

SUBMISSION TO THE EXECUTIVE COMMITTEE

1 SUBJECT

Deviation in procurement processes for implementing biological remediation using bugs at the Hartbeespoort dam for a period of 12 months.

2 PURPOSE

Request for sole provider approval submission regarding deviation in procurement processes for implementing biological remediation using bugs at the Hartbeespoort dam for a period of 12 months.

3 BACKGROUND

Water hyacinth was first noticed on Hartbeespoort Dam in 1959 and was initially controlled mechanically. The infestation worsened and was particularly problematic in the 1970s during which the herbicide control plan was implemented. Despite this apparent success, eutrophication of the system was never addressed, and water hyacinth has remained problematic on the system. During the 1990s, a classical biological control programme was implemented for water hyacinth on the dam. However, biological control on the system was limited by cold winter temperatures and herbicide applications that continued through until 2017. In 2017, the Department of Water and Sanitation ceased all herbicide applications on the dam, which resulted in water hyacinth taking advantage of the favourable conditions and covering 45% of the waterbody by August of that year. Biological control is an effective and cost-efficient method of controlling invasive water hyacinth, as well as being entirely eco-friendly and sustainable. Part of the department of Forestry, Fisheries and Environment (DFFE) and the department of Water and Sanitation (DWS) commitment to the environment is a reduction in the use of herbicides, with more focus on manual/mechanical control, and biological control. To align the DWS and DFFE objectives as well as efficient removal of hyacinth, it is recommended that Magalies Water should make use of the services offered by Rhodes University.

4 DISCUSSIONS

The submission requests for the approval Rhodes University to be considered for direct purchase as a sole supplier to enable Magalies Water's fulfilment three objectives on the Hartbeespoort dam project which falls under Section 30. Rhodes University has established close to nine (9) rearing stations around the dam, which require full maintenance for proper and effective functioning. Objective number four (4) which states "Implementation of hyacinth remediation using biological control for the Hartbeespoort Dam" is closely tied to the operations of Rhodes University who are the exclusive providers of the technology. Their operation is very integral to the success of Magalies Water, as it presents one of key performance indicators in the project's objectives. This is a two-fold requirement, whereby Magalies Water must implement the biological remediation programme and assess its efficacy in terms of the management of the alien invaders (i.e., Objective 1, 4 and 5 of the Hartbeespoort Dam remediation project implementation plan developed by Magalies Water), followed by the review of the biological remediation programme.

The reason for direct source purchase (deviation) is on the basis that Rhodes University is the sole supplier.

5 ORGANISATIONAL IMPLICATIONS

As outlined in the implementation plan established with the Department of Water and Sanitation for the Hartbeespoort Dam project, the organization will be impacted by its ability or inability to achieve its terminal objectives. Furthermore, Magalies Water's performance as the designated implementing agent will significantly impact its reputation and brand integrity.

6 FINANCIAL IMPLICATIONS

- As per budgeted amounts.
- Budget from the Hartbeespoort dam project valued at an estimated R1 673 406.90 (May 2025 to April 2026).

Table 1: One-year (12 months) costs for implementation of biological remediation using bugs at the Hartbeespoort dam.

Category	Deliverable	Budget (Rands)
		12 months
Laboratory analyses	1. Seed core analyses 2. Plant nutrient analyses 3. Water chemistry analyses	225 601
Field based monitoring	1. Post-release evaluation of <i>Megamelus scutellaris</i> on <i>Pontederia crassipes</i> 2. Post-release evaluation of <i>Cyrtobagous salviniae</i> on <i>Salvinia minima</i> 3. Post-release evaluation of <i>Lysathia cilliersiae</i> on <i>Myriophyllum aquaticum</i>	451 202
Mass-rearing (insects provided from the Waainek Research Facility in Makhanda)	1. <i>Megamelus scutellaris</i> – 200 000 2. <i>Cyrtobagous salviniae</i> 5000 3. <i>Lysathia cilliersiae</i> 5000	631 202
Subtotal		1 308 006
Rhodes University Levy		169 200
VAT (15%)		196 200.9
TOTAL		1 673 406.90

7 LEGAL IMPLICATIONS

Section 16.A6.4 of the Treasury Regulations issued in terms of Public Finance Management Act, 1999 state that "If in a specific case it is impractical to invite competitive bids, the accounting officer or accounting authority may procure the required goods or services by other means, provided that the reasons for deviating

Request to approve the deviation in procurement processes of implementing biological remediation using bugs at the Hartbeespoort dam for a period of 12 months.

from inviting competitive bids must be recorded and approved by the accounting officer or accounting authority". The deviation needs to be recorded and approved by the accounting officer in line with the above Treasury Regulations requirement

8 COMMUNICATION IMPLICATIONS

The submission aligns with the requirements established by the Communications and Media Relations Department, adhering to the specifications outlined in the policies and procedures framework

9 DELEGATION

All CAPEX and Section 30-related matters are within the Chief Executive Officer.

10 OPTIONS/RISK

Option 1

The approval of this request will fulfill three objectives of the Hartbeespoort Dam project, including the implementation of biological remediation.

Option 2

The risk of disapproving this request is that Magalies Water will be relying on manual and mechanical removal of the hyacinth. There will not be a biological control which can also assist in alleviating the hyacinth dam coverage in the Hartbeespoort dam.

11 RECOMMENDATIONS

It is recommended that the Chief Executive Officer approves the sole supplier submission for the: implementing biological remediation using bugs at the Hartbeespoort dam for a period of 12 months at an estimated cost of R1 673 406.90.

SUBMITTED BY:

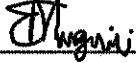


Kefilwe Nduli
Acting Research Scientist

03/06/2025

DATE

SUPPORTED/ NOT SUPPORTED:



03 June 2025

Muyahavho Mugwili
Research, Development & Process
Technology Manager

DATE

SUPPORTED/ NOT SUPPORTED:



03 June 2025

Phindile Mahlangu
Scientific Services Manager

DATE

RECOMMENDED/NOT RECOMMENDED:

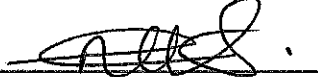


03 Jun 2025

Sibongiseni Mbadamana
Acting Chief Operations Officer

DATE

APPROVED/ NOT APPROVED:-



04/06/2025

Ofentse Nthutang
Chief Executive Officer

DATE

REQUEST FOR SOLE SUPPLIER APPROVAL FOR DEVIATION FROM NORMAL PROCUREMENT PROCESSES

FROM: SCIENTIFIC SERVICES

DATE: 03/06/2025

DIVISION: OFFICE OF THE COO

TEL: 014 5974636

For Procurement Use):

REF NO:

SUBJECT: Request for sole provider approval submission regarding:

- deviation in procurement processes for implementing biological remediation using bugs at the Hartbeespoort dam for a period of 12 months.

FORWARDED TO YOU FOR:

- | | |
|--|--|
| ☒ Approval | ☐ Verification |
| ☐ For Your Records | ☐ Information |
| ☐ Action as required | ☐ Reading Proof |
| ☐ Other | |

1. PURPOSE:

Request the Chief Executive to approve the deviation in procurement processes of implementing biological remediation using bugs at the Hartbeespoort dam for a period of 12 months (June 2025 – May 2026).

2. BACKGROUND

Water hyacinth was first noticed on Hartbeespoort Dam in 1959 and was initially controlled mechanically. The infestation worsened and was particularly problematic in the 1970s during which the herbicide control plan was implemented. Despite this apparent success, eutrophication of the system was never addressed, and water hyacinth has remained problematic on the system. During the 1990s, a classical biological control programme was implemented for water hyacinth on the dam. However, biological control on the system was limited by cold winter temperatures and herbicide applications that continued through until 2017. In 2017, the Department of Water and Sanitation ceased all herbicide applications on the dam, which resulted in water hyacinth taking advantage of the favourable conditions and covering 45% of the waterbody by August of that year. Biological control is an effective and cost-efficient method of controlling invasive water hyacinth, as well as being entirely eco-friendly and sustainable. Part of the department of Forestry, Fisheries and Environment (DFFE) and the department of Water and Sanitation (DWS) commitment to the environment is a reduction in the use of herbicides, with more focus on manual/mechanical control, and biological control. To align the DWS and DFFE objectives as well as efficient removal of hyacinth, it is recommended that Magalies Water should make use of the services offered by Rhodes University.

- The value of this Deviation request?

☐ R0 – R500k☐ R500k – R1 Million☒ more than R1 Million

- Previous history of deviations related to this vendor:

DEVIATION NUMBER	DATE	VALUE
None		

	TOTAL	

3. REASON FOR THE DEVIATION REQUEST

- ☐ CASE OF EMERGENCY (Lack of Planning does not constitute an emergency)
- ☒ SOLE PROVIDER
- ☐ IMPRACTICAL (strip and quote)
- ☐ OTHER

3.1 The appointment of Rhodes University for implementation of the biological remediation using bugs at the Hartbeespoort dam for a period of 12 months.

The submission requests for the approval Rhodes University to be considered for direct purchase as a sole supplier to enable Magalies Water's fulfilment three objectives on the Hartbeespoort dam project which falls under Section 30. Rhodes University has established close to nine (9) rearing stations around the dam, which require full maintenance for proper and effective functioning. Objective number four (4) which states "Implementation of hyacinth remediation using biological control for the Hartbeespoort Dam" is closely tied to the operations of Rhodes University who are the exclusive providers of the technology. Their operation is very integral to the success of Magalies Water, as it presents one of key performance indicators in the project's objectives. This is a two-fold requirement, whereby Magalies Water must implement the biological remediation programme and assess its efficacy in terms of the management of the alien invaders (i.e., Objective 1, 4 and 5 of the Hartbeespoort Dam remediation project implementation plan developed by Magalies Water), followed by the review of the biological remediation programme.

The performance of the biological has been outlined in the following peer-reviewed articles Moffat, R., Weaver, K., Ngxande-Koza, S., Sebola, K., English, K., Kinsler, D.

and Coetzee, J., 2024. Bridging boundaries: Six years of community engagement with biological control implementation and monitoring of water hyacinth on Hartbeespoort Dam, South Africa. *Biological Control*, 194, p.105544 (**Annexure A**), Coetzee, J.A., Miller, B.E., Kinsler, D., Sebola, K. and Hill, M.P., 2022. It's a numbers game: inundative biological control of water hyacinth (*Pontederia crassipes*), using *Megamelus scutellaris* (Hemiptera: Delphacidae) yields success at a high elevation, hypertrophic reservoir in South Africa. *Biocontrol Science and Technology*, 32(11), pp.1302-1311 (**Annexure B**) and Coetzee, J.A., 2022. Paper MK, Miller BE, Kinsler D, Cilliers CJ, Hill MP (2022) Into Africa: *Salvinia minima* Baker (Salviniaceae) invades South Africa. *BioInvasions Records*, 11(4), pp.1011-1018 (**Annexure C**).

The following will form part of the service level agreement (SLA):

Magalies Water owns the biological control project as the implementing agent for the Hartbeespoort project. Rhodes University must request permission to communicate and release results or outcomes with external parties regarding the Hartbeespoort project. Table 1 below will be part of the SLA.

Table 1: The performance of the supplier will be assessed as per the below items:

ITEMS	ACTIONS	PERFORMANCE TARGET
Laboratory analyses	Monthly seed core analysis	Indicate the seed bank baseline for in the dam
	Plant nutrient status	Nitrogen Carbon Achieve objective 5: Modelling contaminants attenuation rates by hyacinth, algae, and sediments
	Water chemistry results	Phosphates Nitrates Ammonia Chlorophyll a Blue and green algae TDS Conductivity pH Dissolved oxygen

		Achieve objective 5: Modelling contaminants attenuation rates by hyacinth, algae, and sediments
Field based monitoring	Establishment and maintenance of winter cultures of water hyacinthoppers in tunnels at CBC Mass Rearing Station, May – August 2025. 10 000 insects launched into the dam weekly and monthly post-release evaluation fieldwork on the dam quantifying the impact of biocontrol agents on plant rigour, and percentage cover	Normalized Difference Vegetation Index (NDVI)<0.55 Achieve objective 1: Management of alien invasive species
	Plant population parameters	Plant height Root length Biomass Plant phenology Achieve objective 1: Management of alien invasive species
	Insect population analysis	Megamelus per meter squared Megamelus Life stage
Mass-rearing (insects provided from the Waainek Research Facility in Makhanda)	Release of Megamelus scutellaris from the CBC Mass Rearing Station and released at Hartbeespoort Dam from September (or as soon as water hyacinth plants start to germinate in Spring) until April 2026 and technical reports on number of agents released from Rhodes mass-rearing facilities.	10 000 per week 200 000 from September 2025 to April 2026 Achieve objective 4: Implementation of hyacinth remediation

The reason for direct source purchase (deviation) is on the basis that the Rhodes University is a sole supplier (**Annexure D**).

4. FINANCIAL IMPLICATIONS

- As per budgeted amounts.
- Budget from the Hartbeespoort dam project valued at an estimated R1 673 406.90 for a period of 12 months (June 2025 to May 2026) will be utilised (Annexure E).

Table 2: One-year (12 months) costs for implementation of biological remediation using bugs at the Hartbeespoort dam.

Category	Deliverable	Budget (Rands)
		12 months
Laboratory analyses	1. Seed core analyses 2. Plant nutrient analyses 3. Water chemistry analyses	225 601
Field based monitoring	1. Post-release evaluation of <i>Megamelus scutellaris</i> on <i>Pontederia crassipes</i> 2. Post-release evaluation of <i>Cyrtobagous salviniae</i> on <i>Salvinia minima</i> 3. Post-release evaluation of <i>Lysathia cilliersiae</i> on <i>Myriophyllum aquaticum</i>	451 202
Mass-rearing (insects provided from the Waainek Research Facility in Makhanda)	1. <i>Megamelus scutellaris</i> – 200 000 2. <i>Cyrtobagous salviniae</i> 5000 3. <i>Lysathia cilliersiae</i> 5000	631 202
Subtotal		1 308 006
Rhodes University Levy		169 200
VAT (15%)		196 200.9
TOTAL		1 673 406.90

4.4 OPTIONS/RISKS

Option 1

The approval of this request will fulfill three objectives of the Hartbeespoort Dam project, including the implementation of biological remediation.

Option 2

The risk of disapproving this request is that Magalies Water will be relying on manual and mechanical removal of the hyacinth. There will not be a biological control which can also assist in alleviating the hyacinth dam coverage in the Hartbeespoort dam.

5. LEGAL IMPLICATIONS**5.1 Deviation from normal procurement procedures**

Section 16.A6.4 of the Treasury Regulations issued in terms of Public Finance Management Act, 1999 state that *"If in a specific case it is impractical to invite competitive bids, the accounting officer or accounting authority may procure the required goods or services by other means, provided that the reasons for deviating from inviting competitive bids must be recorded and approved by the accounting officer or accounting authority"*. The deviation needs to be recorded and approved by the accounting officer in line with the above Treasury Regulations requirement.

6. IMPLEMENTATION PLAN / DELIVERABLES

Once the submission is approved, the Office of the Scientific Services Manager will request Supply Chain Management to liaise with the service providers to officially communicate the approved request for the actioning of same.

7. CONTACT PERSON

Kefilwe Nduli

Acting Research Scientist

Cell: 074 5757 112

8. ACCOMPANYING / SUPPORTING DOCUMENTS

Annexure A: Moffat, R., Weaver, K., Ngxande-Koza, S., Sebola, K., English, K., Kinsler, D. and Coetzee, J., 2024. Bridging boundaries: Six years of community engagement with biological control implementation and monitoring of water hyacinth on Hartbeespoort Dam, South Africa. *Biological Control*, 194, p.105544

Annexure B: Coetzee, J.A., Miller, B.E., Kinsler, D., Sebola, K. and Hill, M.P., 2022. It's a numbers game: inundative biological control of water hyacinth (*Pontederia crassipes*), using *Megamelus scutellaris* (Hemiptera: Delphacidae) yields success at a high elevation, hypertrophic reservoir in South Africa. *Biocontrol Science and Technology*, 32(11), pp.1302-1311

Annexure C: Coetzee, J.A., 2022. Paper MK, Miller BE, Kinsler D, Cilliers CJ, Hill MP (2022) Into Africa: *Salvinia minima* Baker (Salviniaceae) invades South Africa. *BioInvasions Records*, 11(4), pp.1011-1018

Annexure D - Sole supplier letter

Annexure E- Budget

Annexure F- Response BAC concerns

9. RECOMMENDATIONS:

It is recommended that the Chief Executive Officer approves the sole supplier submission for the:

- implementing biological remediation using bugs at the Hartbeespoort dam for a period of 12 months (June 2025 to May 2026) at an estimated cost of R1 673 406.90.

SUBMITTED BY:

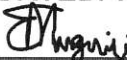


Kefilwe Nduli
Acting Research Scientist

03/06/2025

DATE

SUPPORTED/ NOT-SUPPORTED BY LINE MANAGER:



Muyahavho Mugwili
Research, Development &
Process Technology Manager

03 June 2025

DATE

SUPPORTED/NOT SUPPORTED:



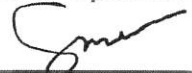
03 June 2025

Phindile Mahlangu
Scientific Services Manager

DATE

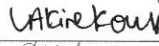
GENERAL MANAGER OF BUSINESS UNIT

NAME: Mr Sibongiseni Mbadamana
Acting Chief Operations Officer

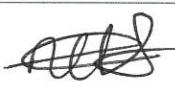
SIGNATURE: 

DATE: 03 June 2025

10. RECOMMENDATION STATUS

	NAME	SIGNATURE	DATE
SUPPORTED BY BAC MEMBER	Sam Makhura		03 June 2025
SUPPORTED BY BAC MEMBER	Matshidiso Tabane		03 June 2025
SUPPORTED BY BAC MEMBER	Teleni Ntabeni		03 June 2025
SUPPORTED BY BAC MEMBER	Vhahangwele Akinwekomi		03 June 2025
SUPPORTED BY BAC MEMBER	Tshiamo Mpane		03 June 2025
SUPPORTED BY BAC MEMBER			

APPROVAL STATUS

	NAME	SIGNATURE	DATE
APPROVED: CHIEF EXECUTIVE	OPENTSE NTHUTANG		05/08/2025

CENTRE FOR BIOLOGICAL CONTROL
DEPARTMENT OF ZOOLOGY AND ENTOMOLOGY

Tel: +27(0) 46 603 8763 * Email: cbcinfo@ru.ac.za * Website: www.ru.ac.za/centreforbiologicalcontrol/

Pricing Schedule

Category	Deliverable	Deliverables	Budget (Rands)
			Year 1 (12 months)
Laboratory analyses	1. Seed core analyses 2. Plant nutrient analyses 3. Water chemistry analyses	a. Quarterly technical reports on seed core analysis, plant nutrient status, and water chemistry results.	225 601
Field based monitoring	1. Post-release evaluation of <i>Megamelus scutellaris</i> on <i>Pontederia crassipes</i> 2. Post-release evaluation of <i>Cyrtobagous salviniae</i> on <i>Salvinia minima</i> 3. Post-release evaluation of <i>Lysathia cilliersiae</i> on <i>Myriophyllum aquaticum</i>	a. Establishment and maintenance of winter cultures of water hyacinthoppers in tunnels at CBC Mass Rearing Station, May – August 2025. b. 10 000 insects launched into the dam weekly and monthly post-release evaluation fieldwork on the dam quantifying the impact of biocontrol agents on plant rigour, and percentage cover	451 202
Mass-rearing (insects provided from the Waainek Research Facility in Makhandia)	1. <i>Megamelus scutellaris</i> – 200 000 2. <i>Cyrtobagous salviniae</i> 5000 3. <i>Lysathia cilliersiae</i> 5000	a. Release of 200 000 <i>Megamelus scutellaris</i> from the CBC Mass Rearing Station and released at Hartbeespoort Dam from September (or as soon as water hyacinth plants start to germinate in Spring) until April 2026 and technical reports on number of agents released from Rhodes mass-rearing facilities.	631 202
Subtotal			1 308 006
Rhodes University Levy			169 200
VAT (15%)			196 200.9
TOTAL			1 673 406.90