WATER NEWS

2022/23 2ND EDITION

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VISION

Sufficient, equitable and quality water resources for all in the Inkomati-Usuthu Water Management Area

MISSION

To efficiently manage water resources by empowering our stakeholders in our quest to contribute towards transformation by promoting equal access to water and protecting the environment

VALUES

Integrity
Batho Pele (Stakeholders Orientation)
Accountability
Diversity
Transparency

SLOGAN:

"INKOMATI-USUTHU CMA, YOUR PARTNER IN WATER MANAGEMENT"

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IN RIVERS AND DAMS

Dispose nappies in rubbish bins and stop pollution

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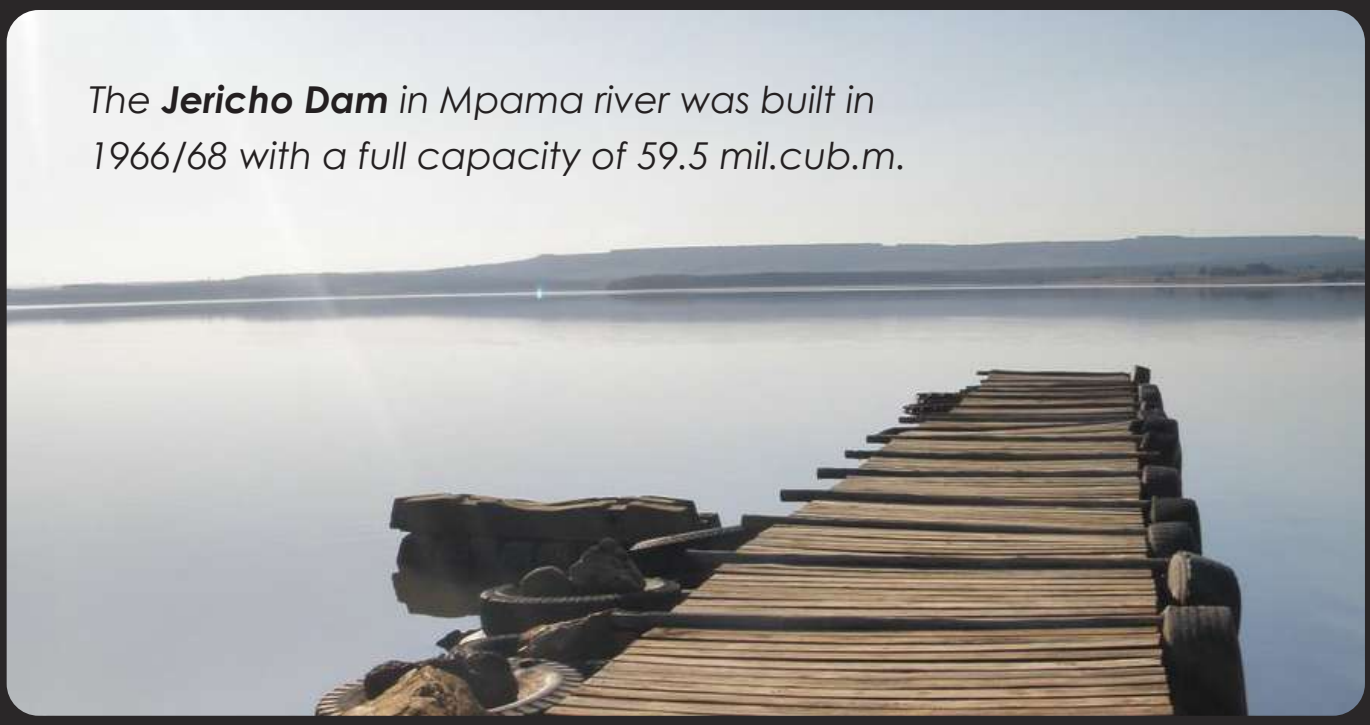
INKOMATI-USUTHU
CATCHMENT MANAGEMENT AGENCY

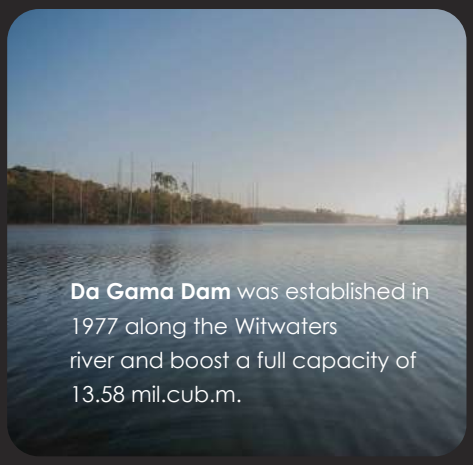
SOME DAMS IN THE INKOMATI-USUTHU WATER MANAGEMENT AREA

***Injaka Dam** along the Marite river boost a full capacity of 124 mil.cub.m.*

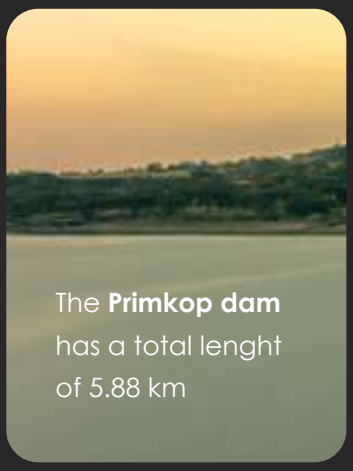
The **Driekoppies Dam** along the Lomati river boost a full capacity of 251 Mm^3 and was opened in 1998.

*The **Jericho Dam** in Mpama river was built in 1966/68 with a full capacity of 59.5 mil.cub.m.*





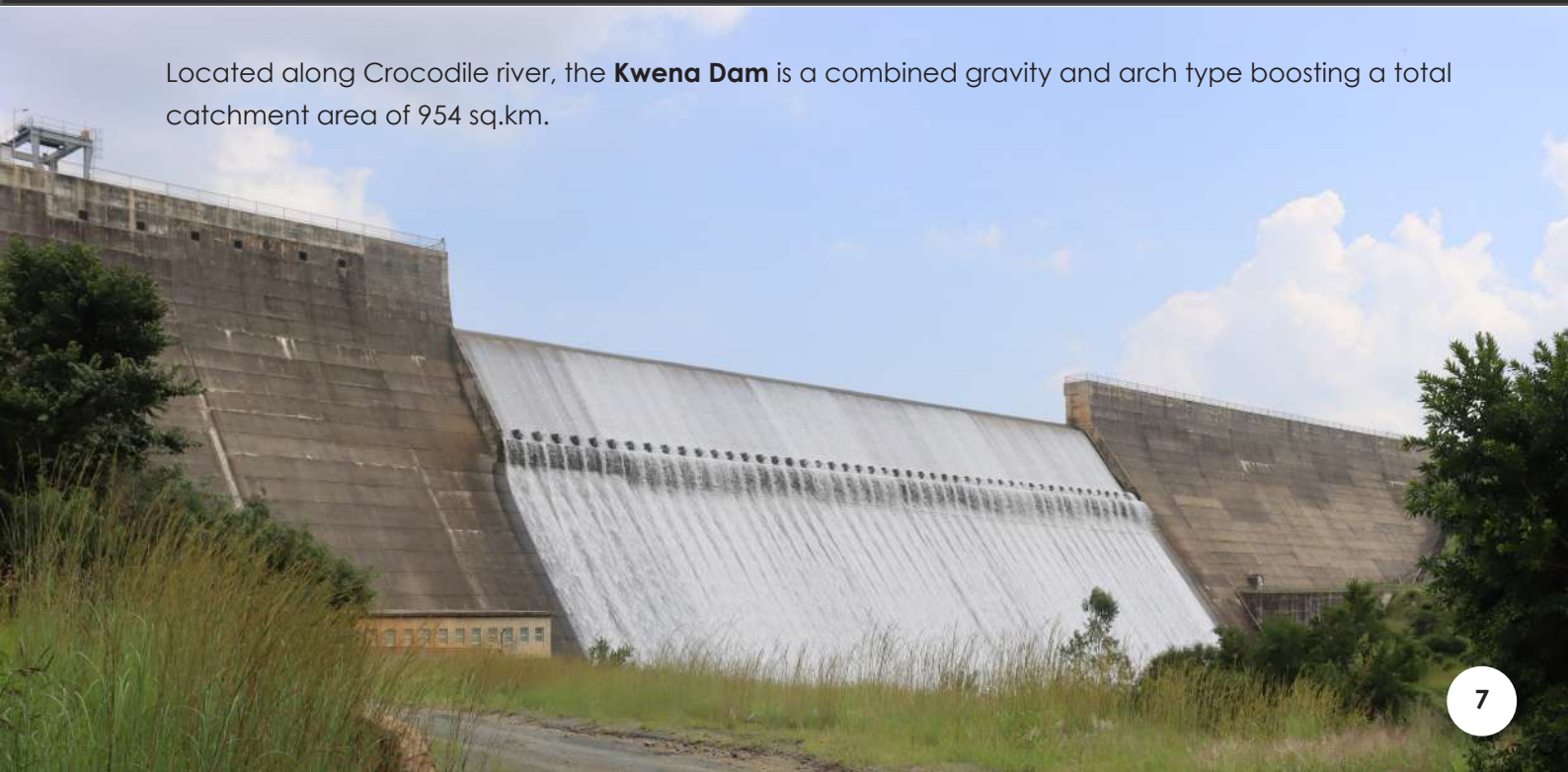
Da Gama Dam was established in 1977 along the Witwaters river and boost a full capacity of 13.58 mil.cub.m.



The **Primkop dam** has a total lenght of 5.88 km

Witklip dam along the Sand river near Sabie was opened in 1969 boosting a full capacity of 12.97 mil.

Located along Crocodile river, the **Kwena Dam** is a combined gravity and arch type boosting a total catchment area of 954 sq.km.



WHAT THE IUCMA IS ALL ABOUT

Water Resource Management is all about balance, sharing and fairness

"The National Water Act says that water needs to be shared fairly among everyone who needs it and that it should be protected for our children and their children and so on. To do this, everyone must work together to manage water resources in a Sustainable, Equitable, and Efficient way".

1. WHO ARE WE?

The Inkomati-Usuthu Catchment Management Agency (IUCMA) is the water resource management agency in the Inkomati-Usuthu Water Management Area (WMA). It is established in terms of Section 78 of the National Water Act (Act 36 of 1998) to perform water resource management at local level. We are the **first Catchment Management Agency (CMA) to be established** in the country, established under Government Notice No.397 of 26 March 2004. The IUCMA is a **body corporate l**isted in Schedule 3A of the Public Finance Management Act No 1 of 1999 (PFMA) as a **national public entity.** Governing Board is accounting authority of the CMA. **CMAs are established to improve decentralised decision making with the stakeholders and thereby improve water resources management at local level.**

2. WHAT DO WE DO?

The IUCMA operates within the legislative framework of the National Water Act. Some of our functions include, but not limited to:

Inherent functions (s80) NWA

- Investigate and advise interested persons on water resource management
- Compilation of the CMS
- Co-ordinate related activities of water users and WMIs
- Promote co-ordination of implementation of any applicable development plan
- Promote community participation in water resource management

Additional inherent functions

- Prevention and remedying effects of water resource pollution as stipulated in section 19 of the NWA
- Control of emergency incidents in respect of water resource pollution as stipulated in section 20 of the NWA.
- the temporary use of existing authorised irrigation water in terms of section 25(2) of the NWA
- Appoint in terms of section 124 Authorised Persons to perform inspection and remedy functions in respect of water resources in terms of section 125(1) – (3)

Additional functions include:

- Section 34(2): To register an existing lawful water use subject to section 26(1) (c).
- Verification of existing WUs

- **Chapter 5 of the NWA**

- Sec 57 – Application of pricing strategy (making and receiving of WU charges)
- Section 124 - As WMI may appoint authorised persons
- Sections 125

- Authorised persons may enter and cross properties to:

- Do routine inspections of water use under authorisation
- Clean, repair, maintain, remove or demolish government water work operated by a WMI
- Undertake work for cleaning, clearing, stabilising and repairing water resource and protecting the resource quality

- Undertake work to comply with an obligation imposed on any person under the NWA in the case of failure by such person

- **Section 145 of NWA – Duty as WMI to report to public –**

- Flood which occurred or is likely to occur
- Drought which occurred or is likely to occur
- Water work which might fail or failed or might endanger life or property
- Levels likely to be reached by flood waters from time to time
- Any risk posed by the quality of water to life, health or property
- Any matter connected with water or water resources which the public needs to know
- **Section 34 -** Registration of existing lawful use
- **Section 35 -** Validation and verification

- **Section 40, 41, 42 and 44**

- Licencing process
- **Section 51, 52**
- Amendment of licences
- **Section 53, 54 ,55**
- Management of licences and licence conditions
- **Section 57, 58 -** Water charges

3. HOW DO WE DO IT?

A) INVOLVING THE COMMUNITY

The management of the resources entails protection, use, development, conservation, management, and control of water resources within the WMA as contemplated in the National Water Act (NWA). The National Water Act has 3 pillars i.e. Equity, Sustainability and Efficiency.

Everyone must take part in planning and making decisions about water resource issues that affect their lives. The IUCMA has established various platforms and processes to manage different factors affecting the catchment. Such platforms or processes intends to include everyone who may be affected. Various catchment forums are operating efficiently in all the sub-catchments. The forums are open, democratic and transparent, whereby everyone's voice counts. To ensure fairness in the processes, historically disadvantaged individuals are constantly being trained and empowered in water related issues so that they can make informed decisions.

B) MAKING SURE THAT THE WATER STAYS HEALTHY

Water quality samples and variable analysed and shared with stakeholders. All activities within the water management area are inspected and numerous follow up inspections conducted to ensure that the reported or identified transgressions are remedied. Water quality monitoring; physical, chemical and biological is of prime importance to the IUCMA. Water samples are taken on a regular basis for chemical and microbiological analysis. The bio-monitoring of the rivers in the WMA is an important part of our monitoring activities. Checking the health of the plants and animals in and around a river is also a good way to ensure that the quality of the river water is fit for its intended uses. This is done through a dedicated unit "River health" equipped with a team of suitably qualified individuals under the directorate of Water Resource Protection. Wetlands rehabilitation advisory services are provided to various stakeholders including mines – after such studies.

C) REGULATING WATER USE

To make sure that there is enough water for everyone who needs it, the IUCMA has to make sure that everyone follows the rules about water use by doing the following: sharing knowledge and expertise on hydrological data network, sources and data acquisition; real time measurement of water quality; maintaining water resources information management database; using strategic adaptive management for river operations; establishing a Flood Forecasting and Warning System for the Crocodile River Catchment. IUCMA has a successful operations committee that has brought the stakeholders together and has installed and maintain several real time runoff and rainfall gauges to improve the coverage for real time operations.

Stakeholder empowerment workshops are held to make sure that all concerned individuals are equipped with knowledge needed for taking part in water resources management regardless of their historical or educational background. To make sure that all water users adhere to the NWA, they need be in possession of a valid water use licence to be able to abstract water from the resource. The IUCMA needs as much information as possible to ensure that the catchment is managed properly in support of sustainable economic and social development. It monitors social, technical, economic, environmental, and political (STEEP) factors related to water resource management in the water management area.

D) CO-OPERATIVE GOVERNANCE

All sectors, organisations and individuals must work together towards the same goal of making sure that the catchment is used Sustainably, Equitably, and Efficiently. A dedicated unit of Institutions & Participation exists to make sure all stakeholders are mobilised to take part in decision making relating to water management in the water management area.

FOREWORD

BY THE **CEO:**

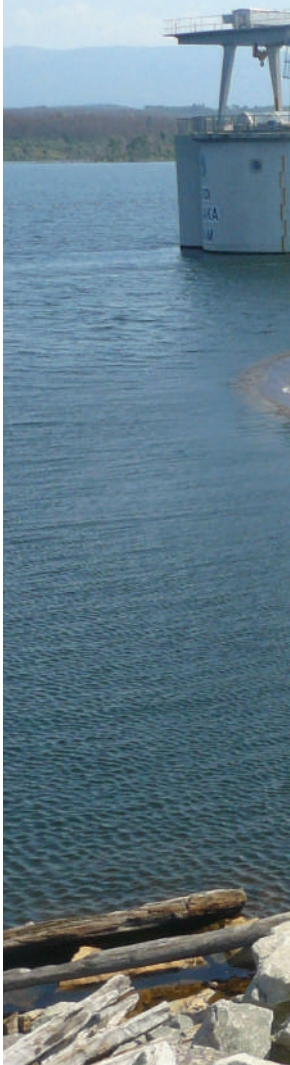
Mr Lucky Charles Mohalaba

Dear Stakeholders

This communication arrives at a time when the IUCMA has just completed its Annual Report. As a result, I am able to reflect on some of the Agency's accomplishments. The report gives our stakeholders a comprehensive picture of our actions, allowing for improved understanding and accountability. It also allows the Agency to report on its efficiency in carrying out our mandate. This newsletter is only a sample of the excellent work done by the IUCMA to conserve and care for water resources.

Our ongoing efforts validate that excellent corporate governance is embedded across the organization. It also increases our internal and external stakeholders' trust in the Agency's capacity to carry out its mandate without violating established internal controls, regulations, and applicable legislation.

Inkomati-Usuthu WMA surface water quality typically meets resource quality objectives (RQOs). However, issues were observed that were mostly related to industrial and mining operations, as well as the poor quality of the infrastructure of water service authority. To reduce pollution events, enforcement actions are implemented. These efforts provide positive results since the majority of issues



reported during inspections or audits are rectified. There is little doubt that the Agency has space for improvement in this area of concern, as microbiological contamination continues to represent a human health risk, particularly to vulnerable rural populations who rely on river water for household, cultural, and recreational uses at times.

The IUCMA water Mix technique to managing existing water resources is mentioned on pages 14 and 16. According to the article, the water resource availability in the Inkomati-Usuthu WMA increased (year on year) inside the high-water availability analysis range when compared to the historical water availability status. Due to the abundance of water in all river sub-catchments, no water usage limits were enforced. When comparing the same time to the previous ten years, Since January 2022, river flow levels in the WMA's principal rivers (Crocodile, Sabie, Komati, and Usuthu Rivers) have been typically high, with only the Crocodile River requiring dam releases to satisfy all water allocation requests. The release from Kwena dam is 6.0 m3/s as of 1 September 2022 and is not expected to grow.

Because of the high river flow level in the Crocodile River watershed, compliance with international flows into Mozambique (which increased from 0.9 to 1.17m3/s beginning 1 October 2020) was 100.0%, compared to 100.0% during the same time the previous hydrological year. In comparison to the previous year, the data demonstrate similar compliance.

Thanking you for your continued support,

Mr Lucky Charles Mohalaba

Editor's *Note*

This newsletter covers a wide range of subjects once more, with a focus on the institution's goals. The IUCMA takes pride in its skilled and competent staff. among other aspects since most of the scientific work is done inside. It keeps advising people who use water to take care of the environment. This is evident from the newsletter's different awareness-raising materials.

The 2022/23 financial year was the wettest in the previous ten, according to the hydrological state described on page 14 and 16. I really appreciate these readings, especially considering the last three or four years, during which the nation's water resources have been in jeopardy. Except for the Crocodile River, all the rivers in the watershed relatively recorded high volumes.

It should be noted that the Crocodile River supplies water to the capital of Mpumalanga province, as well as other enterprises and farmlands. As a result, the consumption of water within the Crocodile River watershed area must be closely regulated. Together with the Komati River, it also supplies water security to Maputo.

In addition to surface water, as previously mentioned, the IUCMA employs the water mix approach to water resource management in the water management region. Groundwater is still one of the most essential resources in the Inkomati-Usuthu Water Management Area as mentioned in page 18 and 19. Monitoring of several sites in this respect was carried out, and observations and findings show that the Inkomati catchment region is generally under pressure, but the Usuthu catchment area is abundant. Users in the Usuthu catchment area are so urged to use this resource. However, users are always encouraged to register their boreholes so that they can be counted and so contribute to groundwater monitoring.

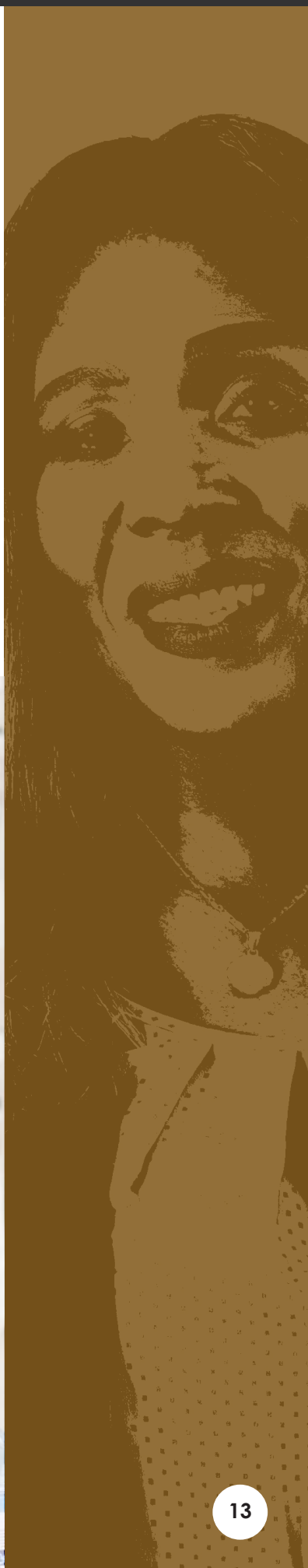
Poor water quality can be harmful to a variety of water applications. As a result, the IUCMA is responsible for taking care of its resources by monitoring their use and users. The IUCMA has created a number of regional monitoring locations to ensure that corrective action is performed as soon as possible if there is a hazard to water quality.

Finally, as part of its CSI programs, the IUCMA has noted that Boreholes are one of the approaches used by the Agency to improve the socioeconomic situation of communities in its service region and the Agency is working towards installing more to assist communities without access to water.

Yours in water management

Ms Sylvia Machimana

QR CODE FOR THE IUCMA WEBSITE



HYDROLOGICAL STATUS OF THE INKOMATI-USUTHU WATER MANAGEMENT AREA

By (from left to right) Dr Tendai Sawunyama and Mr Sipho Magagula from Resource Planning and Operation

Issued: 29 September 2022

An overview of the surface water resource status issued by the Inkomati-Usuthu Catchment Management Agency (IUCMA)

The 2021-22 hydrological year has been one of the wettest hydrological years over the last 10 years, that saw the Inkomati-Usuthu Water Management Area (WMA) record one of the driest hydrological years in 2015-16 (Figure 2).

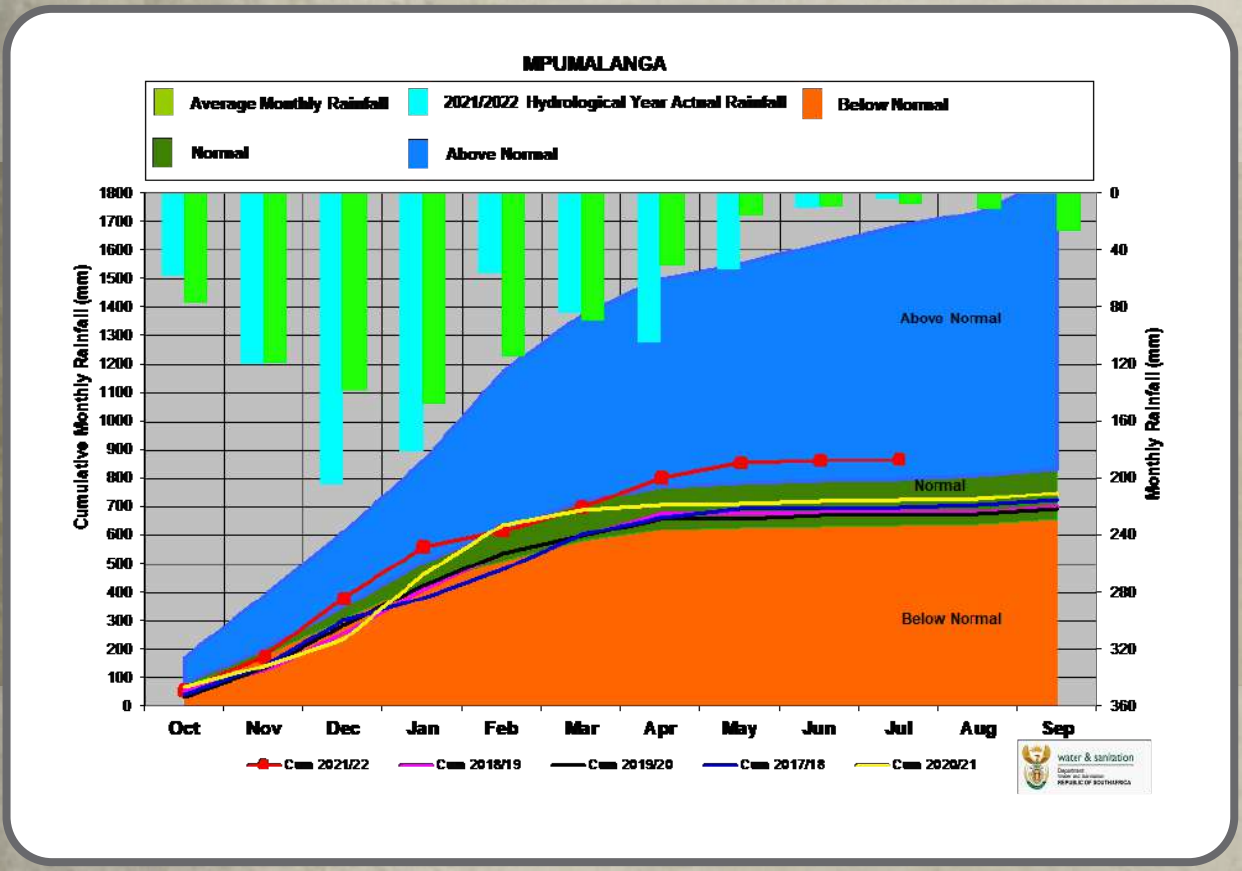


Figure 1: Mpumalanga Rainfall Analysis

As we move closer to the conclusion of the 2021-212 hydrological year all the major dams in the Inkomati-Usuthu WMA are above 80.0%, and the total storage level for all dams is 97.0% compared to 86.0% last year for the same period (Figure 2). The impact of dry winter months has caused all the dams' storage to slightly drop.

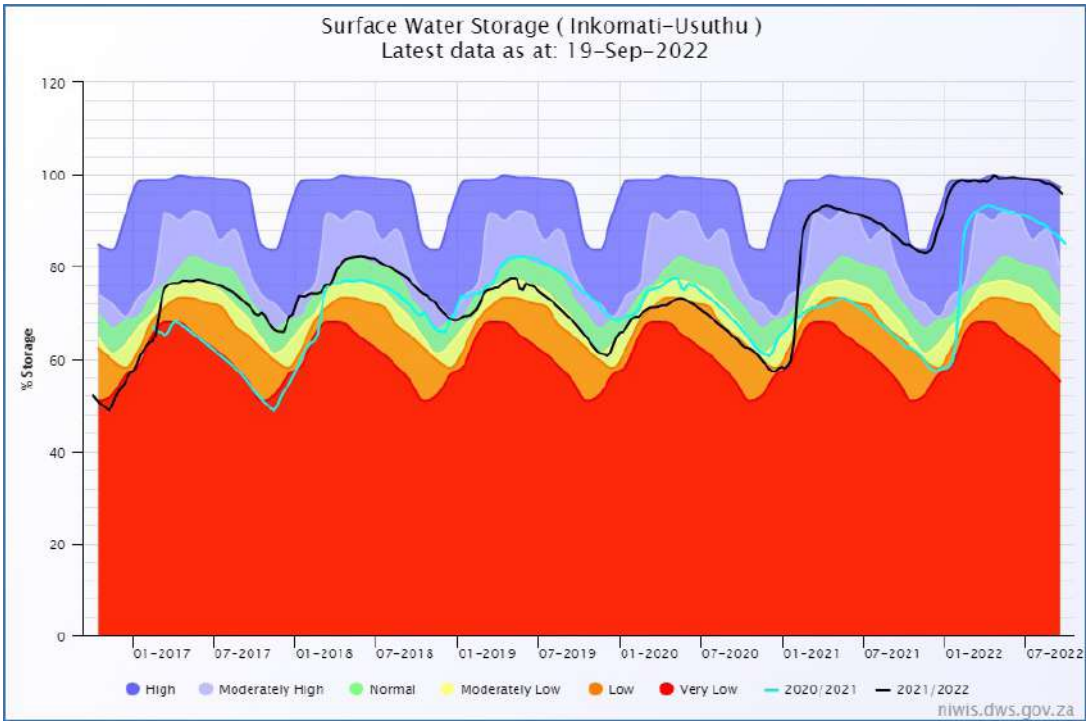


Figure 2: Inkomati-Usuthu WMA dams' storage level status.

The riverflow levels has been generally high in all the major rivers (Crocodile, Sabie, Komati, and Usuthu Rivers) in the WMA since January 2022, with only the Crocodile River requiring dam releases to meet all the water allocation demands. As of 1 September 2022, the release from Kwena dam is 6.0 m^3/s and is projected to not increase.

The current water storages within the major dams in the Inkomati-Usuthu WMA are as presented in Table 1.

Table 1: Dam levels status within the Inkomati Usuthu WMA as of 29 September 2022

Dam Name	29 September 2022 - % FSC	Purpose/Towns
Da Gama Dam	92.4%	Irrigation
Inyaka Dam	81.2%	Irrigation, Domestic (Bushbuckridge);
Klipkopjes Dam	97.2%	Irrigation, domestic (White River)
Kwena Dam	93.3%	Irrigation, Domestic (Mbombela; Nkomazi)
Longmere Dam	86.2%	Irrigation, domestic (White River)
Nooitgedacht Dam	99.9%	ESKOM
Primkop Dam	86.7%	Irrigation, domestic (White River)
Heyshope Dam	99.4%	ESKOM
Jericho Dam	92.4%	ESKOM
Morgenstond Dam	100.0%	ESKOM
Westoe Dam	75.5%	ESKOM
Vygeboom Dam	100.0%	ESKOM
Witklip Dam	94.3%	Irrigation, domestic (White River)
Lomati Dam	76.9%	Domestic (Barberton)
Driekoppies Dam	97.6%	Irrigation, domestic (Nkomazi LM)

Continues on page 16

The latest South African Weather Service (SAWS) seasonal climate watch for September 2022 to January 2022 indicates mostly below-normal rainfall for the western parts of the country during spring (Sep-Oct-Nov), with above-normal rainfall expected over most of the remainder of the country. Rainfall conditions are predicted to improve further during the early-summer (Oct-Nov-Dec) into the start of the mid-summer months (Nov-Dec-Jan).

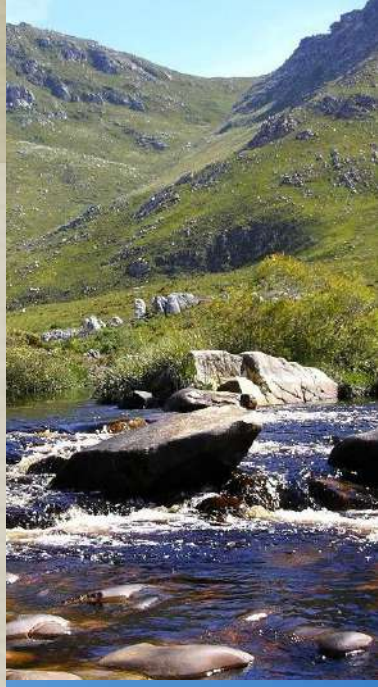
Despite the high-water availability in all main river systems and the forecasted above-normal rainfall for spring to early summer seasons; the IUCMA still encourages water users to continue using water sparingly and implement their water conservation and water demand management strategies. The IUCMA will continue to monitor usage and ensuring compliance and enforcement where necessary.

Issued by the Inkomati-Usuthu CMA-Contact: IUCMA: Resource Planning and Operations Manager: Dr Tendai Sawunyama on 013 753 9000 or sawunyamat@iucma.co.za and Senior Scientist: Hydrology Mr Sipho Magagula on magagulas@iucma.co.za.

For latest river flow and dam levels visit:

http://riverops.inkomaticma.co.za

www.dws.gov.za/hydrology



Water saving tips

Kettles should
not be filled
to the brim but with just enough water for your needs. This will reduce your electricity bill too.

Taking a bath can use between
80 and 150
litres of water per bath.

Do not overfill
containers like pots, as this may result in using more energy to heat the water.

Fix a **leaking toilet** otherwise it can waste up to
100 000 litres
of water in one year.

GROUNDWATER STATUS

OF THE INKOMATI-USUTHU WATER MANAGEMENT AREA

By (from left to right) Dr Tendai Sawunyama and Dr Teboho Shakahane from Resource Planning and Operation

Issued: February 2023

An overview of the groundwater quantity status issued by the Inkomati-Usuthu Catchment Management Agency (IUCMA)

The IUCMA undertakes a routine groundwater and surface water monitoring within the Inkomati-Usuthu WMA using a hydrometeorological monitoring network comprising fifty-seven (57) geo-sites (boreholes), 31 river flow and 25 rainfall gauges. Groundwater monitoring is undertaken manually every month whilst both rainfall and stream flows are monitored using automated systems that telemetrically transmit data to custom relational databases housed at IUCMA head office. Amongst others, the data collected is used to assess the groundwater quantity status including, but not limited to, groundwater recharge, groundwater contribution to environmental flows, water use, and water demands.

A typical analysis of historic groundwater levels data is presented in Fig. 1 for Sabie-Sand System. The following notes are made of the groundwater levels in all the four catchments within the Inkomati-Usuthu water management area (WMA):

- Crocodile
  - In some areas, groundwater levels are generally within a low band indicative of incipient stress situation.
  - In other areas, groundwater levels are within a normal band, indicative of stable groundwater resources.
- Sabie-sand
  - For Sabie-Sand catchment, groundwater levels are generally within a low to very low band, indicative of a possibly severe stress condition perhaps due to increased and sustained groundwater demand and pressures.
- Komati and Usuthu
  - For Komati catchment, groundwater levels are generally in a normal to high band whilst they are predominantly high in Usuthu, indicative of stable groundwater resources.

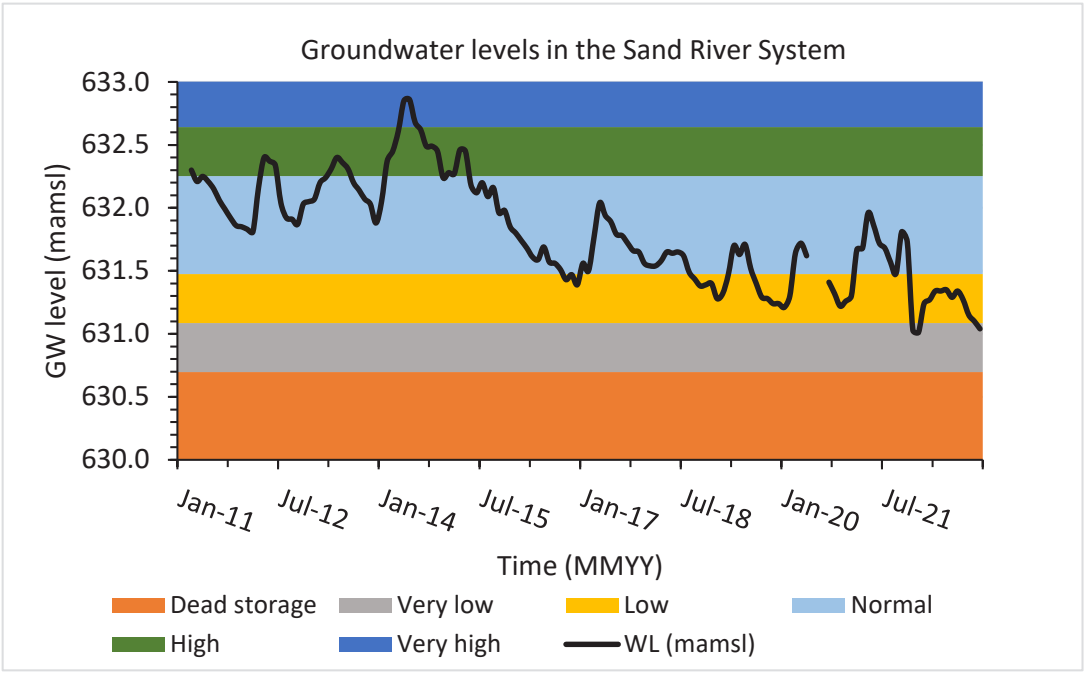


Fig. 1 A groundwater hydrograph from a borehole in the Sabie-Sand catchment

An updated groundwater potential was completed by IUCMA during the 2022/2023 financial year. The results are presented in Fig. 2 against which the following key observations are highlighted:

- The entire Inkomati-Usuthu WMA has the groundwater potential of 2 930.540 Mm^3/a, 59% (865.31 Mm^3/a) of which comes from Komati catchment whilst 24% (357.79 Mm^3/a) comes from Usuthu.
- The groundwater potential for Crocodile is 156.87 Mm^3/a which is 11% of the total groundwater potential in the Inkomati-Usuthu WMA whilst that of Sabie-Sand is 6% (93.83 Mm^3/a).
- Compared to the year 2006 estimates by the Groundwater Resource Assessment Two (GRA II):
  - The total decrease in the groundwater resource potential across the entire Inkomati-Usuthu WMA is 1 456.74 Mm^3/a which is a 50% decrease.
  - Komati exhibits the lowest groundwater potential decrease of about 78.72 Mm^3/a which is approximately 8% decrease.
  - Usuthu is characterised by groundwater potential decrease of 40% (239.66 Mm^3/a) compared to the 78% (550.84 Mm^3/a) decrease in the Crocodile.
  - The highest decrease is in the Sabie-Sand with a 86% (588.52 Mm^3/a) decrease.

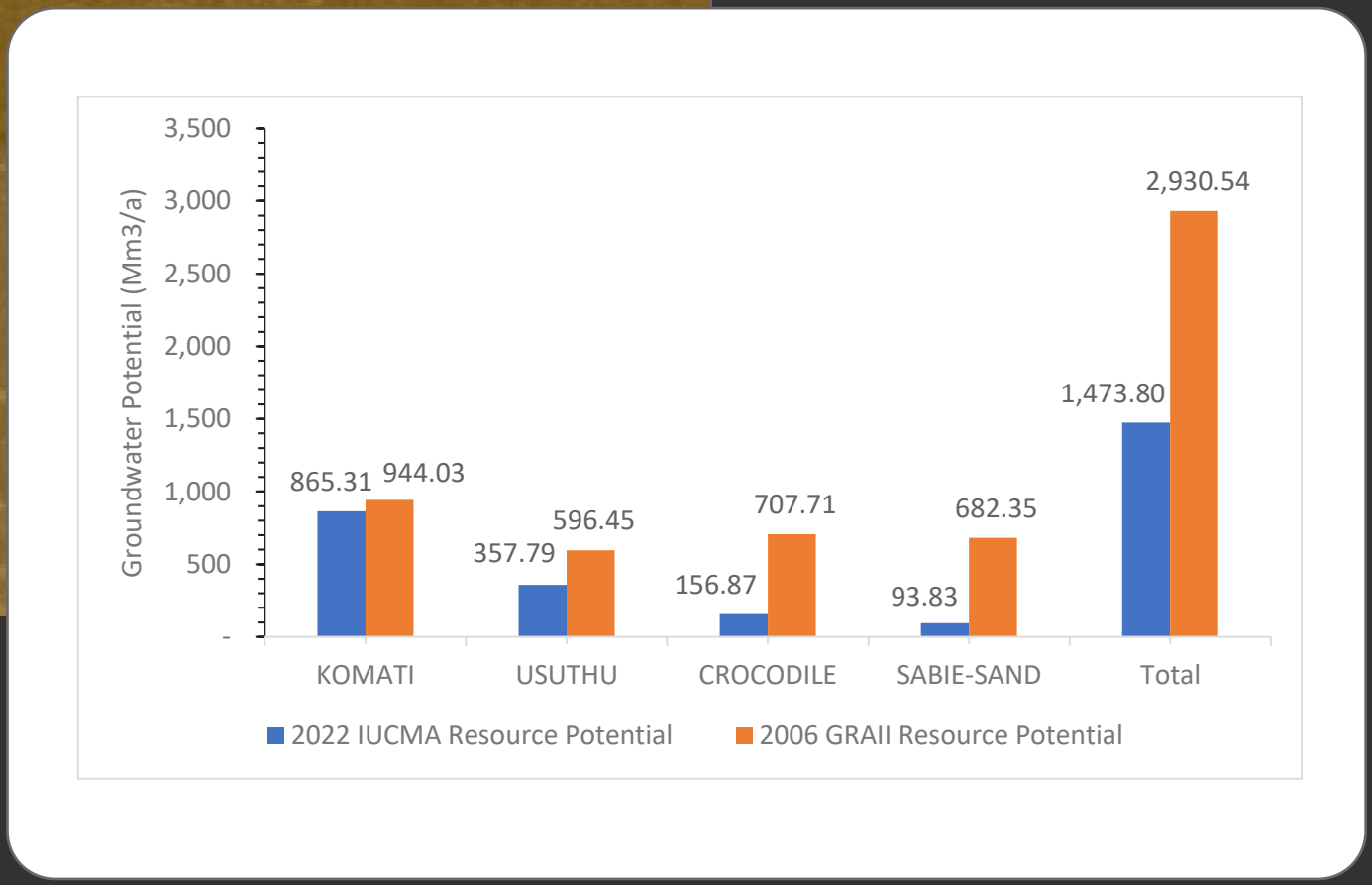


Fig. 2: Groundwater potential in the Inkomati-Usuthu WMA

Issued by the Inkomati-Usuthu CMA-Contact:
IUCMA: Resource Planning and Operations

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Manager: Dr Tendai Sawunyama on 013 753 9000 or sawunyamat@iucma.co.za

INKOMATI-USUTHU
CATCHMENT MANAGEMENT AGENCY

By (from left to right) Mr Hasani Makhubele and Ms Gugu Mabuza from Institutions and Participation

2023 NATIONAL WATER WEEK

Annual Science Schools Competition

Theme: "Accelerating Change"

National Water Week is a calendar event that is celebrated by all in the water sector. The IUCMA in collaboration with its partners has been in the past eight (09) years coordinating the Science Schools competition which is hosted annually in celebration of the National Water Week/Month.

FIRST POSITION: *Khaliphani Secondary School with their teacher (green dress) during the 2023 Annual Science Schools Competition partners and sponsors during the Competition at National Lowveld Botanical Garden after winning the Competition.*

The objective of the competition was to raise awareness of integrated water resource management (IWRM) and to showcase its role in socio-economic development of the country. This is also intended to spark the interest of the learners in the field of science and engineering with specific focus on water science. A total number of 41 schools participated at the Sub-catchment (regional) level competitions which were a build up competition towards the Final Science Schools Competition that was held on the 23rd of March 2023. Eighteen (18) schools which were the top three (3) winning schools from the six sub-catchments participated to the Final Science Schools Competition which was held at the Lowveld National Botanical Garden in Mbombela.

Continues on page 22 and 23, view more pictures on page 24, 25 and 26

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Manganese Metal Co

The theme for the 2023 National Water Week as declared by the Minister of Water and Sanitation was "Accelerating Change". It is about accelerating change to solve the water and sanitation crisis in the country, with the growing climate change, we are experiencing challenges with water.

The event was graced by the presence of the Chairperson of the IUCMA Governing Board Mr Mandlakayise Mthembu, in his address he puts emphasis that young scientists are needed to solve the issues affecting the environment and shared the role they can play in the future. The Chairperson reiterated the theme of the 2023 National Water Week which is "Accelerating Change" and brought into the attendees's attention the key word "change" indicating that as we are aware that in the past two decades, we have continuously accelerating change in the environment around us. All that affects our water resources, we have seen the divesting effect of climate change, and we need young scientists that will look on how we can be assisted to avoid it and come up with solutions.

The IUCMA Governing Board, acknowledged the collaboration between the IUCMA and other sector partners such as the Komati Basin Water Authority (KOBWA), Department of Water and Sanitation, Mpumalanga Provincial Department of Education, City of Mbombela, Silulumanzi, Sappi, South African National Biodiversity Institute (SANBI), Working on Fire (WoF), Metal Manganese Company (MMC), Barberton Mine, Umsimbithi Mining Company, Ilima Coal Mine and others who supported the project financially and with human resources.

ENCOURAGEMENT: *IUCMA's Governing Board Mr Mandlakayise Mthembu encourages learners during the 2023 Annual Science Schools Competition.*

Winning learners at the sub-catchment level competition were awarded with tablets sponsored by Ilima Coal Mining, Barberton Mine and IUCMA and trophies for the schools, individual certificate of participation and at the final level competition they were awarded with laptops sponsored by Umsimbithi Mining, cash vouchers sponsored by Sappi, KOBWA and Working on Fire who top-up the cash vouchers for educators of the top three winning schools as a token on appreciation, certificates for individual participating learner and trophies for the schools which were sponsored by the IUCMA. The top three schools that won at the final competition were the following: first prize - Khaliphani Secondary School (Crocodile Sub-catchment), second prize - Sicelelwati Combined School (Crocodile Sub-catchment) both schools from the area of the (City of Mbombela Local Municipality) and the third prize - Zenzele Secondary School (Lower Komati Sub-catchment) from the area of (Nkomazi Local Municipality).

SECOND POSITION: *Learners from Sicelelwati Combined School receive their second prize position during the 2023 Annual Science Schools Competition.*

THIRD POSITION: *Learners from Zenzele Secondary School receive their third prize position during the 2023 Annual Science Schools Competition.*

MODEL DISPLAY: *Learners from Khaliphani Secondary School display their model during the 2023 Annual Science Schools Competition.*

MODEL DISPLAY: *A model display by Maphuthaditshaba Secondary School during the 2023 Annual Science Schools Competition.*

TEAMWORK: *(from left to right) One of the 2023 Annual Science Schools Competition Local Organising Committee members IUCMA's Mr Thubelihle Mnisi and Mr Thabiso Nkosi during the Annual Competition.*

EXCITEMENT: *IUCMA's Ms Sylvia Machimana excited as she chairs the programme of the Competition during the 2023 Annual Science Schools Competition.*

ATTENDANCE: *Stakeholders, Partners and learners during the 2023 Annual Science Schools Competition.*

COMPETITION JUDGES: *Competition judges during the 2023 Regional Science Schools Competition for Crocodile in the City of Mbombela Local Municipality.*

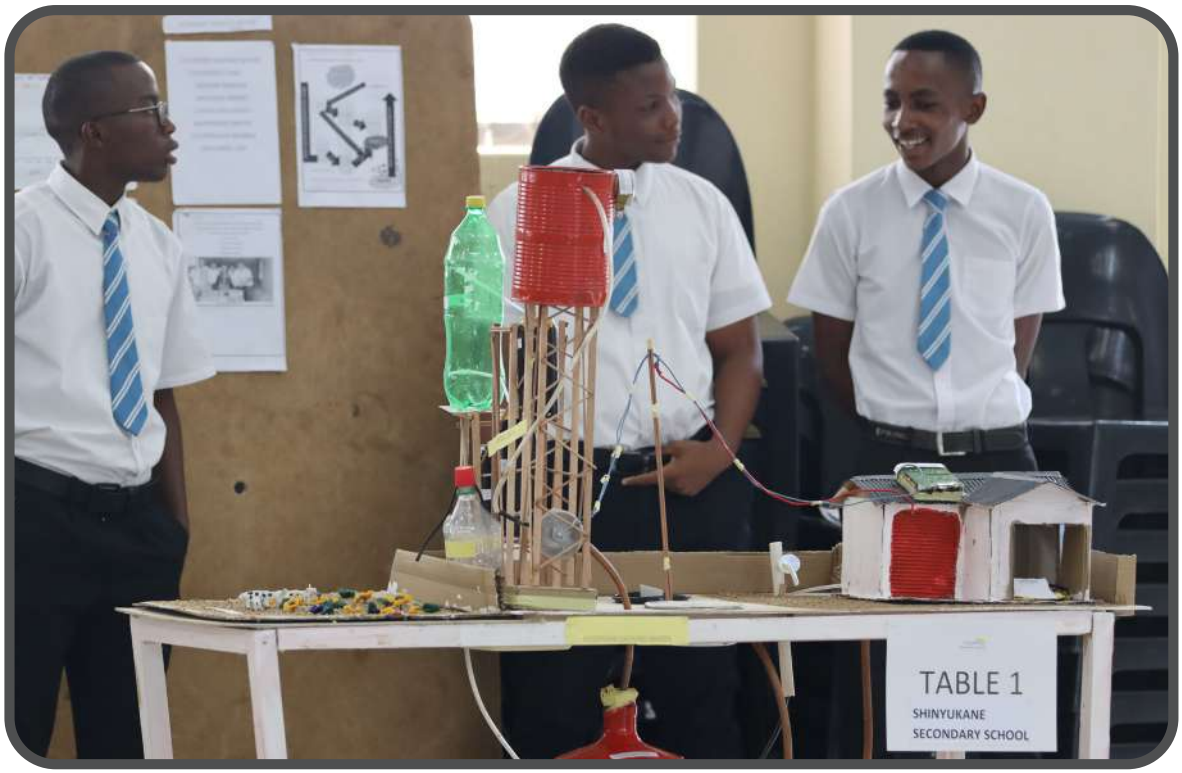
MODEL DISPLAY: *Mr Phinda Mthimkhulu from the Department of Water and Sanitation during the Usuthu South Sub-catchment in the Mkhondo Local Municipality.*

PRESENTATION: *Learners, Teachers and partners during the 2023 Regional Science Schools Competition for Sabie Sub-catchment in the Bushbuckridge Local Municipality.*

ACHIEVEMENT: *Maqhawuzela Secondary School cebrate their first position prize during the 2023 Regional Science Schools Competition for Upper Komati and Usuthu North in the Albert Luthuli Local Municipality.*

EXCITEMENT: *D.D. Mabuza Comprehensive High School celebrates second prize during Regional Science Schools Competition for Lower Komati Sub-catchment in the Nkomazi Local Municipality.*

ACTION: *Learners from Acorns to Oaks Comprehensive High School display their model during the 2023 Regional Science Schools Competition for Sand Sub-catchment in the Bushbuckridge Local Mubicipality.*



ENTHUSIAM: *Learners from Shinyukane Secondary School display their model during the 2023 Regional Science Schools Competition for Lower Komati Sub-catchment.*

PRESENTATION: *Competition judges IUCMA's Mr Thabiso Malemela (midle right) analysis a model while next to Mr Adolf Mbetse (right) as a learner from Bondzeni High School presents during the 2023 Regional Science Schools Competition for Sabie Sub-catchment in the Bushbuckridge Local Municipality.*

INKOMATI-USUTHU
CATCHMENT MANAGEMENT AGENCY

IUCMA WATER RESOURCE MANAGEMENT CHARGES

SECTOR	2023/24 APPROVED CMA TARIFF
Domestic and Industry	4.67 c
Irrigation	2.37 c
Forestry	1.83 c

Enquiries can be directed to Ms. W. Mabuza at telephone number 013 753 9000 or by electronic mail at mabuzaw@iucma.co.za.

For more info visit www.iucma.co.za

REPORT WATER POLLUTION *INCIDENTS*

The IUCMA is aware that pollution incidents occur occasinally in the the catchment. Therefore, for any water pollution incidents like sewage leakages and others, please report at **water@iucma.co.za**

OR CALL US AT
013 753 9000

OR ALTERNATIVELY DROP US A MESSAGE ON THE "CONTACT US" BUTTON ON THE WEBSITE.
www@iucma.co.za

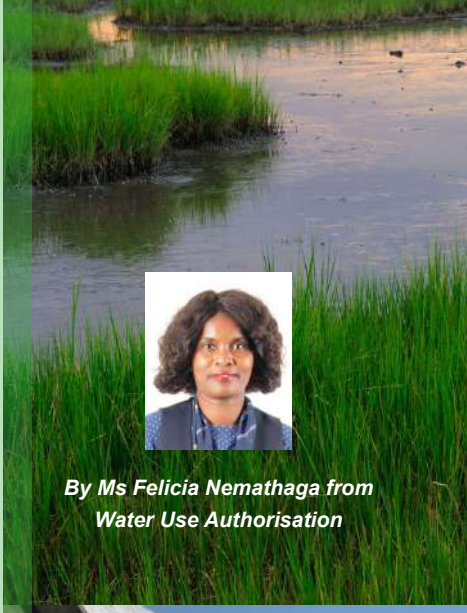
You can also report to the Catchment Management Forum in your area.

INKOMATI-USUTHU
CATCHMENT MANAGEMENT AGENCY

Illegal Sand Mining
in a watercourse is an offense and is prohibited

To report please call IUCMA @ 013 753 9000

UNDERSTANDING WATER USE AUTHORISATION PROCESS

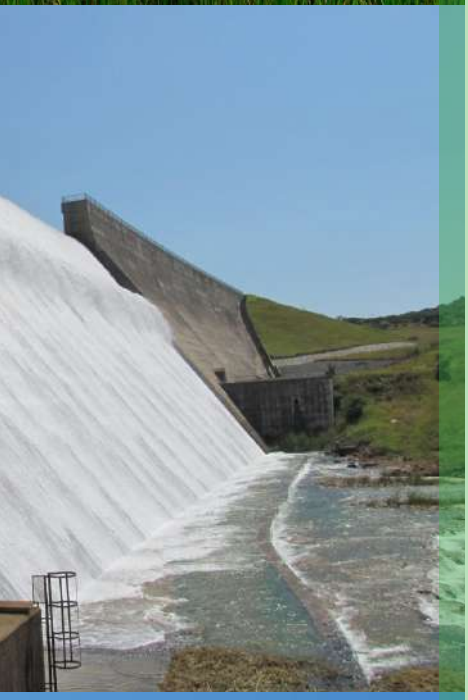


By Ms Felicia Nemathaga from Water Use Authorisation

The National Water Act (Act 36 of 1998) (has three fundamental principles, sustainability, efficiency and equity. These principles are identified as central guiding principles in the management, use, protection , development, conservation, and control of water resources. Water plays a vital role in the socio-economic growth and development of the country. Section 40 of the Act requires that any person who wishes to obtain a licence to use water must apply for a water use licence to the relevant Responsible Authority. The Act further stipulates all the water uses that require a licence in terms of section 21.

The Inkomati -Usuthu Catchment Management Agency (IUCMA) is mandated by the Responsible Authority (the Department of Water and Sanitation) to administer the administrative process of water use authorization applications. This includes assessment and recommendation of the Water Use License (WUL) Record of Recommendation for issuance/ decline and the confirmation of General Authorisations (GAs). The IUCMA has no delegation of powers to make decision on water use licence, rather the mandate given is to process and recommend WUL and confirmation of GA.

Previously, the regulated timeframe for the processing of water use authorisations (WUAs) was 300 days. In the year 2021, the President of South Africa made announcement to reduce WUAs turn-around time to be 90 days, due to outcry of water users of the time it took for licences to be issued,. The IUCMA started implementing the new regulated timeframe in 2021 and there is good progress.



With 90 days, the clock start ticking when all water use authorisation application information is fully uploaded on the system, this is a stage when the Applicant receives the acknowledgement letter.

The IUCMA is currently using the Electronic Water Use Licence Application and Authorisation System (e-WULAAS) to process the water use authorisations, both water use licence and General authorisation applications. The system communicates with both the assess and the Applicant (it gives notification/updates to both parties on the application submitted). This is a National Department of Water and Sanitation (DWS) system used by both DWS Regional, CMAs, National, Consultants and other stakeholders who wish to apply for a water use authorisation in South Africa.

The Division also plays a role in supporting the Historical Disadvantageous Individuals (HDIs) with WULA business process ranging from- linking the Applicant/consultant to the last stage of the Business process

The IUCMA also provide technical input on co-operative Reports for different listed activities as per the National Environmental Management Act (Act 107 of 1996), Regulations (as amended), i.e Environmental Management Programme (EMPr), Environmental Management Plan(EMP), Environmental Impact Assessment, and Basic Assessment Reports for mining related activities as per the Mineral and Petroleum Resource Development Act (Act 28 of 2002) (MPRDA) which is enforced by the Department of Mineral Resources and Energy (DMRE) and other listed activities.

The IUCMA is available to provide guidance, assistance and services to those in need of water use authorisation

RIVER SAND MINING

- WHAT YOU NEED TO KNOW

By (from left to right) Mr Andrew Mbhalati and Ms Busi Mahlangu from Compliance Monitoring and Enforcement

1. Background

The Inkomati-Usuthu Catchment Management Agency (IUCMA) is facing serious challenges in the water management area about illegal river sand mining which has negative impact on the water resource.

2. What is sand mining?

Sand mining is the extraction of sand through a river bed or instream for use in the construction industry. Mining is of great importance to the South African economy. It should however be recognised that the processes of prospecting, extracting, concentrating, refining, and transporting minerals have great potential for disrupting the natural environment (Rabie et al., 1994). The environmental effects caused by the mining of sand from a river, is no exception, often causing adverse impacts to biota and their habitats.

Sand-mining operations are classified into four types, namely:

- **Dry-pit mining:** mining of pits on dry ephemeral streambed and exposed sand bars with conventional shovel, trucks, bulldozers, scrappers or loaders. Dry pits are located above water table.
- **Wet-pit mining:** involves the use of dragline or hydraulic excavators to remove sand or gravel from below the water table or in a perennial stream channel. In wet pits dewatering or partial dewatering is frequently undertaken to allow the site to be more easily excavated.
- **Bar skimming:** this requires scraping off the top layer from gravel bar without excavating below the summer water level.
- **Mining of pits on adjacent flood plains or river terraces:** this refers to the mining of a pit that has been isolated from a main river channel. Sudden changes in channel course during a flood, or in the gradual migration of the channel may breach small levees and the channel will shift into the sand or gravel pits.

3. Impacts of sand mining on the water resource

Some of the negative impacts of sand mining includes the following:

- **Operation of heavy equipment in the channel bed**

  This can cause hydrocarbon pollution which can spread downstream and into ground water afterwards.

- **Altering the channel hydraulics**

  Stockpiles and overburden left in the river or floodplain can alter channel hydraulics during high flows. River sand mining can also affect ground water system and the uses that locals make of the river, such as livestock falling and being trapped to death in the pools. It can also increase turbidity of water, thereby making domestic water use impossible. The deep pools may slow flows preventing downstream users to access the resource.

- **Impacts on recreational use**

  Changes to the river channel, riparian habitat or floodplains can affect hiking, canoeing, boating, fishing, places of religion, cultural places, housing by fragmentation of the river continuum. It also affects migratory species.

4. Legal requirements for sand mining in terms of the National Water Act, 36 of 1998 (NWA)

In terms of (s21) of the NWA: in-stream mining of sand is a water use activity and requires authorisation/licence in terms of section 22 of the NWA.

Section 21(c) of the NWA: impeding or diverting the flow of water in a watercourse.

Section 21(1) of the NWA: altering the bed, banks, course or characteristics of a watercourse.

In terms of Government Notice No. 704 of 1999 and Regulation 10(1), 10(2) make provision for additional regulation related to winning sand and alluvial minerals from a watercourse as follows:

- No person may extract sand, alluvial minerals or other materials from the channel of a watercourse or estuary, unless reasonable precautions are taken to:

- Ensure that the stability of the watercourse or estuary is not affected by such operations;

- Prevent scouring and erosion of the watercourse or estuary which may result from such operations or work incidental thereto;

- Prevent damage to in-stream or riparian habitat through erosion, sedimentation, alteration of vegetation or structure of the watercourse or estuary, or alteration of the flow characteristics of the watercourse or estuary; or

· Every person winning sand, alluvial minerals or other materials from the bed of a watercourse or estuary must:

- Construct treatment facilities to treat the water to the standard prescribed in Government Notice No. R.991 dated 26 May 1984 as amended or by any subsequent regulation under the Act before returning the water to the watercourse or estuary;

- Limit stockpiles or sand dumps established on the bank of any watercourse or estuary to that realised in two days of production, and all other production must be stockpiled or dumped outside of the 1:50 year flood-line or more than a horizontal distance of 100 metres from any watercourse or estuary; and

- Implement control measures that will prevent the pollution of any water resource by oil, grease, fuel or chemicals.

The Department of Water and Sanitation (DWS) has developed a Sand Mine Guideline for South Africa for water use authorisation of Sand Mining/ Gravel Extraction, and a Best Practice Guideline for Water Resource Protection in South African Mining Industry A1, Small Scale Mining (Standard Format). These guidelines are available at DWS and Inkomati-Usuthu Catchment Management Agency (IUCMA) in both hard and soft copy.

•Alleged illegal sand mining can be reported to the IUCMA on 013 753 9000 or at water@iucma.co.za

Issued by the Inkomati-Usuthu CMA-Contact:

IUCMA: Control Environmental Officer

Ms Busisiwe Mahlangu

Tel.: 013 753 9000 or

Email: mahlangub@iucma.co.za

For latest river flow and dam levels visit:

http://riverops.inkomaticma.co.za /

http://iucma.co.za

CAREER GUIDANCE

FOR LEARNERS IN WATER RESOURCE MANAGEMENT

By Ms Charmaine Zulu from Communication & IGR

The Inkomati-Usuthu Catchment Management Agency (IUCMA) is an agency that has been established in terms of the relevant section of the National Water Act, Act 36 of 1998. The IUCMA has been established by the National Department of Water Affairs (DWA) in terms of the Act, to specifically implement certain sections of the Act. The mentioned sections of the Act address the management, protection, development and prevention of pollution of the national water resources.

The IUCMA is the first agency to be established by the DWA in the Mpumalanga area. The IUCMA has the responsibility to protect and manage the Crocodile River, Sabie, Inkomati Rivers and their tributaries within the Inkomati Water Management Area.

Career options and study opportunities in the form of financial assistance are offered by IUCMA. Since the IUCMA is a science focused institution, subject choices during high school should include science, geographical sciences, biological sciences and mathematics.

The breakdown of career choices offered by the IUCMA is indicated below:

1. Water Resource Specialist/Manager

Academic qualifications:

1.1. Bachelor of Science degree in (Aquaculture; Biology; Chemistry; Chemical Engineering; Biochemistry; Microbiology, Limnology; Zoology; Botany; Civil Engineering)

1.2. Bachelor of Science in Environmental Sciences (Geography; Geographical Information System; Geology)

1.3. Bachelor of Technology Water Care

1.4. Bachelor of Technology Analytical Chemistry

2. Hydrologist
Academic qualification:
2.1. Bachelor of Science (Hydrology; Hydrological Modelling; Water Quality Modelling)

3. Aquatic scientist
Academic qualification:
3.1. Bachelor of Science (River Health; Aquaculture; Bio-monitoring; Water and Waste Water; Water Quality Management; Zoology; botany; Limnology)

4. Water Resources Planners
Academic qualification:
4.1. Bachelor of Science/Engineering (Water Engineering; Chemical; Waste Water Treatment; Water Resources Modelling)

5. Water Resources Compliance Monitoring and Enforcement
Academic qualifications:
5.1. Bachelor of Science degree in (Biology; Chemistry; Chemical Engineering; Biochemistry; Microbiology, Environmental Law; Hydrology; Geohydrology; Civil Engineering

5.2. Bachelor of Science in Environmental Sciences in (Geography; Environmental Law, Geographical Information System)

5.3. Law degree (Environmental Law)

6. Geohydrologist
Academic qualifications:
6.1. Bachelor of Science (Hydro-geology; Hydrology)

6.2. Bachelor of Technology (Geo-hydrology; Hydrology; Water Resources Modelling; Water Quality Management)

7. Stakeholder Management
Academic Qualifications:
7.1. Bachelor of Arts (Developmental Studies; Public Administration; Public Management; Social Studies)

7.2. Bachelor of Technology (Developmental Studies; Public Administration; Public Management)

LIST OF SOUTH AFRICAN UNIVERSITIES

EASTERN CAPE

RHODES UNIVERSITY
Where leaders learn

Tel: 046 603 8148
Website: www.ru.ac.za
Email: registration@ru.ac.za

NELSON MANDELA UNIVERSITY

Tel: 041 504 1111
Website: www.mandela.ac.za
Email: info@mandela.ac.za

University of Fort Hare
Together in Excellence

Tel: 040 653 2312
Website: www.ufh.ac.za
Email: admissions@ufh.ac.za

WSU
Walter Sisulu University

Tel: 047 502 2200
Website: www.wsu.ac.za
Email: postmaster@wsu.ac.za

"For more Universities view page 36 and 37"

LIMPOPO

University of Venda
Creating Future Leaders

Tel: 015 962 8000
Website: www.univen.ac.za
Email: info@univen.ac.za

UNIVERSITY OF LIMPOPO

Tel: 015 268 9111
Website: www.ul.ac.za
Email: enrolment@ul.ac.za

FREE STATE

Central University of Technology, Free State

Tel: 051 507 3911
Website: www.cut.ac.za
Email: tomttomple@cut.ac.za

UFS·UV
UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA

Tel: 051 401 2114
Website: www.ufs.ac.za
Email: Studentadmin@ufs.ac.za

KWAZULU NATAL

DUT
DURBAN UNIVERSITY OF TECHNOLOGY

Tel: 031 373 2411
Website: www.dut.ac.za
Email: info@dut.ac.za

UNIVERSITY OF KWAZULU-NATAL

Tel: 031 260 2227
Website: www.unizulu.ac.za
Email: enquiries@ukzn.ac.za

UNIVERSITY OF ZULULAND

Tel: 035 902 6000
Website: www.ukzn.ac.za
Email: info@unizulu.ac.za

MUT
MANGOSUTHU UNIVERSITY OF TECHNOLOGY

Tel: 031 907 7111
Website: www.mut.ac.za
Email: info@mut.ac.za

NORTH WEST

NWU®
NORTH-WEST UNIVERSITY
NOORDWES-UNIVERSITEIT
UNIVESITI YA BOKONE-BOPHIRIMA

Tel: 018 299 1111/2222
Website: www.nwu.ac.za
Email: applicationsug@nwu.ac.za

MPUMALANGA

UNIVERSITY OF MPUMALANGA

Tel: 018 299 1111/2222
Website: www.ump.ac.za
Email: info@ump.ac.za

GAUTENG

Tel: 011 717 1102
Website: www.wits.ac.za
Email: studentaffairs@wits.ac.za

Tel: 012 429 3111
Website: www.unisa.ac.za
Email: study-info@unisa.ac.za

Tel: 021 382 5911
Website: www.tut.ac.za
Email: info@ump.ac.za

Tel: 012 420 4111
Website: www.up.ac.za
Email: ssc@up.ac.za

Tel: 016 950 9214/5
Website: www.vut.ac.za
Email: reception@vut.ac.za

Tel: 011 489 3000
Website: www.uj.ac.za
Email: mylife@uj.ac.za

WESTERN CAPE

Tel: 021 959 3900
Website: www.uwc.ac.za
Email: admissions@uwc.ac.za

Tel: 021 650 9111
Website: www.uct.ac.za
Email: admissions@uct.ac.za

Tel: 021 808 9111
Website: www.sun.ac.za
Email: info@sun.ac.za

Tel: 021 959 3900
Website: www.cput.ac.za
Email: info@cput.ac.za

NORTHERN CAPE

Tel: 018 299 1111/2222
Website: www.nwu.ac.za
Email: information@spu.ac.za

Illegal Dumping
in a watercourse is an
offense and is prohibited

Illegal Damming
in a watercourse is an
offense and is prohibited

Report any water-related illegal activities to the

Inkomati-Usuthu Catchment Management Agency

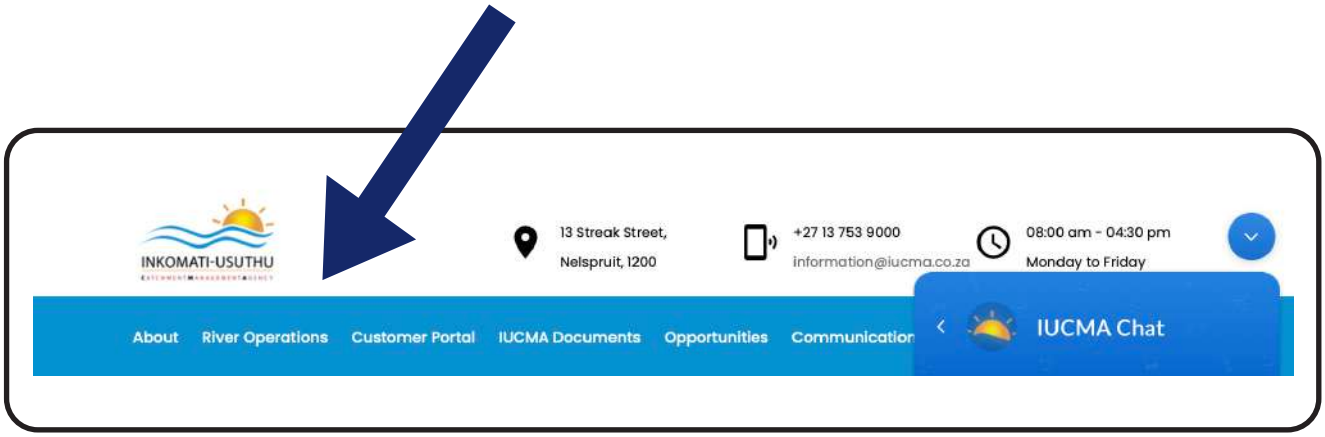
013 753 9000

INKOMATI-USUTHU
CATCHMENTMANAGEMENTAGENCY

River Operations Web Portal

The Inkomati-Usuthu Catchment Management Agency is committed to bring you all the information you need to enable you to use water wisely and considerably. The IUCMA has established a web portal for River Operations that brings you the daily flows of the water in the Catchment. To gain access to this information, please log on to

http://riverops.inkomaticma.co.za/



INKOMATI-USUTHU
CATCHMENTMANAGEMENTAGENCY

Tel: 013 753 9000

www.iucma.co.za

IUCMA

Inkomati-Usuthu CMA

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20 Paul Kruger Street
Mbombela
1200