

PART 1 – INTRODUCTION AND OVERVIEW OF MZIMVUBU TO MBASHE ISP AREA

1 CHAPTER 1: BACKGROUND TO THE MZIMVUBU TO MBASHE ISP AREA: INTERNAL STRATEGIC PERSPECTIVE

1.1 INTRODUCTION

The Department of Water Affairs and Forestry (DWAF), as the custodian of South Africa's water resources, wishes to make optimal use of these resources in promoting economic growth and wealth for all its citizens. On the other hand, armed with the National Water Act (NWA) and other legislation, it has the difficult responsibility of ensuring that such water utilisation is sustainable, and especially ensuring the sustainability of our natural environment.

The following document presents DWAF's strategic perspective on how it wishes to protect, allocate use, develop, conserve, manage and control the water resources within the Mzimvubu to Mbashe catchments until the regional responsible authority (to be known as the Catchment Management Agency or CMA) has been established and is in a position to take over most or all of these functions.

In keeping with sound business practice, the Eastern Cape Regional Office (RO) of the Department, assisted by the Directorate: National Water Resource Planning together with the other relevant DWAF Head Office Directorates has focussed on the following in preparing this document:

- ☐ Understanding what their core business is in conducting their interim water resource management functions (these must be in line with DWAF's Vision, Mission, Policy Objectives, the NWA, the recently drafted National Water Resource Strategy, and all NWA implementation processes);
- ☐ Clear management objectives and the setting of desired deliverables;
- ☐ Obtaining a thorough understanding of the natural, social, economic, political and other environments in the Mzimvubu to Mbashe catchments in which they have to perform their strategically important responsibilities. This is crucial to ensuring that the service they deliver optimises benefits for all water users by integrating all planning, implementation and management activities;
- ☐ A clear understanding of the water resources availability and how it is intended that this water be used. Reconciliation of water requirements and availability, as well as optimisation of river and water system operations, in the best interest of the country and the regional economy, is fundamental to the success of this management role;
- ☐ Providing a concise overview of the way in which DWAF will manage the business at hand. This includes strategies and actions regarding all aspects of water resources management in the WMA. Where no clear policy or approach exists, a strategy to obtain better decision support information is proposed; and
- ☐ Business infrastructure and human resources that need to be assigned to each task or function. Prioritisation of these tasks and functions, including work scheduling.

The structure of this (DWAF) Internal Strategic Perspective (ISP), or interim management strategy, has been

prepared in such a way that the reader is provided with the necessary background along with the water resources issues and management approach to be adopted by the Department. This includes motivations as to how these approaches are intended to benefit all by ensuring equity of access to water, sustainability in maintaining the balance of utilisation by natural ecosystems and water users, and efficient and effective water use.

1.2 LOCATION OF THE MZIMVUBU - KEISKAMMA WMA

The Mzimvubu to Mbashe ISP Area forms a major part of the Mzimvubu to Keiskamma WMA, the locality of which is shown in **Figure 1.1**. The WMA has been split into two ISP areas namely the Amatole – Kei ISP area and the Mzimvubu to Mbashe ISP area. The split was done because of the fundamental differences and the size of the key areas.

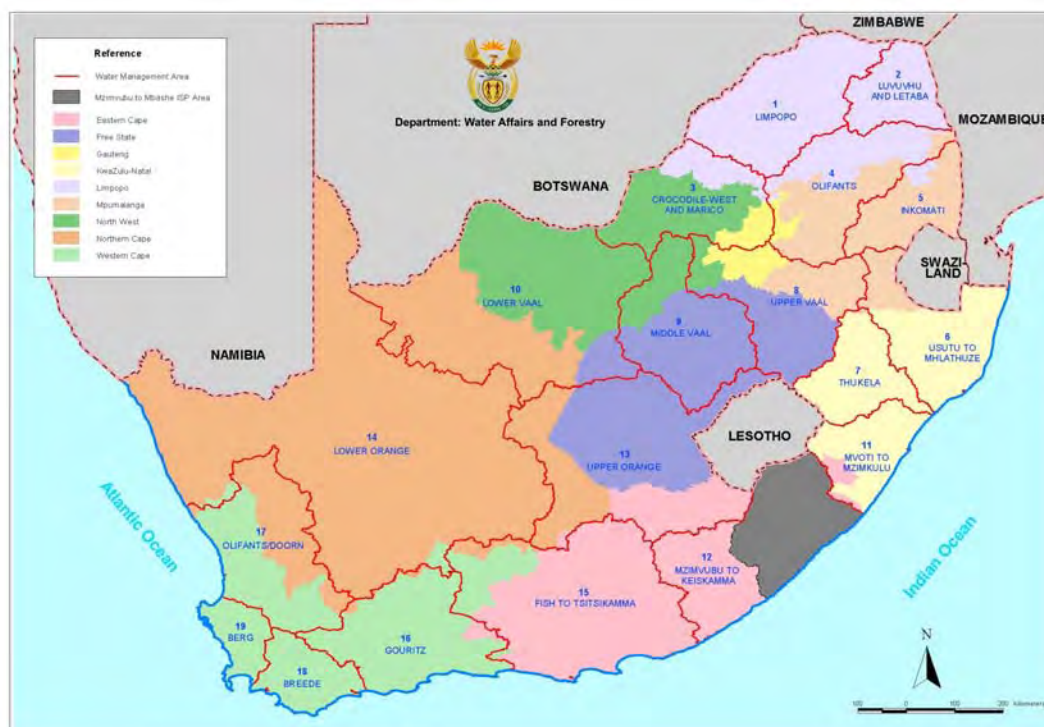


Figure 1.1: Locality map of Mzimvubu to Mbashe ISP area

1.3 WATER LEGISLATION AND MANAGEMENT

Water is one of the most fundamental and indispensable of all natural resources. It is fundamental to life and the quality of life, to the environment, food production, hygiene, industry, and power generation. The availability of affordable water can be a limiting factor for economic growth and social development, especially in South Africa where water is a relatively scarce resource that is distributed unevenly, geographically and through time, as well as socio-politically.

Prosperity for South Africa depends upon sound management and utilisation of our many natural and other resources, with water playing a pivotal role. South Africa needs to manage its water resources optimally in order to further the aims and aspirations of its people. Current government objectives for managing water

resources in South Africa are set out in the National Water Resources Strategy (NWRS) as follows:

- ☐ **To achieve equitable access to water** that is equity of access to water services, to the use of water resources, and to the benefits from the use of water resources.
- ☐ **To achieve sustainable use of water**, by making progressive adjustments to water use to achieve a balance between water availability and legitimate water requirements, and by implementing measures to protect water resources and the natural environment.
- ☐ **To achieve efficient and effective water use** for optimum social and economic benefit.

The NWRS also lists important proposals to facilitate achievement of these policy objectives that include the following:

- ☐ Water will be regarded as an indivisible national asset. The Government will act as the custodian of the nation's water resources, and its powers in this regard will be exercised as a public trust.
- ☐ Water required to meet basic human needs and to maintain environmental sustainability will be guaranteed as a right, whilst water use for all other purposes will be subject to a system of administrative authorisations.
- ☐ The responsibility and authority for water resource management will be progressively decentralised by the establishment of suitable regional and local institutions, with appropriate community, racial and gender representation, to enable all interested persons to participate.

1.3.1 The National Water Act (NWA)

The NWA of 1998 is the principal legal instrument relating to water resource management in South Africa. The Act is now being implemented incrementally. Other recent legislation, which supports the NWA, includes the Water Services Act (Act 108 of 1997) and the National Environmental Management Act (Act 107 of 1998).

1.3.2 The National Water Resource Strategy (NWRS)

The NWRS is the implementation strategy for the NWA and provides the framework within which the water resources of South Africa will be managed in the future. All authorities and institutions exercising powers or performing duties under the NWA must give effect to the NWRS. This strategy sets out policies, strategies, objectives, plans, guidelines, procedures and institutional arrangements for the protection, use, development, conservation, management and control of the country's water resources. The purpose of the NWRS is to provide the following:

- (i) The National framework for managing water resources;
- (ii) The framework for preparation of catchment management strategies in a nationally consistent way;
- (iii) Information, in line with current legislation, regarding transparent and accountable public administration; and
- (iv) The identification of development opportunities and constraints with respect to water availability (quantity and quality).

1.3.3 Catchment Management Strategies (CMS)

The country has been divided into 19 Water Management Areas (WMAs). The delegation of water resource management from central government to catchment level will be achieved by establishing Catchment Management Agencies (CMAs) at WMA level. Each CMA will progressively develop a Catchment Management Strategy (CMS) for the protection, use, development, conservation, management and control of water resources within its WMA.

The Department's eventual aim is to hand over certain water resource management functions to CMAs. Until the CMAs are established and are operational, the Regional Offices (ROs) of DWAF will have to continue managing the water resources in their areas of jurisdiction.

1.4 INTERNAL STRATEGIC PERSPECTIVES (ISPS)

1.4.1 The Objectives of the ISP Process

The objective of this ISP is to provide a framework for DWAF's management of the water resources in each Water Management Area, until the Regional Offices can hand over its management functions to an established CMA. This will ensure consistency when answering requests for new water licences and informing existing water users (including authorities) on how the Department will manage the water resource within the area of concern. Stakeholders need to be aware of the bigger picture, as well as the management detail associated with each specific water resource management unit.

1.4.2 Approach Adopted in Developing the ISP

The ISP for the Mzimvubu to Mbashe ISP Area was developed in five stages as follows:

- (i) Determining the current status of water resource management and relevant water resource management issues and concerns in the Mzimvubu to Mbashe ISP Area. This was achieved through interviews with individual members of DWAF's Regional Office and by collating information from the NWRS, WMA reports, Water Resource Situation Assessment (WRSA) reports and other catchment study reports. The following topics were discussed with Regional Office staff and their issues and concerns documented:

- ☐ Water availability
- ☐ Water quality
- ☐ Resource Protection
- ☐ Water Use
- ☐ Water Reconciliation
- ☐ Water Infrastructure
- ☐ Monitoring and Information
- ☐ Water Management Institutions
- ☐ Co-operative Governance

☐ Planning Responsibilities.

A starter document of the identified issues and concerns was produced as a discussion document for the first workshop.

- (ii) The first workshop was held with attendees from the Regional Office, the Integrated Water Resource Planning (IWRP) Chief Directorate of the Department as well as the consulting team. The workshop focussed on the lists of general issues in the WMA as well as area-specific issues. The issues were clarified and refined during the workshop. Strategies were discussed and developed to address the issues.
- (iii) The third stage involved the preparation of the second workshop document to be used for refining strategies to address the various issues and concerns, during the second workshop.
- (iv) The fourth stage was the second workshop. During this workshop the overall management of the water resources in the catchment was discussed along with the ISP management strategies and the relevant issues and concerns. The priorities and responsibilities for carrying out the strategies were identified. Attendees of the first workshop were again involved, as were representatives of several DWAF Head Office directorates.
- (v) The fifth stage was the finalisation of the ISP document.

As can be deduced from the above, this Mzimvubu to Mbashe ISP was prepared internally within the Department, and captures the Department's perspectives. Once approved by the DWAF Management, it is intended that the Regional Office will make the ISP available to Water User Associations (WUAs), Water Service Providers (WSPs), Water Service Authorities (WSAs) and other forums for discussion and comment. These comments will be considered and worked into later versions of the ISP. By adopting this procedure this ISP becomes a working document, which will be progressively updated and revised by DWAF. Public participation forms part of the CMS process, for which the ISP serves as a foundation (see Paragraph 1.7 and the Implementation Strategy 9).

The ISP does not formulate all the details pertaining to every strategy but provides a suggested framework for each strategy around which the details will be developed by the responsible authority. Where relevant and readily available, certain details have been included in the strategies. The responsible authority for the further development of each strategy is indicated. For the most part this is the Regional Office, which remains responsible for involving the relevant DWAF directorates.

1.4.3 Updating of the ISP Report

The ISP strategies should not lag behind national developments, become outdated, or differ from related ISPs regarding trans-boundary management. There is therefore a need to have a standard process for updating strategies, and to prevent strategies becoming outdated by ensuring adequate feedback from national developments. The introduction of new strategies needs to be accommodated. It is suggested that each strategy has a version-control system. The following is necessary:

- ☐ Keep abreast of changes in national legislation and policy changes or refinements by keeping a list of all relevant legislation and supporting documents relevant to the ISP;
- ☐ Ensure consistency between the ISP strategies and national strategies through a regular review-and-

update procedure;

- ☐ Annually review and ensure consistency and agreement regarding trans-boundary ISP management issues by liaising with the responsible managers of other areas and updating relevant ISP strategies if necessary;
- ☐ Annually review the priorities of required management actions and align budgets accordingly;
- ☐ Monitor the implementation of the ISP (review actions, progress, implementation and stumbling blocks);
- ☐ Incorporate feedback from stakeholders;
- ☐ Updating and Version Control.

Revision of this ISP will depend on the need. All updates to this report, particularly with respect to amendment to the Strategies, need to be passed on to and vetted by the Catchment Manager for the Mzimvubu to Keiskamma WMA.

1.4.4 The Authority of Information Contained in the ISP

The NWRS is a statutory document, subject to a high level of public scrutiny and input, and signed off by the Minister. The NWRS contains the best information and knowledge available at the time of its preparation. The information in Chapter 2 and Appendix D of the NWRS Strategy on water requirements, availability and reconciliation was updated with comments received from the public participation process in the second half of 2002. To enable the finalisation of the NWRS, these figures were "closed" for changes in February 2003.

Underlying the figures in Chapter 2 and Appendix D of the NWRS is a set of 19 reports "Overview of Water Resources Availability and Utilisation", one for each WMA. These reports contain more detailed information on each WMA than was summarised for the NWRS and are referred to, in short, as WMA Reports. The WMA reports were also finalised with the February 2003 information.

Still deeper in the background lies another set of reports (one per WMA). These are the Water Resource Situation Assessment Reports. These reports contain a wealth of information on each WMA, but the figures on requirements, availability and reconciliation have been superseded by the WMA report and the NWRS.

The ISPs for all WMAs used the information contained in the NWRS and WMA reports as the point of departure. However, an inevitable result of the ISP process has been that better information has in some cases emerged. The level of study has been more detailed and intense for the ISP. This has included very close scrutiny of the numbers used in the NWRS, and in some cases a reworking of base data and some re-modelling. Where the ISPs contain yield balance data differing from the NWRS, these discrepancies are carefully explained, as are all other instances of divergence.

It is required that the Department work with the best possible data so that the best possible decisions can be taken. Where the ISPs have improved upon the NWRS then this is the data that should be used. The new data contained in the ISP will also be open to public scrutiny with the ISP reports published on the Internet and in hardcopy, and presented and discussed at WMA forums. Comments received will be considered and worked into subsequent versions of the ISP on a regular (annual) basis. The NWRS will be updated to reflect the latest understanding in each new edition.

1.5 INTEGRATED WATER RESOURCE MANAGEMENT (IWRM)

It is imperative that the natural, social, economic, political and other environments and their various components are adequately considered when conducting water resources planning and management. Water as a strategic component also interacts with other components in all environments. For example, human activities such as the use of land, the disposal of waste, and air pollution can have major impacts on the quantity and quality of water, which is available for human use and for proper life support to natural biota.

Taking an even broader view, water must also be managed in full understanding of its importance for social and economic development. It is important to ensure that there is conformity between the water-related plans and programmes of the CMAs, and the plans and programmes of all other role players in their management areas. The CMAs must therefore establish co-operative relationships with a wide range of stakeholders, including other water management institutions, water services institutions, provincial and local government authorities, communities, water users ranging from large industries to individual irrigators, and other interested persons.

This integrated planning and management approach is intended, through co-operative governance and public participation, to enable water managers to meet the needs of all people for water, employment, and economic growth in a manner that also allows protection and, where necessary, rehabilitation of aquatic ecosystems. Above all, Integrated Water Resource Management (IWRM) will enable water managers to use our precious water resources to assist us in poverty eradication and removal of inequity.

One of the big opportunities to formally integrate a large number of actions in water resource management presents itself during the Compulsory Licensing process.

Compulsory licensing is identified in the NWRS as a very important action for implementing the NWA. However, it is not a simple action of issuing licences but a complex process of closely related and interdependent activities that will in itself formalise IWRM to a great extent. The process of IWRM is diagrammatically depicted in Figure 1.2.

Before an allocation schedule can be determined and the legal steps followed to finalise compulsory licensing (through the issuing of licences to all users), many other aspects must be addressed:

1. Existing use and the lawfulness of that use must be verified; all users (existing and new) must apply for licences; a good understanding of future use scenarios must be developed; and water required for equity purposes and rural development must be clearly understood.
2. Water availability must be understood as thoroughly as possible with "best available" existing information used to model all possible reconciliation options.
3. Reserve scenarios must be developed for all significant resources in the catchment, for instance, the river flow requirements for all possible classes that may be considered.
4. The development of strategies for implementing the licensing (abstraction controls, for example), the Reserve and Resource Quality Objectives (i.e. incrementally over time) must go hand in hand with the rest of the processes to ensure that practical, workable solutions are found.

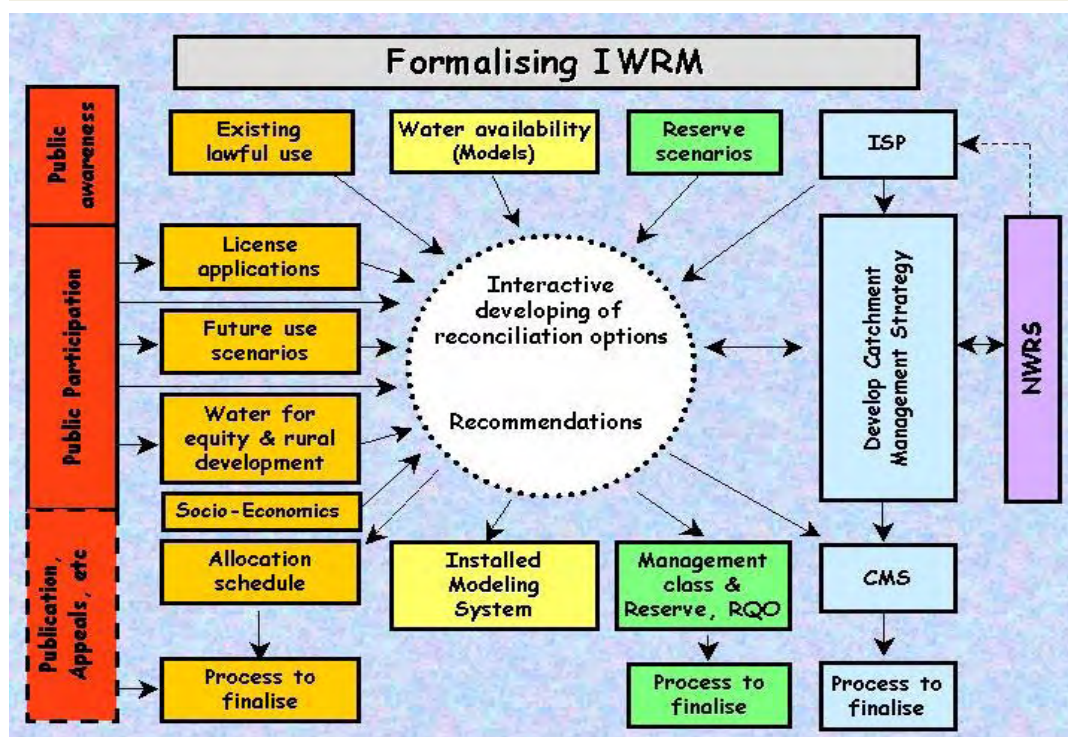


Figure 1.2: Diagram showing DWAF Integrated Water Resource Management approach

The processes will then enter a very intensive, interactive phase of developing realistic reconciliation options. This would entail, for example, the selection of a specific management class to be scrutinised for its impact on the number of licences that could be issued for use, with its concomitant impacts on the social and economic structure of the catchment.

The active participation of stakeholders in this process will then hopefully crystallise clear recommendations on an allocation schedule, management classes for the various reaches of the rivers and the resultant ecological Reserve and Resource Quality Objectives, as well as strategies for implementation.

Although the Department will play a very strong role in guiding this process, it is extremely important to have the CMA actively involved. Preferably, at least the Board of the CMA must be in place to drive the public participation for the process.

1.6 CARING FOR THE ENVIRONMENT

The DWAF is responsible for water resource development and management in terms of the NWA, and within the broader framework of other environmental legislation. The Department also strongly reflects the will to make sound decisions which ensure the development of society and the economy whilst maintaining, and where possible enhancing, ecological integrity. The concept of management of the environment has evolved from the exclusivity of protection of plants and animals to balancing the complex interaction of society, the economy, and ecology. "Environmental management is the integration of social, economic and ecological factors into planning, implementation and decision-making so as to ensure that development serves present and future generations" (NEMA).

The key legislative Acts to which DWAF is required to refer are the National Environmental Management Act

(NEMA, Act 107 of 1998) and the Environment Conservation Act (ECA, Act 73 of 1989). DWAF has prepared a Consolidated Environmental Implementation and Management Plan (CEIMP) as a requirement of NEMA. This describes the Department's functions, policies, plans and programmes, and states how these comply with environmental legislation. Through the CEIMP the Department has committed itself to developing and implementing an integrated Environmental Management Framework (EMF) to ensure that its approach is aligned with the principles prescribed in NEMA and the ECA. The EMF will inform the Department at a strategic decision-making level, bring about environmental legal compliance, and help in achieving environmental sustainability through the promotion of sound environmental management practices. Integrated Environmental Management is a co-operative governance effort with DWAF as a full partner in the process.

This ISP has the responsibility of raising and maintaining the environmental consciousness of the Department's water resource planners and managers. The control over water has a very broad range of influence and impact for which strategies and planning need to account. Impacts come from many different angles.

Some of these angles of impact, which are considered through this ISP, are noted below:

- ☐ The direct impact of physical structures (environmental constraints to construction, e.g. of weirs or dams).
- ☐ The implications of allocating and licensing water for use. Forestry and irrigation are examples of users where development based on water can mean the transformation of extensive areas of otherwise 'natural' environments.
- ☐ The allocation of water for equity. Here we can include approaches towards the application of Schedule 1 Use, General Authorisations, the revitalisation of irrigation schemes, etc.
- ☐ Failure to support equity, or appropriate development – noting the consequential impacts of poverty.
- ☐ Sanitation systems and the impacts on groundwater quality.
- ☐ The implementation of the Reserve.
- ☐ The ability to monitor and manage compliance, thus protecting the resource and with it the environment.

All decisions regarding water are critical to the environment. Decisions must be made on a balance of social, economic and ecological costs and benefits, considering both the immediate and the long-term, and always with an eye out for the unintended consequence. It is the intention of the ISP to provide the basis for integrated decision-making. The principles of environmental management underpin every strategy developed in this document.

There are a number of strategic areas with a particularly strong biophysical/ecological emphasis. These include:

- ☐ The Reserve (groundwater, rivers, wetlands and estuaries)
- ☐ Water quality - surface and groundwater

- ☐ The approach towards the clearing of Invasive Alien Plants
- ☐ The management of wetlands
- ☐ Land degradation erosion and sedimentation (land-care)
- ☐ Land use and especially how this is impacted on by land reform and the re-allocation of water.

The role of Co-operative Governance and the need for awareness raising and capacity building are key strategic elements of many strategies.

In reality, all strategies and all aspects of management have a strong interaction with the biophysical environment. This ISP endeavours to capture all of these concerns in discussion and through a strategic approach, which emphasises the will of the Department to manage the environment to the best benefit of the country and its people.

The approach set out above applies to all Water Management Areas and associated ISPs, and is not repeated within the Strategy Tables (Part 2 of this ISP). It reflects the way the Department views Integrated Water Resource Management and the importance of the biophysical aspects of decision-making. There may nevertheless be specific ecological and biophysical aspects of management, which require specific attention and which may not be captured in the above-mentioned or other strategies. The ISP therefore still includes an Environmental Strategy, which serves to make pertinent those issues of the environment, which might not otherwise be covered.

1.7 THE SOCIAL ENVIRONMENT

The utilisation of water resources is aimed at the benefit of society, and at society through the economy. As noted in Section 1.5 this should not be at undue cost to ecological integrity.

Impacts on society are a key element of this ISP, although taking into account the protection of the natural resources on which communities are dependent on. The implementation of the ecological Reserve may benefit the river as well as communities directly or indirectly dependent on the river, to the intended benefit of society, but this has to be balanced by the use of that water out of the river to support social and economic development for the benefit of society.

The implementation of the NWA requires that society be kept at the forefront of all decision-making. This principle is now deep-seated within the Department and is integral to all strategies. Water resource allocation and use has critical social impacts, as does water quality management. But pivotal to the social component is the question of equity. What can be done and what is being done to redress past inequities? Within this, strategies have been developed to consider the provision of water to Resource Poor Farmers, the use of water under Schedule 1, Licensing and General Authorisations, etc. Whilst water supply and sanitation are not part of the brief of the ISP, the provision of water to meet these needs most certainly is. The urban poor, and the poor in rural villages, are as important in the consideration of the distribution and use of water resources as are the rural subsistence poor.

This ISP aims to see water benefiting society. This can be through access to water in livelihood strategies, through small-farmer development programmes, through water supply and sanitation and especially the provision of good quality drinking water, and through the maintenance and growth of income-producing, job-

creating, and tax paying agricultural, commercial and industrial strategies.

Consultation and public participation are cornerstones of the social component of any strategic document. These requirements are repeatedly stressed throughout the National Water Act. This ISP has been prepared as DWAF's position statement with respect to the management of water resources and, although strategies and plans have been captured without consultation with the stakeholders, it remains an open and transparent document where the understanding of the Department, its visions and its principles are made clear for all to see and to interact with. This is amplified in the Implementation Strategy (Strategy 9.1) of this ISP.

1.8 WATER QUALITY MANAGEMENT

Much of the emphasis in water resource management has revolved around ensuring that users have sufficient quantities of water. However, as more water gets used and re-used, as quantities get scarce and feedback loops get even tighter, it is quality that begins to take on a dominant role.

Water availability is only as good as the quality of that water. Both quantity and quality need to be considered at the correct level of detail, and this can mean that at times they should be considered with similar emphasis and with similar expenditure of resources. The concept of Available Assimilative Capacity, the ability of the water resource to absorb a level of pollution and remain 'serviceable', is as important in water resource management as is the concept of Systems Yield.

Quantity and quality can no longer be managed in isolation of each other. Not that this isolation has ever been total. The importance of managing the current overflow of untreated sewage into the Mtata River, whose water is abstracted for domestic purposes by downstream users and also supports the functioning of the estuaries, cannot be overemphasised. The consequences of irrigation, the leaching of fertilisers, and more importantly the leaching of salts from deeper soil horizons can render both the lands themselves and the receiving rivers unsuitable for use. Diffuse agricultural 'effluent' may be less visible than direct discharges of sewage or industrial effluent, but are no less pernicious.

Direct discharges to rivers are licensed and managed on the basis of assimilative capacities of those rivers, and on Receiving Water Quality objectives. Where these limits are exceeded, often through the cumulative impact of diffuse discharges, water becomes unavailable or unsuitable for use to some, or even all, users downstream. This is the case in some of the catchments of the Mzimvubu to Mbashe ISP area. DWAF will licence users to take water, and again to discharge it in recognition that there is generally a cost to the resource in terms of a reduction in quality and a reduction in its further assimilative capacity. It is for this reason, and in order to bring about additional management and a strong incentive, that the Waste Discharge Charge System is being developed. Discharge users will be obliged to pay, depending on the quantity and quality of their discharge.

Surface water quality is affected by many things including sediment and erosion, the diffuse discharges from irrigated farmland (both fertilisers and salinity through leaching), domestic and urban runoff, industrial waste, and sewage discharges. Of these, industrial waste and sewage discharges are the easiest to licence and control, but this does not mean that this is problem-free. The Department has found that the situation with regard to sewage discharges often far exceeds the standards and conditions demanded by licences. There is a problem of compliance due to unacceptable management practices and overloaded systems with regard to Local Authorities and private operators responsible for waste management systems. Diffuse discharges only

compound the problem by reducing the assimilative capacity until the water becomes unfit for use, very expensive to purify, and a danger to human health.

Groundwater quality requires equal attention, and more so as we recognise the importance of groundwater in supplementing our meagre resources, and providing water to remote communities. Although our groundwater resources are for the most part to be found at a relatively deep level (50-100 m is quite typical) this water can easily be polluted by surface activity. The leaching of fertilisers is one such problem but of greater concern is the influx of nitrates, primarily a consequence of human habitation and sanitation. Pit latrines are on the one hand so necessary, and have the huge advantage of not requiring volumes of water, but disposal is 'on-site', and often responsible for the longer-term pollution of the underlying aquifers which feed and water the communities above.

Water quality is a very important aspect of strategy within this ISP – considered primarily within the Water Quality Strategy and under Groundwater. Industrial wastewater discharge, diffuse agricultural discharges, wastewater treatment works, the location and management of solid waste disposal sites, the siting of new developments, informal settlements and the impacts of sanitation systems, are all elements considered with great concern in this and other ISPs. Despite this attention, it may be that Water Quality has still not taken its rightful place in the integrated management of the water resource. But the Department is moving towards IWRM and the integration of quantity and quality issues. Managers have now been given crosscutting responsibilities that will ensure a far more integrated approach in future.

Actions recommended within the Department include:

1. The need to actively workshop the integration process of resource management, planning and allocations of groundwater and surface water quantity and quality.
2. The review and incorporation of knowledge from recent Water Research Commission studies on both radioactivity and nitrates (groundwater quality issues).
3. A review of all water quality literature reflecting situational knowledge and understanding within this WMA (and each and every WMA).
4. Ensure that water quality monitoring is fully integrated into WMA water resources monitoring.

1.9 GROUNDWATER

The ISP process in all of the Water Management Areas of South Africa has highlighted the role and importance of groundwater as part of the total water resource. Although groundwater has always been important in some areas, this overall vision is a significant advance on our previous understanding of the potential for groundwater use. With the surface water resources in many WMAs now fully utilised, almost the only opportunity left for further development lies in the exploitation of groundwater. More particularly, it is recognised that many of the more remote towns and villages, far from surface supplies, can in fact supply or supplement existing sources through groundwater, and that this must become a priority option. Therefore, too many small communities and subsistence farmers can avail themselves of groundwater when it would otherwise be impossible or impractical to lay on piped supplies. This can also reduce the pressure on existing users and perhaps even circumvent the need for Compulsory Licensing. The Department will be developing its capacity to explore and encourage the use of groundwater.

Of obvious concern is the likelihood of an interaction between groundwater and surface water. If the interaction is strong then additional use of groundwater may simply be reducing the surface water resource already allocated to someone else. In some instances (such as in the case of dolomitic aquifers) this interaction can indeed be very strong, whilst across many areas of the country it is so weak as to be negligible. In these circumstances groundwater comprises a huge pool of available water which is only of benefit if it is utilised. Care must always be taken with the issuing of licences to ensure that both the Groundwater Reserve and other downstream users do not end up being the losers.

The realisation in this and other ISPs is that groundwater offers a huge resource of water which can be tapped, and that this can be a very significant supplement to the national water resource.

1.10 PUBLIC RECREATION – THE USE OF DAMS AND RIVERS

The use of water for recreational purposes is one of the 11 water uses regulated in terms of the NWA (Section 21 j). The Department is developing a national policy towards 'Recreation on Dams and Rivers' and this should, in the first instance, be adhered to. Recreational use can take many forms and only occasionally has any direct impact on the water resource. Most obvious are activities such as power-boating, sailing and swimming which can have quality / pollution impacts. These activities can bring very significant economic benefits to the WMAs concerned, and where water releases can be accommodated, particularly through alignment with the needs of the ecological Reserve or other downstream users, then so much the better.

It is noted in this ISP that water resources offer a very significant recreational outlet and that recreation is an important public and social asset necessary for national health and productivity. A central philosophy is that recreational opportunity should not be unreasonably and unnecessarily denied to users, and that the implementation of policy should ensure that disadvantaged and poor people should also be able to avail themselves of opportunities.

The Department has already transferred responsibility for the management of many public waters to Local Authorities and will continue with this process. Responsibility will therefore devolve upon these Authorities, but within the broad principles as laid down by the Department.

1.11 CO-OPERATIVE GOVERNANCE – THE PLACE OF THE ISP

The ISP is DWAF's approach to the management of water resources within the WMA. This will, in the longer term, be replaced by a consultative Catchment Management Agency. What is most important, in the medium term is that the ISP has a good fit with the Provincial Growth and Development Plan, with regional and other Environmental Management Plans, with plans and expectations of the Departments of Agriculture, Land Affairs, the Environment and others. It must also be aligned with the Integrated Development Plans and Water Services Development Plans now required for each District Municipality. Water is very often a constraining feature in development and co-operative governance planning and implementation is essential in matching what is wanted with what is possible.

1.12 STRUCTURE OF THE REMAINING SECTIONS

The Mzimvubu to Mbashe ISP is divided into two parts. **Part 1** of this document provides the overview of the ISP area. It also presents a water balance for each key area of the ISP. The related water resources issues and proposed strategic approach are then described.

The next chapter of this report is **Chapter 2: Overview of the Mzimvubu to Mbashe ISP area**. This chapter provides the characteristics of the Mzimvubu to Mbashe ISP area. The economic activities and overall water resources perspective is also presented in the chapter.

Chapter 3: Groundwater Resource Overview. In order to raise the profile of groundwater this chapter provides an assessment of the groundwater resources of the Mzimvubu to Mbashe ISP area. It also highlights issues regarding groundwater availability and potential for use of the resource.

Chapter 4: Water Resources Overview – Key Area Perspective. The water resource availability both in terms of quantity and quality is discussed in this chapter. The purpose is to provide an overview of the water user sectors and their existing and future requirements and how they impact on the water resource availability of the ISP area.

Chapters 5 - 8: Key area specific issues and strategies. The reconciliation and the related issues for each key area in the Mzimvubu to Mbashe ISP area are discussed. Each chapter discusses one key area starting with the Mzimvubu key area up to the Mbashe key area. Potential strategic options identified for each issue are also discussed.

Chapter 9: General issues and strategies for the Mzimvubu to Mbashe ISP area. The issues generic to the Mzimvubu to Mbashe ISP area and related strategic options are discussed in this chapter. The proposed management actions required to address the water-related issues and to meet the management goals set, are discussed.

Chapter 10: Implementation strategy. In this chapter the procedures for implementation of the Mzimvubu to Mbashe ISP are discussed.

The second part of this report is **Part 2** which provides the detailed strategies for the Mzimvubu to Mbashe ISP area.

There is one Appendix included in the document. **Appendix A** provides all the relevant data of the Mzimvubu to Mbashe ISP area.