50
Table 16: Private Access	51
Table 17: Zoning	54
Table 18: Access Roads	55
Table 19: Services	56
Table 20: Benefit Flow Mechanisms	57
Table 21: Safety and Security	59
Table 22: Public Access	59

61
61
62
63
64
65
54

LIST OF FIGURES

Figure 1: Resource Management Plan Update Process	.7
Figure 2: RMP Review Framework	ix
Figure 3: Hazelmere Dam Significance Graph	۱9
Figure 4: eThekwini Ward boundaries	32
Figure 5: Age and Gender Breakdown	33
Figure 6: Educational Levels (Source: Stats SA, 2011)	34
Figure 7: Employment Status (Source: Stats SA, 2011)	34
Figure 8: Annual Household Income (Source: Stats SA, 2011)	35
Figure 9: Housing Typology (Source: Stats SA, 2011)	35
Figure 10: Management Framework4	10
Figure 11: Zoning Process	56
Figure 12: Role Players	70
Figure 13: RMP Structure	71
Figure 14: RMP Steering Committee (RSC)	72
Figure 15: Operating Management Committee (OMC)	73
Figure 16: DMC Membership	74
Figure 17: Locality (Regional)	59
Figure 18: Locality (Local)	52
Figure 19: Elevation (Regional)6	53
Figure 20: Elevation (Local)	54
Figure 21: Vegetation	55
Figure 22: Land Cover	56
Figure 23: Land Use	57
Figure 24: Master Plan Surface Water and Shoreline	59
Figure 25: Master Plan Surface Water	d.
Figure 26: Master Plan Shoreline	70

ACRONYMS AND ABBREVIATIONS

BBBEE	Broad Based Black Economic Empowerment
BP	Business Plan
CARA	Conservation of Agricultural Resources Act (Act No. 43 of 1983)
CoGta	Department of Co-operate Governance & Traditional Affairs
СМА	Catchment Management Area
DAFF	Department of Agriculture, Forestry's and Fisheries
DEA	Department of Environmental Affairs
DLA	Department of Rural Development and Land Affairs
DMC	Dam Management Committee
DWS	Department of Water and Sanitation
ECA	Environmental Conservation Act (Act No. 73 of 1989
ECHOS	Ecotourism Characteristics Opportunity Spectrum
I&AP	Interested and Affected Parties
IDP	Integrated Development Plan
ISO	International Standards Organisation
IWRM	Integrated Water Resource Management
KPA	Key Performance Area
MAR	Mean Annual Runoff
MFMA	Municipal Finance Management Act
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organisation
NWA	National Water Act (Act No. 36 of 1998)
OMC	Operating Management Committee
PAA	National Environmental Management: Protected Areas Act (Act No. 57 of 2003)
PFMA	Public Finance Management Act (Act No. 1 of 1999)

	Hazelmere Dam Resource Management Plan
PPP	Public Private Partnership
PSB	Public Sector Body
RDF	Rural Development Framework
RMP	Resource Management Plan
RSC	RMP Steering Committee
SASCO	South African Sports Confederation & Olympic Committee
SAPS	South African Police Station
SP	Strategic Plan
THETHA	The Tourism, Hospitality and Sport Education and Training Authority
ToR	Terms of Reference
UW-RWQOs	Objectives for Resource Water Quality
WRMP	Water Resource Quality Management Plan

1. THE PLACE

1.1. INTRODUCTION

eThekwini Municipality, together with Department of Water Affairs (DWS) and Umgeni Water have indicated a need to promote development initiatives, and promote the responsible future management of the water resource and its surrounding natural environment. eThekwini Municipality has identified traditional areas that were incorporated into eThekwini Municipality but have not yet been spatially planned as yet.

The area around the Hazelmere Dam falls within these areas and it is because of this area's great potential for economic (esp. tourism) development in this area that eThekwini Municipality has decided to prioritise spatial planning of the Hazelmere Dam area. This is meant to ensure equitable access, compatible use, public safety, resource protection and to unlock the potential of Hazelmere Dam and effect the sustainable management thereof.

To this end the formulation of the **HazeImere Dam Precinct and Resource Management Plan** was commissioned. This study is meant to ensure equitable access, compatible use, public safety, resource protection and to unlock the potential of HazeImere Dam and effect the sustainable management thereof. It is anticipated that the Precinct and Resource Management Plan (RMP) for the Dam should provide detail on the following areas:

- Establishing and understanding of the study area, including its opportunities and constraints taking into account the current Tourism Feasibility Study.
- Establishing a vision and conceptual framework for the area;
- Establishing synergies with proposed developments in the immediate vicinity; Establishing detail implementation plan for the area
- Ensuring the sustainable and equitable development, utilisation and management of the Hazelmere Dam by compiling a RMP, based on the DWS Guidelines on Integrated Resource Planning for the Use of Water for Recreational purposes through a facilitated and consultative planning process;
- Efficient allocation of land uses within the study area as per existing and projected demands, and
- Undertaking the above exercises through a managed participation exercise.

Not only is it expected that Hazelmere Dam will be able to serve as an attraction during the 2010 FIFA Football World Cup, but also serve as an anchor for watersport development within the province extending far beyond this once off event.

1.2. PURPOSE AND SIGNIFICANCE AND CHALLENGES OF THE HAZELMERE DAM

1.2.1. Purpose

The stakeholders of Hazelmere Dam acknowledge the importance of the Dam as an impoundment to store water, yet place high value on the Purpose of the Dam as contributor to conservation of both natural and cultural resources, as mechanism to improve river health, as a venue for recreation and water sport development, and as a catalyst for land development,

employment and investment, agricultural and tourism development.

1.2.2. Significance

As a resource management tool, addressing both biophysical and cultural aspects, the stakeholders recognise the significant role the Dam can play in conservation and preservation, yet place vast significance on the contribution that the Dam can make regarding employment and income generation through sustainable land based development targeting the sport, recreation, tourism and agricultural sectors. Refer to Table 1 and Figure 3.

Table 1: Purpose and Significance of Hazelmere Dam based on Stakeholder Inputs

NO	VERBATIM STAKEHOLDER COMMENTS	INTERPRETED AS PURPOSE	
1	Conservation of Flora and Fauna	Conservation (23%)	Biophysical
2	Conservation (Safe protected area)		Purpose (33%)
3	Conservation of water		
4	Natural Heritage		
5	Conservation Economy		
6	Birding		
7	Conservation & Recreation		
8	Stops regular flushing of estuary	River health (10%)	-
9	Stops downstream flow		
10	Downstream water		
11	Recreation	Recreation (23%)	Activity Purpose (33%)
12	Recreational use		
13	Family recreation		
14	Provide Recreational Opportunity		
15	Recreation		
16	Conservation & Recreation		
17	Peaceful		
18	Promote water sports	Water sport (10%)	
19	Water sports		
20	Sports		
21	Land value	Land Development Potential (10%)	Economic Purpose (25%)
22	Create a huge development		
23	Sustainable development		
24	Creation of employment	Employment and Income	
25	Generates Income	(6%)	_
26	KZN agriculture create employment opportunity for our clients interested in agriculture, bearing in mind export opportunity, esp. La Mercy airport	Agricultural Development (6%)	
27	Agriculture		
28	Tourism	Tourism Attraction	
29	Store water	Water supply (6%)	Consumptive Purpose (6%)
30	Storage for water supply		
31	For holding the African cultures	Cultural Preservation (3%)	Cultural Purpose (3%)



Figure 3: Hazelmere Dam Significance Graph

1.2.3. The Challenge

Sustainability is a term that is often used, yet seldom understood in terms of its complexity and implications and is thus the overarching challenge facing the management authority of Hazelmere Dam. Without a focus on sustainability, Hazelmere Dam will never reach its optimal potential nor contribute to the attainment of the objectives set out in the RMP and legislation such as the NWA. Through the protection and sustainable utilisation of the resource of Hazelmere Dam it is believed that substantial financial, social and environmental benefits will be generated, making the management thereof both meaningful and viable. However, the following **broad encumbrances** exist and will have to be overcome in planning and operationalisation of the RMP, including:

- Concerns regarding resource management based on the impact of activities such as agriculture, sand mining and tourism on the natural and cultural resources of the area;
- The lack of clarity regarding access, the use of State land, co-management agreements and related issues pertaining to the purchase boundary (i.e. DWS boundary line), DWS's minimum required area and the disposal of surplice State land through leases, sale or agreements;
- The limited access to the Dam, currently only available through the Msinsi Holdings initiative on the peninsula. Increased access, linked with security, control measures and co-management agreements is expected to contribute to unlocking the potential of the Dam; Limited development of the Dam as a tourism, recreation and residential area currently impacts on the economic potential of the Dam, specifically the employment and investment opportunities in and around the Dam; and
- Raised potential and community expectations regarding the potential of the Dam and employment and investment.

1.2.4. Process followed for the Update of the Hazelmere Dam RMP

In order to ensure that stakeholders were involved in the RMP update process, a Public Meeting was scheduled for 20 March 2014 at the Wushwini Arts and Culture Heritage Centre (across from the Hazelmere Dam Wall). The Interested and Affected Parties (I&APs) database included stakeholders who were involved in the original RMP process as well as new stakeholders. In addition, separate key stakeholder meetings were held with Msinsi.

1.2.5. Overview of Current Institutional Arrangements

1.2.5.1. Official Institutional Structure

DWS is the official custodian and owner of Hazelmere Dam. However the State Land around the Dam as well as the surface water is managed by Msinsi.

1.2.5.2. Informal Institutional Structure

There is no informal institutional structure in place as Msinsi is responsible for the management of the Dam for recreational use. However, through informal discussions, Msinsi does take into account the requirements of the Traditional Authorities around the Dam.

1.2.5.3. Management of the Water Surface

Management of the surface water is by Msinsi as part of the current agreement. However, initial payment for the Aids to Navigation (AtoN) and demarcation markers (for general navigation) will be undertaken by DWS. However, the provision and maintenance of the demarcation markers at specific recreational clubs/resorts will be for the cost of the latter.

1.2.5.4. Access

There are only two authorised access points currently in place (the DWS access point and the Msinsi access point). There are also a number of access points which are under review (at the informal Ferry, the eThekwini Slipway etc.). Due to the rural nature of the area, there are also numerous informal access points.

1.2.5.5. Permits

A Freshwater Angling License is required from Ezemvelo KZN Wildlife for freshwater angling in the KwaZulu-Natal. No specific angling licenses are required for fishing at the Dam.

1.2.5.6. Safety

There is no overall safety system in place at the Dam.

1.2.5.7. Overnight facilities

Msinsi runs a resort on the banks of the Dam.

1.2.5.8. Event Management

A number of events take place at the Dam including the Bass Classic Fishing Tournament and the Triple Challenge Endurance Event. The Dam is also the second night stop for the Dusi Canoe Marathon. Events are managed by Msinsi.

1.3. LEGAL FRAMEWORK, CONCEPTS AND PRINCIPLES FOR UTILISATION AND SUSTAINABILITY PLANNING

The principles underlying the RMP for the Hazelmere Dam are based on general principles guiding the attainment of sustainability – sound resource management; equitable and appropriate community involvement and beneficiation; the creation of viable and sustainable business opportunities, and clear policies, objectives and operational guidelines.

One of the key aspects of the update of the Hazelmere Dam RMP was to ensure that the RMP takes into account new legislation as the RMP forms the overarching framework for the management of Hazelmere Dam. It is informed by relevant policy, legislation and planning documents administered by other

Government Departments. Similarly, these Government Departments are required to use the RMP to inform the development of future policy, legislation and planning documents.

The Hazelmere Dam RMP was informed by the following policies, legislation, frameworks and strategies:

- Constitution of the Republic of South Africa, (Act 108 of 1996);
- National Water Act (Act 36 of 1998);
- Municipal Systems Act, 2000 (Act 32 of 2000);
- The Development Facilitation Act, 1995 (Act 67 of 1995);
- Communal Land Right Act, 2004 (Act 11 of 2004);
- Restitution of Land Rights Act, 1994 (Act 22 of 1994);
- Intergovernmental Relations Framework Act, (Act 13 of 2005);
- Disaster Management Act, 2002 (Act 57 of 2002);
- Water Services Act, 1997 (Act 108 of 1997);
- State Land Disposal Act, 1961 (Act 48 of 1961);
- Land Administration Act, 1995 (Act 2 of 1995);
- Environment Conservation Act (Act 73 of 1989);
- National Environmental Management Act (Act 107 of 1998);
- National Environmental Management Air Quality Act (Act 39 of 2004);
- National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004);
- National Environmental Management: Protected Areas Act (Act 57 of 2003);
- National Environmental Management: Waste Act (Act 59 of 2008);
- National Veld and Forest Fire Act, (Act 101 of 1998);
- Minerals and Petroleum Resources Development Act (Act 28 of 2002);
- National Heritage Resources Act (Act 25 of 1999);
- Conservation of Agricultural Resources Act (Act 43 of 1983);
- Tourism Act (Act 72 of 1993);
- South African Maritime Safety Authority Act (Act 5 of 1998);
- National Sport and Recreation Act (Act 110 of 1998 as amended);
- Safety at Sports and Recreational Events Act (Act 2 of 2010);
- Game Theft Act, (Act 105 of 1991);
- Merchant Shipping (National Small Vessel Safety) Regulations, 2007
- National Environmental Management Act EIA Regulations (2010);
- Nature and Environmental Conservation Ordinance, 1974 (No 19 of 1974);
- South African National Biodiversity Institute (SANBI) Biodiversity GIS information;
- Kwazulu-Natal Planning and Development Act (Act 06 of 2008);
- KwaZulu-Natal Nature Conservation Management Act (Act 09 of 1997);
- The Natal Nature Conservation Ordinance (Ordinance 15 of 1974);
- Sport and Recreation SA Strategic Plan 2011-2015.

The Section below provides an overview of how the RMP has considered some of key policies, legislation and strategies.

1.3.1. National Water Act (Act 36 of 1998)

The Act aims to ensure that the Nation's water resources are protected, used, developed, conserved, managed and controlled in ways which take into account (amongst other factors):

Meeting the basic human needs of present and future generations;

- Promoting equitable access to water;
- Redressing the results of past racial and gender discrimination;
- Promoting the efficient, sustainable and beneficial use of water in the public interest;
- Facilitating social and economic development;
- Providing for growing demand for water use; protecting aquatic and associated ecosystems and their biological diversity;
- Reducing and preventing pollution and degradation of water resources;
- Meeting international obligations;
- Promoting Dam safety; and
- Managing floods and droughts.

Further, Section 113 of the Act makes provision for the recreational use of Dams. It further allows that the Minister may control or prohibit access to Dams and make reasonable charges for the a.) use of; b.) entrance into; and c.) use of any water surface or land associated with any Government Waterworks for recreational purposes.

The definition of water use in the Act includes the use of water for recreational use (Section 21k). Based on this requirement, the Department has published guidelines for recreational use of water and requires the following:

- DWS structures or infrastructure in and around water resources need to be constantly protected and maintained;
- Enforcement through mechanisms such as a Zonal Map, which is developed as part of the RMP process, is essential to resolve conflict amongst users both within the recreational water use; e.g. skiing vs. angling, or with other uses; e.g. agriculture;
- An appropriate degree of policing of irresponsible use should be maintained;
- Establishing water management institutions for the water resource users allows the institutions to charge for their activities therefore improving management and policing which instils a sense of ownership and responsibility among users; and
- Involving Public Private Partnerships (PPPs) could address commercial use but also assist with safety management at the Dam.

Once the RMP has been gazetted, 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 including the Merchant Shipping (National Small Vessel Safety) Regulations, 2007, The National Water Act, 1998 (Act No 36 of 1998), SAMSA Marine Notices and its Directive on the Standardisation of fixed and floating AtoN and Demarcation Markers on all navigable Inland Waterways in the Republic of South Africa and the relevant provincial ordinances.

According to DWAF (2007) Internal Guideline: Generic Water Use Authorisation Application Process, the term Recreational Water Use (RWU) encompasses the uses of water, including the surface, for:

- The exclusive purpose of sport, tourism or leisure;
- Personal or commercial recreational water use; and
- Activities which contribute to the general health, well-being and skills development of individuals and society.

In addition, the only water use entitlement that currently applies to RWU is Schedule 1 of the Act. Currently the Act is silent on Commercial RWU and thus it is necessary for the RMP to provide guidance this regard.

1.3.2. GN 654 of May 1964

The only Departmental Regulations limiting RWU at Government Waterworks is Government Notice

R654, dated 1 May 1964.

These Regulations are read together with section 113 of the National Water Act (Act 36 of 1998) and only apply to the water surface and surrounding State Land of a State Dam, and not to other water resources.

The Regulations provide guidance on access control, use of firearms and other weapons, speed limits, parking areas, trading, reserved areas, fire management, hygiene, camping and accommodation, access to works, photography, safety rules, reckless and unseemly conduct, damage to property, prohibited areas, protection of fauna and flora, swimming, angling, boat Regulations, water skiing and hydroplaning; and general rules.

1.3.3. Water Services Act (Act 108 of 1997)

The Act outlines the roles and responsibilities for the supply of water and sanitation to citizens. It also recognises the rights of all humans to basic water supply and sanitation services. The management of the Dam cannot compromise the purpose of the Dam especially if it is for domestic water supply.

1.3.4. National Environmental Management Act (Act 107 of 1998) as Amended

The National Environmental Management Act (Act 107 of 1998), or NEMA, as it is simply known, is the foundation piece of legislation for environmental management in South Africa.

Section 2 of the Act has the largest impact on the RMP in that future development and management of the Dam must ensure the following:

- The disturbance of ecosystems and loss of biological diversity both in and around the Dam must be avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- Pollution and degradation of the Dam is avoided, or, where it cannot be altogether avoided, is minimised and remedied;
- The disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;
- Development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;
- A risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and
- Negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

Coupled with these considerations, the following is stipulated with regards to integrating social and economic aspects into the purely biophysical aspects of the environment:

"Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option." (National Environmental Management Act, 1998 (Act 107 of 1998)

1.3.5. National Environmental Management: Protected Areas Amendment Act (Act 15 of 2009)

The National Environmental Management: Protected Areas Amendment Act (NEMPA) (Act 15 of 2009) ensures the protection and conservation of ecologically viable areas in the country. It further seeks to achieve co-operative environmental governance and to promote sustainable and equitable utilisation and community participation.

1.3.6. The National Environmental Management: Biodiversity Act (Act 10 of 2004)

The National Environmental Management: Biodiversity Act (NEMBA) (Act 10 of 2004) provides for the consolidation of biodiversity legislation through establishing national norms and standards for the management of biodiversity across all sectors and by different management authorities.

Chapter 4, Part 2 of the Biodiversity Act provides a listing of species as threatened or protected. If a species is listed as threatened, it must be further classified as critically endangered, endangered or vulnerable. The Act defines these classes as follows:

- <u>Critically endangered species</u>: any indigenous species facing an extremely high risk of extinction in the wild in the immediate future.
- <u>Endangered species</u>: any indigenous species facing a high risk of extinction in the wild in the near future, although it is not a critically endangered species.
- <u>Vulnerable species</u>: any indigenous species facing an extremely high risk of extinction in the wild in the medium-term future; although it is not a critically endangered species or an endangered species.
- <u>Protected species:</u> any species which is of such high conservation value or national importance that it requires national protection. Species listed in this category will include, among others, species listed in terms of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Certain restricted activities are regulated on listed species using permits by a special set of regulations published under the Act. Restricted activities regulated under the Act are keeping, moving, having in possession, importing and exporting, and selling. The first list of threatened and protected species published under NEMBA was published in the government gazette on the 23rd of February 2007 along with the Regulations on Threatened or Protected Species.

Many Dams around South Africa are likely to have threatened or protected species. The management of these species in line with NEMBA must be taken into account in the RMP and by managers at the Dam.

1.3.7. National Environmental Management: Biodiversity Act (Act 10 of 2004): Draft Alien and Invasive Species Lists, 2014 (GN 78 of 2014)

The draft Alien and Invasive Species List proposes certain prohibitions of use of Invasive alien species. This includes catch and release of Bass within Fish Sanctuary Areas, National Parks, Provincial Reserves and Mountain Catchment Areas. This has implications for Bass fishing at all Dams in South Africa.

Should these Lists be promulgated, permits would be required for Bass Fishing. In addition, a Containment Plan for the species would be required.

1.3.8. The National Environmental Management: Biodiversity Act (Act 10 of 2004): Alien and Invasive Species Regulations (GN 33683 of 19 July 2013)

The Alien and Invasive Species Regulations require the development and coordination of Species Management Programmes for all Invasive Species listed in Category 1B.

These species management programmes must stipulate the following:

- The listed invasive species to which it relates;
- The measures to eradicate or control the listed invasive species;
- The areas in which the measures are to be applied; and
- The schemes to fund the measures, if applicable.

Species monitoring, control and eradication plans are also required and the Department will publish guidelines on the compilation of these documents within a year of the publication of the regulations.

The Regulations provide for a register of alien and listed invasive species to be compiled. In addition, all research on invasive species needs to be lodged. This has implications for the RMP as any small-scale fishery proposals or alien invasive management plans will need to be approved in line with these regulations.

1.3.9. The Municipal Systems Act (Act 32 of 2000)

The Municipal Systems Act (Act 32 of 2000) serves to provide the framework to enable municipalities to ensure access to essential services to their citizens. The Act gives priority to the basic needs of the community, but also gives local government the freedom to set tariffs, and charge for services independently of other municipalities, providing that decisions made are in the best interest of the community.

The Act is of particular relevance to the RMP process, as it requires integrated planning from all spheres of government to ensure equitable and accessible municipal services. This means that any planning or policy-making must be in line with local government policies, planning and initiatives.

1.3.10. Conservation of Agricultural Resources Act (Act 43 of 1983)

The Conservation of Agricultural Resources Act (CARA) (Act 43 of 1983) seeks to provide for the conservation of natural agricultural resources by maintaining the production potential of land, combating and preventing erosion and weakening or destruction of water resources, protecting vegetation and combating weeds and invader plant species.

Given that much of the land surrounding the Dam is State Owned Land it needs to be managed in such a way that it reduces the threat and spreading of invasive alien species.

In addition, Invasive Alien Plants are known to use significant volumes of water in correlation to the plants biomass and thus affect the volume of water available for use.

1.3.11. Public Finance Management Act (PFMA) (Act 29 of 1999)

The object of the Act is to secure 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.

1.3.12. Treasury Regulations of 15 March 2005

Section 76 of the Public Finance Management Act (PFMA) (Act 29 of 1999) provides for the making of Regulations for governing the efficient use and financial management of State Resources.

Section 16 of the Treasury Regulation provides guidance on PPP including the process that needs to be followed, procurement and management of PPPs.

1.3.13. Safety at Sports and Recreational Events Act (Act 2 of 2010)

The purpose of the Safety at Sports and Recreational Events Act (Act 2 of 2010) is to provide measures to safeguard the physical wellbeing and safety of people at at sports, recreational, religious, cultural or similar events held at stadiums, venues or along a route. It also provides for the accountability of event

role-players. The Act also provides for Access Control Officers which can be appointed by the Event Organisers. These officers control access of both people and motor vehicles to an event and prevent a person from entering or requesting that a person leaves should the need arise. The act also allows for Peace Officers to be in charge of search and seizures at an event.

The Act also specifies that an Event Planning and Safety Committee must be set up for all events categorized as medium or high risk. This committee should include the following stakeholders:

- The National Commissioner or an authorised member;
- A local authority disaster management department or centre;
- A controlling body, in respect of high-risk events only;
- A stadium or venue owner;
- The event organiser; and
- An emergency service provider.

1.3.14. Merchant Shipping (National Small Vessel Safety) Regulations (GN.R 705 of 8 August 2007)

The National Small Vessel Safety Regulations, 2007 were promulgated under Section 356 of the Merchant Shipping Act (Act 57 of 1951) and provides a number of requirements including:

- Vessel Safety Requirements;
- Crewing; and
- Requirements for Water Skiing.

It also provides for the provision of an Enforcement Officer who can go aboard a vessel and search it and take possession of any intoxicating drugs or liquor. The Enforcement Officer may also request that the Identification Documents, Skipper's Licenses etc. be produced. The Officer may also direct the movement of the Small Vessel where necessary.

1.3.15. South African Maritime Safety Authority Act (Act 5 of 1998)

One of the South African Maritime Safety Authority's (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.

1.3.16. *Kwazulu-Natal Planning and Development Act (Act 06 of 2008)*

This act directs and regulates planning and development in KZN. An application may be required before land may be used or developed for a particular purpose. In addition, all developments need to be in accordance with the municipality's planning scheme.

1.3.17. KwaZulu-Natal Nature Conservation Management Act (Act 09 of 1997)

This Act establishes Institutional bodies for nature conservation in KZN. The Authority for this Act is Ezemvelo KZN Wildlife.

The Act also provides the definition of a Protected Area as: (a) declared or proclaimed as such in terms of section 3; or (b) listed in the Second Schedule to this Act.

1.3.18. The Natal Nature Conservation Ordinance (Ordinance 15 of 1974)

The aim of this Act was to consolidate laws in regards to Nature Conservation. Section 11 (1)(b) also provided details for the management of Nature Reserves.

1.4. ALIGNING THE RMP TO RELATED REGIONAL INITIATIVES

The Rural Development Framework (RDF) indicates that the study area accommodates a great variety of tourism and recreation opportunities, which are severely underutilised. It is stated that Hazelmere Dam and its spectacular hinterland has opportunities within the rural periphery to be integrated into a wider metropolitan tourism system adding a new component to the attraction of the Metro and providing income to the rural areas.

In terms of the eThekwini Rural Framework, the study area has been identified as a local service centre. It has been suggested that the rural areas of eThekwini provide a range of tourism opportunities relating to natural areas, the Dam, culture and recreation. A key objective in the development of the tourism industry in the rural areas will be to encourage local entrepreneurs to become involved in the tourism industry as opposed to local communities only benefiting from job opportunities created in the sector. Some key actions include identification and agreement on rural tourism lead projects

The Rural Development Framework (RDF, 2003) states clearly the importance of appropriate protection, management and utilisation of environmental resources of the rural periphery. Integration into the development of the rural areas forms one of the structuring elements of the RDF.

1.5. BACKGROUND OF HAZELMERE DAM

Hazelmere Dam is situated in a gorge on the Mdloti River, about 5 km upstream (north-west) of the town of Verulam. The Dam is situated in the Magisterial District of Verulam (29⁰34' - 29⁰36'S; 31⁰00' - 31⁰02'E), and the relevant 1:50 000 scale topographical map is 2931CA VERULAM. Access to Hazelmere Dam (northern bank only) is along a secondary (tarred) road (P100) which runs north from Verulam to Hazelmere for 8 km, followed by 2 km of minor (gravel) road. Access to the Msinsi Holdings Recreational Facility, on the southern bank of the reservoir and 8 km from north of Verulam, is along a minor road (P239) that passes the Barnes Sewage Disposal Works.

Table 2 below provides a summary of relevant statistics pertaining to Hazelmere Dam.

Table 2: Hazelmere Dam Statistics

	Based on Current dimensions	Info - after raising the wall
Component	Description	Description
Maximum height of Dam wall	42.5m	49.5m
Length of Dam wall	463m	463m
Length of spillway	91m	91m
Approximate length of Dam		
Approximate width of Dam		
Spillway discharge at high flood level (1:200yr)		
Maximum capacity of outlet works (river outlet)	1.78 m ³ /s	
Maximum capacity of outlet works (service outlet)	42 m ³ /s	
Maximum spillway capacity (including emergency	950 m ^o /s	4600 m ³ /s
Gross storage capacity	17.9 million m ³	36.1 million m ³
Annual yield	22 million m ³	35 million m ³
Full drawdown level/FSL	86.0 MSL	93 MSL
Lowest drawdown level	10m	
Non-overspill crest level	94.0 MSL	99 MSL
Lowest foundation level	46.3 MSL	46.3 MSL
High flood line	93.82 MSL	94.8 MSL
Surface area at FSL	220 ha	328 ha
Full drawdown level	18m	
Catchment Area	381 km ²	381,
MAR (mean annual runoff) natural	71.25 million m ³	71.25 million m ³
MAR (mean annual runoff) observed	78.67 million m ³	70.67 million m ³
MAP (mean annual precipitation)	967 mm	967 mm
1:5 year flood		
1:20 year flood		
1:50 year flood	1130 m ³ /s	1130 m ³ /s
1:100 year flood	1420 m ³ /s	1420 m ³ /s
Regional maximum flood	3200 m ³ /s	3200 m ³ /s
Safety evaluation flood	4600 m³/s	4600 m³/s
Instream flow requirements as % of present MAR	8%	

Various estimates have been made of the original storage capacity of Hazelmere Dam. These range from 21 million m3 (Umgeni Water) to 24 million m3. The capacity has been reduced by sedimentation to an estimated 16,8 million m3, representing about 23% of the natural MAR (Table 1). While most of this loss has taken place on a gradual annual incremental basis, the 1987 flood resulted in a loss of some 2,5 million m3 of storage capacity within a few days. The capacity of the raised Dam is estimated to be 36 million m3, representing about 50% of the natural MAR. In 1994 the historical firm yield of Hazelmere Dam was estimated to be 23 million m3/a. The estimated historical firm yield for a raised Dam was 31 million m3/a. Estimates of future yield for the year 2050 range between 0 and 15.9 million m3/a, depending on whether or not irrigation demands and ecological flow requirements are met.

Hazelmere Dam has a low retention time and a high flushing rate. The average length of time that water was held in the reservoir (when full, and before sedimentation), is estimated to be 120 days. This gives an average flushing rate of three times per year when the reservoir is full. With sedimentation this was reduced to 86 days, with an average flushing rate of 4.2 times per year. The raised Dam is likely to extend the theoretical retention time to 185 days, with a theoretical flushing rate of twice per year. The actual retention time may vary greatly, as water level and the operating rules determine this.

The planning of Hazelmere Dam, on the Mdloti River, culminated in a White Paper that was approved by Parliament in 1971 (White Paper K-'71). The white paper details the water availability and water requirements in the area at the time. In summary, the Dam was needed to provide a reliable water supply to irrigation development and the rapidly growing urban and industrial users that were supplied at the time by the North Coast Regional Water Corporation, and today by Umgeni Water. A number of alternative Dam sites were examined, and Hazelmere on Blocks A and B of the farm Cottonlands 1575 was found to be the most suitable site (White Paper K-'71). This was followed by an investigation of various types of Dam including an earth/rockfill Dam, a concrete buttress Dam, a concrete gravity Dam, and a concrete gravity Dam with left bank earthfill embankment.

The studies concluded that the most suitable structure would be a concrete gravity Dam that would be completed in two phases. The first phase would create a Full Supply Level (FSL) at 85,98 masl, and the second phase would raise the FSL by seven meters to 93,00 masl. Detailed studies that followed were summarised in a second White Paper that was approved by Parliament in 1974 (White Paper O-'74). The first phase of the Dam was completed in 1976. No Environmental Impact Assessment was required at the time, but relevant socio-economic aspects of the environment were considered in the planning of the Dam.

When Hazelmere Dam was planned, the greater part of the Dam basin was expropriated taking into account the raised FSL of the Dam of 93 masl. Although the full impact of the proposed raised Dam on the surrounding land was anticipated, the Department of Water Affairs and Forestry decided not to expropriate land in the vicinity of the inflow into the Dam. This decision was in keeping with state policy that dictates that land should only be expropriated when necessary, and that freehold owners should continue to enjoy the benefits of land ownership until such time. Concerns around acquisition of land in the Oakford Priory area was the reason for not originally purchasing all the land that might be required for the raising of the Dam.

Floods in September 1987 introduced large volumes of sediment into the impoundment that reduced the storage capacity of the Dam by 10%. This, together with normal rates of sedimentation, has reduced the storage capacity of Hazelmere Impoundment by 28% (Table 1). The reduced capacity of the impoundment, together with water shortages and growing water requirements along the coast north of Durban, prompted the Department of Water and Sanitation and Umgeni Water to investigate the feasibility of raising the FSL of the Dam's impoundment as one of the options for satisfying the water demand in northern KwaZulu-Natal.

Various options for raising the wall were considered and included various types of gates (radial, flap, fuse, and buoyancy) and raising the concrete wall. Radial gates were selected as the preferred option because of their low cost and reduced environmental implications. The main environmental advantage of radial gates is greater flexibility in controlling Dam levels. Furthermore, the installation of radial gates is expected to have limited environmental impacts during construction, as it would involve a small labour force and can be done relatively quickly. The downside of radial gates is that they are not as safe as a concrete wall as their operation and maintenance is subject to human error and influence.

1.5.1. Physical Environment

1.5.1.1. Climate

The Hazelmere Dam is situated in a high, summer rainfall region, with an annual precipitation level of between 800 mm – 1125 mm. Summers are very warm, temperatures range from 25° C to 38° C. Winters are moderate with relatively cool days, with rare cold spells in the morning and at night, with temperatures ranging from 9° C to 19° C.

1.5.1.2. Geology

The study area is underlain predominantly by Tillites and associated rocks of the Ecca group, Dwyka formation. This is overlain by the dark grey shales of the Pietermaritzberg foundation, with Natal Group Sandstones and conglomerates present, additionally a number of dolerite intrusions in the study area, as well as a geological fault extending through the study area from north-east to south west.

1.5.1.3. Topography

The study area contains numerous major and minor river valleys and tributaries resulting in various degrees of fragmentation, while the area surrounding the Hazelmere Dam forms a large bowl shape with a gently sloped terrain.

The Hazelmere Dam and Umdloti River valley represent the topographical focal point of the study area, being approximately 40 m above sea level, much of the steep topography is found on the river bends, while most of the flat slopes are located on the depositional side of the stream.

1.5.1.4. Hydrology

The hydrology of the Dam and its surroundings are characterised by a large amount of perennial tributaries flowing in from the surrounding hills with the main inlet and outlet being the Umdloti River.

1.5.1.5. Soils

The soils within the study area include those derived from Natal group sandstones, Dwyka conglomerates, lower Ecca shales, Karoo dolerites, Stormberg basalts and alluvium. The soils all belong to the Umzinto soil systems, specifically the coastal lowlands and river valleys. Soil forms include Cartref, Glenrosa, Westleigh, Milkwood and Rensberg. All these soils have moderate to high erosion potential, specifically gully erosion.

1.5.1.6. Water Quality

The water quality of the Dam is accepted as being of a high quality, providing for excellent bass water sport conditions. Various testing points are in operational use. Umgeni Water abstracts raw water from the Hazelmere Dam for treatment at the Hazelmere Water Works to produce approximately 38.5 Ml/day potable water. The quality of raw water from the Dam is therefore vital for the sustainability of Umgeni water business. The main area of concern regarding the

raw water quality from the Hazelmere Dam includes soil erosion which results in increased suspended solid in water.

The suspended solid loads entering the Dam is further elevated by the sand mining activities upstream of the Dam. Removal of the Suspended Solids in raw water during the treatment process has significant cost implications for Umgeni Water.

Furthermore, during Dam turnover, which occurs between April and June each year, soluble/reduced species of iron and manganese are present in water. These tend to be correlated with the high suspended solids present in this system. The water works is currently not designed to treat elevated soluble iron and manganese concentrations, as a result additional treatment processes have to be incorporated/introduced at the time which has cost implications for Umgeni Water. High concentrations of iron and manganese result in aesthetic impacts in the distribution water and lead to serious consumer complaints.

Umgeni Water is currently developing its Objectives for Resource Water Quality (UW-RWQOs) with the overall goal of ensuring that potable water produced at the works is of acceptable quality at all times. Umgeni Water needs to meet the South African National Standards (SANS 241) Drinking Water Specification. These RWQOs will define the quality of raw water that Umgeni Water requires to ensure we comply with this standard.

UW-RWQOs will have been developed by the end of September 2007 and these can then be submitted for consideration as a requirement of Umgeni Water in the development of Hazelmere Dam RMP.

1.5.1.7. Flora

Areas surrounding the Dam contain remnants of indigenous vegetation, in particular on steep topography and cliff faces on the northern banks of the Dam, the remainder of the natural area consists substantially of disturbed grassland. The steeper and therefore the less accessible valley sides of the river and the tributaries contain some indigenous vegetation, inclusive of the area surrounding the Priory.

1.5.1.8. Fauna

The Dam is home to over 220 species of birds, a particularly large number considering the proximity to Durban. This is due to the excellent variety of habitat types, from water to forest to grassland to thorn-veld. White-backed Night Heron, Martial, Crowned and Black Eagle and even nesting Black Storks have been recorded.

Smaller mammals such as bushpig have been recorded, but larger mammals are absent.

The reptile population of the Dam is diverse is diverse and consists of snakes, monitor lizards and skinks.

1.5.2. Socio-economic Environment

The study area falls entirely within eThekwini Ward 60 as shown in Figure 4 below, with an edge impact on Ward 59.

Of key importance is the socio-economic analysis of Ward 60. However, the Oakford Priory, listed by all previous studies as possessing tourism potential, falls within Ward 59. But, as the

priory is positioned very close to the boundary of Ward 60 this analysis is limited to the socioeconomic analysis of Ward 60.

Through a socio-economic analysis of a given area, insight can be gained into specific needs in the area, socio-economic issues that need to be addressed for a development to overcome potential hurdles, and skills and education levels which can aid or hinder a local development. Finally, an understanding of socio-economic conditions of a given area can be used at a later stage to determine the impact a given development has had on a certain area in terms of changed socio-economic conditions.



Figure 4: eThekwini Ward boundaries

Hazelmere Dam falls part of eThekwini Metropolitan Municipality which is located on the east coast of South Africa in the Province of KwaZulu-Natal (KZN). The Municipality spans an area of approximately 2297km2 and is home to some 3 442 361 million people.

1.5.2.1. Population Dynamics

Census 2011 information is set out in Table 3 below:

Table 3: Population (Source: Stats SA, 2011)

Ward	Population
Ward 2	30 435
Ward 3	42 405
Ward 8	35 540
Ward 9	31 926

The number of households is set out in Table 4.

Table 4: Number of Households (Source: Stats SA, 2011)

No. of people	No. of Households
140 306	32 883

Figure 4 shows that the study area is made up of 48% males and 52% females. Children make up 31%, which highlights people who are still dependent on their parents. There is a high percentage of people that fall within the labour force which at the same time identifies the youth (15 - 34 years) of the area.



Figure 5: Age and Gender Breakdown

1.5.2.2. Educational and Health Facilities

According to Census 2011 information, 7.5 % of the population have no formal schooling. The number of people with Matric qualifications make up 31% of the population. H igher education level was reached by 11.8% of the population whereby this includes certificates, diplomas and degrees that have been obtained. (Refer Figure 5). Wards 2, 3, 8 and 9 fall under semi-rural areas of the eThekwini Municipality. The study area has limited access to services and has unplanned arrangements. Facilities do exist around the Dam, yet also within the wider area.





1.5.2.3. Current Employment Status

Figure 6 below highlights the employment status of the population surrounding Hazelmere Dam, 35.7% of the population is employed whilst 18% is unemployed, furthermore 5.9% of the population are discouraged work seekers and 40.4% of the population are not economically active.



Figure 7: Employment Status (Source: Stats SA, 2011)

1.1.1.1. Annual Household Income

Households with no income make up 12.8% of the community of the study area. Most people fall within R19 201 – R38 400 range (refer Figure 7).
Hazelmere Dam Resource Management Plan



Figure 8: Annual Household Income (Source: Stats SA, 2011)

1.5.2.4. Types of Housing

Approximately 70.4% of the population lives in formal housing and 4.9% living in informal structures. Traditional houses make up 23.5% of the households. Refer Figure 8.



Figure 9: Housing Typology (Source: Stats SA, 2011)

1.5.2.5. Business and Economic Activities

This section examines in brief the business and economic activities in the area. The purpose of such an analysis is that it leads to an understanding of where the economic strengths and weaknesses are in the area, and where key economic activities take place. While a strong focus is on tourism, it must be remembered that the tourism sector is dependent on inputs from other economic sectors for its functioning. The table below is a summary of the key economic activities in the areas immediately surrounding the Hazelmere Dam. This is represented by key economic activities in the four quadrants of the area under study.

Table 5:	Кеу	Economic	Activities
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ACTIVITIES	NW REGION	NE REGION	SW REGION	SE REGION
Tourism	Msinsi resort Boat storage	Lakeside Lodge		Forest Lodge
Agricultural	Litchi trees	Furveron Poultry Farm Cow Pens	Litchi trees	
Manufacturing				Canelands Industrial Park
Mining			Sand Winning	
Community Services			Oakford School Oakford Priory Islamic Mosque	Golden Steps School
Retail		Chicken Sales Petrol station Hairdresser Spazashop Phone container	General Superette	

2. THE PLAN

2.1. STRATEGIC FRAMEWORK

DWS is the custodian of South Africa's water and forestry resources and is primarily responsible for the formulation and implementation of policy governing this sector and also promotes effective and efficient water resources management to ensure sustainable economic and social development.

2.1.1. DWS's Vision

DWS has a vision of being:

'a country that uses water ... productively and in a sustainable manner for social and economic activities; in a manner that promotes growth, development and prosperity of all people to achieve social justice and equity.'

2.1.2. DWS's Mission

As sector leader, the mission of DWS is to serve the people of South Africa by:

- guiding, leading, developing a legislative framework for regulating and controlling the water sector;
- conserving, managing and developing water resources in a scientific and environmentally sustainable manner in order to meet the social and economic needs of South Africa, both now and in the future;
- educating the people of South Africa on ways to manage, conserve and sustain water resources;
- cooperating with all spheres of Government, in order to achieve the best and most integrated development, and
- creating the best possible opportunities for employment, the eradication of poverty and the promotion of equity, social development and democratic governance.

2.1.3. Key Objectives of the Department

The Department's key focus areas and strategic objectives are as follows:

- Ensure reliable and equitable supply of water for sustainable economic and social development including the eradication of poverty.
- Ensure the protection of water resources.
- Develop effective water management institutions.
- Align staff, stakeholders and general public to a common vision for Integrated Water Resource Management (IWRM) and develop, capacitate and empower them in best practices thereof.
- Ensure provision of basic water supply and sanitation for improved quality of life and poverty alleviation.

- Ensure effective & sustainable delivery of water services to underpin economic and social development.
- Ensure effective Water Services Institutions.
- Ensure effective local-level operations and management of DWS water services schemes. Promote and support sound policy and practice of water supply and sanitation to achieve millennium targets in Africa.
- Promote IWRM in Africa in support of the New Partnership for Africa's Development (NEPAD).

To guide initiatives aimed at attaining DWS's vision, mission and objectives, an operational policy regarding the use of water for recreational purposes has been developed. This policy addresses planning, safety, authorisation, equity, communication, capacity building, institutions and linkages, legislative and legal framework, and monitoring and information management, and provides strategic direction to the Hazelmere Dam RMP.

2.2. VISION, MISSION AND OBJECTIVES FOR HAZELMERE DAM

2.2.1. Vision

Based on the original vision determined during the 2008 RMP process as well as key stakeholder meetings and public meetings as part of the update process, the vision for Hazelmere Dam was highlighted as:

Effective co-management to unlock the economic potential of Hazelmere Dam in an equitable and sustainable manner that does not compromise the primary function of the Dam and ensures the protection of the ecosystem.

2.2.2. Mission

As an important water resource, the stakeholders around Hazelmere Dam accept their mission as being:

- The protection of the water and associated aquatic ecosystem through effective comanagement;
- Unlocking the economic potential of the Dam and surrounding precinct;
- The creation of a conducive environment for the involvement of the sporting, recreation and tourism industries; and
- The provision and management of benefits to the local, host and affected communities.

2.2.3. Key Management Objectives

To attain the mission for the Hazelmere Dam, and accept the challenges, the following key objectives for the Dam's management, utilisation and development were acknowledged by the stakeholders:

- To ensure equitable and controllable access to the Dam that addresses the needs and expectations of the general public, as well as private users;
- To ensure an equitable balance between agriculture, recreation and residential use,

through clearly demarcating areas, zones, time allocations and secure access;

- To ensure the promotion of compatible development between agriculture, recreation and residential initiatives based on effective co-management agreements, carrying capacities and environmental constraints;
- To ensure improved and affordable access, services and infrastructure addressing the needs and expectations of local residents, farmers and investors as well as those of the sport and recreation industries and;
- To ensure that the primary function and purpose of the Dam is maintained which includes retaining water quality.

Additional to these key objectives and for its execution is the appointment of a management authority to manage the Dam and its surrounding State land that is dynamic, focused and representative of the stakeholders and landowners of the host community, where the host community is defined as the community directly affected by and adjacent to the water resource. The performance of this institution in its endeavours to attain these objectives will be constantly audited and reviewed, to ensure that DWS can assist wherever necessary and appropriate.

2.3. MANAGEMENT APPROACH

To ensure that the RMP contributes to the attainment of the objectives set by its stakeholders, a process approach based on the ISO 9000 management system forms the basis of the management approach for the Hazelmere Dam. The rationale for this approach is to assist DWS and the management authority in ensuring sustainability by protecting the integrity and value of environmental resources, providing measurable benefits to host communities, and enhancing the satisfaction of users (refer DWS's *Guidelines for the Compilation of Resource ManagementPlans*).

Without a plan it will be impossible to co-ordinate and manage the activities required to unlock the potential of the Hazelmere Dam. Only by measuring the performance of specific actions and operational guidelines against objectives will it be possible to effectively manage the water resource. The structure of the plan is based on Key Performance Areas (KPAs), refer Figure 11, aimed at attaining the key management objectives set for Hazelmere Dam by the stakeholders, namely:

KPA 1: Resource Management – natural and cultural resource management and land expansion and incorporation;

KPA 2: Utilisation – public private partnerships; public access; infrastructure and marketing, and

KPA 3: Benefit Flow Management.

KPA 4: Institution Plan

Hazelmere Dam Resource Management Plan



Figure 10: Management Framework

Specific objectives aimed at unlocking the potential of Hazelmere Dam were set by individual sector groups, based on access, use, development, and infrastructure requirements. Table 9 lists these objectives within the various KPAs.

Table 6: Management Objectives According to KPAs

OBJECTIVES	KPA
 To effectively manage the Dam shoreline in terms of among other alien plant removal and pollution control. To identify and protect the cultural heritage resources which might exist around the Dam. To identify the negative contributing factors (sedimentation) to water quality and to retain the water quality. 	KPA 1
To identify and make use of the significance of downstream water.	
To identify potential renewable energy strategies that can be promoted through the Dam. thus providing energy for the local community.	
To ensure that water uses and/or users are verified, registered and regularised.	KPA 2
To have private access made possible to the Dam.	
To have sustainable and balanced development of the agricultural and tourism potential of the Dam.	

To manage the use of the water surface through demarcated zones and co- ordinated time sharing including: Jet ski area Ski boat area Fishing areas (2) No wake (launch) zones Inland swimming	
To promote, controlled gate access to the commercial/activity node within the wider area of the current Msinsi area.	
To promote and allow for private investment that will help better the lives of local people at a density that would be economically and environmentally viable.	
To promote development around the Dam of only activities compatible with agriculture, tourism and recreation opportunities to better the lives of local people.	
To promote the sustainable development of the area through density controls determined by the carrying capacity set for various appropriate	
To promote, accommodate and manage the following activities on and around the Dam:	
 Sport activities (Jet ski, water ski, model boats, fishing etc.) Recreation activities (Swimming, hiking, running/cycle track, fishing, bird watching etc.) 	
 Residential development Agriculture (Commercial farms, organic farming, 	
aquaculture) Cultural activities (Baptisms, amphitheatre)	
To provide an improved level of services in line with affordability determined by terrain topography, operations and management etc. that will accommodate intended future development and also benefit people residing adjacent to the Dam, including: Improved roads Bulk electricity Bulk sewer services (treatment plant) Water provision Ablution facilities 	
Communications infrastructure.	
To upgrade and maintain key public access roads to the Dam (especially the proposed commercial hub and northern access road(s) in order to unlock the development potential for e.g. a conferencing centre, cultural village and residential developments.) as well as ensure proper directional signage to and from the Dam. Additionally, to construct proposed roads to the Dam, lodges etc.	
To clarify the mechanisms for benefit flow to disadvantaged communities in the area.	KPA 3
To ensure that equitable public access to the Dam is provided balanced with private and commercial access.	
To have a community housing programme that will promote subsistence farming	

To have improved policing for increased safety and security thereby enhancing quality of life for the local community and tourists at Hazelmere Dam.	
To clarify the delineation of management boundary and specific responsibilities between government role-players.	KPA 4
To effect intergovernmental co-operation through the alignment of "development" and "use" approvals and permissions and appropriate institutional governance arrangements.	
To ensure the protection of water resources within the catchment area of the Dam through effective institutional structures and arrangements.	
To establish relationships with donor funding organisations and relevant government partners to support implementation of the resource management plan, including providing financial support to present	
To have a streamlined and supported land rezoning processes in place for the establishment of lodges residential, conference centres etc	

The management objectives will be discussed within each of the KPAs by addressing the following aspects:

- Rationale
- Management Support (Funding, human resources, policies and protocol etc.) Policy and Legislation
- Operational Guidelines
- Plans and Programmes (Operational guidelines, Action projects) Performance Indicators

Undertaken in this manner, the RMP can be implemented based on clear policies and objectives within each KPA, and with operational guidelines to facilitate the co-ordination of actions to a common vision. Decisions are based on objectives and vision, guided by policy statements. In this way the management authority, host community and users will clearly understand why certain activities are allowed or prohibited.

A *Master Plan* (refer section 3 and Appendix D, Figure 22 provides strategic direction for the management, utilisation and development of the Dam within the constraints and opportunities of, as well as vision, objectives and policies for the receiving environment.

2.4. KPA 1: RESOURCE MANAGEMENT

2.4.1. Natural Resources

2.4.1.1. Alien Plant and Pollution Control

To effectively manage the Dam shoreline in terms of among other alien plant removal and pollution control, the following ISO management interventions are recommended:

Table 7: Alien Plant and Pollution Control

Objective

To have the Hazelmere Dam and area surrounding the Dam free of alien vegetation

Rationale

Alien plants and pollution, both pose a major threat to the region's sport, recreation and tourism potential. Without effective control the region's biodiversity will be affected, and without high quality of water the recreational potential is depleted.

Management and Support

- Planning and execution of eradication programmes must be done in cooperation with Working For Water.
- Synchronise eradication projects in the catchment by engaging adjacent landowners and local environment initiatives.

Policy and Guidelines

Remediation

- The control of invasive plant species is addressed under the Conservation of Agricultural Resources Act (CARA Act No 43 of 1983). Relevant legislation as well as municipal by-laws must be complied with.
- Combating must be based on the latest alien plant control technology and knowledge. Preference should be given to non-chemical eradication methods wherever possible. Due to the negative impact of aerial spraying on riparian vegetation, such spraying may only be used as a last resort.
- Allow only weed free vessels to enter or exit the Dam.

Horticulture

- Exotic species must be removed and replaced with appropriate indigenous trees, where appropriate.
- No alien vegetation may be introduced anywhere within the Dam boundary line and only indigenous planting schemes will be permitted.

Action Projects

- I. Determine the success of current Working for Water initiatives to eradicate water hyacinths, identify opportunities and constraints.
- II. Ensure that required resources are available for the removal of water hyacinths when action is required, especially during December and January.

III. Quantify and qualify the extent of invasive alien vegetation in order to have a base

line survey. IV. Continuous removal of problem plants within the Dam boundary line.

V. Rehabilitate infested areas with suitable endemic species.

- VI. Continuous monitoring of occurrence of problem plants on the Dam surface and within the Dam boundary line.
- VII. Develop an inspection and cleaning mechanism to ensure that vessels entering the Dam do not contaminate it with alien vegetation.

Indicators

Use the base line survey to measure the effectiveness of the eradication programme and adapt actions accordingly. Indicators for the effectiveness can be measured as:

- I. A decrease in stands of alien species within the Dam boundary line; and
- II. Water surface free of water hyacinth.

Roleplayers

Umgeni Water DWS Department of Agriculture and Environmental Affairs eThekwini Environmental Management

2.4.2. Cultural Resources

2.4.2.1. Cultural Heritage Resource Management

To identify and protect the cultural heritage resources which might exist around the Dam, the following ISO management interventions are recommended:

Table 8: Cultural Heritage Resource Management

Objective

To identify, acknowledge and conserve resources of paleontological, archaeological, historical, cultural and religious significance.

Rationale

Despite the degree of development in the region, the area around Hazelmere Dam has certain cultural heritage resources, both tangible and intangible, worthy of protection, albeit of local significance.

These resources need to be identified, documented, conserved and utilised to ensure their relevance and protection. Cultural tourism within eThekwini is an important catalyst for development and the region around Hazelmere Dam should strategically link up with established cultural heritage routes and products.

Management and Support

- The South African Heritage Resources Agency (SAHRA) is the national body responsible for the protection of South Africa's cultural heritage resources.
- · Community representatives and organisations as well as the Ward Councillor
- Faith Based Organisations
- Research Institutions Involvement of local conservation and social initiatives (BVC, MPA, RGKB, etc)

Policy and Guidelines

Conservation

- Cultural and heritage resources need to be conserved and managed in line with the National Heritage Resources Act (NHRA).
- Conservation management needs to continuously update and expand the knowledge base regarding cultural resources, through research, documentation and protection, as well as training and capacitation.
- Conservation work should not only be undertaken where the cultural resource is threatened, but also where the resource can contribute to enhancing the tourism experience.

• Human remains that are less than 60 years old are protected by the Human Tissue Act (Act 65 of 1983 as amended). Human remains older than 60 are protected by the NHRA.

Identification and documentation

- Staff of operators, contractors and the management authority need to be trained in identifying possible cultural resources.
- A data base of cultural resources should be available and updated by properly trained and accredited researchers.

Utilisation

- Reasonable access must be ensured to grave sites for ancestors.
- Controlled access to the Dam should be provided for practice of baptism or similar religious activities.
- Both tangible and intangible heritage and cultural resources can be incorporated into a visitor

Action Projects

- I. Confirm the presence of the possible grave sites and implement protection measures.
- II. Establish a relationship with the faith based organizations and develop a procedure with regards to the use of the Hazelmere Dam for ritual activities.
- III. Formalise a relationship with the South African Heritage Resource Authority(SAHRA).

Indicators

For effective management of cultural and heritage resources it is essential that performance be monitored utilising techniques and procedures based on good heritage practice, cost efficiency and applicability, appropriateness, compliance with heritage guidelines and consistency over time. Among others the following indicators can be used:

- · Condition of physical resources (for example Damage to grave sites).
- Amount of heritage sites discovered.
- Successful use of the Sterkstroom inlet.
- Implementation of conservation measures and other recommendations.

Roleplayers

AMAFA

2.5. KPA 2: UTILISATION

2.5.1. Access, Use and Development

2.5.1.1. Regulation

To ensure that water uses and other operations are verified, registered and regularised, the

following ISO management interventions are recommended:

Table 9: Regulation

Objective

To evaluate the existing uses of the Dam basin and adjacent state and privately owned land to ensure that usage is lawful and that the necessary permits and authorizations are in place.

Rationale

Throughout the RMP compilation process, it has been alleged that for certain land and water uses, the necessary permits and authorizations are not in place. For other utilisation KPA"s to be achieved, it is imperative that all usage is regularized.

Management and Support

- The management authority is responsible for overall management and coordination of the proposed action project.
- Various national, provincial and local government departments must provide information regarding land and water use authorisations.

Policy and Guidelines

• The data obtained during the process of the RMP compilation, as documented in the Research

Report, should be used as a starting point.

- DWS should be consulted with regard to water use authorisations, as contained in the DWS"s authorisation and management system.
- Legal advice should be obtained to ensure that the recommended methodology is in the data obtained during the process of the RMP compilation.
- DWS should be consulted with regard to water use authorisations, as contained in the DWS"s authorisation and management system.
- Legal advice should be obtained to ensure that the recommended methodology is in the development

Action Projects

I. Embark on a project to evaluate the current use of the Dam basin and adjacent state and privately owned land and regularize unlawful usage

Indicators

I. A database of all permits and authorizations for water surface and land use, highlighting whether use is legal or illegal. If illegal, time frames for regularization must be stated.

Roleplayers

DWS

Department of Agriculture and Environmental Affairs

2.5.1.2. Access, Use and Development Management

To promote access, use and development around the Dam of only activities compatible with agriculture, tourism and recreation opportunities to better the lives of local people, and promote, accommodate and manage the following activities on, in and around the Dam:

Sport activities (Jet ski, water ski, model boats, fishing etc.) Recreation activities (Swimming, hiking, running/cycle track, fishing, bird watching etc.) Residential development

Agriculture (Commercial farms, organic farming, aquaculture) Cultural activities (Baptisms, amphitheatre)

Tourism (Caravan, camping sites, lodges, hotels etc.),

The following ISO management interventions are recommended:

Table 10: Access, Use and Development Management

Objective

To evaluate the existing uses of the Dam basin and adjacent state and privately owned land to ensure that usage is lawful and that the necessary permits and authorizations are in place.

Rationale

Unlocking the potential of Hazelmere Dam requires compatible use and development aimed at establishing a local economy that can sustain itself. This will require accommodation, increases access, activities and employment opportunities without negatively impacting on other economic sectors such as agriculture which can also contribute to the local economy.

Management and Support

- The management authority is responsible for overall management and coordination of the proposed action project.
- Various national, provincial and local government departments must provide information regarding land and water use authorisations.

Policy and Guidelines

• The data obtained during the process of the RMP compilation, as documented in the Research

Report, should be used as a starting point.

- DWS should be consulted with regard to water use authorisations, as contained in the DWS"s authorisation and management system.
- Legal advice should be obtained to ensure that the recommended methodology is in the data obtained during the process of the RMP compilation, as documented in the Research Report, should be used as a starting point.
- DWS should be consulted with regard to water use authorisations, as contained in the DWS"s authorisation and management system.
- Legal advice should be obtained to ensure that the recommended methodology is in line with all relevant policies and legislation.

Action Projects

I. Embark on a project to evaluate the current use of the Dam basin and adjacent state and privately owned land and regularize unlawful usage

Indicators

I. A database of all permits and authorizations for water surface and land use, highlighting whether use is legal or illegal. If illegal, time frames for regularization must be stated.

Roleplayers

DWS
Sport and Recreational South Africa
AMAFA
Department of Agriculture and Environmental Affairs

2.5.1.3. Carrying Capacities and Density Controls

To promote the sustainable development of the area through density controls determined by the carrying capacity set for various appropriate 'uses', the following ISO management interventions are recommended:

Table 11: Carrying Capacities and Density Controls

Objective

To enable broad public and private enjoyment of the water resource and surrounding State land through controlled authorized access and associated infrastructure development.

Rationale

Uncontrolled development and use within the region will negatively affect investment and employment, necessitating strict control measures regarding the number of boats, jet skis and other vessels, as well as visitor carrying capacities. By clarifying the carrying capacities and setting density controls creates a conducive environment for investors and operators.

Management and Support

- The involvement of the relevant industry with regards to user experience and other aspects such as safety is imperative.
- Environmental and other planning institutions including relevant government departments need to be consulted when establishing density controls.

Policy and Guidelines

Permitted uses

- This section describes the uses which are generally permitted in the Dam basin.
- These may be subject to further requirements and restrictions (spatial, operational .etc) as mentioned elsewhere in the RMP.
- Water based activities will include fishing, swimming, water skiing, windsurfing as well as vessels such as canoes, paddling vessels, rowing boats, sailing dinghies and vessels and motorised boating. Tiller-bar operated vessels, large vessels such as houseboats and activities such as Para-sailing, kite-surfing should not be considered at the Dam. Jet ski's may only be considered once sufficient management capacity is in place and under certain conditions.
- Land based activities can include high activity recreation such as tourism development and accommodation, events and sport as well as low impact activities such as hiking, fishing , picnicking etc.

Density controls

- Density controls have been established for the fundamental utilisation aspects. In order to address future concerns regarding the over exploitation of the resource and user experience, further density controls may be required. This should be addressed as the need arises. A variety of visitor management techniques need to be considered, broadly based on what the available natural, infrastructural and human resources can accommodate.
- The density controls are established for normal operational use and may only be relaxed for certain organised events and if sufficient management control can ensure safe operation and minimal environmental impact. Consent would be required from DWS in each case. quotas for each of the land management zones.
- As the water level drops, pro rata changes would need to be made based on the water surface

Vessels

- Vessel area requirements, relationships and classification is based on the Guidelines for the Compilation of Zoning Plans for Government Waterworks. The procedure is based on the Methodology for Carrying Capacity Assessment for the Use of Water for Recreational Purposes.
- Vessels need to be counted at the primary launching facility. Other vessels have different area requirements and adjustments would need to be made accordingly.
- Over and above the ECC for boats an additional ECC for other non-motorised vessels that are smaller than 7m has been made (canoes, rowing boots, etc). This is to accommodate low risk vessels that can be launched from other launching facilities.
- Primary and Secondary Launching sites as well as equal quotas for each of the land management zones.
- As the water level drops, pro rata changes would need to be made based on the water surface area of the High Activity and Low Activity Zones. Tables indicating surface area and adjusted ECC should be prepared based on Dam levels.

Infrastructure

 There will be only one development core, which will be situated in the northern section of the Active Recreation Zone. No other development cores or built up environments will be permitted anywhere else on state land.

Other

• As the pedestrian use increases, density controls should be established for pedestrian numbers.

Thresholds should be considered for the Active Recreation Zone, the Passive Recreation Zone as well as the Conservation Zone. Limitations on use may further be considered in terms of source: public, commercial or private domain.

 Thresholds in the Active Recreation Zone should further make specific reference to building footprint and numbers, amount and type of accommodation facilities, size of picnic area, etc. Thresholds should be considered for organised events, especially when the events are large public events, which may have a regular impact on other uses or on the resource.

Other carrying capacity assessments should be undertaken as the need arises. Where
local guidelines not be available, international publications should be consulted. Where it is
anticipated that limits of acceptable change could be exceeded, carrying capacity
assessments should be undertaken prior to the activity being undertaken or facility being
developed.

Action Projects

- I. Implement density controls for the various utilization aspects.
- II. Develop and implement a customised control and monitoring programme for each of the various carrying capacity aspects. This can include systems of self-regulation as well as physical control infrastructure.

III. Establish density controls for activities and facilities that require carrying capacity assessments.

Indicators

Thresholds need to be strictly monitored according to the control and monitoring programme. Indicators for the effectiveness of density controls can be measured as:

- Physical presence versus the specified carrying capacity.
- Compliance of users with regards to the thresholds.
- Amount and seriousness of incidents.
- · Responsiveness, satisfaction of and awareness among users.
- Realisation of control and monitoring systems.

Roleplayers

DWS eThekwini Municipality

Department of Agriculture and Environmental Affairs

2.5.1.4. Access Control

To promote a single, controlled gate access to the commercial/activity node within the wider area of the current Msinsi Holdings area, the following ISO management interventions are recommended:

Table 12: Access Control

Objective

To create a safe and secure environment through ensuring controlled access through a single access gate.

Rationale

Creating a safe and secure environment is of paramount importance to investors and users. Without this, sustainability will not be achievable. By controlling access to the Dam through a single access gate promotes confidence while simultaneously increasing affordability.

Management and Support

- Location of single access gate needs to be determined and agreed upon by all stakeholders.
- The necessary authorisations for access, use and development within the boundary line must be approved by DWS prior to any actions.
- Linkages must be established with relevant government departments and federations where direct access to the water on the Dam is required.

Policy and Guidelines

Access and Use

- The Dam must remain available for broad public recreational access and use, above commercial or private interests.
- Public access and use should be equitable, compatible and safe.
- Fees for access & use should be determined as prescribed in terms of Section 113 of the NWA.
- Entry fees may be levied for public access and use. However, fees need to be reasonable to ensure the Dam remains an affordable destination.
- Access and use must be in accordance with the Zoning Plan.

Existing Use

- For most users and operators, the necessary agreements and authorisations are either outdated or non-existent.
- Existing use must be regularized.

Action Projects

I. Pending the finalisation of the NDPW"s vesting process, evaluate the development potential in terms of the Zoning plan and prepare and implement a development strategy.

Indicators

I. Access gate is developed

Roleplayers

DWS

eThekwini Municipality

2.5.1.5. Private Access

To promote and allow for private investment that will help better the lives of local people at a density that would be economically and environmentally viable and to have private access made possible to the Dam by 2010, the following ISO management interventions are recommended:

Table 13: Private Access

Objective

To enable adjacent landowners and residents access to and use of the resource in their private capacity.

Rationale

Through effective co-management agreements, private access can be ensured while complying with

National Treasury's regulations regarding the use of State property.

Management and Support

- In order to simplify the administration, management and monitoring, agreements with adjacent landowners will be handled with three associations, each representing one and management zone.
- DWS will enter into an agreement with each of the associations separately. Once finalised, the contracts however will be administered by the management authority.
- In turn each of the three associations would require an internal agreement regulating matters

between the property owners and residents within each land management zone. This agreement may contain specific requirements from DWS or from the management authority.

Policy and Guidelines

Access and use

- Access onto state land will only be from one designated point per property for farms and smallholdings. Townships and small accommodation facilities will each receive one designated point.
- Access onto the state land will only be into the Passive Recreation Zone and the Conservation

Zone. Only pedestrian, including cycling and horseback access and use will be permitted.

- Access onto the water surface will only be into the Low Activity Zone, after having transported the vessel via the Passive Recreation Zone or the Conservation Zone by hand to the nearest designated Tertiary Launching Facility.
- Such vessels will only be limited to small non-motorised vessels (such as canoes and rowing boats; less than 7m). Sailing vessels will also be excluded unless these are wind surfing craft.
- Further access into the Active Recreation Zone or the High Activity Zone is not automatically possible.

Development

- No infrastructure development on state land by adjacent land owners, residents or relevant management zone associations will be allowed.
- All existing unauthorised infrastructure within the Passive Recreation Zone and the Conservation Zone, including that located along the shoreline, must be removed. New infrastructure, as is described elsewhere for the Passive Recreation Zone,
 - Conservation Zone and the Low Activity Zone will be developed by the management authority after consultation with the relevant land management associations.
 - However the task of maintenance of the infrastructure (hiking trails, Tertiary Launching Facilities, etc) can be performed by the relevant land management associations, subject to the conditions of contract.

Establishment and Implementation

The intention is to provide a strategy so that a sensible agreement between the adjacent property owners and DWS can be established and implemented, bearing in mind that private access and use should not interfere with other uses. According to the National Water Resource Strategy (NWRS), which highlights the management priorities required when allocating water licenses, the provision of the reserve is listed as the highest priority compared to private use which is listed as the lowest priority. Co-management should form the basis of an agreement which should include fees as well as service functions in return for access to and use of the resource. In addition to relevant DWS policy, contracts will have clearly defined limits placed on sizes. numbers and levels of access and use and restrictions ofzones. Such co-management agreements are implemented in a cost-effective, socially responsible, equitable and environmentally acceptable manner, maximising local employment, skills development and local economic benefit. Adjacent land owners, residents and relevant management zone associations must operate within defined codes of conduct and specific rules as provided by the management authority, and amended as required. Relevant associations are responsible for compliance. Fees and functions may vary, depending on aspects such as environmental impacts, amount of people gaining access, intensity of adjacent land use (farm, small holding, township or small I tourism accommodation). Additional fees may be charged for and special conditions attached to townships and small accommodation facilities. All fees levied and all income earned will be paid to the management authority, for disbursement and utilisation regarding inter alia the development and operational costs of infrastructure, development and management costs of conservation, and the contribution to community beneficiation projects and programmes. Action Projects I. Prepare a strategy to procure and award co-management agreements with land management associations. II. Develop and establish agreements for property owners within a land management association. III. Develop and establish agreements for the individual land management associations.

IV. Plan and implement infrastructure required to support approved land management agreements.

Indicators

Land management associations will be required to submit annual reports to the management authority regarding performance and compliance with conditions of contract and environmental sound practices. Monitoring should apply performance indicators such as:

• Updated database of all adjacent landowners and residents within a land management zone.

- Own user satisfaction as well as satisfaction levels of other users
- Record of incidents regarding visitors.
- Compliance with specific rules as well as with Dam rules.
- Environmental impact
- Number of tourism accommodation facilities
- Payment of fees
- · Performance of functions

Roleplayers

DWS

eThekwini Municipality

2.5.1.6. Zoning

To manage the use of the water surface through demarcated zones and co-ordinated time sharing including:

- Jet ski area
- Ski boat area
- Fishing areas (2)
- No wake (launch) zones

The following ISO management interventions are recommended:

Table 14: Zoning

Objective To provide an effective zoning to unlock the economic potential of the Dam in a sustainable manner.

Rationale

The Dam has been divided into use areas or zones to facilitate compatibility between user groups. Recognising the difficulties associated with enforcing local rules, in an effort to ensure safety, Hazelmere Dam will primarily accommodate motorised water sport activity within clearly demarcated zones. No motorised boats will be allowed in fishing zone though, while speeds will be restricted in the no-wake zones.

Management and Support

• DWS to clarify Government Notice Regulation 654 as regulatory framework.

Policy and Guidelines

- Utilise Regulation 654 to enforce zonation
- Provide clarity regarding penalties regarding non-compliance
- Inland Vessel Regulations

Action Projects

I. Demarcate zones with buoys, and provide clear zonation maps at entrance and launch sites

II. Monitor compliance with zonation

Indicators

- I. Compliance with zonation plan
- II. Record of breaches

Roleplayers

DWS Sport and Recreational South Africa eThekwini Municipality

2.5.2. Infrastructure and Services

2.5.2.1. Access Roads

To upgrade and maintain key public access roads to the Dam (especially the proposed commercial hub and northern access road(s) in order to unlock the development potential for e.g. a conferencing centre, cultural village and residential developments.) as well as ensure proper directional signage to and from the Dam and to construct proposed roads to the Dam, lodges etc. by 2010, the following ISO management interventions are recommended:

Table 15: Access Roads

Objective

Increased accessibility the Dam in order to maximize potential opportunities and benefits from it.

Rationale

Without easy access, visitors will not utilise the Dam and its resources, inclusive of signage to and from the Dam.

Management and Support

Provision and upgrading of access roads falls under the functions of eThekwini Municipality and thus the management programmes and support services (e.g. maintenance & cleaning) will be guided by the roads management programme within the relevant department.

Policy and Guidelines

eThekwini Policies & Guidelines (To be included)

Action Projects

- Main access road upgrading
- Secondary Road Maintenance

Indicators

- Additional Access points created
- Length of Roads upgraded
- Increase in traffic volumes
- General condition of the roads and satisfaction of the users

Roleplayers

eThekwini Municipality

2.5.2.2. Services

To provide an improved level of services in line with affordability determined by terrain topography, operations and management etc. that will accommodate intended future development and also benefit people residing adjacent to the Dam, including:

- Improved roads
- Bulk electricity
- Bulk sewer services (treatment plant) Water provision
- Ablution facilities
- Communications infrastructure,

The following ISO management interventions are recommended:

Table 16: Services

Objective

Constant expansion and maintenance of service networks (especially Water & Sanitation) to the highest public and private affordable standards which would accommodate current densities and future intended development around the Dam in an ecologically sustainable manner.

Rationale

The lack of services severely hampers investment and development. By providing these requisite services Government proves its commitment to the creation of a conducive environment for investment and development.

Management and Support

Provision and upgrading of sanitation falls under the functions of eThekwini Municipality and thus the management programmes and support services (e.g. maintenance & cleaning) will be guided by the sanitation programme within the relevant department. Of particular importance is the minimisation of a pollution risk to the water.

Policy and Guidelines

Require municipal policies and guidelines on sanitation alternatives outside of the urban edge to consider the potential benefits of nodal development around the Dam as well as safer technologically advanced on site sanitation options.

Action Projects

Alternative Sanitation Solutions

Indicators

- · Increased number of households with access to improved sanitation
- All development nodes with high level of sanitation facilities

Roleplayers

eThekwini Municipality

2.6. KPA 3: BENEFIT FLOW MANAGEMENT

2.6.1. Benefit Flow Mechanisms

To clarify the mechanisms for benefit flow to disadvantaged communities in the area, the following ISO management interventions are recommended:

Table 17: Benefit Flow Mechanisms

Objective

To improve the livelihoods of the surrounding communities by enabling access to the benefits that can accrue due the existence of the Dam.

Rationale

Benefits are often spoken about, yet ensuring that these benefits accrue to the targeted beneficiaries is difficult if agreements, policies, methodologies and mechanism are not timeously addressed. Clarifying

the roles of specific structures and organisations between the state, industry and community is required to serve as guideline regarding the formalisation of relationships.

Management and Support

- Existing social initiatives as well as government departments and related organs can be involved with social and /or and labour matters.
- Representation from the local community including the 'fishing for food' user group.

Policy and Guidelines

Economic Upliftment

- Recognise, train, capacitate and empower individuals from the surrounding community with proven interest and entrepreneurial skills.
- Through regular communication with community institutions, it will be possible to become more sensitized to community perceptions, as well as to expose entrepreneurs to the opportunities that are available.
- In order to ensure benefits accrue to the region, it is essential that a database be established and regularly updated consisting of service providers that are local and representative. Not only can the management authority draw on this pool of expertise, but all contractors and operators should be encouraged to do the same.
- The needs and requirements of the management authority should be provided to service providers so that a synergistic and effective partnership can be established.

Fishing for food

- According to the National Water Resource Strategy (NWRS), uses relating to social needs,
 - such as poverty eradication, primary domestic needs and uses that will contribute to the maintaining of social stability and achieving greater racial and gender equity, receive a much higher ranking in terms of the priorities for allocating water than uses relating to leisure. Fishing for food needs to be prioritised and formalised as an activity at the Dam.
- Although this activity may broadly be classified as public use, additional arrangements can be considered which may include alternative access points, permits and also conditions of use.

Action Projects

- I. Develop a database of preferred service providers and make use of these service providers as required.
- II. Formalize an agreement with the local fishing for food community regarding access and use of the Dam for subsistence fishing.

Indicators

Although social aspects are at times complex to quantify, the following broad performance indicators can be considered:

- Amount of service providers that are local and representative.
- Jobs created as a result of the existence of the Dam and in which sector.
- Satisfaction among the Fishing for Food community

Roleplayers

DWS

eThekwini Municipality

2.6.2. Safety and Security

To have improved policing for increased safety and security thereby enhancing quality of life for the local community and tourists at Hazelmere Dam, the following ISO management interventions are recommended:

Table 18: Safety and Security

Objective

A safe and secure environment within which recreational water use can take place.

Rationale

Without a safe environment visitors will not utilise Hazelmere Dam, opting for water resources which are safer and more secure.

Management and Support

- Visible policing
- Budget

Policy and Guidelines

- eThekwini Rural safety strategy
- Crime Prevention Through Environmental Design guidelines

Action Projects

Security and Safety Plan

Indicators

- Reduction in crime occurrences.
- Increase sense of safety experienced by users.

Role players

South African Policy Service eThekwini Municipality SAMSA Lifesaving South Africa Swimming South Africa NSRI

2.6.3. Public Access

To ensure that equitable public access to the Dam is provided balanced with private and commercial access, the following ISO management interventions are recommended:

Table 19: Public Access

Objective

To enable broad public enjoyment of a variety of recreational uses at the Dam supported by appropriate infrastructure.

Rationale

Access to resources by the general public is being restricted throughout South Africa due to development on private land adjoining Dams. Equitable access for the public is important to ensure that Hazelmere Dam remains locally relevant and valuable.

Management and Support
Management and Support
 DWS support is required to sanction any kind of public access, use and development. A minimum amount of infrastructure and safety measures need to be in place and maintained
Policy and Guidelines
 Access and Use The Dam must remain available for broad public recreational access and use, above commercial or private interests. Public access and use should be equitable, compatible and safe. Entry fees can be levied for public access and use; however these need to be reasonable to ensure the Dam remains an affordable destination. Public access other than at specified points must be deemed unlawful. Development Any development within the Dam basin is subject to various DWS policies, environmental legislation and relevant municipal planning requirements. Infrastructure for public use should be of a satisfactory standard and have an aesthetic that blends in with the regional context. Operation Although the public facility is currently being operated by the BDMC and DWS, the
 Although the public facility is currently being operated by the BDMC and DWS, the operation or components thereof can be outsourced to an operator or a contractor. Such a process must be an open and transparent procedure compliant with the requirements of the PFMA, NEMA, National Treasury Regulations and Public Private Partnership (PPP) Toolkit for Tourism.
Action Projects
 Upgrade public facilities to meet the users' needs and expectations whilst employing sound ecological planning principles and environmental best practice. An agreement needs to be formalized between DWS and the public facilities manager outlining the control, operation, management, use and development of the public facility. Should the design, development and operation of the public facility be outsourced, then contracts need to be procured.
Indicators
 In order to ensure that user's needs and expectations are met, satisfaction levels should be monitored by applying among others the following performance indicators: Obtain feedback from users (suggestion box). Maintain a record of incidents regarding visitors. Compliance with Dam rules. Compatibility of users and uses. Acceptance of infrastructure facilities.
Roleplayers
DWS Sport and Recreational South Africa

eThekwini Municipality

2.7. KPA 4: INSTITUTIONAL STRATEGY

2.7.1. Management Boundary and Responsibilities

To clarify the delineation of management boundary and specific responsibilities between

government role-players, the following ISO management interventions are recommended:

Table 20: Management Boundary and Responsibilities

Objective

To implement co-management agreements and where appropriate service contracts to unlock the economic and conservation potential of the Hazelmere Dam.

Rationale

Without effective co-management agreements it will not be possible for DWS to unlock the potential of Hazelmere Dam, nor will the land owners be able to add value to the their land without access to the water. By clarifying the management boundary through effective co-management agreements these joint objectives can be attained.

Management and Support

- · Clarity on boundary for stakeholders and co-management agreements
- Budget

Policy and Guidelines

- National Water Act
- PFMA
- State Land Disposal Act

Action Projects

- Agreements to be drafted
- Constitutions to be agreed upon

Indicators

· Co-management agreements successfully implemented

Roleplayers

DWS

eThekwini Municipality

2.7.2. Catchment Management

To ensure the protection of water resources within the catchment area of the Dam through effective institutional structures and arrangements, the following ISO management interventions are recommended:

Table 21: Catchment Management

Objective

DWS Regional office to provide inputs

Rationale

Effective resource management requires a catchment based approach, rather than focusing on
the local management interventions only. Hazelmere Dam management must play an active
role in the catchment forum and other institutional structures and arrangements as they are
established.

Management and Support

DWS Regional office to provide inputs

Policy and Guidelines

DWS Regional office to provide inputs

Action Projects

DWS Regional office to provide inputs

Indicators

DWS Regional office to provide inputs

Roleplayers

DWS Umgeni Water eThekwini Municipality

2.7.3. Intergovernmental Co-operation

To effect intergovernmental co-operation through the alignment of "development" and "use" approvals and permissions and appropriate institutional governance arrangements, the following ISO management interventions are recommended:

Table 22: Intergovernmental Co-operation

Objective

Unclocking the economic potential of the Dam requires a close working relationship between all spheres of Government.

Rationale

Hazelmere Dam, as a water resource of local significance, yet subject to National legislation, requires the involvement of all spheres of government working towards a common goal. This intergovernmental co- operation regarding the development and use of Hazelmere Dam needs to be formalised within a legislative environment to prove Government's commitment to the region and its people.

Commitment by all spheres of government and departments

Policy and Guidelines

Intergovernmental Framework relationship Act

Action Projects

Formalise relationship in terms of IGFRA

Indicators

Meetings and efficiency

Roleplayers

DWS eThekwini Municipality Intergovernmental Forum

2.7.4. Streamlined Administrative Processes

To have streamlined and supported land rezoning processes in place for the establishment of lodges residential, conference centres the following ISO management interventions are recommended:

Table 23: Streamlined Administrative Processes

Objective

To ensure a seamless interaction between all spheres of government and stakeholders

Rationale

By linking the land zoning to the water zoning within a broader city plan significantly benefits investors, developers and operators by establishing a clear regulatory framework, while allowing for effective decision making. This 'promise' also limits uncontrolled and unauthorised use, and serves as an accountability tool for stakeholders to ascertain the degree to which DWS and Umgeni Water have complied with the RMP.

Management and Support

Functional Intergovernmental Framework

Policy and Guidelines

Intergovernmental Framework Relations Act

Action Projects

I. Efficient handling of application guideline to be developed

Indicators

Programmes successfully concluded and implemented

Roleplayers

DWS eThekwini Municipality Intergovernmental Forum

2.7.5. Commercial Farming Support

To support present commercial farming financially for broader trading, the following ISO management interventions are recommended:

Table 24: Commercial Farming Support

Objective

Effective utilization of area for Agricultural Programmes

Rationale

Commercial farming, including organic farming, orchards etc. contributes significantly to the region. Supporting emerging farmers undertaking commercial ventures, by facilitating access to markets (and water) and providing financial support, will increase the viability of the ventures allowing for the establishment of a labour intensive industry in a region that has a high unemployment rate.

Management and Support

Agricultural Extension Officers. Agricultural Research Institute.

Policy and Guidelines

High value agricultural survey data.

Action Projects

Agricultural high value projects

Indicators

Number of high value agricultural projects established. Total income generated from high value agricultural production.

Roleplayers

eThekwini Municipality Department of Agriculture and Environmetnal Affairs

2.7.6. Donor Funding Support

To establish relationship with donor funding organisations for support for the implementation of the RMP, the following ISO management interventions are recommended:

Table 25: Donor Funding Support

Objective

Effective support from donors for programmes and projects

Rationale

In an effort to unlock the inherent potential of the region surrounding Hazelmere Dam, it is imperative that a functional relationship be established between the state, donors, community structures and industry role-players. Having a clear operational relationship aimed at ensuring and maximising equity for community structures, without exposing these structures to risks which should be undertaken by private sector operators, supported by government and donors creates a conducive environment for all role- players.

Management and Support

Central co-ordinator of available investors / donors and opportunities.

Policy and Guidelines

Public Finance Management Act Distribution of Revenue Act (DORA) Municipal Finance Management Act Action Projects

Establishment of Project Co-ordination Structure

Indicators

- Number of donor support programmes concluded and implemented
- Impacts measured in region

Roleplayers

DWS eThekwini Municipality

2.8. MASTER PLAN

2.8.1. Process

The planning of the Hazelmere Dam has been undertaken to ensure organised development, equitable visitor access, sound resource management and optimal community beneficiation. This approach also minimises the potential conflict that could arise between the various stakeholder groups.

The zoning system is based on the Ecotourism Characteristics Opportunity Spectrum (ECHOS) as set out in the DWS Guidelines for the Compilation of Resource Management

Plans. To effectively zone a resource an assessment of all relevant information must be undertaken to ascertain b ot h habitat and landscape sensitivity. Following this sensitivity analysis, an assessment of the environmental characteristic must be undertaken. This assessment entails the determination of current environmental character status, opportunity for ecotourism development based on a spectrum of the environmental limitations and stakeholder objectives.

Both the environmental sensitivity analysis and ECHOS zonation guide management interventions required to achieve resource management, social and economic objectives. Management interventions such as access, utilisation, development nodes and infrastructure are selected and planned for accordingly.



Figure 11: Zoning Process

2.8.2. Master Plan

The Concept Development Plan (CDP) for Hazelmere Dam addresses issues related to access, utilisation, development nodes and sites, and infrastructure requirements.

2.8.2.1. Access

Due to the size of the Dam, it is recommended that the main access to the Dam be limited to the southern peninsula, with limited access for concessionaires from the northern and western bank.

The northern and western access will be limited to concession operators for specified activities on both land and water accessing the Dam close to the Dam wall, at the deep valleys and from the orchards on the northern side.

Access from the southern peninsula will include both public and private developments ensuring

equitable access. A single control gate, shared by all the properties will allow for strict enforcement and compliance with the operational rules of the Dam regarding the recreational use of water. Additionally, this will enable affordability by reducing the cost of access control. The stakeholders recommended the creation of a secure area incorporating both State and private land, co-managed as a residential/tourism node.

Seamless access will be allowed for properties directly adjacent to the State land along the peninsula compliant with the rules and regulations for the public access area.

2.8.2.2. Utilisation

The southern peninsula, due to its gentle slope, soils and easy access will be used as the primary development, area, while the steeper, less accessible northern bank will primarily be used as a conservation area with nature based adventure accommodation within a visual buffer.

The water use requirements of Hazelmere Dam necessitate the establishment of distinct areas. Closest to the Dam wall will be a safety area, excluding any access except for officials from DWS and Umgeni Water. Adjacent to this will be an area for use by powerboats, excluding jet skis, which have an area on the north-western side of the peninsula. Within this zone a jet ski course will be established to address the specific requirement of this sporting community.

A no wake zone along the shoreline ensures the safety of recreational users on the bank. The upper reaches of the Dam will be set aside for fishing and non-motorised recreational water use.

Within the two deep bays on the northern bank of the Dam, sue will be restricted to no-wake speed for both jet skis and powerboats. This area will be used primarily for bird watching, adventure activities and possible the establishment of an adventure camp within the indigenous bush.

2.8.2.3. Development Cores, Nodes and Sites

The primary development node will be on the southern peninsula, while developments on the northern and western shore will be limited to low impact facilities which must be hidden within the indigenous bush, ensuring the visual integrity of the northern bank.

No overnight accommodation will be allowed within the DWS HFL and buffer zones, thus necessitating effective co-management agreements within adjacent land owners aimed at unlocking the potential of the Dam.

2.8.2.4. Infrastructure

Requisite infrastructure needs to be aligned with the access, use and development areas. Since the primary development core is along the southern shoreline the roads, sewerage, and electricity services should be focused in this area, while secondary road access along the northern shore should enable operators to service the low impact developments without changing the visual character of the area.

The main access road needs to be upgraded and possibly realigned to bypass the industrial development area close to the Dam. This road should be tourist friendly with adequate signage both to and from the development core of the Dam.

2.8.3. PRECINCT PLAN

2.8.3.1. Purpose of the Precinct Plan

The Precinct Plan cover the area directly adjacent to the Dam and potentially impacting on the basin of the Dam as well as being directly influenced by the activities and development around the Dam. It is therefore the purpose of the precinct plan to also guide issues of access, land use and development and infrastructure outside of the State owned land of the Dam. The intention is to ensure that the precinct around the Dam is developed and managed in a manner which will support and benefit directly from developments around the Dam.

2.8.3.2. Precinct Context & Boundary

The precinct area around Hazelmere Dam is characterised by private ownership and used mainly for sugarcane and fruit production. There are also prestine, undeveloped areas towards the northern parts of the precinct and scattered single residential housing units found on the peninsula area on the south. The nearest settlements are the KwaSomubi and New Glasgow areas towards the east and south-east. The boundary of the precinct was mainly determined by the P100 and D521 Routes to identify development nodes along those routes which will be in close proximity to the Dam.

2.8.3.3. Access

Access was discussed within the Concept Development Plan and within the wider context of the precinct is will be important to upgrade and maintain these access routes to a level suitable to service the intended developments and uses at the Dam. It should be noted that these routes will not be developed to a level which will either detract from the untouched nature of the Dam or encourage uncontrolled development and settlements along these routes outside of identified investment nodes.

2.8.3.4. Land Use

Apart from key development nodes which will contain residential, social and economic facilities, there are only three broad land use categories proposed. Firstly, all environmentally valuable areas (including high value combined sensitivity zones as well as buffer areas around water runoff areas) are identified. Where potential agricultural pockets of smaller that 20 Ha were surrounded by environmentally valuable areas, these were also included under the latter. Within these areas it is envisaged that conservation efforts will be encouraged, although limited subsistence agriculture could be allowed. Secondly the areas with agricultural potential are identified based on topography and soil conditions as well as existing agricultural activities and identified high potential agricultural areas. These areas are envisaged to accommodate commercial and communal agriculture and in the case of Hazelmere these areas are most likely to include high value crops targeted at the Agri Processing Hub planned as part of the nearby Dube Tradeport initiative. Lastly a low impact residential estate and tourism related activities area is proposed on the southern peninsula of the Dam. This proposed densities of this development will be guided by infrastructure capacities and allowed mixed land uses prescribed by the municipality.

Apart from the said land uses, the development nodes of KwaSomubi, Oakford and Emona are als envisaged as rural service delivery centres under the rural development framework and will thus include a localised mix of residential developments and social facility provision as indicated.

2.8.3.5. Infrastructure

As the precinct area is located outside of the urban edge of the municipality the level of service reticulation might not emerge as the same levels found in the more densely populated urban areas. Especially sanitation would for now be the responsibility of the owner/ developer of land around the Dam to provide on site sanitation at a level and standard acceptable to the eThekwini Municipality. The supporting infrastructure projects e.g. road access maintenance will be proposed as infrastructure projects to the relevant municipal departments.

3. THE PEOPLE

3.1. ROLEPLAYERS

The success of the Hazelmere Dam RMP and its implementation is dependent on the level of involvement by stakeholders and beneficiation and as such, the Hazelmere Dam should not function in isolation from these stakeholders. Stakeholder categories include:

- Resource Managers;
- Industry or Users of the resource;
- Land Owners;
- Policy Makers (including DWS and other relevant Government Departments at national, provincial and local spheres), and
- Other Interested and Affected Parties (I&APs), including Non-governmental Organisations, and Civil Society Structures.

(Refer Appendix A for a detailed stakeholder list.)

By forming 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 management authority the opportunity to disseminate these benefits to neighbouring communities in an equitable manner based on sound Government policy supported by the relevant authorities.

In an effort to optimise benefits to all role-players (refer Figure 13), the implementation of the RMP for the Hazelmere Dam will be undertaken in an adaptive, dynamic and integrated manner based on sound ecological, social and economic principles. The policy will be to seek advice and support from DWS regarding the key objectives of the NWA, and ensuring that the activities of the Hazelmere Dam enhance these objectives. Additionally, it will be the policy of the management authority of the Hazelmere Dam to document activities, accomplishments, problems and solutions, so that management of other similar water resources can be aided and guided regarding possible solutions and pitfalls.

Hazelmere Dam Resource Management Plan



Figure 12: Role Players

Without the alignment of Government plans – national; provincial, and local – it will be extremely difficult for Government to attain its broad objectives, as would it be difficult to achieve cooperative governance. For this reason DWS and the Hazelmere Dam management authority will provide an opportunity for its Governmental planning partners such as Department of Agriculture (DoA); Land Affairs (DLA), and Environmental Affairs and Tourism (DEAT), together with eThekwini Municipality to actively be involved throughout the planning and implementation of the management plan, guided by the principles contained in Chapter 3 of the Constitution.
3.2. INSTITUTIONAL PLAN

Currently the institutional arrangements for Hazelmere Dam consist of an arrangement between DWS and Umgeni Water regarding bulk water supply. However, through the updating process, the institutional arrangements for the Dam have been updated to consists of three sets of tools which will be used to manage the Dam so that the Vision can be met.

The first toolset involves three separate but linking committees all chaired by the DWS (as the custodian of all surface water in South Africa). The membership of each committee and their roles and responsibilities is provided in Section 3.2.1., 3.2.2. and 3.2.3. below.

The second toolset involves an open communication forum which allows all stakeholders to be involved in the management of the Dam. The purpose of this forum is information sharing and discussion. It also provides a platform for dealing with issues and challenges faced by users. The third toolset includes a number of management tools including agreements, affiliations and targets.

Figure 13 below provides a visual representation of how these toolsets function together.



3.2.1. RMP Steering Committee (RSC)

The RSC is made up of representatives from National Government/Agencies. The main focus of this meeting is to ensure both the DMC and OMC are performing all necessary functions. The committee will also provide high level guidance. The RSC allows for a formal reporting structure between the Chief Director: Operations and the National Water Infrastructure Branch: Integrated Environmental Engineering (NWRIB:IEE). Relevant departments from DWS including Operations, Water Quality Management and Catchment Management will be included in the RSC. The committee will meet every six months. Figure 14 below provides details of the membership of the RSC.



Figure 14: RMP Steering Committee (RSC)

3.2.2. Operations Management Committee (OMC)

The OMC will function at a catchment level and will provide high level guidance for all Dams occurring within one catchment. This is an existing reporting line between Area Managers for various schemes and the Director: Operations. The implementation of the RMP will be added as an agenda item, hence providing an opportunity to discuss the RMP. The Director: Eastern Operations will be fully aware of all commercial and/or recreational activities/opportunities at all Dams within the cluster.



Figure 15: Operating Management Committee (OMC)

3.2.3. Dam Management Committee (DMC)

The DMC is responsible for the day to day operations at the Dam and includes a larger pool of representatives. This committee is chaired by the delegated DWS Official. The DMC is involved in the management of the UPN System as part of the Cooperative Inland Waterways Safety Programme (CIWSP) and includes the following representatives:



Figure 16: DMC Membership

One of the main functions of the DMC is to assess commercial opportunities at the Dam. As such, an agenda item related to the Strategic Plan for Commercialisation (SPC) is required. In addition, changes in water quality, developments in the area, status of Aquatic Invasive Species and education and information programmes should be discussed. The DMC should meet every three months (i.e. quarterly).

One of the most important functions of the DMC is to organise and facilitate the quarterly Dam User Open Day. All stakeholders should be invited to this meeting so that issues regarding use of the Dam can be discussed. If necessary, serious issues can be escalated from the Public Open Day to the OMC and then RSC so to ensure swift conflict resolution. The Open Day also provides an opportunity for the DMC to inform users of the Dam of all rules and regulations governing the access and use of the Dam.

Operational management of recreational activities such as ensuring the AtoN and demarcation markers system is in place and setting times for use of the Dam (within the current framework of GN 654 of 1964) will also be managed by the DMC.

The final structure of the DMC may change once agreements with Authorised Access Points Representatives are concluded. The updated DMC membership list will be added as an addendum of the Gazetted RMP.

Lastly, the DMC is also responsible for ensuring the BP is implemented.

3.2.4. Management tools

The RSC, OMC and DMC will have a number of management tools which will enable proper management of the Dam in line with Legislative requirements.

3.2.4.1. Terms of Reference

The RSC, and DMC will be guided by Terms of Reference regarding roles and responsibilities. The Terms of Reference will provide guidance on the following management aspects:

- Meeting frequency;
- 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;
- Strategic Plan for Commercialisation (SPC);
- Management of Water quality monitoring;
- Management of the Control of Aquatic Invasive Species;
- Management of Development Pressure; and
- Management of UPN system and wash bays.

Terms of Reference are not required for the OMC as this is an existing reporting structure.

3.2.4.2. Agreements

1.) Agreements between DWS and Implementing Agent

One of the main management tools available is the use of agreements to ensure proper use of the Dam in line with the RMP vision and objectives. Currently DWS has an agreement with Msinsi as the Implementing Agent (IA) for Hazelmere Dam. It is suggested that this agreement be updated in light of the RMP. Further, this agreement should include the following:

- Management of Recreational Clubs;
- Management of Public Access Area;
- Management of Wash Bay and UPN System;
- Management of Community Skills and Training Programmes; and
- Management of commercial activities (in line with Treasury Requirements).

All agreements should be in line with the RMP requirements which as a minimum must achieve the following:

- Conditions on IA's mandate to enter into agreements with other parties on the use of the surface water for recreational use;
- Terms and conditions regarding equitable access must be included in ALL agreements;
- Guidance on the use of the State Resource for Public-Private Partnerships (PPP) in line with Treasury's requirements;
- Safety management to be in line with SAMSA requirements;
- Targets and objectives for the management of the Dam;
- Roles and responsibilities regarding the following:
 - Maintenance of AtoN and Demarcation Markers;
 - Maintenance of Wash Bays;
 - Maintenance of Recreational Infrastructure;

- Maintenance of Fencing;
- Maintenance of the UPN System including signage;
- Management of agreements with other recreational users;
- Responsibilities on monitoring development and access targets (as part of agreements with other recreational users).
- Conditions on the use of the Dam for small scale fisheries or for commercial fisheries projects; and
- Conditions for the negotiations of agreements with recreational clubs. As a minimum, it is suggested that all agreements between the IA and any new recreational clubs, should be reviewed and accepted in writing by the DWS Operations Manager for the Eastern Cape. They should also be presented to the DMC prior to signature to ensure the vision and objectives of the RMP are met.

Irrespective of the nature of the agreement the following must be incorporated:

- Clear start and end dates and terms of renewal/extension;
- Rights and obligations of both parties;
- Access points to be used must be stipulated. The RMP makes provision for six access points which are currently managed by Msinsi (see Master Plan). Access agreements with DWS will be necessary within the next year. Failure to do so will result in unauthorized access points being closed (see section on Access agreements for more details);
- IA's (and therefore DWS's) exclusion of liability;
- Terms and conditions of improvements made to the property should be stipulated. All improvements require consent from DWS and the DMC. Furthermore, the financial consequences should this requirement not be met should also be stipulated in the agreement. No permanent structures shall be built within the 1:100 year floodline without additional approval as required by Section 21 (c) and (i) of the National Water Act, 1998 (Act no 36 of 1998);
- The extent of the rights to use the resource should be stipulated;
- Safety management to be in line with SAMSA requirements;
- Targets and objectives for the management of the Dam;
- Clear instructions on the financial requirements of both parties, and where and when money must be paid should also be stipulated. All recreational clubs and societies on State Land must be managed in line with National Treasury requirements. Lease agreements for use of State Land should include fair remuneration at the current market value;
- All agreements should include a cancellation clause if requirements cannot be met;
- All clubs or associations must be affiliated to a national sporting body recognised by the South African Sports Confederation and Olympic Committee (SASCOC)
- All agreements must include a cancellation clause if clubs or associations fail to obtain affiliation within one year from date of signature of the agreement;
- Limitations of the number of people allowed to access the water surface of the Dam based on carrying capacity of Dam as well as the carrying capacity of the CIWSP wash-bays must be adhered to;
- A list of current and potential recreational activities allowed at the Dam;
- Requirements for safety, disaster management and emergency response plans;
- Duties and responsibilities of either party regarding maintenance, management and infrastructure;
- A list of prohibited activities;
- Prohibition of subletting portions of the leased area;

- Conditions on the use of the Dam for small-scale fisheries projects; and
- A mandate for programmes to assist in equitable access and redressing past imbalances at the Dam, such as sponsored gate-fees for members of previously disadvantaged communities. This should be in line with the RMP. The DMC will then be required to report against all targets at the OMC.
- All agreements must include a cancellation clause should community access targets not be met.
- All recreational activities must be in line with the RMP, which once gazetted, becomes the mechanism to control and manage recreational use. Although no Section 21k Water Use License Application (WULA) is required, all activities must comply with all other relevant legislation requirements including the following:
 - The Merchant Shipping (National Small Vessel Safety) Regulations, 2007,
 Control of Boating;
 - Section 21 (a) of the National Water Act, 1998 abstraction;
 - Section 21 (c) and (i) of the National Water Act, 1998 construction of slipways/infrastructure;
 - Safety at Sports and Recreational Events Act, 2010 Events; and
 - Provincial Ordinances Fishing.

These agreements should be updated within the next year.

2.) <u>Recreational Use Agreements</u>

Recreational Clubs must enter into an an agreement with the IA who will be responsible for the surface water management of the Dam. All recreational use at the Dam must be through an appropriate legal framework. However all agreements must be approved in writing by DWS and the DMC.

Recreational Use Agreements must be developed inline with the conditions stipulated in the agreement between DWS and the IA.

All agreements must be finalised within one year of the RMP being gazetted.

3.) Land Management Agreements

The DMC should actively consider land management strategies that improve the efficiency of current practices. This could include co-management agreements with surrounding or adjacent landowners which may result in environmentally sustainable and more efficient land management.

All agreements should be should be put in place within one year of the RMP being gazetted.

4.) Access Agreements

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

All adjacent landowners and clubs must be made aware that access to the surface water should only be through authorised access points. Accessing the surface water through unauthorised access points is an illegal activity unless they enter into a formal agreement with DWS.

Further, a formal agreement with DWS will be required by all adjacent landowners and recreational clubs that have direct access to the water surface of the dam through 1.) constructed slipways; 2.) natural slipways; or 3.) jetties for angling and/or launching of boats. Additional agreements with the IA may also be necessary.

The wash bay must be built on State Property as part of the CIWSP. A formal agreement is necessary between the IA and DEA on the management and maintenance of the facility. The agreement will be overseen by the DMC.

All agreements should be put in place within one year of the RMP being gazetted.

5.) Safety of Navigation Agreements

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

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

6.) <u>Event Applications</u>

All events must be managed through an event application process. While the application may be made to the IA, DWS and the DMC must approve the application. These applications must follow a specific template and will include the following:

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

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

3.2.4.3. National Affiliations and Development Targets

All recreational clubs should be affiliated to a SASCOC affiliated organisation. The development targets set by the National Organisations must be met. The Clubs must be affiliated within two years of the RMP coming into effect.

4. WAY FORWARD

4.1. Compilation of Business Plans

Based on the updated strategic objectives identified for Hazelmere Dam through the original RMP process as well as the RMP update process, a suite of BPs were developed. The BP describes the financial management and operational requirements to implement the Objectives of the RMP. The Financial Plan will facilitate the implementation of listed and recommended activities in the RMP.

The Business Plans are approached in the following manner:

- Identify Strategic Objective informed by RMP;
- Determine Interventions Each objective was divided into practical interventions;
- List Detailed Activities Interventions were further divided into activities, in order to
 establish timeframes and provide guidance to the entity who implements the business
 plan;
- Establish Key Performance Indicators per intervention Key Performance Indicators allow for monitoring and evaluation;
- Establish timeframes per activity;
- Establish a budget per activity; and
- Determine Funding sources Innovative mechanisms to obtain funding were identified.

4.2. Review of RMPs and Business Plans

The RMP presents a twenty-year vision for the Dam. This vision will be implemented through the RMP which will be revised and updated every five years, according to changing priorities, constraints and achievements. This document constituents the first update of the RMP. Within this five-year cycle of the RMP, the BPs will identify key objectives in line with a changing status quo and potential change in circumstances. After five years the RMP will be reviewed and updated so to identify new objectives in line with the vision for the Dam.

The BPs are updated annually.

5. **REFERENCES**

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APPENDIX A: RMP PROCESS STAKEHOLDER LIST

Table 26:Hazelmere Dam Stakeholder List

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APPENDIX B: BACKGROUND INFORMATION

Figure 17: Locality (Regional) Figure 18: Locality (Local) Figure 19: Elevation (Regional) Figure 20: Elevation (Local) Figure 21: Vegetation Figure 22: Land Cover Figure 23: Land Use



Figure 17: Locality (Regional)



Figure 18: Locality (Local)



Figure 19: Elevation (Regional)



Figure 20: Elevation (Local)

Hazelmere Dam Resource Management Plan



Figure 21: Vegetation

Hazelmere Dam Resource Management Plan



Figure 22: Land Cover



Figure 23: Land Use

APPENDIX C: MASTER PLAN

Figure 24: Hazelmere Dam Master Plan: Surface Water Figure 26: Hazelmere Dam Master Plan: Shoreline

Please note that the Surface Water Zonal Plan has been compiled based on the Dam boundary of the raised Hazelmere Dam (i.e. increased capacity).

However as the new purchase boundary was not available, the shoreline plan could not be updated. It is suggested that the zones remain as provided in the shoreline plan but be extended into the new purchase boundary once it is available. An intervention for this is provided in the BP.



Figure 24: Master Plan Surface Water



Figure 25: Master Plan Shoreline

