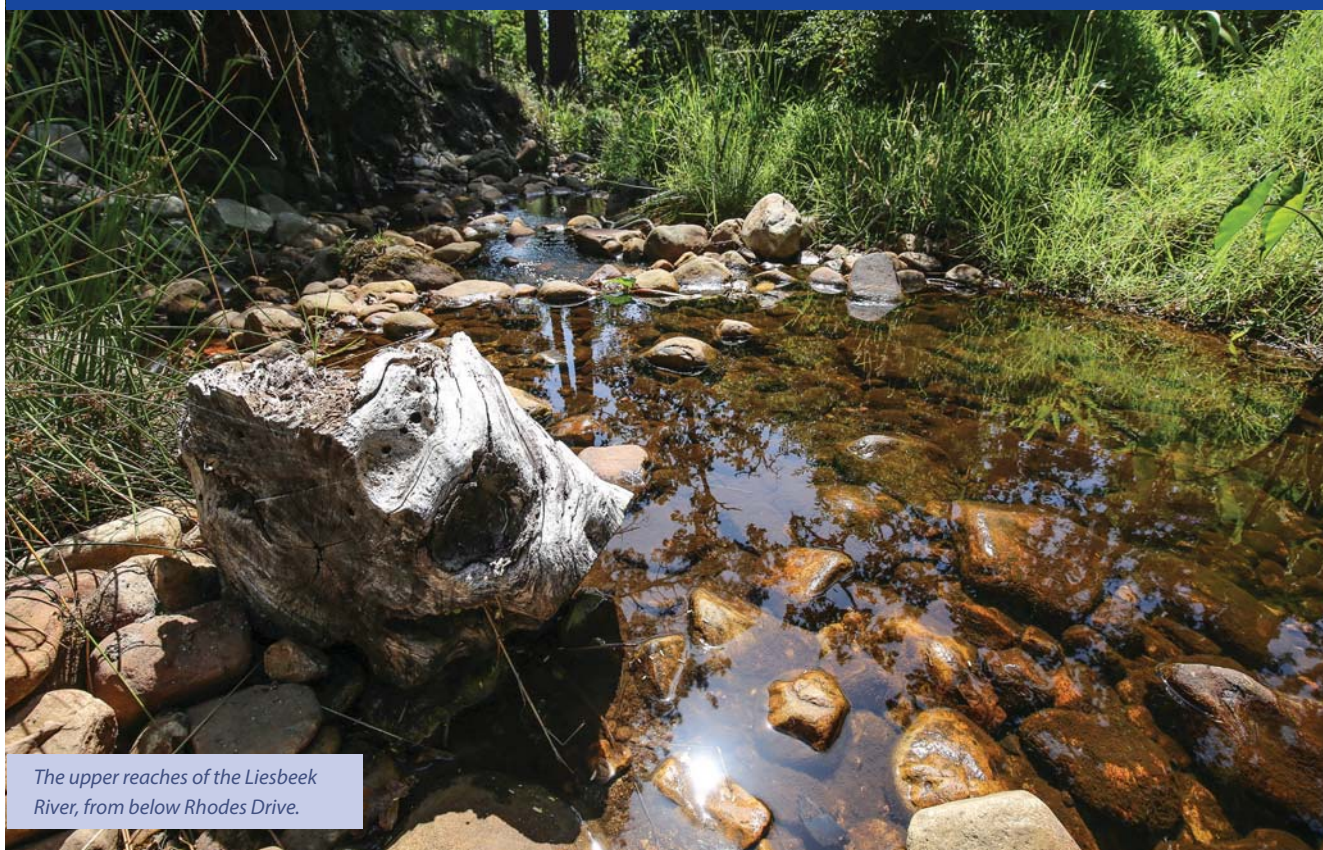


# RIVER HERITAGE

## Liesbeek – The people’s river of Cape Town

*Urban river, the Liesbeek, has been transformed after action by the residents of the City of Cape Town. Petro Kotzé reports.*

All photographs by Petro Kotzé



*The upper reaches of the Liesbeek River, from below Rhodes Drive.*

People have followed rivers for centuries. Today still, the origin of many cities can be traced back to a stream that allowed people to settle, and flourish. Another common trait of today’s cities is the severe pollution of the streams that run through them. As development continued, the pristine rivers that the cities’ establishment and expansion were built on, often paid the biggest price.

Cape Town is no different. Yet the Liesbeek, a river that supported much of city’s early development, is now following a different trajectory. Once described as utterly unfit for human use, it has become the cleanest urban river in South Africa. This is according to Dr Kevin Winter of the Future Water Institute at the University of Cape Town. For him, the Liesbeek is a living

laboratory and, lessons from the river’s recovery is now circling out far beyond the basin, as he lectures on the topic locally and abroad.

As a specialist in Water Sensitive Urban Design, the Liesbeek offers Dr Winter a good example of how conservation of green infrastructure such as rivers, can be applied to solve modern day urban challenges, including stormwater management and climate adaptation. Over and above this, the river is also a prime example of residents retaking ownership of an urban river for a better quality of life.

Himself a Cape Town native, Dr Winter says that there is much more to the streams that run through our cities. “Our rivers need

to become recognised as heritage and national assets.”

For this, the Liesbeek is a strong contender. Following the river from source to mouth provides glimpses into the past of the city that blossomed on its banks, snapshots of how it developed from there and a possible preview into a future where people turn to face a near-forgotten urban stream, once again.

## The river's source

The source of the Liesbeek is on the eastern slopes of the iconic Table Mountain. Due to the angle of the slope to the prevailing southwesterly, the moisture trickles down into streams that run year-round, unusual for a city that depends on winter rains.

You can meet the streams on their way down. The easiest is to meander up the mountain slopes through the Kirstenbosch National Garden, via the Smuts track and the Yellowwood trail, making your way under the foliage of some of the last remaining pockets of Afromontane Forest (or, mountain forest of Africa). Though lush with yellowwoods, stink woods, hard pear and red alder, the forest is but a whimper of its formidable former self. Jan van Riebeeck noted in his diaries that the eastern slopes of Table Mountain, stretching down to the Liesbeek itself, were covered by forests “so dense from the top to the bottom, close to the river, that no opening could be found.”

Today it's easy to spot the four amber coloured streams that flow through the garden to form the Liesbeek. The Vaalkat Stream



*Kids play in the Skeleton Stream as it runs through the Kirstenbosch gardens.*



*Dr Kevin Winter, head of the Future Water Institute at the University of Cape Town.*

joins the Nursery Stream and eventually, the Skeleton. These are joined by the Window stream, and all of them rush downward towards Rhodes Drive. It's not marked but between the fence of the main parking lot, and the manicured lawn that marks your entrance to the garden, a big tunnel runs under Rhodes Drive, spitting water out on the other side into Bishops court.

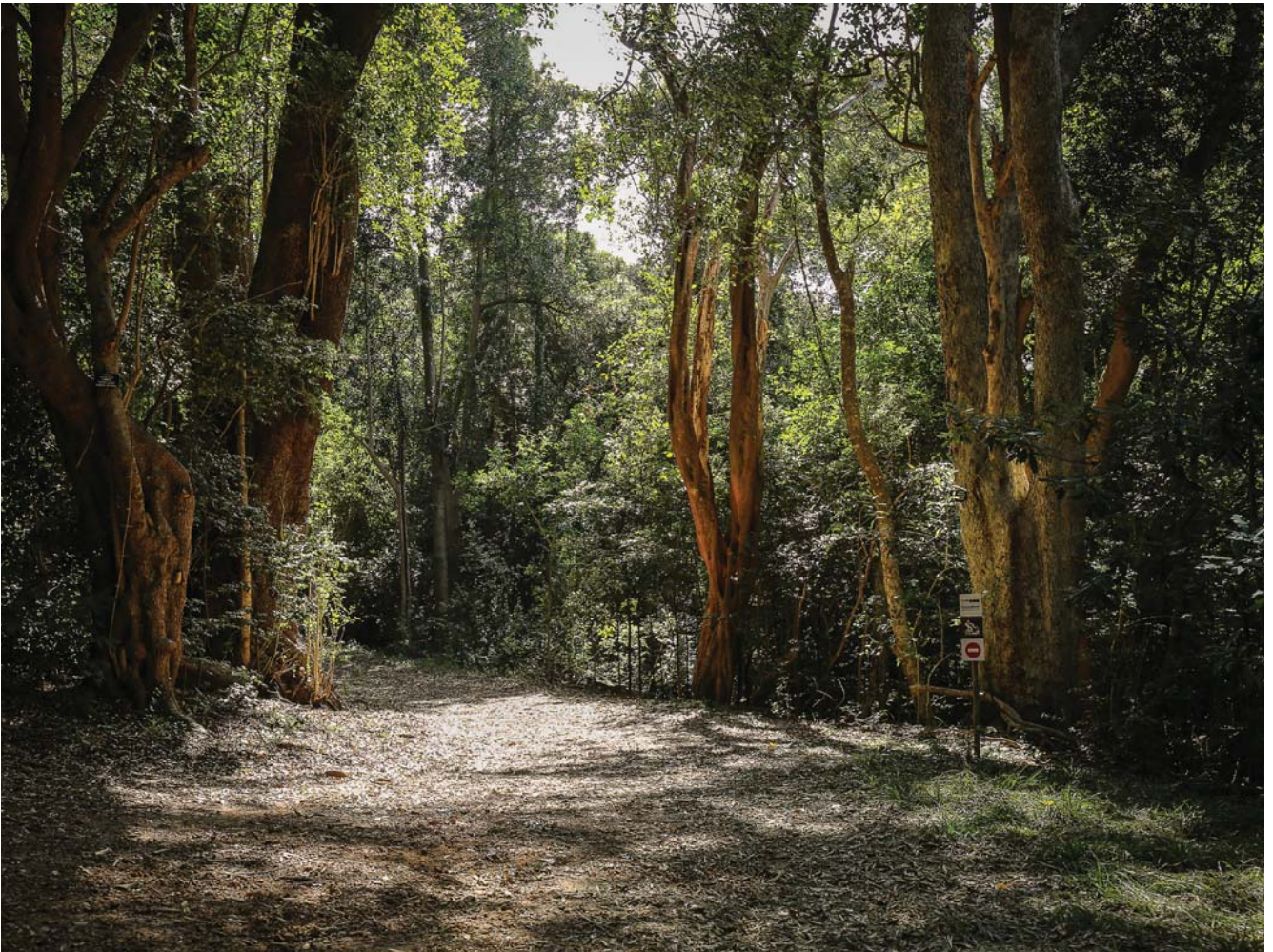
This then, is the Liesbeek. Today, it's a river born from a culvert, to run to the suburbs.

## The Upper Liesbeek River

When Jan van Riebeeck arrived the Liesbeek was still wild. Full of fish and large eels, the river's banks were visited by plenty of roe, eland, hares, ducks and partridges. Others noted tracks of lions, “tigers”, “wolves” jackals and very large baboons.

Once, hunter-gatherers came to enjoy the bounties that the river offered but the Dutch too, depended heavily on it in their early years of settlement. Yet, they pillaged the resources instead. The yellowwoods, rooiels and wild olives were the first to disappear, but the destruction of the forests along the Liesbeek was eventually near complete.

Today, the Liesbeek here wears a thin cloak of shrubs and trees, decorated with Arum lilies and fern trees. The air is permeated by pine, a whiff of the exotic oaks and cluster pines introduced by the Dutch and the British. The destruction of the trees would forever alter the river. Their roots would have protected the



*Pockets of Afromontane Forest remain protected in the Kirstenbosch Gardens.*

riverbanks from erosion, and provided food for many animal and micro-organisms. In comparison to their gradual shed of leaves from spring to summer, exotics drop theirs quickly in autumn, affecting food inputs into the river, and altering its flow with their foreign water needs.

Today, visitors are mostly hikers and dog walkers who let their pets cool down in the bubbling stream. It's not accessible all the way, but with only a bit of effort you can squeeze through the plants to follow the crisp water as it tinkles along over smooth, brown pebbles. Along the way, you will find hidden riverbank gardens, fenced off sprightly green lawns and lovingly tended beds that must be for private use alone.

It's an old tradition. Somewhere around here, on the slopes of Bishopscourt lies Van Riebeeck's farm; apparently his garden was regarded as the best in the British Empire outside of Britain. He would have tapped water from the Liesbeek for it, a tradition that must have continued judging by the pipes from the properties into the river.

Eventually you emerge close to Kirstenbosch Drive again, reaching the road by clambering onto an embankment. At closer inspection it harbours a stormwater pipe. It's only a small opening but, in the life of the Liesbeek, it represents a big transformation.

### **Stormwater and the Liesbeek**

Except for the loss of riverine vegetation, the roads and pavements that were eventually constructed led to more problems for the Liesbeek. The hardened surfaces reduce the volume of water that infiltrates to the soil and groundwater. Instead, contaminated runoff is discharged to the river rather than giving natural systems time to absorb and process the pollutants.

Dr Winter explains that this leads to what is called the "urban stream syndrome" – roughly described as the consistent alteration of a stream's form, flow and function until the ecological services eventually collapse. Symptoms include higher-than-usual spikes in river flow during rainfall due to the water channeled in from the streets; an increase of concentrations of nutrients and pollutants; changed channel shape; and a decrease in species diversity, while select species start to dominate.

Yet, the Liesbeek here is still a lovely sight. A little bit further down, Riverside Road hugs its banks for an easy walk onwards. The aptly named Moss and Thistle streets Holly and Garden roads add to the pleasant atmosphere, but much of the joy of the walk from here is thanks to a group of volunteers called the Friends of the Liesbeek.

## The river wins new friends in Cape Town

The Friends of the Liesbeek River is a group of local volunteers whose aim it is to create an awareness of the importance of the Liesbeek as a green corridor in an urban setting. They also work to rehabilitate, enhance, and conserve it and its environs. They started in the early nineties amidst public calls for the restoration of the Black and Liesbeek rivers.

From small beginnings, they now employ a permanent team to keep the river clean from litter and alien vegetation as much as possible, says chairperson Phil McLean. This is constant work. Each week, he says, they still pick up at least 62 bags of trash along a stretch of the river downstream. However, their effort has completely changed the fate of the Liesbeek. If it was not for their work, the river would still have been little more than a conduit for trash, with overgrown banks that became no-go zones to residents.

Thanks to the friends, you can now enjoy a pleasant and safe walk along the river – they rallied for the construction of the pedestrian trail. It's a relaxing walk, quiet even on weekends. Since residential development began, much of the upper Liesbeek was, and remains, fairly elite, with large plots. Now the river vegetation is a mix of popular garden varieties; a lovingly tended Bromeliad garden on one side, an embankment thick with Boston Ferns on the other.

A delightful example of residents taking ownership of a river is the Upper Liesbeek Garden, not far upstream from the busy M3. Driven by a local resident, the overgrown banks were transformed with tree trunk benches and flowerbeds. Crabs, tadpoles and butterflies now dart between the water and the plants, and the space is enjoyed by a variety of people.

Just up the embankment, the sound of a babbling brook is replaced by the buzz of traffic. It marks the real start of what some describe as the most devastating action that can be done against a river. From here, the Liesbeek is canalised.

## Taming the Liesbeek

The difference between the highest and lowest points of the Liesbeek's catchment is 1 079 m. When it rains, stormwater rushes to the river down this steep gradient, resulting in floods.



*Downstream of the Liesbeek Garden, towards the M3.*

City engineers responded by canalising small sections to send water as quickly as possible out of the city and keep residents safe. The practice continued until almost the entire river (about 70%) was canalised, except for about two kilometres below Kirstenbosch and a few other short stretches.

Still, the Friends of the Liesbeek was determined to take the river back. As it slips under the M3 it emerges cascading into Paradise Park. McLean says that this another of the achievements that they are immensely proud of, after taking huge initiative to upgrade the space. Before, it was overgrown, creating "a place that security guards did not even want to cycle through," he says. On this weekend, it's full of kids and grownups soaking up the sunshine.

Further away from the playpark, just around the bend and hidden from the noise of the M3, people are lounging in the shady riverbanks. Kids play in the shallow waters of the canal, treehouses hang over banks and groups are picnicking along the shores. From here, the river disappears into the suburbs. From over a fence you can see the water run past the Vineyard Hotel's lush riverbank garden, but otherwise it's not that easy to follow it through the suburbs anymore.

Instead, Dr Winter says it's best to tackle it on scooter, which allows you to slip through the grinding Cape Town traffic. By the time you hit Newlands, few people must be aware that the Liesbeek exists close by, though there are signs. The famous Newlands Brewery was born from the water of the Liesbeek. The beer was first brewed on its banks, but later operations moved to Newlands, today the oldest commercial brewery in South Africa.

At Rondebosch the river runs past the back of the Riverside Mall. Once, Van Riebeeck noted the presence of tiger, lion and a large wolf at Rondebosch, but today the banks are bare except for traffic, pedestrians and pavement.

Dr Winter explains that when the mall was redeveloped ten years ago, The friends (as registered interested and affected parties) attempted to influence the developer to redesign the existing shopping centre so that the shop frontage faced the river. Siting cost constraints, they decided otherwise, placing the parking entrance and deliveries next to the water instead. "It could have been a triumphant re-think, but the developer missed the chance ...big time!" says Dr Winter. It shows. Along the banks,



*Paradise Park.*



*The Liesbeek River as it flows through Rosebank.*

broken bottles are only some of the trash lying around, and a lone shopping bag drifts downstream with a pair of ducks. McLean says this stretch of the river is one of their biggest headaches, as a lot of litter is generated here in the commercial area.

### **Onwards to Rosebank**

Though motorists whizzing past along Liesbeek Parkway are probably unaware of it, Rosebank features the best example of the living lab that the Liesbeek has become. A strip of artificial wetlands have been constructed along the river. Dr Winter explains that the project is an example of how natural infrastructure can be used to manage stormwater quality to the benefit of the environment.

Polluted stormwater is fed through a biofiltration wetland before it enters the Liesbeek, removing nutrients, pollutants and heavy metals in the process. Except for looking much better than a tarred pavement, and providing a natural environment for many species to thrive, Dr Winter says that the system also works very well. The wetlands are doing a robust job of treating the stormwater to a suitable quality before releasing it into the river.

Here too, Capetonians are enjoying the river again, walking along its edge to soak up the last of the disappearing sun. "We underestimate the role of ecology in people's enjoyment of the river, and in bringing nature back into the city" says Dr Winter. That's part of the reason why some residents are pushing back, against developments that are pushing ahead.

An example is the Two Rivers Urban Park, located below Rosebank and Mowbray where the Liesbeek meets the Black

River at Observatory. Dr Winter explains that the location of the development is unsuitable, and is likely to impact flood levels of the river.

However, the river's right is now at least partially protected by the very residents of the city that developed around it. McLean says the Friends of the Liesbeek now has over 1 000 supporting members, on whose behalf they lobby for the conservation of the river through responsible development.

Eventually, the Liesbeek empties into Table Bay at Paarden Island, after its nine kilometer journey from source to sea. It would have followed this route for millions of years. It's only recently, as the city developed, that it faced such big changes, as with many other urban rivers around the world. Still, says Dr Winter, there is hope in the Liesbeek. "It's an urban river that's a good example of what others can be like too."

#### *Sources*

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