
RIVERVIEW

*The Swan Canning
Riverpark's magazine*

ISSUE 4



FEATURES

The changing face of our rivers

Gone crabbing

Birds of a feather

Monitoring the heartbeat of our rivers

WELCOME

We have another varied offering of stories in this fourth edition of RiverView, reflecting the multiple values the rivers hold for the Perth community.

You don't have to look hard to see the major transformation taking place around the river near Perth. We have included a snapshot of developments such as Elizabeth Quay, Waterbank, Point Fraser, the new Perth Stadium and Belmont Racecourse which will have a massive bearing on how our city relates to the river.

Naturally, the Trust works closely with planners and developers to ensure these developments meet environmental standards and to ensure high quality outcomes for the community and the long term health of the waterway.

The Riverpark's aquatic user landscape has also changed dramatically and new wave sports such as kiteboarding, stand up paddle boarding and wakeboarding have changed the way we recreate on our rivers. These sports have brought with them new freedoms, technologies and recreational challenges that will unfold over the next decade.

Our feature on monitoring the rivers' heartbeat gives a glimpse into the critical work the Trust does with its key partner, the Department of Water.

Each and every week we measure the health in the Swan and Canning, not to collect numbers merely to fill reports – we use this information every week to help make informed management decisions about the river in both the immediate and the long term.

This edition has some remarkable photographs of life in and around the rivers. We have a magnificent sample of photos from this year's River Guardians photography competition.

It was another year of record entries – and with the privilege of being a



judge I can attest it just keeps getting harder to pick the winners from such an array of talent.

We have more amazing bird photographs with Mike Bamford's piece on our feathered friends – what Mike doesn't know about birds on the rivers is probably not worth knowing.

Mike makes reference to the osprey nesting tower recently installed at Pelican Point through the efforts of the Swan Estuary Reserves Action Group and others. I was lucky to attend its official unveiling and was happy to learn that within two weeks of the tower's installation a pair of prospective osprey tenants was making inspections. Build it and they will come.

As always, I acknowledge our many partners who make all this work possible.

Reflect for a moment on people such as volunteers Richard and Jo Stone featured in our Canning River story on page 39 who have devoted so much of their personal lives – *a quarter of a century* - to the well-being of the Riverpark. Where would these precious waterways be without people like that?

Rod Hughes
General Manager
Swan River Trust



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Contributions and comments are welcome and should be sent to miranda.holker@swanrivertrust.wa.gov.au

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*NGAALA KAADITJ WHADJUK MOORT KEYEN KAADAK
NIDJA BOODJA.*

WE ACKNOWLEDGE THE WHADJUK PEOPLE AS THE
ORIGINAL CUSTODIANS OF THE LAND AND WATERS.

THE WATERSPORTS REVOLUTION



Traditional watersports such as rowing and sailing were born in the Swan River during the 1880s and still enjoy strong followings today. But in the past 10 years new wave sports such as kiteboarding, stand up paddle boarding, sea kayaking, wakeboarding and jetskiing have transformed how aquatic users interact with the Swan and Canning rivers.



Wakeboarding is visually exciting and has really connected with young river revellers. Picture: Luke Baker. Previous page picture of kiteboarding by Matt Kleczkowski.

Story: Mark Thornley

Not since windsurfing first became popular in the 1990s has there been such an aquatic revolution. Colourful, spectacular and extremely mobile, these new watersports offer river users unprecedented access to popular and remote Swan Canning Riverpark destinations.

Rather than driving their cars people now kayak or paddle board to riverfront restaurants, cafes, events and friends' houses.

Breaking the traditional sports club model, enthusiasts can now choose to launch from many riverfront locations, setting their own course through the jostling Riverpark.

Apart from an obvious increase in aquatic traffic these watersports have introduced new technologies, new events and new challenges to the Riverpark's aquatic user landscape.

Like any significant environmental change many issues have begun to emerge including user group conflict, foreshore erosion, varying interpretations of watercraft rules, council parking dilemmas and commercial operator licensing.

The Western Australian Water Ski Association (WAWSA) estimates

around 5000 people are using the Swan and Canning rivers at various times to recreate by some means of watersport - a rapid increase since waterskiing began on the Swan and Canning rivers almost 70 years ago.

"Certainly having newer sports such as kiteboarding, stand up paddle boarding and even jetskiing has put an extra level of pressure not just on our sport but on the river system in general," said WAWSA president Paul Hobbs.

"But it is a huge positive for our state that new watersports are developing all the time. The challenge now is to accommodate them on the river system and help the new sports develop and administer their sports through well managed governing bodies."

WA Recreational Watersports Association President John Petterson believes the rivers are big enough for everybody but watersport enthusiasts need to stick to defined activity areas.

"There is adequate capacity for the accommodation of the newer watersports on the Swan River but potential for conflict and accidents must be eliminated by the enforcement of designated areas for each type of activity," Mr Petterson said.

He also stressed environmental consideration must be given to the launch sites for these craft to help protect the Riverpark's reed and foreshore areas from random use and degradation.

"WARWSA have for the last few years conducted a regular reinstatement process at our facility and as a result have reversed the erosion of the foreshore and re-established a viable beach at Burswood," he said.

"This work is ongoing and should be required at future launch sites for other watersports."

To help manage potential watersport conflicts the Swan River Trust and Department of Transport recently revised waterski zones and boat speed limits under the Aquatic Use and Management Framework. There is now a dedicated jetski zone in Melville Waters and five dedicated public waterskiing zones in Freshwater Bay, Point Walter and Point Heathcote on the Swan River.

The largest zone on the Canning begins just south of the Canning Bridge, taking in Deep Water Point and stretching to Aquinas Bay. This access is balanced with a number of exclusion zones and jetskis are restricted at Alfred Cove, Pelican Point and Milyu in the Swan Estuary Marine Park.

MOST POPULAR WATERSPORTS

Stand up paddle boarding

Stand up paddle boarding is one of the fastest growing recreational sports in the world and is emerging as a watersport favourite around the Riverpark. It's easy to learn and great exercise for your core strength. Some people even do yoga classes on them.

Extremely portable, stable and ideal for people of all ages and fitness levels stand up paddleboards (or SUPs) are relatively easy to control in the Riverpark's sheltered bays but become increasingly harder to handle and navigate in strong winds.

Available in many sizes for flat water paddling or wave riding SUPs have attracted a large following primarily interested in social exercise and recreational paddling.

Giving river users access to places where boats can't reach, SUPs offer experienced paddlers great touring possibilities along dramatic cliff lines in North Fremantle, Blackwall Reach and Freshwater Bay.

Other popular SUP locations include the relatively sheltered Riverside Gardens in Bayswater, Bardon Park in Maylands, Fishmarket Reserve and Mosman Bay.

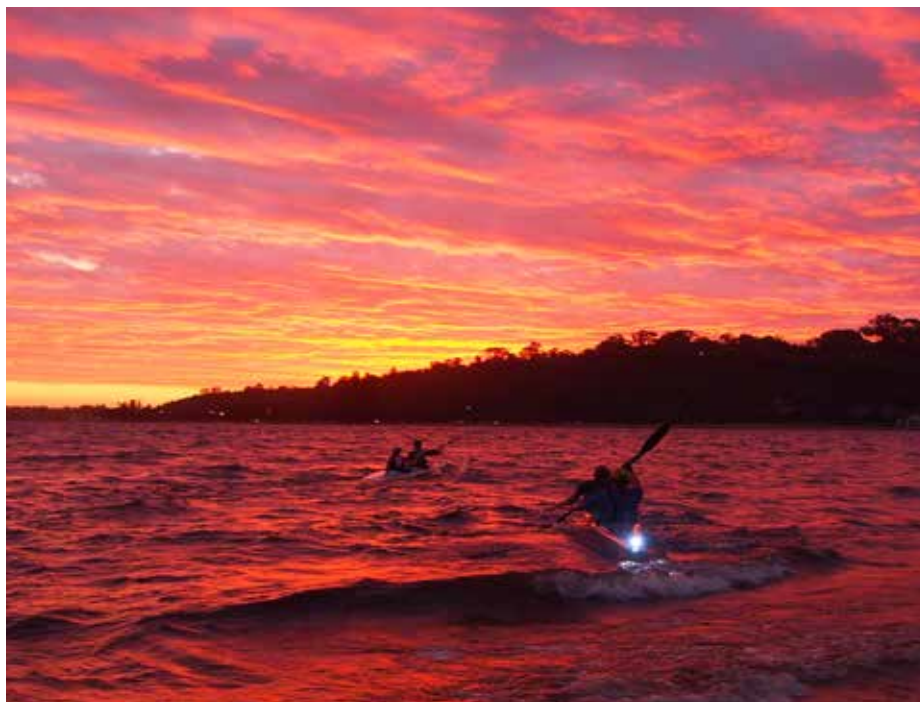
Kayaking the Canning

Sea kayaking has grown rapidly in the Riverpark and is a great way to view wildlife, explore remote bays and pack a gourmet picnic to enjoy on the riverbanks.

In fact canoeing in general has thrived and is a great way to discover the natural beauty of the Canning River Regional Park.

Hidden in Perth's southern suburbs this serene stretch of the Canning River is lined with paperbarks, extensive sedge lands and fringing woodlands that make this estuarine vegetation some of the best in the Riverpark.

The Canning River canoe trail runs from Mt Henry Bridge to Hester Park and takes about 2.5 hours one way



Sea kayaking and canoeing are great ways to explore remote Riverpark bays. Picture: Jane Hilton.

to complete. From Deep Water Point to Kent Street Weir is 11km and a full day return paddle. Both offer an amazing experience for novice and experienced paddlers.

Participants will often see dolphins, long necked tortoises and over 30 species of birdlife. There are no rapids in this section of river but there are plenty of channels and islands to explore. There are designated canoe launching sites at Masons Landing, Kent Street Weir, Riverton Jetty Park and Woodloes Park.

In winter more experienced kayakers turn their attention to Bells Rapids and the confluence of the Avon and Swan rivers to negotiate some challenging white water conditions and the annual Avon Descent event.

Wakeboarding and Waterskiing

The Western Australian Water Ski Association has approximately 350 members that regularly use gazetted areas for waterskiing, wakeboarding, barefoot skiing and tournament waterskiing. While waterskiing has been a regular fixture in the Riverpark for 70 years, wakeboarding is a relative newcomer that grew out of "skurfing" on conventional surfboards.

Capturing a younger demographic wakeboarding uses slick boats and brightly coloured wakeboards with

enthusiasts carving and jumping boat wakes while contorting themselves into gravity defying positions.

Deep Water Point in Mount Pleasant and the Burswood foreshore are renowned for waterskiing and wakeboarding and offer great boat ramp launching facilities and good protection from the prevailing southerly winds.

Both locations offer smooth stretches of water for wakeboarders and water skiers to hone their skills.

Kiteboarding

Colourful, exhilarating and able to be packed into a small carry bag, kiteboarding epitomises the freedom and convenience of our modern lifestyles and has gradually replaced windsurfing as the newest and most fashionable watersport in the Riverpark.

Kiteboarding combines aspects of wakeboarding, windsurfing, surfing and paragliding into one extreme sport and during 2012, the International Sailing Federation estimated there were 1.5 million kiteboarders worldwide.

A windsurfing and kiteboarding mecca, Pelican Point offers full exposure to the fresh Fremantle Doctor seabreeze during the summer months and captures the brunt of strong north westerly gales during winter. An ideal location for novice kiteboarders who can

experiment, fall off and practice in the shallow waters, Pelican Point also offers experienced sailors access to more challenging offshore sailing in the busy traffic of the main boating channel.

Other popular kiteboarding locations around the Riverpark include Melville Beach Parade and Point Walter.

Windsurfing

Set in the world's third windiest city, windsurfing exploded in Perth during the 90s and soon took over the Riverpark's landscape.

The sport's varied forms of slalom and wave sailing appeal to people of all ages and today the community still enjoy windsurfing at a range of locations including Point Walter, Pelican Point, Matilda Bay and Melville Beach Parade.

Popular with beginners wishing to learn how to sail windsurfers or kiteboards, Melville Beach Parade and Pelican Point capture most of the prevailing south westerly winds. Both locations are shallow for a long way out and do not attract major boating traffic close to the shore.



Above: Windsurfing is still very popular around the Riverpark. Below: Stand up paddle boarding has resonated with women seeking social exercise. Pictures: Matt Kleczkowski.





FEATHERED FRIENDS

Birds are colourful visitors to the Swan Canning Riverpark, with the over 100 species recorded around the rivers.

In recent years, over 100 bird species have been recorded in the Swan Canning Riverpark including 80 different waterbirds. At Alfred Cove, one of the largest and most diverse birdlife sites on the rivers you will find ospreys, swans, a range of ducks, sandpipers, plovers, cormorants, gulls, terns, herons, ibis, oystercatchers and even shy crakes and rails.

Many of these species are migrants that breed in the northern hemisphere and visit Australia only to avoid the northern winter. Other birds come from across Australia to seek refuge on the reliable

and productive shallows of the Riverpark, especially in summer when many inland wetlands are dry. Some are local birds that spend most of their time as residents.

The Riverpark is not all about waterbirds. Birds of prey include Eastern Ospreys, Little Eagles, Australian Hobby, Black-Shouldered Kite, Brown Falcons, Whistling Kites and Sea Eagles. They can often be seen hunting schools of mullet in the shallows or small rodents and lizards on the riverbanks.

Shoreline vegetation is largely intact in the upper reaches of both the Swan and the Canning, so even shy bushbirds like the Splendid Fairy-wren and Yellow-Rumped Thornbill

persist. There are also adjacent parks with some bushland and often with freshwater wetlands along the two rivers as far downstream as Blackwall Reach. These areas support a range of bushbirds as well as other wildlife.

Unfortunately, shoreline vegetation has been lost from large stretches of the Swan River around Perth and Melville Waters, and continues to be threatened by shoreline erosion and vandals, but there are replanting programs in place.

This sort of revegetation allows the shoreline to act as a corridor for wildlife to move up and down the river, through the suburbs and even right past the city doorstep.



Above: Pied Oystercatchers are something of a mystery. A largely marine species unknown to the Riverpark until the late 1980s, there are now several hundred resident around Melville Water and the Swan River's lower reaches. Pairs have also attempted to breed on the Point Walter sandbar. Perhaps the lower estuary is becoming more marine as freshwater flows decline and tides push a little higher, creating an environment that attracts these striking birds. The bird pictured above has fishing line wrapped around both legs. Rubbish, including discarded fishing line and tackle, is a growing problem for Riverpark wildlife. Initiatives like the Swan River Trust's fishing line bin project are helping address the issue. **Facing page:** The Eastern Great Egret is a stately wading bird that can be seen in small numbers throughout the Riverpark. There are usually three or four of these majestic birds in the samphire marsh of Alfred Cove, and up to seven along the Canning River Regional Park. Egrets feed by stalking small fish, insects and crustacea, then quickly striking down to snap up their prey. The Eastern Great Egret is listed as migratory under federal conservation legislation, although the birds in Australia are not true migrants. Pictures: Matt Kleczkowski.





The Curlew Sandpiper (**above**) breeds in northern Asia. It occurred in its hundreds at Alfred Cove and Pelican Point up to the 1990s, but its numbers have declined. There are small populations along Waylen Bay in Applecross and in the Milyu Marine Reserve. It has diminished across much of its range, possibly due to habitat destruction in east Asia. The Curlew Sandpiper forages by touch, probing their sensitive bills into soft mud to catch small invertebrates such as shrimps and tiny molluscs. Their bills are equipped with sensory organs that can detect the movement of their hidden prey. Picture: Lochman Transparencies. **Facing page:** Perth is extraordinarily lucky to have resident pairs of magnificent Eastern Ospreys, with one nest in a pine tree above the Old Swan Brewery and other nests located along the Peppermint Grove and Blackwall Reach cliffs. Nesting platforms have also been installed at Alfred Cove and Pelican Point. So desperate was one osprey pair that several years ago they attempted to construct a nest on an idle crane on Mill Point Road, South Perth. Picture: Matt Kleczkowski.

Where to see them - bird watching hotspots

Alfred Cove

Excellent for a range of waterbirds including sandpipers, herons and egrets. Try for a photo of more than 100 Black Swans with the city skyline in the background. Small numbers of migratory sandpipers and plovers still occur here.

Point Walter

Very good for waterbirds including Pied Oystercatchers, with the added advantage of a large woodland reserve with bushbirds like Red-Tailed Black-Cockatoos and the bonus of spectacular views across Blackwall Reach.

Pelican Point

A variety of bird species are still present. Watch out for the Variegated Fairy-wrens. These birds have persisted in isolation for decades and have recently spread into Kings Park.

Milyu Marine Reserve

A surprisingly good place for waterbirds given the Kwinana Freeway is only metres away. Take your binoculars for a bike ride but remember to keep left, as the cycleway is one of the busiest commuter routes in the city.

Sir James Mitchell Park

What were once open drains destined to be filled in have been widened into a network of lakes. Ducks and other waterbirds are abundant.

Bull Creek

A quiet refuge not far from busy Leach Highway. A favourite of the curious Musk Duck which loaf in the sheltered waters. The fringing forest and nearby bushland support a variety of bushbirds.

Canning River Regional Park

Excellent for a range of waterbirds, including elusive crakes and rails, along the Canning River and at Wilson Lagoon, Carden Lakes and Liege Street Wetland. Australian Grebes also nest along the river and canoeists should enjoy these birds from a distance. A wide variety of bushbirds can be found in the surrounding areas. Over 100 species have been recorded in this park alone.

Eric Singleton Reserve and Bird Sanctuary

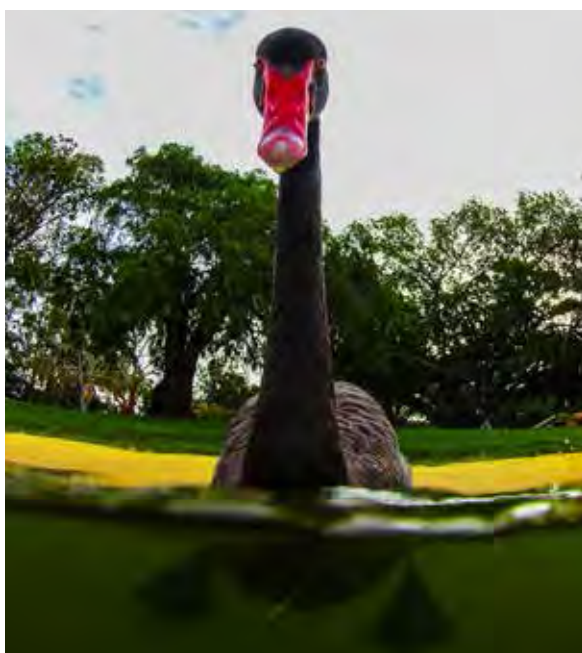
An urban freshwater wetland, Eric Singleton is about 8km from the city in Bayswater. The sanctuary is home to many birds including herons, robins, honeyeaters and hawks.



Left: Until about 2008, Red-Tailed Black-Cockatoos were virtually unknown around Perth except in the Eastern Hills. Around that time the birds began to expand their range on to the coastal plain. In 2010, harsh conditions and poor flowering of Marri trees, their major food source, may have given the 'Red-Tails' some incentive. These enormous cockatoos discovered bushland reserves throughout Perth, and learnt to forage on plants they would not traditionally have eaten, such as the seeds of the Cape Lilac. The Red-Tails have stayed in the suburbs, with one group seen regularly around Point Walter where there are still Marri trees in the reserve as well as gardens that provide a smorgasbord of other food-plants. Picture: Doug Lim.

Below left: The iconic Black Swan is one of the Riverpark's winners. For much of the 20th Century, Black Swans were a rarity on the river named after them, but early in the 21st Century something changed. A fence at Alfred Cove to keep dogs out of the reserve surely helped, but higher water levels may have improved foraging habitat for swans. They can now be seen from the Kwinana Freeway and a few pairs are breeding around Sir James Mitchell Park and Point Walter. Picture: Matt Christie.

Below: A budgie-sized visitor that breeds in Siberia, the Red-necked Stint once occurred in its thousands on the fertile mudflats of Alfred Cove, roosting at high tide along Milyu Marine Reserve and at Pelican Point. It is now rare to see more than a dozen of these little stints. Habitat destruction in east Asia has seen them lose the refuelling stations where they forage on migration, while in the Riverpark itself, a gradual change in water levels means that the mudflats are rarely exposed so there is nowhere for them to feed. Pelican Point, once described as the jewel in the Swan River's ornithological crown and visited early one morning in the 1960s by Prince Phillip specifically to see the birds, now lacks swirling flocks of chattering stints. Picture: Lochman Transparencies.





Smooth by amateur category winner Nathan Eaton captured the textural splendour of the South Perth foreshore.

PHOTOGRAPHERS SHARE THEIR RIVER STORIES

The Swan and Canning rivers took centre stage in the 2015 River Guardians photography competition. The stories and images of some of Perth's talented amateur photographers have been featured across the Community Newspaper Group.

Photographers around Perth have shared their stories of the Swan Canning Riverpark in the 2015 River Guardians photography competition. And the results are stunning.

This year's competition attracted a record number of entries, with more than 500 submissions across amateur, junior, people's choice and a new Instagram category.

The theme 'What's your story' saw talented image makers share their favourite places, people and

activities around Perth's Swan and Canning rivers, as well as capturing beautiful images of our unique wildlife.

Winners shared in digital cameras, Scitech passes and Finn kayaks.

Competition judge Dan Paris, who rose to fame in the 90s on popular Australian television show *Neighbours*, is now forging a successful career as a photographer and said he was impressed with the calibre of the entries.

"Studying each entry in detail is an absolute joy," he said.

"In some ways it's taken me on a journey - I feel like I've truly discovered our beautiful Swan.

"Over the past few years the talent I'm seeing is incredible, it just keeps getting better and better."

The winners:

Amateur category: First prize Nathan Eaton, second prize Kay Cypher.

Junior category: First prize Maximillian Karelis, second prize Tyler Armenti.

Instagram: Nicole Tien.

People's choice: Sarah Guiton.



Clockwise from top:
Sunset Como Jetty by Dianne Kelsey, *Mexican Wave Tern Style* by Sue Harper, *Reflections of Mount Lawley* by Emily Carroll, *Bells Gold* by Dougal Topping, *Successful Dawn Hunt* by Melissa Zappelli, *Sailing Away* by Maximillian Karelis (junior category winner), *Dolphin Watching* by Sarah Guiton (people's choice winner).







Instagram entries left to right: @brizza79, @yellodarg, @tarz75, @nicolezahn (Instagram category winner), @_mattchristie_



Clockwise from above left: *Bridge Between Two Banks* by Tyler Armenti (junior category second prize winner), *Canning Gem* by Douwe Hoeksema, *Simple Pleasures* by Chris Owen, *Matilda's Sunrise* by Vanessa Stylianou, *Stormy Summer Nights* by Jesse Mouritz.





Above: *Oh What A Night* by Kay Cypher (amateur category second prize winner), **left:** *Getting Active* by Ceri Foster.

FRIENDS OF RIVER GUARDIANS



Friends of River Guardians are Perth riverside businesses that help support RiverWise initiatives by providing discounts on goods and services for River Guardians members. To view the special offers provided by our Friends, please visit riverguardians.com



150 EAST
Riverside
Bar Restaurant





Waterbank is one of several major developments taking place around the Swan River.

RESHAPING CITY RIVERS

Some of the largest riverfront developments in Perth's history are set to change the way we interact with our rivers.

Story: Miranda Holker

A major revamp of Perth's river foreshores is underway, and the Swan River Trust is closely involved in the planning process for projects such as the new Perth Stadium, Waterbank and Elizabeth Quay.

Trust Statutory Planning Manager Glen McLeod-Thorpe said the Trust's role varied – from providing advice to decision-making authorities, to issuing approvals and making recommendations to the Environment Minister for larger projects.

"The Trust helps set environmental conditions and mitigation strategies for developers on issues such as site dewatering and public access," Mr McLeod-Thorpe said.

"Regardless of the approval framework, the Trust's goals are always the same – to help achieve the best outcomes for the ecological health and community benefit of the Swan and Canning rivers."

These goals are shared by the Perth community and were highlighted through consultation by Lend Lease in the early stages of the Waterbank project, which will connect the Perth CBD with Burswood.

Lend Lease Project Director Tim Urquhart said the consultation process run through the Hornery Institute asked stakeholders including government agencies, community groups and potential visitors, residents and tenants about their vision for the Waterbank project.

"The masterplan was updated to reflect that community vision of having connection to the greater public spaces, a softer more natural environment with more opportunities to interact with the water and improved landscape quality," Mr Urquhart said.

"We also ran a consultation process with families representing the traditional owners and those workshops influenced a key part of

our vision to see more natural, softer edges in the design, protection of the river, and recognition of the heritage of the area.

"The overwhelming requirement of all the stakeholders was to provide greater opportunity to interact with the Swan River."

The location of these major riverfront developments on sensitive foreshore areas means protecting the environmental health of the rivers is of paramount importance.

Encouragingly, many developers are increasingly prioritising the environment in their designs. Waterbank, for example, will include water sensitive urban design with bio filtration to strip nutrients using plants and a stormwater system that will naturally filter the water before it finds its way into the river. There are also plans to include education on sustainability and river health issues which may be realised as public art or interpretive signage.

“THE ASPECT I’M EXCITED ABOUT, BOTH FROM THE TRUST’S PERSPECTIVE AND AS A RIVER USER MYSELF, IS THE IMPROVED OPPORTUNITIES FOR RECREATING IN AND AROUND THE RIVERPARK.”

- GLEN MCLEOD-THORPE

Department of Treasury Principal Product Director John Tondut said the new Perth Stadium Environmental Management Strategy is focused on protecting the health of the Swan River and the flora and fauna in the area from impacts of the development.

“The project team and the construction contractor, Brookfield Multiplex, are charged with the responsibility of continually monitoring and assessing environmental data, ensuring the protection and long term use of the Swan River and Burswood Peninsula,” he said.

Elizabeth Quay is already well underway with bulk excavation works due to begin in May 2015. The Trust reviews weekly water quality and turbidity monitoring results, and meets regularly with the Metropolitan Redevelopment Authority’s (MRA) project managers and contractors to ensure continued compliance with management plans and conditions.

The MRA have responded with a raft of environmental controls to protect the Swan River’s ecology during construction. These include independent marine mammal observers to ensure dolphins aren’t close to the project site during noisy works like pile driving, triple silt curtains to contain any debris created by excavation, and the use of photosynthetically active radiation (PAR) loggers, which monitor the amount of light available to the river’s aquatic flora.

Trust Statutory Planning Manager Glen McLeod-Thorpe said he was excited, both from the Trust’s perspective and as a river user, for improved opportunities for recreating in and around the Riverpark.

“The projects are being designed to offer both passive and active recreation opportunities as well as the opportunity to have a meal or coffee in a new riverside café or restaurant,” he said.

THE BIG PROJECTS



New Perth Stadium and Sports Precinct. View from south east.

New Perth Stadium and Sports Precinct

Location: Burswood Peninsula

Land size: 6ha of the northern portion of the Burswood Peninsula

Value: \$1.2 billion over the life of the contract, covering the costs during the design and construction phase, as well as the 25 year maintenance period

Project description: Multi-purpose sport and entertainment venue within an activated Precinct

Length of foreshore in development area: Approximately 1km

Key river interaction points: The design of the Stadium will incorporate views of the Swan River and Perth City while the Sports Precinct will include a number of walking and cycling tracks, children’s playgrounds, picnic and barbecue areas and an amphitheatre located on the banks of the Swan River. Existing pathways around the river will be enhanced by a new boardwalk around the river-fed lake that forms a feature of the Sports Precinct. The Swan River Pedestrian Bridge will provide new connection from East Perth to the Burswood Peninsula and will be designed to be an entry statement into the Sports Precinct. The existing Windan Bridge will provide another pedestrian route for visitors to the Stadium and Sports Precinct. A covered Community Arbour, representing Noongar Community stories, will link the six-platform Stadium Station to the Swan River.



View of Elizabeth Quay from the planned BHP Billiton water park.

Elizabeth Quay

Location: The project area is framed by William Street, The Esplanade and Barrack Street in the Perth CBD.

Land size: 10 hectares

Value: \$440 million Government investment funding the cost of public infrastructure, including construction of the inlet, roads and services and the creation of public space, and \$2.2 billion in investment attraction.

Project description: Offices, apartments and a Ritz-Carlton hotel set around a 2.7 hectare inlet and connected by waterfront promenades lined with cafés, bars and restaurants. When complete, the precinct will be a future workplace for 10,000 people and home to 1400 residents.

Length of foreshore in development area: The newly created inlet covers 2.7 hectares

Key river interaction points: Elizabeth Quay will create a new waterfront precinct at the foot of Perth's central business district where people can interact with the Swan River and enjoy a café culture around an inlet. The inlet will house 24 boat moorings; in addition Transperth ferries will operate from the Western Promenade. Visitors will be able to move down the steps of a landing on to decking and literally touch the water's edge. An island surrounded by rock revetments will also be accessible along with Williams Landing, located at the southern edge of the Western Promenade.

Waterbank

Location: East Perth between Trinity College and the Causeway

Land size: 6ha

Value: \$1 billion

Project description: Commercial, residential and retail

Length of foreshore in development area: 350m

Key river interaction points: Waterbank will have formal and informal beach areas where there will be opportunities for the public to launch canoes and paddleboats. Developers believe it will offer an ideal swimming location with easy entry, shallow water, good surveillance and calm water. There will also be opportunity to enjoy a diverse range of food and beverages with river views.



Swim Thru competitors enjoy perfect conditions as they enter the Swan River in their category waves.

SWIMMING MATILDA

Story and pictures: Mark Thornley

Matilda Bay is synonymous with swimming legends and is the site of Australia's oldest open water swimming event.

Founded in 1912 the prestigious Swim Thru event continues to attract leading Western Australian and Australian swimmers. This year a record field of over 250 competitors tackled the Swan River's challenging 1.6km or 4km course in the Minara Resources Swim Thru.

Over the race's 103 year history it has only been interrupted by the two World Wars and a polio epidemic. The event has been swum and won by olympians and world champions including event patron and seven times world marathon swimming champion Shelley Taylor-Smith who first entered and won the race as a 12 year old girl.

Despite many changes to the course and distance over the years the event has always been held in the Swan River in January. A highlight of Perth's busy open water swimming calendar the Swim Thru attracts swimmers of all ages and standards and celebrates the Swan Canning Riverpark with a community barbecue under the trees at Matilda Bay Reserve.

Blessed with beautiful warm, still conditions participants posted fast race times in their quest for thousands of dollars of prizes while a large spectator crowd soaked up the sun and colourful spectacle.

Reflecting the event's age diversity, line honours went to 56 year old Paul Blackbeard in a time of 54 minutes and 5 seconds, closely followed by Torsten Schlitter (36), in 54 minutes 14 seconds, with third place going to Samuel Lade (20), in the time of 54 minutes 37 seconds. An accomplished swimmer in his

younger days in South Africa, Mr Blackbeard is now a regular top place getter in Perth's open water swims, including third place in the 2014 Rottneest Channel Swim.

Taking out the women's event – and third place overall – was 33 year old Jaime Bowler in 54 minutes and 18 seconds while 11 year old Joshua Edwards-Smith took out the Ron Grannery Trophy for the youngest swimmer to complete the 4km course, in an excellent time of 1 hour, 2 minutes and 59 seconds.

Claremont Masters Swimming Club coordinated the event and donated \$6000 of proceeds from the entry fees, raffle and kiosk to the WA Disabled Sports Association.

Entries open each November for the annual Swim Thru race which is usually held on the third Sunday of January.

Please visit the event website - www.swimthruperth.org for more information.



MONITORING OUR RIVERS' HEARTBEAT

The management of the Swan and Canning rivers is underpinned by one of Australia's most robust water quality monitoring programs, providing scientists with vital data to protect the estuary into the future.

Story and pictures: Jennifer Eliot

The comprehensive river monitoring program began on the Swan and Canning rivers in 1995 and 20 years on the partnership between the Swan River Trust and the Department of Water is putting science at the forefront of river management.

The monitoring program tests 21 sites on the Swan River and 19 sites on the Canning River each week and 32 sites in the Swan Canning Catchment each fortnight.

The catchment monitoring focuses on nutrients entering the system as they are the driver of algal growth and biological activity, while the estuary monitoring focuses on Chlorophyll-*a* and algal species and abundance as a response to nutrient levels. The program also examines suspended solids, dissolved oxygen, salinity, water temperature, pH, dissolved organic carbon, silicon dioxide and alkalinity.

Trust River Health Program Manager Alex Hams said the program took samples in the river and in the catchment to provide a comparative

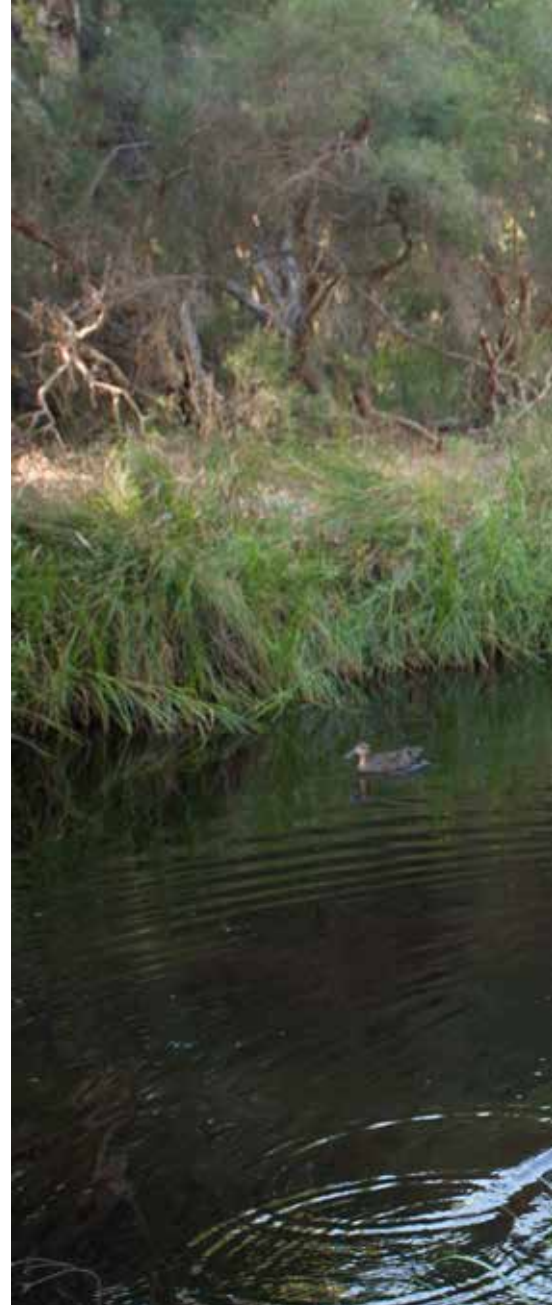
picture of water quality in the Swan Canning estuary.

"This allows us to track how environmental factors are changing throughout the year while also providing consistent long-term data which is critical to identify emerging trends," Mr Hams said.

"SAMPLING IN THE CATCHMENT PROVIDES DATA ON NUTRIENT INPUTS TO THE SYSTEM AND GIVES SCIENTISTS THE INFORMATION NEEDED TO DETERMINE THE IMPACT OF RESTORATION AND REMEDIATION WORKS IN THE CATCHMENT."

- ALEX HAMS

Mr Hams said data collected from the water monitoring program allowed the Trust, the Department of Water, community groups and riverfront land managers to make informed management decisions based on solid science.



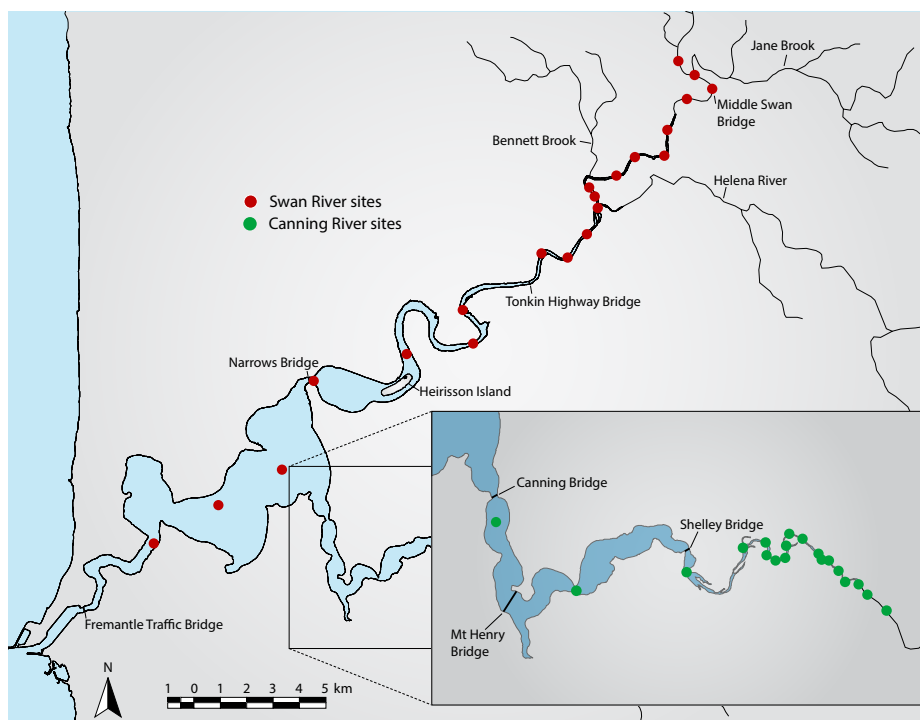
"Long-term, consistent data is invaluable," Mr Hams said.

"We are constantly reviewing the information and feeding it into the management of the river system.

"We use the data to help guide how we operate the oxygenation plants and to monitor the effectiveness of the plants and the impact they have on the health of water quality within the oxygenation zone. This is why there are so many sites in the upper reaches.

"The data also helps indicate when or where harmful algal blooms are occurring which allows us to alert the community and relevant stakeholders.

"The monitoring helps us to determine any improvement and changes in the river system. It looks at what trends are emerging and the impacts they might have on the





Above: Water quality samples are collected from 32 sites every fortnight at the outlets of each of the sub-catchments to provide a comparative picture of nutrients entering the Swan Canning river system. Pictured are Department of Water Environmental Officer Dominic Heald and Swan River Trust Indigenous Trainee John Narrier. Below right: Catchment monitoring focuses on nutrients and other important water quality data. Previous page: Swan Canning Riverpark sampling sites. Page 23: Department of Water Environmental Officer Mark Shackleton monitors algal species and abundance on a Swan River monitoring run.

ecology of the rivers and enables us to respond proactively.”

The Swan River Trust publishes this water quality information in a variety of formats on its website. The information is accessible weekly to the public as raw data, reports or easy to understand graphics. It includes vertical plots showing salinity, oxygen content (mg/L and percentage saturation) and water temperature.

The Trust also produces the Microalgae Activity Report which tells the public if there is a low, medium or high algal activity at various sites throughout the Swan Canning estuary. This report is published weekly in the West Australian newspaper.

The Trust publishes quarterly water quality reports for both the Swan Canning estuary and catchment that summarise the data collected for that year.

Sub-catchment nutrient reports are also available that summarise the nutrient levels entering the system from priority catchments.

For more information visit:

www.swanrivertrust.wa.gov.au/the-river-system/evaluation-and-reporting/





RIVER GUARDIANS



This year is promising to be a bumper one for the River Guardians program. There are more members, a hugely popular photo competition and fantastic member discounts.

With more than 2600 River Guardians members and close to 1000 trained citizen science volunteers, Perth people are proving that they care about the Riverpark.

We would love your help to encourage more people to join our program and stay informed about the state of the rivers and how we can all help them. If you have been thinking about doing something for the environment, there are several great projects you can get involved with.

Citizen science

Dolphin Watch now has 889 trained volunteers assisting research into the Indo-Pacific Bottlenose Dolphin community that calls the

Swan Canning Riverpark home. Volunteers have submitted 13,673 reports since the project began making amazing discoveries about the dolphins.

The Prawn Watch project continues to train and involve volunteers in collecting Western School Prawns from the Riverpark to help monitor and restock the population.

More 'Reel It In' fishing line bins have been installed around the riverbanks to tackle the ongoing problem of discarded fishing line, tackle and bait bags. Our partners Native Animal Rescue (NAR), Keep Australia Beautiful Council and Recfishwest have been assisting with the collection and auditing of the fishing waste and raising community awareness.

Stay informed by visiting the River Guardians website - www.riverguardians.com. The 'What's On' section features events and activities you can get involved in with your friends and family.

See you around the Riverpark!

Marnie Giroud
River Guardians Program Manager

LOVE OUR RIVER CLEAN UP DAY

More than 60 people turned out at Bicton Baths on 1 March to lend a hand and help clean up the foreshore from the Baths up to Point Walter. Clean Up Australia Day sees volunteers work to remove rubbish from all corners of the country, and it was great to see Perth people banding together for the Swan River. The City of Melville, Keep Australia Beautiful Council WA and the Trust hosted the river clean up to promote the need to protect our rivers and waterways by keeping them litter-free. Local dive clubs also cleaned up under jetty areas and retrieved a 40kg boat battery, two tyres, a deckchair and three bottles containing octopus! The event showcased the partner organisations through a variety of displays and activities encouraging riverwise behaviours and river health education.

NEW DOLPHIN CALVES IN THE RIVERPARK

2015 has started with some exciting news about the resident community of Indo-Pacific Bottlenose Dolphins (*Tursiops aduncus*) that calls the Riverpark home. Several dolphins have welcomed new calves, boosting numbers of dolphins in the Swan and Canning rivers to a new high.

Delphine Chabanne is a PhD candidate from Murdoch University studying the Riverpark dolphin community. Ms Chabanne is collecting biological and ecological data through boat-based surveys in order to improve the assessments of the conservation status of the dolphin population.

During her survey work Ms Chabanne has been able to confirm the presence of several new calves in the Riverpark during 2015.

Highnitch's new calf was first seen on 13 January 2015. Highnitch was the mother of Highhope, a calf born in August 2011 who died in January 2013. The cause of death was unable to be determined, however Highnitch's new calf is looking

healthy and is well protected by mother and up to 13 other resident dolphins.

Akuna is one of our most distinctive resident dolphins with a notch out of the top of her dorsal fin. Between October 2013 and October 2014, Akuna was not seen in the Swan Canning estuary or in adjacent coastal waters during the surveys conducted by Delphine's research team.

In November 2014, Akuna was seen with Moon and her calf (now about 10 months old) and another small dolphin. It was only recently that Delphine could confirm that the small dolphin is Akuna's calf, who is around one year old.

On one of her last surveys for the summer season, Delphine spotted a newborn calf which she identified as Panuni's calf on 17 February 2015.

With the exciting addition of four new calves to the Riverpark dolphin community we would like everyone to keep an eye out for them.

Quick tips

- **Enjoy dolphins from a distance – never approach a wild dolphin and ensure you keep at least 30 metres away if you are in the water or 100 metres if you are in a boat.**
- **Slow down for dolphins. They often form resting groups in the middle reaches of the estuary. Keep an eye out for them, and slow down if you spot any.**
- **Take your rubbish home. Dolphins, especially calves can suffer from entanglement from discarded fishing line.**

Moon's calf with Akuna's calf Nala. Picture: Delphine Chabanne.





Picture: Tenielle Armour

Volunteering in Monkey Mia

by Jennie Hunt

There was lots of excitement when I arrived at Monkey Mia in December 2014. A dolphin named Surprise hadn't appeared for the morning feed and on my second of five days volunteering with the Monkey Mia dolphin research program, she and her new calf came in for their first public outing. They swam along the shore near the line of moored boats, closely followed by researchers observing and photographing their every move.

The Monkey Mia dolphin research program is a long term study which started in 1984. It examines Bottlenose Dolphin social structures, behaviours, patterns of foraging, socialising and caring for their young as well as the impact of environmental factors.

A large group of international scientists including Dr Lars Bejder at Murdoch University contribute to the ongoing research. An interesting web site - www.monkeymiadolphins.org - describes the project and some findings.

The Department of Parks and Wildlife Monkey Mia Volunteers contribute to this research in much the same way we do as Dolphin Watch volunteers in the Swan Canning Riverpark. Our roles were varied and included helping Parks and Wildlife rangers with the Dolphin Interaction Program by preparing fish for feeding sessions, manning the visitor information desk, collecting data for the researchers and sweeping decks.

The Dolphin Interaction Program is carefully monitored by rangers and the dolphin research team. Five female dolphins are fed regularly – Nicky (the oldest at 39), Surprise, Puck, Piccolo and Shock. There is a large population of dolphins in the Shark Bay area, and many have names.

Each morning the dolphins arrive at about 7.45am and wait as the rangers talk to the gathering crowd of visitors. Then the dolphins are fed. Each dolphin receives a carefully measured amount of fish with up to three feeds each morning. In the minutes before each feed we collected data for the researchers including tide height,

temperature, wind and barometer readings, number of watching visitors and names of other dolphins – 17 came in one morning.

Highlights for me included seeing Surprise and her day old calf, contributing to the research, walking in the bush in the evenings and seeing so many birds, native plants, and lizard and kangaroo trails in the sand.

Top of the list for me was being so close to the dolphins. We talked with visitors between fish handouts while the dolphins rubbed against our legs. No one is allowed to touch the dolphins, but they haven't read the rule books! All up, an amazing experience.

Jennie Hunt is a River Guardian and Dolphin Watch volunteer. Please note Monkey Mia has a carefully managed dolphin interaction zone where dolphins are fed under ranger supervision. Dolphins should never be fed outside regulated interaction zones. It is illegal and leaves them vulnerable to entanglement, boat strikes and disease.



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RIVER RANGERS



Picture: Jennifer Eliot

WETLAND IN FOCUS FOR STUDENT ACTIVITY DAY

The Eric Singleton Bird Sanctuary was recently the centre of attention for students from City of Bayswater schools who participated in an activity day focused on their local environment.

Restoration of the wetland is underway, with the project aiming to mimic a natural healthy

ecosystem by improving water quality and planting 150,000 native plants. The activity day supported by the City of Bayswater recognised the important contribution students make to their environment and communities.

Swan River Trust education officer Linley Brown said students in years 4 to 7 participated in activities to help them better understand the wetland project. They were encouraged to view their community as an ecosystem and to understand the relationships and processes necessary to support healthy environments.

“The day provided hands-on learning experiences like water sampling, dolphin watching and animal encounters,” Mrs Brown said.

“Environmental activity days are a great way for local students to learn about their environment and how they can help to protect it.”

Ongoing support is provided to schools to engage them in action-based wetland restoration activities including planting at the construction site, drain stencilling around school grounds, ongoing water monitoring and learning about nature through art projects.

STUDENTS GET SAVVY ON DOLPHINS

When Brendan Goggins heard about Junior Dolphin Watch - a new Swan River Trust citizen science program - he jumped at the chance to take part. Mr Goggins, a science teacher from Aquinas College, is passionate about science and environmental issues and recognises the benefits of the project.

"Given the unique location of our school, Aquinas students have a long history with the river," Mr Goggins said.

"Long term stewardship for the river relies on knowing river issues and how to take action on those issues."

Aquinas College is lucky to sit on the banks of the beautiful Canning River and students are in the perfect situation of being able to visit the river without leaving the school grounds. This is one of the reasons that Swan River Trust education officer Linley Brown first contacted the school.

"These students are ideally placed to look after the river and its unique dolphin population and to engage in action based science projects like Junior Dolphin Watch," Mrs Brown said.

Mr Goggins attended a free Dolphin Watch training evening where he learnt about the Riverpark dolphins, how to identify individual dolphins and to document observations. With this newly acquired information he embarked on the project immediately. Ninety Year 7 students were soon trained as Junior Dolphin Watchers and Mr Goggins took them out to the river on a quest to spot dolphins.

Both teacher and students were elated by the appearance of dolphins on their very first visit to the river.

"On the first Dolphin Watch excursion my class saw three dolphins come into the bay," Mr Goggins said.

"They put on a great show for us, jumping out of the water and generally being playful. The boys were thrilled and I was the teacher of the year (for that lesson at least)."

Riley MacDonald was one of those lucky students to see the dolphins that day. He said, "learning about dolphin behaviours like snagging and chasing fish was fun. It was great to be able to see some of these behaviours in action."

Luke Willard, now a fully fledged Junior Dolphin Watcher, said the best thing about the project was learning the names of the dolphins and how to identify them. He was concerned that some dolphins are impacted by rubbish like fishing line, but thought it was cool to know the public were trained to look after them.

Schools don't need to be on the river to take part in Junior Dolphin Watch. The project is open to all schools in the Swan Canning catchment and to date 750 students from 13 schools have undertaken learning activities about our Riverpark dolphins.

For more information or to get involved in the program, contact Swan River Trust Education Officer Linley Brown on 9278 0900 or linley.brown@swanrivertrust.wa.gov.au.



Picture: Miranda Holker

RIVERPARK NEWS



Department of Water Director of Water and Landuse Don Crawford, Environment Minister Albert Jacob, Swan River Trust Chairman Hamish Beck and BOC Limited Senior Sales Engineer - Chemicals & Energy Graham Raywood. Picture: Jennifer Eliot.

NEW OXYGENATION PLANT COMPLETE

The health of the Canning River recently received a boost with the completion of a \$1 million oxygenation plant to help reduce the impact of algal blooms and to prevent fish deaths. Swan River Trust River Systems Manager Mark Cugley said the new plant at Nicholson Road doubled the capacity to provide oxygen relief to the environment upstream of the Kent Street Weir.

"It ensures that an extra 2.2 kilometres of river can have adequate oxygen levels at times when levels drop to a point which harms aquatic life," Mr Cugley said.

Low oxygen levels mainly occur in summer and autumn and are caused by decomposition of excess organic matter and nutrients.

Mr Cugley said an additional \$1.4 million would be invested to upgrade two older oxygenation plants upstream of the Kent Street Weir which service 2.3 km of the Canning River.

These two facilities are now 15 years old and will be upgraded using the latest technology once the performance of the new Nicholson Road plant has been confirmed.

Nutrient stripping wetland nears completion in Bayswater

Construction of the Eric Singleton Bird Sanctuary nutrient stripping wetland is almost complete with planting to begin this winter.

Swan River Trust Drainage Intervention Program Manager Peter Adkins said the \$3 million project would reduce sediment, rubbish, phosphorus and nitrogen entering the river from the Bayswater Brook while also

restoring bird and animal habitat. The redeveloped wetland will divert water from the Bayswater Brook into a wetland treatment system.

"Water will initially flow through a trap to remove sediment, rubbish and other debris, then through open water and vegetated areas to remove nutrients, improving the quality of the water entering the Swan River," Mr Adkins said.

Fishing line bin trial a success

The Swan River Trust has successfully trialled its fishing line bin project on the Swan and Canning riverbanks. More than 25 dedicated fishing line bins were installed at popular jetties, fishing platforms, traffic bridges and boat ramps during 2014 to help reduce the impact of discarded fishing line and tackle on dolphins, water birds and other animals.

Trust Community Engagement Program Manager Jason Menzies said the 'Reel It In' fishing line bin project was a cost effective solution to a serious problem and delivered significant benefits to Riverpark wildlife and the community.

"In total, more than 8788 metres of fishing line, 1743 hooks and sinkers, 1508 bait bags and 254 items such as lures and tackle packets were collected over nine months," Mr Menzies said.

The results show that recreational fishers have made excellent use of the bins that are emptied fortnightly by Native Animal Rescue volunteers.

Seven riverfront councils are now participating in the project and a further \$20,000 investment from the State Government will see an additional 20 fishing line bins installed and maintained over the next 12 months. These 45 bins are expected to remove up to 20 kilometres of fishing line per year from the Riverpark.

River Rangers help break world record

The Trust's River Rangers have played a hand in breaking a tree planting world record. In a Guinness World Record attempt, more than 100 River Rangers teamed up with community group Men of the Trees and 2000 other volunteers in an effort to break the 'most trees planted simultaneously' record. In a mammoth effort, the teams put in 1978 native plants at Whiteman Park in one hour. The good work is not finished and Men of the Trees are hoping to do more planting at the park this year to continue the revegetation work.



Fish study shows rivers in good shape

Research into the health of the Swan and Canning rivers has found that the waterways are in good shape.

Swan River Trust River Systems Manager Mark Cugley said the 2014 Fish Community Index showed that fish communities in the Swan and Canning rivers from Mosman Park and upstream to the Swan Valley and Kent Street Weir had improved since the mid-2000s.

The fish index – developed by Murdoch University over five years in collaboration with the Trust and departments of Water

and Fisheries – uses a range of metrics including diversity and number of fish species to evaluate the fish community as one measure of estuary health. Other measures that contribute to an overall picture of river health include water quality, seagrass growth and distribution, and a survey of foreshore conditions.

“The 2014 Fish Community Index assessment for the estuary as a whole is consistent with the pattern of good-fair condition assessments in recent years,” Mr Cugley said.



Picture: Glenn Storey

PRAWN RESTOCK

Plans to restock the Swan and Canning rivers with Western School Prawns (river prawns) have exceeded expectations this breeding season. Swan River Trust Principal Scientist Dr Kerry Trayler said project partners Challenger Institute of Technology and Murdoch University had now released more than 2.6 million juvenile Western School Prawns as part of the three year project.

“It’s an outstanding outcome that has seen Challenger staff develop world first aquaculture techniques with release rates increasing from 1000 in 2013 to 635,000 in 2014 and almost 2 million in 2015,” she said.

Dr Trayler said the three phase project - which included restocking, determining the factors affecting natural recruitment and the citizen science project Prawn Watch - had community participation at its heart.

“Prawning on the Swan and Canning rivers is a popular summer pastime and reinvigorating the prawn population will ensure this will continue,” Dr Trayler said.

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MIND YOUR MANNAS



Crabbing in the Swan Canning Riverpark is a recreational institution and a big part of our river culture.

Story: Mark Thornley

Pictures: Matt Kleczkowski

From December to June hundreds of boats dot popular haunts such as the Matilda Bay/Crawley foreshore, Mosman Bay, Freshwater Bay, Canning Bridge and Perth Water while drop netting for the hallowed Blue Swimmer or Blue 'Manna' Crabs as they are affectionately known.

To many families spending a day on the water and catching a feed of 'blueys' is a pillar of the relaxed Perth lifestyle and not surprisingly the Department of Fisheries say Blue Swimmer Crabs (*Portunus pelagicus*) are our most widely sought after recreational species.

These fierce crustaceans are voracious hunters and can grow to a claw span of 80cm from nipper to nipper and 25cm across the carapace. One of the few 10 legged crustaceans found in Australia they feed on molluscs, worms and other small crustaceans.

By day, they usually hide beneath the sand with only their eyes protruding, ready to launch themselves, claws outstretched, at small fish and invertebrate prey. At night, they become mobile, using currents to help them find food.

One of the Riverpark's most striking fauna, the male Blue Manna Crabs are vibrantly coloured in electric blue and purple, particularly on their nippers while the females are mottled brown. While the crab population is not as large as in other hotspots like Mandurah, the Swan and Canning river Blue Mannas are highly regarded and are arguably the largest specimens in the state.

Blessed with some of the best crabbing in decades Perth recreational fishermen catch tonnes of crabs each season.

Aside from drop netting, scuba divers and snorkelers also target these tasty crustaceans in the rivers usually hunting them early morning or at night while drift diving with high powered waterproof torches.

ONE OF THE RIVERPARK'S MOST STRIKING FAUNA, MALE BLUE MANNA CRABS ARE VIBRANTLY COLOURED IN ELECTRIC BLUE AND PURPLE.

Equipped with thick gloves and a porous catch bag divers look for the tell-tale flash of white and blue amongst the seaweed or around submerged structures and boat moorings while listening to the magnified sounds of chiming boat riggings, party music and sometimes the excited squeals of nearby dolphins.

The technique for catching a Blue Manna Crab by hand is fairly simple. Spot the crab in your torch light, wait until it is relatively still and then tackle it. Approach the crab slowly until you're within 30-40cm range and then lunge, grabbing the crab firmly by the body (wearing a pair of thick welding gloves makes you feel invincible).

If you want to try this fun activity a float with a dive flag or strobing waterproof light and a fluoro rash vest or snorkel are essential safety equipment to ensure you remain visible in the water.

Scoop netting is also an effective method to spot Blue Swimmers and many river diehards wade the shallows along Waylen Bay, Applecross and the Como and Claremont foreshores in favourable conditions.

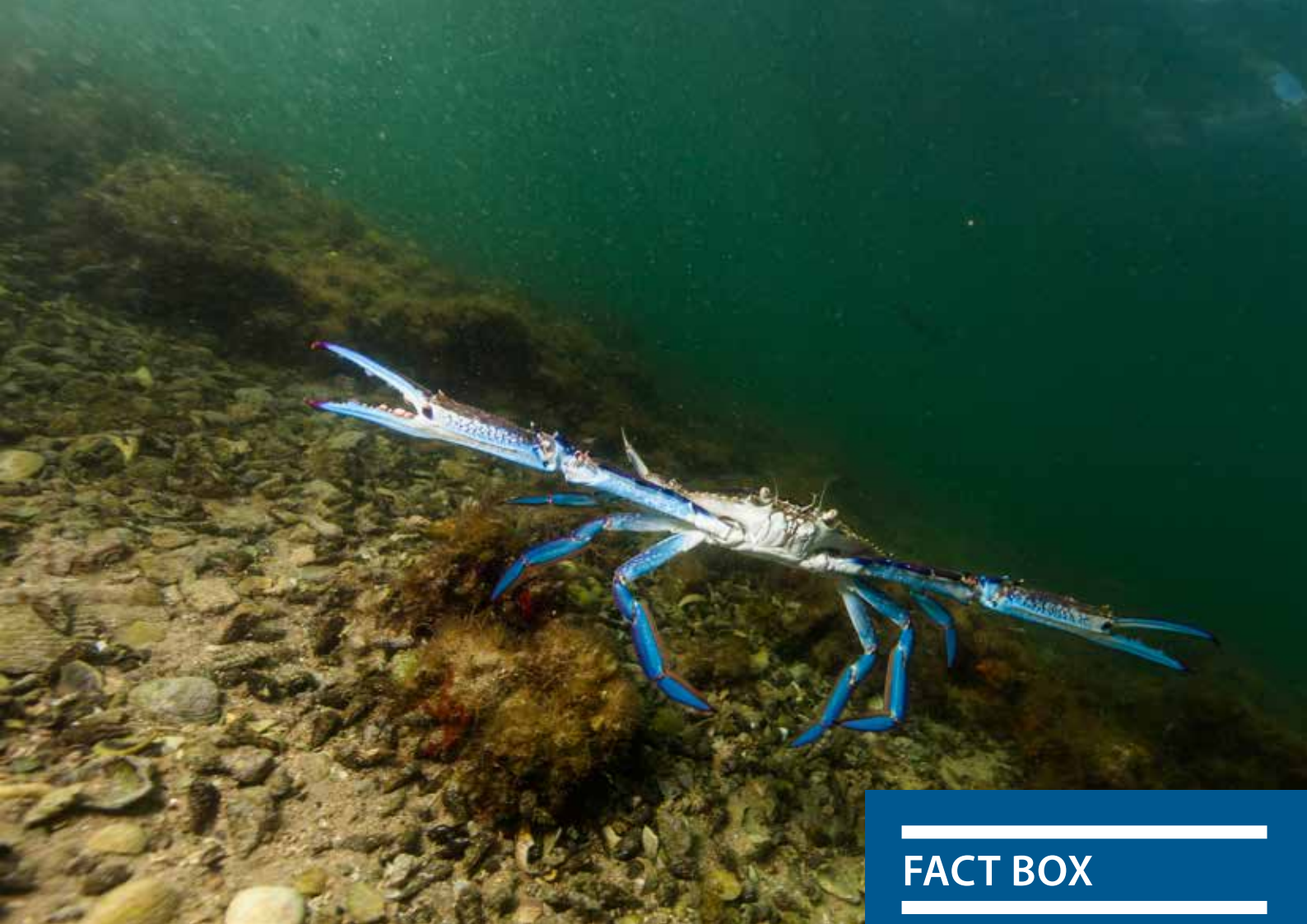
Blue Swimmer Crabs are great fun to observe and catch but where do these vibrant blue hunters come from?

Beginning as small larvae they float down our coastline sometimes up to 80 kilometres offshore before entering our rivers and estuaries to feed and breed.

One theory suggests the Blue Swimmers walk in from Cockburn Sound during summer and then walk out to the nearby marine waters again in June/July as the first rains push the Swan Canning

Crabbing is a treasured recreational pastime on our rivers.





A male Blue Manna displays its impressive claws while feeding on a drop off.

estuary's saltwater wedge back towards Fremantle harbour.

In WA, Blue Swimmer Crabs were once thought to be part of a single breeding population, with areas along the coast re-populated each year by the return of larvae from the Indian Ocean.

However, recent genetic studies indicate that in some areas there is limited 'gene flow' and a high likelihood that Blue Swimmer Crab populations in areas such as Cockburn Sound or the Swan Canning estuary may largely depend on their own breeding stocks to maintain population numbers.

Each female Blue Manna produces a huge amount of eggs - between 180,000 and two million - in a single spawning but most of these are consumed by fish or sea jellies before reaching the shallow estuarine nurseries to feed.

Like our Western Rock Lobster, levels of recruitment of adult

crabs to WA's Blue Swimmer Crab populations fluctuate considerably. A range of environmental factors - including water temperature variations, the relative strength of wind and current systems and the amount and timing of rainfall - can affect the survival and growth rates of crab larvae and juveniles.

The Department of Fisheries is currently conducting research into crab movements within the Swan Canning estuary and the public can assist by reporting any captures of tagged Blue Manna Crabs within the Riverpark.

Providing details of where the crab was caught, depth of water and if the crab was carrying eggs will help researchers monitor the Riverpark population and assist with management initiatives into the future.

For the moment the Riverpark's Blue Manna population appears to be thriving and continues to provide a treasured recreational pastime to the Perth community.

FACT BOX

Size limits – All recreational crabbers should use a crab gauge to measure a minimum 127mm from point to point across the crab's carapace. All undersize crabs should be returned to the river system.

Boat limits – A limit of 20 crabs per boat and 10 crabs per recreational fishing licence holder apply.

Please return all female blue swimmer crabs with eggs back into the water.

Drop nets must be no wider than 1.5 metres in diameter. There is a maximum limit of 10 drop nets per person or 10 drop nets per boat, regardless of how many people are aboard.

'Berried' (egg-carrying) females caught must also be returned to the water. The eggs appear as a spongy mass under the female crab's abdomen. The eggs turn from orange to black as they mature.



Partnering to protect the environment

For 17 years, Alcoa has partnered with the Swan River Trust and Perth Region NRM to support local community groups working to improve the health of Perth's wetlands, bushlands and river systems.

Since 1999, the Swan River Trust and Alcoa Landcare Program (SALP) has provided more than \$7 million to fund an incredible 1,210 projects.

We applaud the volunteer efforts of the many hundreds of community members working to protect the environment.

Advancing each generation.



RESTORING CANNING PARKS



Canning River Regional Park Volunteers Richard and Jo Stone.

The Swan River Trust and Alcoa Landcare Program helps make the valuable work of volunteer landcare groups - like Canning River Regional Park Volunteers - possible.

Story and pictures: Miranda Holker

A close encounter with a tiger snake, the discovery of a rare sedge species and witnessing the return of birds to their project sites are memorable moments of Richard and Jo Stone's 25 years with the Canning River Regional Park Volunteers. The Swan River Trust and Alcoa Landcare Program (SALP) is helping them celebrate this milestone with funding to continue their restoration work in Perth's southern suburbs.

Since its beginnings in 1990, the group has worked on project sites across the Canning River Regional Park, with a focus on building corridors for wildlife, protecting and restoring the park's rich flora, and improving water quality. The latest round of SALP funding will see the group receive more than \$10,000 for restoration of a sapphire flood plain – home to *Suada australis*, a species of sapphire newly discovered in the park. The funding will also help Canning River Regional Park

Volunteers to continue their work in Litoria Flats - a flood plain that in winter is mostly under water and in spring becomes a carpet of wildflowers. The group is also replanting an adjoining bank with eucalypts and banksias to provide food and shelter for cockatoos, and building possum boxes for resident ringtail possums.

The Stone's connection with the park runs deep, and Jo Stone says the ongoing support of SALP has been invaluable.

"This is really a special site," she said. "I live in Ferndale, and our garden backs on to Nicholson Road Billabong, which is quite a big watercourse and an important bird conservation area. I just got really interested in weeding there, and it snowballed into forming a volunteer group, getting a management plan together for the park and joining the advisory committee.

"There aren't many places in the metro area that can boast wetlands, a freshwater billabong, a salt water

lake and a river system flowing through. It's very, very special."

The group has endured its ups and downs – the destruction of much of their work when a huge fire ripped through the park in 2011 was particularly devastating – but Mrs Stone says the rewards are vast.

"There are now Black Bream spawning at the end of the Litoria Stream – it has become a nursery for them – and the Blue Wrens are coming back. We see new birds every time we do a survey," she said.

And it's not just fauna of the furry, feathered and finned variety that have been returning to the area.

"I was at the Nicholson Road Billabong and I slipped in the mud," Mrs Stone recalls. "I couldn't get up immediately so I sat there. And this Tiger Snake was swimming towards me. I wasn't really scared and it wasn't really interested in me. It just came on to the bank and was trying to get warm and we just sort of sat there looking at each other. It was actually quite fascinating."

FUNDS FLOW FOR LANDCARE

Swan Canning Catchment community groups have shared in \$335,500 for projects that will help improve water quality in the latest round of SALP funding.

The 58 projects by 25 community groups include revegetating priority waterways, restoring bushland areas, dieback management, fencing and weed control.

This year's funding brings the total amount distributed over SALP's 17 year history to \$7.35 million across 1210 projects.

Since its beginnings in 1998, SALP - a partnership between Perth Region NRM, the Swan River Trust and Alcoa Australia - has become one of Australia's leading landcare programs.

"SALP has a big vision - to preserve the iconic catchment of the Swan and Canning rivers in Western Australia," Perth Region NRM Chief Executive Officer Lisa Potter said.

"To make this happen takes a tremendous effort at ground level. It is the small things that the community volunteers do in 'their patch', which makes a big difference to achieving this vision.

"For government, industry and not-for-profit organisations to have been helping the community achieve such huge rehabilitation efforts in the Swan region for 17 years is a phenomenal effort."

Alcoa of Australia Chairman and Managing Director Alan Cransberg said Alcoa was delighted to be involved in a partnership that successfully leveraged the efforts of local volunteers to make such a positive impact on the environment.

"I am so impressed by the outstanding people who invest hundreds of hours of their own time to make a tangible difference to the environment we all appreciate and enjoy," Mr Cransberg said.

"I am proud that this partnership recognises their efforts and supports them in advancing their local projects."



SALP grant recipients with representatives from the Swan River Trust, Alcoa and Perth Region NRM at the 2015 funding ceremony.



Friends of Lake Claremont volunteers Heidi Hardisty, Claire Brittain and Norma Hay.

RETURNING LAKE TO FORMER GLORY

A funding boost of \$17,600 is set to help the Friends of Lake Claremont continue their work restoring the once-degraded wetland. It is the first year the group has applied for SALP funding, which will be used to revegetate the buffer zone around Lake Claremont – a Conservation Category wetland and Bush Forever site.

Once heavily degraded from past uses as a market garden, rubbish dump and golf course, the lake and surrounding bushland is now part of an important bushland corridor between Kings Park and the coast, and one of the last remaining Tuart woodlands in the area.

"It's one of the few remaining wetland areas in the Perth metropolitan area and a

birders paradise, with over 80 bird species," Friends of Lake Claremont Secretary Claire Brittain said.

"Since we began revegetating the area, lots of bird species are coming back to the lake, including ones we've never seen before."

This includes rare birds, with Little Bitterns nesting in the area and even Freckled Ducks, one of Australia's rarest waterfowl, being sighted.

The group enjoys strong community links, with 113 members and attracting up to 750 volunteers for planting days. Last year 980 Friends of Lake Claremont volunteers spent more than 6000 hours at Lake Claremont.

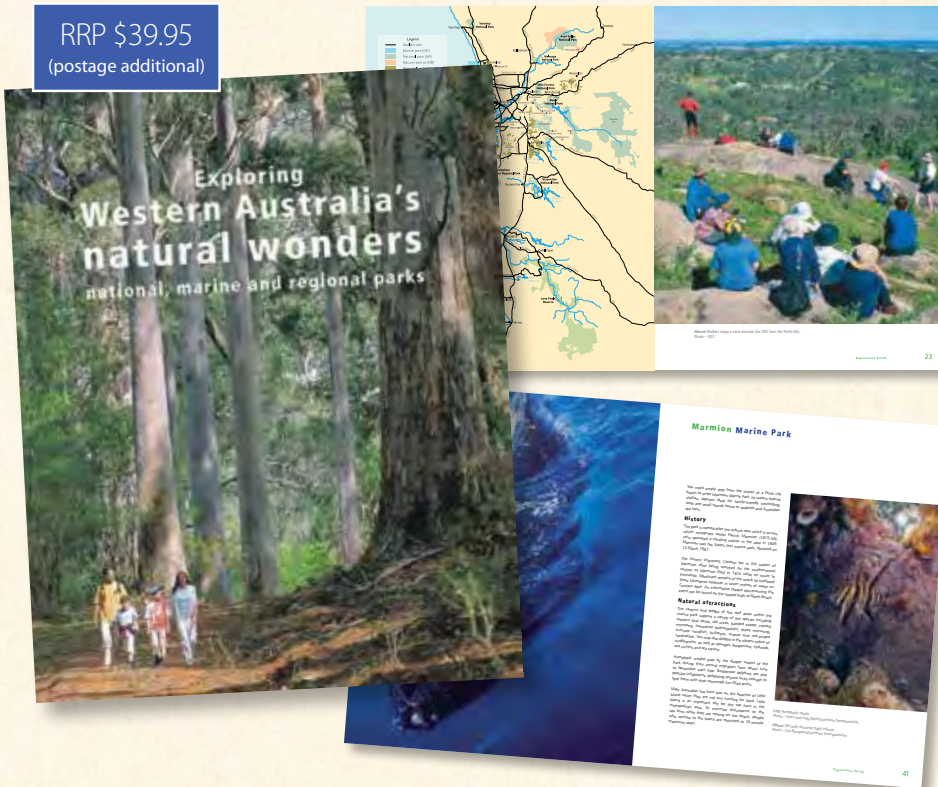


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Weld Square Primary School student Stevie Nin, 11, and Gwyneth Chia, 12, check out revegetation works at the Weld Square Living Stream project with City of Bayswater Water Quality Projects Officer Rebecca Ferguson. The project has seen the Bayswater Brook main drain transformed in a bid to reduce nutrients entering the Swan River. Picture: Jennifer Eliot.

CAMPAIGN FOR RIVER GAINS

Perth's drainage network is a significant contributor of contaminants entering the Swan and Canning rivers. This makes the Swan River Trust's Clean Drains, River Gains education campaign an important river health initiative.

Story: Jennifer Eliot.

It's a simple slogan – *Clean Drains, River Gains* – but the intended outcome of this community education campaign has the long-term health of the Swan and Canning rivers at its heart.

Swan River Trust Senior Environmental Officer Dr Steeg Hoeksema said the campaign aimed to educate the community about the impacts of allowing rubbish and contaminants such as oils, pesticides and fertilisers to enter Perth's stormwater drains.

"Clean Drains, River Gains is targeting the general public, industry, businesses and schools in the Swan Canning Catchment," Dr Hoeksema said.

"The campaign uses kerb markers carrying the Clean Drains, River Gains message in high profile pedestrian areas to inform the public and in other residential and industrial areas, the message is stencilled to the kerb near drains.

"They serve as a visual reminder to the public that their local stormwater drain connects to the river and to keep rubbish out of it."

Clean Drains, River Gains kerb markers have been placed in the City of Perth on St Georges Terrace and in the Murray and Hay Street Malls. The City of Bayswater is ready to begin installing markers and the cities of Vincent and Belmont have already rolled out the initiative.

Busting a misconception

There is a common misconception that stormwater drains connect to the sewer or a wastewater treatment system before entering our waterways. The reality is that whatever enters the drains is discharged into the nearest waterway or fed into groundwater through the stormwater network without treatment.

This means that whatever you allow to enter the stormwater drain outside your home or business will likely end up in our rivers.

In urban areas, where much of the environment is covered with hard impermeable surfaces such as roofs, roads and pavement, large volumes

of water can accumulate rapidly. The drainage network ensures that these large stormwater flows drain away quickly to the nearest compensation basin, wetland, river or the ocean and helps to avoid flooding from impacting on homes, public infrastructure and businesses. While the drainage network performs a vital function in urban areas, it is important to remember that the system was not designed or intended to remove pollutants from stormwater.

“RAISING AWARENESS IN THE COMMUNITY OF THE LINK BETWEEN DRAINS AND NATURAL WATERWAYS IS CRITICAL TO ENSURE EVERYONE DOES THEIR PART TO MAINTAIN A HEALTHY CATCHMENT.”

- REBECCA FERGUSON

City of Bayswater Water Quality Projects Officer Rebecca Ferguson said the council was working to reduce nutrients and other pollutants in the Bayswater Brook Catchment from entering the drainage network or discharging to the river and the Clean Drains, River Gains campaign provided an excellent opportunity to complement these activities.

“Raising awareness in the community of the link between drains and natural waterways is

critical to ensure everyone does their part to maintain a healthy catchment,” Ms Ferguson said.

“The kerb markers will be installed in the Bayswater Brook Catchment in high profile areas, such as wetland and drainage restoration projects, the Morley city centre and near local schools. In other industrial areas the message will be stencilled to the kerb near the drains.”

Ms Ferguson said the Bayswater Brook, like many of the stormwater drains in Perth, was a source of nutrients and other pollutants entering the Swan River.

She said the Clean Drains, River Gains initiative would complement the restoration of the Eric Singleton Bird Sanctuary and the Weld Square Living Stream – with the aim of reducing nutrients entering the river from this catchment by 30 per cent.

“These projects and Clean Drains, River Gains are focused on stopping nutrients and pollutants before they enter the river,” Ms Ferguson said.

“The revitalisation of the Eric Singleton Bird Sanctuary, which will include a gross pollutant trap, will prevent an estimated 40 tonnes of sediment and rubbish entering the river each year. The Weld Square project will transform the drain into a living stream and is helping to filter nutrients entering the stream and eventually the river, as well as increasing biodiversity and improving community enjoyment of the local area.”



HOW TO REPORT POLLUTERS

Call your local council to report individuals or businesses polluting local drains.

Call the Department of Environment Regulation’s Pollution Response Unit for emergency response to hazardous materials and major pollution incidents **1300 784 782**.

Call the Swan River Trust to report river pollution including oil spills, fish kills and algal blooms **9278 0900** or after hours in the case of an emergency **0419 192 845**.

COMMON CONTAMINANTS

Oil, petrol, detergents, pesticides, paints, solvents and other chemicals, litter (including cigarette butts), fertilisers, dog waste, building rubble and sand, grass clippings, leaf litter and mulch.



City of Bayswater Water Quality Projects Officer Rebecca Ferguson and Swan River Trust Senior Environmental Officer Dr Steeg Hoeksema use a stencil kit to spread the Clean Drains, River Gains message at the council’s work depot in Bayswater. Picture: Jennifer Eliot.



SWANFISH - FISHING FOR THE FUTURE

Perth's largest recreational angling event promotes more than just fishing, with a strong focus on keeping the popular pastime sustainable.



Pictures (clockwise from above): Two happy junior anglers with a monster Swan River Mulloway. A large European Carp capture took out the prize for the feral fish category. Contestants weighed in some huge Blue Manna Crabs during the contest. Unusual catches like this Spiny Leather Jacket and Sargeant Baker sparked crowd curiosity.

Story: Mark Thornley

Pictures: Mark Thornley and Paul Cunningham

Perth's largest recreational angling event Swanfish entered its 27th year at Taylor Reserve in McCallum Park in late February this year.

Over 600 anglers registered for the event that saw boat and land based fishers competing for thousands of dollars in prizes at popular fishing locations throughout the Swan Canning Riverpark.

Co-ordinated by the Melville Amateur Angling Club and Recfishwest, the competition featured many categories for juniors and seniors including up to \$3000 worth of cash and tackle for landing tagged fish in the rivers.

Blessed with great conditions anglers landed a diverse range of fish species including some giant Mulloway, Tailor, huge Black Bream, Flathead, Skippy and Yellowfin Whiting suggesting our capital city waterways are in good shape.

Participants could also submit their entries for the first time via a phone App in an online catch and release category. These fish were photographed next to a measuring

tape and then returned to the river to encourage sustainable fishing practices.

In recent years the Swan River Trust has introduced new prize categories such as the feral fish section where anglers have captured invasive species such as Pearl Cichlids and this year's winner landed a large European Carp.

Trust Communications Manager Mark Thornley and Environmental Officer Dr Jeff Cosgrove took the opportunity to showcase the agency's Prawn Watch, Fishing Line Bin and Feral Fish community engagement projects to a large crowd. The fishing line bins attracted particular interest and it's great to see so many recreational anglers using and spreading the word about the 'Reel It In' bins that have collected over nine kilometres of fishing line in the past year.

Family fishing is encouraged at Swanfish. There is a sausage sizzle each morning, free fishing clinics for kids, great giveaways and a spectacular weigh in on that attracts a big crowd to see what everyone has caught.





Wendy Yorke reconnects with one of her favourite spots on the Swan River in North Fremantle.

RIVERVIEW INTERVIEW

WENDY YORKE

Story and pictures: Miranda Holker

Former North Fremantle resident Wendy Yorke may live 15,000 km away in London, but Perth's iconic waterways will always hold a special place in her heart. A former Communications Manager with the Swan River Trust, Wendy was instrumental in establishing programs like River Guardians and the Swan Canning Cleanup Program. The rivers played a big part in Wendy's life outside work too as she and her family sailed, swam, and dived their waters. Since moving back to her native England in 2010, she has worked with the Thames Rivers Trust and

now with the Government of Western Australia European Office promoting WA across the globe. She also published her first book, *Exploring the Thames Wilderness*, winning the John Coleman Trophy for outstanding contribution to the Thames. She shares her perspective on the ways rivers shape cities.

What are your earliest memories of Perth's rivers?

The incredible sense of adventure they conjure up, whether walking and collecting shells or pieces of wood on the foreshore; wind surfing, rowing and sailing; or scuba diving at night to seek out the

crabs, prawns and seahorses and exploring its hidden depths and fascinating wrecks. There are many secretive wilderness places to be discovered; tree temples for shaded picnics and quiet areas for watching wildlife; and soothing places for reflection and spiritual connection.

Coming from the UK, does anything strike you as unique about the way Perth people interact with the rivers?

The Swan and Canning rivers have a great sense of stillness, calm and beauty, in contrast to the tumultuous background and history of the Thames. When I first arrived in Perth this was totally refreshing and I embraced that attitude. For me, it was a new experience to understand how Perth people appreciate waterways for what they are; a natural and unique water playground in an urban space, in the middle of the State capital city.

You have a unique perspective having been closely involved in the management of rivers in Perth and London. What similarities and differences do you see between these river systems in the way people interact with them and their value to the community?

I believe the Swan and Canning rivers have a much more powerful sense of place, which provides identity for Perth people. Also, there is the rivers' spirituality, due in part to the Indigenous people and their close association and connectivity with the rivers. The Thames contributes to London's identity; but it always was and still is considered a functional drainage system out to the sea; for catchment floodwaters and for sewage overflow.

There are fundamental and historic differences between the way Perth people interact with their rivers and British peoples' attitudes to waterways. In the UK, their interaction with the rivers has for generations been based on their historical use of the rivers: for trade and transport; industry and commerce; and defence from foreign invaders. Perth people seem to have a greater attitude of respect and sense of spirituality with their waterways; the places where they play and enjoy a wide variety of sports and recreational activities.

Your current role sees you promote Perth – as well as Western Australia – internationally. From your perspective, what role do you feel the Swan and Canning rivers play in defining Perth?

The waterways in Perth completely define the city. In my work now we

promote WA internationally, across many sectors ranging from trade to technology. At every expo and conference we work with other State Government departments and the City of Perth to show large-scale, colour backdrops of Perth CBD framed by the Swan River. It is our State identity even in Europe and globally. The rivers are integral to the work we do because the river promotes WA, Perth and the attractive lifestyle that people expect to embrace there.

Your roles both at the Swan River Trust and Thames Rivers Trust had a focus on community involvement and volunteers. What is their importance in protecting urban rivers?

Community involvement is the very heart of successful conservation because we are actually conserving nature for the community. This is a subject that is very important to me; that people take responsibility for their actions; not simply in their interaction with other people but also with nature. If we do not look after nature, who else will?

Community involvement in protecting the rivers is demonstrated by the popularity of the many citizen science programs we have introduced in the last decade. Whether it's River Keepers and eel monitoring in London; or River Guardians and Dolphin

Watchers in the Swan and Canning. Government resources are limited so volunteers can provide that extra ability to get things done on the ground with a sense of urgency, responsibility and commitment.

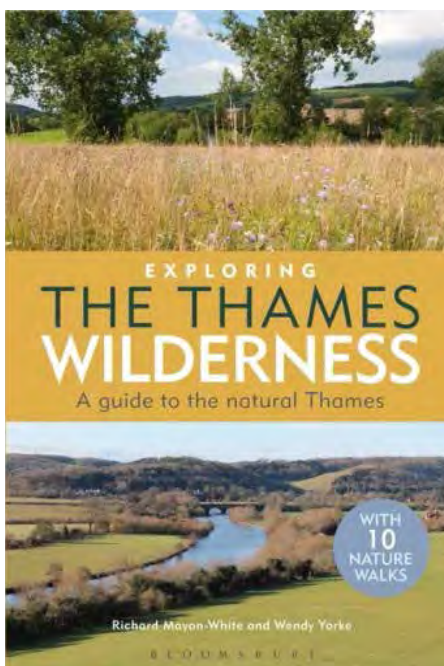
The management challenge all over the world is raising peoples' awareness of the many benefits and opportunities that rivers provide.

If we can increase their human value and social capital, people will feel the desire; the incentive to be part of the action in looking after the waterways for the future. As humans, we tend to invest in and look after what we care about.

And finally, is there a special place in the Riverpark for you?

The most special place for me is the North Fremantle foreshore, where I used to walk my dog Bobbins every day. Under the old Fremantle traffic bridge, past the new housing developments and marina, to Harvey Beach, from where you can see the ospreys nesting in the wilderness areas of the Mosman Park cliffs. I will certainly be visiting these places on my next trip to WA.

I miss the light and the colours and the wide open space of Perth's rivers; the movement and constantly changing picture of nature; and the often silent, yet ever present knowledge that the river is there; waiting to be discovered, both spiritually and physically.



Wendy Yorke's first book *Exploring the Thames Wilderness*, and Ms Yorke during her time as Communications Manager with the Swan River Trust.

WILD LIFE

BOOKS, DVDS AND COMPETITIONS

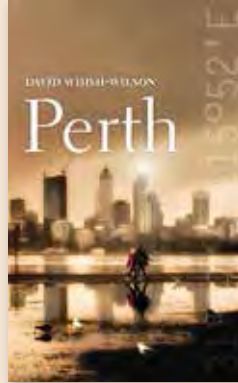
Perth

David Whish-Wilson's *Perth* is a place of surprising beauty, of sand-swept peace and brilliant light, yet a place where the deeper historical currents are never too far beneath the surface. Like the Swan River that flows in two directions at once at certain times, with the fresh water flowing seawards above the salty water flowing in beneath it, *Perth* strikes perfect harmony with the city's contradictions and eccentricities. It looks beyond shiny glass facades and boosterish talk of mining booms to the richness

of the natural world and the trailblazers, the rebels, the occasional ghost and the ordinary people that bring Australia's remotest city to life.

- NewSouth Books

WIN: We have a copy of *Perth* to give away to one lucky reader. Email your name and address to miranda.holker@swanrivertrust.wa.gov.au before May 31 2015.



Small Wonders

Award-winning nature photographers Stanley and Kaisa Breeden explore Australia's small animal life to reveal the wonder and beauty of looking closely into nature. Their specially developed digital photography techniques make it possible to see intriguing details you may never have suspected were there. This beautiful book features over 80 stunning fine art photographs using the focus stacking technique the pair are famous for. Stanley Breeden began photography as a teenager in the late 1950s and has published 20 books on Australian and Indian wildlife, contributed to most major English language nature magazines and has received two Emmy Awards for his work as a documentary-maker with National Geographic. Stanley and Kaisa were the ANZANG Nature and Landscape Photographers of the Year in 2006, won the ANZANG Portfolio Prize in 2007 and claimed the 2010 Eric Rolls Prize for natural history writing.

- Fremantle Press

Swamp – Walking the wetlands of the Swan Coastal Plain

In this collection of poems, Nani Chinna uncovers the lost places that exist beneath the townscape of Perth. For the last four years she has walked the wetlands of the Swan Coastal Plain – and the paths and streets where the wetlands once were. Chinna writes with great poignancy and

beauty of our inability to return, and the ways in which we can use the dual practice of writing and walking to reclaim what we have lost. Her poems speak with urgency about wetlands that are under threat from development today.

- Fremantle Press

WIN tickets to Wild Women

Perth Zoo's Wild Women is a unique networking event connecting influential women to each other and the environment.

Held on Wednesday 27 May 2015 in the unique surrounds of Perth Zoo, it will include talks from two recognised conservation leaders, a seated three-course luncheon, networking activities, animal experiences and opportunities to win an animal close encounter.

For your chance to win two tickets to this prestigious event please email miranda.holker@swanrivertrust.wa.gov.au by **Sunday 17 May 2015**. Winners will be notified by Monday 18 May 2015. For more information visit perthzoo.com.au.





Wild Women

Please join us at Perth Zoo for a unique networking event connecting influential women with each other and the environment.

Date: 27 May 2015

Time: 11:45am – 1.45pm

Where: Perth Zoo

Cost: \$125

Buy tickets: perthzoo.com.au

100%
of ticket sales
help Perth Zoo
save wildlife



CREATURE FEATURE

COBBLER *Cnidoglanis macrocephalus*



Picture: Matt Kleczkowski

A big part of our river folklore cobbler, or catfish as they're known outside Western Australia, are endemic to our nation.

Prized by recreational fishermen and avoided by prawners, cobbler can grow up to 91 centimetres in length, weigh up to 2.5 kilograms and live for 13 years. They live in the southern half of Australia, in coastal and estuarine waters up to 30 metres deep.

Cobbler belong to the Plotosidae family, commonly known as eel-tailed catfish. There are about 40 species in the family, with most found in tropical waters from Japan to Australia. These fish are characterised by a long tapering body and barbels (fleshy whisker-like organs) around the mouth, which they use to find food.

They have venomous spines on their dorsal and pectoral fins that can cause a painful wound if you step on one. If you get stung by a cobbler place your foot or the affected area in very hot water to offer relief from the pain.

With a soft, scaleless body, and only their spines for defence, cobbler

evade major predators, such as pelicans and shags, by being nocturnal and hiding during the day. With poor eyesight, they use their extremely sensitive barbels to search the muddy bottoms for tiny invertebrates, such as molluscs and small crustaceans, to eat.

A major threat to cobbler populations is the destruction of their habitat, including a lack of shelter offered by seagrass, floating weed mats or rocky reefs. Cobbler burrows are rarely seen. However, observations in estuaries in the State's south-west have indicated the burrows are built under structures such as rocks or seagrass root mats.

Destruction of suitable breeding habitats may have contributed to a decrease in cobbler in some areas. Cobbler in the Swan Canning estuary 'spawn' in spring and summer between October and January and female cobbler lay between 500 and 3500 eggs, a

relatively small number of eggs for a fish.

Although the cobbler in marine and estuarine environments are known to be the same species, they are separate breeding stocks, with little or no mixing between the populations. Historically, it's thought there were two stocks living in the Swan estuary – the estuarine stock in the upper estuary and an oceanic stock that bred outside the estuary and then ventured into the lower estuary as juveniles.

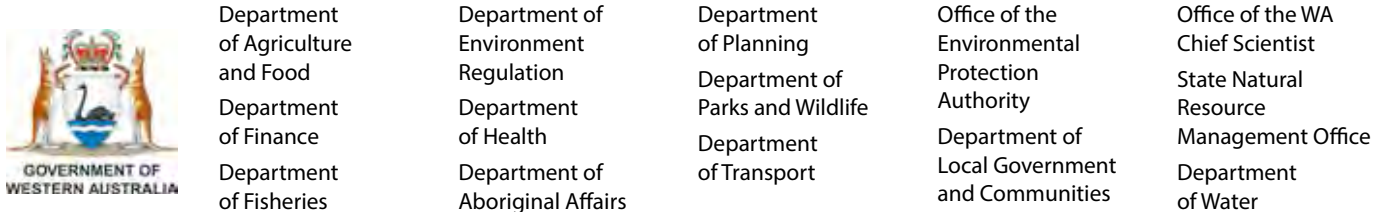
Commercial fishing for cobbler began as early as the 1940s and historically, cobbler has been a popular fish species known for its soft and delicate flesh. The estuarine cobbler population in the Swan estuary dropped to such low levels that, in July 2007, a 10-year recreational fishing ban was imposed in both the Swan and Canning rivers to allow the stock to recover.

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