

Changing Fortunes for Gowrie Creek, Toowoomba

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ABSTRACT

Toowoomba's Gowrie Creek, East Creek and West Creek were once part of a swamp and a haven for wildlife. It was called Tchwampa, the Swamp. Human settlement at nearby Drayton in the mid 1800's, followed by the movement of people shortly after to be nearer to the water, brought about an irrevocable change to the swamp. In approximately 10 years, the swamp became "green and oozy". Environmental changes and degradation to Gowrie Creek were commencing and these "odds" came from the impacts of settlement close to the water. The "odds" resulted from the removal of trees by timber-getters, fouling by bullocks crossing the creeks to journey eastwards to Brisbane and outputs from industries such as tanneries, sawmills and soap makers. Other "odds" from pollution by people living near the water, resulted in regular occurrences of typhoid and diphtheria. To remedy the situation, the swamp was drained by the late 1870's. Continued growth and activity in the city in the 1900's saw expansion in residential and light industrial areas snaking like a ribbon along the creek system. The creek system continued to be vastly altered by becoming a concrete and bluestone lined channel in parts, and combined with the topography and the increase in impervious surfaces, flooding, erosion and water quality issues emerged. Emphasis and desire to "even out the odds" for Gowrie Creek was driven by the community and industry who had interest and concern for the creek. A catchment management strategy was developed for Toowoomba City Council to revitalise and manage the creek system in 1996. A 30-year vision to improve the creek system emerged. A strategic planning and design process by Toowoomba City Council for integrating the needs for functional, habitat, aesthetic and recreational aspects of the creek commenced. By 2004, as the City celebrates its centenary, we have started to "beat the odds" for the creek system. This riparian area now has many strategies in place for improving creek habitat, function and health for the future. Different needs to be incorporated include community interest; maintaining our natural resources; managing riparian areas and the creek network in the city and reporting on creek health and other environmental aspects. Management actions by Toowoomba City Council in the Gowrie Creek network are aiming to "beat the odds" by involving people and attracting our community to the creek for recreation and open space appreciation, to value our city's cultural heritage, to assist in welcoming the return of native fauna and flora, to recognise the stormwater management requirements through creation of detention basins and wetlands, to involve our community to clean up and revegetate, and by becoming aware of community behaviour to manage and reduce any impacts. The Gowrie Creek network does have environmental challenges and has

the potential as a unique water feature of our city, and now has the community vision with a catchment management plan in place. It has the passion and aspirations of our community behind it to “beat the odds” and to make Gowrie Creek our waterway into a habitat that is clean, healthy and attractive.

KEYWORDS

Toowoomba, Gowrie Creek, catchment management, community and industry participation, Murray Darling basin, creek restoration challenges, riparian corridors, local government, waterfronts.

INTRODUCTION

Gowrie Creek is the largest of Toowoomba’s urban creeks, at the headwaters of the Murray Darling system. On a local scale it traverses the suburbs and the CBD area. Gowrie Creek’s odds became a collective community concern for its ecological integrity in 1996, as flooding and erosion; water quality and habitat threats were posed. One of Gowrie Creek’s fortunes is a strategy for the Gowrie Creek catchment (Toowoomba City Council, 1998), which potentially spans some 30 years, requires many millions of dollars and will need to be sustained by the passion and drive of the city’s champions (Thorley, Ramia, Filet and Curtis, 2003). Currently, Toowoomba City Council is six years into the 30 year program, which has the following components:

1. flooding and erosion control;
2. water quality protection;
3. ecology and habitat improvement;
4. open space, recreation and aesthetics provision;
5. land use improvement; and
6. education and community awareness of the strategy.

BEATING THE ODDS

Recognising the challenges

Beating the odds has involved significant strategic and operational planning, seeking funds, gaining political support, creative design, incorporating science and engineering, recognising cultural heritage and inviting the community to be involved. Previously, questions and possible solutions as to whether urban creeks are restorable have been raised (Thorley, Ramia, Filet and Curtis, 2003).

Council is facing many challenges with the implementation of this Strategy. There are different sections of the creek and as some are completed, plans for the next stages emerge for other creek sections. In 2004-2005, implementation of catchment management concepts in the near CBD area of the West Creek tributary is commencing. This is a highly urbanised environment and has challenges, with respect to the naturalness of the design, finances, combined uses, public safety, ongoing maintenance requirements, existing infrastructure and traffic flow.

Public ownership of the creek

Gaining public ownership of the creeks assists in controlling the management of riparian areas and beating the odds of previously incompatible land uses. As an initial step to protecting existing natural vegetation and considering enhancing riparian vegetation in the future, the Toowoomba Planning Scheme has reserved a riparian corridor along all creek sections as future open space. This is a significant move and requires a staged approach for the acquisition of land as it becomes available. Such a change in land use from commercial and light industrial activities is another strategy initiative. However, it requires significant funding of the acquisition program, and is a long-term activity. The acquisition program is currently funded through both a loan and the environmental levy generated from all rateable properties in the city (Toowoomba City Council, 2003a).

Most of the riparian corridor acquisition has occurred in the lower CBD reaches of Gowrie Creek. There do exist significant sectors of East and West Creeks (which are not in the CBD area) that are also reserved as grassy parks fronting the concrete-lined channel.

Managing creek flows through detention basins

In addition to creating a public riparian corridor, a major component of the Strategy is to create detention basins and wetlands; this has commenced in the West Creek area. The wetland/ detention basin areas are a key part of managing stormwater, improving water quality, reducing the sediment and nutrients flowing down the creek and reducing flooding in downstream CBD reaches. These basins occur on:

- West Creek:
 - at Spring St (38 ML capacity);
 - between Alderley and Stenner (two basins 28.5 and 27 ML);
 - upstream of Alderley Street (100 ML); and
 - at Clewley Park (approx. 38.4 ML)
- East Creek:
 - at the WaterBird Habitat (19, 9.5 and 44 ML); and
 - Lake Annand (29 ML).

Enhancing riparian areas

The vegetation of the Gowrie Creek network has experienced the odds and is vastly altered from its original state as a swamp and now includes a combination of:

- areas of grassy cleared banks in urban parks;
- eroded banks with environmental weeds;
- created wetlands;
- revegetated areas; and
- more natural areas downstream.

Re-establishing riparian vegetation

A program of re-establishing riparian vegetation has been initiated and is a challenging program consisting of different sections, different condition of existing vegetation and the required degree of naturalness in sections.

Younger revegetated areas exist at the top of West Creek at the Murray Clewett wetlands, which includes the Spring Street sedimentation and detention basin. Revegetation in this area has included native species of rushes, sedges, reeds, grasses and trees.

Older revegetated areas exist at the WaterBird Habitat on the upper reaches of East Creek. A wetland covering 7.6 hectares incorporating three permanent lakes and a shallow lagoon were constructed as a Bicentennial project in 1998 and are located in a fenced environment to protect the waterbirds from domestic animals. The depth of water varies, with some areas reedy and shallow, and reliable island refuges exist for waterbirds.

Other waterfront areas exist, such as the more-established area at Lake Annand, which was designed as a formal urban waterfront park with grass banks facing a concrete-lined waterbody with water features. Its function as a sedimentation basin adds to water quality improvements, except that this has an island that encourages water birds and therefore raises nutrient levels in the water. Lake Annand has high visitation rates by residents and tourists, and features as a less natural riparian area.

In lower downstream reaches of Gowrie Creek, revegetation and rehabilitation activities include reducing the level of weed infestation and replacing lost and fragmented habitat. These areas include the corridors in the Griffiths Street and Hogg Streets areas. Griffiths Street Bushland Park is an open grassy area of approximately 10 hectares in size, and four years ago this area was replanted by GreenCorps and community groups with native trees and shrubs including acacias, eucalypts, callistemons and lomandra. Sections of this planting are now maintained by community and school groups. A detention basin planned for Griffiths Street will help to reduce erosion and flooding in this area also in the future.

Further downstream towards the city's northern boundary is an important creek reach, containing the Cranley Woods remnant bushland. This is a small remnant of approximately 6.5 hectares in size, an open grassy woodland which has been grazed and lightly cleared in previous times. The goal for the area is to enhance the quality of the remnant and its habitat values by reducing the effects of bank erosion.

In all revegetation work along the creeks, there have been challenges which have affected the success of this activity, including:

- the untimeliness of grants to provide funds for revegetation works which has not coincided with favourable environmental conditions for the establishment of plants;
- insufficient consideration for a monitoring program to assess effectiveness of wetland;
- acknowledging the challenges to achieve a successful design and the selection of appropriate flora species;
- a need to re-assess upper reaches and constructed wetlands for presence or condition of habitat;
- variation of community interest in creek activities;
- a need to have a regular long-term commitment for funding supported by community capacity;
- a requirement for ongoing monitoring of the erosion or bank stability;

- a need for ongoing funding for the maintenance of re-established riparian areas;
- the recognition that revegetation has commenced, but further funding is required to consider establishing new riparian areas;
- the consideration of the involvement of corporate enterprises situated near or by the creek to be involved in riparian reestablishment and care;
- limited access to some areas of the creek in the downstream reaches is a reflection of the steep eroded bank or the lack of public ownership; and
- consideration of how to retain a need for continuing awareness and engagement with the community.

Raising awareness by creating waterfronts including recreational use

On a different note, the creation of waterfronts can assist in raising awareness of the creeks and seeing a change or a new fortune for the creek. To commemorate Toowoomba's celebration of the City's Centenary in 2004, Clewley Park along West Creek was an open space chosen for changing into a waterfront place suitable for recreation and aesthetic uses by the people of Toowoomba (Toowoomba City Council, 2003b). The Park is to celebrate life in Toowoomba – the Garden City, and represents a gift to the community. It will be an important element in the Gowrie Creek Catchment Management Strategy, providing flood mitigation and water quality improvements, diverse recreation opportunities and enhanced wildlife habitat.

The Gowrie Creek Catchment Management Strategy planned for a detention basin to be constructed along this western portion of the creek sector, and with some modifications, this four-hectare creek space will now incorporate a detention basin and a permanent water body. Detention basins function to slow down urban stormwater thereby improving biodiversity and reducing flooding and wetlands filter out nutrients and pollutants as well as provide a space for new forms of recreation.

Clewley Park will have a permanent waterbody (at the base of the detention basin), which allows for:

- an emphasis as a waterfront park - to make it different from existing parks – by including more contemporary elements;
- appropriate vegetation (to be planted to give a natural appearance of the water body) to provide education, play and bird habitat to be established;
- boardwalks, bridges and viewing platforms to be placed to provide a connection between park areas or simply to enjoy and explore; and
- retention and respect for the cultural heritage bluestone character of the existing West Creek channel walls.

The recreational uses available within Clewley Park are varied and these facilities will cater for a range of community groups, in particular nearby hospital visitors, workers in the area, families and young people. The waterfront park incorporates recreational opportunities of:

- a Centenary garden as a reflective spot for hospital patients or visitors and an unwinding spot for nearby workers (hospital, light industry and commercial);
- a Centenary Walk with high-pruned tree trunks to create visual safety;
- a viewing area at the highest point of the site;
- flat areas for kick-around or events;

- picnic shelters, tables, barbeques and benches mindfully placed to encourage nearby workers to use the park and sitting nodes for larger sized groups (e.g. weddings, concerts);
- the location of children's playground near the shelters to enable supervision of those playing;
- open grass hillsides, dining terraces, grassed levee banks; and
- nearby shared pathways.

The planning and design of the park has addressed some environmental management issues such as:

- restricting irrigated turf to areas used more intensively and planting native grasses and understorey in other areas;
- providing a grassed area as a buffer to the watercourse;
- having the opportunity to use solar power for lighting;
- providing a wetland to improve water quality;
- optimising habitat value by maximising the perimeter of the waterbody;
- planting of street trees and avenue trees in the park;
- planting the banks of the creek to soften the channel edges (bluestone) and thus providing a safety barrier; and
- including water management features for pond water balance and water quality treatment.

Stage One of Clewley Park is the Centenary gift to the city. The Gowrie Creek Catchment Management Strategy is a 30-year vision and will have continuing catchment planning processes. Stage Two of Clewley Park targeting the future 2012 period is another future fortune for the Gowrie Creek network.

Channel improvements lead to CBD waterfront places

Moving further down West Creek from Clewley Park is the city centre or CBD reach, where severe modification of the creek network has historically taken place and the area is highly urbanised. As part of the Gowrie Creek Catchment Management Strategy, a Master Plan for this West Creek corridor was developed (Toowoomba City Council, 2003c). The city centre is around the creek, with transport routes and major streetscapes having impact. The creek corridor here presents an opportunity to become a major attractor within the city centre and to link the eastern with the western areas of the corridor. This corridor will have the greatest intensity of use and visibility from pedestrians, motorists and users of this area. The existing park adjacent to the library, Alford Place, is to be the focal point and will re-emerge as a well-utilised, high quality urban space attracting people and affording them an opportunity to appreciate this waterfront (Toowoomba City Council, 2003d).

The landscape will have a more urban character in this area. The waterfront will comprise built channels, retaining walls, permanent water through stepped weirs, hard paved surfaces and underground power. The waterfront would be met by corridor areas of formal tree plantings (both in the street and within the park). The recreation uses will be emphasised by cycling, walking and sitting on seatwalls and on terraces – a place for city workers, visitors, shoppers or as a meeting place for people.

In addition to providing concepts for Alford Place, this Master Plan outlines future works in three street sectors moving downstream, however, still in the commercial precinct. Here, the waterfront is intended to be more natural, with the continuation of stepped weirs, planted banks, a promenade, retention of heritage fencing and possible development of businesses facing the creek.

Consulting with community

Planning, design and construction aside – consulting with the community is a sure thing to help beat the odds. Community awareness and support are also part of the fortunes for Gowrie Creek. Council has sought community feedback on the West Creek Corridor Master Plan, and specifically has liaised with the Council's Environmental Advisory Committee and Council's Gowrie Creek Cultural Heritage Advisory Group. There is an interest in the environmental and cultural heritage issues (from traditional owner and non-indigenous perspectives collectively). Creating improved waterfront places for people and combining environmental protection are valued. Recognition of continuing to keep the Gowrie Creek vision alive and active is important.

Awareness of cultural heritage

Research plays another part to assist in beating the odds. The social and environmental history of Gowrie Creek has been well-researched (in Toowoomba City Council, 2003d). There are major themes, which have influenced the changes to East, West and Gowrie Creeks over time. These are the people; exploration, settlement and roads; draining of the swamp; land sales; agricultural activities; use of natural resources (initially water supply for the city followed by timber and rocks); development of industries and infrastructure; urban development (roads, bridges, parks and gardens; and social and cultural life. It has been suggested that the creek has been responsible for shaping Toowoomba's economic, social and cultural development.

A recent study (Toowoomba City Council, 2003d) assessing cultural heritage values centred in the Gowrie Creek network in 16 zones of the whole catchment recorded many aspects such as:

- landscape modification;
- historical heritage significance;
- heritage listings;
- indigenous and non-indigenous archaeological potential; and
- indigenous and community cultural significance.

Of the 21 km of creeks in the Gowrie Creek network:

- five of the 16 zones have potential archaeological significance;
- nine zones have medium to high cultural indigenous significance; and
- six zones were of a medium to high historical significance.

The obvious importance of waterfronts for people also emerges with a historical basis.

The zones where 2004 developments are taking place have low archaeological potential with very heavily modified waterways, although there are nearby specific locations of historical significance, which will not be affected (i.e. Stephen St bore).

Ongoing community participation

The participation of groups and individuals in the community are also an important way to assist in beating the odds. Council continues to work with schools and groups in the catchment. Council involves them in catchment issues, monitoring of macroinvertebrates and water quality at the waterfront, familiarisation with fauna and flora, walking tours and opportunities to revegetate creek sectors. This component of the Gowrie Creek Catchment Management Strategy links well with Council's other environmental education programs in other areas of bushcare, bushcapades interpretative program, land for wildlife, recycling and waste reduction programs. The local landcare and environment groups, service clubs, schools and individuals all have interests in the creek network and waterfronts.

CONCLUSIONS

The Gowrie Creek network does have some odds or environmental challenges, has the potential fortune to be a unique water feature of our city, and now has the community vision with a plan and design aspects in place. It has to retain the passion and aspirations of our community behind it to "beat the odds" and to make Gowrie Creek **our** waterway into a habitat that is clean, healthy and attractive.

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ACKNOWLEDGEMENTS

The contribution of many officers in the sections of Strategic Planning, Parks and Recreation, Design, Project Services and Environment and Health to the concepts presented in this paper is acknowledged.