# Kirstenhof and Environs Residents' Association

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**CONSOLIDATED PRE-BAR COMMENT SUBMISSION**

Compiled by Barry Tranter (KERA – Westlake River Water Quality Portfolio)

***Westlake River Liveable Urban Waterway (LUW) Project – Lower Westlake Stakeholder Input***



***1. General Comment***

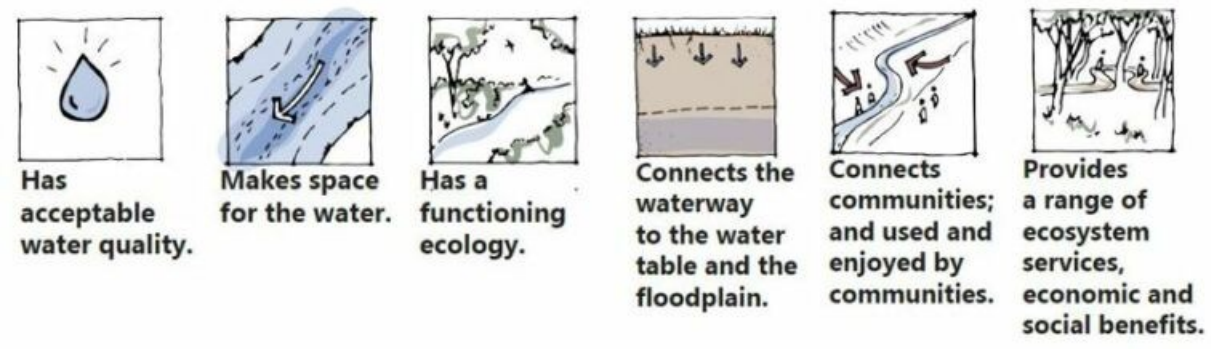
I would like to state my support for the Westlake River Liveable Urban Waterway (LUW) rehabilitation project and its overall goals. These include improving the health of the river, managing stormwater more effectively, reducing flood risk, and improving public spaces along the river corridor.

I am submitting these comments and questions as a stakeholder, resident the lower Westlake River LUW area and a representative from the Kirstenhof & Environs Residents Association (KERA). I am not a technical specialist in any of these fields. Please feedback any incorrect assumptions I have made.

The questions below are intentionally detailed because the LUW project represents a long-term investment in public infrastructure and environmental rehabilitation. My intention is to better understand how the proposed design is expected to perform, how success will be measured, and how long-term maintenance will ensure that the anticipated benefits are sustained.

**2.** ***LUW Project Performance Measurement***

The LUW project team have identified 6 elements as markers for a liveable waterway.




I am unable find any reference to specific and measurable objectives, targets, outcomes or deliverables in the PreBAR documentation.

Are SMART (Specific, Measurable, Achievable, Realistic & Time Bound) targets still to be defined, or is the pre-project vs post-project benchmarking method to be used. In either case, will these performance parameters be shared with interested and affected parties prior to project commencement?

Most importantly, how will the success of the LUW Project be measured during implementation and after completion in relation to each of the six identified Liveable Urban Waterway elements?

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***3. Upstream Pollution and Water Quality***

The project aims to improve water quality; however, the river system is influenced by upstream urban, agricultural, and institutional land uses, including areas such as the Department of Public Works (Pollsmoor Prison).

City water quality data (Public Inland Water Quality Dashboard) indicates elevated pollution levels at Sample Point CR04A (opposite Westlake Primary School), including high Escherichia Coli readings during the 2025 rainy season. More recent 2026 data also indicates recurring elevated E. Coli levels during the current wet season.

Recent KERA Inland Water Quality Reports are attached as evidence for the above statements.

attachment A - **KERA Inland Water Quality Report - May 2026**

attachment B - **Supplementary KERA Inland Water Quality Report - May 2026**

Additional historic Inland Water Quality Reports are available for viewing at -

**https://www.kera.org.za/water-quality-testing**

On 28 June 2026, water samples taken from the Westlake River in Kirstenhof provide further evidence that sewage pollution, originating from West of the M3, continues to flow downstream through the Kirstenhof suburb, during rainfall events. The Petrifilm plates show Coliform bacteria as red dots and Escherichia Coli as blue dots. The Duckpond sample is included for comparison.




*Figure 1: Westlake River at the M3 Culvert*




*Figure 2: Duckpond*

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In this context, clarification is requested on the following:

- How will pollution entering the river from upstream areas be managed to ensure it does not compromise the intended benefits of the LUW project?
- What specific water quality targets, improvement commitments, or thresholds (if any) are being applied to upstream sources, and over what time frames?
- What monitoring programme will be used to determine whether water quality improvements attributable to the LUW project are being achieved over time?
- What engagement has taken place between the LUW project team and relevant upstream stakeholders, including the Department of Public Works and the Department of Correctional Services, regarding pollution reduction responsibilities?
- As I understand it, the river does not belong to these Departments but they are responsible for its upkeep as it flows through their property. Does this infer that access to the river must be granted by the landowner to interested and affected parties?
- Following the implementation of the LUW, how will downstream residents be affected during ongoing pollution events compared to current conditions, particularly in the lower Westlake River area?

Authors of the Hydro-geological survey noted a 'distinctive smell' from the river that was not present upstream. Having recently walked in the river between the M3 culvert and Oranje road, I concur. The condition of the river was visibly poor and accompanied by a persistent sewage odour. My observations suggest that water quality conditions may vary significantly along different sections of the river and may not always be fully reflected by periodic sampling at fixed locations.

See attachment C - **Westlake River Litter Clean-up Report**

Appendices E3 and E10 are currently missing from the PreBAR. They currently call for comments from W&S and Pollution Control.

These appendices appear particularly relevant to the assessment of water quality management and pollution control. Their inclusion would assist stakeholders in understanding how upstream pollution risks are intended to be addressed.

Given the degree of the upstream pollution, I feel that just comment would be inadequate. I would expect comprehensive management plans targeting the sources of upstream pollution in support of the LUW.

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***4. Seasonal Water Levels and System Behaviour***

The LUW design drawing is presented only in plan form, and therefore it is difficult to visualise how water levels vary within the system under different conditions.

While the hydrology and hydro-geology reports have been reviewed, it is not clear how seasonal variation and severe rainfall events affect water levels in the following components:

- the Duckpond,
- the reed beds and wetlands,
- the river channel,
- and the shallow groundwater system.

Of particular concern is whether changes to the reed bed or channel could unintentionally affect water levels in the Duckpond or surrounding wetland areas.

I am not the only one who has these concerns. The author of the Aquatic Survey (LUW Appendix G.2) warns that '**any attempt to connect the pond to the river will drain the wetland'**.

Based on my observations and the Aquatic Survey, I am concerned that a direct hydraulic connection between the reed bed and the river could lower water levels in the wetland and Duckpond.

Figure 3 shows the relative levels of water in the reedbed and the Duckpond as seen from the SE corner of the Duckpond. Essentially, they are at the same level. Figure 4 attempts to show the relative levels of the Duckpond and the Westlake River. The person in the picture is standing on the Duckpond bank level with the water. The river level is estimated to be about one meter lower.



*Figure 3: Duckpond and adjacent reed bed*



*Figure 4: Relative water levels.*

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Clarification is requested on:

- Whether seasonal water level changes have been measured or modelled across the Duckpond, adjacent reed bed, river channel, and groundwater system, all referenced to local rainfall.
- Has the primary water source sustaining the Duckpond been conclusively identified and quantified, given observations that water levels appear to rise more rapidly than rainfall alone would suggest?
- How the design ensures that proposed works will not unintentionally lower water levels in the Duckpond or adjacent wetland areas.
- Whether a simple cross-sectional (side elevation) diagram can be provided to illustrate water levels and connectivity between system components under different flow conditions.

Should additional water level monitoring of the Duckpond and the reedbed be considered beneficial for the project design it is suggested that strategically placed groundwater access wells be drilled and depth gauges placed in the Duckpond, the reedbed and the river, by the LUW team. The depth gauges will need to be calibrated to the same reference level.

KERA will offer to read, record and upload water levels, for as often and as long as is necessary, to build a comprehensive picture of the relative water levels.

The resulting data may assist the project team in validating assumptions regarding hydraulic connectivity and seasonal water-level behaviour.

***5. Duckpond Maintenance and Management***

The Duckpond is an important, well known and well-used feature of the local wetland system. The Pre-BAR indicates that it will largely remain unchanged, apart from alien vegetation removal.

Recent community-assisted vegetation clearance (undertaken with City authorisation) highlighted the extent of invasive growth within the system, including areas that are difficult to access using standard maintenance equipment.

It is noted that mechanical access is limited in certain areas, particularly on the southern side of the Duckpond, where soft ground conditions restrict access.

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Clarification is requested on:

- Is Drawing 2023/WP036/LDP/205 available for public review as part of the stakeholder engagement process? *(Viewed at the public engagement meeting. Thank you.)*
- Whether long-term maintenance access constraints at the Duckpond have been considered? Should major earth working machinery be available during the project construction, it would be a simple matter to construct a stable platform to safely support a long arm digger on the Southern side of the Duckpond.
- Whether maintenance feasibility, including removal of invasive vegetation in hard-to-reach areas, has been assessed in relation to long-term ecological management requirements.
- Whether alternative maintenance approaches (if required) have been considered where mechanical access is limited.

**6.** ***Long-Term Project Maintenance and Upkeep***

The project includes several systems that will require ongoing maintenance to remain functional, including:

- treatment wetlands,
- sediment forebays,
- swales and bio-retention areas,
- invasive vegetation management,
- litter interception systems,
- and upgraded public access infrastructure.

Clarification is requested on:

- How maintenance activities will be funded, scheduled, and prioritised over time.
- What monitoring will be used to assess system performance and condition over the long term.
- What triggers or thresholds will be used to initiate maintenance or corrective action where required.
- Has a long-term asset ownership and responsibility matrix been developed for the completed LUW system, identifying which City departments will be responsible for maintaining specific infrastructure, ecological components and public amenities?

Note that current maintenance activities and budget are considered inadequate by residents. Some examples offered as follows.

a. The failing wooden bridge crossing the river at Raapkraal road was first reported to the City many years ago. It has still not been repaired and at the same time the river has scoured away the river bank close to the bridge. If the bridge had been repaired when its deterioration was first reported it would not have needed to be replaced. If the river bank had been stabilised when the deterioration was first noted less sediment would have been washed downstream and the river would have been narrower than it is now. At the moment a much longer (and more expensive) bridge is needed for the public to be able to cross the river.

b. The Laterite natural gravel pathways which were constructed around the greenbelt many years ago. No pathway maintenance has taken place and today the investment made has been largely taken over by invasive grasses and unmaintained tree growth. While there is fairly regular mowing of grasses, this contract omits the need to maintain the edges of the pathways. Overgrown trees obliterate the pathway in places causing pedestrians to create new pathways in order to avoid the obstructions.

c. Timeous tree husbandry, in the greater greenbelt area is lacking, needlessly resulting in fallen trees, broken branches and misshapen trees.

d. Undesirable alien vegetation is thrives in the area because of the lack of maintenance activities aimed at controlling this issue.

e. There are several City departments who are involved and responsible for the upkeep of different aspects of the greenbelt. Local resident's perspective is that each department has its own budget but seemingly department's cannot agree on who is responsible for what especially when the issue involves more than one department. Example a. above, indicates the lack of cooperation between at least two departments, resulting in the continued deterioration of built and natural assets, and increasing costs to rectify as time goes on. All the time to asset is lost to residents.

The Socio Economic Analysis (LUW Appendix G6) expects a maintenance saving of R2.9M compared to current costs. The current, seemingly inadequate, maintenance budget for the various City departments is unknown. I am finding the explanation difficult to follow. Is it possible for the Socio Economic Analysis document to be explained in a simpler form?

### *7. Raapkraal Bridge, Erosion and Infrastructure Risk*

The Raapkraal Bridge is currently not operational, and this affects pedestrian connectivity in the area. In addition, ongoing riverbank erosion in this section continues to widen the river during rainfall events.

There is concern that continued erosion may pose a risk to nearby municipal infrastructure, including sewage infrastructure located close to the river.

The Pre-BAR indicates that bridge replacement is included within the LUW project; however, the overall project timeline suggests implementation may only occur in later funding phases.

Clarification is requested on:

- Has the erosion trend in this area been monitored or quantified, and if so, what conclusions have been reached regarding future infrastructure risk?
- Whether the current erosion near the Raapkraal Bridge has been assessed in terms of risk to nearby infrastructure, including sewage services.
- Whether interim measures are planned to address safety, access, or erosion risks prior to full project implementation.
- What the proposed implementation timeline is for the bridge replacement relative to identified safety and infrastructure risks.

The perception among some residents is that the bridge has become a low priority within existing maintenance programmes. Greater transparency regarding maintenance responsibilities, priorities and future plans would assist in addressing this perception.

Any disagreement between City departments, regarding their responsibilities in this regard, are irrelevant from a residents perspective. The City needs to maintain its own infrastructure. I believe this is an important aspect that the LUW team must consider. That is establishing which City departments are responsible for which maintenance aspects of the LUW project following implementation.

The repair of the bridge and the stabilisation of the adjacent river bank is an urgent requirement. The City should not wait for the implementation of the LUW project to address it. The funding for the repair must come from the current maintenance budget.

### *8. Role of Community Organisations and Local Stewardship*

Local organisations and residents' groups, including KERA, FKW, and others, have historically contributed to the monitoring, care, and informal stewardship of the Westlake River and surrounding wetland areas.

Further information is available on the KERA web page - https://www.kera.org.za/local-waterbodies

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Clarification is requested on:

- Whether and how community-based organisations will be incorporated into the long-term stewardship and management framework of the LUW system.
- Whether a formal stakeholder forum or communication mechanism is envisaged following project implementation.

This may include:

- monitoring and reporting of issues,
- environmental awareness and stewardship activities,
- structured communication channels with municipal teams,
- and potential participation in citizen science or support-based maintenance activities.

**9. *Wetland public access and pathway surfaces.***

Contrary to the findings of the LUW Non Motorised Transport Assessment (LUW Appendix G8), residents consider that the Kirstenhof greenbelt has very rough degraded pathways which contain tripping hazards and are therefore unsuited for access for persons with mobility issues. In particular, wheelchair users, the elderly, small children, parents with prams, etc. experience difficulties or are precluded from accessing the greenbelt using these surfaces. Grass encroachment onto pathways and excessive tree growth over the pathways add to the difficulties.

Clarification is requested regarding the LUW project compliance with relevant applicable legislation and City policies.

For example :-

SANS-10400-S National Building Regulations

City of Cape Town – Universal Access technical Standards

City of Cape Town – Parks Development policy

City of Cape Town – Urban Design Policy

City of Cape Town – Public Realm Strategy

***10. Town Planning Report Appendix G5***

This report indicates that ERF 9232 will be impacted by the LUW. What is the nature of the impact and has the property owner been informed?

**11. Project Duration.**

From project commencement, what is the anticipated implementation timeline, including the sequencing of major phases and key milestones?

***12. Closing Comment***

These comments are submitted in support of the LUW project. The intention is to obtain a clearer understanding of how the proposed system is expected to function, be maintained, and deliver its intended environmental benefits over the long term.

KERA supports the overall objectives of the project and appreciates the opportunity to provide input during this phase.



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# Attachment A

**Kirstenhof and Environs Residents' Association**

***E-mail Address:*** ***info@kera.org.za***

# Westlake River, Kirstenhof Duckpond and the Keysers River

## KERA Inland Water Quality Report - May 2026

Prepared by Barry Tranter
(KERA Portfolio: Westlake River Water Quality)
On behalf of the Kirstenhof and Environs Residents' Association (KERA)
6 May 2026




**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

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## Executive Summary


- The first significant rainfall of 2026 occurred on 18–19 April, with approximately 44 mm recorded.
- Water samples were taken before and after the rainfall event.
- Chemical testing showed no major concerns in the Westlake River, Keysers River, or Kirstenhof Duckpond.
- Small reductions in pH and hardness were consistent with dilution by rainwater.
- Bacterial testing showed substantially lower *Escherichia coli* levels than those recorded after the first rainfall event in 2025.
- The Keysers River showed no *E. coli* colonies during this round of testing.
- KERA continues to supplement the City's monthly testing programme by sampling during rainfall and pollution-related events.


## Introduction

The first significant rainfall of 2026 occurred on the weekend of 18 and 19 April, with approximately 44 mm falling over the two days. This caused a rapid rise in the water levels of the Westlake River and the Kirstenhof Duckpond.

This rainfall event provided an opportunity to compare water quality before and after rainfall, and also to compare the results with similar testing conducted in 2025.

The quality of the Westlake River and Keysers River is regularly monitored by the City of Cape Town's Water and Sanitation Department. Results are available to the public on the City's Inland Water Quality Dashboard.

However, the City's sampling programme follows a fixed monthly schedule and therefore may not reflect short-term events such as: rainfall and flooding, sewage spills, pump station failures and stormwater contamination events

In addition, the City dashboard is often updated several weeks after samples are taken. At the time this report was written (6 May 2026), the most recent City data available on the dashboard was from 3 March 2026.

KERA's testing programme aims to supplement the City's work by collecting samples during specific environmental events that may influence water quality.

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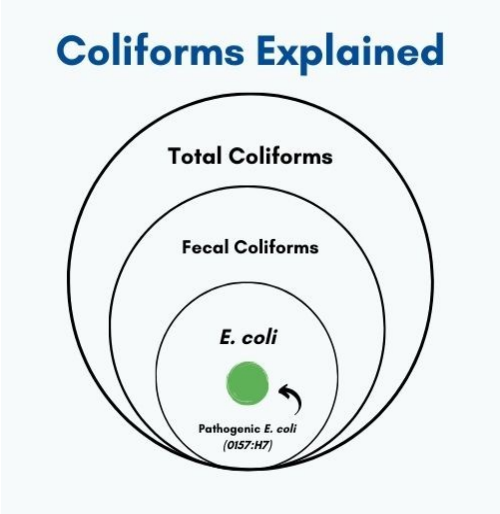
**Important Notes on Testing**

- The City uses accredited laboratories and trained personnel.
- KERA uses simple chemical test strips to assess the chemical content of water samples.
- KERA uses Neogen Petrifilm (6404) plates to estimate bacterial content.
- KERA results are intended as **indications only** and are not directly comparable with official City laboratory results.
- The testing programme helps identify trends and potential issues that may require further investigation.

There are many pollutants that can potentially contaminate urban waterways. Water is often referred to as the "universal solvent" because it can dissolve and transport many substances.

Testing for *Escherichia coli* (*E. coli*) is relatively simple and provides a useful indication of possible sewage contamination. Elevated *E. coli* levels may also suggest the possible presence of other harmful organisms such as parasites, bacteria, and viruses.

At present, the City does not routinely test these waterways for herbicides or pesticides.




**Explanation of Indicator Bacteria**

- **Coliform Bacteria**: A group of mostly harmless bacteria found in the environment. Used as a general indicator of water quality.
- **Faecal Coliforms**: Indicate faecal contamination from warm-blooded animals. Commonly used in assessing water safety.
- **Escherichia coli (E. coli)**: A species within faecal coliforms, indicating recent faecal contamination. Some strains can be harmful.

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**Westlake River**

This river rises in the Steenberg mountains and flows next to the Steenberg Village Shopping centre, through the Westlake suburb and past the Pollsmoor Prison property with its large retaining dam. The river flows under the M3 and enters Kirstenhof suburb near the Western end of Altenburg Road. The river then flows under Oranje Road, then alongside Raapkraal Road, past the Raapkraal Sewage Pump Station and under Steenberg road. Lastly the river flows next to the Camargue residential complex in Orchard Village and under the Main Road into the Zandvlei wetland.

The river is subject to sewage polluting events originating in the Westlake area, the Pollsmoor area and failures of the Raapkraal Sewage pump station. Some of these events are visible in the City of Cape Town Inland Water quality data. This screen capture shows a very large increase of Escherichia Coli measured next to the Westlake Junior School during the winter rainfall months. This is likely to be repeated in 2026. (Arrow).



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**Chemical Analysis** Westlake River

| Test | Symbol | Units | Desired range | Before rain 16th April | After rain 25th April | April 2025 Result | Comment |
|---|---|---|---|---|---|---|---|
| Acid/Base | pH | Log | 6.5 – 8.5 | 7.2 | 6.4 | 7.6 | Acidic rainwater (Ph +/- 5.8) dilution of river water. |
| Total Alkalinity | TA | mg/L | 20 - 200 | 120 | 120 | 180 | |
| Carbonate | $CO^{2-}_3$ | mg/L | 50 - 200 | 120 | 80 | | |
| Hardness | $CaCO_3$ | mg/L | 60 - 180 | 100 | 25 | 120 | Rainwater dilution softening the river water |
| Sodium Chloride | NaCl | mg/L | <100 | 0 | 0 | | |
| Iron | Fe | mg/L | <1 | 0 | 0 | | |
| Copper | Cu | mg/L | <0.4 | 0 | 0 | | |
| Lead | Pb | mg/L | 0 | 0 | 0 | | |
| Manganese | Mn | mg/L | <0.05 | 0 | 0 | | |
| Chromium | Cr(VI) | mg/L | 0 | 0 | 0 | | |
| Total Chlorine (TC) | Cl | mg/L | <1 | 0 | 0 | 1 | |
| Free Chlorine (FC) | Cl | mg/L | 0 | 0 | 0 | 1 | |
| Mercury | Hg | mg/L | 0 | 0 | 0 | | |
| Nitrate | $NO^3$ | mg/L | <10 | 0 | 0 | 5 | |
| Nitrite | $NO^2$ | mg/L | <1 | 0 | 0 | 0.3 | |
| Sulphate | $SO^{2-}_4$ | mg/L | <50 | 0 | 200 | | Possible upstream fertiliser mobilisation. |
| Zinc | Zn | mg/L | 0 | 0 | 0 | | |
| Fluoride | $F^-$ | mg/L | <4 | 0 | 0 | | |
| | | | | | | | |

**Key Observations**

- No significant chemical concerns were identified.
- A reduction in pH and hardness was observed after rainfall.
- These changes are consistent with dilution by naturally acidic rainwater.
- Elevated sulphate readings after rainfall may indicate mobilisation of fertilisers, nutrients or other pollutants from upstream areas.

**NOTE** The chemical testing method used by KERA provides **broad indications only**. Test strips change colour when exposed to specific chemicals and are then compared against a reference chart.

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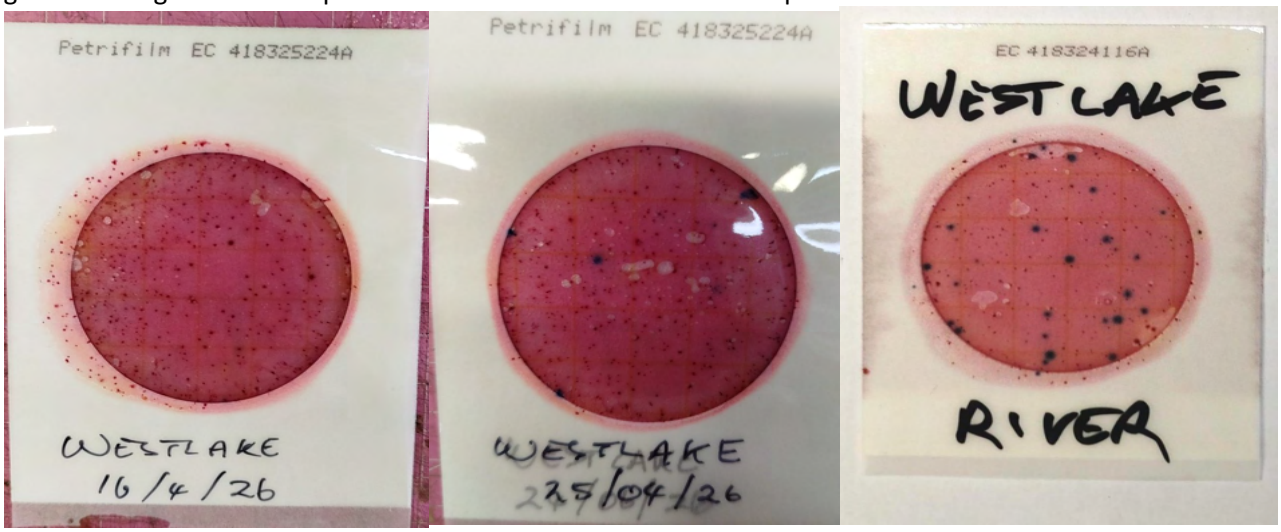
**Bacterial analysis** Westlake river

Water temperature 18.2°C

Red dots indicate Coliform Bacteria colonies.
Blue dots indicate Escherichia Coli colonies.

For comparison only, a sample of South African domestic tap water should show <2 Red dots and 0 Blue dots.

Rightmost image from a sample taken after the first rainfall on 8th April 2025.




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**Key Observations**

The Westlake River continues to show a relatively high coliform bacterial load.

Following the rainfall event, four *E. coli* colonies were observed. This is significantly lower than the levels recorded after the first rainfall event in 2025.

One possible explanation is that small rainfall events during early 2026 may already have disturbed and flushed contaminated sediment from the river system before the first major rainfall event occurred.

In contrast, the first major rainfall of 2025 followed a very dry period, which may have allowed contaminated sediment to accumulate in the riverbed.

*E. coli* can survive for extended periods in nutrient-rich sediment away from sunlight. Heavy rainfall can disturb this sediment and release bacteria back into the water column.

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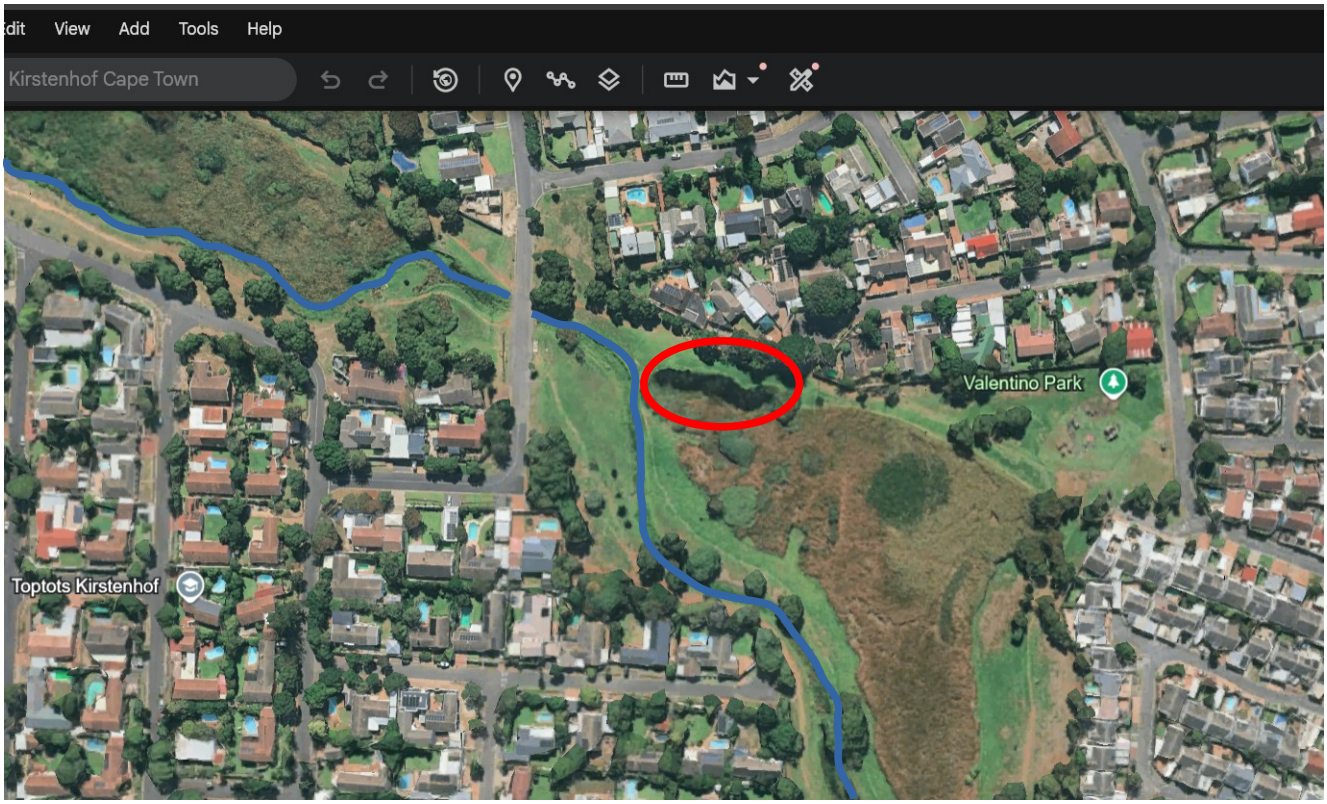
***Wetland Interaction***

The canalisation (channelling) of the Westlake River through Kirstenhof has caused the river to bypass all of the surrounding wetland system.

As a result, the river does not benefit at all from the natural filtration and purification processes normally provided by wetland vegetation.

KERA hopes that the City's proposed Liveable Urban Waterways Project, currently scheduled for implementation from 2033 onward, may eventually address this issue.

**The Kirstenhof Duckpond**




Note the path of the Westlake River channel (Blue) completely bypassing the potential useful wetland areas. Duckpond demarcated in red.

**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

# Kirstenhof and Environs Residents' Association

***E-mail Address: info@kera.org.za***

***Background***

The Kirstenhof Duckpond is a small body of water approximately 60 m × 10 m in size, situated at the northern end of the Kirstenhof greenbelt east of Oranje Road.

Although the Westlake River passes within approximately 3 m of the Duckpond, there is usually very little interaction between the two water bodies.

In most conditions, the Duckpond water level remains significantly higher than the river level, suggesting that the Duckpond may have a separate water source.

During early 2026, the Duckpond water level was observed to rise at approximately twice the rate of local rainfall. The reason for this remains uncertain and requires further investigation.

Over recent years, dense alien vegetation growth covered much of the Duckpond surface. During the summer of 2026, local volunteers removed a large portion of this vegetation, reopening significant areas of open water.

The City does not currently sample the Duckpond or include it on the Inland Water Quality Dashboard.

**Chemical Analysis** Kirstenhof Duckpond

| Test | Symbol | Units | Desired range | Before rain 16th April | After rain 25th April | April 2025 Result | Comment |
|---|---|---|---|---|---|---|---|
| Acid/Base | pH | Log | 6.5 – 8.5 | 6.8 | 6.2 | 6.8 | Acidic rainwater (Ph +/- 5.8) dilution of river water. |
| Total Alkalinity | TA | mg/L | 20 - 200 | 40 | 40 | 80 | |
| Carbonate | $CO^{2-}_3$ | mg/L | 50 - 200 | 40 | 40 | | |
| Hardness | $CaCO_3$ | mg/L | 60 - 180 | 50 | 25 | 25 | Rainwater dilution softening the river water |
| Sodium Chloride | NaCl | mg/L | <100 | 0 | 0 | | |
| Iron | Fe | mg/L | <1 | 0 | 0 | | |
| Copper | Cu | mg/L | <0.4 | 0 | 0 | | |
| Lead | Pb | mg/L | 0 | 0 | 0 | | |
| Manganese | Mn | mg/L | <0.05 | 0 | 0 | | |
| Chromium | Cr(VI) | mg/L | 0 | 0 | 0 | | |
| Total Chlorine (TC) | Cl | mg/L | <1 | 0 | 0 | 1 | |
| Free Chlorine (FC) | Cl | mg/L | 0 | 0 | 0 | 1 | |
| Mercury | Hg | mg/L | 0 | 0 | 0 | | |
| Nitrate | $NO^3$ | mg/L | <10 | 0 | 0 | 5 | |

**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Nitrite | $NO^{2}$ | mg/L | <1 | 0 | 0 | 0.3 | |
| Sulphate | $SO^{2-}_{4}$ | mg/L | <50 | 0 | 200 | | Possible upstream fertiliser mobilisation. |
| Zinc | Zn | mg/L | 0 | 0 | 0 | | |
| Fluoride | $F^{-}$ | mg/L | <4 | 0 | 0 | | |
| | | | | | | | |

**Key Observations**

- No significant chemical concerns were identified.
- Slight differences in pH, alkalinity, carbonate, and hardness compared with the Westlake River may suggest a different water source.
- Rainfall dilution effects were similar to those observed in the river samples.

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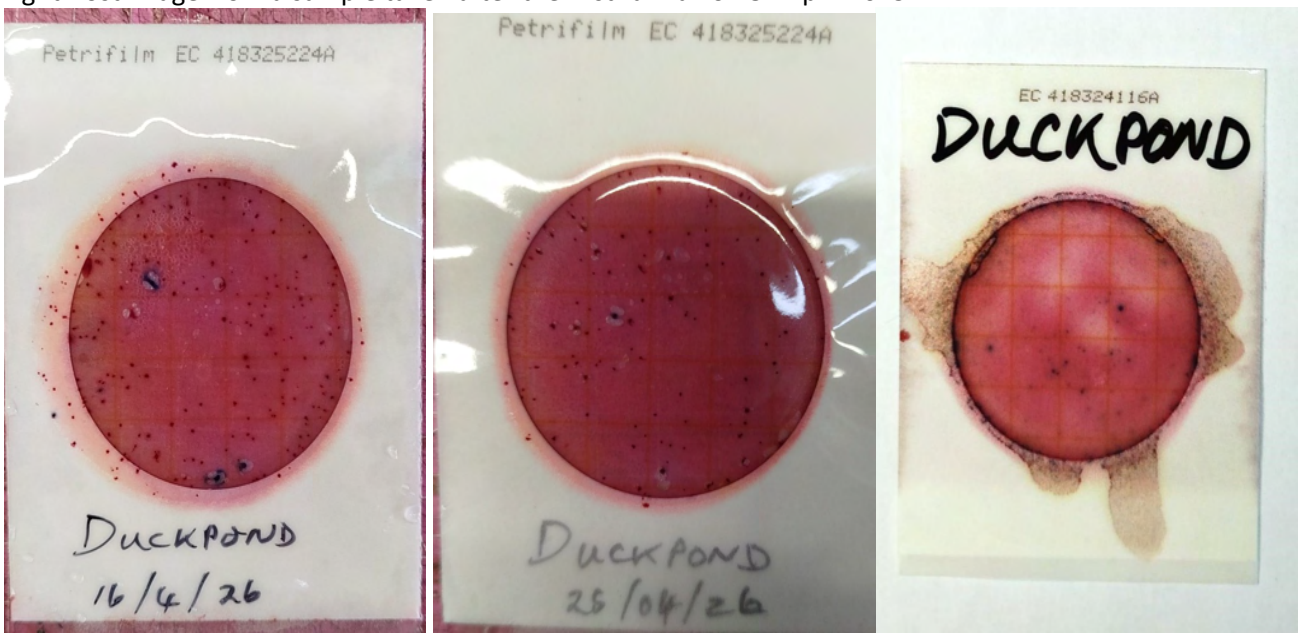
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***E-mail Address:*** ***info@kera.org.za***

**Bacterial analysis** Kirstenhof Duckpond

Water temperature 18.7°C
Red dots indicate Coliform Bacteria colonies.
Blue dots indicate Escherichia Coli colonies.
For comparison only, a sample of South African domestic tap water should show <2 Red dots and 0 Blue dots.

Rightmost image from a sample taken after the first rainfall on 8th April 2025.




**Key Observations**

The Duckpond continues to show a relatively high coliform bacterial load.

Prior to the rainfall event, three *E. coli* colonies were observed. After rainfall, two colonies were observed, indicating no significant change.

Overall *E. coli* levels were similar to those recorded during the equivalent period in 2025.

It is possible that sediment disturbance during the recent alien vegetation clearing operation contributed to some bacterial mobilisation.

The dense vegetation covering the pond surface may also previously have reduced the sterilising effect of sunlight (UV radiation) on the water.

**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

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**Keysers River**

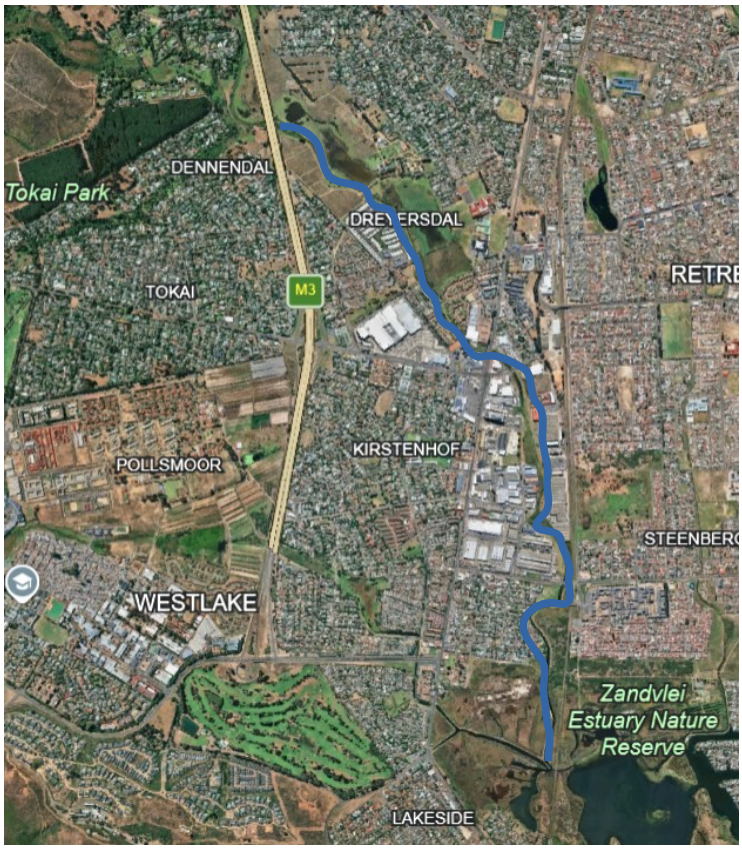
The Keysers River begins at the M3 near Dreyersdal Farm. It is formed by the joining of the Prinskasteel River, the Prinskasteel Stream and the Spanschemat River.

It flows past the farm where a small number of cattle are present.

The river then passes to the NorthEast of the Blue Route shopping Centre, crosses the Main Road then passes to the East of a light industrial area before joining the Westlake River at Zandvlei.

The City Water Quality Dashboard shows that the Spanschemat River has extremely high levels of Escherichia Coli pollution at the time of writing this report. This must flow into the Keysers River and Zandvlei during rainfall.

As with the Westlake River, the Keysers River may be affected by urban stormwater runoff and pollution entering the river system during rainfall events.





**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

# Kirstenhof and Environs Residents' Association

***E-mail Address:*** ***info@kera.org.za***

**Chemical Analysis** Keysers River

| Test | Symbol | Units | Desired range | Before rain 16th April | After rain 25th April | April 2025 Result | Comment |
|---|---|---|---|---|---|---|---|
| Acid/Base | pH | Log | 6.5 – 8.5 | 7.2 | 6.8 | 7.2 | Acidic rainwater (Ph +/- 5.8) dilution of river water. |
| Total Alkalinity | TA | mg/L | 20 - 200 | 120 | 40 | 80 | |
| Carbonate | $CO^{2-}_3$ | mg/L | 50 - 200 | 120 | 80 | | |
| Hardness | $CaCO_3$ | mg/L | 60 - 180 | 100 | 50 | 50 | Rainwater dilution softening the river water |
| Sodium Chloride | NaCl | mg/L | <100 | 100 | 0 | | |
| Iron | Fe | mg/L | <1 | 1 | 1 | | |
| Copper | Cu | mg/L | <0.4 | 0 | 0 | | |
| Lead | Pb | mg/L | 0 | 0 | 0 | | |
| Manganese | Mn | mg/L | <0.05 | 0 | 0 | | |
| Chromium | Cr(VI) | mg/L | 0 | 0 | 0 | | |
| Total Chlorine (TC) | Cl | mg/L | <1 | 0 | 0 | 1 | |
| Free Chlorine (FC) | Cl | mg/L | 0 | 0 | 0 | 1 | |
| Mercury | Hg | mg/L | 0 | 0 | 0 | | |
| Nitrate | $NO^3$ | mg/L | <10 | 0 | 10 | 5 | |
| Nitrite | $NO^2$ | mg/L | <1 | 0 | 0 | 1 | |
| Sulphate | $SO^{2-}_4$ | mg/L | <50 | 0 | 200 | | Possible upstream fertiliser mobilisation. |
| Zinc | Zn | mg/L | 0 | 0 | 0 | | |
| Fluoride | $F^-$ | mg/L | <4 | 0 | 0 | | |
| | | | | | | | |

**Key Observations**

- No significant chemical concerns were identified.
- Rainfall dilution caused small reductions in pH and hardness.
- Elevated sulphate readings after rainfall may indicate mobilisation of upstream pollutants or fertilisers.

**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

# Kirstenhof and Environs Residents' Association

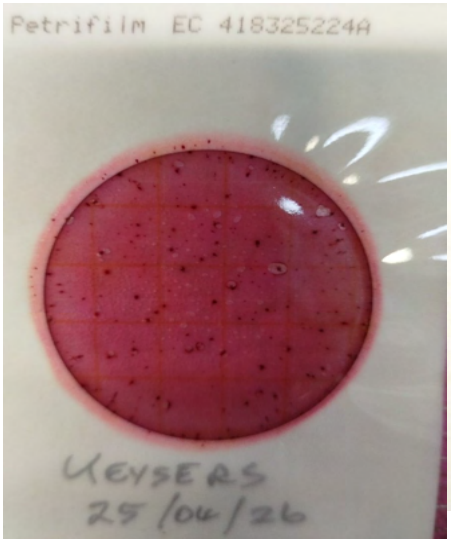
***E-mail Address:*** ***info@kera.org.za***

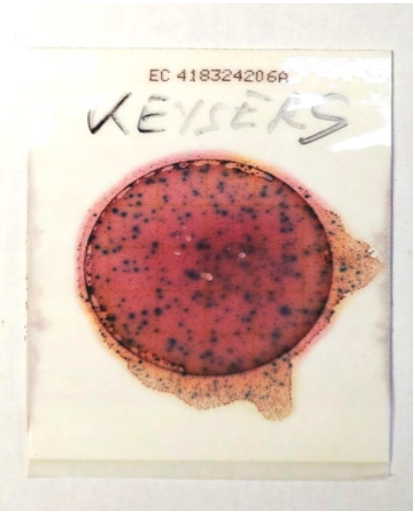
**Bacterial analysis** Keysers river

Water temperature 18.0°C
Red dots indicate Coliform Bacteria colonies.
Blue dots indicate Escherichia Coli colonies.
For comparison only, a sample of South African domestic tap water should show <2 Red dots and 0 Blue dots.

Rightmost image from a sample taken after the first rainfall on 8th April 2025.




**Key Observations**

The Keysers River showed no detectable *E. coli* colonies during this testing cycle. This represents a substantial improvement compared with samples collected during the equivalent period in 2025.

In 2025 extremely high levels of Escherichia Coli were observed. It is difficult to explain this because four days after the KERA Sample, the City sample in the same area showed very low levels. It is possible that the sample was taken from an area with very localised pollution or it was a very transient pollution event.




**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

KERA
KIRSTENHOF AND ENVIRONS RESIDENTS' ASSOCIATION

# Kirstenhof and Environs Residents' Association

***E-mail Address: info@kera.org.za***

## Findings and Observations

### *Chemical Testing*

- Chemical analysis across all three water bodies showed no significant concerns.
- Small reductions in pH and water hardness after rainfall were expected and are consistent with dilution by naturally acidic rainwater.

### *Bacterial Testing*

- The Westlake River and Kirstenhof Duckpond continue to show elevated coliform bacterial levels.
- Only low levels of *E. coli* were detected after the rainfall event.
- The Keysers River showed no detectable *E. coli* colonies.
- Overall bacterial levels were substantially lower than those recorded during the equivalent period in 2025.

### *Rainfall Influence*

| 2026 Rainfall | | |
|---|---|---|
| **Month** | **Day** | **Rainfall (mm)** |
| Jan | 15 | 3 |
| Feb | 10 | 11 |
| Feb | 14 | 2 |
| Mar | 1 | 1 |
| Mar | 2 | 2 |
| Mar | 7 | 7 |
| Mar | 12 | 3 |
| Mar | 28 | 1 |
| Apr | 3 | 9 |
| Apr | 5 | 2 |
| Apr | 11 | 1 |
| Apr | 15 | 3 |

One possible explanation for the lower bacterial levels recorded in 2026 is the occurrence of multiple small rainfall events prior to the first major rainfall event.

During early 2026, approximately 45 mm of rainfall had already occurred before the 18–19 April rainfall event.

In contrast, the first significant rainfall of 2025 followed a prolonged dry period.

The earlier rainfall in 2026 may therefore have gradually flushed contaminated sediment from the waterways, reducing the impact of the first major rainfall event.

**NOTE** the City Inland Water Quality test data, as published on the City Inland Water Quality Dashboard, is the **only** information that is official and valid. Over time, KERA expects to find a correlation between the City results and the KERA results, however the above statement will always remain true.

## Conclusion

The May 2026 testing programme indicates that water quality in the Westlake River, Kirstenhof Duckpond, and Keysers River remains generally stable from a chemical perspective.

Bacterial testing continues to demonstrate the vulnerability of urban waterways to contamination events and sediment disturbance.

**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

However, bacterial levels recorded during this rainfall event were substantially lower than those observed during the equivalent period in 2025.

KERA will continue to monitor local waterways during rainfall events, sewage spills, flooding events, and periods of low flow in order to supplement the City's regular monitoring programme and contribute to a better understanding of the behaviour of these urban water systems.

**References and further information**

City of Cape Town - Inland Water Quality FAQs
https://odp-cctegis.opendata.arcgis.com/documents/0297789ff99249aa8c5e7f6528e6395d

City of Cape Town - Inland Water Quality Dashboard
https://cctegis.maps.arcgis.com/apps/dashboards/9f857f26b59d4aa3abf13ba4a7787d8b

City of Cape Town - Inland Water Quality Technical Report Summary 2024
https://resource.capetown.gov.za/documentcentre/Documents/City%20research%20reports%20and%20review/Inland_Water_Quality_Technical_Report_Summary_2024.pdf

City of Cape Town - Liveable Urban Waterways Project
https://www.capetown.gov.za/Family%20and%20home/residential-utility-services/residential-water-and-sanitation-services/liveable-urban-waterways

Zandvlei Trust
https://zandvleitrust.org.za/the-zandvlei/zandvlei-management/zcmf/zandvlei-catchment-rivers/

Friends of Orchard Village waterways
https://orchardvillage-waterways.co.za/

City of Cape Town Scientific Services Historic document published 1993
https://www.wrc.org.za/wp-content/uploads/mdocs/WaterSA_1993_19_0748.PDF

Afriforum Blue and Green water drop project
https://www.artikels.afriforum.co.za/wp-content/uploads/2024/12/2024-AfriForum-Blue-and-green-drop-project-report.pdf

Explanatory article
https://bioglobe.co.uk/how-reeds-and-wetland-plants-purify-polluted-water-and-soil/

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# Attachment B

# Kirstenhof and Environs Residents' Association

E-mail Address: info@kera.org.za

## Supplementary KERA Inland Water Quality Report May 2026

## Westlake River status following the May 2026 storms

Prepared by Barry Tranter
(KERA Portfolio: Westlake River Water Quality)

14 May 2026



*Figure 1: Westlake River at Oranje Road 11 May 2026.*



*Figure 2: Westlake River flowing between the RPS and CHS. 11 May 2026.*

**Executive Summary**


- Heavy rainfall between 9 and 12 May 2026 resulted in a noticeable deterioration in the water quality of the Westlake River near Kirstenhof.
- KERA testing identified a significant increase in *Escherichia coli* (*E. coli*) colonies together with foul odours and grey-coloured water observed in the river.
- These findings differ substantially from samples collected during April 2026, when bacterial levels remained relatively low despite earlier rainfall events.
- The incident has been reported to the City of Cape Town for further investigation.


**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

# Kirstenhof and Environs Residents' Association

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**Introduction**

Between the evening of 9 May and the afternoon of 12 May 2026, two cold fronts passed over Cape Town, bringing heavy rainfall, strong winds, and storm conditions.

A total of 94 mm of rain was recorded in the Raapkraal Road area during this period.

During the heavy rainfall on Monday 11 May, a strong sewage odour was detected near the rapidly flowing Westlake River where it passes under the M3 freeway at the western end of the Kirstenhof greenbelt.

A river water sample was collected at the site for bacterial analysis.



*Figure 3: Westlake River near M3 culvert sample point.*

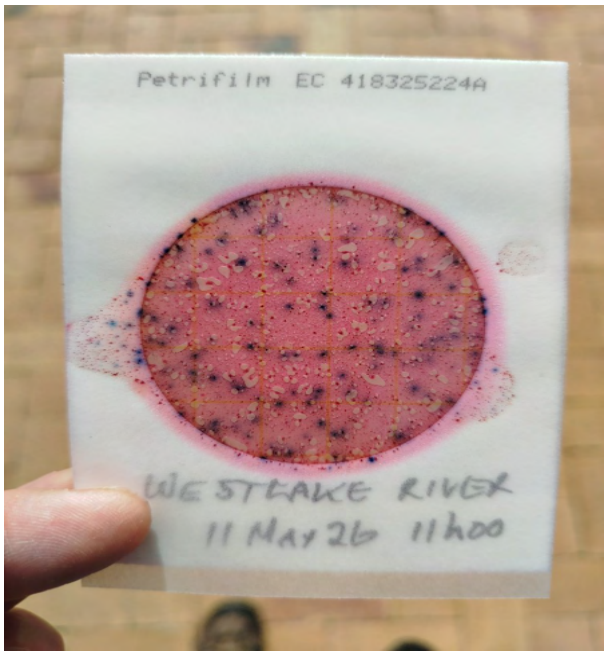



*Figure 4: Petrifilm plate showing E.Coli colonies from 11 May 2026 sample.*

**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

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## Testing Method

Figure 4 shows the Petrifilm plate after a 48-hour incubation period.

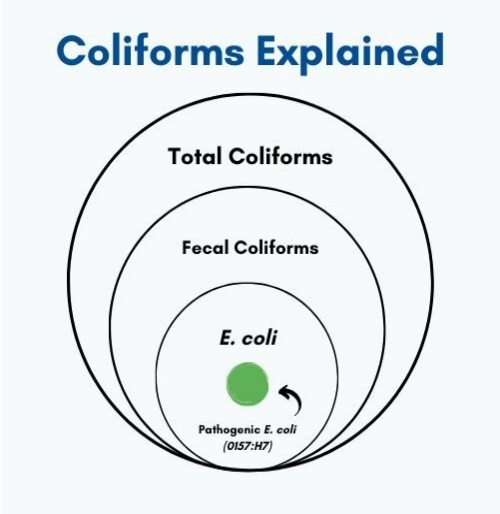
The Neogen Petrifilm (6404) plate is designed to grow:

- Coliform bacteria colonies (red dots)
- *Escherichia coli* colonies (blue dots)

## Important Notes on Testing

- The City uses accredited laboratories and trained personnel.
- KERA uses Neogen Petrifilm (6404) plates to estimate bacterial content.
- KERA results are intended as **indications only** and are not directly comparable with official City laboratory results.

There are many pollutants that can potentially contaminate urban waterways. Water is often referred to as the "universal solvent" because it can dissolve and transport many substances.
Testing for *Escherichia coli* (*E. coli*) is relatively simple and provides a useful indication of possible sewage contamination. Elevated *E. coli* levels may also suggest the possible presence of other harmful organisms such as parasites, bacteria, and viruses.
At present, the City does not routinely test these waterways for herbicides or pesticides.




**Explanation of Indicator Bacteria**

- **Coliform Bacteria**: A group of mostly harmless bacteria found in the environment. Used as a general indicator of water quality.
- **Faecal Coliforms**: Indicate faecal contamination from warm-blooded animals. Commonly used in assessing water safety.
- **Escherichia coli (E. coli)**: A species within faecal coliforms, indicating recent faecal contamination. Some strains can be harmful.

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**Results**

*Figure 4* *Petrifilm sample collected during the May 2026 storm event.*

The sample showed:

- a large number of coliform bacteria colonies
- a substantial increase in *E. coli* colonies
- evidence consistent with sewage contamination entering the river system during the storm event

**Comparison with previous samples**

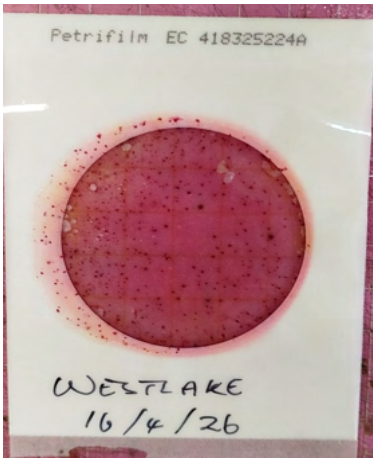



*Figure 5: Sample before 18-19 April rainfall*

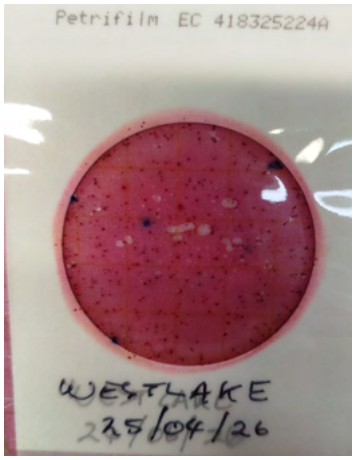



*Figure 6: Sample after 18-19 April rainfall*




*Figure 7: Westlake River after April 2025 rainfall*

*Figure 5* *Reference sample collected before the April 2026 rainfall event.*
*Figure 6* *Sample collected after the April 2026 rainfall event.*
*Figure 7* *Sample collected after the first winter rainfall event in April 2025.*

**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

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The May storm sample showed a large coliform bacterial load, (Red dots) consistent with previous samples collected from the Westlake River during 2026.

However, unlike samples collected during April 2026, the post-storm sample (Figure 4) showed a substantial increase in *E. coli* colonies (Blue dots).

The contamination levels recorded were significantly higher than those observed after the April 2026 rainfall event, and much higher than the contamination recorded after the first major winter rainfall in 2025.

This suggests that the May storm event may have mobilised a larger quantity of contaminated material or sewage into the river system than the earlier April rainfall.

**City Inland Water Quality Dashboard**




*Figure 8: E.Coli content of the river at 13 April 2026. Extremely low levels of are. recorded*

**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

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Figure 8 City of Cape Town Inland Water Quality results for the Westlake River.

The City sample collected on 13th April 2026, only three days before KERA's 16th April sample, recorded a relatively low *E. coli* level of 60 CFU/100 ml.

These results suggest a useful correlation between the City laboratory testing programme and the KERA Petrifilm testing method.

Both the City and KERA results indicate that bacterial levels in the river were relatively low prior to the May storm event.

## Key Findings and observations

### *Conditions Before the Storm*

City testing and KERA samples collected during April 2026 showed relatively low *E. coli* levels in the Westlake River.

### *Conditions During the Storm*

During the storm event between 9 and 12 May 2026:

- strong sewage odours were detected near the river
- grey-coloured water was observed in the river
- a substantial increase in *E. coli* colonies was recorded

KERA reported the incident to the City of Cape Town.

Service Request Number: SR9122347365


**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

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***Comparison with April 2026***

Following approximately 40 mm of rainfall on 18 and 19 April 2026, only a minor increase in *E. coli* levels was recorded.
The May storm event therefore appears to have resulted in substantially greater bacterial contamination than the earlier April rainfall.

***Resident Observations***

Residents living near the river and M3 area reported intermittent foul odours during the weeks leading up to the storm event.
These observations may suggest that intermittent pollution was already occurring prior to the heavy rainfall.

**Possible Causes of Pollution**

There are several possible causes of sewage contamination affecting the Westlake River upstream of Kirstenhof.

Illegal stormwater to sewer connections have previously been identified within the Westlake residential area. The City identified this issue as one of the contributing causes of the severe sewage pollution recorded in the Westlake River during the winter rainfall season of 2025.




*Figure 9: Extremely high sewage pollution recorded at the Westlake Primary School sample site during the winter rainfall season of 2025.*

**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

Other possible causes may include:

- leaking sewer infrastructure
- sewer blockages
- insufficient sewer capacity during heavy rainfall
- possible stormwater contamination originating from surrounding properties
- mobilisation of contaminated sediment within the Pollsmoor retention pond

At present, these remain possibilities only and require further investigation.
One unresolved issue is why the April 2026 rainfall event caused only a minor increase in *E. coli* levels, while the May 2026 storm event resulted in substantially higher bacterial contamination together with visible discolouration and foul odours.
This may indicate that an additional pollution source became active during the later storm event.

**Conclusions**

The May 2026 storm event was associated with a significant deterioration in the bacterial quality of the Westlake River upstream of Kirstenhof.

Both field observations and Petrifilm testing suggest that sewage contamination entered the river system during the storm period.

The combination of elevated *E. coli* levels, grey-coloured water, and strong sewage odours supports this conclusion.

Although the exact source of contamination remains uncertain, the results highlight the vulnerability of the Westlake River to pollution during periods of heavy rainfall.

KERA will continue to monitor the river during rainfall and pollution events and will continue to work cooperatively with the City of Cape Town to identify potential pollution sources affecting the river system.

**Recommendation**

It may prove advantageous if the City of Cape Town Department of Water and Sanitation conducts additional water sampling, at strategic points upstream on the river, during significant rainfall events in order to narrow down the source of this pollution.


**EXCO Committee members:** Haylee Dugmore (Chairperson); Andres Petersen (Secretary, Social Media); Barry Tranter (Treasurer, Membership, Water Resources); Emanuela Rowe (Admin Assistance); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Darryl Lawrence (Traffic); Louise Kinrade (Green Environment, Ward Forum Representative); Angelo Brown (Norfolk Park & Frogmore Estate); Vacant (Orchard Village & Klein Wassenaar)

# Kirstenhof and Environs Residents' Association

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**Addendum**

During the writing of this report, the City of Cape Town Inland Water Quality Dashboard has been updated with the results of tests conducted on the 12th May. One day after the KERA tests. Screenshots of two sample points are provided for comparison.




*Figure 10: Sample point at Altenberg road showing an E.coli count of 30800 on the 12th May 2026.*




*Figure 11: Sample point further upstream at the Westlake Primary School showing an E,coli count of 12800 on the 12th May 2026*

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**Comment**

From Figures 10 & 11, The City test results confirm a serious sewage pollution event occurred during the rainfall of 9th to the 12th May 2026.

The KERA test showing a serious Escherichia Coli increase in the river on the 11th May 2026 is confirmed.

Upstream at the Westlake Primary School the E.coli count was recorded at 12800 CFU/100ml.

Further downstream at the Altenberg Road sample site, the E.coli count was recorded at 30800 CFU/100ml.

This results show that while the winter pollution at the Westlake Primary School is following the same pollution pattern as during the 2025 rainfall season, there was an additional source of very significant sewage pollution downstream of the Westlake sample site.

The additional pollution source can then only be on the Pollsmoor Prison site, from the Prison itself or the retention dam.

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**References**

*City of Cape Town – Inland Water Quality Dashboard*

https://cctegis.maps.arcgis.com/apps/dashboards/9f857f26b59d4aa3abf13ba4a7787d8b

City of Cape Town – Inland Water Quality Technical Report Summary 2024 (Extract)

Table 1: Public health/recreational use categories used to guide the assessment of microbial data

| PUBLIC HEALTH/RECREATIONAL USE CATEGORIES | FAECAL COLIFORM COUNT (INCLUDING *E. COLI*)* |
|---|---|
| Maximum acceptable risk for full-contact recreation | ≤400 cfu/100 ml |
| Acceptable risk for intermediate-contact recreation | ≤2 500 cfu/100 ml |
| Tolerable risk for intermediate-contact recreation | 2 501–4 000 cfu/100 ml |
| Unacceptable risk – level 1 | 4 001–10 000 cfu/100 ml |
| Unacceptable risk – level 2 | 10 001–100 000 cfu/100 ml |
| Unacceptable risk – level 3 | >100 000 cfu/100 ml |

** Bacterial concentrations in water are usually expressed as numbers of colony-forming units (cfu) per 100 ml.*

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# Attachment C

# Kirstenhof and Environs Residents' Association

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## Westlake River Litter Clean-up Report

*From the M3 Culvert to Oranje Road*

Report prepared by Barry Tranter (KERA Portfolio – Westlake River Water Quality)
River cleanup conducted by Barry Tranter and Matt Bubear-Craemer, on the 1st & 4th June 2026.

***Background***

During heavy rainfall in July 2025, the Westlake River carried a large volume of litter from the culvert beneath the M3 and deposited it along the riverbanks throughout Kirstenhof.

At the time, the litter barrier on the western side of the M3 had become blocked. As a result, high river flows carried litter up and over the barrier rather than trapping it as intended. Over time, much of the litter became entangled in downstream reeds and dense riverbank vegetation.

Throughout May 2026, the City conducted its annual clearing of the reeds which continually grow and choke the main river channel. While monitoring this process, KERA observed that the litter was still present.

KERA considers the Westlake River and the surrounding wetlands to be among the area's most important natural assets. They provide residents with access to a safe outdoor environment. They support local biodiversity, and contribute significantly to the character and value of our suburb's properties.

It is therefore crucial that the river and surrounds are maintained in an optimal condition and continually improved if possible. While the City is the main role player responsible for these activities, important contributions are made by KERA, FKW (Friends of Kirstenhof Wetland) and the many active citizens in the community. In this case, KERA took responsibility to remove the litter from the main river channel.

This clean-up focused on the section of river between the M3 culvert and Oranje Road. Subject to volunteer availability and resources, the lower section between Oranje Road and Steenberg Road will be addressed at a later date.

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It is not known whether a similar clean-up has been undertaken previously. The quantity and age of some of the material recovered suggest that litter has been accumulating in the river for a considerable period.

The photographs below, taken after the July 2025 rainfall, illustrate the extent of the problem.



*Figure 1: Litter barrier on the Western side of the M3. Note the colour of the water.*



*Figure 2: Litter at the M3 culvert and storm drains.*



*Figure 3: Gabions under the wooden bridge at the Western end of Altenberg Rd*



*Figure 4: Plastic waste caught in the reed bed.*



*Figure 5: Litter trapped in the river bed*



*Figure 6: Litter deposited in the vegetation shows how high the river was when in flood.*

***Findings***

A total of **14 black bags of litter and debris** were removed from the river channel. The collected waste was subsequently transported to landfill by the City of Cape Town's Solid Waste Department.

While some of the litter was clearly associated with the July 2025 flooding event, much of the material appeared to have accumulated over many years.

Items recovered included:

- Plastic packaging and food containers
- Shopping bags
- Protective plastic wrapping
- Clothing and textiles
- Domestic waste contained in decomposing refuse bags
- Toilet paper and wet wipes
- Miscellaneous household debris

***Other Observations***

**River Condition**

A noticeable foul odour was present along much of the river's length. The smell was particularly strong near the M3 culvert and adjacent stormwater tunnels.

The odour intensified when river sediments were disturbed, especially in deeper pools where thick mud and anaerobic material had accumulated.

**Water Quality Concerns**

Despite several subsequent rainfall events, deposits resembling sewage residue were observed along the margins of wider pools opposite Blaauwklippen Road.

These observations support the need for the additional monitoring of water quality in this section of the river.



*Figure 7: Some very suspect light brown sludge floating in this area!*



*Figure 8: This broken branch has ended up blocking the channel*

**Wildlife**

Very little aquatic or river-dependent wildlife was observed during the clean-up.

Only a few small frogs were encountered between Blaauwklippen Road and Zandvliet Road. No fish were observed and insect activity was very limited. No birds were present.

Historic nesting sites, for species such as kingfishers and sand martins, are now absent due to the dense growth of alien vegetation along the riverbanks.

**River Habitat**

The river channel alternates between deep stagnant pools containing thick sediment deposits and shallow rocky sections where flowing water is visible.

Large areas of the riverbanks remain heavily invaded by alien vegetation, including Tradescantia, Commelina, Persicaria and other undesirable species.

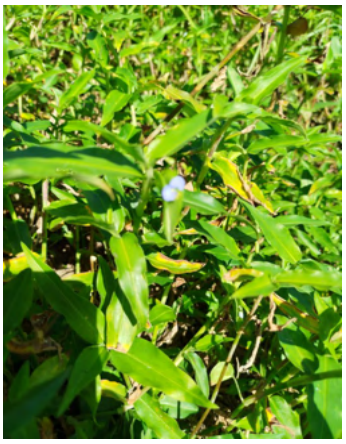


*Figure 9: Commelina*



*Figure 10: Persicaria*



*Figure 11: Periwinkle. Must have been discarded from someone's garden!*

**Litter Barrier Maintenance**

Since the flooding event of July 2025, the City has regularly maintained the litter barrier on the western side of the M3, which should help reduce future litter transport downstream.



*Figure 12: The cleaned up litter barrier now regularly maintained by the City.*



*Figure 13: An example of active citizenry! Well done and thank you Matt.*

***Conclusions***

The clean-up demonstrated that significant quantities of litter continue to accumulate within the Westlake River system and that periodic removal is necessary to maintain the river environment and improve its overall condition.

While the City undertakes major river maintenance activities, community involvement is needed in an important complementary role. Removing litter trapped within dense vegetation and inaccessible sections of the river channel can be challenging. It requires appropriate equipment and safety precautions. Residents can nevertheless make a significant contribution by collecting litter from riverbanks and surrounding open spaces before it enters the waterway. Any instances of illegal dumping on the greenbelt should be reported through the City's C3 reporting system so that they can be addressed before becoming larger environmental problems.

The project demonstrated that residents can make a meaningful contribution to improving the quality of a valuable local environmental asset.

KERA should consider establishing an annual river and wetland clean-up programme, providing residents with an opportunity to participate directly in the stewardship and improvement of local waterways.



*Figure 14: A man enjoying himself!*



*Figure 15: Thank you again Matt.*

*We are looking forward to clearing up the next section of river soon.*

**Acknowledgements**

This project demonstrates what can be achieved when residents, community organisations, elected representatives, and City departments work together.

KERA thanks the City of Cape Town's Solid Waste Department for their assistance in removing the collected waste. We also acknowledge the support of our Ward 71 Councillor, Carolynne Franklin, whose continued commitment to environmental issues and community engagement has been greatly appreciated.

***Further information***

City of Cape Town Service requests
https://eservices1.capetown.gov.za/coct/wapl/zsreq_app/index.html

City of Cape Town Liveable Urban Waterways Project
https://www.capetown.gov.za/Family%20and%20home/residential-utility-services/residential-water-and-sanitation-services/liveable-urban-waterways