



Kirstenhof and Environs Residents' Association



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25 September 2025

KERA Inland Water Quality Report Kirstenhof Duckpond, Westlake River & Keyzers River

Citizen Science Water Testing Week Results for Kirstenhof Duckpond, Westlake River & Keyzers River

Background

The 4th annual **Citizen Science Water Testing Week**, launched on **18 September 2025**, highlights WaterCAN's growing national movement that empowers ordinary South Africans, especially young people, to become protectors of their water resources. Through partnerships with schools, communities, and volunteers, over 5,000 citizen-led tests have built the country's largest public water-quality database. This year focuses on **youth involvement**, training learners to test, record, and understand the health of local rivers and taps. By equipping the next generation with scientific tools and civic awareness, WaterCAN is building a culture of action, accountability, and shared responsibility for a water-secure South Africa.

KERA continues to monitor the condition of our local water bodies, regularly reporting issues such as sewage spills, litter, alien vegetation, and erosion to the City of Cape Town. In addition, KERA regularly monitors the City's Inland Water Quality (IWQ) Dashboard, where important chemical and biological water quality data is made available to the public. By proactively monitoring our local water bodies, KERA assists the City of Cape Town in achieving its target of becoming a Water Sensitive City by 2040.

This month's report coincides with WaterCAN's national Citizen Science Water Testing Week, providing an opportunity for KERA to contribute local data to a growing national database.



The Kirstenhof Duckpond



The Westlake River



The Keyzers River

EXCO Committee members: Darryl Lawrence (Chairperson, Traffic); Sheroda Novis (Secretary); Louise Kinrade (Green Environment); Barry Tranter (Treasurer, Westlake River); Gary Rowe (Infrastructure); Bruce Mack (Zoning and Departures); Haylee Dugmore (Marketing & Fundraising); Angelo Brown (Norfolk Park & Frogmore Estate)



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WATER CAN
WaterCAN Testing Week



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Junior Citizen Scientists in action



To align with WaterCAN's youth focus, KERA involved local learners in this year's testing activities.

Rebecca Latham aged 7, Luke Brown aged 8, and Jessie Brown aged 7, all Kirstenhof Primary School learners. All set up and ready to go and generally having a great deal of fun sampling, testing and recording the results of the WaterCAN tests.

The learners not only conducted the tests but also learned how to observe, record, and interpret their results—developing early awareness of the connection between community actions and water health.

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WaterCAN Test Chemical Test Process



Tie the rope onto the bucket handle



and collect a sample of water.



What is the colour of the water?



What does the water smell like?

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WaterCAN
 WaterCAN Testing Week

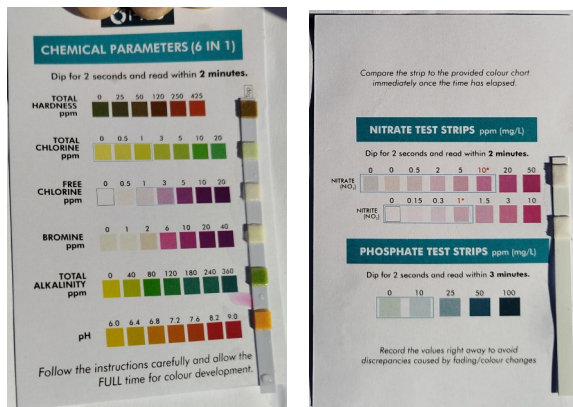


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Dip the test strips into the sample and compare the resulting colours with the colours on the colour card. Read off and record the the corresponding values.

What is the temperature of the water Jessie?



Chemical test strips



Record everything!

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WaterCAN
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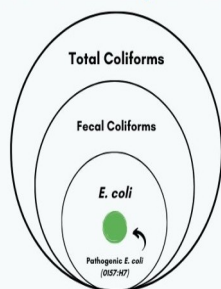
Biological Testing

While the Chemical test strips yield immediate results, the biological tests take up two to three days to develop. In the case of our local rivers, where sewage overflows are the most common pollution event, our tests focus on the bacterial content of the samples.

Specifically, an Aquascreen test will provide an indication of Faecal Coliform bacteria and a PetriFilm plate will provide an indication of Coliform Bacteria and Escherichia coli Bacteria.

Explanation of Terms

Coliforms Explained



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.

Escherichia coli is a crucial indicator of water contamination and potential health risks, as its presence often signifies the presence of harmful pathogens. Monitoring Escherichia coli levels helps protect public health by ensuring water safety and maintaining the health of aquatic ecosystems. The City monitors Escherichia coli, and other parameters, in our rivers on a monthly basis. This information is available to the public on the City Inland Water Quality Dashboard.

There are many other harmful pollutants found in untreated river water, especially river water flowing through densely inhabited suburbs or industrial areas. These pollutants can include bacteria, viruses, protozoa, parasites, algae and microbes. As testing for all possible pollutants is essentially impractical, *Escherichia. coli* serves as a reliable indicator of overall water health.

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Important Notes on Testing

- a) The City uses accredited laboratories to analyse the samples.
- b) The City uses qualified and trained personnel to collect the samples.
- c) KERA uses the WaterCAN test kit, which is designed for use by the general public in uncontrolled environments.
- d) For the above reasons, the WaterCAN results are **not directly comparable to official City results** but may help identify potential issues for further investigation.

Test Results - Chemical

Parameter	Safe Range	Duckpond	Westlake River	Keysers River
Nitrate	<10 ppm (mg/l)	0	0	0
Nitrite	<1 ppm (mg/l)	0	0	0
Phosphate	<10 ppm (mg/l)	0	10 *	0
Total Hardness		120	120	120
Total Chlorine	<1 ppm (mg/l)	3	0	0
Free Chlorine	<3ppm (mg/l)	0	0	0
Bromine		1	0	0
Alkalinity		120	120	80
PH		7.2	8.2	6.4

* Elevated Phosphates are possibly the result of a sewage blockage and overflow into the river from the Pollsmoor site on Friday 5 September 2025.

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Test Results – Biological

Bio test	Bacteria	Safe Range	Duckpond	Westlake River	Keysers River
Aquascreen	Faecal coliform	Yellow	Black	Black	Black



Bio test	Bacteria	Safe Range	Duckpond	Westlake River	Keysers River
Petrifilm	Coliform	<10 CFU (Red spots)	>100	>100	>100
Petrifilm	Escherichia coli	<= 1 CFU (Blue spots)	0	>100	12

CFU – Colony Forming Units



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Interpretation of results

The biological test results for the Westlake River shows its vulnerability to pollution.

The sample was taken a few days after a major sewage overflow on the Pollsmoor site. This explains the extremely high *Escherichia coli* count recorded. The blockage was caused by criminal activity and a lack of prison management control.

The river is also vulnerable to litter pollution.



The Keyzers River also shows elevated bacterial levels, reinforcing the need for continued monitoring and timely response to pollution incidents.

Overall, the chemical results indicate generally stable water quality.

The Duckpond test results show that it remains essentially independent of the Westlake River system, as no *Escherichia coli* colonies were recorded on this occasion.

The Duckpond's water sources remain the subject of further investigation however during July 2025, the Westlake river overflowed into the Duckpond thanks to a patch of reeds not cleared from the river bed.

A rare occasion indeed!



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A big thank you to Rebecca, Luke and Jessie for conducting these tests as part of WaterCAN's 2025 Citizen Science Water Testing Week. We hope you enjoyed the experience and understood the importance of looking after our waterways. We look forward to seeing you and some of your friends next time.

KERA thanks WaterCAN, participating learners, and local residents for their enthusiasm and involvement. Ongoing citizen monitoring not only builds local awareness but also strengthens partnerships between communities, schools, and City departments as we work toward becoming a Water Sensitive City by 2040.

KERA urges residents to report pollution events, affecting any of our local waterways, using the City C3 reporting system. https://eservices1.capetown.gov.za/coct/wapl/zsreq_app/index.html

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

On behalf of the Kirstenhof and Environs Residents' Association (KERA) and Councillor Carolynne Franklin.

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