

# NATIONAL WATER AND SANITATION MASTER PLAN

VOLUME 3: **SCHEDULE AND ACTION** Version 4.8

**Ready for the Future  
and Ahead of the Curve**

WATER IS LIFE - SANITATION IS DIGNITY



**water & sanitation**

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA





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EU	European Union
ELU	Existing Lawful Use
etc.	etcetera; and so on
EWSETA	Energy and Water Sector Education and Training Authority
EXCO	Executive Committee
FAO	Food and Agriculture Organisation
FET	Further Education and Training
FETWater	Framework Programme for Research, Education and Training in Water, South Africa (UNESCO initiative)
G8	The Group of Eight (world's eight wealthiest western countries)
GA	General Authorisations
GCM	Global Circulation Models
GCIS	Government Communication Information System
GDP	Gross Domestic Product
GET	General Education and Training
GFETQSF	General and Further Education and Training Qualifications Sub-Framework
GG	Government Gazette
GGP	Gross Geographic Product
GIS	Geographical Information System
GLeWAP	Groot Letaba River Water Development Project
GN	Government Notice
GRIP	Groundwater Resource Information Project
HDI	Historically Disadvantaged Individuals
ha	Hectares
HE	Higher Education
HEI	Higher Education Institutes
HEQSF	Higher Education Qualifications Sub-framework
HRDS	Human Resources Development Strategy
HYDSTRA	Integrated Water Resources Management Software
IB	Irrigation Board
IBSA	The India-Brazil-South Africa Dialogue Forum
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
i.e.	that is
IHP	International Hydrological Programme
IPAP3	Industrial Policy Action Plan 3
IPP	Independent Power Producers
IRP	Integrated Resource Plan
IRR	Institutional Reform and Realignment
IT	Information Technology
i.t.o.	in terms of
IUA	Integrated Units of Analysis
IWA	International Water Association
IWRM	Integrated Water Resource Management
IWWMP	Integrated Water and Waste Management Plan
IWTTSA	Industry Water Task Team of South Africa

**List of Acronyms**

<b>Acronym</b>	<b>Description</b>
ACIP	Accelerated Community Infrastructure Program
AIP	Alien Invasive Plants
AMCOW	African Ministers' Council on Water
AMD	Acid Mine Drainage
ARC	Agricultural Research Council
b/a	billion per annum
BBBEE	Broad-Based Black Economic Empowerment
bn	Billion= 1000 000 000
BRICS	Brazil, Russia, India, China and South Africa
CARA	Central Adoption Resource Authority
CHE	Council on Higher Education
CMA	Catchment Management Agency
CME	Compliance, Monitoring and Enforcement
CMF	Catchment Management Forum
CMS	Catchment Management Strategy
COP 17	17th Conference of the Parties
CRDP	Comprehensive Rural Development Program
CRU	Central Regulatory Impact Assessment Unit
CSI	Corporate Social Investment
CSIR	Council for Scientific and Industrial Research
CSO	Civil Society Organization
DAFF	Department of Agriculture, Forestry and Fisheries
DBE	Departments of Basic Education
DBSA	Development Bank of Southern Africa
DDT	Dichlorodiphenyltrichloroethane
DEA	Department of Environmental Affairs
DCoG	Department of Cooperative Governance
DHET	Department of Higher Education and Training
DM	District Municipality
DMR	Department of Mineral Resources
DOE	Department of Energy
DHS	Department of Human Settlements
DPE	Department of Public Enterprises
DPSA	Department of Public Service and Administration
DRD&LR	Department of Rural Development and Land Reform
DST	Department of Science and Technology
DTI	Department of Trade and Industry
DWA	Department of Water Affairs
DWAF	Department of Water Affairs & Forestry
DWM	Developmental Water Management
DWS	Department of Water and Sanitation
e.g.	for example

JPTC	Joint Permanent Technical Committee
JSE	Johannesburg Stock Exchange
JWC	Joint Water Commission
KNP	Kruger National Park
KPI	Key Performance Indicator
LEDP	Local Economic Development Plan
LGSETA	Local Government Sector Education & Training Authority
LHDA	Lesotho Highlands Development Authority
LHWP	Lesotho Highlands Water Project
LRAD	Land Reform for Agricultural Development
LTAS	Long Term Adaptation Scenarios
LTBWSS	Lower Tugela Bulk Water Supply Scheme
LWC	Limpopo Watercourse Commission
m <sup>3</sup> /a	ubic meter per annum
mm/year	millimetres per year
mg/l	milligrams per litre
MI/day	Megalitres per day= 1 000 000 litres/day
M&E	Monitoring and Evaluation
MAR	Mean Annual Runoff
MDG	Millennium Development Goals
MFMA	Municipal Finance Management Act
MIG	Municipal Infrastructure Grant
MISA	Municipal Infrastructure Support Agency
MMTS2	Mooi-Mgeni Transfer Scheme Phase 2
MoU	Memorandum of Understanding
MTEF	Medium Term Expenditure Framework
MWIG	Municipal Water Infrastructure Grant
MW	Mega Watt
NATED	National Technical Education
NCBF	National Capacity Building Framework for Local Government
NDP	National Development Plan
NEMA	National Environmental Management Act
NFEPA	National Freshwater Ecosystem Priority Areas
NGA	National Groundwater Archive
NGP	New Growth Path
NGO	Non-government Organisation
NGS	National Groundwater Strategy
NMBMM	Nelson Mandela Bay Metropolitan Municipality
NPC	National Planning Commission
NPS	Non-point Source
NPSS	Non-Point Source Strategy
NQF	National Qualifications Framework
NRF	National Research Foundation
NRW	Non-Revenue Water
NSA	National Skills Accord

NSDP	National Spatial Development Perspective
NSDS	National Skills Development Strategy
NSI	National System of Innovation
NT	National Treasury
NWA	National Water Act (Act 36 of 1998)
NWAC	National Water Advisory Council
NW&SMP	National Water and Sanitation Master Plan
NWRI	National Water Resource Institute
NWRS	National Water Resource Strategy
NWRS1	National Water Resource Strategy (first edition, 2004)
NWRS2	National Water Resource Strategy (second edition 2013)
O&M	Operation and Maintenance
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
ORASECOM	Orange-Senqu (River Basin) Commission
ORWRDP	Olifants River Water Resource Development Project
OQSF	Occupational Qualifications Sub-Framework
OSD	Occupation Specific Dispensation
PALAMA	Public Administration Leadership and Management Academy
PES	Present Ecological State
Ph	Phase
PFMA	Public Finance Management Act
PGDP	Provincial Growth and Development Plan
PGDS	Provincial Growth and Development Strategy
PMU	Project Management Unit
PPP	Public Private Partnerships
P/S	Pump Station
PWC	Permanent Water Commission
QCTO	Quality Council for Trades and Occupations
R&D	Research and Development
R&I	Research and Innovation
RBIG	Regional Bulk Infrastructure Grant
RBO	River Basin Organizations
RDM	Resource Directed Measures
RDP	Reconstruction and Development Programme
REGIS	Software system developed in the Netherlands, currently under investigation for its application in South Africa
RIA	Regulatory Impact Assessment
RIDMP	Regional Infrastructure Development Master Plan
RISDP	Regional Indicative Strategic Development Plan
Rio+20	United Nations Conference on Sustainable Development, 2012
RPL	Recognition of Prior Learning
RQO	Resource Quality Objectives
RSA	Republic of South Africa
RSAPIII	Regional Strategic Action Plan III

RWH	Rainwater Harvesting
RWU	Regional Water Utility
RWQO	Receiving Water Quality Objective
SA	South Africa
SAAWU	South African Association of Water Utilities
SADC	Southern African Development Community
SAICE	South African Institution of Civil Engineering
SALGA	South African Local Government Association
SAWS	South African Weather Service
SDC	Source Directed Controls
SETA	Sector Education & Training Authority
SIP	Strategic Integrated Project
SIWI	Stockholm International Water Institute
SULP	Sustainable Utilization Plans
SWPN	Strategic Water Partnership Network
TAC	Technical Advisory Committee
TCTA	Trans Caledon Tunnel Authority
UDF	Urban Development Framework
UN	United Nations
UNCSD	United Nations Conference on Sustainable Development
UNEP	United Nations Environment Programme
GEMS	Global Environment Monitoring System
UNFCCC	United Nations Framework Convention on Climate Change
UNESCO	United Nations Educational, Scientific and Cultural Organization
VGG	Vaal Gamagara
WAR	Water Allocation Reform
WAS	Water Accounting System
WARMS	Water Registration Management System
WARS	Water Allocation Reform Strategy
WCWSS	Western Cape Water Supply System
WCWDM	Water Conservation and Water Demand Management
WDCS	Waste Discharge Charge System
WISA	Water Institute of Southern Africa
WMA	Water Management Area
WMP	Water Management Plan
WMS	Water Management System
WRA	Water Research Act
WRC	Water Research Commission
WRM	Water Resource Management
WRTC	Water Resources Technical Committee
WS	Water Services
WSA	Water Services Authority
WSAct	Water Services Act (Act 108 of 1997)
WSDP	Water Services Development Plans
WSLG	Water Sector Leadership Group



WSP	Water Services Provider
WMA	Water Management Area
WTW	water treatment works
WWC	World Water Council
WWTW	waste water treatment works
WUL	Water Use License

### List of Standard Units

Description	Standard unit
Elevation	m.a.s.l.
Acceleration	m/s <sup>2</sup>
Ampere	A, kA
Area	m <sup>2</sup> , ha or km <sup>2</sup>
Density	kg/m <sup>3</sup>
Diameter	mm dia., m dia.
Dimension	mm, m
Discharge	m <sup>3</sup> /s
Distance	m, km
Electric power	kVA, kW, MW
Energy	kJ, MJ
Force, weight	N, kN, MN
Gradient (V:H)	%
Height	m
Mass	kg, ton
Mean annual runoff	million m <sup>3</sup> /a
Moment, torque	Nm, kNm, MNm
Power	kW, MW
Pressure	Pa, kPa, MPa
Slope (H:V) or (V:H)	1:5 (H:V) or 5:1 (V:H)
Velocity, speed	m/s, km/hr
Volt	V, kV
Volume (storage)	m <sup>3</sup> , million m <sup>3</sup> , MI
Yield	million m <sup>3</sup> /a, MI/day

## 1. VOLUME 3: SCHEDULE OF ACTIONS – ROADMAP

### 1.1 INTRODUCTION

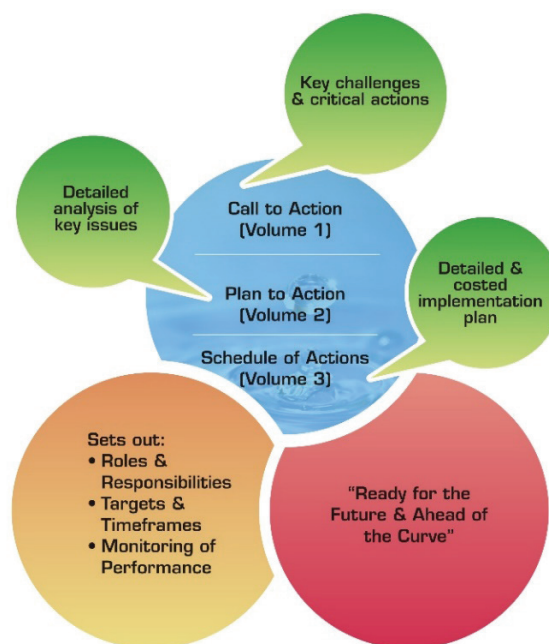
The current National Water and Sanitation Master Plan (NW&SMP) is a plan of actions that needs to be implemented by the entire water sector in South Africa in order to achieve Government's goals and objectives. This version of the NW&SMP was drafted by the Department of Water and Sanitation (DWS), in consultation with, and considering the input from, the stakeholders in the entire water sector, and aims to provide the basis for further consultations before being finalized.

In general, the NW&SMP is intended to be a living document, and therefore even after its initial finalization, its content and the achievement of the set targets will be monitored and evaluated. Where necessary, be amended and updated annually based on the inputs from stakeholders and revised government targets and available budgets. This process will provide continuous opportunities for further inputs from all stakeholders.

The NW&SMP comprises of the following three (3) Volumes:

- Volume 1: Call to Action that serves as the Executive Summary of the NW&SMP, which outlines broadly the current challenges and proposed solutions. Only the overall strategic key actions and interventions are included in Volume 1.
- Volume 2: Plan to Action motivates in greater detail the challenges facing the water sector and the necessity of specific actions and interventions. It also outlines the key actions under each section and provides a summary of the key actions at the end.
- Volume 3: Schedule of Actions is the core deliverable of the NW&SMP. It includes substantially more details about all the actions / interventions, programmes and projects required to achieve the NW&SMP's purpose, which where applicable, are broken down to provincial or catchment level. It also provides additional details regarding the specific responsibilities of the relevant parties and a breakdown of deliverables and cost per time segment. This schedule is intended to be used for monitoring and evaluation of the achievements of the set targets, but should not be seen as a monitoring and evaluation tool.

### National Water and Sanitation Master Plan



This Document serves as a guide explaining the purpose, the actual content of Volume 3 (Schedule of Actions), as well as explanatory notes on the format and functionality of Volume 3.

## 1.2 OUTLINE

The purpose of Volume 3 is to arrange and translate all actions and interventions identified within Volumes 1 and 2 of the NW&SMP into annual measurable outcomes inclusive of roles and responsibilities, time frames as well as associated estimated costs. Therefore Volume 3 aims to:

- Position each action according to its NW&SMP section and key element;
- Categorise each action according to its level of importance within Volume 3, since the key actions listed within Volume 1 have a higher impact value than the sub-ordinate actions indicated within Volume 2;
- Assign specific responsibilities, measurable targets and costs to each action;
- Illustrate interconnectivity between actions and responsibilities to allow sector buy-in as well as acceptance of sector responsibility sharing;
- Enable the prioritisation and scheduling of actions depending on the budgets available per fiscal year;
- Allow for regular reviews and amendments;
- Allow for proper monitoring and evaluation of achievements; and
- Allow for monitoring of the performance of responsible parties for each action.

The Schedule of Actions included in Volume 3 is presented in tabular format, with appropriate functionality allowing the user to conveniently navigate through the listed actions and drill down into the specific NW&SMP section, action level, province, catchment etc. Volume 3 is developed applying SMART principles, where SMART means:

- Specific (simple, sensible, significant).
- Measurable (meaningful, motivating).
- Achievable (agreed, attainable).
- Relevant (reasonable, realistic and resourced, results-based).
- Time bound (time-based, time limited, time/cost limited, timely, time-sensitive).

Volume 3 is presented within an Excel Spreadsheet that comprises a simplistic dashboard that allows the viewer to navigate between NW&SMP sections as well as supporting drivers / principles / information sources that were followed in preparing Volume 3.

The full content of Volume 3 is contained in Chapter 2 of this Document, followed by the underlying determinants (Chapter 3) and functionality / specifications of Volume 3 in Chapter 4.

The format of the table is presented under 4.2 Specifications:, followed by descriptive definitions of its requirements as well as the application thereof.

### VOLUME 3: SCHEDULE OF ACTIONS

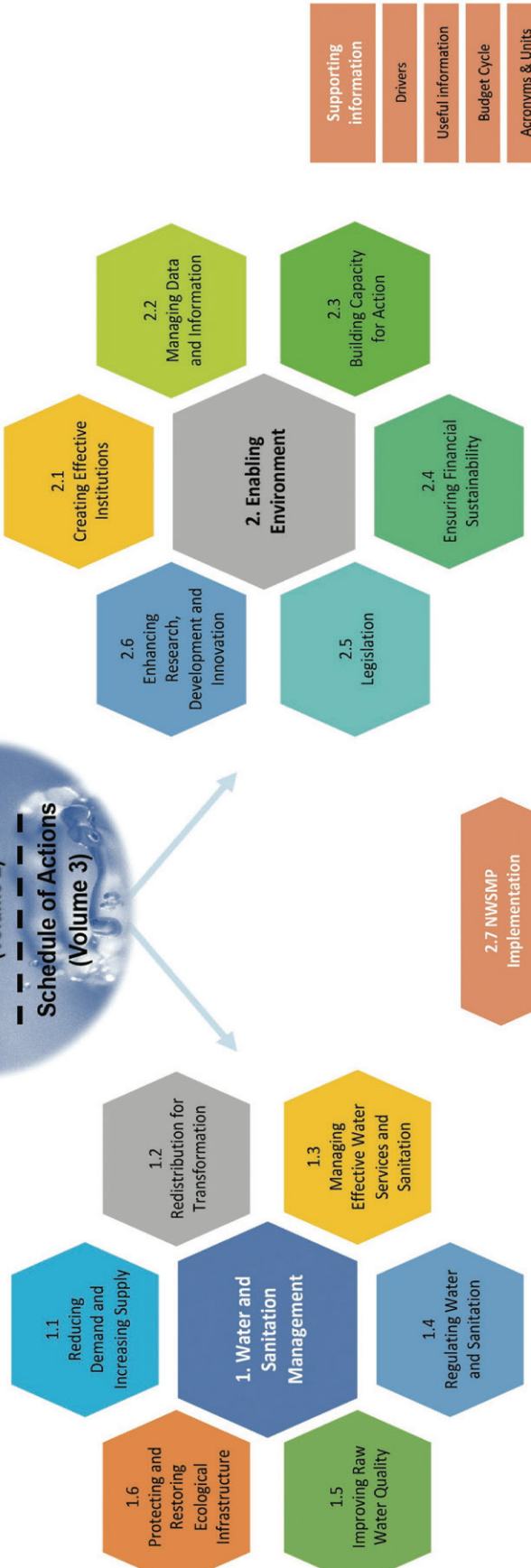
## Menu

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**National Water and Sanitation Master Plan**

- Call to Action (Volume 1)
- Plan to Action (Volume 2)
- Schedule of Actions (Volume 3)



VOLUME 3: SCHEDULE AND ACTION  
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PLEASE REFER TO  
**ADDENDUM 1**  
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