

LET'S FIX OUR RIVERS!

A COMPANION SERIES TO THE WRC COMPREHENSIVE
MANUAL FOR RIVER REHABILITATION IN SOUTH AFRICA



RIVER REHABILITATION CASE STUDIES

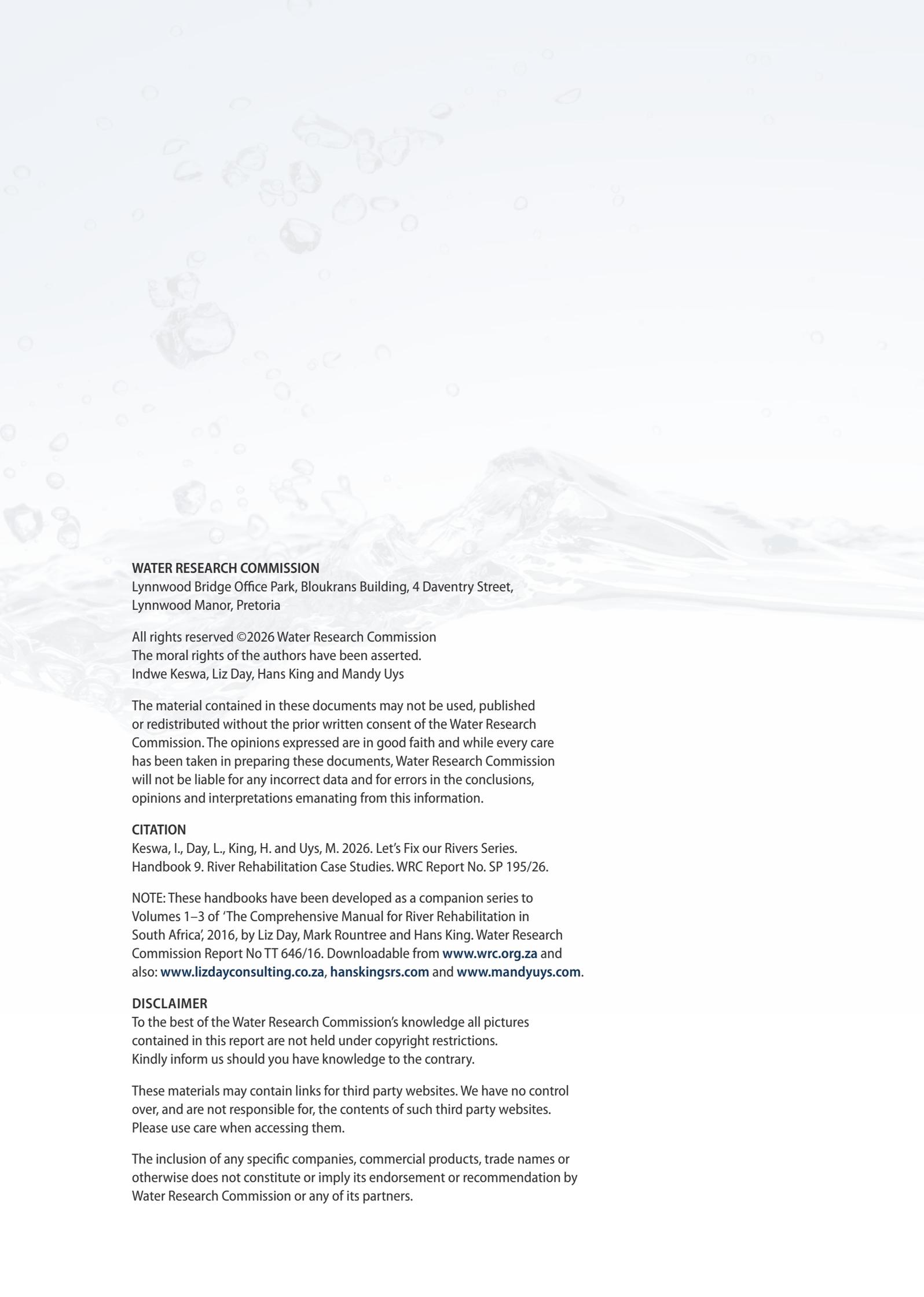
Indwe Keswa • Liz Day • Hans King • Mandy Uys

HANDBOOK

09



SP195/26

A decorative background featuring a large, dynamic splash of water at the bottom, with numerous smaller, translucent water droplets scattered throughout the upper and middle sections of the page. The overall aesthetic is clean and fresh, emphasizing water.

WATER RESEARCH COMMISSION

Lynnwood Bridge Office Park, Bloukrans Building, 4 Daventry Street,
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PROTECTING AGAINST BANK EROSION WITH GROYNES IN A LARGE LOWLAND RIVER. FRANKENHOF SITE, ON THE BUFFELJAGS RIVER



LOCATION:

Frankenhof site on the Buffeljags River near Swellendam, Western Cape, 34° 03 08"S; 20° 32 24"E

PROJECT FACILITATOR:

Western Cape Department of Agriculture

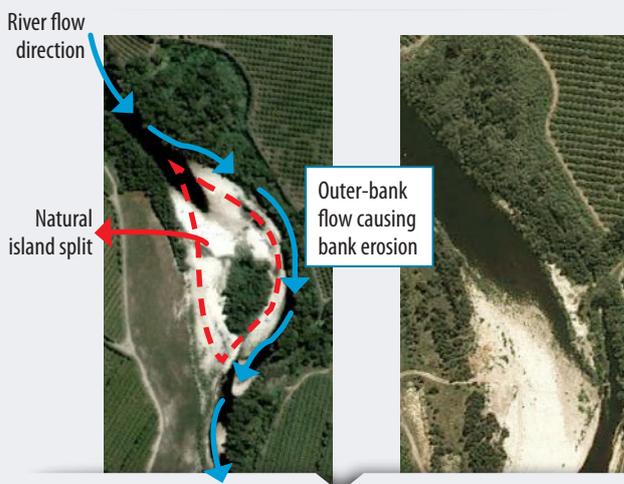


FIGURE 1: Historical Google Earth images of the site showing the progression of erosion on the outer bank in 2004 (*left image*) and 2011 (*right image*).



FIGURE 2: Close up view of the outer riverbank erosion in 2011 before rehabilitation.



Site description

The Buffeljags River, about 20 km east of Swellendam, flows south, collecting water from Barrydale and the Langeberg before joining the Breede River. Historically, it was a braided river with a wide floodplain (1–2 km). The river has since been confined to a single, narrow (20 m) channel, largely due to agricultural development.



Site problem

The concentration of flows in the river channel, partly due to alien invasion and the loss of deep-rooted, in-channel indigenous vegetation such as palmiet, had led to the deepening of the river channel. As the channel deepened, flood flows became confined within it, preventing them from spreading into the adjacent floodplain. This intensified flood velocities, causing severe erosion. The presence of invasive species such as black wattle and beefwood exacerbated erosion, by forcing the river to shift unpredictably, threatening farmland and infrastructure. In 2008, a major flood swept away a natural island at Frankenhof, accelerating bank erosion and increasing sediment build-up.



Rehabilitation method

The main goal of the project was to reduce river instability. This was achieved in two phases: first, by constructing groynes to create more sheltered zones along the riverbank and allow revegetation, ensuring long-term stability, enhancing biodiversity, and improving wetland habitat. A secondary goal was to protect the Frankenhof Farm from land loss.

Phase 1: Groyne Construction

In 2012, four rock-filled groynes were built to deflect water flow safely around the outer bend, preventing bank erosion. The structures were designed to be low-cost, visually unobtrusive, and adaptable to unstable foundations. Their construction method also supported local job creation.

Phase 2: Indigenous re-vegetation

This phase involved planting indigenous species between the groynes to reinforce the riverbanks, ensuring long-term sustainability and restoring natural wetland habitats.



Rehabilitation outcome

Since construction, several floods (including events up to a 1:20-year flood magnitude) have occurred, and the groyne structures have successfully redirected flows without causing damage to the banks. The success of this project lay in keeping the structures low but effective. However, a key challenge with phased projects has been that re-vegetation was sometimes neglected once erosion control structures were built, despite its essential role in ensuring long-term river stability and improving biodiversity.



Lessons to be learned from this case study

- **Groynes are highly effective** in controlling bank movement and creating a wider, shallower channel.
- **Re-vegetation between structures** is critical for long-term river health.
- **Phased projects must ensure all stages** are completed, including vegetation restoration.
- **Alien vegetation control** must be ongoing to prevent future erosion issues.



Groyne principles

Groynes can be used in many situations where lateral bank movement needs to be controlled. They are however most suited for application in situations where future channel migration must be permanently prevented at that location, as the groynes include an element of permanent river “training”. Thus, in situations where more natural approaches to addressing bank erosion still exist (e.g. reshaping and planting the bank without training structures) and can be practically applied, these natural approaches should be the preferred approach.



Soft options for river erosion

Soft approaches to erosion control rely on natural processes and vegetation rather than hard-engineered infrastructure. These methods are low-cost, easier to implement, and more environmentally friendly, though they often require more maintenance. The techniques used included:

- **Clearing alien vegetation** from riverbanks and floodplain areas to reduce erosion and allow indigenous plants to re-establish.
- **Reshaping riverbanks** through gentle landscaping to stabilise slopes and improve water flow.
- **Replanting with indigenous wetland and riparian species** to bind soil and restore ecological function.
- **Combining vegetation with temporary support structures**, such as geo-fabrics or biodegradable materials, to hold soil in place until the plants are fully established.



FIGURE 3: Post construction of groyne structures in 2012.



FIGURE 4: Historic Google Earth images of the site, showing the early impact of the groyne structures in 2014 (*left image*) and 2015 (*right image*). The structures substantially reduced the impact to the river channel, stabilizing the outer bank.



FIGURE 5: Aerial view of the completed first phase of the project. Vegetation has still to establish between the structures.

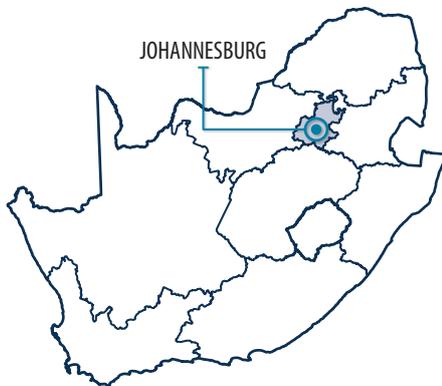


FIGURE 6: Groyne structures pictured during the first flood in 2012.



See WRC River Rehabilitation Manual, Volume 2 (Chapter 4.5.2) and Volume 3 (Case Studies: Case Study 3) for further details.

ADDRESSING CHANNEL DOWN-CUTTING (SCOUR) IN A RESIDENTIAL AREA. FOURWAYS GARDENS ON THE JUKSKEI RIVER



LOCATION:

Tributary of the Jukskei River; Fourways Gardens, Johannesburg; Gauteng, 26° 0' 4.55"S; 28° 0' 24.04"E

PROJECT FACILITATOR:

Chris Brooker (design) and Fourways Gardens Homeowners Association



FIGURE 1: Shown (above) is a photo taken in 2012 by C.Brooker illustrating the stream flowing through Fourways garden showing erosion and channel cutting along the bank.



FIGURE 2: A series of low rock weirs (above) were built to prevent vertical erosion (incision) and stabilize the river channel.



Site description

This case study focuses on a small tributary of the Jukskei River that flows through the Fourways Gardens residential area in the city of Johannesburg, Gauteng. Under natural conditions, it would probably have comprised a valley-bottom wetland. Catchment hardening, channelisation of watercourses and the encroachment of developments into the floodplain have however increased flood peaks and flow velocities along the watercourse. These changes resulted in erosion, threatening infrastructure in a private residential development.



Site problem

Changes in river flows in the Fourways Gardens area resulted in severe channel incision and the creation of deep, steep-sided gullies. The valley bottom wetlands gave way to a deep, eroding channel and ornamental ponds along the channel filled with unsightly sediment, while access roads eroded.



Rehabilitation method

The main objectives of the project were to reduce erosion and stabilise the river channel, to reduce sediment loads entering the dams, and to create a channel which could convey the large flood peaks arising from the upstream urban catchment. Within the constraints of an urbanised environment, there was also a strong desire to enhance river ecosystem condition:

- **Rock weirs** (small, professionally sized rock barriers) were installed along the river to slow water flow and prevent further erosion.
- **Large boulders and cobbles** were placed along the riverbanks and downstream of the gabion weirs to absorb water energy and reduce erosion.
- **Grading and Planting:** In between the weirs, the river banks were graded (generally to gradients of 1:4 or less), lined with loose rock riprap to stabilise the banks and prevent erosion and planted with indigenous vegetation to improve habitat.
- **Concrete and rock walls** were utilised in areas where space was too limited to allow for more natural slopes (1:4 or less steep). These were however confined to one side of the river only, leaving the opposite bank shaped more naturally.



Rehabilitation outcome

The project **successfully achieved** its main goals:

- The river channel is now stable, and erosion has been significantly reduced.
- The issue of sediment buildup (mud and debris clogging the river) has improved.
- Flooding is better managed.
- Landscaping and planting of the channel resulted in a river system that, while different from its assumed natural condition, has higher levels of instream and marginal river habitat diversity than before rehabilitation.

However, **some challenges remain**:

- The restored river is narrower than a natural river, which limits its capacity to support a wide range of plant and animal life.
- While the rock barriers effectively control erosion, they also create obstacles for fish and other aquatic species trying to move up- and downstream.

Despite these challenges, it is important to note that the project was carried out under significant space and budget constraints. Given these limitations, it successfully achieved a high level of rehabilitation and met its key objectives.



Lessons to be learned from this case study

- Fully restoring a river to its natural state in an urban environment is usually unrealistic. Instead, the focus should be on improving its condition while ensuring long-term stability.
- Urban rivers serve as important ecological corridors, providing green spaces for wildlife in heavily developed areas. Proper maintenance is crucial to preserving their function and ecological condition.
- Better urban planning is necessary to minimise the impact of development on rivers and protect downstream users from being forced to pay the price of unmitigated upstream development.



FIGURE 3: In-channel boulders, especially downstream of weirs, and plantings help to dissipate water energy and prevent erosion in the river channel.



FIGURE 4: Formerly steep, eroded banks were reshaped and reinforced with riprap and riparian vegetation to enhance stability.

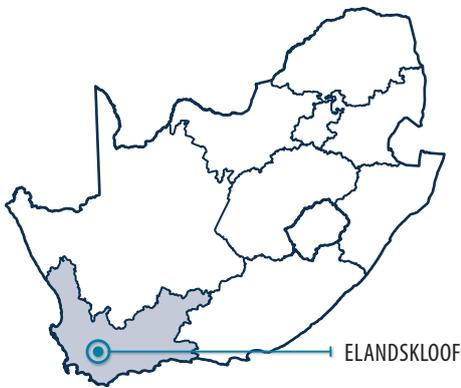


FIGURE 5: In areas where there was not adequate space for wide, shallow banks, vertical rock and concrete walls were built for protection.



See WRC River Rehabilitation Manual, Volume 3 (Case Studies: Case Study 4) for further details.

ADDRESSING HEADCUT EROSION IN A VALLEY BOTTOM WETLAND: TESSELAARSDAL PALMIET WETLAND



LOCATION:

Elands Kloof, between Caledon and Hermanus, Western Cape, 34°22'36.36" S, 19°31'25.77"E

PROJECT FACILITATOR:

Western Cape Department of Agriculture



Site description

The Elands Kloof River originates in the mountains above Hermanus and flows north through a palmiet wetland with a steep slope. In its lower reaches, just before merging with the Hartbees River (a tributary of the Klein River and Hermanus Lagoon), the river's floodplain consists of smallholdings with smallscale farming. This section had become overrun with alien invasive species, particularly black wattle (*Acacia mearnsii*), which had dominated indigenous wetland plants that naturally helped prevent erosion, by shading and drying out of soils.



Site problem

In 2003, a small dam built for watering horses was washed away during a flood. This triggered headcut erosion, carving a deep gully that progressed upstream. The Western Cape Department of Agriculture was called in to help stabilise the erosion, but the landowner refused to remove the invasive black wattle that was preventing native wetland vegetation from recovering. With limited funds, the Department opted to assist more cooperative landowners elsewhere.

Subsequent floods worsened the problem. By 2015, the gully had extended nearly a kilometre upstream and had reached depths of up to 13 metres. Over 600 metres of pristine wetland, once 100 metres wide, had been destroyed. The damage was not confined to the gully – floodwaters had carried sediment downstream, smothering another wetland area; clogging a bridge crossing; and redirecting river flow into its banks. This triggered new erosion, further destabilising the river. What started as a small dam failure ultimately led to severe degradation over several kilometres of the wetland.



Rehabilitation method

A major rehabilitation project was implemented to prevent further erosion and stabilise the remaining soil. The intervention aimed to slow the upstream degradation of the wetland while improving downstream stability. Additionally, it sought to partially restore some of the wetland's biodiversity, remove invasive alien vegetation, and reduce sediment flow from the catchment, benefiting the agricultural area.

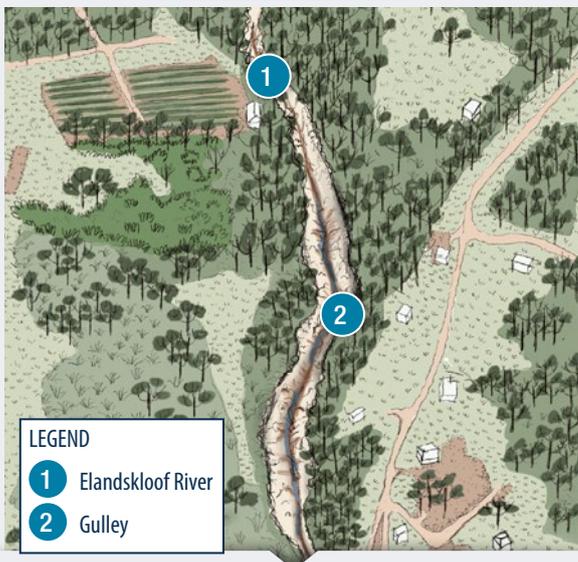


FIGURE 1: Landscape sketch plan of the site depicting the widened floodplain (gully) along the Elands Kloof River as it was in 2014.



FIGURE 2: The gully as it appeared in 2003.

The solution involved constructing five major gabion weirs, each about 4 metres high, to manage water flow through the gully. These weirs together controlled a 23-metre drop over 600 metres and were designed to withstand extreme floods. The project also reshaped steep gully walls into gentler slopes to support revegetation.



Rehabilitation outcome

This case highlighted the importance of early intervention. Rehabilitation efforts undertaken at an early stage would have been significantly more cost-effective, preserving larger upstream wetland areas while reducing sedimentation impacts downstream.



Post-construction condition

Vegetation establishment around weir structures is providing increasingly diverse habitat types and reducing the initial sterility of the structures (see Figure 6). The weirs trap sediment, which will build up in time and support an expanding wetland system. Plant establishment, including natural colonisation, has been most successful in the wettest parts of the system.



Lessons to be learned from this case study

This case study highlighted the extreme vulnerability of palmiet wetlands to rapid, catastrophic erosion. Once a small erosion point (knick-point) has formed, the peat soils – accumulated over many centuries and supporting highly endangered ecosystems – can be lost within just a few floods. The project highlighted the following key learnings:

- **The importance of early intervention** became clear in this case. In 2004, a failed dam caused a 2 m-deep gully, but the landowner’s refusal to remove alien vegetation led the Department to focus elsewhere. By 2015, the gully had expanded to 13 m deep and 600 m long, proving that earlier action would have been more cost-effective.
- **Rehabilitation at an early stage is considerably more cost-effective** than once erosion has progressed and once peat wetlands have eroded, the damage and ecosystem loss is permanent.
- **Palmiet wetlands are both resilient and fragile.** These wetlands can endure steep slopes and periodic high-water flows for many years. However, once the peat layer is undermined, they become highly susceptible to rapid and irreversible erosion. This highlights the need for proactive management to prevent such degradation.
- **Delays due to regulatory compliance worsened erosion.** The need to comply with the National Water Act and NEMA significantly delayed rehabilitation efforts. While these regulations are essential, the slow approval process allowed erosion to escalate, leading to severe wetland loss.
- **Active engagement with landowners is critical.**



FIGURE 3: The gully, located 1 km upstream in the catchment, as seen in 2015.

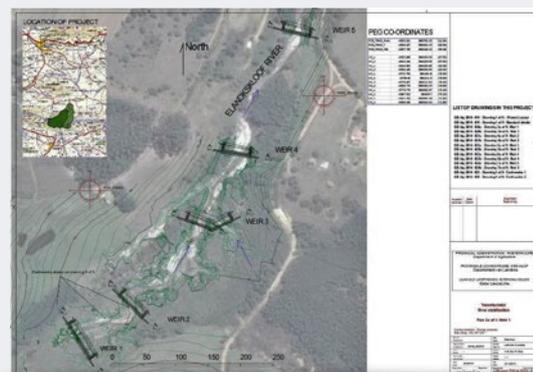


FIGURE 4: Shown above is the plan of the site indicating where the gabion weirs were constructed.

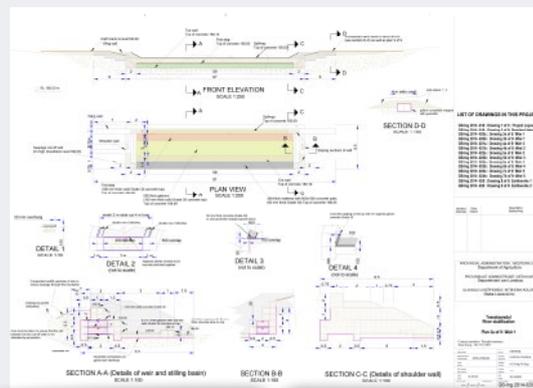


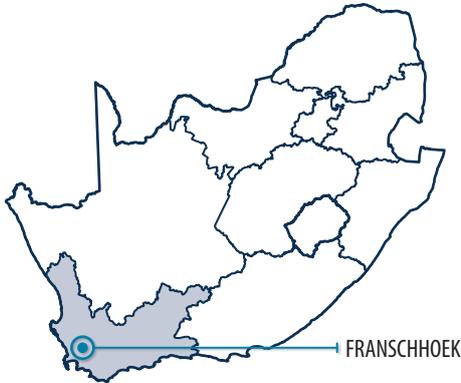
FIGURE 5: Technical construction detail drawings of the weir structure showing the front view (top) and the top view (bottom).



FIGURE 6: Post construction photo of the weir structures with vegetation growth taking place.



See WRC River Rehabilitation Manual, Volume 3 (Case Studies: Case Study 8) for further details.

**LOCATION:**

Franschhoek, Western Cape, 33°52'0.90"S, 19° 0'4.28"E

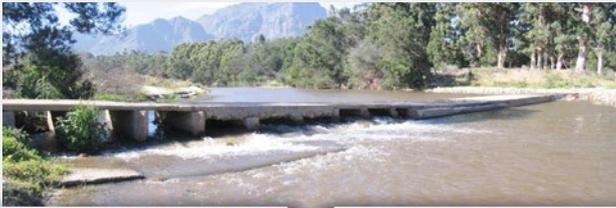
PROJECT FACILITATOR: Private landowner

FIGURE 1: Original causeway crossing over the Berg River. View looking upstream, with the left-hand bank visible on the right side of the image.



FIGURE 2: New culverts installed on original causeway, ca 2011. Raised approach road and gabion baskets visible on far left bank.



FIGURE 3: Changes to the Berg River causeway imagery from Google (2011–2012). *Left image (2011):* The original low-level causeway with the river's flow direction indicated by the arrow. *Right image (2012):* The causeway (highlighted in red) raised with culverts and the road extended into the channel on the left bank using gabion stabilisation. Note the removal of alien vegetation.

ADDRESSING BANK EROSION USING RIPRAP: BERG RIVER BANK STABILISATION PROJECT



Site description

The Berg River, in its foothill reaches, historically supported Palmiet (*Prionium serratum*) islands, vegetated margins, and a sequence of cobble riffles and pools. However, upstream impoundments, irregular irrigation releases, and agricultural activities altered the river's dynamics. These changes led to channelisation, floodplain infilling, formation of levees, and the loss of indigenous vegetation along the riverbanks and floodplain.



Site problem

An unauthorised road crossing was built over a previously damaged low-level causeway on the Berg River, near Franschhoek, Western Cape. This raised the height of the structure, using multiple culverts. The alteration caused debris to build up on the upstream side during high flows, obstructing the river. Additionally, the approach road was extended into the lowflow channel using gabion baskets. Within two years, floods outflanked the gabions, cutting a secondary channel through the approach road and the floodplain wetland. Logs and branches from upstream alien clearing exacerbated the situation by forming debris dams above the culverts, further redirecting river flow into the eroded secondary channel. In response, the causeway was re-extended in 2012 with larger culverts, but by 2013, another flood scoured the left riverbank, creating a 2–3 m high vertical bank. This ongoing erosion not only caused ecological damage but also threatened nearby Eskom infrastructure and valuable agricultural land. Future floods were expected to exacerbate these effects.



Rehabilitation method

The project aimed to stabilise the Berg River's eroded banks while maintaining the newly formed secondary channel and promoting the growth of stabilising marginal vegetation. The intervention combined bank reshaping, riprap placement, and vegetation establishment, covering 140 m of riverbank and an area of approximately 1,540 m². Initially, 555 m³ of protective material was spread at an average depth of 360 mm, sloped at a 1:4 grade. However, during implementation, the bank was further reshaped to a gentler 1:6 slope, requiring additional material and higher construction costs.

To protect a vulnerable Eskom pole near the eroded riverbank, an extra riprap barrier was installed. A 0.5 m deep trench was excavated along a 10 m stretch and filled with boulders to stabilise the steep slope. Large boulders unsuitable for riprap were placed in the eroded secondary channel to enhance habitat diversity. Vegetation was planted to stabilise the rehabilitated area, focusing on Palmiet (*Prionium serratum*) along the lower bank. Within six months, these plants had established stable stands. Indigenous riverine species naturally recolonised the lower bank, while the upper bank was planted indigenous species, requiring hand irrigation for at least one summer.

Specialists involved in rehabilitation

The project involved collaboration between an engineer with river rehabilitation experience, a river and wetland ecologist, a landscaper, a contractor, and an Environmental Site Officer.



Rehabilitation outcome

The intervention **successfully stabilised the riverbank and floodplain** while improving biodiversity and reconnecting the floodplain with the river channel. The secondary channel, created by the 2012 floods, was retained, contributing to habitat diversity and reducing concentrated downstream flows. The riparian and marginal vegetation established along the rehabilitated banks provided better quality habitat than surrounding upstream and downstream reaches, demonstrating effective bank stabilisation without relying on hard-engineered structures.

Despite these successes, **the project faced significant challenges** during implementation. Rising river levels due to the imminent rainy season restricted the extent to which excavation could be carried out, limiting reshaping efforts in the secondary channel. As a result, the channel remained straighter and more homogeneous than planned. This channel could not retard floodwaters in the way intended, nor did it support diverse habitat. Additionally, coordinating a multidisciplinary team of consultants, clients, and contractors proved difficult. Many critical decisions had to be made on-site with limited time for deliberation, increasing the risk of miscommunication and delays. The need for additional riprap material and adjustments to the bank slope further extended construction timelines and raised costs.

The relatively mild 2014 wet season allowed vegetation to re-establish without immediate flood-related setbacks. In the final analysis, the works resulted in improved river bank resilience and condition.



See WRC River Rehabilitation Manual, Volume 3 (Case Studies: Case Study 19) for further details.



FIGURE 4: Progressive erosion of the left bank. Imagery from Google (2012–2014). **Left image** (October 2012): The causeway was outflanked on the left bank, leading to the formation of a new channel. With no structure in this area, the channel became the lowest point of the crossing and the preferred flow pathway. **Right image** (January 2014): Flooding in August 2013 caused severe erosion of the left bank, endangering infrastructure (Eskom line) and creating an unstable channel prone to further erosion and bank collapse.



FIGURE 5: Severe erosion of left bank after August 2013 high flows. Steep undercut banks, ranging from 2 to 3 metres high, formed along the left side of the eroded channel.



FIGURE 6: Rehabilitation activities underway in May 2014, viewed looking upstream.



FIGURE 7: Rehabilitated Channel (January 2015). The floodplain was regraded, stabilising previously eroded areas, though the lefthand (secondary) channel remained relatively straight. The secondary channel on the left bank was retained following road repairs.

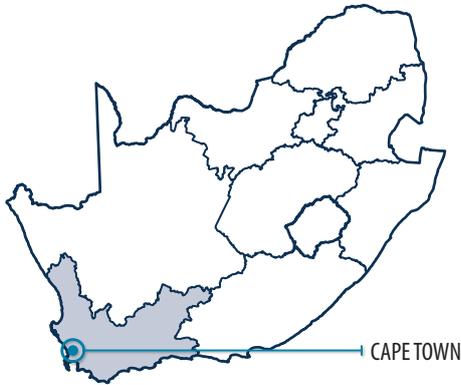


FIGURE 8: Rehabilitation focus: vertical, unstable river banks were targeted for reshaping, riprap lining, and vegetation establishment. The view is downstream, with the newly eroded channel visible on the right side of the photograph.



FIGURE 9: Post rehabilitation; **Left image:** Palmiet was planted in angled rows, extending into the floodplain. Cut stolons were secured to wooden poles and anchored beneath the substrate with rocks. The most successful resprouting and fastest growth occurred in the wettest zones near the channel, though these areas were also more susceptible to flood damage. **Right image:** View downslope of regraded and riprap-lined river bank, six months after rehabilitation.

REHABILITATION OF AN URBAN CANAL (LOWER LIESBEEK RIVER)

**LOCATION:**

Liesbeek River, Observatory, Cape Town

PROJECT FUNDER:

Liesbeek Leisure Trust

CONSULTANTS:

Aurecon, Planning Partners, Liz Day Consulting, SRK Consulting, Vula Environmental Services, Marius Burger, Dr Tony Williams



FIGURE 1: Liesbeek Canal before rehabilitation.



FIGURE 2: Another view of the Liesbeek Canal prior to rehabilitation.



Site description

The Liesbeek River in its reaches through the site of this case study is a lowland river, and flows on a gentle gradient. The river confluences with the polluted Black River on the downstream site boundary. Water quality in the Liesbeek River is however relatively good, although upstream abstraction and urban runoff from streets, parking areas, gardens and occasional sewage ingresses do impact on it. The catchment does not receive runoff from any major informal settlements or WWTW discharges.



Project background

This project formed part of the conditions for Environmental Authorisation of a major commercial development. The Liesbeek River flowed in an artificially aligned concrete canal through the site, while its remnant natural channel remained as a cutoff backwater wetland, disconnected from the upstream channel outside of major floods, when it connected via the floodplain.

The project objective was to remove the concrete canal and create a naturalised river with sufficient space to contain the 1:100 year flood without incurring damaging erosion and channel incision.



Rehabilitation method

The river was diverted into an excavated channel, allowing works to commence within the canal.

These works comprised:

- Removal of the concrete canal sidewalls and floor;
- Replacement of the righthand canal wall with gabion lining – this was because the adjacent land, which supported important endemic plant species, sloped steeply down to the canal margins, making excavation of flatter side slopes unfeasible;
- The gabion included an undulating, gabion-reinforced planting space, with the upper level set just above summer base flow height, so that

plants could root into the water table. This area was filled with top soil and planted with Palmiet (*Prionium serratum*) and *Mariscus thunbergii*;

- The final part of canal removal allowed for the removal of the left hand canal wall, and reshaping of the channel, river margins and river bank;
- Riverine planting used indigenous plant species, grown from propagules sourced within a 20 km radius of the site;
- Planting layout aimed to achieve a natural planting effect with a variety of plant heights and densities;
- Summer planting meant that irrigation was required until plants were established;
- The gabion walls on the right hand side of the river bank included plastic tubes, extending from the outer edge of the gabion through to 15 cm beyond the gabion wall, and sized to allow nesting by Pied Kingfisher and Malachite Kingfisher. This was an experimental application and its success will be determined over the next few years.



Rehabilitation outcome

Rehabilitation resulted in the establishment of a stable river bed and bank, that provide a medium to high diversity of habitat and (in 2024/2025), even in early stages of establishment, withstood major floods, demonstrating high river resilience. The rehabilitated channel provides habitat for aquatic invertebrate species not previously present and foraging habitat for birds and fish. It also improves ecological connectivity between the river and wetlands to the east and west.



Challenges

Major challenges outside of litigation around the project as a whole included a high reliance on modelled flow data, on which river zonation and planting plans had to be based; challenges in establishment of good plant cover in the gabion planters; and colonisation by invasive vegetation from upstream (mainly *Ludwigia* spp.) as well as solid waste accumulation, highlighting the ongoing need for high levels of river maintenance going forwards.



See WRC River Rehabilitation Manual, Volume 3 (Case Studies: Case Study 14) for further details.



FIGURE 3: Shaping of diversion channel (foreground) allowing concrete removal in canal (background).



FIGURE 4: Removing the concrete canal, with gabion lining and planters already installed along the right-hand side of the channel.



FIGURE 5: Gabion planters in early construction phase. See also Handbook 3, page 23.



FIGURE 6: Early planting along the rehabilitated Liesbeek River.



FIGURE 7: Rehabilitated channel approximately eight months after planting.



FURTHER RESOURCES

Watch 'Turning a canal into a river – Liesbeek' <https://www.youtube.com/watch?v=A1EVRPjuPU0>

The River Restoration Centre Manual of River Restoration Techniques.2020. *This is a great resource which includes a large number of case studies of restoration projects across the United Kingdom.* <https://www.therrc.co.uk/manual-river-restoration-techniques>

Volume 3 of the Rehabilitation Manual. This volume includes 24 river rehabilitation case studies, described in more detail than those included in this handbook.

The Society for Ecological Restoration (SER) includes case studies from around the world, updated as "Restoration stories" on an ongoing basis since 2021. Visit: <https://www.ser.org/>

Also see UK case studies for river rehabilitation, in The River Restoration Centre's "Manual of River Restoration Techniques". Visit: <https://www.therrc.co.uk/manual-river-restoration-techniques>

LINKS TO THIS SERIES

HANDBOOK 1 for information about how to approach river rehabilitation projects and the kinds of information needed to inform it.

HANDBOOK 2 for a discussion on how to assess your river and understand its drivers and help to identify potential causes of the problems observed.

HANDBOOKS 3–8 for ideas on how to address a range of different issues affecting rivers. Of these, Handbooks 3 (Rewilding); 4 (addressing channel erosion) and 6 (Addressing changes in river channel, floodplain and wetland form) are most relevant to the case studies described here.

The Case Studies presented here are intended to highlight examples of what can be done in a river to rehabilitate it. They include both comment on success and critiques of what might have been improved. Remember that monitoring of rehabilitation outcomes over time is a critically important aspect of rehabilitation, and adds to our body of knowledge about rehabilitation practice.

ACKNOWLEDGEMENTS

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Fourways Gardens stream; Right (Top) Plant establishment on the Buffeljags River, Frankenhof Farm site; Right (Bottom) Canal removal in the Liesbeek River (January 2024).

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