The State Waterways Initiative
Strategic directions for the future

November 2008  Looking after all our water needs
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From the Director General

The State Waterways Initiative provides a strategic framework to plan and manage our waterways in Western Australia.

The state has 221 major waterways. They are an important part of our environment, culture and economy and their management should reflect their many roles.

Our state waterways provide water for domestic, industrial and agricultural uses, contribute to keeping our environment healthy and provide opportunities for recreational use.

They are essential to our quality of life.

Pressures on our waterways include increasing demands for water, land development and greater intensity of land uses, risks to water quality, loss of riparian vegetation, climate change and climate variability. Our task is to manage these pressures to improve the condition of waterways - now and into the future.

The Department of Water is promoting management of our waterways in a coordinated and strategic way. We are involving all sectors of the community, including industrial and agricultural groups, natural resource management groups, the wider community and all levels of government through regional water plans and local waterways management plans.

This State Waterways Initiative provides a strong foundation for managing our waterways in a way that complements other state government initiated water reforms. These reforms respond to a range of influences, such as the need to improve water use efficiency and protect waterways as significant state assets.

The Department of Water is seeking your input to determine the priorities and activities of the State Waterways Initiative for the next three years.

The Government of Western Australia is committed to this initiative and I urge you to work with us to improve management of our valuable waterways.

Kim Taylor
Director General
Department of Water
Why this initiative is needed

Waterways include all rivers, estuaries, coastal lagoons, inlets, reservoirs and broad, flat and undefined systems that flow intermittently.

Our waterways are important to the community because they:

• provide water for drinking and industry
• transport and store water, drain land and carry flood waters
• are a significant part of Aboriginal and other Australian heritage
• provide opportunities for recreation, tourism and community activities
• provide distinctive landscape features and have aesthetic values
• biodiversity and provide habitat for flora and fauna, including threatened species.

Our waterways face many environmental challenges including land clearing, loss of riparian (near water) and wetland vegetation, erosion, sedimentation, loss of river pools, algal blooms, weed invasion, development on floodplains, control by dams and other structures, altered fire regimes, increasing salinity, climate change and climate variability.

For waterways management to be effective there are people issues, such as the need to clarify the roles and responsibilities of managers, including duty of care, the challenge of coordinating multiple stakeholders and investment and financing.
Other challenges include:

- balancing environmental, social and economic aspirations for waterways
- improving capacity building for skills in the community
- ongoing requirements for technical support, funding and training for river restoration and management activities
- improving scientific knowledge.

Scientific knowledge is important as it allows us to make adjustments to our planning and management as our understanding improves or circumstances change, for example through climate change and variability.

The Department of Water is working to improve the integration of waterways management with other water resource issues such as water allocation, water use, water efficiency, water conservation, salinity, drainage, preventing or limiting floods, maintaining the hydrological regime (ecological water requirements and provisions), water quality and climate impacts.

We are also working to improve knowledge about waterways across the state.

The South West land division, from Geraldton to Esperance, is where most people live so our research and management effort is centred on waterways in this region. However, there is comparatively limited knowledge of waterway systems across the rest of the state where comprehensive assessments of the condition of, and threats to, aquatic ecosystems are yet to be undertaken.
The role of the Department of Water

The Department of Water is the lead agency for waterways management in Western Australia. The department has identified priorities for waterways management including preventing and minimising degradation of waterways and repairing degraded waterways.

1. Management and protection to prevent and minimise degradation of waterways

This is the highest priority for the Department of Water as it includes proactive policy development and planning, management and assessment to ensure waterway condition is maintained or improved. This includes:

• Policy development and planning e.g. reforming the water resources management legislation, state-wide waterways and foreshore area policies, the ecological water requirements1 and environmental water provisions2 policy and draft Western Australian floodplain management strategy.

• Management e.g. development of ecological water requirements and environmental water provisions, flood risk plans, developing waterways management plans, authorising bed and bank disturbance (under the Rights in Water and Irrigation Act, 1914), recommending conditions for land use and development proposals through the statutory referral system, management of high-value systems that are outside the conservation estate3.

• Assessment e.g. the state-wide method for prioritising waterways management; and investigation and monitoring of waterway health, quality and quantity, evaluation of trends, estuary remediation and algal bloom management techniques and responding to fish deaths.

2. Repairing waterways

The Department of Water supports river restoration, builds community capacity to undertake river restoration and contributes to river action plans through funding programs such as the State NRM Transition Year 2008/09 program and the Commonwealth government’s Caring for Our Country Program. River restoration includes engineering works for erosion management, riffle and fishway construction, fencing and riparian vegetation restoration.

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1 Ecological water requirements (EWR) are defined as the water regime needed to maintain the ecological values of water dependent ecosystems at a low level of risk.

2 Environmental water provisions (EWP) are defined as the water regime provided as a result of the water allocation decision-making process taking into account ecological, social and economic impacts. They may meet in part or in full the ecological water requirements.

3 High-value waterways differ from high conservation value waterways, as their management may require a balance between a range of environmental, social and economic values. In comparison, management of high conservation value waterways may be focused on conservation estate areas; attaining a comprehensive, adequate and representative reserve (CARR) system; and maintaining biodiversity, valuable species and ecological communities.

The current review of existing water resources and water services legislation is an opportunity to modernise and consolidate waterways management in Western Australia.

The waterways management role of the Department of Water is explained in greater detail at the end of this booklet.

Other agencies

Other agencies have a role in waterways management. The Department of Environment and Conservation manages waterways in the conservation estate, wetlands and biodiversity throughout the state, state-wide coordination of the Ribbons of Blue community education program; and administration of native vegetation clearing, industry regulation processes and matters involving harm to the environment (under the Environmental Protection Act, 1986).

The Environmental Protection Authority is responsible for environmental impact assessment (with assistance from the Department of Environment and Conservation) and for developing environmental protection policies (under the Environmental Protection Act, 1986).
How this initiative fits with others

The State Waterways Initiative complements other high-level documents and actions that guide water management in Western Australia, including:

- National Water Initiative
- National Action Plan for Salinity and Water Quality
- National and state water quality management strategies
- State water plan 2007
- Securing our future: A State Water Strategy for Western Australia
- Blueprint for water reform in Western Australia
- State wetland conservation policy
- Draft - A 100-year biodiversity conservation strategy for Western Australia: Blueprint to the bicentenary in 2029
- Hope for the future: the Western Australian State Sustainability Strategy
- Urban Drainage Initiative
- Salinity Action Plan
- State-wide algal management strategy
- regional natural resource management (NRM) strategies.

Waterways management will also be delivered through the Department of Water’s regional water plans, waterway management plans and other water resource management plans as they are developed.
Managing our waterways future

The vision of the *State water plan 2007* is:

‘*Our precious water resources are managed and developed in a sustainable manner to maintain and enhance our natural environment, cultural and spiritual values, our quality of life and the economic development of the state.*’

The State Waterways Initiative will make this vision a reality by taking action to achieve the following four goals:

1. improve waterways planning and management
2. identify priorities for waterways management
3. support measures to protect environmentally significant waterways
4. support waterway restoration.

The priorities should guide state waterways management for the next three years. After this time, the department will review the initiative and incorporate new priorities.

*Fish collected after a mass death due to poisoning or loss of oxygen in a waterway*

*Flood risk management is required to protect people and infrastructure*
GOAL 1: Improve waterways planning and management

The department is currently addressing three important ways to improve waterways planning and management:

- reviewing and amending water resources legislation
- preparing regional water plans, drainage and water management plans, water allocation plans and waterways management plans
- improving land use planning processes.

Our current review of existing water resources legislation includes considering how to:

- provide mechanisms that will formalise the waterways management planning process
- ensure that priority waterways can be proclaimed and managed
- ensure there are adequate powers to manage activities on waterways.

Regional water plans are currently being prepared for the South West, Perth-Peel, Great Southern (South Coast) and Pilbara regions. They will also be prepared for the Mid West and Kimberley regions.

The current priorities for water allocation management plans are the Whicher, Canning River and Pilbara surface water management areas. The Department of Water regularly re-assesses priorities in response to changing water demand and the changing condition of water-dependent ecosystems.

The plans set out future management of each region’s water resources based on the objectives of the *State water plan 2007*.
Regional water plans and waterways planning will consider the implications of climate change and variability in future decades by:

- predicted climate impacts in plans and, when a waterway is re-evaluated, review these predictions and update if required
- allowing for the added stress of climate change when determining the capacity of a waterway to adapt to developmental pressures
- incorporating climate change in the development of plans for waterways and water resource management; in particular changes in water cycles, species abundance and composition, increased risk of invasion by exotic species, and a greater dominance of extreme weather patterns possibly requiring the relocation of infrastructure.

Water allocation management plans provide a long term direction for allocation of water for consumptive purposes. These plans are consistent with the strategic directions set out in regional water plans and waterways management plans.

The determination of ecological water requirements to maintain an agreed condition for water-dependent ecosystems is an important part of the water allocation management planning process. These ecological water requirements are considered along with the social, cultural and economic water requirements to establish an environmental water provision. The environmental water provision, in turn, is protected through the rules and allocation limits in the water allocation management plan. Environmental water provisions include both the volumes and the seasonality of flow.

Waterways management plans provide a way to address the long-term planning of land uses in waterways and their catchments. These plans can identify the values and condition of, and pressures on, waterways and recommend appropriate management actions. A waterways management plan may:

- ensure efficient and effective application of statutory planning processes to achieve desired outcomes for waterways
- protect and improve water quality and aquatic ecosystems
- ensure that stakeholders understand their responsibilities in waterways management
- encourage community participation in waterway management
- recommend best practice strategies to protect, restore and manage significant and high conservation value waterways.
The department is working with the Department for Planning and Infrastructure to improve the links between land and water planning. We support the incorporation of waterways management goals and outcomes in land-use planning processes at all levels, including regional, district and local plans, town planning schemes and subdivision applications.

Our influence and actions include:

- supporting the development of model town planning scheme text and updated planning bulletins
- working with local government to support incorporation of the requirements of the Western Australian Planning Commission’s *State planning policy 2.9 water resources* and relevant planning bulletins in local government planning documents and decisions
- preparing a guidance manual on land-use planning and waterways
- recommending appropriate consideration of waterways and their foreshore areas and floodplains in strategic plans and land-use planning decisions.

**Priorities for 2008–11**

- Review waterways legislation and implement changes that will improve the efficiency and effectiveness of waterways management and clarify responsibilities for waterways management.

- Incorporate waterways management objectives into the Department of Water’s regional water plans, waterways management plans and other water resource management plans.

- Consider the implications of climate change and variability in regional water plans, waterways management plans and other water resource management plans.

- Prepare waterways management plans and water allocation management plans for priority waterways, identified through state and regional prioritisation processes.

- Ensure the efficient and effective integration of the Department of Water’s role in land-use planning processes to achieve the best outcomes for waterways.
GOAL 2: Identify priorities for waterways management

A single state evaluation, classification and prioritisation framework is required to assist with establishing priorities for waterways management activities. The framework should:

- identify the values and condition of waterways and threats to waterways
- create some understanding about how a waterway functions in a catchment context and, if possible, whether it is stable, deteriorating or improving
- create some understanding about the relationship between values, condition, threats and their controls
- identify the most significant values (e.g. economic, social, environmental, public and private) and the most significant and urgent threats to values
- ensure that all those affected by waterways management decisions contribute to assessments of values and threats
- base judgements on the best available quantitative and qualitative information.

The framework will assist with the longer-term objectives of the State Waterways Initiative to classify all major waterways systems and identify waterways that are of local, regional and state significance. It will also develop processes to ensure consideration of the social, environmental and economic values of waterways in planning and decision-making.

The state-wide evaluation, classification and prioritisation framework will be consistent with the Salinity Investment Framework (SIF) and State assets report. It will also have strong links to NRM strategies, which have broadly identified the values of, and threats to, many waterways.
To assist with the classification, evaluation and prioritisation process, it is important to have reliable monitoring data and research on the health of waterways. Improvements in information and understanding may be made by:

- monitoring to determine the condition of, and trends occurring in, a waterway
- monitoring to evaluate management efforts and broader catchment management practices
- continuing to report trends in waterway management and health
- continuing to use future national land and water resources audits and other national inventory programs to improve the availability of information and highlight opportunities and challenges in waterways management.

The department recognises the need to improve on the existing waterways’ health monitoring programs. One opportunity may include implementing the National Framework for the Assessment of River and Wetland Health (FARWH).

Priorities for 2008–11

- Develop and promote a single state-wide evaluation, classification and prioritisation framework.
- Ensure investment in monitoring and evaluation of the condition of waterways and the effectiveness of the Department of Water’s waterways management programs.
- Support and undertake research into waterways condition, values and threats to assist with establishing priorities for regional waterways management activities.
- Continue providing water quality and hydrology advice to the community, including the water industry and catchment groups.
- Seek opportunities to improve the monitoring of the health of waterways to establish long-term trends; and assist with planning, implementing and evaluating management activities to improve waterways’ health.
GOAL 3:
Support measures to protect high environmental value waterways

Western Australia is committed to meeting National Water Initiative obligations for managing high environmental value aquatic ecosystems and water-dependent land-based ecosystems.

This commitment includes identifying and acknowledging surface and groundwater systems of high environmental value, and managing these systems to protect and enhance those values. It also means addressing any special requirements and water management arrangements necessary to sustain waterways and groundwater areas with high environmental values.

Policy direction for waterways located outside the conservation estate is the responsibility of the Department of Water. Waterways and their catchments often have multiple landowners, so the department’s policies must facilitate a coordinated and cooperative approach with all relevant private and public land and water managers.

The department recognises 48 wild river catchments in Western Australia, most of which are located outside the conservation estate. These are defined as:

Those rivers which are undisturbed by the impacts of modern technological society. They remain undammed, and exist in catchments where biological and hydrological processes continue without significant disturbance. They occur in a variety of landscapes, and may be permanent, seasonal or dry watercourses that flow or only flow occasionally.

Thirty-seven of these wild river catchments are in the Kimberley and Pilbara regions.

The department is considering the best way to manage these catchments and other high environmental value waterways that are outside the conservation estate, in order to maintain:

- the integrity of natural structures and functions that contribute to ecological value, including natural streamflow characteristics
- a range of uses
- natural diversity.
High conservation value waterways that are managed by the Department of Environment and Conservation include those that are:

- in the conservation estate and in areas endorsed for inclusion in the conservation estate
- recognised as Ramsar wetlands
- in the latest version of the *Directory of Important Wetlands*
- in areas with significant vegetation communities, flora or fauna or habitats that support significant fauna
- recognised as conservation category wetlands in the Department of Environment and Conservation's Geomorphic Wetlands Swan Coastal Plain dataset or protected under the *Environmental protection (Swan coastal plain lakes) policy 1992*.

Waterways within System 1 to 12 areas endorsed by the Environmental Protection Authority are also recognised as 'high conservation values’ waterways, except in areas where recommendations are superseded by later proposals approved by government.

The Department of Water plays a role in supporting the Department of Environment and Conservation and regional NRM groups to identify and manage waterways of high conservation value including the:

- protection of waterway habitats required through international and national agreements (e.g. the Ramsar Convention and National Water Initiative) and state policies (e.g. the *Wetlands conservation policy for Western Australia*)
- inclusion of waterway types in a comprehensive, adequate and representative reserve system
- identification and management of local and regionally significant waterways.

**Priorities for 2008–11**

- Scope the requirements for developing and implementing a cooperative model for managing wild river catchments and other high environmental value waterways that are outside the conservation estate.
- Scope the requirements for developing a wild rivers strategy to set future directions for the management of wild rivers in Western Australia.
- Support the identification of high environmental value waterways and scope ways to maintain and improve the values of these waterways.
GOAL 4: Support waterway restoration

Most waterways in Western Australia are modified to some degree and waterway restoration may be required to maintain or improve their environmental, social and economic values.

The department is committed to waterway restoration by:

- continuing support for capacity building in communities;
- implementing the Water Resource Recovery Catchments Program
- identifying and stimulating key research required to further support waterways management
- increasing engagement with Indigenous communities to determine objectives and plans for waterways management, particularly in the protection and management of the cultural and heritage values of waterways
- supporting the planning and implementation of management plans and action plans for priority waterways
- improving access to eWater Cooperative Research Centre (CRC), Tropical Rivers CRC, Tropical Rivers and Coastal Knowledge (TRaCK) and Land and Water Australia advice.

The Department of Water’s coordination and capacity building role includes providing advice and technical assistance to community restoration projects. This action assists various community groups to develop the skills required to undertake waterway restoration. It includes providing training packages, technical advice and best practice guidelines and notes, such as the River restoration manual and water notes; and assistance with:

- river action plans
- waterway and foreshore assessments and surveys
- waterway restoration works (e.g. construction of riffles and fishways and revegetation)
- sediment management
- livestock crossings
- fencing to exclude livestock.

The program also assists community groups to collate and access water monitoring data, which is used to design and evaluate waterway restoration projects. This includes monitoring data on water quality, ecological water requirements and trends in the hydrological regime, including water levels.

Capacity building is an important way to increase knowledge, leading to appropriate agency, industry, community and individual actions to stabilise or improve the condition of waterways in Western Australia. It enables the department to be responsive to stakeholder needs, raise awareness of waterways management issues and transfer knowledge and information to enable good decision-making.
Capacity building in waterway restoration contributes to water quality improvements in water resource recovery catchments and the implementation of many aspects of the State Water Quality Management Strategy, including establishing partnerships between government and the community, including Indigenous groups, catchment groups and landowners.

Water resource recovery catchments are priority areas for salinity management in Western Australia. The Collie, Denmark, Kent, Warren and Helena rivers were identified as current or potential future water sources for the South West Region that are expected to deteriorate beyond recovery without active management. The 1996 Salinity Action Plan therefore designated the upper parts of their catchments as water resource recovery catchments.

The Department of Water, Swan River Trust and some regional NRM groups also support the implementation of the *State-wide algal management strategy*, which includes:

- maintaining active surveillance of at-risk water bodies and reporting to the community
- continuing to improve understanding of algal bloom causes and triggers
- restoration of natural processes in waterway systems to increase their capacity to assimilate nutrients
- coordination of response to algal bloom incidents and provision of guidelines and protocols
- developing mitigation measures and evaluation of emerging technologies
- facilitating community understanding of algal blooms and involving the community in addressing the causes
- investing in and implementing solutions on key barriers to effective management of waterways and nutrients.
Regional NRM groups develop waterway action plans with the assistance of the department. These plans are delivered through various funding programs, such as the Natural Heritage Trust (which may be replaced by a new funding program in 2008). The plans establish priority on-ground works and actions to improve the health of a particular reach of a waterway. They also provide a record of waterway condition, values and threats; baseline information and hydrology for future comparison; technical advice; and improve commitments to addressing the issues in the local community.

The Department of Water supports funding through external delivery programs for landowners and other land managers to manage activities in catchments in a sustainable way so that environmental values are not compromised. Examples include fencing, stock crossing points, watering points, revegetation and best management practices (such as riffles and bank stabilisation) designed to reduce erosion or nutrient transport. The department also assists with externally funded research into hydrology and hydrology models, issues relating to threats or values, education programs and other programs that promote waterway values.
Priorities for 2008–11

- Continue support for community capacity building by providing training packages, technical advice, data and best practice guidelines.

- Continue to support implementation of the Water Resource Catchment Recovery Program and State Water Quality Management Strategy by improving and establishing partnerships between government, community and landowners.

- Support implementation of the State-wide algal management strategy in key waterways to reduce the frequency and severity of algal blooms; and assist with clarifying roles and responsibilities and coordinating an appropriate response to algal blooms, including protocols for monitoring.

- Support the preparation of action plans for priority waterways. Priorities will be identified through delivery of funding programs.

- Continue to seek funding for incentives that encourage and aid landowners and other land managers to protect and manage waterways on their properties and raise community capacity to manage and enhance waterways in priority areas.

Surveying a degraded reach of the Southern River during a river restoration course

Fishways are designed to restore fish passage in modified waterways
# The waterways management role of the Department of Water

## Activities

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## Environmental Water Provisions Policy for Western Australia

Provide broad objectives and principles for the development of ecological water requirements (EWR) and environmental water provisions (EWP), which determine the amount of water available for extractive use and to maintain agreed water body conditions.

## Western Australian Floodplain Management Strategy

Protect assets from flood damage and ensure that the environmental values of floodplains are protected. The strategy sets out the vision, objectives and guiding principles for floodplain management and flood mitigation. These will ensure integration with the broader NRM framework; appropriate land uses, given the risk of flooding; and beneficial economic, social and environmental outcomes.

## Management

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<th>Monitoring and characterising the impacts of techniques for the management of algal blooms in estuaries and freshwater systems, including wetlands, and developing and trialling techniques for management.</th>
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**River restoration**

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<th>River restoration plans and river action plans</th>
<th>River restoration activities include providing guidance on techniques and building capacity in the community (e.g. river restoration training). River action plans recommend actions to restore the condition of waterways or reaches of waterways (e.g. stabilisation, revegetation and fencing).</th>
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<td>Community capacity building through river restoration training workshops and the river restoration action team (River RATs), which is a communication network for river managers; foreshore assessments; and supporting funding incentives to encourage landowners to protect and manage waterways e.g. fencing, stock crossings, watering points, revegetation, riffle and fishway construction and bank stabilisation.</td>
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4 High-value waterways differ from high conservation value waterways, as their management may require a balance between a range of environmental, social and economic values. In comparison, management of high conservation value waterways may be focused on conservation estate areas; attaining a comprehensive, adequate and representative reserve (CARR) system; and maintaining biodiversity, valuable species and ecological communities.
Invitation to make a submission

The Department of Water has developed the State Waterways Initiative which provides a strategic framework to plan and manage our waterways in Western Australia.

The department is seeking your input to determine the priorities and activities of the State Waterways Initiative for the next three years.

Please include details of the section, page number or action number to which each comment relates. If you wish your submission and identity to remain confidential, clearly print on the top of each page of your submission the word ‘confidential’. All submissions will be considered and a summary of responses issued by the Department of Water.

Please send your submissions to:

Project leader: State Waterways Initiative
Drainage and Waterways Branch
Department of Water
PO Box K822
Perth WA 6842

or by emailing us at: waterways@water.wa.gov.au

The last date you can make a submission is 27 February 2009.

The Salt River in the Swan-Avon Region
Reflections of red tingle trees (Eucalyptus jacksonii) in the South Coast Region