



SWAN RIVER TRUST

ANNUAL REPORT 2018-19



Point Walter. Photo: Stewart Allen

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Letter to the Minister for Environment

MINISTER FOR ENVIRONMENT

To the Hon Stephen Dawson MLC

Minister for Environment; Disability Services; Electoral Affairs

In accordance with section 28G of the *Swan and Canning Rivers Management Act 2006*, I submit for presentation to Parliament the Annual Report of the Swan River Trust for the period 1 July 2018 to 30 June 2019.

Hamish Beck
Chairman
August 2019



Riverside cycling. Photo: Stewart Allen

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Swan River Trust overview

The Swan River Trust (the Trust) is an advisory body created by the *Swan and Canning Rivers Management Act 2006* (the SCRM Act). The Trust provides independent, high-level, strategic advice to the Minister for Environment and the Director General of the Department of Biodiversity, Conservation and Attractions (DBCA) on matters affecting the Swan and Canning rivers.

Under the SCRM Act, the Trust is vested with the care, control and management of the Swan Canning river reserve – the waterway – with various responsibilities including developing policies and preparing and reporting on strategic documents relating to the Riverpark, which includes public lands adjoining the Swan and Canning rivers.

The Trust’s other key role is overseeing the development and implementation of the *Swan Canning River Protection Strategy* (the SCRPS or the Strategy) to ensure coordinated management efforts across government to help protect the Riverpark.

Over the past year, the Trust has continued to be supported by DBCA given its significant operational and management responsibilities within the Swan Canning Riverpark and Development Control Area (DCA) as outlined under the SCRM Act.

Our purpose

To work with others to protect the Swan Canning Riverpark and enhance its ecological and community benefits and amenity.

Our vision

Our vision is a healthy river for all, forever, which is resilient to climate change, population and development pressures and is enjoyed, shared and nurtured.

Desired outcomes

The ecological health and long-term community benefits of the Swan Canning river system are protected and enhanced.

How we function

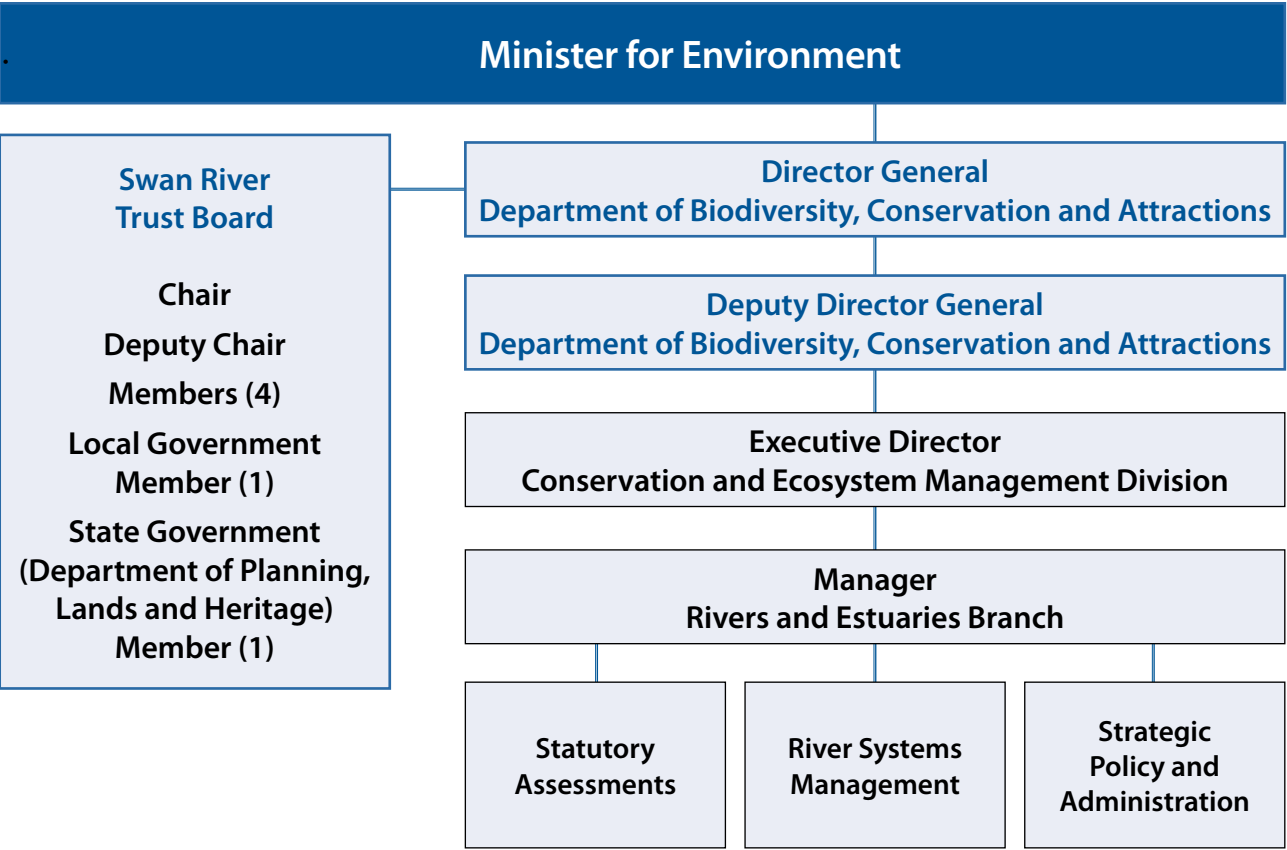
The Trust operates under the SCRM Act to provide advice and perform functions in respect of the Swan and Canning rivers and associated lands. Since 1 July 2015 the Trust has been primarily focused on providing advice and strategic direction regarding development proposals in or affecting the Swan Canning DCA. DBCA has provided financial, technical, and staff resources to the Trust to undertake its functions.

The Trust has the following functions under section 23 of the SCRM Act:

- Develop policies for the protection and enhancement of the DCA, the Swan Canning Riverpark and the Riverpark shoreline
- Establish targets for ecological and community benefits and amenity of the Riverpark and mechanisms for achieving those
- Prepare and implement strategic Riverpark planning and management documents
- Advise the Chief Executive Officer (CEO) of DBCA on matters relating to development
- Advise the CEO of DBCA on promoting the activities of other bodies having functions in the catchment affecting the Riverpark
- Report to the Minister for Environment on the state of the DCA and development on and adjoining the DCA
- Provide advice to planning authorities so that proper provision can be made in planning schemes for the protection and future use of river foreshores, protection and public use of land and water and protection of wildlife
- Provide advice and promote public education on any matter within its functions
- Any other functions as described in the SCRM Act or other laws.

Under section 11 of the SCRM Act the care, control and management of the river reserve – that is the waterways of the Swan and Canning rivers – is placed with the Trust. The day-to-day management of the river reserve is undertaken by DBCA on behalf of the Trust.

Swan River Trust arrangements during 2018-19



Funding and administrative arrangements

Table 1. Department of Biodiversity, Conservation and Attractions financial support for the Swan River Trust 2018-19

Category	Amount
Board sitting fees	\$34,767.32
Travel costs	\$0
Communications and IT support	\$0
Catering	\$234.61
Advertising – Board vacancies	\$0
Board events	\$373
TOTAL	\$35,374.93

Chairman's report

The Swan River Trust continues to engage in a diverse range of Perth business. Consistent with its role under the *Swan and Canning Rivers Management Act 2006* (SCRM Act), the Trust has continued to provide strategic advice to the Director General of the Department of Biodiversity, Conservation and Attractions (DBCA) and the Minister for Environment on a range of complex development proposals affecting the Swan Canning Development Control Area.

The Trust played an ongoing role in the assessment and approval of the works associated with the Matagarup Bridge and closely monitored the works via DBCA. The Trust also played an advisory role regarding potential impacts on the river from major riverside projects, including the ongoing redevelopment of the Belmont Park Racecourse precinct and Tompkins Park in Melville. The Board also advised on Metropolitan Redevelopment Authority projects in Perth (Waterbank, East Perth and Elizabeth Quay), Midland and Wungong.

During 2018-19, the Trust considered and provided advice to the DBCA Director General on five development applications in accordance with Part 5 of the SCRM Act. Highlights included the refurbishment of facilities at a variety of yacht clubs around the river. A trial of the use of Perth Water by commercial seaplane operators is also currently underway.

This year DBCA officers assessed and provided advice on 127 development applications on behalf of the Trust in accordance with the Metropolitan Region Scheme. There were also 26 tourism operator licences approved on the Swan and Canning rivers.

Sixteen aquatic activities, including watersport lessons and equipment hire, were also approved. A further two commercial operators were approved to use the foreshore, primarily for pop-up food and beverage outlets.

The draft *Perth Water Precinct Plan* was designed and developed and the second stage of public consultation is underway. Perth Water is one of the city's greatest community assets and is utilised by a wide variety of recreational, community and business user groups. The new precinct plan will help respond to Perth Water's increasing visitor numbers and a growing interest for tourism and commercial ventures.

The precinct plan's stakeholder consultation is seeking input on issues such as foreshore protection, cultural recognition, access improvements, tourism opportunities and commercial hospitality ventures. The resulting plan will establish a framework for the area based on landscape characteristics, community aspirations and environmental and cultural values.



The Trust worked with DBCA officers to complete the full *Swan Canning River Protection Strategy Biennial Report 2018*. The Biennial Report is the first status update on how the *Swan Canning River Protection Strategy* (SCRPS or the Strategy) is tracking against its five-year key performance indicators and a summary of the key data findings is provided in this report.

The Report's water quality data showed that during 2017 short-term targets for nitrogen and phosphorous in the Swan Canning Estuary were met in 14 of the 15 sub catchments. Twelve of these catchments were also meeting long term targets for phosphorous and eight for nitrogen.

The Report provides an overview of the combined management actions of 12 State Government organisations and 20 local governments that underpin the management and protection of the Riverpark. The Board is pleased to note that 100% of the 33 priority river management actions have been initiated and the overall ecosystem health of the rivers is meeting the specified benchmark.

I would like to thank Dr Joanna Pearce for her continued support as Deputy Chair and Dr Susan Harwood for her valuable service over the past year. I wish Susan every success as she transitions into another significant role. I would also like to welcome new members Cr. Sara Saberi, Jackie Stone, Jo Wilkie and Marenée Provost who joined the Trust Board in 2018.

The Trust appreciates the support provided by DBCA, State Government agencies, local government and the Perth community who help protect our Riverpark. We look forward to working with all our key partner agencies and stakeholders during 2019-20.

Hamish R Beck
Chairman

General information

LEGISLATIVE CONTEXT

The Swan River Trust undertakes its functions in accordance with the SCRM Act. Under the SCRM Act, the Trust is the vesting authority for the River reserve. It has functions in relation to the River reserve, the Riverpark, the DCA and the broader catchment area.

River reserve

The River reserve contains the waterways of the Swan and Canning Rivers, Helena River and Southern River.

Swan Canning Riverpark

The Swan Canning Riverpark consists of the land and waterways of the Swan, Canning, Helena and Southern rivers and public foreshore reserves surrounding them. It is a significant feature of Perth's landscape, prized for its natural values, recreational opportunities, and cultural and social importance.

Throughout 2018-19 DBCA was responsible for planning and managing the waterways and conservation reserves of the Riverpark. DBCA has joint responsibility for the Riverpark's shoreline in conjunction with other foreshore land managers, including local government authorities and several State Government agencies in which the land is vested.

Development Control Area

The DCA includes the waterways of the Swan and Canning rivers and the adjoining parks and recreation reserves (extending upstream from the Fremantle Traffic Bridge to Moondyne Brook on the Avon River, to the Lower Diversion Dam on the Helena River, along the Southern River to the Allen Road crossing and the Canning River to its confluence with Stinton Creek). In some cases, the DCA includes private property.

Swan Canning Catchment

The Swan Canning Catchment covers 2,090km² of the total catchment area in the Swan Avon system. The Swan Avon Catchment is approximately 126,000km². Surface water and ground water flow into the Riverpark from tributaries and drains across the Swan Canning Catchment. The land and water management of the surrounding and outer catchments directly influences the water quality in the Swan and Canning rivers.

A catchment to coast approach is employed to manage the health of the Riverpark. The work undertaken by many organisations extends beyond the immediate boundaries of the Riverpark and into the broader catchment.



One of the Swan Canning Riverpark's many yacht clubs. Photo: Rod Ware

Swan River Trust membership

The Swan River Trust members are appointed under the provisions of the SCRM Act, and are to be persons who, in the opinion of the Minister for Environment, have knowledge and experience which is relevant to the functions of the Trust.

The legislation provides for the appointment of eight members, with one member appointed on the nomination of the Western Australian Local Government Association and one member appointed on the nomination of the department assisting in the administration of the *Planning and Development Act 2005*. The Minister directly appoints the remaining six members including one as the Chair and one as the Deputy Chair.

Membership of the board comprises persons who between them have knowledge and experience in the fields of conservation, natural resource management, recreation, tourism, planning, development, matters of interest to the rural community and matters of interest to the Noongar community.

The duties of the Chairman, Deputy Chair and members are on a part-time basis. Members are appointed for terms not exceeding three years and are eligible for reappointment.

Appointed members of the Swan River Trust Board



Mr HAMISH BECK (CHAIRMAN)

Mr Beck is Managing Director of Beck Advisory, a property development advisory and asset management business. He is currently a Board Member of the Rottnest Island Authority. He was formerly a Board Member of the Art Gallery of Western Australia, Chairperson of the Art Gallery of Western Australia Foundation, Chairperson of the Property Education Foundation, Division Councillor of the Property Council of Australia, Chairperson of the Curtin University Property Studies Advisory Committee, Member of The University of Western Australia Urban and Regional Planning Advisory Committee, Member of the Rottnest Island Marine Advisory Committee and Rear Commodore of Royal Freshwater Bay Yacht Club. Mr Beck was appointed to the Trust Board in June 2011 and has served as Chairman since June 2014. Mr Beck was reappointed for a one-year term in June 2018.



Dr JOANNA PEARCE (DEPUTY CHAIR)

Dr Pearce is currently a lecturer in Tourism and Hospitality Management at Edith Cowan University. Her experience and skills include social research with a focus on nature-based tourism, providing policy for the National Parks Advisory Committee in Victoria and preparing technical reports for government departments and industry on natural resource management issues. She has held various teaching roles at Murdoch and Notre Dame universities and has a Bachelor of Science in Conservation Biology, a Bachelor of Science in Environmental Science (Hons) and a Doctorate of Philosophy. Dr Pearce was appointed to the Trust Board in August 2017 for a one-year term and reappointed for another year in 2018.



Mr PETER KING

Mr King is Director, Port Development with the Pilbara Ports Authority. He has held senior positions in other State Government agencies, including the former Department of State Development and the former Department of Agriculture, with several overseas postings in the Middle East. Mr King has more than 35 years' experience across government and the private sector encompassing large project management, state approvals processes and land use planning. Mr King has a Bachelor of Science (Hons) from The University of WA. Mr King was appointed to the Trust Board in October 2016 for a three-year term.



Ms VANESSA DAVIES

Ms Davies is an Aboriginal woman who has traditional links to the Wongai and Noongar people in Western Australia. She has comprehensive executive management experience in government relations, justice, employment, training and education, health, community and Indigenous relations. In 2000, Ms Davies completed a postgraduate Masters Degree in Management and Leadership at Curtin University. Ms Davies has served on the Trust Board since December 2009 and was reappointed in 2018 for a one-year term.



Dr SUSAN HARWOOD

Dr Harwood operates her own consultancy business Susan Harwood and Associates and is a gender, disability and social inclusion specialist. She has worked with a variety of Australian and international stakeholders to develop effective responses to disability, social inclusion and gender issues throughout the workplace, community and government. Dr Harwood is a respected researcher, having authored numerous publications on organisational change and gender equality. She has high-level skills in leadership, teamwork, facilitation, conflict resolution, negotiation, mediation and project management. Dr Harwood is a Fellow of the Australian Institute of Management and was appointed to the Trust Board in August 2017 for a one-year term.



Ms MARENÉE PROVOST

Ms Provost commenced her career as a primary school teacher in Victoria. Upon moving to WA in 1986 she joined the public service with the then Department for Community Development where she subsequently worked for 21 years culminating in the roles of Director for Capacity Building; and Director Accommodation Services. In these roles Marenée had considerable experience working alongside Aboriginal communities across the State. She transitioned into the disability sector as General Manager Community Services and subsequently Executive Director Hillroyd Project at Ability Centre. Marenée recently retired from Ability Centre after 10 years' service. She was appointed to the Trust Board in September 2018 for a one-year term.



Cr SARA SABERI

Cr Saberi is a City of Canning councillor, and is currently employed as an Environmental Health Officer with the City of Armadale. Cr Saberi has held various positions as a volunteer with environmental organisations and has been an active member of the community through local landcare groups. Cr Saberi holds a Bachelor of Science in Environmental Management and a Graduate Diploma in Environmental Health. She was appointed to the Trust Board in July 2018 for a one-year term.



Ms JACQUIE STONE

Ms Stone is the Director, Policy and Projects for the Department of Planning, Lands and Heritage. Ms Stone has over 24 years' experience as an urban planner and has worked in Victoria and throughout Western Australia. She has diverse experience in strategic

and statutory planning in senior management roles. She was appointed to the Trust Board in July 2018 for a one-year term.



Ms JO WILKIE

Ms Wilkie is the Principal at Jo Wilkie Consulting, working in organisational development, business development and cross-sector partnerships with government, community and corporate bodies. For over 18 years, Ms Wilkie

worked at Lotterywest as a Grants Manager with primary responsibility for the portfolio of Big Ideas (State-wide Initiatives). She was appointed to the Trust Board in July 2018 for a one-year term.

Swan River Trust meetings

Member attendance at the seven Swan River Trust meetings held in 2018-19 is outlined below:

MEETING NOTICES AND ATTENDANCE

Table 2. Swan River Trust meetings for the 2018-19 financial year

Board member	Meetings attended
Mr Hamish Beck	7
Ms Vanessa Davies	4
Dr Joanna Pearce	7
Mr Peter King	7
Dr Susan Harwood – departed September 2018	0
Cr Sara Saberi	7
Ms Jacquie Stone	6
Ms Jo Wilkie	6
Ms Marenée Provost – commenced October 2018	4

The Director General of DBCA, or his or her representative, is entitled to attend any meeting of the Trust and take part in the consideration and discussion of any matter before a meeting, but cannot vote on any matter (section 22A of the SCRM Act).

Under section 22 of the SCRM Act, the Trust’s Chairman is required to invite a representative of the Metropolitan Redevelopment Authority (MRA) or the relevant local government to attend a meeting of the Trust if a matter to be considered at that meeting is relevant to the MRA or the local government.

When a representative of the MRA or local government attends a meeting for this purpose, they have all the functions of a Trust member in considering the particular matter. Where it is considered appropriate, the Trust also invites persons with an interest in matters to attend meetings including proponents of development applications and representatives of peak bodies with an interest in the Swan Canning Riverpark and resource management.

GOVERNANCE MATTERS

The Trust operates in accordance with Schedule 6 of the SCRM Act, *Public Sector Management Act 1994*, and DBCA’s *Code of Conduct*.

DELEGATIONS

Minor revisions were made to the Trust’s delegations to reflect the recent Machinery of Government changes to government departments and the new organisational structure of DBCA.

PERFORMANCE MONITORING AND REPORTING

DBCA’s Parks and Wildlife Service officers provide written monthly reports on key activities to the Trust. Annual performance is reported in the Trust’s Annual Report and DBCA’s Annual Report to Parliament and the Minister for Environment.

Strategic documents

SWAN CANNING RIVER PROTECTION STRATEGY

Part 4 of the SCRM Act outlines the responsibilities of the Trust and DBCA to prepare strategic documents for approval by the Minister for Environment.

The *Swan Canning River Protection Strategy* (SCRPS or the Strategy) was released on 20 November 2015. It provides a coordinated whole-of-government plan to guide investment, maintain river health and ensure accessibility for the community to enjoy the Riverpark in the long-term.

The SCRPS better coordinates work between the government agencies involved in managing the rivers with the aim of improving benefits to the community and ensuring the rivers continue to be attractive and desirable places.

This improved cooperation between agencies is leading to more efficient use of the State Government’s substantial investment in the management of our rivers to help achieve better outcomes for river health, community use and enjoyment.

The Trust reports each year on the implementation of the SCRPS in its Annual Report. This year a *Swan Canning River Protection Strategy Biennial Report 2018* reviewing the four key performance indicators specified within the Strategy, was prepared for the Minister for Environment to help monitor the SCRPS operations and effectiveness against its five-year performance indicators.

SWAN CANNING RIVER PROTECTION STRATEGY BIENNIAL REPORT 2018

Executive summary of full report

Introduction

The SCRPS was released by the Swan River Trust in 2015 with support from DBCA.

DBCA reviews and reports on the Strategy’s implementation under a Monitoring, Evaluation and Reporting Framework. This framework ensures that the Strategy is adaptive to reflect new information; undergoes continuous development and improvement; and provides results that are measured and clearly communicated to all necessary stakeholders.

DBCA conducts an annual review of the status of the Strategy’s Strategic Management Program, with assistance from all the agencies and organisations involved in managing the Riverpark. This provides the information necessary to prepare progress reports, biennial reports and a five-yearly review of the Strategy to the Minister for Environment, partners and the community. The Strategy is updated if necessary through the five-yearly review process.

The Trust is responsible for reporting to the Minister and partner organisations involved in the management of the Riverpark are required to collect and provide data for these reports. This information is then reported to the Trust on the partner agencies’ progress in implementing the agreed projects in the Strategic Management Program. The partner agencies are also invited to provide feedback on the operation and effectiveness of the Strategy. Progress reports are produced in alternate years, when a biennial report is not required.

This biennial report incorporates the Riverpark’s ecological, community benefit and amenity measures, reflecting the broad management focus of Riverpark managers and the legislative requirements of the SCRM Act. Under this legislation, the Trust is required to monitor and report to the Minister for Environment on the following performance indicators detailed within the Strategy:

1. All priority actions listed in the Strategy are undertaken within five years
2. 75 per cent of monitored ecosystem health data meets respective targets required for a healthy functioning ecosystem
3. The wider Perth community is actively involved with Riverpark management and participation rates are increasing
4. The average level of visitor satisfaction with their visit to the Riverpark facilities is 85 per cent or higher.

These performance indicators provide five-year targets that reflect the desired state of the Riverpark, as determined by community values. The full SCRPS Biennial Report 2018 is the first detailed status update on these indicators since the implementation of the Strategy and a summary of the key data results is provided in the ensuing pages.

Measuring success: Key Performance Indicators

The performance indicators specified in the Strategic Management Program were developed with input from various Riverpark stakeholders to provide a multi-faceted measure of the Strategy's success. The Strategy has been reviewed against these four indicators to provide a quantitative assessment of the operation and effectiveness of its first two years of operation.

This quantitative review indicates that all four performance indicators specified in the SMP are being met (Table 3).

Table 3. 2018 status of the Swan Canning River Protection Strategy's five-year performance indicators

	Status
1. All priority actions listed in the Strategy are undertaken within five years	✓
2. 75 per cent of monitored ecosystem health data meets respective targets required for a healthy functioning ecosystem	✓
3. The wider Perth community is actively involved with Riverpark management and participation rates are increasing	✓
4. The average level of visitor satisfaction with their visit to the Riverpark facilities is 85 per cent or higher	✓

1. All priority actions listed in the Strategy are undertaken within five years

The Strategy contains 33 priority actions to be undertaken within five years. Many of these actions are ongoing responsibilities for the respective lead partner agencies, where the intent is for these actions to be continued on an ongoing basis rather than being completed and closed out. Therefore, the term "undertaken" is indicated by a status of "in progress" or "completed" for finite projects and "in progress" for activities of an ongoing nature.

The status of these priority actions is detailed in Table 4. Consultation with lead agencies has determined that all priority actions listed within the Strategy have been undertaken within the first two years of implementation. This positive result reflects the effort, commitment and coordination of multiple government agencies and organisations in support of the Strategy and its objectives.

Table 4. Priority actions defined in the Swan Canning River Protection Strategy

Priority Action	Action Type	Status
1.1 Establish a Swan Canning River Protection Strategy Advisory Group	Project	Completed
1.2 Establish collaborative agreements between management organisations	Project	Completed
1.3 Biennial and five-yearly reports to be delivered to the Minister, partners and the community	Ongoing	In progress
2.1 Identify the levels and sources of nutrients, organic material and sediment entering the Swan and Canning rivers	Ongoing	In progress
2.2 Develop and implement Swan Canning and local water quality improvement plans to achieve nutrient load reduction targets	Ongoing	In progress
2.4 Improve management of fertiliser use to reduce nutrient loss from urban and rural land in the Swan Canning catchment	Ongoing	In progress
3.1 Regulate and manage pollution from contaminated sites, prescribed premises and other commercial activities with the potential to cause pollution	Ongoing	In progress
4.1 Increase dissolved oxygen levels in the Swan and Canning rivers where required	Ongoing	In progress
4.2 Investigate approaches to moderate and reduce the prevalence of algal blooms	Ongoing	In progress
6.1 Undertake river and catchment-based water quality monitoring program to measure compliance against management targets	Ongoing	In progress
6.2 Establish a program to monitor non-nutrient contaminants entering, and in, the river system	Project	In progress
7.1 Manage aquatic resources in the Swan Canning River system using a risk-based management framework	Ongoing	In progress
7.2 Protect and monitor the stock status of priority species in the Swan Canning river system according to risk	Ongoing	In progress
8.1 Provide protection for riparian and/or aquatic vegetation	Ongoing	In progress
8.2 Provide guidance on best management practices for shore stabilisation	Ongoing	In progress
10.1 Administer legislation to manage the Riverpark including the use of vessels and facilitate safe community use	Ongoing	In progress
12.1 Assess, recognise and protect sites with a high level of cultural heritage significance	Ongoing	In progress
12.4 Work with relevant Noongar groups to manage the Riverpark	Ongoing	In progress
13.1 Promote public use and enjoyment of the Riverpark	Ongoing	In progress
13.2 Maintain and improve the level of safe public access to and along foreshore areas in the Riverpark	Ongoing	In progress
13.5 Facilitate safe use of vessels on waterways – maintain navigation aids in the Swan and Canning rivers to facilitate safe passage through the navigation channels	Ongoing	In progress
13.6 Coordinate primary contact water quality monitoring at popular swimming locations and report conditions to the community	Ongoing	In progress
13.8 Implement works to stabilise the riverbank where valuable infrastructure or recreational amenity is threatened by erosion	Ongoing	In progress
14.1 Implement Aquatic Use Review and Management Framework for the Riverpark	Ongoing	In progress
15.2 Establish a Swan Canning Riverpark Trail project including walking, cycling and kayaking trails	Project	Completed
16.1 Support community events (e.g. Skyworks, Swanfish and Blessing of the Rivers) and tourism opportunities on the river foreshore	Ongoing	In progress
17.1 Promote opportunities for community groups and individuals to be involved in on-ground conservation activities	Ongoing	In progress
17.3 Support local environmental groups to source additional funding	Ongoing	In progress
18.1 Identify nodes for developing appropriate commercial opportunities in the Riverpark	Project	In progress
18.2 Ensure all commercial operators in the Riverpark meet high standards through licensing	Ongoing	In progress
18.3 Ensure river reserve leases are managed in line with policy to best practice standards	Ongoing	In progress
19.1 Provide clear guidance consistent with SPP 2.10 to developers of land adjacent to the foreshore	Ongoing	In progress
20.1 Review regulations and legislation to improve efficiency of the statutory assessment process	Ongoing	In progress
% undertaken:		100.0

2. 75 per cent of monitored ecosystem health data meets respective targets required for a healthy functioning ecosystem

There are many different ecological health factors that must be considered to provide a true representation of the overall state of the Swan and Canning rivers. Ecosystem health is currently assessed through biophysical and chemical conditions and specific ecological indicators.

Data is collected through a variety of monitoring programs across the Swan Canning catchment and aspirational targets have been developed accordingly. Some of these ecosystem health and water quality monitoring programs have been in place for over 30 years, while others have commenced in recent years.

For the SCRPS reporting, the health of the Riverpark ecosystem is assessed against performance targets measuring the following indicators:

- catchment water quality;
- estuary water quality;
- conditions in oxygenation zones; and
- fish community index.

These indicators are based on existing monitoring programs, however new monitoring programs may be implemented in the future and subsequent targets incorporated into outcomes for this performance indicator.

A selection of parameters has been collated to determine the proportion of data that meets relevant internal or external targets. A total of 148 parameters and associated targets have been analysed to provide an indication on the ecological health of the Swan and Canning rivers and the associated catchment area. Of these parameters, 114 met designated targets during the reporting period, providing an overall score of 77 per cent.

The performance target for this indicator is 75 per cent, therefore the monitored ecosystem health data meets the requirements for a healthy functioning ecosystem in the Riverpark.

An increased suite of ecosystem health data is currently being reviewed for consideration in future reporting. Existing targets for water quality in the catchment and estuary were developed in 1998 and 2001, respectively, as part of the Swan Canning Cleanup Program. These targets will also be reviewed in 2019-20.

Ecological indicators (or biotic indicators) have been found to provide additional and complementary information on the resilience and health of an ecosystem, as they are based on the response of organisms to a combination of various physical, chemical and biological conditions. It is envisaged that these types of targets, together with existing biophysical and chemical parameters, will be able to provide a more thorough indication of the Swan and Canning rivers’ ecosystem health into the future.

Other environmental factors such as high rainfall events like the 2017 flood must also be considered in the interpretation of the results outlined in these tables.

Water quality targets for the Swan Canning Estuary have been intentionally set high to ensure sound long-term environmental outcomes for Perth’s rivers. During 2017 short-term targets for nitrogen and phosphorus were met in 14 of the 15 catchments. Eight of these catchments are also meeting long-term targets for nitrogen and 12 for phosphorus (Table 5).

Ellen Brook remains the largest contributor of nutrients to the Swan Canning river system. Much of the Ellen Brook catchment has been cleared for agriculture and peri-urban development and it contains soils that have a poor nutrient holding capacity. These factors, combined with the seasonal flow of the catchment, make it very difficult to address nutrient issues in the short-term. The Ellen Brook catchment is a priority for water quality improvement and will continue to require a variety of long-term management actions to improve water quality.

Measures being undertaken in the catchment to improve water quality include:

- education programs to inform better land management practices;
- construction of wetlands, fencing and revegetation of stream lines;
- soil testing to inform appropriate fertiliser application;
- trialling appropriate soil amendments to reduce nutrient loss; and
- reviewing of major development proposals likely to affect water quality.

Table 5. Catchment Water Quality Targets (2016-2017)

Sub Catchment	Total Nitrogen		Sub Catchment trajectory	Total Phosphorus		Sub Catchment trajectory
	2016	2017		2016	2017	
Avon River	●	●	→	●	●	↗
Bannister Creek	●	●	↗	●	●	↗
Bayswater Brook	●	●	↗	●	●	↗
Bennett Brook	●	●	→	●	●	↗
Bickley Brook	●	●	→	●	●	↗
Blackadder Creek	●	●	↗	●	●	→
Canning River	●	●	↗	●	●	↗
Ellen Brook	●	●	→	●	●	→
Helena River	●	●	→	●	●	↗
Jane Brook	●	●	→	●	●	→
Mills Street Main Drain	●	●	↗	●	●	↗
South Belmont Main Drain	●	●	↗	●	●	↗
Southern River	●	●	→	●	●	↗
Susannah Brook	●	●	↗	●	●	↗
Yule Brook	●	●	↗	●	●	→

● Met short and long-term targets

● Met short but not long-term targets

● Did not meet targets

↗ Sub Catchment trajectory

→ Improving

→ Stable*

↘ Deteriorating

— Not Assessed

The Sub Catchment trajectory has been determined from annual compliance data collected over a 30 year period from 1987 – 2017.

*Stable: No significant change in exceedances detected over time.

Estuary Water Quality targets

The estuary water quality targets are based on dissolved oxygen and chlorophyll-a data collected over a three year period from within the Riverpark. These targets have been intentionally set high to ensure sound long term environmental outcomes for Perth’s rivers.

The indicators in Table 6 represent the water quality monitoring undertaken throughout 2015, 2016 and 2017. In 2017 a significant flood event resulted in high flows and widespread hypoxia, which impacted water quality monitoring data during this period.

Oxygen is required by the majority of organisms for respiration, therefore targets are in place for dissolved oxygen at the surface of the water column in four of the Ecological Management Zones (EMZs) of the Swan Canning Estuary. These targets range from 75.1 per cent to 82.1 per cent and only a small number of exceedances are permitted over a three-year period before these targets are not met.

Despite the targets not being achieved in each EMZ, dissolved oxygen concentrations at the surface of the water column were above 4mg/L in 96 percent of samples and above 6mg/L in more than 80 per cent of samples collected from the Lower Swan Canning Estuary and the Middle and Upper Swan Estuary.

Dissolved oxygen concentrations above 4mg/L are considered to be supportive of species survival and ecological function. Oxygen conditions in these three zones of the Swan Canning Estuary are therefore still considered to be highly favourable for aquatic organisms. In the Canning Estuary, surface oxygen concentrations were generally lower (averaging 4.8mg/L) and above 6mg/L in only 17 per cent of samples. These conditions are less favourable and may provide some insight into the lower condition scores for fish communities seen in the Canning Estuary over recent years.

Chlorophyll-a is used to determine the degree of algal activity occurring in sections of the Swan Canning Estuary. The current targets for chlorophyll-a at the surface are also stringent, particularly in relation to the lower section of the Swan Estuary. The chlorophyll-a target for the lower Swan Estuary is set at 3µg/L and only a small number of exceedances are permitted. Although this section of the Swan Estuary failed to meet the target, it is important to note that 3µg/L is considered to have a low likelihood of producing algal blooms.

A value of 10µg/L is used in microalgal reporting to indicate the presence of a potential bloom event. For the lower estuary, over the three years of compliance monitoring, chlorophyll-a was below 10µg/L in 89 per cent of samples. However, the mid and upper reaches of the Swan Estuary exhibited more bloom events, exceeding 10µg/L in 55 per cent and 69 per cent of samples, respectively. This is consistent with the locations in which the algal blooms have historically occurred and where management is being targeted. The Canning Estuary, which also exhibits frequent blooms, exceeded 10µg/L in 55 per cent of samples.

Table 6. Estuary Water Quality Targets (2015-2017)

Ecological Management Zone	Dissolved Oxygen	Biophysical trajectory	Chlorophyll-a	Biophysical trajectory
Canning Estuary	✗	→	✗	→
Lower Swan Canning	✓	→	✗	↘
Middle Swan Estuary	✗	→	✗	→
Upper Swan Estuary	✗	↗	✗	→

✓ Met three-year targets
✗ Not yet met three-year target
Targets are based on three-yearly exceedance data.

Biophysical trajectory
↗ Improving
→ Stable*
↘ Deteriorating
— Not Assessed

The overall biophysical trajectory has been determined from annual compliance data collected over an 11 year period from 2007 – 2017.
*Stable: No significant change in exceedances detected over time.

Fish Community Index

The Fish Community Index indicates the health of fish populations within the Swan and Canning Estuary. Sampling events are conducted in summer and autumn each year. The performance of the 2016 and 2017 Fish Community Index results against respective targets is detailed in Table 7.

Targets were met in all the Swan Canning Riverpark's shallow nearshore waters in 2017 but a significant flood event in the Swan Canning catchment in early 2017 caused widespread hypoxia through large parts of the waterway into autumn. This contributed to a decrease in Fish Community Index scores from 2016 to 2017, particularly in deeper waters.

Table 7. Fish Community Index (2016-2017)

Ecological Management Zone	Shallow Nearshore Waters			Deeper Offshore Waters		
	2016	2017	Index trajectory	2016	2017	Index trajectory
Canning Estuary	●	●	—	●	●	—
Lower Swan Canning Estuary	●	●	—	●	●	—
Middle Swan Estuary	●	●	—	●	●	—
Upper Swan Estuary	●	●	—	●	●	—

● Both sampling events met target
● One sampling event met target
● Neither sampling event met target

Index trajectory
↗ Improving
→ Stable*
↘ Deteriorating
— Not Assessed

The Fish Community Index trajectory was not assessed as there was insufficient data (<10 years) for determination.
*Stable: No significant change in exceedances detected over time.



The Swan and Canning rivers support a diverse variety of fish species. Photo: Jennifer Eliot

Table 8. Oxygenation Zone Conditions (2016-2017)

Oxygenation Zone	2016	2017	Oxygenation Zone trajectory
Upper Swan Estuary	✓	✓	—
Lower Canning River	✓	✓	—
<div>✓ Oxygenation target met</div> <div>✗ Oxygenation target not met</div> <div>The dissolved oxygen targets are based on cumulative annual threshold.</div> <div>Oxygenation Zone trajectory</div> <div>↗ Improving</div> <div>→ Stable*</div> <div>↘ Deteriorating</div> <div>— Not Assessed</div> <div>The Oxygenation Zone trajectory was not assessed as there was insufficient data (<10 years) for determination.</div> <div>*Stable: No significant change in exceedances detected over time.</div>			

Oxygenation Zone Conditions

The four oxygenation plants operating on the Lower Canning River and Upper Swan Estuary provide oxygen relief over a combined 14.5kms of the river system known to be regularly impacted by poor water quality.

Intervention through this process provides refuge for organisms during periods of oxygen stress.

The dissolved oxygen targets developed to assess the effectiveness of this program require at least 90 per cent and 80 per cent of oxygenation values to exceed 4mg/L and 2 mg/L, respectively. These targets were met in 2016 and 2017 (Table 8).

3. The wider Perth community is actively involved in Riverpark management and participation rates are increasing.

The geographical extent of managing the Riverpark extends far beyond the immediate Swan Canning Riverpark and up into the greater catchment and sub-catchment regions. The wider Perth community is actively involved with Riverpark management through participation in various events, volunteer organisations and promotions. These include:

- River Guardians
- Dolphin Watch
- River Rangers
- Clean Up Australia Day
- Swan Alcoa Landcare Program
- Tree planting days
- Swanfish
- The use of sustainable fishing practices, i.e. fishing line bins
- Responsible boating and speed limits.

To determine whether participation rates are increasing, several key parameters will be used and compared in each SCRPS biennial review. These parameters represent various Riverpark management activities being undertaken by the community.

Table 9. Key parameters for monitoring participation rates of the wider Perth community in Riverpark management

Key Parameter	1 Jan 2016 – 31 Dec 2017
Community membership of volunteer programs (e.g. River Guardians, Dolphin Watch) – Total number of members	3373 community members
Community participation in Riverpark related activities and events – Total volunteer hours	6015 hours

Community membership of volunteer programs includes River Guardians members and active Dolphin Watch contributors. Total volunteer hours in Riverpark-related activities and events has been determined through River Guardians events, tree planting days and community participation in the Dolphin Watch program.

The SCRPS Biennial Report 2018 is the first of these reviews and will form a baseline comparison for future Strategy reporting. The key parameters to be used to indicate participation rates are detailed in Table 9.

4. The average level of visitor satisfaction with their visit to the Riverpark facilities is 85 per cent or higher

DBCA undertakes a Visitor Satisfaction Survey for the Swan Canning Riverpark every two years. This survey collects, collates and analyses information from Riverpark users, identifying:

- visitor satisfaction levels with the Riverpark and its facilities;
- recreational usage patterns; and
- suggestions for improvements.

The average visitor satisfaction level is determined by asking respondents to rate their overall satisfaction with their visit to the Riverpark, from “totally dissatisfied” to “very satisfied”. This is measured on a scale of 1 to 5, with 1 being “totally dissatisfied” (0 per cent) and 5 being “very satisfied” (100 per cent). In order to determine the average level of visitor satisfaction as a percentage, the mean value of all responses to this question is determined, then divided by 5 and multiplied by 100 per cent.

The most recent visitor satisfaction survey was conducted through Yardstick in 2017, with 242 responses received for the survey question on overall satisfaction. These responses had a mean of 4.34 out of a possible 5. This provides an average satisfaction level of 86.8 per cent, which meets the Strategy’s five-year target of 85 percent or higher (Table 10).

Table 10. Overall level of visitor satisfaction with their visit to Swan Canning Riverpark facilities in 2017

Rating	Satisfaction Level (%)	Target Satisfaction Level (%)	Actual Satisfaction Level (%)
5 – Very satisfied	100%	>85%	86.8%
4 – Satisfied	75%		
3 – Neither satisfied nor dissatisfied	50%		
2 – Dissatisfied	25%		
1 – Totally dissatisfied	0%		

Statutory Assessments

In its statutory assessment role under the SCRM Act, DBCA assesses and determines, or provides advice to the Minister for Environment on, development proposals within the Swan Canning DCA. In performing its assessment function under Part 5 of the SRCM Act, DBCA must seek advice from the Trust and include that advice in its report to the Minister.

During 2018-19, the Trust considered and provided advice to the Director General of DBCA on five development applications in accordance with Part 5 of the SCRM Act. Highlights included refurbishment of facilities at a variety of yacht clubs around the river.

DBCA staff also provide advice under delegated authority of the Trust to the Western Australian Planning Commission and local governments in accordance with the Metropolitan Region Scheme (MRS), regarding planning proposals that abut, or affect, the DCA.

During 2018-19, departmental officers assessed and provided advice on 127 development applications on behalf of the Trust in accordance with the MRS. There were also 24 commercial operator licences approved on the Swan and Canning rivers. Sixteen aquatic activities including watersport lessons and equipment hire were also approved. A further two commercial operators were approved to use the foreshore, primarily for pop-up food and beverage outlets.

STRATEGIC ACTIVITIES

Stakeholder consultation and development of the *Perth Water Precinct Plan* has progressed in collaboration with seven other State agencies and local governments. The plan will guide future improvement and development of Perth Water, its foreshores and abutting private development interface, in a more strategic and proactive manner for the wider benefit of all visitors. Extensive public consultation, including with the Aboriginal community, has been undertaken during development of the plan.

DBCA is working closely with the Department of Planning, Lands and Heritage on a review of *State Planning Policy 2.10: Swan-Canning River System*, *State Planning Policy 2.9: Water Resources*, and *State Planning Policy 2.1: Peel-Harvey Coastal Plain Catchment* and associated guidelines to ensure that activities, land use and development maintain and enhance the health, amenity and landscape values of the rivers, including recreational and scenic values.

SWAN AND CANNING RIVERS MANAGEMENT REGULATIONS 2007 REVIEW

Work began on preparing proposed amendments to the Swan and Canning Rivers Management Regulations 2007 to help streamline statutory assessment processes and reduce red tape for Swan Canning Riverpark development applications.

A new Swan Canning Riverpark online statutory assessment portal was also developed to help improve user experience for proponents seeking development applications and commercial operators seeking licences and permits for business ventures in the Riverpark. The portal site is scheduled to go live in December 2019.



Image courtesy of Swan River Seaplanes.



Matagarup Bridge.

MAJOR PROPOSALS CONSIDERED

Seaplanes on the Swan River

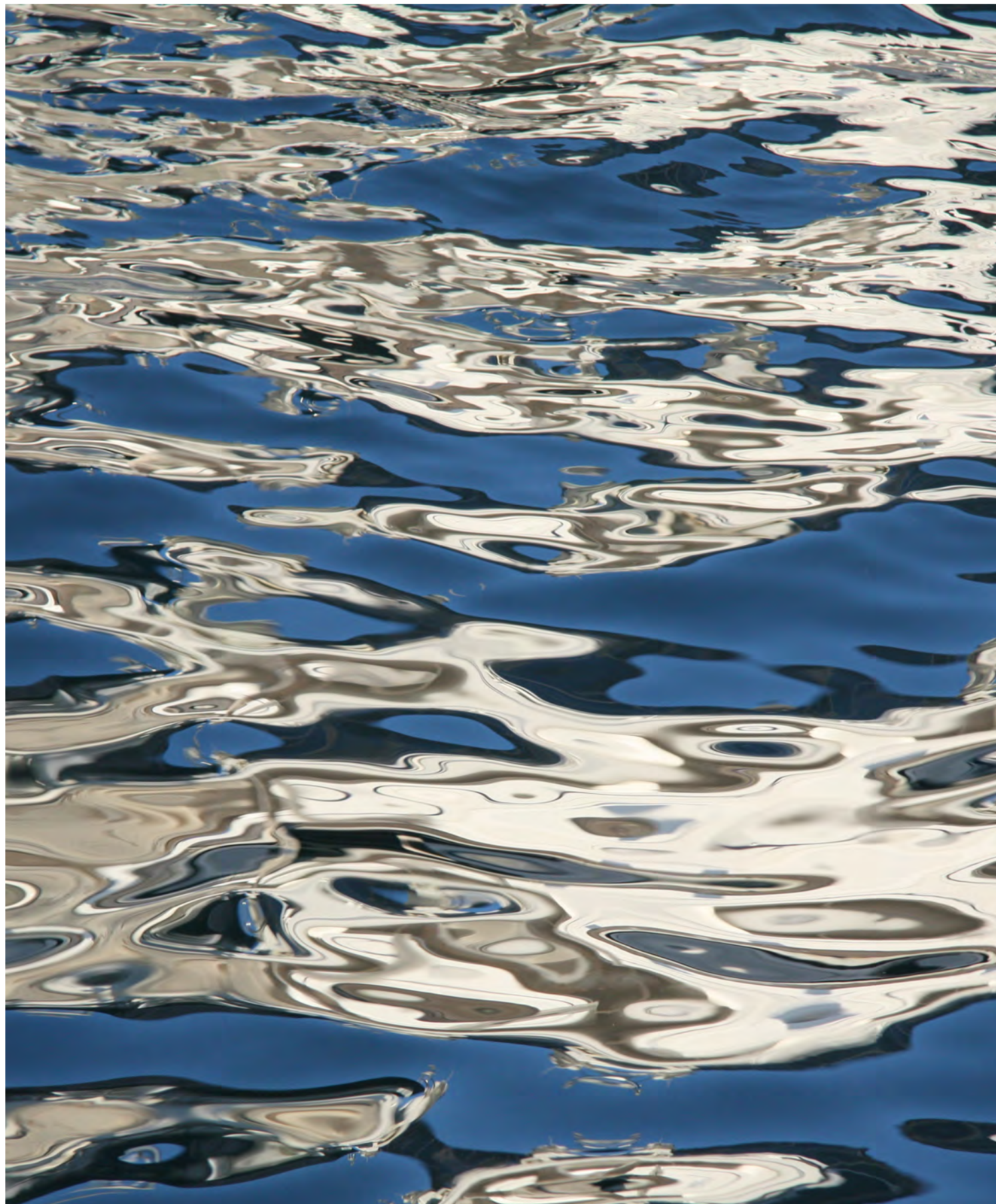
The use of Perth Water for commercial seaplanes is being trialled. Two operators have approval to operate during the trial period. The ongoing and long-term use of Perth Water by commercial seaplanes is to be considered strategically as part of the *Perth Water Precinct Plan*, which will include extensive consultation with the community and key government agencies.

Matagarup Bridge

DBCA has an ongoing role in assessment and approval of the works associated with the Matagarup Pedestrian Bridge. DBCA has been working closely with stakeholders to protect and enhance the ecological health, community benefits and amenity of the river and its foreshores. The pedestrian bridge was opened to the public in July 2018. Removal of the temporary reclamation area used to construct the Matagarup Bridge was completed in March 2019 and the rehabilitation of the foreshore was completed in April 2019. The project posed a range of environmental and recreational challenges. Works were closely monitored and the Trust and DBCA continue to work with stakeholders to resolve outstanding matters.

Riverside projects

Via DBCA, the Trust has an advisory role regarding potential impacts on the river from major riverside projects, including the ongoing redevelopment of the Belmont Park Racecourse precinct and Tompkins Park. DBCA works closely with proponents to protect and enhance the landscape, amenity and ecology of the river, as well as protect and enhance the community's use and enjoyment of the waterway and its foreshores.



Swan River Trust

17 Dick Perry Avenue, Kensington Western Australia 6151
Phone: (08) 9278 0900 Web: swanrivertrust.dbca.wa.gov.au

Address for correspondence

C/-Department of Biodiversity, Conservation and Attractions
Locked Bag 104, Bentley Delivery Centre Western Australia 6983

