



Guidelines for developing foreshore management plans in the Swan Canning Riverpark

Part A | February 2012



Caring for the Swan Canning Riverpark

Introduction

The Swan Canning Riverpark was established by the *Swan and Canning Rivers Management Act 2006* to conserve and manage the Swan and Canning river reserves and foreshores. The Swan River Trust (the Trust) works to enhance the environmental quality, community benefit and amenity of the Riverpark. To achieve this, the Trust encourages the preparation and use of foreshore management plans to support appropriate planning and management strategies for the foreshore.

Management plans should be brief, address the pertinent issues and provide management solutions. However, the Trust may require a foreshore restoration plan to be prepared either as a stand alone plan or as part of a foreshore management plan. In either case these guidelines have been prepared to assist proponents in the preparation of these plans.

Management plans within the Trust Development Control Area (DCA) should follow this guideline; however the level of detail required may vary significantly with the scope of the proposed works. This guideline provides direction for creating a foreshore plan and/or restoration plan and should be used in place of the *Guidelines for the preparation of waterways management planning documents – a guide for community groups, local government and the community (Waterways Commission 1994)*. Please note the Waterways Commission (1994) guideline could be used in areas outside the Riverpark.

These guidelines are presented in two parts:

- Part A Guidelines for developing foreshore management plans in the Swan Canning Riverpark – This provides guidance on developing a management plan. Three types of management plans can be prepared, depending on the scale, scope and timeframe of the project, including:
- i) strategic foreshore management plan (non statutory);
 - ii) foreshore management plan approved under Part 5 of the *Swan and Canning Rivers Management Act 2006 (SCRMA)*; and
 - iii) Foreshore management programme approved under section 53, SCRMA.
- Part B Guidelines for developing foreshore restoration plans in the Swan Canning Riverpark – This provides guidance on implementing a management plan for restoration works. Part B may also be referred to for individual landscape designs that may or may not be part of a management plan.

A management plan submitted to the Trust in line with these guidelines does not supersede the requirement of proponents to gain planning approval. Before preparing a management plan, it is suggested that proponents discuss with Trust Statutory Planning officers the scale, scope and timeframe of proposed works to determine which management plan is appropriate and how the works align with Trust planning policies and guidelines www.swanrivertrust.wa.gov.au/planning/policies/Content/Home.aspx.

Contents of a management plan

1. Site introduction, location and description (including relevant studies)

This information is best presented with maps and accompanying text. The foreshore management plan area should be described within a local and regional context.

Accompanying information should include:

- reserve name
- coordinates
- cadastral references
- land tenure
- ownership/vesting
- zoning within and adjacent to the management area
- town planning scheme and Metropolitan Regional Scheme zones
- numbers and plan number along with existing and proposed formal management arrangements
- a summary of other associated information relevant to the management plan may also be provided
- supporting documents should be listed or attached as appendices (see Appendix 1).

2. Management commitment and purpose of the plan

Outline the purpose and aim of the plan. Include where applicable:

- project rationale;
- strategies;
- timings and priorities;
- responsible management authorities; and
- assessment criteria.

Rationale

Provide the overarching intent of the plan (eg to ensure the foreshore reserve's values, attributes and functions are conserved). Include broad objectives for each discrete area of management (eg revegetation, re-establish native vegetation, erosion control).

Strategies

State specific actions and work, both short and long term, that are designed to achieve the objectives (eg mitigate bank erosion, monitor change in flora population).

Timings and priorities

Provide proposed start and completion for each stage of work. Consideration should be given to other constraints, such as conducting flora and fauna surveys or restoration works that are tidally or seasonally dependant.

Management responsibility

The land manager is responsible for implementing the management plan. It is essential that all formal commitments (such as conditions of statutory planning permits) are being met. Management agencies and groups delegated by the land manager to undertake strategy actions should be recognised. Ideally, planning approval conditions should be clearly made available to these agencies and groups.

Assessment criteria

State measurable goals (and timeframes for achieving these) which demonstrate the effectiveness of the management plan against its objectives. The *Stream Channel Analysis, River Restoration Manual* (Water and Rivers Commission 2002a) provides a good source of information.

3. Cultural and social value and use

The Swan and Canning rivers are a registered site under the *Aboriginal Heritage Act 1972* and any works on or next to the river may require permission through Aboriginal Heritage Regulations 1974 or the *Aboriginal Heritage Act 1972*. It may be possible to gain permission for an entire area of a plan rather than individual project sites. For advice on relevant approvals contact the Department of Indigenous Affairs or visit www.dia.wa.gov.au/contact-us.

Maintaining heritage values and places is essential for a community's sense of place, cultural identity and well-being. Historical value and existing management strategies for public use of the area and its surrounds should be outlined. Existing and previous uses may include, but are not limited to, recreation, education, community involvement, amenity, access, and impacts in and near the management area. For advice on heritage matters contact the Heritage Council of WA www.heritage.wa.gov.au.

For the management location and its surrounds describe:

- significant and/or other areas of importance to Aboriginal people;
- post-European settlement heritage attributes and any heritage listed features;
- and

- recognised community aspirations for the locality (usually derived from a consultation process).

4. Existing natural environment and management issues

Describe the existing and historical natural environment and values of the management area, including:

- physical and biological information;
- all current management issues including
 - impacts and threats to ecological values
 - attributes and functions of the management area and its surrounds;
- an overview of the local landscape in a regional context, identifying ecological linkages or corridors; and
- linkages that may be represented on a broad scale map.

4.1 Meteorological conditions

Provide a brief description of historic, current and future climate patterns, consistent with the Australian Government Bureau of Meteorology and Australian Government Department of Climate Change and Energy Efficiency. Note any impact to the condition of the foreshore that may be influenced by climatic conditions (eg wind action, tidal shift, water levels).

4.2 Landform and topography

Describe the natural and built characteristics of the management area and its immediate surrounds. Include topography and where applicable, bathymetry. For bathymetry data, contact the Trust Riverbank team. Use maps accompanied with supporting text.

4.3 Geology and soils

Geology and soil types should be described. Relevant soil management issues within and immediate to the management area should be discussed (eg nutrient leaching, soil pathogens, acid sulfate and contaminated sites). Describe existing soil impacts within and next to the management area. Include excavation, presence of infill or other soil modification.

4.4 Contaminated sites and acid sulfate soils

Western Australia's contaminated sites legislation is administered by the Department of Environment and Conservation (DEC). It is designed to protect peoples' health and save the environment from harm.

Potential contaminated sites and/or acid sulfate soils should be identified and current risk minimisation strategies outlined. Land owners, occupiers and polluters are required to report known or suspected contaminated sites. Previous site use should also be noted. Soils may need to be tested to identify if acid sulfate soils will require management.

For further information, contact the DEC contaminated sites hotline 1300 762 982 or visit the Contaminated Sites website www.dec.wa.gov.au/content/category/32/755/1579/.

4.5 Drainage, hydrology and water quality

Discuss site specific hydrology including information on stormwater management, and any surface water and/or groundwater interactions. Outline any relevant studies of hydrological regime. Discuss existing management and hydrological modifications within and adjacent to the management area. Include current water quality management. Nutrient run-off, algae, heavy metals and other non-nutrient contaminants should be discussed.

4.6 Fluvial 'channel' geomorphology

Fluvial geomorphology refers to processes that change river channels and banks. Describe the river characteristics and processes that affect river channel and bank accretion and erosion for the project site and its immediate surrounds (eg hydrology, hydraulics, channel change, and river management). These considerations assist when determining appropriate management strategies and works (Water and River Commission 2002b and 2002c). Areas should be marked on a site map and where possible accompanied by site photographs. Cross section and other survey collection methodology should be included.

4.7 Fauna extent and habitat

Provide results from fauna surveys within and/or around the management area. Include methodology, habitat description, pest species and existing impacts to significant, priority and threatened fauna or ecological communities. Consider surveys of vertebrates as well as invertebrates and their allies. It is acknowledged that the level of detail available from surveys conducted within or around the Riverpark may be variable due to urbanisation. Survey advice should be sought from DEC who administer the *Conservation and Land Management Act 1984* and *Wildlife Conservation Act 1950*. Also refer to the Environmental Protection Authority (EPA) Guidance Statement No. 56: *Terrestrial fauna surveys for environmental impact assessment in Western Australia* (Environmental Protection Authority 2004a).

4.8 Existing flora and vegetation

Provide results from flora and vegetation surveys within and/or around the management area. Include methodology, vegetation unit, cover and condition. This information can be presented on maps and/or as text. Refer to the EPA Guidance Statement No. 51: *Terrestrial flora and vegetation surveys for environmental impact assessment in Western Australia* (Environmental Protection Authority 2004b) and Western Australian Planning Commission (WAPC) Bush Forever (Western Australian Planning Commission 2000) for additional information. Also see '3.6 Revegetation - species selection' in Part B of this document for further information.

4.9 Environmental weed management

Environmental weeds should be identified, mapped and prioritised according to their invasiveness, difficulty to remove and impact on the landscape. Refer to *DEC Weed Management Strategy for Western Australia* for more information (Department of Environment and Conservation 1999).

If a weed community is providing bank stability or fauna habitat, any programmed removal strategy should be carefully considered to ensure continued bank stability and habitat. A staged removal should be considered in this instance. The Trust Riverbank Program can be contacted to discuss.

4.10 Existing impacts to vegetation and habitat

Document the existing impacts to vegetation and habitat, within and around the management area. Record existing impacts to significant, priority and threatened fauna and/or flora or ecological communities. Impacts include, but are not limited to, trampling, weed invasion, erosion and fragmentation.

4.11 Disease

Record the presence of any plant or animal disease or disease-bearing agent, its distribution and existing impacts (e.g. dieback (Phytophthora), amphibian chytrid fungus).

Fire management

Existing and historical fire regimes should be identified, and include:

- fire locations
- fire breaks or access lines
- fire impacts.

Identify susceptibility to fire. In areas of native vegetation, include bushfire protection plans where available. Fire and Emergency Services Authority of Western Australia may provide guidance for bush fire protection, and DEC, if on DEC estate.

5. Proposed management

All management issues, impacts (direct and indirect), benefits and threats to the ecological values, attributes and functions of the management area and its surrounds during and after proposed site works need to be identified. A risk assessment process should be detailed, including all preferred immediate and ongoing management approaches. The management approaches should be explicit, practicable and achievable within a timeframe.

5.1 Objective

State the management objectives for the site. Consider each site-specific issue, what is to be achieved through implementation of the foreshore management plan and the rationale for this. It may help to delineate the site by management zones.

5.2 Heritage value

Develop strategies to protect areas of local and regional heritage, including archaeological and ethnographic sites. Some sites may need to be identified and protected. Consult the Heritage Council of Western Australia and the Department of Indigenous Affairs as some works may require regulatory or cultural approval.

5.3 Consultation

Appropriate consultation should be undertaken when preparing a foreshore management plan. It may be necessary to consult with state and local government agencies, community groups, Aboriginal community representatives and other stakeholders. A description of the consultation process, outcomes and planned ongoing consultation should be outlined.

Depending on the desired approval pathway, the foreshore management plan may also be subject to formal advertising under the SCRMA.

5.4 Climate change

Site designs should consider climate change predictions examined in *Potential Impact of Climate Change on the Swan and Canning Rivers* (Swan River Trust 2010a). This document is available at www.swanrivertrust.wa.gov.au/science/climate.

Relative to the past century, the rate of change has increased and the current familiar river regime will become increasingly different as this century progresses. Sea level rise and reduced stream flow will be the main drivers of change to the ecology of the Swan Canning river system and this should be recognised in the management plan. Tidal and non-tidal sections of the river will be altered by diminished stream-flow, warming water and nearby land. Autumn/winter seasonal flows will reduce and occur later. Tidal reaches will be affected by sea level rise and storm surges.

5.5 Contaminated sites including acid sulfate soils

Provide management strategies for contaminated sites and potential acid sulfate soils if present. In accordance with the *Contaminated Sites Act 2003*, polluted sites must be investigated and, if necessary, cleaned up to safeguard the interests of land owners and occupiers now and in the future.

5.6 Erosion and accretion

Outline the processes of erosion or accretion (deposition of sand/sediment on the foreshore) acting on the site. If shoreline stabilisation is required, all options to mitigate further bank instability should be detailed. Bank stabilising options should be carefully considered and a rationale for a preferred option provided. Bank stabilisation techniques that follow best management practices in foreshore stabilisation are preferred (Swan River Trust 2009): The document can be accessed at www.swanrivertrust.wa.gov.au/foreshoreBMP. Expert consultation may be necessary for complex or novel solutions.

5.7 Drainage management

Stormwater must be managed in an environmentally sensitive manner consistent with the Trust policy *Stormwater disposal, SRT DE4* (Swan River Trust 2000). Outline management actions to ensure ongoing satisfactory water quality. Specify measures that will be taken to minimise nutrient and sediment export from the site into the river. See the Department of Water (DoW) *Stormwater Management Manual for Western Australia* (Department of Water and Swan River Trust 2007) at www.water.wa.gov.au/Managing+water/Urban+water/Stormwater/Stormwater+management+manual/default.aspx.

5.8 Ecological linkage

Describe how the proposed works will establish ecological linkage and/or how existing ecological linkages will be maintained or improved.

5.9 Flora and Vegetation

Preference should be given to the enhancement and maintenance of local provenance flora and vegetation and protection of fauna habitat. Also describe the effect from proposed works on existing flora and vegetation and how it will be managed.

5.10 Fauna and habitat

Measures should be taken to maintain, enhance and protect habitat for terrestrial and aquatic vertebrates and invertebrates. Describe how effects from proposed works on fauna will be managed.

5.11 Weed and feral animal control

Describe how control of weed species and feral animals will be managed. Include effects from control treatment on non-target species and surrounding terrestrial and aquatic biota.

5.12 Disease

Describe proposed management that will lessen the impact and spread of existing diseases and/or pathogens. Describe how materials will be taken on to site to ensure disease and/or pathogens are not introduced.

5.13 Fire management

Minimising the likelihood of wild fires without threatening habitat value of the landscape should be considered in the fire management protocol. Consider referring to a local fire management plan if available.

5.14 Public access

Access to sensitive areas should be appropriate and reasonable. Outline how access will be managed. Consideration should include, but not be limited to, fencing, pathways, vegetation buffers, litter and pest control. Access should be in keeping with Trust policies which are available at www.swanrivertrust.wa.gov.au/planning/policies.

5.15 Recreation

Describe how recreational opportunities will be managed to complement the local natural environment. Describe how recreational activities will facilitate access to the river (eg canoe launching area). Active and passive recreation activities should be considered, depending on objectives. Refer to Trust policies which are available at www.swanrivertrust.wa.gov.au/planning/policies

5.16 Funding and resources

Outline the funding arrangements that have been set aside and are pending for management of the site. Include supporting information relevant to the site and available resources (eg community groups).

5.17 Long term site maintenance responsibilities

At the beginning of a project, a monitoring and evaluation plan should to be set up using best management practice techniques that reflect the project objectives. Long term management responsibilities for the site should be clearly stated. Ongoing management actions and resources should be identified. This is critical in cases where one party is implementing the project and a second will be taking on its long term monitoring, maintenance and management.

5.18 Review

Determine a suitable period after which the management plan is to be reviewed. The timeline for review may vary depending on the scope of the work.

6. Checklist

Foreshore management plan

- 1. Site: the area that is the subject of a foreshore management plan should be described within a local and regional context.
- 2. Management commitment and purpose of the plan: provide the purpose and aim of the plan, including rationale, strategies, timing and priorities.
- 3. Cultural and social value and use: describe the significance and/or importance of the area and surrounding locations to Aboriginal people and the post-European settlement heritage attributes and features.
- 4. Existing natural environment and management issues: describe the existing and historical natural environment and values of the management area including the physical and biological information, soil and hydrological characteristics.
- 5. Proposed management: identify the impacts, benefits and threats to the ecological values, attributes and functions of the management area and its surroundings.

7. References

Department of Environment and Conservation 1999, *Environmental Weed Strategy for Western Australia*, Department of Environment and Conservation, Perth, Western Australia.

Department of Environment 2004, *Riverplan: an environmental management framework for the Swan and Canning rivers: comprehensive management plan and implementation strategy for the Environmental Protection (Swan and Canning Rivers) Policy 1998 for public consultation*, Department of Environment, Perth, Western Australia.

Department of Environmental Protection 2000, *Bush forever Volume 2 - directory of bush forever sites*, Department of Environmental Protection, Perth, Western Australia.

Department of Water and Swan River Trust 2007, *Non-structural controls, Stormwater management manual for Western Australia*, Department of Water and Swan River Trust, Perth, Western Australia.

Environmental Protection Authority 2004a, *Guidance for the Assessment of Environmental Factors: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia*, Guidance Statement No. 56, Environmental Protection Authority, Perth, Western Australia.

Environmental Protection Authority 2004b, *Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia*, Guidance Statement No. 51, Environmental Protection Authority, Perth, Western Australia.

Swan River Trust 2000, *Stormwater disposal*, Policy SRT DE4, Swan River Trust, Perth, Western Australia.

Swan River Trust 2008, *Swan and Canning Rivers Foreshore Assessment and Management Strategy*, Swan River Trust, Perth, Western Australia.

Swan River Trust 2009, *Best management practices for foreshore stabilisation - Approaches and decision-support framework*, Swan River Trust, Perth, Western Australia.

Swan River Trust 2010a, *Potential impact of climate change on the Swan and Canning Rivers*, Swan River Trust, Perth, Western Australia.

Swan River Trust 2010b, *Restaurants, cafes, kiosks and tearooms*, Policy SRT/D10, Swan River Trust, Perth, Western Australia.

Waterways Commission 1994, *Guidelines for the preparation of waterways management planning documents - a guide for community groups, local government and the community*, Waterways guidelines No. 6, Waterways Commission, Perth, Western Australia.

Water and Rivers Commission 2002a, *Stream Channel Analysis, River Restoration Manual*, Report No. RR9, Water and Rivers Commission Perth, Western Australia.

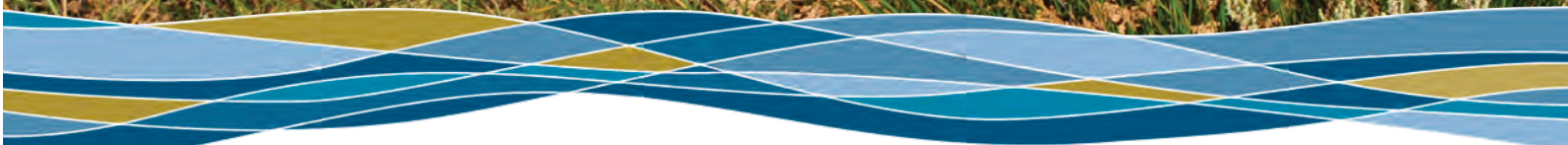
Water and Rivers Commission 2002b, *Recognising Channel and Floodplain Forms*, River Restoration Manual Report No. RR17, Water and Rivers Commission, Perth, Western Australia.

Water and Rivers Commission 2002c, *Stream Channel and Floodplain Erosion*, River Restoration Manual Report No. RR18, Water and Rivers Commission, Perth, Western Australia.

Western Australia Planning Commission 2000, *Bush forever, Volume 1, Policies, Principles and Processes*, Western Australia Planning Commission, Perth, Western Australia.

Appendix 1 - Site description supporting information

Site introduction, location and description supporting documents may include, but not be limited to legislation, policies, and other plans and recommendations that affect the area subject to the management plan. Refer to urban development regional plans, town planning schemes and local strategies including local biodiversity protection and fire management. Consider also corridor plans such as Bush Forever (Western Australia Planning Commission 2000 & Department of Environmental Protection 2000), Perth Biodiversity Project, Swan and Canning Rivers Foreshore and Management Strategy (Swan River Trust 2008) and the Department of Environment (DOE) Riverplan (Department of Environment 2004).







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